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## 3.10 UTILITIES AND SERVICE SYSTEMS

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### Introduction

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This utilities and service systems section examines the project's potential impacts on water supply, storage, and distribution facilities; wastewater collection, transmission, and treatment facilities; and storm drain collection and transmission facilities. The Initial Study (Appendix B) analyzed the above utilities and concluded:

- The increase in square footage of the Medical Center and the resultant increase in demand for water and wastewater treatment due to additional providers, staff, and members, could require the expansion of existing water, storm, and wastewater systems and/or construction of new systems.

The Initial Study also concluded that the proposed project would have no impact on solid waste regulations; the landfill serving the Medical Center would have sufficient capacity to serve the projected demand from the proposed project; and impacts associated with the construction of new water, wastewater, and storm water facilities could be mitigated to a less-than-significant level with implementation of the mitigation measures included in the Initial Study. Therefore, this section only examines potential long-term operational project impacts to existing water, wastewater, and storm water facilities.

### Setting

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#### Water Supply, Storage, and Distribution

The Redwood City water system, which is administered by the Public Works Service Department, services approximately 10.3 square miles. The service area includes Redwood City, and the Cañada College and Emerald Lake Hills areas. In 2000, Redwood City consumed approximately 13,170 acre-feet per year (AF/Y) or an average of 11.94 million gallons per day (mgd) of water. Redwood City purchases water from the San Francisco Public Utilities Commission (SFPUC). The SFPUC obtains its water supply from a combination of local Bay Area supplies and the Tuolumne River through the Hetch Hetchy system.<sup>1</sup> Existing Redwood City water supply entitlements are codified in the "1984 Settlement Agreement and Master Water Sales Contract between Suburban Purchasers and the City and County of San Francisco," and the "Water Supply Contract between the City of Redwood City (August

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<sup>1</sup> *Urban Water Management Plan 2000*, Public Works Service Department, City of Redwood City, December 2000.

1984).” The City does not use groundwater and there are no future plans to use groundwater as a source of water supply.<sup>2</sup>

In 2000, approximately 13,170 AF/Y of water was consumed by Redwood City, and a total demand of 15,520 AF/Y of water has been forecasted to meet the City’s needs in 2020.<sup>3</sup> This water use forecast assumes water demand growth over time, based on a variety of growth factors within the City. In an agreement with the SFPUC, Redwood City is “assured” a water allocation of up to 10.93 mgd (12,243 AF/Y).<sup>4</sup> Redwood City currently uses all its allocated water and is supplied additional water over its allocated amount during normal water supply conditions by SFPUC to satisfy its current demand. This practice will change, however, when the aggregate demand of the 29 “suburban purchasers” reaches the total suburban “supply assurance,” now projected to occur between 2005 and 2010.<sup>5</sup>

In conjunction with the South Bayside System Authority (SBSA), which operates the wastewater treatment plant, Redwood City’s Public Works Department has developed tentative plans for recycled water treatment, storage, pumping and distribution system that would be used for landscape irrigation and other industrial uses. If the Public Works Department implements the use of recycled water in the near future, there should be sufficient supply to meet the demands from projected future use by existing and new developments to a certain extent.<sup>6</sup>

Drinking and fire water services for the project area are mainly provided by nearby Hetch-Hetchy direct-pipe connections with hydraulic grade line of 178 feet. The streets around the site are criss-crossed with old 10” and 12” water mains. According to City staff, there seems to be sufficient water pressure under normal service conditions but not under emergency service conditions. In other words, the transmission and distribution systems are not sized to provide adequate flows and pressures for additional demands. Emergency water storage volume for emergency uses in a fire, earthquake, or a shutdown of Hetch-Hetchy pipes is also inadequate.

## **Wastewater Collection, Transmission, and Treatment**

The SBSA provides treatment services to the proposed project site. The service area of the SBSA stretches from the City of Belmont in the north to the southern boundary of San Mateo County, and from Skyline Drive in the west to San Francisco Bay in the east. The SBSA wastewater treatment plant, located at 1400 Radio Road along Redwood Shores, serves Redwood City. The SBSA is owned

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<sup>2</sup> Public Works Service Department, *Water Supply Assessment for the Proposed Kaiser Hospital Campus Expansion Project*, City of Redwood City, November 4, 2002.

