

4.9 PUBLIC FACILITIES

4.9.1 Solid Waste

4.9.1.1 Existing Conditions

The Santa Barbara County (County) Public Works Department (Department) provides solid waste management services for the County. The Department owns and operates the Tajiguas Landfill, the Santa Ynez Valley Recycling and Transfer Station, the South Coast Recycling and Transfer Station, the New Cuyama Transfer Station, and the Ventucopa Transfer Station. The Department operates three collection services: one for the South Coast, one for the Lompoc unincorporated area, and one for the Santa Ynez and Santa Maria Valley unincorporated areas. The management of solid waste by the Department includes collection, recycling, disposal, and the mitigation of illegal dumping. Through a franchise agreement with the County, MarBorg Industries provides weekly solid waste collection services for the project area.

The 80-acre Tajiguas Landfill, located 26 miles west of Santa Barbara, has a permitted capacity of 23.3 million cubic yards, a total remaining capacity of 6.8 million cubic yards (as of September 2008), and is estimated to have capacity to operate through approximately 2020.¹

In September 1989, the California Integrated Solid Waste Management Act (CISWMA) was enacted into law, requiring each municipality in the state to divert at least 50% of its solid waste from landfill disposal through source reduction, recycling and composting by 2000. This 50% requirement also applies to the waste stream that comes exclusively from the construction and demolition of buildings and homes in the County. In February 1992, the Santa Barbara County Board of Supervisors adopted the County's Source Reduction and Recycling Element (SRRE), consistent with the 1989 CISWMA. The goal of the SRRE is to reduce the amount of solid waste entering landfills by implementing, in order of priority: source reduction, recycling and composting, and environmental transformation (incineration, pyrolysis, or biological conversion). The final option is land disposal of waste. The justification for requiring such recycling programs is based on the environmental impacts associated with landfill operation, expansion, relocation, and closure, in addition to impacts caused by raw material production. As of 2004, 63% of all solid waste generated in the unincorporated areas of the County was diverted for recycling or re-use. Despite these diversion levels, landfill space is still limited.

The Santa Barbara Botanic Garden has been in operation at its current location since 1926. Based on existing building sizes and numbers of residents, and using generation rates provided in the County's *Environmental Thresholds and Guidelines Manual*, it is estimated that the Garden currently generates approximately 45.33 tons of solid waste annually, as shown in **Table 4.9-2**. This estimate, however, does not account for the amount of waste that is diverted from the waste stream by way of recycling, composting, or other methods.

4.9.1.2 Thresholds of Significance

The County of Santa Barbara Environmental Thresholds and Guidelines Manual (Revised September 2008) provides the following project specific and cumulative thresholds for solid waste generation impacts:

¹ <http://www.ciwmb.ca.gov/Profiles>.

- The proposed project would result in a significant impact on the County's landfill capacity if it generates more than 196 tons of solid waste per year (5 percent of the average annual increase accounted for in the County's Source Reduction and Recycling Element);
- The proposed project would result in a significant impact on the County's landfill capacity if it creates more than 350 tons of construction and demolition debris; and
- Projects with a project-specific significant impact would also result in a significant cumulative impact. Projects that generate more than 40 tons per year would result in an adverse (Class III) contribution to regional cumulative solid waste impacts.

4.9.1.3 Project Impacts

Construction and Demolition (Impact PF 1A)

The proposed project would result in the demolition of 5,380 square feet of existing buildings and construction of 31,264 square feet of new buildings and additions to existing buildings. In addition, approximately 19,298 square feet of existing buildings would be remodeled as part of the project (see Section 2.0 Project Description). For the purposes of estimating the amount of construction and demolition waste that would be generated by the project, the following waste generation estimates are used, as indicated in the recently adopted (2008) Solid Waste Thresholds included in the Santa Barbara County *Environmental Thresholds and Guidelines Manual*:

<u>COMMERCIAL DEVELOPMENT</u>	<u>(Amounts in Pounds per Square foot)</u>
Remodel	40 lbs
Demolition	100 lbs
New Construction	25 lbs
<u>RESIDENTIAL DEVELOPMENT</u>	<u>(Amounts in Pounds per Square foot)</u>
Remodel	100 lbs
Demolition	60 lbs
New Construction	15 lbs

These estimates are based on the US Environmental Protection Agency's 1998 C&D study (Document: EPA530-R-98-010; June 1998) and data gathered by the San Luis Obispo Integrated Waste Management Authority in 2005 and 2006.

The following table identifies the various elements of the project that involve remodeling, demolition, and new construction, broken down by type (i.e. commercial or residential). According to the table below, the proposed project would generate approximately 2,287,067 pounds of construction and demolition waste, which equates to approximately 1,144 tons. This would exceed the established significance threshold of 350 tons and therefore the project would result in a **significant impact (Impact PF 1A)**.

