

8.14 Water Resources

8.14.1 Introduction

This section evaluates the effect of the South Bay Replacement Project (SBRP) on water resources. Water resources potentially affected by the proposed SBRP include effects on water supply, wastewater discharge, surface water and groundwater quality, and stormwater.

Subsection 8.14.2 presents the applicable laws, ordinances, regulations and standards (LORS). Section 8.14.3 describes the hydrologic setting, Subsection 8.14.4 characterizes water use and disposal, and Subsection 8.14.5 discusses precipitation, storm runoff, and drainage. Subsection 8.14.6 discusses the Project's effects on water resources. Mitigation is discussed in Subsection 8.14.7. Subsection 8.14.8 provides the proposed monitoring plans and compliance verification procedures. Subsection 8.14.9 discusses cumulative impacts. Subsection 8.14.10 lists the permits required and agencies consulted, and Subsection 8.14.11 provides the references consulted in preparing this section.

The SBRP project consists of three phases:

- **The Construction Phase** – The first phase is the demolition of existing structures and foundations associated with the former Liquefied Natural Gas (LNG) Facility, preparation of construction lay down areas, and the construction of the SBRP. Initial operations of SBRP will include an interim interconnection to the San Diego Gas & Electric Company (SDG&E) transmission system through a new 230-kilovolt ampere (kVA) substation on approximately 0.6 acre (interconnecting to SDG&E's planned new 230-kilovolt [kV] transmission line) and an underground interconnection to the existing SDG&E South Bay 138/69 kV substation.¹
- **The Demolition Phase** – The second phase of Project construction activities will occur after the SBRP achieves commercial operation. The construction activity during this phase will be the demolition of the existing South Bay Power Plant (SBPP) facilities, excluding SDG&E's existing South Bay Substation which will remain in service until the new substation is constructed.
- **The New Substation Phase** – The final phase of the Project will involve the construction of the SDG&E substation on approximately 6.5 acres south of and adjacent to the SBRP site. This construction will be performed after the start up of the SBRP and demolition of SBPP. After the new SDG&E substation construction is completed and operational, and the SBRP generator leads are attached to the new facilities, SDG&E could then initiate demolition activities on the South Bay Substation, located north of the SBRP site. These demolition activities, however, are not part of the scope of this Application for Certification (AFC). They are part of a separate project of unknown timing and scope.

The reason there are two interconnect steps is to ensure that interconnection can be secured by the proposed on-line date of SBRP (2010). Also, SDG&E holds certain obligations

¹ SDG&E was granted a Certificate of Public Convenience and Necessity (CPCN) for the Otay Mesa Power Purchase Agreement (OMPPA) Transmission Project. The CPCN is for the construction of two new 230-kV electric transmission circuits to connect SDG&E's Miguel Substation with both the Sycamore Canyon Substation and the Old Town Substation in San Diego County. The circuit to the Old Town Substation is planned to pass within approximately 100 feet of the proposed SBRP. This project is under construction. The SBRP interconnection plan is based in part on interconnecting to this circuit.

associated with a new substation as part of its MOU with the City of Chula Vista, but these obligations occur after the demolition of the South Bay Power Plant (SBPP).

8.14.2 Applicable Laws, Ordinances, Regulations, and Standards

Federal, state, and local LORS applicable to water resources and anticipated compliance are discussed in this section and summarized in Table 8.14-1.

Among the local LORS discussed in this section are certain ordinances, plans or policies of the City of Chula Vista. For informational purposes, this section reviews compliance of the Project with such requirements even though the Applicant understands that they are not applicable to the Project as a matter of law. (See Section 8.4 – Land Use for a discussion of this issue.) The analysis of City LORS in this section is informational and does not address the jurisdictional issues which are discussed in Section 8.4 – Land Use.

8.14.2.1 Federal

In California, discharges of wastewater and stormwater into surface waters are regulated by the State Water Resources Control Board and Regional Water Quality Control Boards under the Clean Water Act and the Porter-Cologne Water Quality Control Act. SBRP will discharge wastewater into the City of Chula Vista sanitary sewer system; SBRP will be subject to the Industrial Wastewater Permit (2466 § 7, 1991) from the City of Chula Vista. Permit details are discussed below under local regulations. Relevant National Pollutant Discharge Elimination System (NPDES) permits for stormwater quality management are discussed below under State and Local LORS.

8.14.2.2 State

8.14.2.2.1 Municipal Stormwater NPDES Permit

Pursuant to the Clean Water Act, a Municipal Stormwater NPDES Permit (Order No. 2001-01, NPDES No. CAS0108758) was issued to San Diego County, the Port, and 18 cities (including Chula Vista) by the San Diego Regional Water Quality Control Board (RWQCB) on February 21, 2001. This Municipal Permit was issued pursuant to the USEPA's Phase I Municipal Program and requires the development and implementation of a program addressing stormwater runoff pollution issues in development planning for public and private projects. Because the municipal stormwater standards would be enforced by the Port, they are discussed below under local regulations.

8.14.2.2.2 Industrial Stormwater NPDES Permit

The State Water Resources Control Board (SWRCB) implements regulations under the federal Clean Water Act requiring that point source discharges of stormwater (which is a flow of rainfall runoff in some kind of discrete conveyance such as a pipe, ditch, channel, or swale) associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit (SWRCB, 1997). The SWRCB has issued Waste Discharge Requirements (WDRs) for discharges of stormwater associated with industrial activities (SWRCB Order 97-03-DWQ), excluding construction activities. The Project will require a Stormwater Pollution Prevention Plan (SWPPP) that would specify management measures and meet WDRs to ensure receiving water quality. The San Diego RWQCB requires a Notice of Intent to be filed prior to any stormwater discharge from industrial activities, and that the SWPPP be implemented and maintained onsite.

TABLE 8.14-1
Laws, Ordinances, Regulations, and Standards Applicable to SBRP Water Resources