<sup>3</sup> Public Works Service Department, *Urban Water Management Plan 2000*, City of Redwood City, December 2000.

<sup>4</sup> City of Redwood City Redevelopment Agency, *Proposed Second Amendment to the City of Redwood City Redevelopment Plan for Redevelopment Project #2 Draft Environmental Impact Report*, SCH #88120610, November 1989.

<sup>5</sup> Bay Area Water Users Association Annual Report, Exhibit 4, April 17, 2002.

<sup>6</sup> Public Works Service Department, *Water Supply Assessment for the Proposed Kaiser Hospital Campus Expansion Project*, City of Redwood City, November 4, 2002.

by the West Bay Sanitary District, and the cities of Belmont, San Carlos, and Redwood City. The treatment plant provides tertiary treatment, including primary and secondary treatment, final filtration, and disinfection. Treated effluent is discharged into San Francisco Bay. The plant has a permitted wastewater treatment capacity of 29 mgd dry weather flow, of which Redwood City's allocation is 11.4 mgd, or about 34 percent of this total. This capacity figure does not include a Stage II expansion of 2.685 mgd, which has been only partially implemented. Capacity is expanded on an as-needed basis. The current average dry weather flow to the treatment plant is 26 mgd.

The project site is served by a series of sewer mains varying from 6" to 33". Notable large mains are the 18" vitrified clay pipe (VCP) in Maple Street, the 33" reinforced concrete pipe (RCP) in Veterans Boulevard, and two 27" pipes (one VCP and the other RCP) in Walnut Street. These four mains are connected to the 48" RCP at the intersection of Veterans Boulevard and Walnut Street. This 48" RCP conveys the wastewater under US 101 to SBSA's Maple Street Sanitary Sewer Pump Station on Maple Street. The pump station then pumps the wastewater to SBSA's treatment plant via a 48" RCP force main. These wastewater collection and transmission systems currently serving the area are functioning at maximum capacity and would not be adequate for increased development intensity at the project site.<sup>7</sup>

## **Storm Drain System**

Storm water from the project site and the surrounding area drains toward the Maple Street Storm Drain Pump Station at the corner of Maple Street and Veterans Boulevard. Major piping on Maple Street (36"), Marshall Street (24") and within the existing Kaiser campus (18") is old and may function at maximum capacities. The Maple Street Storm Drain Pump Station discharges into a manhole on the north side of Veterans Boulevard and west of Maple Street. Storm waters then travel via gravity flow in closed conduits and an open channel to another pump station at Steinberger Creek. Unverified pump station capacities at the Maple Street Storm Drain Pump Station are 3,900 gpm for pump no. 1, 6,500 gpm for pump no. 2, and 10,700 gpm for pump no. 3.

## **Applicable Plans and Regulations**

**Water.** Policy C-6 of the *City of Redwood City Strategic General Plan* describes the City's emphasis on water conservation: "Conserve existing sources of water supply by... protect[ing] the water quantity and quality of underground aquifers as an alternate emergency source of fresh water." The *City of Redwood City Urban Water Management Plan 2000* (UWMP) presents the long-term management and conservation of water resources for Redwood City. It contains information on projected water use through 2020, water supply and demand, a water shortage contingency plan, wastewater disposal, and reclaimed water. The proposed Master Plan was not included in the *Redwood City Water Use Forecast 2000 to 2020*, which contains water use forecast projections that were incorporated into Revision #1 – July 15, 2002 of the UWMP 2000. Because the project site is within the Redevelopment Area, the

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<sup>7</sup> Charles Csicsman, Supervising Engineer, Redwood City Community Development Services, Engineering and Construction, letter to EIP Associates, June 13, 2002.

proposed project would be subject to water supply mitigation measures contained in the *Redevelopment Plan for Redevelopment Project #2*.