Table 4.9-1
Estimated Generation of Construction and Demolition Waste

Building	Square Footage/Type	lbs/s.f.	Estimated Waste (lbs)
E1-M	1,390 sf - Residential Remodel	100	139,000
E2-R	2,818 sf - Commercial Demolition	100	281,800
E3	3,153 sf - Commercial Remodel	40	126,120
E4	222 sf - Commercial Remodel	40	8,880
E5	674 sf - Commercial New Construction	25	16,850
	3,298 sf - Commercial Remodel	40	131,920
E6-R	170 sf - Commercial Demolition	100	17,000
E7	404 sf - Commercial Remodel	40	16,160
E10	1,140 sf - Commercial Demolition	100	114,000
	8,178 sf - Commercial Remodel	40	327,120
E11-R	339 sf - Commercial Demolition	100	33,900
E12	356 sf - Commercial Remodel	40	14,240
E13-R	323 sf - Commercial Demolition	100	32,300
E23-R	1,185 sf - Residential Remodel	100	118,500
E24-R	2,203 sf - Residential Remodel	100	220,300
E26-R	185sf - Commercial Demolition	100	18,500
E28	457 sf - Residential New Construction	15	6,855
P1-A/P1-B	10,619 sf - Commercial New Construction	25	265,475
P3	724 sf - Commercial New Construction	25	18,100
P5	5,552 sf - Commercial New Construction	25	138,800
P6/7/8	3,527 sf - Commercial New Construction	25	88,175
P9	1,733 sf - Commercial New Construction	25	43,325
P12, P13, P15	3,354 sf - Residential New Construction	15	50,310
P20	450 sf - Commercial New Construction	25	11,250
P21	1,168 sf - Commercial New Construction	25	29,200
P22	1,267 sf - Residential, New Construction	15	19,005
Total	N/A	N/A	2,287,067

Note – shade structures were not included in these calculations.

Long-term Waste Generation (Impact PF 1B)

The proposed project would result in the demolition of some existing structures, the renovation or relocation of other existing structures, the construction of new facilities, and other improvements to the site's infrastructure. Based on the County's figures of 3.01 people per single-family residence, 2.65 people per attached residence, and the County's solid waste generation rate of 0.95 tons per year per resident, the proposed project's residential component would generate approximately 20.02 tons/year, as compared to the estimated 10.76 tons/year it currently generates. As shown in **Table 4.9-2**, the incremental increase in solid waste generation from residential uses between the estimated existing condition and expected future condition is therefore 9.26 tons/year.

Additionally, based on the County's annual generation rate for educational institutions of 0.0010 tons per square-foot, the proposed project, not including the residential uses accounted for above, would generate approximately 54.25 tons/year, as compared to the estimated 33.88 tons/year it currently generates. These figures account for the education, office, and other ancillary uses taking place at the Santa Barbara Botanic Garden. As shown in Table 4.9-2, the incremental increase in solid waste generation from non-residential Garden uses between the estimated existing condition and expected future condition is therefore 20.37 tons/year.

Table 4.9-2
Estimated Existing and Proposed Solid Waste Generation at the Project Site

Use	Existing Number of Units	Existing Floor Area (square feet)	Current Waste Generation (tons/year)	Proposed Number of Units	Proposed Floor Area (square feet)	Proposed Waste Generation (tons/year)	Net Change in Solid Waste Generation (tons/year)
Residential Single	2	N/A	5.72	7	N/A	20.02	14.30
Residential Duplex	2	N/A	5.04	0	N/A	0	-5.04
Residential Uses Subtotal			10.76 <i>tons/year</i>			20.02 <i>tons/year</i>	9.26 <i>tons/year</i>
Non-Residential Garden Uses¹	N/A	33,875 ²	33.88 tons/year	N/A	54,248	54.25 tons/year	20.37tons/ye ar
TOTAL			44.64 <i>tons/year</i>			74.27 <i>tons/year</i>	29.63 <i>tons/year</i>

¹ Garden facilities, including office, restrooms, educational facilities, etc.
² This is the difference between the total existing floor area of 39,558 s.f. and the residential floor areas (E23-R, E24-R, and E27, and also including the Director's Garage, E28).
³ This is the difference between the total proposed floor area of 65,442 s.f. and the residential floor areas (E1-M, E23-R, E24-R, E-27, P13, P15, and P22, and also including the one garage to be located on the Hansen Site, P12).