LORS	Applicability	How Conformance Is Achieved	Agency/Contact
Federal			
Clean Water Act/Water Pollution Control Act. P.L. 92-500, 1972; amended by Water Quality Act of 1987, P.L. 100-4 (33 USC 466 et seq.); National Pollutant Discharge Elimination System (NPDES) (CWA, Section 402)	Prohibits discharge of pollutants to receiving waters unless the discharge is in compliance with an NPDES permit. Applies to all point-source discharges, including stormwater runoff from construction (including demolition). Applies to non-point sources through municipal NPDES permits.	Compliance with existing statewide NPDES permit for construction and industrial stormwater. Compliance with existing municipal NPDES permit implemented by the San Diego Unified Port District (Port) (Subsection 8.14.2.1).	See below under State and Local
State			
Federal Clean Water Act (implemented by State of California)	Implements and enforces the federal NPDES permit program.	NPDES permits for construction (including demolition) and industrial stormwater prior to construction and plant operation (Subsection 8.14.2.2).	San Diego RWQCB 9174 Sky Park Court, Suite 100 San Diego, CA. 92123-4340 (858) 467-2952
Porter-Cologne Water Quality Control Act	Governs the regulation of water quality within California and authorizes preparation of Basin Plans.	SBRP will discharge wastewater and stormwater in compliance with the Basin Plan (Subsections 8.14.2.1 and 8.14.2.2).	San Diego RWQCB 9174 Sky Park Court, Suite 100 San Diego, CA. 92123-4340 (858) 467-2952
Local			
Article 10 of the San Diego Unified Port District Code (Ordinance 2105, Stormwater Management and Discharge Control)	Sets forth uniform requirements and prohibitions for dischargers and places of discharge to the stormwater system and receiving waters. Must obtain connection approval from executive director.	SBRP will implement BMPs to reduce pollutants to the maximum extent practicable during construction (including demolition) and operations (Subsection 8.14.2.3.1).	Port of San Diego P.O. Box 120488 San Diego, CA 92112-0488 David Merk, Director (619) 686-6254
City of Chula Vista, Wastewater Ordinance, (2466 § 7, 1991)	Regulates connections to the City's sewer system.	The Project will comply for all discharges to the sewer system and will obtain a Permit for Industrial Wastewater Discharge. This permit is issued in conjunction with a discharge permit from the City of San Diego (Subsection 8.14.2.3.2).	City of Chula Vista 1800 Maxwell Rd., Chula Vista, CA 91911 (619) 391-6000 Metropolitan Industrial Waste Program 9192 Topaz Way San Diego, CA 92123 (619) 654-4110

8.14.2.2.3 Construction Stormwater NPDES Permit

The federal Clean Water Act effectively prohibits discharges of stormwater from construction sites unless the discharge is in compliance with an NPDES permit. The SWRCB is the permitting authority in California and has adopted a statewide General Permit for Stormwater Discharges Associated with Construction Activity (SWRCB Water Quality Order No. 99-08-DWQ; SWRCB, 1999) that applies to projects resulting in one or more acres of soil disturbance. The proposed Project would result in disturbance of more than one acre of soil. Therefore, the Project will require the preparation of a construction SWPPP that would specify site management activities to be implemented during site development. These management activities will include construction stormwater best management practices (BMPs), dewatering runoff controls, and construction equipment decontamination. The San Diego RWQCB requires a Notice of Intent to be filed prior to any stormwater discharge from construction activities, and that the SWPPP be implemented and maintained onsite. Appendix 8.14A presents a copy of the draft Construction Drainage Erosion and Sediment Control Plan/SWPPP.

8.14.2.2.4 Water Quality Control Plan for the San Diego Basin

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) governs the regulation of water quality within California and establishes the authority of the SWRCB and the nine Regional Boards. The San Diego RWQCB established regulatory standards and objectives for water quality in the coastal watersheds of San Diego County in the *Water Quality Control Plan for the San Diego Region*, commonly referred to as the “Basin Plan” (San Diego RWQCB, 1994). The Basin Plan identifies existing and potential beneficial uses and provides numerical and narrative water quality objectives designed to protect those uses.

8.14.2.3 Local

Among the local LORS discussed in this section are certain ordinances, plans or policies of the City of Chula Vista. For informational purposes, this section reviews compliance of the Project with such requirements even though the Applicant understands that they are not applicable to the Project as a matter of law. (See Section 8.4 – Land Use for a discussion of this issue.) The analysis of City LORS in this section is informational and does not address the jurisdictional issues which is discussed in Section 8.4 – Land Use.

8.14.2.3.1 San Diego Unified Port District

Implementation of the Municipal Stormwater NPDES Permit for the Project site is by the Port. Article 10 of the San Diego Unified Port District Code (Ordinance 2105, Stormwater Management and Discharge Control) sets forth uniform requirements and prohibitions for stormwater discharges. This ordinance addresses stormwater pollution prevention, pollutant source controls and treatment controls, runoff diversion, and the regulation of discharges to the Port-controlled storm drain system and/or the Bay. It was developed to reduce pollution from stormwater discharges and to protect public health, natural resources, and the environment. This applies to all dischargers and places located on tidelands within the Port’s jurisdiction that discharge stormwater or non-stormwater into any stormwater system or receiving waters.

The Port has developed a model Standard Urban Storm Water Mitigation Plan (SUSMP) to reduce pollutants and runoff flows from all new development and significant

redevelopment projects falling under the priority project categories. The SBRP and demolition of the existing SBPP fall into the category of “redevelopment” and will follow the guidelines outlined in the SUSMP. Guidelines of the SUSMP include steps to identify and mitigate pollutants and conditions of concern. Compliance with the SUSMP will compliment the requirement to prepare and implement a SWPPP for industrial activities.

Ordinance 2105 also requires any person performing construction work on district tidelands to, the maximum extent practicable, prevent pollutants from entering the stormwater system. In accordance with Ordinance 2105, the Applicant will include stormwater best management practices during project construction, demolition, and in the design of the SBRP. Compliance with this part of Ordinance 2105 will compliment the SWPPP for construction activities.

8.14.2.3.2 City of Chula Vista

The Clean Water Act requires that publicly-owned treatment works regulate the discharge of industrial wastes into a sewer system that is subject to an NPDES permit. Accordingly, the City of Chula Vista has adopted detailed permit requirements for industrial dischargers. The discharge of any wastewater to the City’s sewer system would be subject to the requirements of the City’s Wastewater Ordinance (Ordinance 2466), which regulates the quantity and quality of discharges. In accordance with the Wastewater Ordinance, SBRP would be required to obtain an Industrial Wastewater Discharge Permit (IWDP), which would specify the detailed project-specific requirements applicable to the SBRP including pretreatment standards, flow restrictions, and sampling, monitoring, and reporting requirements. The permit would be issued for a fixed time period, not to exceed 5 years. Detailed plans, compliance schedules, and operating procedures shall be submitted before construction of the facility.

Because the Chula Vista sewer system discharges into the City of San Diego’s Metropolitan Sewerage System, all dischargers of industrial wastewater also are required to obtain an Industrial User Discharge Permit from the City of San Diego. An industrial waste inspection is conducted before the permit is issued. This permit from the City of San Diego is issued in conjunction with the City of Chula Vista, under the same permit number.

8.14.3 Hydrologic Setting

8.14.3.1 Surface Water

Several surface water bodies are present within one-mile of the site. Surface water bodies include San Diego Bay, Telegraph Canyon Creek, and the Otay River (Figure 8.14-1). San Diego Bay is located to the west of the Project site. It is a natural bay approximately 14 miles long and varying in width from 0.5 mile to about 2.5 miles. The depth varies from 30 to 40 feet in the north part of the bay and only about 2 or 3 feet below mean lower low water in the south part of the bay. The waters of the bay and adjacent marshlands are generally saline. Specific areas of San Diego Bay are considered to be impaired water bodies as defined by Section 303(d) of the Clean Water Act. Impairments include bacteria, benthic impacts, sediment toxicity, copper, zinc, PAHs, chlordanes, mercury, PCBs, and lindane (USEPA, 2002).

