

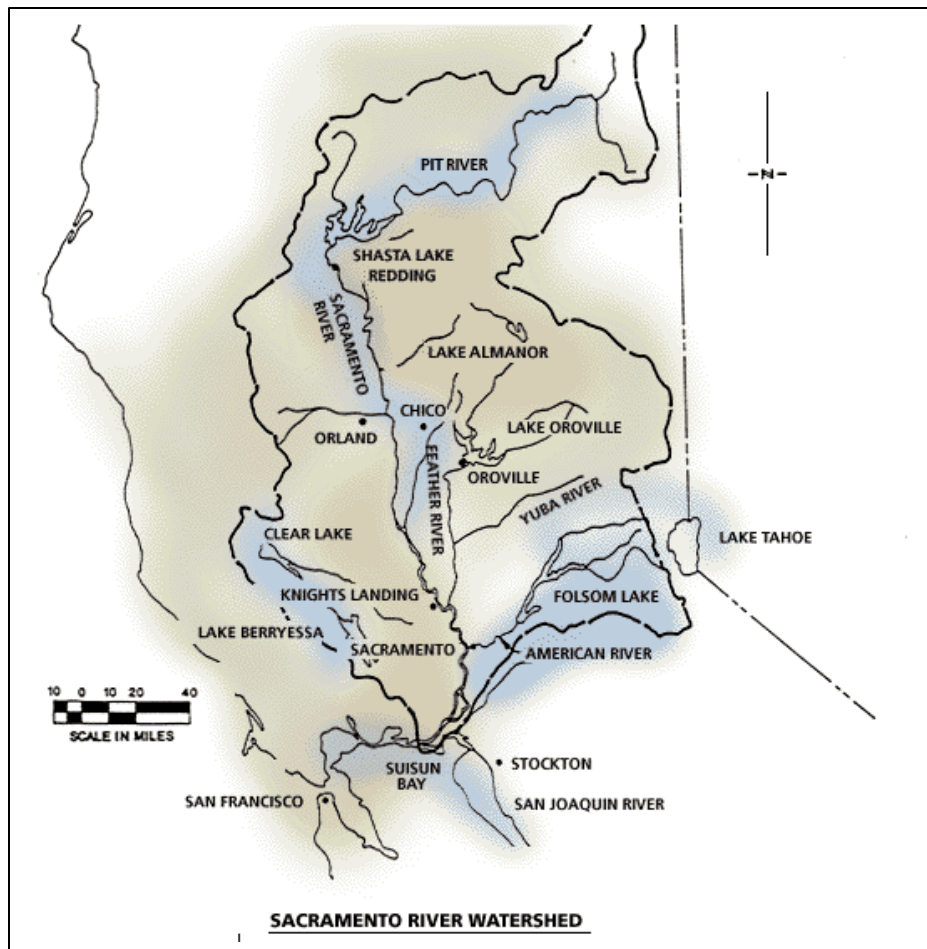
4.8 STORMWATER, WASTEWATER AND FLOODING

This section addresses the capabilities of the stormwater and sanitary sewer system for the area proposed to be added (“Added Area”) to the Existing Project Area by the Sacramento Army Depot Redevelopment Plan Third Amendment (“Amendment”), the additional flows that could be expected from implementation of the Amendment, and flood zone requirements. This analysis is based on consultation with the City of Sacramento Utilities Department, the Sacramento General Plan Update EIR (SGPU EIR), and the Draft EIR for the Sacramento Army Depot Redevelopment Plan (1995).

4.8.1 SETTING

As shown in Figure 4.8-1, the City of Sacramento is located at the confluence of the Sacramento and American rivers, which join with the San Joaquin River before flowing into the San Francisco Bay. The Sacramento River is about 400 miles long, and originates in the Cascade and Trinity mountain ranges of northern California and southern Oregon, draining the northern part of California’s Central Valley. The American River originates in the Sierra Nevada Mountains just southwest of Lake Tahoe.

**Figure 4.8-1
Sacramento River Watershed**



Source: Sacramento Regional County Sanitation District web site, www.srscsd.com.

