4.12 UTILITIES AND SERVICE SYSTEMS

This section analyzes the impacts relative to utilities and service systems that would occur as a result of implementation of the proposed Facilities Master Plan (proposed project). This section includes a description of existing sewer infrastructure, water supply and service systems, stormwater systems, solid waste disposal, and energy. The evaluation provided in this section is based on data, publications, and resources prepared by utility and service system providers such as the City of Cypress (City) Public Works Department (Public Works), Ware Disposal Company, Southern California Edison, and the Southern California Gas Company.

No comments related to utilities and service systems were received in response to the Notice of Preparation.

4.12.1 Existing Conditions

4.12.1.1 Wastewater

Public Works provides sewer waste collection for the City, including Cypress College. Public Works is responsible for maintaining 108 miles of sewer pipeline (City of Cypress 2016). Wastewater from Cypress College campus is collected by Public Works and is then treated by the Orange County Sanitation District (OCSD).

OCSD maintains and operates Reclamation Plant No. 1 and Treatment Plant No. 2, located in Fountain Valley and Huntington Beach, respectively, as well as 15 pump stations located in the OCSD service area (479 square miles) (OCSD 2016). The OCSD treatment plants combined processed 187 million gallons per day (MGD) for the 2014–2015 fiscal period (OCSD 2016). Reclamation Plant No.1 has a primary capacity of 204 MGD and treats water to be reclaimed by Orange County Water District for landscape irrigation use and groundwater replenishment. Additional treated effluent from Reclamation Plant No. 1 is also sent to Treatment Plant No. 2, where effluents are mixed, dechlorinated with sodium bisulfite ($NaHSO_3$), and disposed of in the ocean (OCSD 2011). Both plants involve a primary treatment where barscreens and aerated grit chambers are used to separate large solids from wastewater. Secondary treatment involves the use of anaerobic digesters for organic waste stabilization and pathogen destruction (OCSD 2011).

4.12.1.2 Potable Water

Water service for the City of Cypress is provided by the Golden State Water Company (GSWC). GSWC is an investor-owned public utility company that owns 38 water systems throughout California, which are regulated by the California Public Utilities Commission. GSWC obtains its water supply for the West Orange System from two primary sources: imported water and GSWC-operated groundwater wells. Imported water is purchased from the Municipal Water

District of Orange County and Metropolitan Water District of Southern California. In the 2010 water year, GSWC pumped approximately 67% (10,260 acre-feet) of its water supply from groundwater wells accessing the Orange County Groundwater Basin, and purchased the remainder from the Municipal Water District of Orange County (GSWC 2011). From November 2014 to October 2015, Cypress College used an average of 165,695 gallons of water per day (115 gallons per minute) (Rittel, pers. comm. 2016).

4.12.1.3 Recycled Water

Currently, GSWC does not use or serve directly applied recycled water to any of its customers.

4.12.1.4 Stormwater

Public Works is responsible for maintaining all City-owned storm drains, which total approximately 60 miles (City of Cypress 2016). On the Cypress College campus, surface water runoff due to storm events flows down roof drains; across pavement; and into curbs, gutters, and inlets leading into the campus storm drain system. The campus storm drains direct flows collected on campus to two interconnection points with the City's municipal storm drain system (District 2003). The City's 72-inch underground storm drain line enters the campus from the east (near the intersection of Holder Street and Lakeshore Drive), goes west through the athletic field area, then southwest though Parking Lots 4 and 5, and exits the campus to the south (near the intersection of Orange Avenue with the railroad right-of-way) (OCFCD 2012). This storm drain line then conveys flows to the south for discharge into the Carbon Creek Channel, which consists of an earthen (upstream) and concrete (downstream) trapezoidal channel maintained by the Orange County Flood Control District (OCFCD 2012). The Carbon Creek Channel runs generally to the west until it discharges to Coyote Creek. Coyote Creek and the San Gabriel River are operated and maintained by the Los Angeles County Flood Control District.

4.12.1.5 Solid Waste and Recycling

Cypress College's solid waste stream is managed and hauled by Ware Disposal Company (Miranda, pers. comm. 2016a). The Cypress College campus generated 2,368 tons of solid waste in 2015. Approximately 57% of all waste recovered from Cypress College was recycled, with an additional 20% diverted on campus (Miranda, pers. comm. 2016a). Collected solid waste is transported to the Madison Resource Recovery Facility in Santa Ana, which recovers upwards of 75% of materials transported to this facility (Ware Disposal Company 2016). The residual solid waste stream recovered from the Madison Resource Recovery Facility is then transported to the Frank R. Bowerman Landfill in Irvine and Olinda Alpha Landfill in Brea (Ware, pers. comm. 2016). The Frank R. Bowerman Landfill permits a maximum of 11,500 tons of waste a day and does not accept public dumping. Olinda Alpha accepts public dumping and permits a maximum

of 8,000 tons per day (County of Orange 2016). Information regarding the Frank R. Bowerman and Olinda Alpha landfills is presented in Table 4.12-1.

Table 4.12-1
Existing Landfills

Landfill	Remaining Capacity (cubic yards)	Maximum Permitted Capacity (cubic yards)	Estimated Close Date	Maximum Permitted Daily Load (tons/day)
Frank R. Bowerman	205 million as of February 2008	266 million	12/31/2053	11,500
Olinda Alpha	34.2 million as of November 2014	148.8 million	12/31/2021	8,000
Total	**239.2 million**	**414.8 million**	**NA**	**19,500**

Source: CalRecycle 2016a and 2016b.
Note: NA = not applicable.

4.12.1.6 Energy

Electricity

Southern California Edison is the main supplier of electricity to the City. Cypress College purchases 100% of its energy from Southern California Edison. The Cypress College campus used approximately 5,610,897 kilowatt-hours of electricity in fiscal year 2014–2015 (Williams, pers. comm. 2016).

Natural Gas

Gas service to the campus is provided by Southern California Gas Company. In fiscal year 2014–2015, the Cypress College campus used approximately 471,536 therms of natural gas (Williams, pers. comm. 2016).

4.12.2 Relevant Plans, Policies, and Ordinances

Federal

Federal Clean Water Act of 1977

Section 401 of the Clean Water Act (CWA) requires that an applicant for any federal permit (e.g., a U.S. Army Corps of Engineers Section 404 permit) obtain certification from the state that the discharge would comply with other provisions of the CWA and with state water quality standards. For example, an applicant for a permit under Section 404 of the CWA must also obtain water quality certification per Section 401 of the CWA. Section 404 requires a permit from the U.S. Army Corps of Engineers prior to discharging dredged or fill material into waters of the United

States, unless such a discharge is exempt from CWA Section 404.[1] For the project area, the Santa Ana Regional Water Quality Control Board (RWQCB) must provide the water quality certification required under Section 401 of the CWA. Water quality certification under Section 401, and the associated requirements and terms, is required in order to minimize or eliminate the potential water quality impacts associated with the action(s) requiring a federal permit.

Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants from point sources. Section 404 of the CWA established a permit program to regulate the discharge of dredged or fill material into waters of the United States. Section 303 of the CWA requires states to identify surface waters that have been impaired. Under Section 303(d), states, territories, and authorized tribes are required to develop a list of water quality segments that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology (33 U.S.C. Section 1251 et seq.).

State

Protection of Underground Infrastructure

California Government Code, Section 4216 et seq., requires an excavator to contact a regional notification center (e.g., Underground Service Alert (USA) or DigAlert) at least 2 days prior to excavation of any subsurface installations. Any utility provider seeking to begin a project that could damage underground infrastructure can call USA of Southern California (also called DigAlert), the regional notification center for Southern California. USA will notify the utilities that may have buried lines within 1,000 feet of the project site. Representatives of the utilities, once notified, are required to mark the specific locations of their facilities within the work area prior to the start of project activities.

Recycled Water Policy

On January 22, 2013, the California State Water Resources Control Board (SWRCB) adopted a revision of a statewide recycled water policy that had been adopted in 2009, with the ultimate goal of increasing the use of recycled water from municipal wastewater sources. Included in the statewide policy is the mandate to increase the use of recycled water in California from 2002 levels by 1 million acre-feet per year (afy) by 2020, and an additional 2 million afy by 2030.The plan also states that the SWRCB expects to increase the use of stormwater from 2007 levels to at least 500,000 afy by 2020 and 1 million afy by 2030 (SWRCB 2013).

[1] The term "waters of the United States" as defined in the Code of Federal Regulations (40 CFR 230.3(s)) includes all navigable waters and their tributaries.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (codified in the California Water Code, Section 13000 et seq.) is the overarching water quality control law for California. It is implemented by the SWRCB and the nine RWQCBs. The SWRCB establishes statewide policy for water quality control and provides oversight of the RWQCBs' operations. In addition to other regulatory responsibilities, the RWQCBs have the authority to conduct, order, and oversee investigation and cleanup where discharges or threatened discharges of waste to waters of the state could cause pollution or nuisance, including impacts to public health and the environment.[2] As is evident from the preceding regulatory discussion, the Porter-Cologne Act and the CWA overlap in many respects, as the entities established by the Porter-Cologne Act are in many cases enforcing and implementing federal laws and policies. However, there are some regulatory tools that are unique to the Porter-Cologne Act, including Waste Discharge Requirements (WDRs), as discussed in the following subsection.

Dredge/Fill Activities and WDRs

Actions that involve, or are expected to involve, discharge of waste are subject to water quality certification under Section 401 of the CWA (e.g., if a federal permit is being sought or granted) and/or WDRs under the Porter-Cologne Act. Chapter 4, Article 4 of the Porter-Cologne Act (California Water Code, Sections 13260–13274) states that persons discharging or proposing to discharge waste that could affect the quality of waters of the state (other than into a community sewer system) shall file a Report of Waste Discharge with the applicable RWQCB. For discharges directly to surface water (i.e., waters of the United States), an NPDES permit is required, which is issued under both state and federal law; for other types of discharges, such as waste discharges to land (e.g., spoils disposal and storage), erosion from soil disturbance, or discharges to waters of the state (such as isolated wetlands), WDRs are required and are issued exclusively under state law. WDRs typically require many of the same best management practices (BMPs) and pollution control technologies required by NPDES-derived permits. Further, the WDR application process is generally the same as for CWA Section 401 water quality certification, although in this case, it does not matter whether the particular project is subject to federal regulation.

The Statewide General Waste Discharge Requirements for Discharge to Land (2003-0003-DWQ), for example, applies to projects that discharge to land where the discharge constitutes a low threat to water quality. These are typically low-volume discharges with minimal pollutant concentrations, such as well water discharges, small temporary dewatering projects, and hydrostatic testing discharges of clear water. The primary difference between this permit and the

[2] "Waters of the state" are defined in the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050(e)).

permits under the NPDES programs described previously is the destination of the water. This permit regulates discharges to land, whereas the previous sections discuss discharges to storm drains or receiving waters. For instance, if a dewatering discharge will be piped to an infiltration basin during construction, this permit should be used.

California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 (Assembly Bill (AB) 939), administered by the California Integrated Waste Management Board, regulates nonhazardous solid waste. The law provides a solid waste management system to reduce, recycle, and reuse solid waste generated in the state to the maximum extent feasible and in an efficient and cost-effective manner to conserve natural resources, protect the environment, and improve landfill safety. Local agencies are required to establish recycling programs, reduce paper waste, purchase recycled products, and implement integrated waste management programs that conform to the state's requirements (California Public Resources Code, Section 40000 et seq.). AB 939 specifically required that each city and county in California divert 25% of its waste stream by 1995 and 50% by 2000 (CalRecycle 1997). The bill also required each state agency to develop and adopt an integrated waste management plan, in consultation with the California Integrated Waste Management Board, before July 1, 2000.

Assembly Bill 341

AB 341 builds from the goals and requirements of AB 939. AB 341 establishes a statewide policy goal of diverting a minimum of 75% of solid waste from landfills through source reduction, recycling, or composting by the year 2020. This bill also requires the California Department of Resources Recycling and Recovery to issue a report by January 1, 2014, that includes strategies, methods, and recommendations that would enable the state to reach the 75% waste diversion goal by 2020 (CalRecycle 2016c).

Senate Bill X7-7

Senate Bill (SB) X7-7, which became effective on February 3, 2010, is the water conservation component to the Delta legislative package (SB 1, Delta Governance/Delta Plan). It seeks to implement water use reduction goals established in 2008 to achieve a 20% statewide reduction in urban per capita water use by December 31, 2020. The bill requires each urban retail water supplier to develop urban water use targets to help meet the 20% goal by 2020 and meet an interim 10% goal by 2015. The bill establishes methods for urban retail water suppliers to determine targets to help achieve water reduction targets. The retail water supplier must select one of four compliance options. The retail agency may choose to comply with SB X7-7 as an individual or as a region in collaboration with other water suppliers. Under the regional compliance option, the retail water supplier still has to report the water use target for its

individual service area. The bill also includes reporting requirements in the 2010, 2015, and 2020 Urban Water Management Plans.