Telegraph Canyon Creek originates in the hills east of the City of Chula Vista and flows northwesterly across the Project site through a lined channel north of the site before

discharging into San Diego Bay. No water quality data are available for Telegraph Canyon Creek.

The Otay River, approximately one-mile south of the site, flows mainly to the west and discharges into San Diego Bay. Flow in the lower Otay River is controlled by releases from the Lower Otay Reservoir. Water quality data from the River are extremely limited. At one time, there was an Otay monitoring station located on the southeast side of Beyer Boulevard, just past the south end of the Otay River Bridge. There were no data collected at the Otay station due to vandalism of the monitoring equipment and the subsequent decision not to replace it (WURMP, 2003).

8.14.3.2 Groundwater

The plant site is within the Sweetwater Valley Groundwater Basin (Figure 8.14-2). The Sweetwater Valley Groundwater Basin underlies an alluvial valley that empties into San Diego Bay. The basin is bordered by San Diego Bay on the west, Pliocene to Pleistocene semi-permeable terrestrial deposits on the north and south, and impermeable Santiago Peak volcanic rocks on the east. Quaternary alluvium and the San Diego Formation are the two major water bearing formations in the basin. Groundwater in the Quaternary alluvium deposits is unconfined and wells produce an average yield of about 300 gpm. Production well yields from the San Diego Formation, measured at the National City well field, are about 1500 gpm and average well yield is 500 gpm (DWR, 2004).

Groundwater in the alluvium is of a sodium-calcium character, with a total dissolved solids concentration ranging from 300 to over 50,000 ppm. The groundwater in the San Diego Formation is of a sodium chloride character with a total dissolved solids concentration ranging from 600 to 1,600 mg/L. Total dissolved solids, chloride, and sodium content generally exceed recommended drinking water limits (DWR, 2004).

8.14.3.3 Flooding Potential

The plant site is not located within the 100-year floodplain (Zone A) as defined by the Federal Emergency Management Agency (FEMA) (Figure 8.14-3) (FEMA, 1997). A small portion of the site is within areas of the 500-year floodplain or areas that may be subject to shallow flooding from a 100-year flood (shaded Zone X). The majority of the site is outside of the FEMA study area, but it is shown as being outside of the 500-year floodplain (non-shaded Zone X). The Project site is located inside of the area of potential tsunami inundation identified in the San Diego County Multi-Hazard Mitigation Plan (Figure 8.14-4).

8.14.4 Water Use and Disposal

8.14.4.1 Water Use

For SBRP operations, water is used primarily as the makeup supply to the steam cycle, and also for plant facilities and onsite worker use (e.g., drinking water and sanitary use). Maximum daily and annual water demands are expected to be 80 gallons per minute (gpm) and 129 acre-feet per year, respectively. A water balance diagram is presented in Figure 8.14-5. During certain phases of plant operation, especially during plant startup, water use will be temporarily higher. The existing cooling system for the SBPP – once through cooling from San Diego Bay – will be abandoned.

Potable water will be supplied to the site from an existing 10-inch water main along Bay Boulevard. The source of this water is the Sweetwater Authority. Sweetwater Authority is a publicly owned water agency that provides potable water in the Chula Vista and National City areas. Sweetwater Authority obtains 70 percent of their water from local water supplies, including the Sweetwater River, the Sweetwater Alluvium, and the San Diego Groundwater Formation. About 30 percent is obtained from imported water sources (Sweetwater Authority, 2006). For potable water service, SBRP will be required to submit an application for service. The Sweetwater Authority submitted a Will-Serve Letter on April 19, 2006, which is attached as Appendix 8.14B.

8.14.4.2 Wastewater Discharge

Process and sanitary wastewater will be discharged to an existing sewer line along Bay Boulevard, and will use existing sewer capacity allocated to the South Bay Power Plant. The primary source of discharge will be process wastewater, including reject water from the reverse osmosis/ deionization system and wastewater from non-potable plant uses. Total maximum wastewater discharges would be approximately 83,500 gallons per day (gpd), or about 58 gpm, which would not exceed the existing maximum permitted sewer discharge rate for the South Bay Power Plant (100,000 gpd, or about 69 gpm), which is the anticipated permit limit for the SBEF.

The wastewater storage tank will serve as a surge tank wherein peak system flow rates which are greater than the limiting discharge rate can be accumulated and allowed to drain to the sewer during periods when the peak system flow rate is below the permitted maximum. Sanitary wastewater flows will be directed by gravity to a sump or sumps where they will be collected and pumped to the City of Chula Vista sewer, bypassing the wastewater storage tank. The City of Chula Vista submitted a Will-Serve Letter on March 27, 2006, which is attached as Appendix 8.14C.

8.14.4.3 Water Use and Disposal during Demolition and Construction Activities

Water for equipment washdown and dust control during the demolition and construction phases will be supplied from the Sweetwater Authority. In their Will-Serve letter, Sweetwater Authority stated that up to 1,200 gpm of water is available for limited duration. Table 8.14-2 summarizes the average water usage. There will short periods requiring peak water usage (i.e. SBRP start-up activities), but these activities will be scheduled so as not to exceed the maximum water available from Sweetwater Authority. Hydrostatic testing of pipelines is expected to require approximately 14 gpm for short periods. Water used for construction will either evaporate, percolate, or will be discharged in a manner consistent with the construction SWPPP.

TABLE 8.14-2Average Water Usage from the Sweetwater Authority in Gallons per Minute (gpm)^a

	LNG Demo/Site Prep Phase	Construction Phase	SBPP Demo Phase	Relocated Substation Construction Phase	Post- relocated Substation Construction Phase
LNG Demo/SBRP Site Prep	433	—	—	—	—
SBRP Construction	—	217	—	—	—
SBRP Operation	—	—	50 ^b	50 ^b	50 ^b
SBPP Demo	—	—	190	—	—
SDG&E Substation Construction	—	—	—	88	—
TOTAL	433	217	240	138	50 ^b

^a Estimations assume a 10-hour work day^b Baseload generation (without duct firing)

8.14.5 Precipitation, Stormwater Runoff, and Drainage

8.14.5.1 Precipitation

Table 8.14-3 provides average historical rainfall from the climatological station at the San Diego International Airport.

TABLE 8.14-3

Rainfall near the Proposed Project Site (1914-2005)

Precipitation	Annual	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Average	10.22	0.5	.95	1.76	2.06	2.00	1.70	0.79	0.21	0.06	0.02	0.06	0.18
Maximum	24.93	4.98	5.82	9.26	9.09	7.65	6.96	5.37	2.54	0.87	0.24	2.13	3.14

Source: WRCC, 2005.

Precipitation in San Diego County is infrequent and highly variable. Most precipitation occurs between the months of October and April. Precipitation data are available from the climatological station at the San Diego International Airport. The precipitation station and the Project site are similar in elevation and coastal climatological setting. These similarities and the proximity of the precipitation station to the site suggest that the San Diego International Airport precipitation records provide a reasonable estimate of precipitation conditions at the Project site.