**Wastewater.** The State's Regional Water Quality Control Board (RWQCB) regulates the wastewater treatment plant through its National Pollution Discharge Elimination System (NPDES) permit. This permit sets limits on the discharge of pollutants to avoid water quality problems in the receiving water body. Policy C-6 of the *City of Redwood City Strategic General Plan* states, "Conserve existing sources of water supplies by increasing reclamation of waste waters for suitable uses," which would help control the quality of wastewater discharges. Redwood City and the Uniform Plumbing Code have design criteria for wastewater collection systems. Because the project site is within the Redevelopment Area, the proposed project would be subject to wastewater mitigation measures contained in the *Redevelopment Plan for Redevelopment Project #2*.

**Storm Water.** The RWQCB also regulates storm water runoff through its NPDES. The City is a permittee with San Mateo County on the Stormwater Pollution Prevention Program (STOPPP). The permit is due to be amended in December 2002 and the new permit requirements will apply to future development at the Kaiser Medical Center.

## **Regulatory Framework**

**SB 610.**<sup>8</sup> Effective January 1, 2002, the state of California, through Senate Bill 610 (SB 610) requires that a city or county, and the associated public water system, prepare a Water Supply Assessment (WSA) for any project approval subject to CEQA. According to SB 610, the Medical Center would be defined as "a commercial office building employing more than 1,000 persons or having more than 250,000 sq. ft. of floor space." The water supply assessment that is required as part of the CEQA process must include, among other information, an identification of existing water supply assessments, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts. If a water supplier cannot be identified to serve the project, the city or county must prepare the assessment in consultation with any agency providing water service in or adjacent to the project area and the local agency formation commission. If the water demand for the proposed development has been accounted for in a recently adopted Urban Water Management Plan, the water supplier may incorporate information contained in that plan to satisfy certain requirements of a water supply assessment. In addition, the WSA must cover a 20-year planning horizon and should be consistent with the 20-year planning horizon for the city's Urban Water Management Plan. A WSA dated November 4, 2002, has been prepared for this project and is included in Appendix H and findings from the WSA will be discussed further in this section under Environmental Analysis. However, the City and Kaiser have agreed that a new WSA should be prepared in order to consider more detailed studies which would be more specific to building types on the campus. The new WSA would use the square footage and types

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<sup>8</sup> McCormick, Kidman and Behrens, *Water Supply and Development: A User's Guide to California Statutes Including SB 221 (Kuehl) and SB 610 (Costa)*, Association of California Water Agencies, Sacramento, California, 2002, pp.7-11.

of uses of the buildings, and would result in a more accurate estimation of water demand. The City would prepare the new WSA prior to approval of the various development phases.

**SB 221.** Senate Bill 221 became effective at the same time as SB 610. SB 221 is not as broad as SB 610 in terms of its applicability to a variety of development projects; however, SB 221 applies to the Subdivision Map Act, conditioning a tentative map on the applicant to verify that the public water supplier has sufficient water supply available to serve the proposed development. This bill requires the public water supplier to provide written verification of available supplies to the applicant. If the written verification concludes that water supplies are insufficient, the approving agency can either find that water sources not considered by the public water supplier will be available or waive the condition imposed by SB 221. For purposes of this requirement, SB 221 defined subdivision to mean a proposed residential development of more than 500 dwelling units, except that for a public water system that has fewer than 5,000 service connections, “subdivision” means any proposed residential development that would account for an increase of 10 percent or more in the number of the public water system’s existing service connections.

## **Impacts and Mitigation Measures**

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### **Significance Criteria**

Impacts on utilities and service systems from the proposed Master Plan would be considered significant under the following conditions:

- If there are insufficient water supplies available to serve the project from existing entitlements and resources;
- If serving the proposed project would result in a determination by the water supply provider that serves or may serve the project that its storage, transmission, and distribution systems are inadequate to serve the project’s projected demand without significant system modifications and upgrades;
- If serving the proposed project would result in a determination by the wastewater service and treatment provider that serves or may serve the project that its collection, transmission, and treatment systems are inadequate to serve the project’s projected demand without significant system modifications and upgrades;
- If serving the proposed project would result in a determination by the storm drain service provider that serves or may serve the project that its collection and transmission systems are inadequate to serve the project’s projected demand without significant system modifications and upgrades.

### **Environmental Analysis**

As described in Section 3.1, for each impact, a level of significance is determined and is reported in the impact statement. Conclusions of significance are defined as follows: significant (S), potentially

significant (PS), less than significant (LTS), and no impact (NI). If the mitigation measures would not diminish potentially significant or significant effects to a less-than-significant level, the impacts are classified as “significant unavoidable effects (SU).” For this section, UT refers to Utilities and Service Systems.