In total, residential and non-residential uses at the Garden currently generate approximately 44.64 tons/year of solid waste and at project buildout would generate approximately 74.27 tons/year of solid waste. Therefore, without recycling and other diversion methods, the Santa Barbara Botanic Garden would generate approximately 29.63 tons of solid waste per year more than it does in the existing condition with implementation of the proposed project. However, as the quantity of solid waste to be disposed of at landfills (non-recycled waste) is typically estimated at 50 percent of the total solid waste generation due to required source reduction, recycling, and composting, implementation of the proposed project would result in the addition of 14.82 tons of solid waste to area landfills per year, which is below the County's threshold of 196 tons per year. Therefore, project level impacts to solid waste would be **adverse but less than significant (Impact PF 1B)**.

Cumulative Impacts

The project would not result in a significant cumulative solid waste impact since it would generate less than 196 tons/year. Projects that generate less than 40 tons/year would not be considered to result in an adverse cumulative effect. Thus, the project's contribution to cumulative solid waste impacts would **not be cumulatively considerable**.

Mitigation Measures

To reduce the project's generation of construction and demolition waste (**Impact PF 1A**), the following mitigation measure is required.

PF 1-1 The Applicant shall develop and implement a Solid Waste Management Plan (SWMP) to reduce waste generated by construction and demolition activities by a minimum of 75%. The SWMP shall include the following:

1. Contact information: The name and contact information of who will be responsible for implementing the SWMP.
2. Waste assessment: A brief description of the proposed project wastes to be generated, including types and estimated quantities during the construction phase of this project.
3. Recycling and waste collection areas: Waste sorting/recycling and/or collection areas shall be clearly indicated on the Site Map submitted to P&D with the permit application. The Site Map(s) shall also indicate the location of recyclable and waste storage facilities during occupancy.
4. Transportation and processing: A description of the means of transportation of recyclable materials and waste, and destination of materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site to be processed at a mixed waste sorting facility).
5. Landfill information: The name of the landfill(s) where trash will be disposed of and a projected amount of material that will be landfilled.
6. Meetings: A description of meetings to be held between applicant and contractor to ensure compliance with the site SWMP.
7. Alternatives to landfilling: A list of each material proposed to be salvaged, reused, or recycled during the course of the Project.
8. Contingency Plan: An alternate location to recycle and/or stockpile C&D in the event of local recycling facilities becoming unable to accept material (for example: all local recycling facilities reaching the maximum tons per day due to a time period of unusually large volume). The County has the ability to stockpile excess material for later recycling at existing facilities such as the Tajiguas Landfill at a nominal fee and shall offer use of facilities if feasible. Implementation of this plan may incur additional cost for storage and handling.

To implement a SWMP addressing waste generated during construction:

1. Manager: The Permit Applicant or Contractor shall designate an on-site party (or parties) responsible for instructing workers and overseeing and documenting results of the SWMP for the Project Site Foreman. The contact will notify the Department of

- Public Works Resource Recovery and Waste Management Division immediately should any deviance from the SWMP be necessary.
2. Distribution: The Contractor shall distribute copies of the SWMP to the Job Site Foremen, impacted subcontractors, and the Architect.
 3. Instruction: The Permit Applicant or Contractor shall provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of project development.
 4. Separation and/or Collection areas: The Permit Applicant or Contractor shall ensure that the approved recycling and waste collection areas are designated on site.
 5. Construction of Recycling and Waste container facilities: Inspection shall be made by Public Works to ensure the appropriate recycling and waste container storage facilities are created in accordance with AB 2176, California State Public Resources Code 42911 and Santa Barbara County Zoning Ordinances.
 6. Hazardous wastes: Hazardous wastes shall be separated, stored, and disposed of according to federal, state and local regulations.
 7. Documentation: The Contractor shall submit with each Building/Zoning Inspection a Summary of Waste Generated by the Project on a quarterly basis. Failure to submit this information shall be grounds for a stop work order. The Summary shall be submitted on a form acceptable to Planning & Development or Public Works and shall contain the following information:
 - a) Disposal information:
 - i. amount (in tons or cubic yards) of material landfilled
 - ii. identity of the landfill
 - iii. total amount of tipping fees paid at the landfill
 - iv. weight tickets, manifests, receipts, and invoices (attach copies)
 - b) Recycling information:
 - i. amount and type of material (in tons or cubic yards)
 - ii. receiving party
 - iii. manifests, weight tickets, receipts, and invoices (attach copies)
 - c) Reuse and salvage information:
 - i. list of items salvaged for reuse on project or campus (if any)
 - ii. amount (in tons or cubic yards)
 - iii. receiving party or storage location
 8. Contingency Plan: The Permit Applicant or Contractor shall detail the location and recycling of stockpiled material in the event of the implementation of a Contingency Plan.