The mean annual precipitation (January 1914 to December 2005) is 10.22 inches per year. The minimum and maximum annual precipitation for the period of record is 3.41 inches and 24.93 inches, respectively.

8.14.5.2 Stormwater Runoff Prior to Construction

The Project site is presently partially developed and covered with weeds and incidental, small vegetation except where roadway surfaces and the remnants of abandoned foundations remain. Existing onsite berms contain much of the stormwater runoff.

Stormwater runoff collects within the bermed area and eventually evaporates. Low points in the southwest and southeast corners of the site collect any remaining runoff. Stormwater runoff from this area is directed by incidental swales and a concrete-lined ditch. This water is discharged to San Diego Bay.

8.14.5.3 Stormwater Runoff After Construction

The developed portion of the Project site (the SBRP and relocated substation sites), will be surfaced with either asphalt pavement or aggregate surfacing. The entire site also will include a buffer along its west side and transmission easement on the east side, with permeable surfaces. Site drainage in the developed area will be based on a system of swales and culverts leading to a stormwater detention basin.² Figures 2.3-16 through 2.3-22 (see 2.0 – Project Descriptions for these figures) show the post-construction runoff and drainage patterns. Drainage calculations are attached as part of Appendix 8.14A. Stormwater collected in the detention basin will be discharged through a regulating structure which will limit peak discharge rates to flows no greater than corresponding values for the current site. From the detention basin, the discharge will be routed through a box culvert and into a discharge channel which connects to the existing ditch leading to the San Diego Bay.

8.14.6 Effects on Water Resources

Significance criteria are derived from the California Environmental Quality Act Appendix G checklist. A project is considered to have a potentially significant effect if it would:

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite or in flooding on- or offsite.
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Cause inundation by seiche, tsunami, or mudflow.

² The stormwater detention basin is sized to accommodate stormwater flows from both the SBRP site and the relocated South Bay Substation site.

8.14.6.1 Drainage

The Project site is flat, and would remain generally flat after development. Site grading will establish a working surface for construction and plant operating areas, and will provide positive drainage from buildings and structures and adequate ground coverage for subsurface utilities. Because the site is currently in use with an existing stormwater collection system, the volume and rate of runoff from the Project site cannot be substantially altered as a result of Project development. Site drainage will be based on a system of swales and culverts leading to a stormwater ditch, which will drain to a detention basin. Stormwater collected in the detention basin will be discharged from the site into San Diego Bay through a regulating structure that will limit peak discharge rates to flows no greater than corresponding values for the current site.

8.14.6.2 Stormwater Quality (Operations Phase)

As described above, stormwater from the site will be discharged to a detention basin and ultimately to San Diego Bay. Because this site is considered “redevelopment,” as defined by the Port, a Standard Urban Stormwater Management Plan (SUSMP) will be submitted to the Port that includes details of facilities and measures that mitigate impacts to water quality. Redevelopment is described as land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to the expansion of a building footprint; addition or replacement of a structure; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to structural or impervious surfaces. The SUSMP will be reviewed by the Port Environmental Review, Environmental Services, and Land Use Planning Departments to determine environmental impacts and whether the proposed BMPs are appropriate. Compliance with the SUSMP will reduce any impact from stormwater runoff to a level of less than significant.

In addition to the SUSMP, LORS compliance also requires preparation of a SWPPP for industrial operations. The industrial SWPPP will require steps to identify pollutants and conditions of concern, as well as standard best management practices to mitigate pollutants and conditions of concern. Compliance with the SUSMP would compliment the requirement to prepare and implement a SWPPP for industrial activities.

No process wastewater will be discharged from the site as stormwater runoff. Reject water from the reverse osmosis/deionization process would be discharged to the sanitary sewer. All discharges from other non-potable plant uses would be routed through an oil-water separator and discharged to the sanitary sewer.

8.14.6.3 Stormwater Quality (Demolition and Construction Phases)

During demolition and construction, the Project site, construction laydown, worker parking areas, and South Bay Power Plant facilities (including facilities with a direct connection to the Bay) will be disturbed. Surface water impacts are anticipated to be related primarily to short-term demolition and construction activity, when increased turbidity due to erosion of newly excavated or placed soils could occur. Activities such as grading can potentially increase rates of erosion during construction and can contaminate runoff or groundwater if not properly controlled. Compliance with engineering and construction specifications, following approved grading and drainage plans, and adhering to proper material handling

procedures will ensure effective mitigation of these short-term impacts. Best management practices for erosion control will be implemented. Additionally, erosion and sediment controls, surface water pollution prevention measures, and other BMPs will be developed and implemented. These plans will be prepared in accordance with the general construction permit issued by the State Water Quality Control Board (including SWPPP preparation) and Port requirements for stormwater quality management during construction. Successful implementation of the SWPPP will ensure that construction impacts to water resources are mitigated to a less-than-significant level. Appendix 8.14A presents a copy of the draft Construction Drainage Erosion and Sediment Control/SWPPP.

8.14.6.4 Waste Discharge Requirements

Wastewater generated at the SBRP will be discharged to the City of Chula Vista sanitary sewer system. Sanitary and process wastewater will comply with limitations on the maximum permitted discharge rate and water quality concentrations. Sanitary wastewater flows will bypass the wastewater storage tank. The wastewater storage tank will serve as a surge tank for process wastewater flows wherein peak system flow rates which are greater than the limiting discharge rate can be accumulated and allowed to drain to the sewer during periods when the system flow rate is below the permitted maximum. The anticipated quality of wastewater discharges from SBRP would be well within the Chula Vista's discharge limitations. By meeting these industrial discharge limitations, downstream wastewater impacts would be less than significant.

8.14.6.5 Groundwater

The SBRP would not make any direct use of groundwater resources, and the Project will not involve any discharges that could affect groundwater quality. Accordingly, no impacts to groundwater resources are expected from the Project.

8.14.6.6 Flooding Potential

As shown in Figure 8.14-3, the Project area is flat and there are no significant dams or levees in the Project vicinity. The site grading and drainage will be designed to comply with all applicable federal, state, and local regulations. The general site grading will establish a working surface for construction and plant operating areas, and will provide positive drainage from buildings and structures to reduce the potential of onsite flooding hazards.

As shown in Figure 8.14-3, the plant site is not located within the 100-year floodplain (Zone A), as defined by the FEMA. A small portion of the site is within areas of the 500-year floodplain or areas that may be subject to shallow flooding from a 100-year flood (shaded Zone X). The majority of the site is outside of the FEMA study area, but is shown as being outside of the 500-year floodplain (non-shaded Zone X).