A separate discussion of the Higher Occupancy Scenario is not included in the Environmental Analysis for Utilities and Service Systems. All utilities and services systems impacts are based on square footage, which does not vary between the proposed project and the Higher Occupancy Scenario.

**UT-1. Water Supply** - *The Water Supply Assessment (WSA) required by SB 610 shows Redwood City would not have sufficient water supply to meet projected future demands of the proposed project or the Higher Occupancy Scenario. (S)*

The projected average daily water demand for the proposed Medical Center at buildout, calculated based on City standards, is 0.818 mgd (916.72 AF/Y) (see Table 3.10-1). This demand forecast is about 11 times above the current average demand of 0.07251 mgd (81.26 AF/Y). Given that Redwood City already exceeds its allotment for water supply, this increase in water demand would exacerbate the existing acknowledged shortfall. Redwood City in 2002 is only able to meet its water needs because other suburban purchasers of SFPUC Hetch Hetchy water are not using their full allotments. Project-related increases in water demand of 0.745 mgd (835.46 AF/Y) would be a significant impact. The projected water demand is based on load factors contained in the 1997 Uniform Building Code for the proposed uses and not on the employment and patient visits presented in Section 2, Project Description. Accordingly, the same water demand would be expected under the Higher Occupancy Scenario as under Kaiser’s projected employment figures.

**Table 3.10-1  
Kaiser Medical Center Projected Water Demand at Buildout**

|   | Millions of Gallons Per Day | Acre-Feet Per Year |
|---|-----------------------------|--------------------|
| Existing Water Demand (2002)                          | 0.07251                     | 81.26              |
| Projected Water Demand at Master Plan Buildout (2025) | 0.818                       | 916.72             |
| <i>Change as a result of Proposed Project</i>         | <i>+0.745</i>               | <i>+835.46</i>     |

*Source:* Existing Water Demand is approximated based on available 2001-2002 water meter readings and is shown here for reference only. Projected water demand at buildout is calculated according to Redwood City Standards and Guidelines by first estimating the wastewater generation from the project using UBC-97 occupancy load factors and wastewater generation volumes per State Water Resources Control Board (see Table 3.10-2). Water demand is then estimated at 40 percent more than wastewater demand.

As stated above, Redwood City has been satisfying its current demand for water by receiving additional water from cities that are not currently using their full entitlement from SFPUC – 1.01 mgd (about 1,100 AF/Y) more than allocated. The WSA prepared by the Redwood City

Public Works Service Department has determined that the City does not have a sufficient water supply to meet the projected demands of the proposed Master Plan.

The WSA also includes an initial water supply sufficiency analysis that compares the projected water demand of the City with the proposed project. According to the WSA, increased water demand as a result of the Medical Center would cause further degradation in reliability in the City's water system. The degradation makes the shortage cutbacks about 1.1% more for existing users than without the project. The initial estimated net increase shown in the WSA of 142.14 AF/Y is based on preliminary water demand estimates. The updated net increase calculated in accordance with the City Standards and shown in this EIR is 835.46 AF/Y. This update will further increase the shortage cutback stated in the WSA. In any case, the City has determined that the frequency and magnitude of the cutbacks for existing users is unacceptable.

As the planning and design of the project progress, revisions of water demand shall be refined and recalculated accordingly to adhere to the City Engineering Standard and Guidelines. As discussed, the City would prepare a new WSA to present a more accurate estimation of water demand prior to approval of the various development phases.

