
IV. ENVIRONMENTAL IMPACT ANALYSIS

N. UTILITIES AND SERVICE SYSTEMS

1. WASTEWATER

ENVIRONMENTAL SETTING

Wastewater Treatment

Whittier Narrows Water Reclamation Plant

Wastewater generated by land uses at the Project site and surrounding area is treated at either the Whittier Narrows Water Reclamation Plant (the “Whittier Narrows WRP”) or the Los Coyotes Water Reclamation Plant (the “Los Coyotes WRP”), both of which are operated by the County Sanitation Districts of Los Angeles County (the “Sanitation Districts”). The Whittier Narrows WRP, located in the City of South El Monte, has a treatment capacity of 15 million gallons per day (mgd) and currently processes an average flow of 4.8 mgd.¹ The Los Coyotes WRP, located in the City of Cerritos, has a capacity of 37.5 mgd and currently processes an average flow of 20.8 mgd.²

Existing Infrastructure

The City of Pasadena owns and maintains the sewer line that serves the FSHA campus. The outlet for the conveyance of wastewater from the area served by this sewer line is the Linda Vista Avenue trunk sewer. Given the difficulties associated with use of septic tank systems in the hillside areas of the City of La Cañada Flintridge (LCF) and the distance of the campus from the City’s Foothill trunk sewer, the City of Pasadena provides wastewater service to the FSHA, provided that no costs are borne by the City of Pasadena.

¹ County Sanitation Districts of Los Angeles County, Adriana Raza, Customer Service Specialist, Correspondence, April 1, 2016. (Refer to Appendix J.)

² Ibid.

ENVIRONMENTAL IMPACTS

Thresholds Of Significance

Appendix G of the CEQA Guidelines

In accordance with guidance provided in Appendix G of the *CEQA Guidelines*, a project could have a potentially significant wastewater impact if the project would result in the following:

- (a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- (b) Require or result in the construction of a new wastewater treatment facility or expansion of existing facilities, the construction of which could cause significant environmental effects;
- (c) Result in a determination by the wastewater treatment provider which serves or may serve the project that has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Project Impacts

Flintridge Sacred Heart Academy Campus

Implementation of the Project would result in net increase of 116,151 square feet of new school facilities, 99,000 square feet of which would be a parking structure, which would not generate any wastewater. The Project would not generate an increase in student enrollment or the number of faculty and as such, the Project is not anticipated to result in an increase in wastewater generation over existing conditions. However, for a conservative analysis, according to the Sanitation Districts' calculations, the Project would result in a net generation increase of approximately 3,411 gallons of wastewater per day (or 0.0034 mgd).³

FSHA does not (and would not under the Specific Plan) generate any point discharges that are regulated by Regional Water Resources Control Board Waste Discharge Requirements Program. As discussed previously, wastewater from the Project site is (and would continue to be) treated at either the Whittier Narrows WRP or the Los Coyotes WRP, which have a combined treatment capacity of 52.5 mgd and currently treat a combined average flow of 25.6 mgd, with a remaining combined average flow availability of approximately 26.9 mgd. This remaining combined average flow availability could

³ *Ibid. Wastewater generation rates used by the Sanitation Districts for school land uses are based on square footage (not number of students).*

accommodate the Project's 0.0034 mgd of wastewater. Thus, the Project would not require the construction or expansion of a wastewater treatment facility. Therefore, Project impacts related to wastewater would be less than significant.

Southern California Edison Sub-Transmission Pole/Line Replacement

Removal and installation of the electricity poles would not generate any wastewater. Therefore, no impacts related to wastewater would occur as a result of the removal and installation of the electricity poles.

CUMULATIVE IMPACTS

As shown on Table II-3 in Section II (Environmental Setting), 10 related projects have been identified, including a church with an assisted living facility (Related Project 1) and 9 new single-family homes (Related Projects 2-10). Related Project 1 includes demolition of an existing 5,743-square-foot church and development of a new 2,300-square-foot church and a 58,600-square-foot assisted living facility. Additionally, each of the related projects that includes development of a new single-family home also includes demolition of an existing single-family home. As such, the church land use component of Related Project 1 and Related Projects 2 through 9 would not result in any net increase in wastewater generation. However, implementation of the assisted living facility could result in a net increase in the number of residents and employees in LCF and could further increase the need for wastewater treatment. As shown on Table IV.N.1-1, cumulative development would generate approximately 0.0107 mgd of wastewater. As discussed previously, the Whittier Narrows WRP or the Los Coyotes WRP have a combined treatment capacity of 52.5 mgd and currently treat a combined average flow of 25.6 mgd, with a remaining combined average flow availability of approximately 26.9 mgd. This remaining combined average flow availability could accommodate the cumulative generation of 0.0107 mgd of wastewater. Thus, cumulative development would not require the construction or expansion of a wastewater treatment facility. Therefore, cumulative impacts related to wastewater would be less than significant.