The Sacramento River Basin covers nearly 27,000 square miles, or about 17 percent of California's total land area.^{i, ii} The Sacramento River is the third largest in California and a major source of water for irrigation and for drinking, with a total runoff of about 22 million acre-feet per year. The River has an average annual flow of 17.9 million acre-feet per year, compared to 2.8 million acre-feet per year for the American River.ⁱⁱⁱ Late summers generally have lower levels compared to the late winter and spring. Average flows in the peak months – February for the Sacramento River and May for the American River – are approximately nine times greater than the average flows in the low months.^{iv}

Major storm events can produce high flows through the Sacramento and American river systems. Flood control facilities along these rivers consist of a comprehensive system of dams, levees, overflow weirs (diversion structures in the river intended to ensure a maximum flow in the river), flood control bypass channels, and drainage pumping plants. Such facilities harness flood flows by regulating the amount of water passing through a particular reach of the river. The Sacramento River flood control system downstream of the American River was designed to hold a maximum flow of 110,000 cubic feet per second (cfs) with a minimum of three feet of freeboard. The American River flood control system was designed to hold a maximum flow of 115,000 cfs with a designed minimum of five feet of freeboard.

DRAINAGE SYSTEM

The City's stormwater drainage system consists of a network of natural channels, canals, levees, subsurface drains, and pumping stations that ultimately drain into the Sacramento and American Rivers. The Added Area is located near the downstream end of the 180-square-mile Morrison Creek Stream Group drainage basin. Morrison Creek travels through the southern portion of the Added Area; the original creek channel has been diverted to a concrete-lined flood channel. The predominant natural drainage pattern in the Morrison Creek Stream Group Basin is to the southwest, although creek drainage in the Added Area is to the west.

The Added Area is located in Drainage Basins 37, G258, G261, G262, 44, 50 and 148. Stormwater in the Added Area, specifically urban runoff, is disposed of primarily via a separate (from the sanitary sewer) system to Morrison Creek. Subsurface pipes convey runoff to drainage channels that discharge to Morrison Creek. A few locations are served by open drainage ditches that are routed to other piped segments. The existing drainage system consists of stormwater outfalls, catch basins, drop inlets and manholes. The drainage pipes range in size from sixty-inches to three and a half inches in diameter. The underground system outfalls drain into Morrison Creek for both residential and industrial areas.

The Added Area is approximately five miles upstream of Beach Lake. Morrison Creek flows south through the Beach – Stone Lakes system, and runoff is ultimately discharged through Snodgrass Slough and the Mokelumne River to the Sacramento-San Joaquin Delta.

WASTEWATER

Wastewater is primarily managed in the Added Area by the County Sanitation District Number 1 (CSD-1), and sanitary flows are conducted by gravity flow into sewer interceptors that connect to a regional interceptor system operated by the Sacramento Regional County Sanitation District (SRCSD). Although the majority of the Added Area's sewage flows directly into the SRCSD

facilities, a small northern portion flows to City Pump Stations 48 and 126 which discharge into the Combined Sewer System (CSS) (Terry Paxton, 2004).

SRCSO is responsible for providing wastewater service to the majority of Sacramento County, including the cities of Sacramento and Folsom. The SRCSO maintains and operates its own wastewater collection and conveyance system, conveying wastewater through the Regional Interceptor System to SRCSO's Sacramento Regional Wastewater Treatment Plant (SRWTP) located in Freepoint, approximately six miles southwest of the Added Area.

SRCSO currently has a \$300 million capital expansion program underway to expand the capacities of the Regional Interceptor System and the SRWTP. The Regional Interceptor Master Plan 2000 (or Master Plan 2000) is a long-range master plan for the large diameter interceptors that transport wastewater to the Sacramento Regional Wastewater Treatment Plant. The Master Plan 2000 recommends interceptor upgrades/expansions through 2035 that when operational will provide capacity for all planned development within the County's Urban Service Boundary and West Sacramento, providing a maximum treatment capacity of capacity of 516 mgd at service area buildout around the year 2050. A current expansion is planned to increase SRWTP capacity to 218 mgd, which would be sufficient to accommodate buildout populations of the city and county of Sacramento and the City of West Sacramento through the year 2020 (EDAW 2002).

Existing customers pay for their portion of their respective relief projects via their monthly user charges. Future customers will pay for their portions through impact fees (most relief projects are allocated to both existing and future customers).