MITIGATION MEASURES. The following mitigation measures together would reduce the significant water supply shortage to a less-than-significant effect. Mitigation Measure UT-1.1, which calls for use of recycled water, has not been approved by the City, and Mitigation Measure UT-1.2 by itself would not be sufficient to reduce demands on the City's potable water supply system. If Mitigation Measure UT-1.1 is not approved by the City prior to implementation of Phase 1 of the Master Plan, the proposed project would have a significant and unavoidable impact on water supply. (PSU)

*UT-1.1 Obtain Potable Water Supply Via Tentative City's Recycled Water Program.* The WSA states that the City has tentative plans to serve high quality recycled water to existing and future water users for landscape irrigation and various industrial uses. If implemented, this system will provide a means of meeting water demands that would otherwise have to be met from potable water sources. The program would, at full utilization, deliver up to 1,995 AF/Y, thereby reducing existing and future demands on City's potable water supply. The project sponsor shall contribute its fair share to the cost of implementation of the recycled water system, assuming that the recycled water program is adopted by the City. The project sponsor shall also be required to comply with all applicable current and future City of Redwood City water demand performance standards, including standards in the *City of Redwood City Urban Water Management Plan*, the City's recycled water project, and the City's water conservation program. If the recycled water program is not approved, the applicant shall be responsible for obtaining water supply from a third-party water supplier, if feasible.

*UT-1.2 Include Techniques of Water Conservation in Medical Center Buildings and Landscaping.* The project sponsor shall include methods of water conservation in Medical Center buildings and landscaping. These methods shall include, but not be limited to, the following:

- a. Install water conserving dishwashers, washing machines, and water efficient centralized cooling systems in the hospital, medical and administrative buildings, and laboratories.
- b. Incorporate water efficient laboratory techniques in laboratory facilities, where feasible.
- c. Install water conserving irrigation systems (e.g., drip irrigation and automated irrigation systems).
- d. Design landscaping with drought-resistant and other low water use plants.
- e. Include limited turf areas in open space.
- f. Install water-saving devices such as water-efficient toilets, faucets, and showerheads.

Minus substantial evidence that these measures would mitigate the impact--i.e., would lead to the identification and realization of an adequate additional water source--the effectiveness of this mitigation measure is unknown at this time. Therefore, until an achievable water supply is identified, this impact is considered to be a significant impact (i.e., would require adoption of a Statement of Overriding Consideration).

*UT-2. Water Distribution and Emergency Storage System - The proposed project and the Higher Occupancy Scenario may adversely affect the water distribution and emergency storage system around the Medical Center. (PS)*

The area surrounding the Medical Center is served by several old 10" and 12" water mains. While the City believes there is sufficient existing water pressure and supply under normal service conditions, increased demand from expansion of the Medical Center (under either Kaiser's projected employment figures or the Higher Occupancy Scenario), coupled with emergency service conditions, would likely exceed the capabilities of the water distribution and emergency storage system in the project vicinity. The service conditions are defined below:

- Normal service condition (Hetch-Hetchy is available) = maximum (hour or day) flow + fire flow, or at peak hour flow.
- Emergency service condition (Hetch-Hetchy pipe is not available and the nearest reservoir is 2+ miles away) = maximum (hour or day) flow + fire flow, or at peak hour flow.

Water distribution lines around the Medical Center may not be adequately sized to handle the increased demand in flow and pressure from the proposed project. Design capacities of water mains are based on several control variables; namely, desirable pressures and limiting velocity and head loss. The system around the Kaiser site is complex and its flows would be altered by the new building components and project phasing. As required for larger projects, Kaiser's effects on pipe capacities, water storage tank requirements, and pump station capacity and the Medical Center's potential upgrade/replacement options would need to be evaluated with each new building using the City's' computer water model and design standards.

MITIGATION MEASURES. The following measures would reduce potentially significant impacts related to increased water demand from the proposed project to less than significant. (LTS)

*UT-2.1 Upgrade Water Lines.* The project sponsor shall be responsible for the cost of analysis, design, and construction of all necessary upgrades and new water transmission and distribution systems in accordance with City Standards and Guidelines to adequately serve the project.

*UT-2.2 Build New Water Tank and Pump Station.* The project sponsor shall be responsible for the cost of analysis, design, and construction of a new water tank and pump station in accordance with City Standards and Guidelines to adequately serve the proposed project. The required volume is calculated as three times the average-day water usage of the project per City Standards. The required emergency storage for this project at buildout would be 2.45 million gallons (i.e., 3 x 0.818 mgd).