State Agency Model Integrated Waste Management Act of 1999

AB 75 was passed in 1999, and the State Agency Model Integrated Waste Management Act (Chapter 764, Statutes of 1999, Strom-Martin) took effect on January 1, 2000. The State Agency Model Integrated Waste Management Act mandated that state agencies develop and implement an integrated waste management plan. The act also mandated that community service districts providing solid waste services report disposal and diversion information to the city, county, or regional agency in which the community service district is located. Provisions of the act require that all state agencies and large state facilities divert at least 50% of solid waste from landfills after 2004 and that each state agency and large facility submit an annual report to the California Department of Resources Recycling and Recovery summarizing its yearly progress in implementing waste diversion programs (CalRecycle 2012).

Energy Conservation Policies

Executive Order S-12-04. This order requests the participation of all state agencies under the authority of the governor and other entities not under the direct authority of the governor to institute energy conservation measures that will reduce energy consumption. Additionally, the order requests that all state agencies review and assess energy conservation policies currently in place and extend those measures to all applicable facilities (State of California 2004a).

Executive Order S-20-04. This order requires the state to commit to "aggressive" action to reduce state building energy usage by retrofitting, building, and operating energy- and resource-efficient buildings and by taking all cost-effective measures described in the Green Building Action Plan for facilities owned, funded, or leased by the state. Executive Order S-20-04 requests that California Community Colleges participate in the effort to reduce energy usage (State of California 2004b).

State Executive Order S-3-05. This order directs the state to reduce greenhouse gas emissions, which are linked to energy efficiency (State of California 2005).

Title 24 of the California Code of Regulations

Energy consumption by new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government

agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in the Title 24 guidelines.

Local

North Orange County Integrated Regional Watershed Management Plan

The North Orange County Watershed Management Area encompasses 241,000 acres (376 square miles) in northern Orange County. The North Orange County Watershed Management Area is bordered by Los Angeles County to the north and west and by San Bernardino County to the east. The three watersheds in this area are the San Gabriel River/Coyote Creek, Anaheim Bay–Huntington Harbour, and the Santa Ana River. The purpose of the North Orange County Integrated Regional Watershed Management Plan is to facilitate effective continued collaboration on and create opportunities to leverage agency resources for solution-oriented water resource projects and programs in north Orange County.

The North Orange County Integrated Regional Watershed Management Plan supports state priorities that relate to the California Water Plan Update 2009, the CALFED Bay–Delta Program, the Department of Water Resources Water Recycling Task Force Recommendations, the SWRCB's Recycled Water Policy, Governor Schwarzenegger's 20×2020 Water Conservation Plan of 2010, greenhouse gas emissions reduction goals of AB 32, the Water Desalination Task Force Recommendations, the California Ocean Plan, the California Watershed Action Plan, the total maximum daily load (TMDL) list, the comprehensive Orange County Drainage Area Management Plan, and the RWQCBs' Watershed Management Initiative Chapters. The North Orange County Integrated Regional Watershed Management Plan does this through the integration of projects and programs that incorporate a wide range of water management strategies. Beneficial effects from implementation of proposed projects and programs will contribute to statewide, regional, and local goals and objectives.

Regional Landfill Options for Orange County

The County of Orange (County) Integrated Waste Management Department prepared a long-term plan to meet the solid waste disposal needs of County residents. This plan specifically discusses the three active landfills within the County (the Olinda Alpha, Frank R. Bowerman, and Prima Deshecha landfills), their expected closure dates, and strategies to expand their capacities. Short-term strategies include maximizing operation efficiency through new compacting practices and technology, biocell technology, vertical expansion of the Frank R. Bowerman Landfill, vertical and horizontal expansion of the Olinda Alpha Landfill, and promotion of solid waste diversion and recycling. Long-term strategies include determining whether there is a need to increase daily permitted waste at the Prima Deshecha Landfill, identifying strategies and technologies to maximize landfill capacities, and conducting a

feasibility study of the expansion of the Frank R. Bowerman Landfill. The plan also emphasizes public disclosure and discussion in order to address the community's concerns.

City of Cypress General Plan

The City's General Plan also has relevant utility-focused policies that promote protection from underground pipeline hazards, water and energy conservation, and solid waste reduction:

Safety Element Goals and Policies

Pipelines

- **SAF-4:** Minimize property damage and injury to persons from underground pipeline hazards.
  - **SAF-4.1:** Ensure that the Orange County Fire Authority and other disaster response agencies have access to route, depth, and shut-off information about each pipeline.
  - **SAF-4.2:** Ensure that the Disaster Response Plan includes procedures to deal with a pipeline accident.
  - **SAF-4.3:** Consult with agencies operating these lines, as well as the Public Utilities Commission and the Office of Pipeline Safety of the Department of Transportation, to determine the real potential for explosion or rupture in case of accident or earthquake.
  - **SAF-4.4:** For new development, maximize building setback from existing pipelines or new/established pipeline routes to a preferred width of 150 feet where physically feasible, but in no event less than 50 feet. Whenever development is proposed within 150 feet of petroleum pipelines, site plans must clearly show pipeline locations and all measures proposed to mitigate all potential safety hazards.

Conservation/Open Space/Recreation Element Goals and Policies

Water Resources

- **COSR-1:** Conserve ground water and imported water resources.
  - **COSR-1.1:** Pursue agreements with Southern California Water Company and Orange County Water District to design and implement water conservation measures.
  - **COSR-1.2:** Promote the use of native trees in landscaping to conserve water resources.
  - **COSR-1.3:** Protect ground water resources from depletion and sources of pollution.
  - **COSR-1.4:** Conserve imported water by utilizing water conservation techniques, water conserving appliances, and drought-resistant landscaping.

- **COSR-1.5:** Support the expansion of reclaimed water production and use wherever possible and economically feasible.

Energy Resources

- **COSR-3:** Conserve energy resources through the use of available technology and conservation practices.
  - **COSR-3.1:** Encourage innovative site planning and building designs that minimize energy consumption by taking advantage of sun/shade patterns, prevailing winds, landscaping, and building materials.
  - **COSR-3.2:** Encourage new development and existing structures to install energy saving features.