County Sanitation District No. 1

The CSD-1 system is comprised of multiple smaller sewerage districts that existed prior to CSD-1's formation in 1978. Since then, the CSD-1 service area has "densified," resulting in higher wastewater flows than originally anticipated. Trunk sewer relief needs are determined by density and wet-weather flow monitoring data. CSD-1 staff has found that sewer relief is needed to accommodate "densified" existing areas and those projected for development.

The CSD-1 Sewerage Facilities Expansion Master Plan (Sewer Master Plan) supports development of a Capital Improvement Program that will provide for sewerage facilities and relief sewers to address future development and minimize the risk from sewer overflows that could occur during storm events. The Sewer Master Plan was updated in 2000 to identify interceptor and trunk sewer projects needed to remedy existing deficiencies in the existing system and to accommodate planned growth within the Urban Services Boundary through the year 2020.

Combined Sewer System

Approximately 2,200 acres encompassing River Park, CSUS and the eastern Sacramento area contribute sanitary sewage flows to the Combined Sewer System, as part of an area bounded by the Sacramento and American rivers, 65th Street, and Sutterville Road. This system consists of a single network of pipelines that collect both storm water drainage and sanitary sewer discharges from the downtown area. The CSS conveys flows from the City south to the SRWTP. Currently, the City has an agreement with SRWTP to deliver no more than 60 million gallons per day (mgd) peak flow from the City's Sump 2 service area to the regional interceptor sewer (Allen, 2000). The SRWTP is a secondary treatment facility that provides raw influent and effluent pumping, primary clarification,

secondary treatment with the high-purity oxygen activated sludge process, disinfection, solids thickening, and anaerobic solids digestion.

When CSS flows are greater than 60 mgd, CSS flows are diverted to the City's Combined Wastewater Treatment Plant (CWTP), located near South Land Park Drive and 35th Avenue, which only provides primary treatment. Wet weather flows are known to exceed system capacity during heavy storm events. Flows during heavy storm events, which are in excess of the 190 mgd combined capacities of the SRWTP (60 mgd) and CWTP (130 mgd), result in a combined sewer overflow (CSO). During CSO events, the City diverts excess flows to the Pioneer Reservoir for storage, which has a capacity of 28 mgd. When the Pioneer Reservoir reaches capacity, excess flows are directly discharged into the Sacramento River without treatment. When the pipeline system and treatment plant capacities are surpassed, the excess flows flood local streets in the downtown area through manholes and catch basins.

Exposure of people to untreated wastewater creates a health risk. On June 22, 1990, the RWQCB adopted Cease and Desist Order No. 90-179, requiring the City of Sacramento to cease and desist CSS discharges into the Sacramento River in violation of RWQCB Order No. 85-342. The Cease and Desist Order (and amendments 91-199 and 92-217) required the City to undertake operational improvements on the CSS, and perform a risk assessment on the known and potential health impacts of CSOs (City of Sacramento, 1996).

In compliance with the Order, the City submitted numerous alternatives to improve the CSS, as well as performed a public health risk assessment from outflows of the CSS. The City concluded that completely separating the sewer and storm water systems and conducting rehabilitation of the CSS would have adverse effects to City streets and would be economically infeasible. Thus the City identified a long-term control plan (CSS Improvement Program) which includes system improvements to reduce CSO events. Rehabilitation of the CWTP and the remaining sewers will occur until about the year 2010.

On March 22, 1996, RWQCB rescinded the Cease and Desist Order and issued a new National Pollutant Discharge Elimination System (NPDES) permit (Order No. 96-090) that includes a schedule for implementing the initial phase of the CSS Improvement Program.

EXISTING GROUNDWATER CONDITIONS

The Sacramento area and most of the Central Valley is underlain by a thick layer of alluvial soil, deposited over time by streams flowing from the mountains. The alluvium is saturated at a relatively shallow depth. The groundwater that lies beneath this alluvium in the Sacramento area is part of a large aquifer system that extends throughout the Central Valley. The aquifer is generally recharged by the Sacramento, American, and Cosumnes Rivers, and other tributary streams. The groundwater levels around Sacramento have been declining since 1940, at a rate of approximately 1.5 feet per year.^v South of the American River, groundwater levels are stable. Groundwater depth in the Added Area generally ranges from 10 to 20 feet, although site-specific differences in groundwater depth may exist.