**Table IV.N.1-1
Estimated Cumulative Wastewater Generation**

Land Use	Size	Wastewater Generation Rates¹	Total (gpd)
Single-Family House	9 parcels (-9 parcels)	260 gpd/parcel	2,340 <u>(-2,340)</u> 0
Church	2,300 sf (-5,742 sf)	50 gpd/1,000 sf	115 <u>(-287)</u> -172
Assisted Living	48 units	156 gpd/unit	7,488
<i>Related Projects Total</i>			7,316
<i>Proposed Project Total</i>			3,411
Cumulative Total			10,727
<i>sf = square feet gpd = gallons per day</i>			
<i>Source: County Sanitation Districts of Los Angeles County, Adriana Raza, Customer Service Specialist, Correspondence, April 1, 2016. (Refer to Appendix J.)</i>			

MITIGATION MEASURES

No significant impacts related to wastewater have been identified, and no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts related to wastewater would be less than significant.

IV. ENVIRONMENTAL IMPACT ANALYSIS

N. UTILITIES AND SERVICE SYSTEMS

2. WATER

ENVIRONMENTAL SETTING

Regulatory Framework

Clean Water Act

The Federal Clean Water Act (the “CWA”) establishes regulatory requirements for potable water supplies including raw and treated water quality criteria. Pursuant to CWA Section 304, the US Environmental Protection Agency (the “USEPA”) established primary drinking water standards. States are required to ensure that potable water sold by retail providers to the public meets these standards. Standards for a total of 81 individual constituents have been established under the federal Safe Drinking Water Act (the “SDWA”), below, as amended in 1985.

Safe Drinking Water Act (1974)

Enacted in 1974 and implemented by the USEPA, the federal SDWA imposes water quality and infrastructure standards for potable water delivery systems nationwide. The primary standards are health based thresholds established for numerous toxic substances. Secondary standards are recommended thresholds for taste and mineral content.

California Safe Drinking Water Act (1976)

California enacted its own Safe Drinking Water Act (the “CSDWA”). The California Department of Public Health (the “CDPH”) has been granted primary enforcement responsibility for the CSDWA. Title 22 of the California Administrative Code establishes CDPH authority and stipulates drinking water quality and monitoring standards. These standards are equal to or more stringent than the Federal standards.

Title 22

Title 22 of the California Water Code (Title 22) requires the Department of Public Health (the “DPH”) to establish water reclamation criteria. Title 22 regulates production and use of reclaimed water in California by establishing three categories of reclaimed water: primary effluent, which typically includes grit removal and initial sedimentation or settling tanks; adequately disinfected, oxidized effluent (secondary effluent) which typically involves aeration and additional settling basins; and adequately disinfected, oxidized, coagulated, clarified, filtered effluent (tertiary effluent) which typically involves filtration and chlorination. In addition to defining reclaimed water uses, Title 22 also defines requirements for sampling and analysis of effluent and requires specific design requirements for facilities.

Regional Water Conservation

In 2001, the California State Legislature approved Assembly Bill 134 (AB 134) which requires urban water suppliers to prepare a Groundwater Management Plan (GWMP) in accordance with the provisions of California Water Code Section 10753 (Groundwater Management Plans). Senate Bill X7-7 (SB X7-7), also known as the Water Conservation Act of 2009, was enacted in November 2009, requiring all water suppliers to increase water use efficiency. The bill requires, among other things, that the Department of Water Resources, in consultation with other state agencies, develop a single standardized water use reporting form, which would be used by both urban and agricultural water agencies.

Executive Order B-29-15

On April 1, 2015, Governor Brown signed Executive Order B-29-15 that provides actions that will save water, increase enforcement to prevent wasteful water use, streamline the state's drought response, and invest in new technologies to make California more drought resilient. The Executive Order provides water savings by directing the State Water Resources Control Board to implement mandatory water reductions in cities and towns to reduce water usage by 25 percent or approximately 1.5 million acre-feet. The Executive Order calls for local water agencies to implement conservation pricing to discourage water waste.⁴

EXISTING CONDITIONS

Urban Water Management Plan (UWMP)

The Urban Water Management Planning Act (the "UWMP Act") passed in California in 1983 requires "every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, to prepare and adopt, in accordance with prescribed requirements, an urban water management plan." These plans must support a water supplier's long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. UWMP's must be prepared every five years and submitted to the State's Department of Water Resources (DWR) for review to ensure compliance with the requirements identified in the California Water Code.