Solid Waste Reduction

- **COSR-4:** Reduce solid waste produced in the City.
  - **COSR-4.1:** Implement the Source Reduction and Recycling Element as required by State legislation.
  - **COSR-4.2:** Continue to comply with the requirements mandated by AB 939.
  - **COSR-4.3:** Maximize public awareness of all source reduction programs, including opportunities for community feedback and school education.
  - **COSR-4.4:** Maximize integration of all source reduction programs.
  - **COSR-4.5:** Encourage composting as an alternative to disposal for organic wastes.
  - **COSR-4.6:** Coordinate with the County and surrounding jurisdictions to dispose of special waste including tires, construction/demolition debris, medical waste, asbestos, and household hazardous waste.

4.12.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to utilities and service systems are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.). According to Appendix G of the CEQA Guidelines, a significant impact related to utilities and service systems would occur if the project would:

1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

2. 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.
3. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
4. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.
5. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
6. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
7. Comply with federal, state, and local statutes and regulations related to solid waste.

No topics related to utilities and service systems were eliminated in the Initial Study for the proposed project; therefore, all topics are covered in the impacts analysis in Section 4.12.4.

4.12.4 Impacts Analysis

Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Public Works provides sewer collection for the City, including the Cypress College campus. Wastewater collected by the City is treated by OCSD (City of Cypress 2016). OCSD is the NPDES permit holder for Fountain Valley Reclamation Plant No. 1 and Huntington Beach Treatment Plant No. 2, and it is responsible for compliance with the wastewater treatment requirements in the NPDES permit, Order No. R8-2012-0035/CA0110604 (Santa Ana RWQCB 2012). Upon connection to City wastewater facilities, the proposed project would be in compliance with the wastewater treatment requirements of the RWQCB. Therefore, the proposed project would not exceed the wastewater treatment requirements of the applicable RWQCB and impacts would be less than significant.

Would the project 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?

Potable Water

Water service for the proposed project is and will continue to be through purchase of municipal water from GSWC. Based on metered water use for the Cypress College campus between November 2014 and October 2015, the total existing water use is approximately 165,695 gallons per day (gpd), or 185 afy. Approximately 70% (115,987 gpd, or 130 afy) of this water consumption is for the purpose of landscape watering and athletic-field irrigation. Therefore, the existing sanitary/domestic use of water on the campus is estimated to be 49,708 gpd, or 55 afy. Because the proposed project does not involve appreciable changes to landscaping or athletic fields, project-related increases in demand would be limited to the domestic/sanitary needs of proposed buildings (e.g., restrooms, showers, laboratory facilities). The proposed project would involve a net increase of approximately 81,000 assignable square feet (ASF), or a 16% increase from the existing 500,845 ASF, as shown in Table 3-1, Buildings and Facilities – Plan-to-Ground Comparison, in Chapter 3, Project Description, of this Program Environmental Impact Report (EIR). Thus, domestic/sanitary water demands at full build-out could increase by as much as 8,000 gpd (or 9 afy) to a total of 58,000 gpd (or 64 afy).[3]

It should be noted that these estimates are reasonable, but highly speculative and conservative for several reasons. The increase in domestic/sanitary water demands is based solely on the increase in assignable square feet and does not consider the implementation of water-efficient plumbing codes or other water-saving measures. Renovations of buildings are likely to achieve significant water savings on a per capita basis because modern plumbing codes require the use of low-flow fixtures. Where landscaping around building perimeters is reconstructed, it would be done with xeriscape, or drought-tolerant native species. The exact amount of water that would be required for each individual phase of the master plan, or at full build-out of the campus, cannot be estimated precisely until building plans are developed and finalized. However, for the purposes of CEQA, these approximations are sufficient to quantify the potential project-related increase in water demand on campus.

An increase in potable water demand by 9 afy represents only 0.06% of the amount of potable water supplied by GSWC's West Orange System in 2010 (i.e., about 15,287 acre-feet) . Therefore, the increase in demand as a result of the proposed project would be negligible and would be far less than the variation in demand due to climatic conditions and well within the margin of error for such

[3] Because the proposed project would require an amount of water far less than that required by a 500-dwelling-unit project, it does not qualify as a "project" under California Water Code, Section 10910 et seq., and SB 610; therefore, a water supply assessment is not required.

estimates (GSWC 2011). However, to ensure that the proposed project would not create potable water demand that would necessitate the construction or expansion of new water facilities, **Mitigation Measure (MM) UTL-1** (see Section 4.12-5, Mitigation Measures) shall be implemented. **MM-UTL-1** requires that a water service agreement, and, if required, payment of impact fees to GSWC, would be required prior to initiating new water service connections. Upon implementation of **MM-UTL-1**, impacts would be less than significant.

Wastewater

Private sewer lines operating on Cypress College are connected to lines maintained by Public Works, and effluent is treated by the OCSD treatment plants in Huntington Beach and Fountain Valley.

The OCSD treatment plants have a combined primary treatment capacity of 372 MGD, and are currently processing approximately 187 MGD (OCSD 2009 and 2016). Reclamation Plant No. 1, located in Fountain Valley, has a primary capacity of 204 MGD and treats water to be reclaimed by Orange County Water District for landscape irrigation use and groundwater replenishment. To avoid overloading Reclamation Plant No. 1, wastewater can also be diverted to Treatment Plant No. 2, in Huntington Beach, where effluents are mixed, dechlorinated with sodium bisulfite, and disposed of in the ocean (OCSD 2011).

The proposed project would generate additional wastewater discharges by adding additional academic space and a general increase in the number of students over time. This additional wastewater flow would result in an increased demand on the local wastewater treatment infrastructure.

As discussed above, because the proposed project does not involve appreciable changes to landscaping or athletic fields, project-related increases in demand would be limited to the domestic/sanitary needs of proposed buildings. The proposed project would involve a net increase of approximately 82,000 ASF, or a 16% increase from the existing 500,845 ASF. Thus, domestic/sanitary water demands at full build-out could increase by as much as 8,000 gpd (or 9 afy) to a total of 58,000 gpd (or 64 afy). Considering that the increase in potable water use would be associated with domestic/sanitary uses, the majority of water consumed would be disposed of via sewer systems. Therefore, potable water demand is assumed to be a reasonable proxy for wastewater generation, and the projected increase in wastewater generation associated with the proposed project can be approximated as 8,000 gpd, to a total of 58,000 gpd.

Upon review of the final site engineering and design plans, the North Orange County Community College District (District) will coordinate with Public Works to determine whether the existing sewer lines have the capacity and are in good enough condition to handle the increase in wastewater flow, as is required by Cypress Public Works (City of Cypress 2008). A service agreement, and if applicable, payment of impact fees would be required prior to initiating new sewer connections with Public Works. Because the proposed project is a master plan, and

building- or facility-specific site plans are not available, a hydraulic analysis at the Program EIR stage of analysis is premature. However, when specific building site plans are available, a hydraulic analysis will be conducted to assess impacts to Public Works sewer lines prior to approval by the Division of the State Architect, as specified in **MM-UTL-2** (see Section 4.12-5). Implementation of **MM-UTL-2** would ensure that impacts would be less than significant.

Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The potential for the project to alter drainage patterns is addressed in Section 4.7, Hydrology and Water Quality. Because the drainage sheds would maintain the same boundaries, and because changes in impervious surfaces would be relatively minor, the proposed project is not anticipated to exceed the capacity of existing off-site stormwater drainage systems, requiring the construction or expansion of stormwater drainage facilities. Some on-site modifications to the drainage system may be undertaken, if required, as part of new construction and renovation activities. Implementation of **MM-HYD-1** (see Section 4.7) would ensure that the proposed project includes design features that slow and retain stormwater runoff. For these reasons, the impact of the project on the construction or expansion of stormwater drainage systems would be less than significant.

Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

As discussed previously, water service for the proposed project is and will continue to be through purchase of municipal water from GSWC. Based on metered water use for the Cypress College campus between November 2014 and October 2015, the total existing water use is approximately 165,695 gpd, or 185 afy. As shown in Table 3-1 (see Chapter 3), the proposed project would involve a net increase of approximately 81,000 ASF, or a 16% increase from the existing 500,845 ASF. Thus, domestic/sanitary water demands at full build-out could increase by as much as 8,000 gpd (or 9 afy) to a total of 58,000 gpd (or 64 afy).

It should be noted that these estimates are reasonable, but highly speculative and conservative for several reasons. The increase in domestic/sanitary water demands is based solely on the increase in assignable square feet and does not consider the implementation of water-efficient plumbing codes or other water-saving measures. Renovations of buildings are likely to achieve significant water savings on a per capita basis because modern plumbing codes require the use of low-flow fixtures. Where landscaping around building perimeters is reconstructed, it would be done with xeriscape, or drought-tolerant native species. The exact amount of water that would be required for each individual phase of the master plan, or at full build-out of the campus, cannot be

estimated precisely until building plans are developed and finalized. However, for the purposes of CEQA, these approximations are sufficient to quantify the potential project-related increase in water demand on campus.

An increase in potable water demand by 9 afy represents only 0.06% of the amount of potable water supplied by GSWC's West Orange System in 2010 (i.e., about 15,287 acre-feet) . Therefore, the increase in demand as a result of the proposed project would be negligible and would be far less than the variation in demand due to climatic conditions and well within the margin of error for such estimates (GSWC 2011).

Additionally, Cypress College is continuously looking for ways to decrease potable water consumption. In 2014, Cypress College reduced water consumption by reducing the time on all irrigation clocks by approximately 25%. Currently, several lawn areas are being replaced with native plants. Cypress College is planning to install a centralized irrigation control system that would further reduce and manage water consumption on the campus (Miranda, pers. comm. 2016b).

Therefore, sufficient water supplies are available to serve the project from existing entitlements and resources and impacts would be less than significant.

Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

As discussed previously, the proposed project would generate additional wastewater discharges by adding additional academic space and a general increase in the number of students. This additional wastewater flow would result in an increased demand on the local wastewater treatment infrastructure.

Because the proposed project does not involve appreciable changes to landscaping or athletic fields, project-related increases in demand would be limited to domestic/sanitary needs of proposed buildings (e.g., restrooms, showers, laboratory facilities). As shown in Table 3-1 (see Chapter 3), the proposed project would involve a net increase of approximately 82,000 ASF, or a 16% increase from the existing 500,845 ASF. Thus, domestic/sanitary water demands at full build-out could increase by as much as 8,000 gpd (or 9 afy) to a total of 58,000 gpd (or 64 afy). Considering that the increase in potable water use would be associated with domestic/sanitary uses, the majority of water consumed would be disposed of via sewer systems. Therefore, potable water demand is assumed to be a reasonable proxy for wastewater generation, and the projected increase in wastewater generation associated with the proposed project can be approximated as 8,000 gpd, to a total of 58,000 gpd.

Upon review of the final site engineering and design plans, the District will coordinate with Public Works to determine whether the existing sewer lines have the capacity and are in good enough condition to handle the increase in wastewater flow. A service agreement, and if applicable, payment of impact fees would be required prior to initiating new sewer connections with Public Works. Because the proposed project is a master plan, and building- or facility-specific site plans are not available, a hydraulic analysis at the Program EIR stage of analysis is premature. However, when specific building site plans are available, a hydraulic analysis will be conducted to assess impacts to Public Works sewer lines prior to approval by the Division of the State Architect as specified in **MM-UTL-2** (see Section 4.12-5). Implementation of **MM-UTL-2** would ensure that impacts would be less than significant.

Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Construction of the proposed project would generate construction waste (e.g., concrete rubble, asphalt rubble, wood, drywall) that would result in an increased demand for solid waste collection and disposal capacity. The County of Orange OC Waste & Recycling will require the completion and submittal of a construction and demolition waste reduction and recycling application to the County for approval prior to issuance of the final Certificate of Occupancy permit for the site, which is therefore included as **MM-UTL-3**. The construction and demolition waste reduction and recycling application will identify and estimate the materials to be recycled during construction and demolition activities and will name the County-approved facility used to recycle the waste. A construction and demolition waste reduction and recycling application that demonstrates that the project recycled a minimum of 50% of its construction and demolition waste will then be approved by the County Planning Department prior to issuance of the final Certificate of Occupancy permit (County of Orange 2012).

The Cypress College campus generated 2,368 tons of solid waste in 2015. Approximately 57% of all waste recovered from Cypress College was recycled, with an additional 20% diverted on campus (Miranda, pers. comm. 2016a).

Table 4.12-2, Existing and Projected Solid Waste Generation, shows that by buildout, an additional 385 tons of solid waste would be generated, resulting in a total campus generation amount of 2,753 tons per year (tpy).

Table 4.12-2
Existing and Projected Solid Waste Generation

Existing Campus Facilities (ASF)	Existing Solid Waste Generation (tpy)	Solid Waste Generation Rate (per 10,000 ASF)	Net Increase in ASF[a]	Solid Waste Generation Net Increase (tpy)	Total Projected Solid Waste Generation (tpy)
500,845	2,368	47	82,000	385	2,753

Source: Miranda, pers. comm. 2016a.
Notes: ASF = assignable square feet; tpy = tons per year.
Solid waste generation per 10,000 ASF: 2,368/500,845×10,000.
[a] Upon buildout of the proposed project, the campus will have 82,000 ASF of academic, general administrative, residential, and auxiliary space in addition to the existing square footages on campus. Net increase = 138,000 ASF−156,561 ASF = 81,439 ASF.