Timing: The plan shall be submitted for review and approval by the Department of Public Works prior to approval of Land Use Permits for the development. Plan components shall be implemented prior to occupancy clearance.

Monitoring: Public Works staff shall inspect the site during construction prior to occupancy.

To further reduce cumulative impacts and be consistent with the SRRE, the following mitigation measure is recommended.

PF1-2 The applicant shall develop and submit a Solid Waste Management Plan to be reviewed and approved by the County Public Works Solid Waste Division and Planning and Development, and shall include one or more of the following measures:

- Provision of space and/or bins for the storage of recyclable materials within the project site;
- Implementation of a curbside recycling program to serve the development;
- Development of a plan for accessible collection of materials on a regular basis;
- Development of Source Reduction Measures, indicating method and amount of expected reduction; and
- Implementation of a composting waste reduction program.

Design and implement a storage area for pesticides, herbicides, and fertilizers with the following components:

- A low berm shall be designated around the interior floor to prevent migration of materials in the event of a spill.
- The floor shall be a concrete slab.
- The berm shall be designed to provide 100% containment of any stored liquids.

Plan Requirements and Timing: The applicant shall submit a Solid Waste Management Plan to the County of Santa Barbara Planning and Development and Public Works Departments for approval prior to issuance of the Land Use Permit. The mitigation measures will be implemented prior to occupancy of the project.

Monitoring: The County of Santa Barbara Planning and Development Department will inspect the site as specified in the Solid Waste Management Plan.

Residual Impacts

With implementation of Mitigation PF 1-1 above, the project's short-term construction and demolition waste impact would be reduced to a less than significant (**Class II**) level since it is assumed that at least 75% of the construction and demolition material could be recycled and diverted from the landfill. The project would result in a less than significant impact on long-term waste generation (**Class III**). In addition, the project would result in a less than significant impact on a cumulative basis (**Class III**). The project's contribution to cumulative impacts would not be considerable and would be reduced to the extent feasible with implementation of the recommended mitigation measure.

4.9.2 Water Supply

4.9.2.1 Existing Conditions

The project site is within the City of Santa Barbara's municipal water systemservice area. The water system supplies water for all of the Botanic Garden's domestic needs and a small portion of its irrigation needs. An on-site well provides for the majority of the Garden's irrigation needs. Domestic water service to the Garden is currently provided by a two-inch water line extending across Mission Creek from a 12-

inch main line along Tunnel Road which is gravity fed by a one-million gallon tank located at the northern terminus of Tunnel Road.

Surface water supplies available to the City of Santa Barbara include the State Water Project (3,000 AFY entitlement, subject to availability), Cachuma and Gibraltar reservoirs (and desalinated seawater with a production capacity of 3,125 AFY, considered for the future in emergency shortage situations), as well as allocations from the Montecito and Goleta water districts and recycled water. The principal source of the water to serve existing development at the Garden and in the project vicinity is from the Cachuma and Gibraltar reservoirs. The total storage capacity of Cachuma Reservoir is approximately 188,035 acre feet (AF) based on the latest estimates. The total annual yield is 25,714 AF and the City's share of that yield is 32.19% or 8,277 AFY. The total storage capacity of Gibraltar Reservoir is 7,264 AF based on latest estimates with an average annual yield of 4,600 AF. Water is conveyed from these reservoirs to Lauro Reservoir, at which point it is treated by the Cater Water Treatment Plant. The Mission Tunnel, which runs from the North Portal located 1,700 feet downstream of Gibraltar Dam to the South Portal located on Mission Creek approximately three miles north of downtown Santa Barbara, augments water conveyed from Gibraltar Reservoir through infiltration into the tunnel. Its average annual yield is approximately 1,348 AF (for the period between 1976 and 2000). Treated water then enters the City's distribution system and is conveyed to the Mission Canyon area. A portion of this combined flow is sometimes diverted to Mission Creek for groundwater recharge purposes.

The project site is located within the Foothill Groundwater Basin. Groundwater constitutes about 10 percent of the water supply for the City of Santa Barbara. The Foothill Groundwater Basin encompasses about 4.9 square miles and extends from the outcrops of the underlying tertiary bedrock formations on the north to the Modoc and Mission Ridge faults on the south. This hydrologic unit includes the former Storage Unit #II of the Santa Barbara Basin and the former "East sub-basin" of the Goleta Groundwater Basin.