Because there are no significant dams or levees in the Project vicinity, the Project would not expose people or structures to significant risk of loss, injury or death resulting from a levee or dam failure. The Project site is located at an elevation of between 10 and 19 feet above mean sea level and 2.4 miles from the Pacific Ocean shoreline. Damaging tsunamis are not common on the California coast. Most California tsunamis are associated with distant earthquakes (most likely those in Alaska or South America), not with local earthquakes. Because of the lack of reliable information about the kind of tsunami runups that have

occurred in the prehistoric past, there is considerable uncertainty over the extent of tsunami runup that could occur. There is ongoing research into the potential tsunami run-up in California. Although seiches and tsunamis can occur and cause tidal surges into San Diego Bay, these events are extremely rare.

8.14.7 Mitigation

The following mitigation measures are proposed to ensure avoidance of impacts to water resources in areas affected by the Project.

- Conduct operations at the plant site in accordance with the requirements of the Port's stormwater program and the statewide general permit for industrial stormwater quality management. Design and implement the BMPs to prevent or control pollutants potentially associated with the operation of the plant from entering stormwater sewers or receiving waters.
- Implement BMPs designed to minimize soil erosion and sediment transport during demolition and construction of the plant site and project corridor features in accordance with the requirements of the Port's stormwater program and the statewide general permit for construction activities. Design appropriate erosion and sediment controls for slopes, catch basins, culverts, stream channels, and other areas prone to erosion.

The mitigation measures proposed are prescribed by stormwater and erosion control management programs mandated under the NPDES permitting system. These programs have been in place for a number of years, and the prescribed measures have proven effective. Compliance with these programs should ensure that all residual impacts associated with the proposed Project are mitigated to a level of less than significant.

8.14.8 Proposed Monitoring Plans and Compliance Verification Procedures

Any necessary monitoring and compliance verification would be completed as required by the stormwater NPDES permitting of the Project. No additional monitoring of surface or groundwater would be required because no other water quality impacts are expected to occur.

8.14.9 Cumulative Impacts

The SBRP will not cause or contribute to any significant cumulative impacts on water resources. Good engineering practices and BMPs will be used in the Project design and operation. Stormwater discharge will adhere to a SWPPP for construction and operation, and would follow additional local procedures (e.g., SUSMP) to contribute to regional stormwater quality management. No significant impacts to surface water or groundwater quality are expected during construction or operation of the Project. The Project will contribute to water conservation by making use of dry-cooling method for power plant cooling.

8.14.10 Permits Required and Agencies Consulted

For informational purposes, the list of applicable permits, including permits that would be required, but for the CEC's exclusive siting jurisdiction, are shown in Table 8.14-4.

TABLE 8.14-4
Permits and Permitting Agencies for SBRP Water Resources

Permit	Schedule	Agency
Application of Service for Potable Water	Will-Serve letter received April 19, 2006	Sweetwater Authority P.O. Box 2328 Chula Vista, CA 91912-2328 (619) 420-1413
Industrial Wastewater Discharge Permit	Minimum of 90 days prior to the commencement of the discharge	City of Chula Vista 1800 Maxwell Rd. Chula Vista, CA 91911 Dave Byers, Dir. of Public Works (619) 391-6000
SUSMP	Occurs during the submittal phase for the design plans to the city for agency review. Dischargers must obtain written approval from the Port executive director prior to making a connection to the stormwater system.	Port of San Diego P.O. Box 120488 San Diego, CA 92112-0488 David Merk, Director (619) 686-6254
National Pollution Discharge Elimination System General Permit for Construction and Operation	Submit Notice of Intent to use the permit at least 30 days in advance of use, prepare SWPPP for construction and SWPPP for operation.	San Diego RWQCB 9174 Sky Park Court, Suite 100 San Diego, CA. 92123-4340 (858) 467-2952

8.14.11 References

City of Chula Vista Wastewater Ordinance No. 2466 § 7, 1991. Adopted, July 9.

California Department of Water Resources (DWR). 2004. Sweetwater Valley Groundwater Basin. Bulletin No. 118.

Federal Emergency Management Agency (FEMA). 1997. Flood Insurance Rate Map: City of Chula Vista (panel number panel number 06073C2152F)/City of San Diego (panel number 06073C2151F).

Port District of San Diego, California. 2003. San Diego Bay Watershed Urban Runoff Management Program (WURMP).

San Diego Regional Water Quality Control Board (San Diego RWQCB). 1994. Water Quality Control Plan, San Diego Region. Adopted September 8.

San Diego Unified Port District Stormwater Management and Discharge Control Ordinance No. 2105. 2000. Adopted July 25.

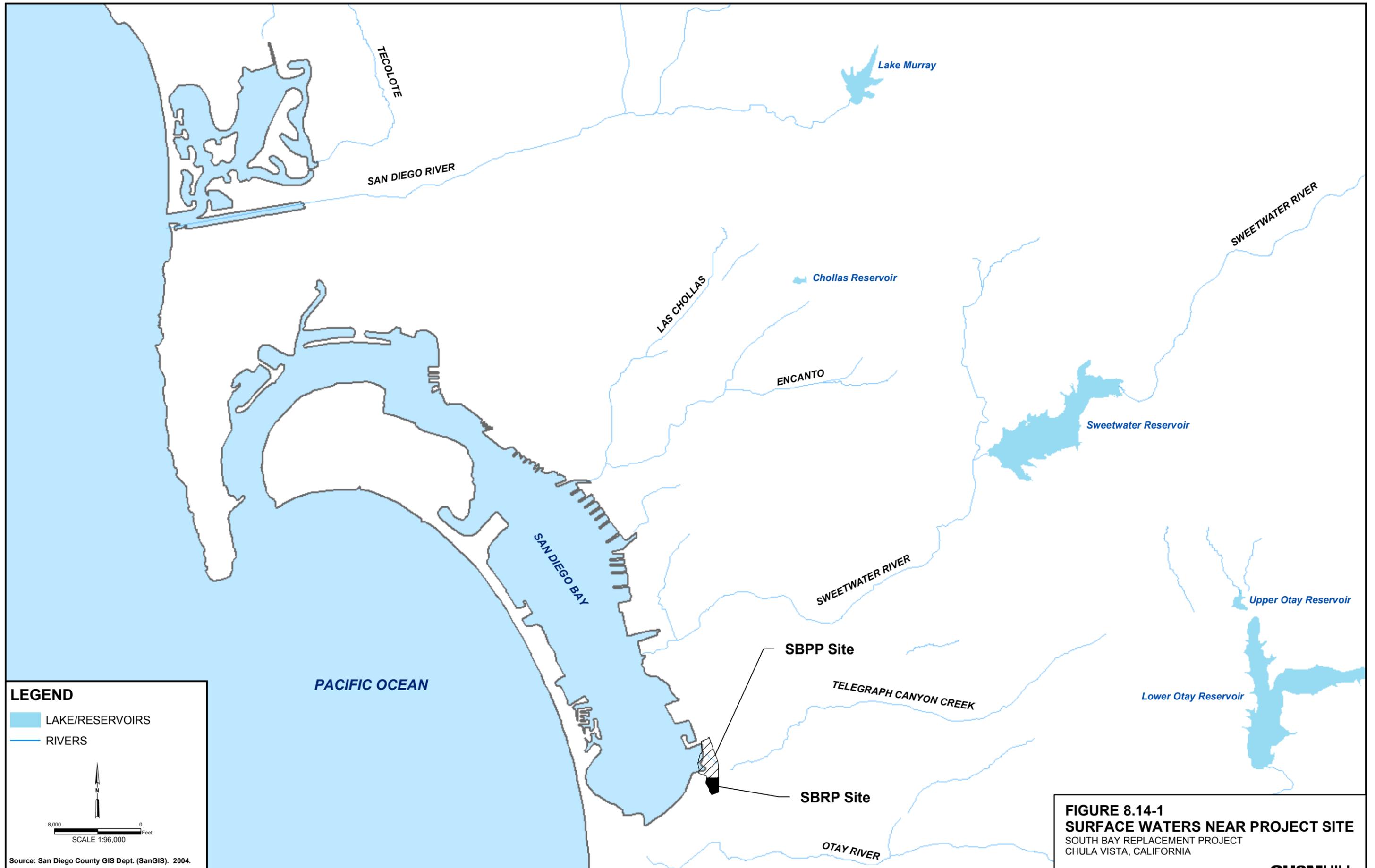
State Water Resources Control Board (SWRCB). 1997. Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Industrial Activities excluding Construction Activities, General Permit No. CAS000001. Adopted April 17.