It is anticipated that the proposed project's solid waste disposal needs would continue to be served by Ware Disposal Company. Consistent with the campus's ongoing recycling programs, all recyclable materials generated as a result of construction/demolition and proposed project operation would continue to be sent to the Madison Resource Recovery Facility in Santa Ana. If a conservative recycling rate of 50% is assumed, then the proposed project would send approximately 0.53 tons per day to an area landfill. These amounts represent approximately 0.005% and 0.007% of the total maximum permitted capacity of 11,500 and 8,000 tons per day for the Frank R. Bowerman and Olinda Alpha landfills, respectively, as listed in Table 4.12-1. Therefore, the amount of solid waste generated and disposed of in nearby landfills during operation of the proposed project is expected to be within the permitted capacity of the landfills. Given these considerations, and with recycling required by the County implemented during all construction phases of the project with the incorporation of **MM-UTL-3**, potential impacts associated with solid waste capacity would be considered less than significant with mitigation incorporated.

Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Approximately 57% of all waste recovered from Cypress College was recycled, with an additional 20% diverted on campus, in 2015 (Miranda, pers. comm. 2016a). Solid waste generated from construction and operation of the proposed project would be consistent with the campus's ongoing recycling programs, which historically have been successful at diverting at 77% of on-campus-generated solid waste from a landfill to an appropriate recycling facility. Maintaining the existing diversion rate would comply with AB 341, which requires all large state facilities to divert at least 75% of solid waste from landfills by 2020. Given these considerations, impacts associated with solid waste statutes and regulations would be less than significant.

Would the project result in potentially significant energy impacts due to the use of:

i) Excessive amounts of fuel or energy (i.e., natural gas)?

ii) Excessive amounts of power?

The following discussion and analysis is based on the CEQA Guidelines, Section 15126.4, and Appendix F of the CEQA Guidelines, which require that EIRs include a discussion of the potential energy impacts of projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (14 CCR 15000 et seq.).

The proposed project would create additional electricity and natural gas demand by adding additional academic space and a general increase in the number of students. The proposed project would involve the demolition of 56,561 ASF of existing facilities on campus, which includes the existing Science, Engineering, and Mathematics (SEM) building, temporary restrooms, and baseball storage/clubhouse building. The proposed project would replace the existing SEM building with a more energy-efficient building. New facilities associated with the proposed project would be subject to the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction of both residential and nonresidential buildings and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. These building efficiency standards would be enforced through the local building permit process.

In fiscal year 2014–2015, the Cypress College campus used approximately 5,610,897 kilowatt-hours of electricity and approximately 471,536 therms of natural gas (Williams, pers. comm. 2016). Building electricity and natural gas usage associated with the proposed project were calculated using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2 (available online at www.caleemod.com). CalEEMod default values for electricity and natural gas consumption (through Title 24, non-Title 24, and lighting energy intensities and Title 24 and non-Title 24 natural gas energy intensities) were used for the new facilities proposed for construction as part of the proposed project. Default values for electricity and natural gas consumption through Title 24 and non-Title 24 natural gas energy intensities and Title 24, non-Title 24, and lighting energy intensities were adjusted to reflect historical energy use of existing facilities that would be demolished as part of the proposed project. Although the proposed project would involve the demolition of the SEM building, the baseball storage/clubhouse building, and the temporary restrooms, estimates include only the demolition of the SEM building, because the baseball storage/clubhouse building and the temporary restrooms are not connected to electricity or natural gas infrastructure.

Table 4.12-3 shows the anticipated electricity and natural gas consumption upon buildout of the proposed project. Currently, Cypress College is constructing a thermal energy storage tank

system (not part of the proposed project), which is included in the estimates provided in Table 4.12-3. This project would be completed in phases. The first phase involves the installation of the underground pipe distribution, followed by the installation of the thermal energy storage tanks and the installation/replacement of two existing chillers. The thermal energy storage tank system is projected to save 900,000 kilowatt-hours of electricity per year (Miranda, pers. comm. 2016b).

Table 4.12-3
Project Energy Consumption

	Existing Energy Consumption	Proposed Construction	Proposed Demolition	Energy Savings (with Thermal Energy Storage Tank System)	Net Energy	Total Energy
Natural gas (therms/year)	471,536	21,892	52,273	—	(30,381)	441,155
Electricity (kilowatt-hours per year)	5,610,897	3,066,900	572,966	900,000	1,593,934	7,204,831

Note: Net energy is calculated by the anticipated energy associated with new proposed facilities subtracted by the energy associated with existing facilities that would be demolished as part of the proposed project, and subtracted by the anticipated savings associated with the thermal energy storage tank system. Total energy is calculated by the net energy plus the existing energy use.

The proposed project would increase electricity demand by 28.4% and decrease natural gas demand by 6.4%. However, CalEEMod default values for electricity and natural gas consumption reflect 2011 Title 24 standards and do not reflect the more stringent energy reduction requirements associated with the 2019 Title 24 standards or subsequent standards with which the proposed project would be required to comply. Therefore, the electricity and natural gas consumption estimates presented in Table 4.12-3 are an overestimate of the anticipated electricity and natural gas consumption rates associated with the proposed project.

Additionally, as part of the Cypress College Energy Plan, Cypress College is continuously looking for ways to improve energy conservation. For example, in 2014 and 2015, Cypress College completed heating, ventilation, and air conditioning (HVAC) system upgrades and an interior lighting retrofit. The HVAC upgrades resulted in an 800,000 kilowatt-hour and 75,000 therm reduction. The interior lighting retrofit involved the replacement of over 10,200 fluorescent lamp fixtures with LEDs, reducing the annual energy consumption by over 1,550,000 kilowatt-hours (Miranda, pers. comm. 2016b).

In 2014, Cypress College also reduced water consumption by reducing the time on all irrigation clocks by approximately 25%. Currently, several lawn areas are being replaced with native plants. Cypress College is planning to install a centralized irrigation control system that would further reduced and manage water consumption on the campus (Miranda, pers. comm. 2016b).

By reducing water consumption, Cypress College would further reduce electricity consumption associated with the import of potable water.

Therefore, the proposed project would not result in the excessive use of fuel or energy or the use of excessive amounts of power; therefore, impacts would be less than significant.