The City Department of Utilities requires that any groundwater discharges be regulated and monitored to reduce releases of contaminated groundwater. As discussed in the Initial Study, engineering requirements to mitigate any potential impacts from dewatering would be a subject of

the City-required soils reports and geological investigations, and controlled by permit through the City's Department of Public Works. This would ensure a less than significant impact, thus groundwater discharges are not further discussed in this document.

FLOODING

Much of the Sacramento area is a floodplain for the two major rivers. Before levees were built in the early 20th century, flooding across the area was common. Over time natural levees developed, but snow melting in the mountains and winter and spring rains regularly caused the rivers to leave their banks and spill over the levees. Today Sacramento has an extensive system of flood controls that has greatly reduced flood occurrence and severity. Without the levees, the 100-year floodplain would extend through much of the developed areas of the City of Sacramento and Sacramento County; with the levees, flood hazard areas are limited to narrow bands around the Sacramento and American rivers and some of the tributaries.

The most significant documented flood event occurred in February of 1986, when the flow rate in the Sacramento River was approximately 642,000 cubic feet per second (cfs) and the flow in the American River was approximately 13,000 cfs.^{vi} During that intense storm episode, runoff was contained within the levees and emergency spillways of Sacramento's flood control system. Some areas experienced local flooding during that event, which pointed to some weaknesses within the flood control and drainage system.

Major portions of the City of Sacramento, including most areas of the Added Area north of Morrison Creek, are located in a potential flood hazard area. The Federal Emergency Management Agency (FEMA) publishes Flood Insurance Rate Maps (FIRM) that delineate flood hazard zones for communities. The Added Area is partially within an area designated as an A99 flood zone by a Letter of Map Revision (LOMR) to the City's FIRM (dated July 6, 1998), issued by FEMA on May 22, 2000 (Panel Numbers 060266 0010F and 0015F). This zone is applied to areas of the City which have less than 100-year flood protection; however, FEMA has determined that adequate progress has been made on a Federal funded flood control project which, when completed, will provide 100-year flood protection to those areas. The City of Sacramento has evaluated these risks associated with allowing development within the A99 Flood Zone in the Programmatic Environmental Impact Report ("Program EIR") prepared in connection with the Land Use Planning Policy Within the 100-Year Floodplain (the "Policy") (M89-054) which was adopted by the City Council on February 6, 1990. Accordingly, the findings adopted by the Council in connection with its certification of the Program EIR and its adoption of the Policy are applicable to the proposed Amendment. These findings are set forth in the Findings of Fact/Statement of Overriding Considerations for the Land Use Planning Policy Within the 100-Year Flood Plain in the City of Sacramento. This Program EIR and Addendums thereto are available at the City of Sacramento, Planning and Building Department, 1231 I Street, Room 300, Sacramento.

In 1998, per congressional mandate to establish a Special Flood Hazard Area (SFHA) addressing flood control systems that no longer provide 100-year protection, FEMA issued a final flood elevation determination letter and revised the FIRM for portions of the Sacramento area, replacing the A99 designation with a new flood zone entitled AR Flood Zone (AR zone). This AR zone was intended for communities, such as Sacramento, where a certified 100-year or greater flood protection system had been decertified due to updated hydrologic or other data. The AR zone allowed for development to continue, with some restrictions, while progress was being made toward

restoring a 100-year flood protection level for such areas of the City and County. In 1998, the City of Sacramento certified Addendum III to the Program EIR for Land Use Planning Policy within the 100-year Floodplain, which evaluated the risks of allowing development to continue within the AR zone.

Subsequent to the AR zone redesignation, the Army Corps of Engineers lowered the estimates for 100-year flood flows on the American River. In addition, the Sacramento Area Flood Control Agency (SAFCA) continued to make progress on flood control projects along the American River. These two occurrences enabled the City to apply for and receive a flood map revision. On May 22, 2000, FEMA notified the City that the FIRM was being revised to redesignate areas previously listed as an AR zone back to the A99 zone. FEMA's action removes the 3-foot elevation and floodproofing requirement for new buildings but does not eliminate the mandatory flood insurance requirement. On July 25, 2000, the City Council adopted these updates relating to the City's flood zone status and the Morrison Creek Floodplain policies (Resolution # 2000-451).