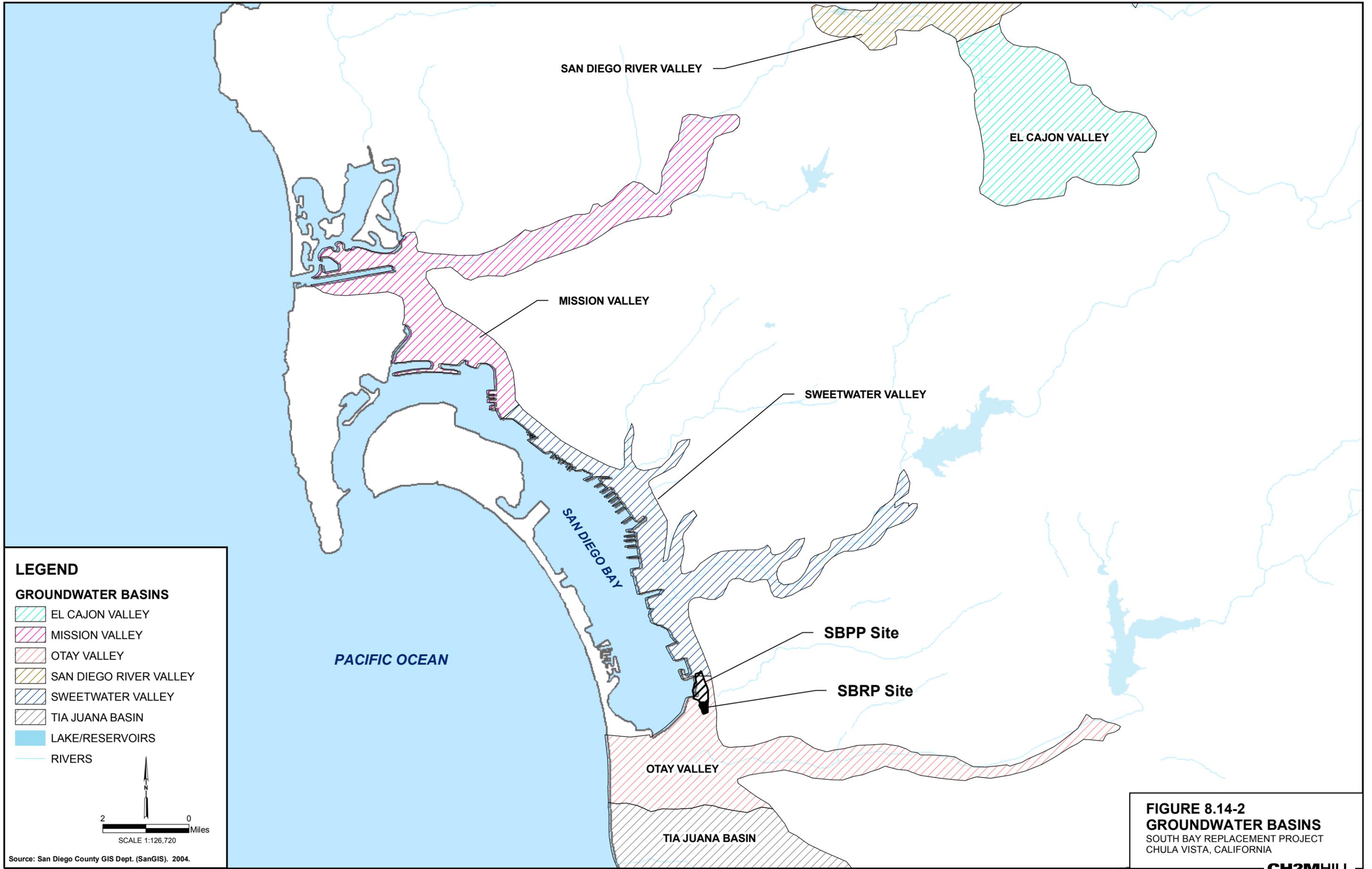
State Water Resources Control Board (SWRCB). 1999. Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity, General Permit No. CAS000002. Adopted August 19.

Sweetwater Authority. 2006. Water Supply. Online Information: http://www.sweetwater.org/our_water/water_supply.html Accessed: February 2, 2006.

U.S. Environmental Protection Agency (USEPA). 2002. Section 303(d) List Fact Sheet for Watershed: San Diego. http://oaspub.epa.gov/pls/tmdl/huc_rept.control?p_huc=18070304&p_huc_desc=SAN%20DIEGO#WATERBODY. Accessed February 2, 2006.

Western Regional Climate Center (WRCC). 2005. San Diego WSO Airport, California. Online Information: <http://www.wrcc.dri.edu/cgi-bin/cliMONtpre.pl?casand>. Accessed: January 23, 2006.