Available Storage of the Foothill Basin is estimated to be 5,000 acre-feet per year (AFY). Safe Yield is estimated to be 953 AFY (for gross pumpage) based on the 1989 USGS study. Demand on the basin falls into three categories: pumpage by the City of Santa Barbara, pumpage by the La Cumbre Mutual Water Company (LCMWC), and extractions by private landowners. An agreement between the City of Santa Barbara and LCMWC involving the State Water Project limits LCMWC pumpage to a fixed annual volume and includes cooperation in the management of the basin. The City of Santa Barbara is conducting conjunctive use water supply management activities by injecting and storing surface water in the basin. Based on the agreement between the two major pumpers (together the City and LCMWC account for about 80% of basin pumpage), and the active management of the basin by the City of Santa Barbara, the Foothill Basin is not considered to be subject to overdraft.

Existing water usage at the Botanic Garden, based on a three-year historical water usage summary for the various properties of the Botanic Garden, is as follows:

Three Year Water Summary (Domestic Usage)

	2004	2005	2006
1111 Mission Canyon	3 units	6 units	10 units
1200 Mission Canyon	469 units	552 units	754 units
1140 Tunnel Road	48 units	48 units	40 units
1200 Tunnel Road	1,889 units	2,288 units	2,435 units
Total Usage in Units	2,409 units	2,894 units	3,239 units

Total Usage in Gallons	1,801,932 gallons	2,164,712 gallons	2,422,772 gallons
Total Usage in AFY	5.53 AFY	6.64 AFY	7.44 AFY
Three Year Average Total for all properties			6.54 AFY

The Botanic Garden uses well water for irrigation purposes. Table 7 of the *Santa Barbara County Groundwater Thresholds Manual* identifies water duty factors for different activities and different areas of the County. For the Santa Barbara area, the following water duty factors are applied to low-water groundcover, shrubs, and trees:

Land Use	Groundcovers	0.9 AFY/Acre
	Shrubs	0.9 AFY/Acre
	Tree	0.75 AFY/Acre

The number of irrigated acres served by well-water is approximately 15 acres. Using an average of the water duty factors for the mixture of vegetative cover irrigated by the Botanic Garden (0.85 AFY/Acre), the result is 12.75 AFY for the Botanic Garden property.

Groundcover	AFY/Acre	Acreage	Total
Mixed*	0.85 AFY/Acre	15	12.75 AFY

*assumes a mixture of groundcover, shrubs and trees

In summary, the Botanic Garden uses approximately 6.54 AFY from the City of Santa Barbara's domestic water supply and approximately 12.75 AFY from its existing on-site well.

4.9.2.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and the Santa Barbara County Initial Study Checklist, which state that a project may result in a significant impact if it would:

- Result in the overcommitment or overdraft of any groundwater basin or significantly increase the existing overdraft or overcommitment of any groundwater basin;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- Result in a substantial reduction in the amount of water otherwise available for public water supplies.

4.9.2.3 Project Impacts (Impact PF 2)

The proposed project would result in the demolition of some existing structures, the renovation or relocation of other existing structures, the construction of new facilities, and other improvements to the site's infrastructure, including the net increase of three residential units (three single family dwellings). In addition, population increases are proposed in association with staff increases (five full-time and 13 part-time staff), classes, special events, and general daily visitors. Daily use of the Botanic Garden by visitors and employees is estimated to increase by approximately 45% over a 20-year period. This increase in visitorship is expected to occur as a result of continued increases in general visitors to the

Garden consistent with historic visitation growth patterns; increases in classes, lectures, fundraisers and special events; and increases in Garden employees².

Groundwater

In addition to water use for domestic purposes, well water use is anticipated to increase 24% over the current demand associated with increasing irrigation needs as the Garden installs new exhibits over time. This equates to an increase of 3.06 AFY over the existing 12.75 AFY, resulting in a total well water usage demand of 15.81 AFY under the proposed project.

Since the groundwater basin in which the project is located is not subject to overdraft, the increase in water demand associated with the project would not result in the overcommitment or overdraft of the Foothill Groundwater Basin. Impacts to groundwater levels would be considered **adverse but less than significant**.

Water Service

The proposed project would require the extension of water lines to provide *domestic* service to all existing and proposed development (see Figure 2-7 in Section 2.0 Project Description). Lines would be extended off of an existing water line at different points along Las Canoas Road and Mission Canyon Road to serve the existing and proposed development. Main lines would be up to eight inches in diameter in order to ensure adequate flow to the site, with smaller diameters for the lateral lines serving each building. These connections would replace the existing two-inch water line connection from Tunnel Road.

The Botanic Garden recently installed an eight-inch water line from the intersection of Mission Canyon Road and Las Canoas Road up to the West of Mission and East of Mission sites for the sole purpose of installing six fire hydrants to improve fire protection for existing structures at the Garden (*no domestic service* was provided). The proposed project would use that same line to provide domestic water service via lateral lines to all existing and proposed development on the West of Mission and East of Mission sites.