The South Sacramento County Streams Group Project (SSGSCP) that would provide protection from the Morrison Creek Watershed from a 200-year flood event has been funded by the State of California and an assessment district has been established by the Sacramento Area Flood Control Agency (SAFCA). Work on the SSGSCP has started, and is anticipated to be completed by the end of 2005. Although drainage in the Added Area contributes to creek flows, the Morrison Creek floodplain is located downstream of the Added Area, west of Franklin Boulevard.

REGULATORY BACKGROUND

National Pollutant Discharge Elimination System (NPDES)

The City's stormwater discharge is regulated by an NPDES permit issued by the State Regional Water Quality Control Board ("SRWQCB") under the requirements of the Environmental Protection Agency (EPA) and Section 402 of the Clean Water Act. The goal of this permit is to reduce pollutants found in urban stormwater runoff. This permit requires the City to comply with applicable water quality and performance standards.

Sacramento Regional County Sanitation District

The Sacramento Regional County Sanitation District (SRCSD) is responsible for providing wastewater service to the majority of Sacramento County, including the cities of Sacramento and Folsom. The SRCSD maintains and operates its own wastewater collection and conveyance system, as well as the SRWTP. Construction discharges into the system, such as dewatering activities, require a wastewater discharge permit from the SRCSD. The City and the County have set this permit to ensure no significant impacts occur from dewatering activities. As part of the permit, SRCSD sets standards for discharge limitations, and requires monitoring activities to be performed by the permittee, the submittal of monitoring reports to SRCSD, and payment of associated discharge fees.

Drainage Requirements

The Added Area is a built, urban environment. The City has performance standards for drainage improvements applicable to "retrofit" situations such as redevelopment of the Added Area. Rather than setting nominal discharge requirements for pipelines, the City requires that pipelines and other

drainage facilities be sized such that: (1) the 10-year flood depth shall not exceed the top of street curbs; and (2) the 100-year flood depth shall not exceed the entry level of structures, excluding garages and sheds. Within the area served by the CSS, the City requires that projects provide adequate infrastructure to mitigate any increased storm drainage and sanitary sewer flows from the site at the time of the Cease and Desist Order.

The City requires applicants to prepare a drainage study for their project to the satisfaction of the City Department of Utilities as a condition of entitlements. This study is normally done after a project has received the conditions of entitlements, and prior to the issuance of a building permit. A result of the drainage study may be that the applicant is required to mitigate the impacts on- and off-site. Mitigation may include, but not be limited to, construction of new drainage facilities on- or off-site, enlarging the existing facilities, and providing on-site detention of storm water.

California General Industrial Storm Water Permit

Companies involved in a variety of industrial activities must be covered under a general industrial storm water permit. These activities include any manufacturing operations, transportation facilities where vehicles are maintained (maintenance includes fueling and washing), landfills, hazardous waste sites, and other similar operations. The general permit requires that each facility notify the State, prepare and implement a Storm Water Pollution Prevention Plan, and monitor to determine the amount of pollutants leaving the site.

The general permit requires industrial dischargers to (1) eliminate illicit discharges of storm water to storm water systems, (2) develop and implement a storm water pollution prevention plan (SWPPP), and (3) perform monitoring of discharges to storm water systems. The SWPPP should include (1) source identification, (2) practices to reduce pollutants, (3) an assessment of potential pollution sources, (4) a materials inventory, (5) a preventive maintenance program, (6) spill prevention and response procedures, (7) general storm water management practices, (8) employee training, (9) facility inspection, (10) recording keeping, and (11) elimination of unpermitted non-storm water discharges to the industrial storm water system.

California General Construction Activity Storm Water Permit

Construction activities that involve more than five acres of land disturbance must comply with a general SRWQCB permit that regulates storm water leaving the site. Construction on sites of less than five acres that are part of a larger project that covers more than five acres also must comply. However, construction activities that essentially maintain existing facilities, and do not involve a change in grade, are not required to be covered under the general permit. The general permit requires the site owner to notify the State, to prepare and implement a Storm Water Pollution Prevention Plan, and to monitor the effectiveness of the plan. The plan does not have to be submitted to the Regional Board, but must be on site and available to inspectors.