The Valley Water Company provides domestic water service to the FSHA Campus. The Valley Water Company obtains its water supplies from the Foothill Municipal Water District (FMWD). FMWD is currently in the process of updating its UWMP. The 2015 UWMP provides water supply planning for the 25-year period from 2015 to 2040 in 5-year increments; identifies and quantifies adequate water supplies for existing and future demands during normal, dry, and multiple-dry years; evaluates demand

⁴ California Governor: <http://gov.ca.gov/news.php?id=18910>.

management measures; addresses water supply contingency planning; and describes strategies to expand supply sources such as groundwater recovery and recycled water.⁵

FMWD is a member agency of Metropolitan Water District of Southern California (MWD). FMWD is a wholesaler that serves retail agencies located in the foothills of the San Gabriel Mountains in Los Angeles County, including Crescenta Valley Water District (CVWD), La Cañada Irrigation District, Las Flores Water Company, Lincoln Avenue Water Company (LAWC), Mesa Crest Water Company, Rubio Cañon Land & Water Association (RCLWA), and Valley Water Company. An additional retail agency, the Kinneloa Irrigation District (Kinneloa), located at the eastern end of FMWD's boundaries, is 100 percent dependent on local groundwater. FMWD's service area is a built-out area with minimal projected population growth. The District's population is estimated to grow at a rate of approximately 0.4 percent per year. FMWD's area is approximately 90 percent residential, 5 percent commercial, and 5 percent institutional/government.⁶

Water Resources and Supplies

Within FMWD's service area, retail water demands are met through a combination of local groundwater supplies, surface water, recycled water, and imported supplies from MWD. While FMWD is dependent on MWD for 100 percent of its water supply, most of its retail agencies have access to their own groundwater supplies. During the early years of operation, FMWD supplied less than 20 percent of the water used within its boundaries. This reliance increased over the years to the current 50 percent reliance upon imported water purchased from MWD. The remaining 50 percent of demand is met through local supplies. Local supplies include groundwater from two adjudicated groundwater basins, Verdugo and Raymond basins, runoff from local canyons and a small amount of recycled water.⁷

Demand Projections

The 25-year demand projections provided in the UWMP reflect FMWD's projected demand for imported supply from MWD since FMWD is 100 percent reliant on MWD. FMWD's demand projections are based on projections furnished by each of FMWD's retail agencies where water use reduction under Senate Bill (SBx7-7) factored into the total demand projections.

⁵ *Foothill Municipal Water District, Draft 2015 Urban Water Management Plan, May 2016.*

⁶ *Ibid.*

⁷ *Ibid.*

Water Supply Capabilities

FMWD's supply capabilities from 2020 through 2040 are dependent on MWD's supply capabilities. MWD's 2015 UWMP states that MWD supply capabilities are sufficient to meet expected demands from 2020 through 2040 under the single dry-year and multiple dry-year conditions. FMWD's supply capabilities were evaluated under three hydrologic conditions: normal (average) year (represented by the average of FY 2005-06 to 2009-10 hydrologies); single dry-year (represented by a repeat of FY 2006-07 hydrology); and multiple dry-year (represented by a repeat of FY 1998-99 to 2001-02 hydrologies). These periods are Foothill area's dry years in recent history.⁸

Water Supply Contingency Plan

FMWD adopted a Conservation Plan that institutes five water alert stages corresponding to supply availability from MWD and associated water conservation measures to be undertaken in each stage. FMWD also adopted an Allocation Plan, which documents its procedure for passing through a restriction in normal supplies from MWD to its member agencies. FMWD's stages of actions to address water supply shortages reflect MWD's Water Surplus and Drought Management (WSDM) Plan.⁹

Water Treatment

FMWD takes delivery of its entire water supply at an existing single connection along the MWD Upper Feeder. MWD treats the water provided to FMWD at the F.E. Weymouth water treatment plant located in La Verne, CA. The F.E. Weymouth water treatment plant is a conventional treatment plant with a capacity of 520 million gallons per day (mgd). MWD is responsible for providing FMWD with water that meets all drinking water regulations contained in California's Title 22 and federal regulations contained in the Code of Federal Regulations, Volume 40, Section 141. FMWD does not provide any additional treatment prior to delivery of water to its customers. However, FMWD operates its distribution system in a manner that maintains the water quality of the water received from MWD.¹⁰

Local Water Service and Infrastructure

Domestic water service to the FSHA Campus development is provided by the Valley Water Company via connections from the existing 16-inch and 8-inch water lines in St. Katherine Drive and an 8-inch line in

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ *Ibid.*

Palmerstone Drive. Figure III-16 in Section III (Project Description) shows the location of the existing water distribution system.