4.12.5 Mitigation Measures

MM-UTL-1 Upon review of the final site engineering and design plans, the North Orange County Community College District (District) will coordinate with the Golden State Water Company to initiate a water service agreement. Coordination with the Golden State Water Company would also occur to determine if payment of impact fees would be required prior to initiating new water service connections.

MM-UTL-2 Upon review of the final site engineering and design plans, the District will coordinate with the City of Cypress Public Works Department to determine whether the existing sewer lines have the capacity and are in good enough condition to handle the increase in wastewater flow. Prior to occupancy**,** the District shall pay applicable City of Cypress Public Works Department sewer infrastructure connection fees and applicable fair-share capital facilities fees, to the extent the payment of such fees is made necessary by the proposed project facilities.

MM-UTL-3 Prior to Division of State Architect approval, the District shall complete a construction and demolition waste reduction and recycling application and submit the application to the County of Orange (County) OC Waste & Recycling for approval. The construction and demolition waste reduction and recycling application will identify and estimate the materials to be recycled during construction and demolition activities and will name the County-approved facility used to recycle the waste. Compliance with the application prerequisites will be a requirement in all construction contracts. The County-approved application will be attached to all construction plans and distributed to all construction contractors. Once construction is complete, the District will be responsible for preparing a tonnage report that demonstrates that the project recycled a minimum of 50% of its construction and demolition waste. The tonnage report must be submitted to and approved by the County prior to issuance of the final Certificate of Occupancy permit. Because this proposed project will be developed in phases over time, review and approval of the construction and demolition waste reduction and recycling application can be submitted by phase or by building. However, for each demolition waste reduction and recycling application submitted and approved, a corresponding tonnage report should also then be submitted for approval.

MM-HYD-1 (See Section 4.7, Hydrology and Water Quality.)

4.12.6 Level of Significance After Mitigation

Implementation of **MM-UTL-1, MM-UTL-2, MM-UTL-3,** and **MM-HYD-1** would ensure that all impacts identified would be reduced to a less-than-significant level.

4.12.7 Cumulative Impacts

Section 15130(b)(1)(A) of the CEQA Guidelines (14 CCR 15000 et seq.) allows for the preparation of a list of past, present, and reasonably anticipated future projects as a viable method of determining cumulative impacts. This discussion uses the following approach: an initial list and description of all related projects is presented, followed by a discussion of the effects that the project may have on each environmental category of concern. Consistent with CEQA (California Public Resources Code, Section 21000 et seq.), this discussion is guided by the standards of practicality and reasonableness. A list of past, present, and reasonably foreseeable future projects that the City determined were most relevant to the project are provided in Table 3-4, Cumulative Projects, in Chapter 3.

The geographic extent for the analysis of cumulative impacts associated with utilities consists of the City of Cypress, because local jurisdictions or districts provide utilities.

Because of the cumulative nature of potable water impacts, the project's increase in demand on potable water, even if individually minor, could be cumulatively considerable, particularly in the context of climate change, existing drought conditions, and the trend toward increased reliance on local supplies. However, an increase in potable water demand by 9 afy represents only 0.06% of the amount of potable water supplied by GSWC's West Orange System in 2010 (i.e., about 15,287 acre-feet) . Therefore, the increase in demand as a result of the proposed project would be negligible and would be far less than the variation in demand due to climatic conditions and well within the margin of error for such estimates (GSWC 2011). Additionally, Cypress College is continuously looking for ways to decrease potable water consumption. In 2014, Cypress College reduced water consumption by reducing the time on all irrigation clocks by approximately 25%. Currently, several lawn areas are being replaced with native plants. Cypress College is planning to install a centralized irrigation control system that would further reduce and manage water consumption on the campus (Miranda, pers. comm. 2016b). Therefore, cumulative impacts related to water demand would be less than significant. Implementation of **MM-UTL-1** would ensure that the project would not have unanticipated impacts to the City's water infrastructure. Therefore, the impacts related to construction or expansion of water facilities and new or expanded entitlements would be less than significant with mitigation.

The proposed project would have less-than-significant impacts with regard to wastewater treatment facilities, the expansion of existing facilities, and the capacity of wastewater treatment providers. All foreseeable projects would need to evaluate their wastewater generation prior to

development, and upon review of the final site engineering and design plans, would be required to coordinate with the City or the applicable sewer system jurisdiction. Implementation of **MM-UTL-2** would ensure that the project would not have unanticipated impacts to the City's wastewater infrastructure and that there is sufficient capacity within the system to accommodate the proposed project. A service agreement, and if applicable, payment of impact fees would be required prior to initiating new sewer connections. Considering that the proposed project and additional projects in the vicinity would be subject to these requirements, cumulative impacts would be less than significant.

Because the drainage sheds would maintain the same boundaries, and because changes in impervious surfaces would be relatively minor, the proposed project is not anticipated to exceed the capacity of existing off-site stormwater drainage systems, requiring the construction or expansion of stormwater drainage facilities. Some on-site modifications to the drainage system may be undertaken, if required, as part of new construction and renovation activities. Implementation of **MM-HYD-1** would ensure that the proposed project includes design features that slow and retain stormwater runoff. For these reasons, the proposed project would not require the construction of new stormwater drainage facilities or the expansion of existing facilities. Other projects in the vicinity of the proposed project would need to be evaluated on an individual basis with regard to stormwater drainage facilities. There are existing stormwater conveyance facilities in the area, and combined with other projects, the proposed project is not expected to cause a significant impact related to stormwater runoff because all projects would be designed to meet stormwater capacity. The proposed project would not substantially change total surface runoff and would not combine with surrounding projects to contribute to significant cumulative impacts; therefore, cumulative impacts would be less than significant with mitigation.

Implementation of **MM-UTL-3** would require that prior to the final Certificate of Occupancy permit issuance, a construction and demolition waste reduction and recycling application and tonnage report for the proposed project would be submitted to the County for review and approval (County of Orange 2012). The amount of solid waste generated and disposed of in nearby landfills during operation of the proposed project is expected to be within the permitted capacity of the landfills, as discussed in Section 4.12.4. In addition, all foreseeable projects would need to submit this information and evaluate the project's anticipated solid waste generation prior to development, and cumulative impacts would be considered in relation to landfill capacity. As such, cumulative impacts to landfill capacity would be less than significant with mitigation.