Permit applications are required to prepare, and retain at the construction site, a SWPPP which includes a description of (1) the site, (2) erosion and sediment controls, (3) means of waste disposal, (4) implementation of approved local plans, (5) control of post-construction sediment and erosion control measures and maintenance responsibilities, and (6) non-storm water management controls. Dischargers are also required to inspect their construction sites before and after storms to identify

storm water discharge associated with construction activity and to identify and implement controls where necessary.

The City conditions all construction activities that will disturb five acres or more of land. A project proponent must file a Notice of Intent for coverage and comply with requirements contained in the State General Construction Activity Storm Water Permit. All erosion, sediment and pollution control measures to be implemented must be approved by the City's Department of Utilities prior to the commencement of construction activities. In addition, staging of heavy equipment must be established so that spills of oil, grease or other petroleum by-products do not discharge into the drainage system. All machinery must be properly maintained and cleaned to prevent spills.

City of Sacramento Construction Standards

The City requires new development projects to be in conformance with the Administrative and Technical Procedures for Grading and Erosion and Sediment Control Manual. This manual provides standards and guidance for the design and preparation of erosion, sediment, and pollutant control plans, as well as best management practices for construction activities in accordance with the City of Sacramento Grading, Erosion, and Sediment Control Ordinance (Ordinance No. 93-068). Developers are required to carry out dust and soil erosion and sediment control measures before, during, and after the construction phase of development. This general permit requires the permittee to employ "Best Management Practices" (BMPs) before, during, and after construction. The City has a list of BMPs necessary to accomplish the goals of this permit, approved by the City's Department of Utilities, Engineering Services Division before beginning construction.

City of Sacramento Dewatering Requirements

The City requires new projects that will require construction dewatering activities to participate in a "Memorandum of Understanding" with the City to ensure that wastewater discharged to the CSS will not be contaminated, leaks in the system will not occur, and that the City can shut off discharges into the CSS during periods of high CSS flows. No permanent dewatering for foundations or basements is allowed to discharge to the City's CSS or drainage system. The CSS does not have adequate capacity to allow for dewatering discharges for foundations or basements. All basements and subgrade structures must be designed to be waterproofed and withstand the groundwater uplift without the need to dewater (Brent, 2000).

City of Sacramento General Plan

The Sacramento General Plan has established a goal to protect against flood-related hazards whenever feasible. The General Plan also prohibits development of areas subject to unreasonable risk of flooding unless measures can be implemented to eliminate or reduce the risk of flooding. The Sacramento General Plan Update has just one goal and one policy for flood hazards:

Goal A: Protect against flood related hazards wherever feasible.

- Policy 1: Prohibit development of areas subject to unreasonable risk of flooding unless measures can be implemented to eliminate or reduce the risk of flooding.

4.8.2 PROPOSED REDEVELOPMENT ACTIVITIES

The proposed Amendment would provide tax increment financing to fund capital improvements, housing, economic development incentives, and financial incentives for rehabilitation and redevelopment. The potential sewer and drainage improvement projects could include, but are not limited to, monitoring systems, sewer parallels, drainage lines, sewer lines, sump improvements, detention basins, wastewater treatment facilities, flooding systems, flood control dikes, and sewer systems. Numerous infrastructure projects, consistent with those identified above, were approved as a part of the City's 2003-2006 Capital Improvement Program. The Amendment may assist these projects as approved by the City after site specific environmental review.

4.8.3 ENVIRONMENTAL IMPACTS

METHODOLOGY

In order to estimate the Amendment's effect on the City's drainage and sewer facilities, including the CSS, the City of Sacramento Department of Utilities was consulted to determine if redevelopment activities would substantially worsen existing drainage conditions or CSS conditions, or adversely affect the Sacramento Regional Wastewater Treatment Plant or existing stormwater and sanitary sewer facilities. Since the Amendment does not propose to intensify land uses beyond those planned for in the City's General Plan, a quantitative analysis of stormwater or sanitary sewer flows in the context of this programmatic SEIR was not warranted.

THRESHOLDS OF SIGNIFICANCE

Criteria from the CEQA Guidelines are used to determine the significance of stormwater, wastewater and flood control impacts. The project will normally have a significant effect on the environment if it will:

- a) Violate any water quality standards or waste discharge requirements.
- b) Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site, or exceed the capacity of existing or planned stormwater drainage systems.
 1. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, or expose people or structures to a significant risk of loss, injury or death involving flooding.