***UT-3. Wastewater Collection System - The proposed project and the Higher Occupancy Scenario would result in increased wastewater flows from the project site. While there is sufficient capacity at the wastewater treatment plant to accommodate the additional flows from the Master Plan, the number of buildings, their locations, and their sequencing may adversely affect the local wastewater collection system. (PS)***

Based upon Redwood City Standards and Guidelines, the amount of wastewater flow is regularly equivalent to about 71 percent of the amount of water demand. The proposed project at buildout would produce a total wastewater flow of about 0.583 mgd, a net increase of 0.531 mgd (see Table 3.10-2). The treatment plant currently has the permitted treatment capacity to handle the projected demand from the proposed Master Plan. The projected wastewater generation is based on load factors contained in the 1997 Uniform Building Code for the proposed uses and not on the employment and patient visits presented in Section 2, Project Description. Accordingly, the same wastewater flows would be expected under the Higher Occupancy Scenario as under Kaiser's projected employment figures.

While the wastewater treatment plant has sufficient existing capacity to accommodate the Master Plan, the proposed project would develop in phases over a more than 20-year horizon. Accordingly, Kaiser may need to acquire treatment capacity from future stages of SBSA expansion in the future, depending on the availability of capacity when Kaiser's future

entitlements are sought (see further discussion under Impact UT-5 which addresses cumulative effects with the proposed Master Plan).

**Table 3.10-2  
Kaiser Medical Center Projected Wastewater Flows at Buildout**

|  | Millions of Gallons<br>Per Day | Acre-Feet Per Year |
|--|--------------------------------|--------------------|
| Existing Wastewater Flows (2002)   | 0.05179                        | 58.04              |
| Future Wastewater Flows at Buildout (2025)                                 |                                |                    |
| Hospital:<br>(440,000 GSF/120 GSF/person) x (150 gpp/d)                    | 0.55                           | 616.38             |
| Central Utilities Plant (CUP):<br>(28,000 GSF/300 GSF/person) X (15 gpp/d) | 0.001                          | 1.12               |
| Clinical Office:<br>(455,200 GSF/240 GSF/person) x (15 gpp/d)              | 0.028                          | 31.38              |
| Administrative & Support:<br>(36,100 GSF/100 GSF/person) x (15 gpp/d)      | 0.005                          | 5.60               |
| Total Flow   | 0.583                          | 654.48             |
| <i>Change as a result of Proposed Project</i>                              | <i>+0.531</i>                  | <i>+596.44.</i>    |

*Sources and Notes:* Existing Wastewater Flows is approximated based on available 2001-2002 water meter readings divided by 1.4, and is shown here for reference only. Future wastewater flows at buildout are calculated according to Redwood City Standards and Guidelines, UBC-97 occupancy load factors and wastewater generation volumes per State Water Resources Control Board.

As noted earlier, the sewer collection and transmission systems are functioning at maximum capacities. Being the most downstream pipe systems in the service area, these pipes are quite large and in service at all times. In some cases, these old pipes are functioning under surcharged, or overflow, conditions (48” at Maple Street, and others at Maple Street and Veterans Boulevard for example). SBSA’s Maple Street Sanitation Pump Station, and transmission pipe from Maple Pump Station to the treatment plant are at capacity during wet weather flow conditions.

**MITIGATION MEASURE.** The following measure would reduce impacts related to increased wastewater flows from the proposed project to less than significant. (LTS)

*UT-3.1 Upgrade Sewer Collection and Transmission System.* The project sponsor shall be responsible for the cost of analysis, design, and construction of all necessary upgrades to or replacement of sewer collection and transmission in accordance with City Standard and Guidelines to adequately serve the project. Upgrades shall include pipes around and downstream of the project site, SBSA’s Maple Street Sanitary Pump Station, and SBSA’s transmission facilities.