SAN DIEGO RIVER VALLEY

EL CAJON VALLEY

MISSION VALLEY

SWEETWATER VALLEY

SAN DIEGO BAY

PACIFIC OCEAN

SBPP Site

SBRP Site

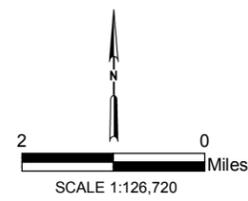
OTAY VALLEY

TIA JUANA BASIN

LEGEND

GROUNDWATER BASINS

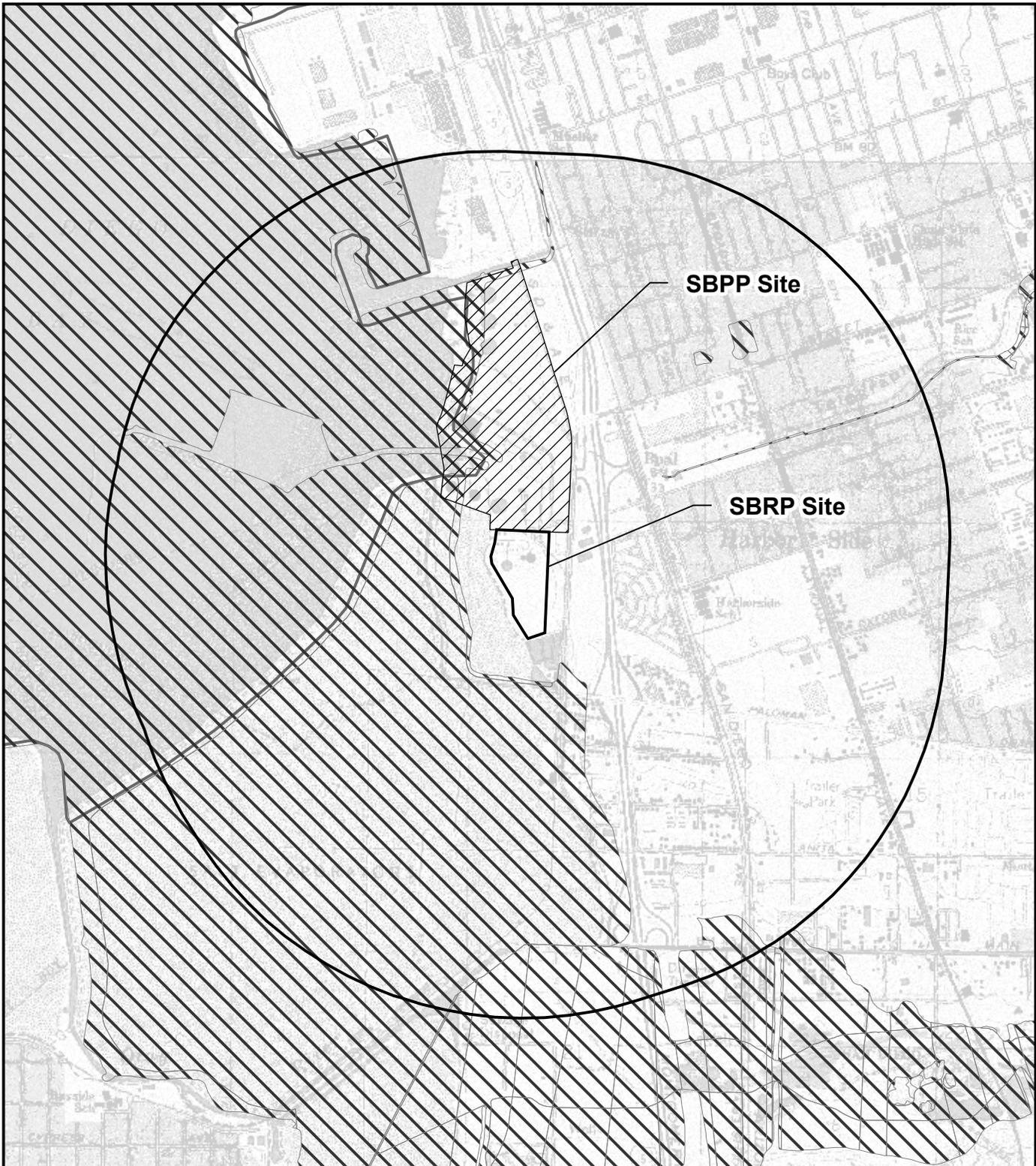
- EL CAJON VALLEY
- MISSION VALLEY
- OTAY VALLEY
- SAN DIEGO RIVER VALLEY
- SWEETWATER VALLEY
- TIA JUANA BASIN
- LAKE/RESERVOIRS
- RIVERS



Source: San Diego County GIS Dept. (SanGIS). 2004.

FIGURE 8.14-2
GROUNDWATER BASINS
 SOUTH BAY REPLACEMENT PROJECT
 CHULA VISTA, CALIFORNIA

File Path: Glacier\SACGIS\DukeEnergy\MapFiles\GroundwaterBasins.mxd, Date: June 22, 2006,



LEGEND

-  SBRP Site
-  SBPP Site
-  1-Mile Buffer
-  FEMA 100-year Flood Zone (Zone A)

2,000 1,000 0
 Feet
 SCALE 1:24,000

Source: San Diego County GIS Dept. (SanGIS). 2000.

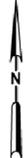
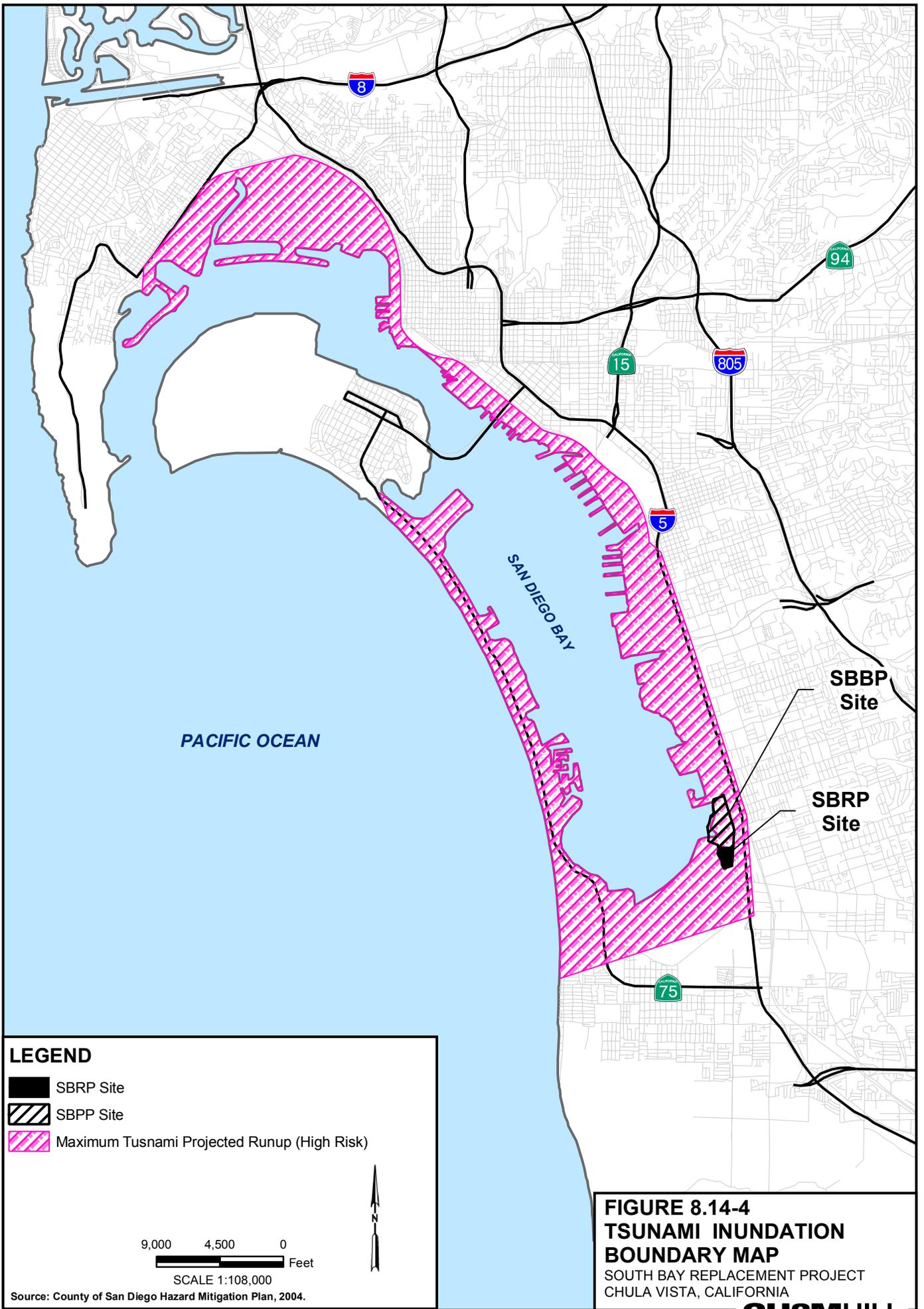