The proposed project would increase electricity demand by 28.4% and decrease natural gas demand by 6.4%. However, CalEEMod default values for electricity and natural gas consumption reflect 2011 Title 24 standards and do not reflect the more stringent energy reduction requirements

associated with the 2019 Title 24 standards or subsequent standards with which the proposed project would be required to comply. Therefore, the electricity and natural gas consumption estimates presented in Table 4.12-3 are an overestimate of the anticipated electricity and natural gas consumption rates associated with the proposed project. Additionally, as part of the Cypress College Energy Plan, Cypress College is continuously looking for ways to improve energy conservation. Therefore, the proposed project would not combine with projects in the vicinity to result in cumulatively considerable impacts, and cumulative impacts would be less than significant.

4.12.8 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

33 U.S.C. 1251–1387. Federal Water Pollution Control Act, as amended (commonly referred to as the Clean Water Act).

California Government Code, Sections 4216–4216.9. Protection of Underground Infrastructure. http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=04001-05000&file=4216-4216.9.

California Public Resources Code, Sections 40000–40003. Integrated Waste Management Act of 1989 (Assembly Bill 939).

California Water Code, Sections 13000–16104. Water Quality (commonly referred to as the Porter-Cologne Water Quality Control Act). http://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=WAT&division=7.&title=&part=&chapter=&article=.

CalRecycle (California Department of Resources Recycling and Recovery). 1997. "History of California Solid Waste Law, 1985–1989." Last updated January 1, 1997. http://www.calrecycle.ca.gov/Laws/Legislation/calhist/1985to1989.htm.

CalRecycle. 2012. "State Agency Waste Management Requirements: Waste Diversion for State Agencies and Large State Facilities." AB 75. Last updated February 16, 2012. http://www.calrecycle.ca.gov/stateagency/Requirements.

CalRecycle. 2016a. "Facility/Site Summary Details: Frank R. Bowerman Sanitary LF (30-AB-0360)." Accessed July 2016. http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0360/Detail.

CalRecycle. 2016b. "Facility/Site Summary Details: Olinda Alpha Sanitary Landfill (30-AB-0035)." Accessed July 2016. http://calrecycle.ca.gov/SWFacilities/Directory/30-AB-0035/Detail/.

CalRecycle. 2016c. "Mandatory Commercial Recycling." Last updated May 13, 2016. http://www.calrecycle.ca.gov/recycle/commercial/.

City of Cypress. 2008. "Design Standards for Sewer Facilities." September 2008. Accessed August 30. 2016. http://www.ci.cypress.ca.us/public_works/standard_plans/standard_sewer_plans.pdf.

City of Cypress. 2016. "Public Works Department." City of Cypress Website. http://www.ci.cypress.ca.us/public_works/public_works.htm.

County of Orange. 2012. "Construction and Demolition Recycling and Reuse Program." County of Orange OC Waste & Recycling. Revised July 20, 2012. http://oclandfills.com/civicax/filebank/blobdload.aspx?blobid=25933.

County of Orange. 2016. "Orange County Landfills." Accessed July 2016. http://oclandfills.com/landfill/.

GSWC (Golden State Water Company). 2011. *2010 Urban Water Management Plan*. Prepared by Kennedy/Jenks Consultants. August 2011.

District (North Orange County Community College District). 2003. "Existing Composite Utility Exhibit – Storm Drain." Prepared by Hunsaker & Associates Irvine Inc. September 3, 2003.

OCFCD (Orange County Flood Control District). 2012. "Basemap of Drainage Facilities in Orange County." Sheet No. 12. Last revised April 23, 2012.

OCSD (Orange County Sanitation District). 2009. *Operations and Maintenance 2008–09 Annual Report*. November 2009. http://www.ocsd.com/Home/ShowDocument?id=10345.

OCSD. 2011. *2010–11 Annual Report: Environmental Compliance Division—Pretreatment Program*. October 2011. Accessed October 1, 2013. http://www.ocsd.com/Home/ShowDocument?id=13873.

OCSD. 2016. *Orange County Sanitation District Annual Report 2014-2015*. Accessed June 20, 2016. http://www.ocsd.com/Home/ShowDocument?id=17597.

Rittel, S. 2016. "Cypress College Water Usage." Email from S. Rittel (Project Manager, Campus Capital Projects, Cypress College) to R. Struglia (Project Manager, Dudek) and C. Munson (Environmental Analyst, Dudek). May 16, 2016.

Miranda, A. 2016a. "Cypress College Solid Waste Usage." Email from A. Miranda (Director of Physical Plant & Facilities, Cypress College) to S. Rittel (Project Manager, Campus Capital Projects, Cypress College) to R. Struglia (Project Manager, Dudek) and C. Munson (Environmental Analyst, Dudek). June 23, 2016.

Miranda, A. 2016b. "Cypress College Energy Plan." Email from A. Miranda (Director of Physical Plant & Facilities, Cypress College) to S. Rittel (Project Manager, Campus Capital Projects, Cypress College) to R. Struglia (Project Manager, Dudek) and C. Munson (Environmental Analyst, Dudek). January 22, 2016.

Santa Ana RWQCB (Regional Water Quality Control Board). 2012. *Order No.R8-2012-0035and NPDES No. CA0110604; Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for Orange County Sanitation District Reclamation Plant No.1 and Treatment Plant No. 2.* http://www.waterboards.ca.gov/rwqcb8/board_decisions/adopted_orders/orders/2012/12_035_WDR_OCSD.pdf.

State of California. 2004a. Executive Order S-12-04. http://gov.ca.gov/news.php?id=3370.

State of California. 2004b. Executive Order S-20-04. http://gov.ca.gov/news.php?id=3360.

State of California. 2005. Executive Order S-3-05. http://gov.ca.gov/news.php?id=1861.

SWRCB (California State Water Resources Control Board). 2013. Resolution No. 2013-0003, Recycled Water Policy. January 2013. http://www.swrcb.ca.gov/board_decisions/adopted_orders/resolutions/2013/rs2013_0003_a.pdf.

Ware, J. 2016. "Ware Disposal Landfill Information." Email from J. Ware (General Manager, Ware Disposal Inc.) to C. Munson (Environmental Analyst, Dudek). July 22, 2016.

Ware Disposal Company. 2016. "Madison Resource Recovery Facility." Accessed July 2016. http://www.waredisposal.com/content/madison-resource-recovery-facility.

Williams, R. 2016. "Cypress College Electricity and Natural Gas Usage." Email from R. Williams (District Director, Facilities Planning and Construction, North Orange County Community College District) to S. Rittel (Project Manager, Campus Capital Projects, Cypress College) to R. Struglia (Project Manager, Dudek) and C. Munson (Environmental Analyst, Dudek). May 16, 2016.

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