As indicated on Figure 2-7, water lines would be extended within existing public and private roads where feasible to minimize areas of new disturbance. Since the lines would be extended primarily under existing roadways (both improved and unimproved), construction impacts typically associated with new disturbance are avoided. No significant vegetation removal (including the removal of oak trees or other specimen trees) or ground disturbance would be required to accommodate the proposed water extensions. As such, impacts to biological resources would not be significant. However, given the sensitivity of portions of the project site with regard to cultural resources, especially the Hansen site with a known archaeological resource, there is the possibility that cultural resources could be impacted by trenching and ground disturbance activities necessary to install the water lines within the Hansen site and in areas where the water lines would be located outside of existing roadways. This potential impact is part of the cultural resource impact discussed in Section 4.4 Cultural Resources (see Impacts CULT 1 and CULT 2).

² For the purposes of the water usage analysis, the 45% increase was applied to current water consumption, inclusive of increases in classes, special events, and Garden staff, given the fact that existing water use includes all activities that occur at the Garden throughout the year. This approach differs slightly from the traffic analysis which added the increase in classes on top of a 40% growth rate since the traffic and parking counts which established the baseline did not account for classes. The growth rate for the Garden during the 20-year planning horizon is estimated at 40% exclusive of classes and similar activities.

Similarly, air quality and noise impacts associated with construction of these lines are part of the construction-period impacts identified in Sections 4.2 Air Quality and 4.8 Noise.

Pursuant to the County Fire Department standards, water serving new development must meet specific flow and pressure requirements, as follows:

- 1,250 gallons per minute at 20 psi for two hours for commercial development
- 750 gallons per minute at 20 psi for two hours for residential development

With the exception of the proposed staff residences on the Cavalli site, Garden facilities would be considered “commercial” for the purposes of identifying minimum flow requirements for fire protection purposes. The Botanic Garden currently uses an average of 6.54 AFY from the City’s municipal water supply for both domestic and irrigation purposes. This accounts for water use by all users of the Garden (i.e. staff, daily visitors, class participants, and special event guests). Increasing this water usage by 45%, accounting for increases in both domestic use and irrigation, equates to an increase of 2.94 AFY, resulting in a total projected municipal water usage demand of 9.48 AFY associated with the proposed project. The City of Santa Barbara has determined that it does have the capacity to serve the proposed project in terms of its existing and long-term water supply (personal communication, Cathy Taylor, City of Santa Barbara, 2007). The City issued a water service classification notice to the Garden confirming this fact on December 17, 2007. However, water modeling done on the existing water system that would be extended to serve the Garden’s facilities suggests that the provision of water to provide domestic water supply and fire flows to the Garden consistent with the Fire Department commercial standards identified above could result in deficiencies elsewhere in the water system with respect to flow and pressure during periods of peak demand absent certain upgrades to the water system. For this reason, the proposed project would result in a **significant impact (Impact PF 2)** by potentially affecting water supplies available to other surrounding development.

Cumulative Impacts

As discussed above, based on the agreement between the two major pumpers of the Foothill Groundwater Basin (City of Santa Barbara and LCMWC), and the active management of the basin by the City of Santa Barbara, the Foothill Groundwater Basin is not considered to be subject to overdraft. As such, there is adequate supply to serve the Garden project and past, planned and pending projects in the vicinity. The increase in water demand associated with these projects, in conjunction with the Botanic Garden project, would not impact the status of the groundwater basin or the supply of surface water to serve the Mission Canyon area. In addition, prior to any future development hooking into the City’s water supply, the City requires that any necessary upgrades be installed to ensure adequate service and avoid deficiencies elsewhere in the system. Cumulative impacts are therefore considered **adverse but less than significant** and the project’s contribution to cumulative impacts **would not be considerable**.

Mitigation Measures

- PF 2-1** The applicant shall fund and construct any upgrades necessary to the City of Santa Barbara’s existing water system to ensure adequate water capacity and pressure to support domestic water service and fire flows to the Garden as prescribed by the Santa Barbara County Fire Department without negatively impacting the City’s existing water system. This shall include, at a minimum, the construction of a 12-inch water main that will extend from the existing 12-inch gravity fed water main on Tunnel Road to the

existing fire hydrant at the intersection of Las Canoas Road and Mission Canyon Road, unless other means of upgrading the system are approved by the City of Santa Barbara Public Works. Extension of any additional lines shall be designed to avoid impacts to sensitive vegetation, including oak trees and other specimen trees. This line upgrade would be subject to all applicable mitigation measures included in this document related to air quality, oak tree removal, cultural resources, geologic processes, and noise impacts associated with construction. The Botanic Garden shall deed ownership of the 12-inch water main to the City and grant the City a no-cost maintenance easement for the section of water main on the Botanic Garden's private property.