FIGURE 8.14-3
100-YR FLOODPLAIN MAP
 SOUTH BAY REPLACEMENT PROJECT
 CHULA VISTA, CALIFORNIA



LEGEND

-  SBRP Site
-  SBPP Site
-  Maximum Tsunami Projected Runup (High Risk)

9,000 4,500 0
 Feet

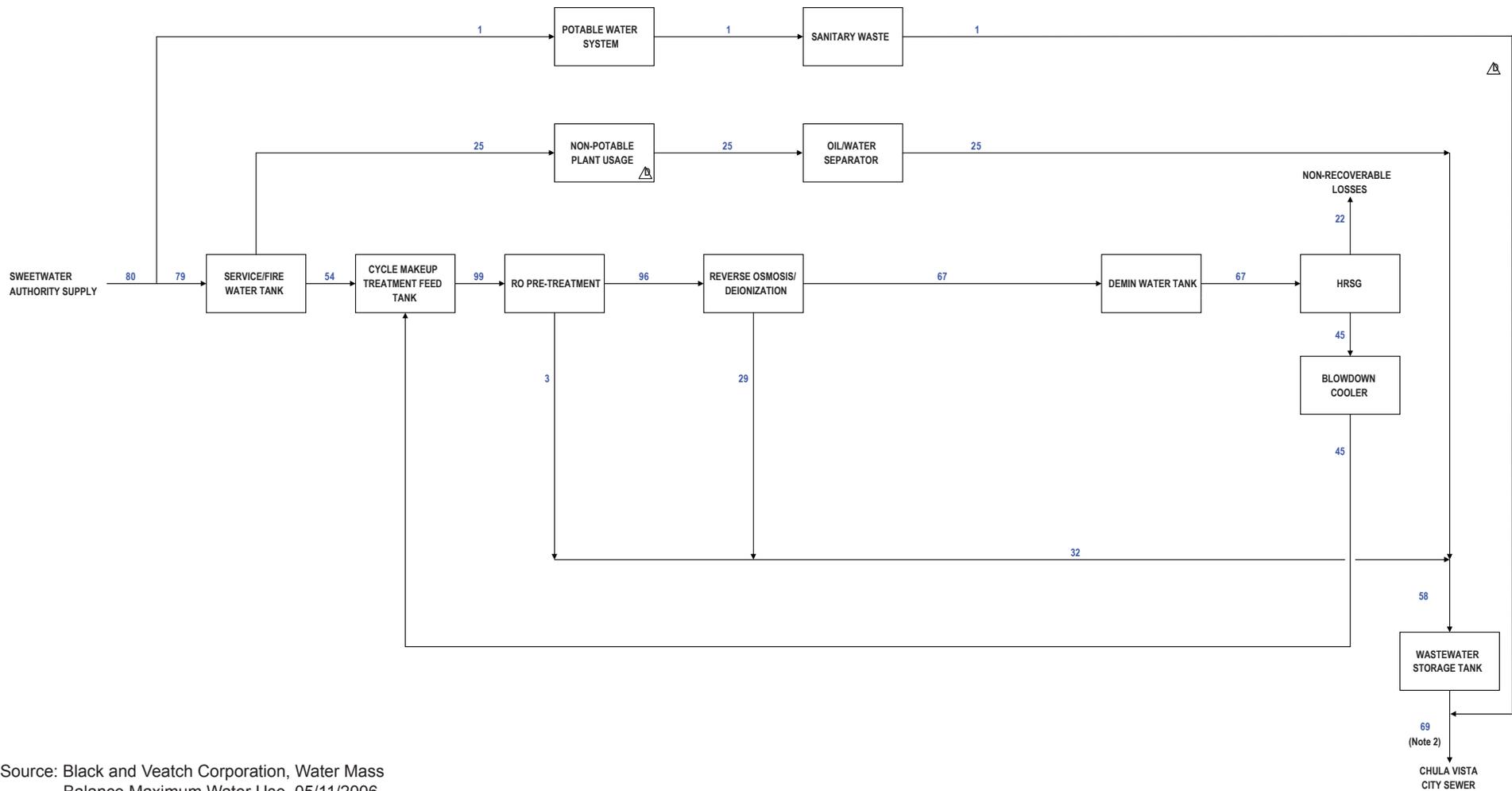
SCALE 1:108,000

Source: County of San Diego Hazard Mitigation Plan, 2004.

**FIGURE 8.14-4
 TSUNAMI INUNDATION
 BOUNDARY MAP**

SOUTH BAY REPLACEMENT PROJECT
 CHULA VISTA, CALIFORNIA

CH2MHILL



Source: Black and Veatch Corporation, Water Mass Balance Maximum Water Use, 05/11/2006.

NOTES:

1. FLOWS ARE IN GALLONS PER MINUTE.
2. MAXIMUM FLOW TO THE SEWER WILL BE 100,000 GALLONS PER DAY.
3. FLOWS NOTED ARE FOR UNIT OPERATING AT NOTED CONDITIONS AT 100% LOAD.
4. NON RECOVERABLE LOSSES FROM THE HRSG INCLUDE ITEMS SUCH AS STEAM SEALS, VENTS, ETC. THIS VALUE IS BASED ON 1/2 OF THE HRSG BLOWDOWN.
5. 2% CYCLE MAKEUP IS A PERCENTAGE OF THE HRSG STEAMING RATE.

**FIGURE 8.14-5
PEAK WATER
BALANCE DIAGRAM**
SOUTH BAY REPLACEMENT PROJECT
CHULA VISTA, CALIFORNIA