In addition to the above criteria, effects on the City's drainage system and CSS would be considered significant if they exceeded the following screening criteria provided by the City of Sacramento Department of Utilities (Brent, 2000):

1. If a proposed project or project alternatives would increase the impervious surface area by greater than 0.25 acre; or,
2. If the proposed project or project alternatives would increase the equivalent single family dwelling unit (ESD) sanitary sewer flows by greater than 40 ESDs (1 ESD is equal to 400 gallons per day).

IMPACTS OF THE PROPOSED PROJECT

Impact 4.8-1 Substantial increases in stormwater runoff

Public activities and private development occurring as a result of the Amendment could increase the area of impervious surfaces, which in turn could increase storm runoff peak flows and volumes. Although precise land use changes on given parcels are not known at this time, it is probable that existing vacant and underutilized parcels would be converted to urban uses and that some areas of existing residential or commercial/industrial use could be modified or converted in a manner that would increase the surface area covered by buildings, pavement, or other relatively impervious surfaces. However, such development would occur consistent with existing plans, policies, and ordinances, and the infrastructure system anticipated to be needed to accommodate General Plan buildout.

The Amendment would provide drainage infrastructure improvements to meet the needs of redevelopment engendered development in the Added Area. The City Utilities Department has the authority to require project-specific drainage plans that would typically include: on-site drainage features such as gravel infiltration beds, pervious landscaped areas, or detention / retention facilities. Impacts on the drainage system would be *less than significant*.

Mitigation Measures

None required.

Impact 4.8-2 Substantial increases to Combined Sewer System flows

The Amendment would remove barriers to General Plan buildout in the Added Area, which could result in CSS flows that exceed the City's screening criteria for project-generated wastewater flows. Development would occur in areas flowing to City Pump Stations 48 and 126 on a project by project basis over the life of the Amendment, increasing the percentage of impermeable surface area over time. According to the CSS Improvement Project, there is adequate capacity in the CSS system to accommodate small increases in stormwater runoff and sewage flows, but individual development projects that would generate greater than 40 ESDs (16,000 gpd) of stormwater/sewage, and/or would increase impervious areas by greater than one quarter (1/4) acre, would require mitigation to avoid exceedances of system capacity.

Future development in the Added Area could potentially include projects that would generate greater than 40 ESDs of stormwater/sewage, thus the capacity of the CSS system could be exceeded during high intensity storm events.

If a project exceeds either of the two screening factors described above, any developer/engineer (D/E) for a site specific project in the CSS area would be required to provide the City with additional information needed to determine the level of impact upon the CSS that is due to the project's additional storm drainage and sanitary flows. The City may verify the D/E's determination using the Sacramento Storm Water Management Model (SSWMM91) and/or other methods. Based upon extensive sensitivity analyses of the CSS, impacts will be considered significant if any of the following conditions exists:

- Flood volumes: An increase \geq 5% out of the sewer system.

- **Flooding Depth:** Water surface elevations (HGL) exceed an elevation greater than 0.5 feet below drainage inlets.
- **Flood Duration:** Any significant increase of time when flooding occurs in the streets.

The City requires that existing and proposed storm drainage and sewer flow calculations for each project be submitted to the Department of Utilities to determine whether a project may exceed City screening criteria. If the Department determines that a project's impacts are significant, the project proponent will be required to work with Department staff to develop a method of mitigating these impacts. A mitigation plan could include such measures as on-site storage and/or detention of site-generated storm water flows, CSS pipe up-sizing, and replacement of pipes.

The Amendment could provide infrastructure improvements to enhance the CSS distribution system, but would not necessarily specifically address CSS capacity issues. However, development permitted under the General Plan and encouraged by redevelopment activities could result in a **significant impact** on the capacity of the CSS.

Mitigation Measures

4.8-2 If mitigation of system-wide impacts to less-than-significant levels cannot be accomplished by the mitigation plan for an Agency engendered project, the project sponsor shall enter into a Mitigation Agreement with the City, which shall be approved by the City of Sacramento Department of Utilities prior to the issuance of building permits. Such an agreement would include, but is not limited to the following:

1. Agreement to pay any and all associated CSS impact fees based on a development's fair share of cost to implement the CSS improvement projects.
2. Waiver of all rights to protest future fees, assessment districts, Mello Roos districts, etc.
3. Consent to all conditions by any lien holder.