Plan Requirements and Timing: Plans for the water system upgrade shall be submitted for review and approval by Planning and Development, County Fire Department, and the City of Santa Barbara Public Works prior to Land Use Permit approval for any new structural development at the Garden. The water system upgrades must be constructed and the lines must be tested, and the results of the testing reviewed, to ensure they meet the minimum County Fire Department standards prior to receiving occupancy clearance for any proposed development. The design for the water system upgrades shall be shown on all building and grading plans.

Monitoring: Planning and Development and the City of Santa Barbara shall inspect the site during and after construction to ensure compliance prior to granting occupancy clearance.

The physical impacts of implementation of this mitigation measure were considered with respect to applicable issue areas (i.e. air quality, biological resources, cultural resources, geologic processes, and noise), and were found to be less than significant since the water line upgrade would be primarily located within existing road right-of-ways and would only involve approximately 100 feet of cross country trenching through a previously disturbed area of the project site within the southern-most portion of the Garden's property. Mission Creek would not be disturbed as a result of implementation of this mitigation measure. While the southern-most portion of the property is identified as disturbed oak woodland in Figure 4.3-1, the water line upgrade would not result in significant oak woodland impacts, as the line would be sited to avoid tree removal or other indirect impacts to oak woodlands.

Residual Impacts

Implementation of the above mitigation measure would reduce the project's water service impacts to less than significant levels (**Class II**). The impact to the status of the Foothill Groundwater Basin is considered less than significant (**Class III**) and no mitigation is required. Cumulative impacts are considered less than significant and the project's contribution to cumulative impacts would not be considerable (**Class III**).

4.9.3 Sewer Service

4.9.3.1 Existing Conditions

The project site is located within the Mission Canyon Sewer District (Santa Barbara County Service Area 12), which is served by the District's collection system. The system is owned by the County of Santa Barbara and maintained by the City of Santa Barbara under the terms of a Memorandum of Understanding (MOU). Treatment is provided at the City's El Estero Wastewater Treatment Plant. However, with the exception of the Director's residence, existing development in the Garden is currently

served by private septic systems, including both leach fields and drywells. Most of Mission Canyon north, west, east, and southeast of the Botanic Garden is also served by private septic systems; the existing main sewer trunk line that provides municipal sewer service to Mission Canyon residents south/southwest of the Garden terminates in Mission Canyon Road south of the intersection with Las Canoas Road. As described in the Mission Canyon Area Specific Plan (1984), problems exist with operation of many of the private septic systems within the canyon. This is one of several reasons why Mission Canyon is designated as a Special Problems Area by the County of Santa Barbara, which carries with it additional review and restrictions pertaining to applications for development.

The El Estero Wastewater Treatment Plant processes approximately 9.1 million gallons of wastewater per day. Its design capacity is approximately 12 million gallons of wastewater per day, resulting in a surplus of approximately 2.9 million gallons of wastewater per day (personal communication, City of Santa Barbara, 2007).

4.9.3.2 Thresholds of Significance

The following significance criterion is based on Appendix G of the CEQA Guidelines. The project would have a significant impact on sewer treatment if it would:

- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

4.9.3.3 Project Impacts

Municipal Sewer Service – Impact PF 3A

The project proposes to extend sewer lines to provide service to all existing and proposed development on the West of Mission, East of Mission, and Hansen sites. The sewer main extensions would be deeded to the County for operation and maintenance by the City under the MOU. As identified in Figure 2-8 and described in Section 2.0 Project Description, main sewer lines would be eight inches in diameter to serve existing and proposed development and would be located primarily within existing roads and driveways (consistent with City of Santa Barbara standards for publicly maintained sewer lines. Existing septic systems at the project site would be abandoned as part of the proposed project, consistent with the standards and requirements imposed by County Public Health, Environmental Health Services Division. Extension of sewer lines to serve development on the West of Mission, East of Mission, and Hansen sites is not expected to result in any significant environmental effects. There is more than sufficient capacity at El Estero Wastewater Treatment Plant to serve the proposed project. The District Manager of County Service Area 12 previously provided a can-and-will serve letter for the Botanic Garden project in 2002 and the changes that have been made to the project since that time would not result in substantial changes to wastewater treatment needs. There is a treatment capacity surplus of approximately 2.9 million gallons per day. The following wastewater generation rates were developed in consultation with Santa Barbara County Public Works staff (personal communication, Martin Wilder, 2007).