**UT-4. Storm Drain System** - *The proposed project and the Higher Occupancy Scenario may adversely affect the existing storm drain system; however, coordination with the City and the San Mateo Countywide Storm Water Pollution Prevention Program should protect receiving waters from any increase in storm water runoff. (LTS)*

The proposed project envisions the intensification and expansion of the existing Medical Center. The Medical Center is already extensively developed with impervious surfaces (i.e., buildings, surface parking lots, and roadways). According to the Initial Study prepared for the proposed project (see Appendix B), the existing drainage pattern would not be substantially altered, and the future amount of site runoff at buildout may decrease from existing volumes because a greater proportion of the site area is planned to be landscaped which would allow storm water to percolate into the ground rather than run off the site. Nevertheless, the storm drains serving the project site are old and may be at maximum capacities. Furthermore, the project site is located close to Redwood Creek and could be classified as a Sensitive Area by the RWQCB for additional and permanent Storm Water Quality Controls requirement. As part of the normal routine development review process, Kaiser will submit its plans and applications and demonstrate how it would comply with the City and the RWQCB's San Mateo Countywide Storm Water Pollution Prevention Program (STOPPP) guidelines and regulations to detain, treat storm water runoff, reduce contaminants from entering the storm drain system, and prevent erosion during construction and post-construction. The STOPPP guidelines and regulations and the County's discharge permit (provision C.3.) are in the process of being amended. The amendments will require documentation of on-site treatment and storage of storm water runoff measures during construction, and operation and maintenance of structural controls in conditions of approval for both public and private projects. This standard review of future applications, in conjunction with the water quality mitigation measures recommended in the Initial Study, will result in less-than-significant effects to water quality.

**UT-5. Cumulative Water Supply, Wastewater, and Storm Drain System** - *The proposed Master Plan in conjunction with other pending and future development would create significant cumulative water supply impacts and could have potentially significant wastewater and storm drainage impacts. (S)*

**Water Supply.** As discussed under Impact UT-1, the proposed project alone would have significant impacts on water supply, because the City has already exceeded its entitlement to Hetch Hetchy water from the SFPUC. With other future development projects, the potential lack of available water supply would worsen unless the City approves the recycling program that is now only at the planning/feasibility stage. Accordingly, cumulative development with the Master Plan would have significant cumulative water supply impacts.

**Wastewater Transmission and Treatment.** The City of Redwood City possesses an option to purchase an additional 2.685 mgd from the SBSA's Stage II expansion to accommodate wastewater flows from Kaiser and other cumulative development. Currently, approximately 2.08 mgd out of the 2.685 mgd sewer treatment capacity rights are available for purchase. The

Master Plan proposes development at the Medical Center over a 20+-year horizon. Depending on when future projects pursuant to the Master Plan are submitted to the City, the remaining reserve capacity could be exhausted, and development and purchase of additional wastewater treatment capacity as part of a Stage III expansion would be necessary. SBSA's sewer transmission facilities are functioning at maximum capacity and will need to be upgraded.

**Storm Drains.** The Storm Drain (SD) Sub-basin, in which the Medical Center is located, is relatively small and serviced by the Maple Street Storm Drain Pump Station and the (K-Mart) Pump Station at Steinberger Creek. Although the project's effects on storm water volumes is expected to be less than significant, the storm drains may already be at capacity. Cumulative development may therefore adversely affect the piping system and the pump stations at Maple Street and at Steinberger Creek. The project's contribution to this cumulative effect is anticipated to be less than significant; although this assumption shall be confirmed as Kaiser submits future plans for later phases of its development plans. Cumulative runoff from planned development in this sub-basin should be included in the sizing of the new collection pipes and pumps, including the replacement/relocation of the Maple Street Storm Drain Pump Station, and the possible enlargement requirement of the existing (K-Mart) storm water pump station at Steinberger Creek.

**MITIGATION MEASURES.** The following measures would reduce potential cumulative impacts related to increased wastewater flows and storm water runoff from the proposed project to less than significant. (LTS) As noted previously (see Impact UT-1), however, the cumulative water demand may remain significant and unavoidable. (PSU)

*UT-5.1 Pay Fair Share of Future Wastewater Treatment Plant Expansion.* If additional wastewater treatment capacity rights are needed at the SBSA facility due to the increase of flows from any future phases of the Master Plan, the project sponsor shall provide its fair share of funds for SBSA's Stage II, or future stages of expansion of rights in accordance with a formula to be adopted by the City and SBSA.

*UT-5.2 Pay Fair Share of Future Storm Drain Facilities Improvements.* If additional storm drain collection capacity or pump station capacity is needed due to the increase of storm water flows from any future phases of the Master Plan, the project sponsor shall provide its fair share of funds for improvements to the storm drain facilities, in accordance with a formula to be adopted by the City.