Thresholds of Significance

Appendix G of the CEQA Guidelines

In accordance with Appendix G to the CEQA Guidelines, a significant impact would occur if the following would occur:

- (a) The project would require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- (b) There were insufficient water supplies available to serve the Project from existing entitlements and resources, and new or expanded facilities were needed.

Project Impacts

Flintridge Sacred Heart Academy Campus

Implementation of the Project would result in net increase of 116,151 square feet of new school facilities, 99,000 square feet of which would be a parking structure, which would not consume any water. The Project would not generate an increase in student enrollment or the number of faculty and as such, the Project is not anticipated to result in an increase in water consumption over existing conditions. However, for a conservative analysis and assuming that water consumption would approximate wastewater generation, the Project would result in a net consumption increase of approximately 8,115 gallons of water per day (or 0.0081 mgd).^{11, 12}

As stated previously, FMWD is dependent on MWD for 100 percent of its water supply (although FMWD has access to its own groundwater supplies). MWD's water demand projections used in its 2015 UWMP are based on population growth data from the Southern California Association of Governments

¹¹ *New development on the campus would result in an increase consumption of approximately 3,411 gallons per day. Source: County Sanitation Districts of Los Angeles County, Adriana Raza, Customer Service Specialist, Correspondence, April 1, 2016. (Refer to Appendix J.) Wastewater generation rates used by the Sanitation Districts for school land uses are based on square footage (not number of students).*

¹² *Based on the existing estimated water usage for the school's existing 1.25-acre sports field (approximately 2,966 gallons per day), it is estimated that development of 2 acres of the Palmerstone Property for sporting activities could result in an estimated water consumption of approximately 4,704 gallons per day.*

(SCAG) and the San Diego Association of Governments (SANDAG). The SCAG and SANDAG regional population growth forecasts are the core assumptions that drive the estimating equations of the demand forecasting in MWD's Econometric Demand Model, which is used to forecast long-term water demand. SCAG's and SANDAG's population projections undergo extensive local review, incorporate zoning information from city and county general plans (including information from LCF), and are supported by Environmental Impact Reports. As such, any project that is consistent with LCF's General Plan has been taken into account in the planned growth in water demand and accounted for in FMWD's 2015 UWMP. The Specific Plan does not include any increase in student enrollment or faculty and as such, would not create any indirect population growth and would not create a demand for water supply that has not already been accounted for in FMWD's 2015 UWMP.

Additionally, consistent with the City's General Plan policies, the FSHA Specific Plan encourages and requires water and energy conservation for FSHA Campus development and operation. To the extent feasible and practical, Specific Plan development would incorporate a range of conservation measures to reduce energy consumption and thereby promote sustainability and reduction of greenhouse gas emissions, and reduce water consumption. Specific measures that have been incorporated into the Specific Plan and would be required to be incorporated into final building plans include the following (refer to Mitigation Measure N-1):

- Light-colored or porous paving materials would be used in parking areas and walkways to reduce heat-island effects and thus minimize the demand for energy for cooling.
- Trees and other shading vegetation would be used around and within parking lots and buildings to reduce the amount of energy needed for cooling.
- Landscape areas would be incorporated to serve as carbon sinks and minimize heat-island effects, thus minimizing the demand for energy for cooling.
- New and rehabilitated buildings would be constructed to current building codes and standards and would meet minimum HVAC requirements.
- All new building construction would meet current energy conservation standards required by the city and state.
- New development and renovations would maximize use of water conservation techniques, pursuant to SB 407 (Chapter 587, Statutes of 2009).

As discussed previously, MWD treats the water provided to FMWD at the F.E. Weymouth water treatment plant, which has a capacity of 520 mgd. The capacity of the F.E. Weymouth water treatment plant is sized to accommodate MWD's existing and projected water demands. As such, projects that are

consistent with water demand projections in FMWD's (or MWD's) 2015 UWMP would not create an additional need for water treatment.

For the reasons discussed above, the Project would not require new or expanded water supplies or treatment facilities. Therefore, Project impacts related to water supply and treatment would be less than significant.