Unit	Net Increase in number of units ¹	Gallons Per Unit/Day	Total
Employees	117	16	1,872
Residential Units	6	225	1,350
Visitors	443 ²	10	4,430
Total	N/A	N/A	7,652 gpd
¹ These numbers represent the number of units/people that would be newly served by the municipal sewer system; the only structure currently served by public sewer is the Director's Residence. ² This number represents an increase of 45% above current average daily visitation levels, which includes general visitation, classes, and special events.			

As the above table indicates, the proposed project would generate an insignificant fraction of the treatment facility's capacity. As such, wastewater service to the project is not considered to be an issue. Impacts would be **adverse but less than significant (Class III)**. No lift stations would be required to support the sewer line extensions; all sewer connections are proposed to be gravity lines. Since the lines would be extended primarily within existing roadways, impacts related to new disturbance or removal of or damage to sensitive vegetation, including oak trees and other specimen trees, would be minimized. However, given the sensitivity of portions of the project site with regard to cultural resources, especially the Hansen site where a known archaeological site is located, there is the possibility that resources could be impacted associated with the trenching and ground disturbance activities necessary to install the sewer lines within the Hansen site and outside of previously disturbed areas. This potential impact is part of the cultural resource impact discussed in Section 4.4 Cultural Resources (see Impacts CULT 1 and CULT 2). Similarly, air quality and noise impacts associated with construction of these lines are part of the construction-period impacts identified in Sections 4.2 Air Quality and 4.8 Noise.

Private Septic System – Impact PF 3B

The proposed development on the Cavalli site is proposed to be served by either a private septic system or municipal sewer service if it were introduced into the adjacent residential area along Las Canoas Road by another project. However, the Botanic Garden is not proposing to extend sewer lines to serve the development on the Cavalli site as part of the present project. County Public Health, Environmental Health Services Division (EHS) implements the septic system regulations and design standards incorporated into the California Plumbing Code and the Regional Water Quality Control Board Basin Plan. Generally speaking, components of a septic disposal system (i.e. drywells, leach fields, and septic tanks) must be set back a minimum of 100 feet from the top of bank of streams and creeks. In circumstances where there is no defined channel, septic systems must be set back a minimum of 100 feet from the 10-year flood water surface. These minimum setback requirements apply to all water bodies, including ephemeral drainages. As discussed in Section 4-12, the proposed development on the Cavalli site is located in the bottom of a canyon that experiences flooding during rain events. This is identified as an unnamed drainage swale on Figure 4.12-3. As such, the setback standards would apply to this drainage course. In conjunction with the water body setback, there is also a prohibition against installation of septic systems on slopes greater than 30%. These restrictions are in place to protect water quality from sewage contamination and minimize the potential for effluent daylighting to occur. Given these restrictions and the physical constraints found on the Cavalli site, the possible installation of a private septic system to serve the proposed development on the Cavalli site would be considered a **significant impact (Impact PF 3B)** due to the inability of such a system to meet EHS requirements and the potential for effluent contamination to occur.

Cumulative Impacts

Other past, planned and pending projects identified in Section 3.0 Related Projects involving new residential development would be served by a mix of private septic systems and municipal sewer connections depending on their location within Mission Canyon and their proximity to existing sewer trunk lines. Even if all of the related projects were to connect to the municipal sewer system there would continue to be sufficient capacity at the El Estero Wastewater Treatment Plant to provide treatment service. The related projects are not expected to result in the need to construct new wastewater treatment facilities or expand existing facilities, with the exception of minor extension of sewer lines where applicable. Impacts associated with these sewer line extensions are not expected to be significant. In addition, compliance with the restrictions and standards imposed by EHS on the construction of private septic systems would ensure that impacts associated with the installation of private septic systems would not be significant. Cumulative wastewater impacts are thus considered adverse but less than significant and **the project's contribution to cumulative impacts is not considered cumulatively considerable.**

Mitigation Measures

PF 3-1 Development of residential structures on the Cavalli site shall be served by a municipal sewer service connection. The habitable structures on the Cavalli site shall not be developed until municipal sewer service is extended to that area.

Plan Requirements and Timing: Designs for the sewer line connection shall be shown on all grading and building plans and shall be submitted to Planning and Development and Public Works for review and approval prior to approval of Land Use Permits for that element of the project.

Monitoring: County staff shall site inspect in the field to ensure compliance prior to issuing occupancy clearance.

Due to the fact that this measure would prohibit the use of a septic system on the site, the impacts of such a system were not further analyzed in other sections of this EIR.

Residual Impacts

Implementation of the above mitigation measure would reduce the impacts associated with providing sewage disposal service to the Cavalli site development to a less than significant level (**Class II**). All other impacts, including the project's contribution to cumulative impacts, are considered less than significant (**Class III**).