Significance after Mitigation

Less than significant.

Impact 4.8-3 Potential impact on downstream water quality

Redevelopment activities and development encouraged by redevelopment would include the construction of roadways and structures which would involve grading, excavation or other construction-related activities which could cause soil erosion at an accelerated rate during storm events. Sediment from erosion can have long and short-term effects on water quality in affected streams including increased municipal/industrial water treatment costs for turbidity removal, adverse impacts on fish and wildlife habitat, impaired recreation and aesthetic values, reduced water pump life due to abrasion, and increased flooding hazard due to reduced channel capacity. Other potential sources for water quality degradation during construction activities is the use of heavy machinery and other construction equipment which can increase the amounts of heavy metals, oil, grease, and other petroleum hydrocarbons in receiving waters.

Construction activities which disturb more than five acres of land are required to obtain, and comply with the State General Construction Activity Storm Water Permit. As described above, compliance with the Permit would require the implementation of BMPs. Furthermore, all grading activities would also be required to follow the City Grading Permit requirements. Because activities resulting from redevelopment would be developed and operated in compliance with municipal NPDES regulations, the impact to receiving waters is considered to be ***less-than-significant***.

Mitigation Measures

None required.

Impact 4.8-4 Exposure to flood hazard areas

Redevelopment activities would remove barriers to development and could support the construction of habitable structures within an A99 flood hazard zone, thus exposing people and/or property to the risk of injury and damage in the event of a 100-year, or greater, flood. These risks are considered significant adverse impacts under CEQA. The proposed Amendment falls within the scope of the City's Flood Zone Land Use Policy Program EIR and the findings adopted for the Flood Zone Land Use Policy and will not result in any development or impacts over and above those previously analyzed in the Program EIR and subsequent addendums, thus the incremental impact of the Amendment is considered ***less than significant***.

Mitigation Measures

None required.

Impact 4.8-5 Exceed Sacramento Regional County Sanitation District capacity

The Amendment does not propose to intensify land uses beyond those planned for in the City General Plan, as amended. As noted in the Setting section above, an expansion is planned for the SRWTP which is intended to serve the anticipated buildout of the service area through 2020. This would be a ***less than significant*** impact.

Mitigation Measures

None required.

4.8.4 REFERENCES – STORMWATER, WASTEWATER AND FLOOD CONTROL

- *Land Use Planning Policy Within the 100 Year Flood Plain in the City and County of Sacramento Draft and Final EIRs*, City of Sacramento, January 1990.
- *Approved Capital Improvement Program*, City of Sacramento, 2003-2008.
- *Draft and Final Environmental Impact Report, City of Sacramento General Plan Update*, City of Sacramento, Draft EIR is dated March 2, 1987 and Final EIR is dated September 30, 1987.
- *Sacramento Army Depot Redevelopment Plan Draft Environmental Impact Report*, City of Sacramento, March 1995.
- *Kimland Yee*, City of Sacramento Utilities Department, personal communication, February 6, 2004.
- *CalEPA*, Water Quality Control Board, <http://www.swrcb.ca.gov/rwqcb2/stormwater.htm>
- *Terry L. Paxton*, Supervising Engineer, Department of Utilities, comment letter on Notice of Preparation, January 15, 2004.

End Notes – Chapter 4.8

- i Damagalski, Joseph and Brown, Larry R. 1996. National Water Quality Assessment Program: The Sacramento River Basin. United States Geological Survey, NAWQA Fact Sheet. <http://water.wr.usgs.gov/sacval.html>.
- ii Sacramento Regional County Sanitation District Home Page. www.srscsd.com.
- iii The Sacramento City General Plan Draft EIR. Sacramento Planning and Building Department. 1988. pg. W-3.
- iv Sacramento City General Plan Draft EIR. 1986, pg. W-3.
- v Sacramento General Plan Update Draft EIR, pg. W-9.
- vi Sacramento and San Joaquin Delta Atlas. <http://www.dwr.water.ca.gov>. Department of Water Resources. 1995.