Southern California Edison Sub-Transmission Pole/Line Replacement

Removal and installation of the electricity poles would not require water treatment and would not consume any water. Therefore, no impacts related to water treatment and water supply would occur as a result of the removal and installation of the electricity poles.

CUMULATIVE IMPACTS

As shown on Table II-3 in Section II (Environmental Setting), 10 related projects have been identified, including a church with an assisted living facility (Related Project 1) and 9 new single-family homes (Related Projects 2-10). Related Project 1 includes demolition of an existing 5,743-square-foot church and development of a new 2,300-square-foot church and a 58,600-square-foot assisted living facility. Additionally, each of the related projects that includes development of a new single-family home also includes demolition of an existing single-family home. As such, the church land use component of Related Project 1 and Related Projects 2 through 10 would not result in any net increase in water consumption. However, implementation of the assisted living facility could result in a net increase in the number of residents and employees in LCF and could further increase the need for water supply and treatment.

As shown on Table IV.N.2-1, cumulative development would consume approximately 0.0107 mgd of water. As stated previously, FMWD is dependent on MWD for 100 percent of its water supply (although FMWD has access to its own groundwater supplies). MWD's water demand projections used in its 2015 UWMP are based on population growth data from SCAG and SANDAG. The SCAG and SANDAG regional population growth forecasts are the core assumptions that drive the estimating equations of the demand forecasting in MWD's Econometric Demand Model, which is used to forecast long-term water demand. SCAG's and SANDAG's population projections undergo extensive local review, incorporate zoning information from city and county general plans (including information from LCF), and are supported by Environmental Impact Reports. Further, as discussed previously, MWD treats the water provided to FMWD at the F.E. Weymouth water treatment plant, which has a capacity of 520 mgd. The capacity of the F.E. Weymouth water treatment plant is sized to accommodate MWD's existing and projected water demands. As such, any project that is consistent with LCF's General Plan has been taken into account in the planned growth in water demand and accounted for in FMWD's 2015 UWMP and would not create an additional need for water supply or treatment.

Each of the related projects include development of land uses that are allowed for by LCF’s General Plan and Zoning Code and would not create any direct or indirect population growth that has not already been taken into consideration in SCAG and SANDAG population forecasts and would not create a demand for water supply that has not already been accounted for in FMWD’s 2015 UWMP and would not create an additional need for water supply or treatment. Therefore, cumulative impacts related to water supply and treatment would be less than significant.

**Table IV.N.2-1
Estimated Cumulative Water Consumption**

Land Use	Size	Water Consumption Rates¹	Total (gpd)
Single-Family House	9 parcels (-9 parcels)	260 gpd/parcel	2,340 (-2,340) 0
Church	2,300 sf (-5,742 sf)	50 gpd/1,000 sf	115 (-287) -172
Assisted Living	48 units	156 gpd/unit	7,488
<i>Related Projects Total</i>			7,316
<i>Proposed Project Total</i>			3,411
Cumulative Total			10,727
<i>sf = square feet gpd = gallons per day</i> <i>Source: County Sanitation Districts of Los Angeles County, Adriana Raza, Customer Service Specialist, Correspondence, April 1, 2016. (Refer to Appendix J.) The rates presented on this table are wastewater generation rates. This analysis assumes that water consumption rates approximate wastewater generation rates.</i>			

MITIGATION MEASURES

No significant impacts related to water treatment and water supply have been identified, and no mitigation measures are required. However, the following Project Design Features that are included as part of the Specific Plan are listed here to assist the City and the Applicant with implementation:

- N-1: Prior to issuance of a Certificate of Occupancy, the City shall ensure that the following measures have been incorporated into the design of the Project:
- Light-colored or porous paving materials would be used in parking areas and walkways to reduce heat-island effects and thus minimize the demand for energy for cooling.
 - Trees and other shading vegetation would be used around and within parking lots and buildings to reduce the amount of energy needed for cooling.

- Landscape areas would be incorporated to serve as carbon sinks and minimize heat-island effects, thus minimizing the demand for energy for cooling.
- New and rehabilitated buildings would be constructed to current building codes and standards and would meet minimum HVAC requirements.
- All new building construction would meet current energy conservation standards required by the city and state.
- New development and renovations would maximize use of water conservation techniques, pursuant to SB 407 (Chapter 587, Statutes of 2009).

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts related to water treatment and water supply would be less than significant.

IV. ENVIRONMENTAL IMPACT ANALYSIS

N. UTILITIES AND SERVICE SYSTEMS

3. SOLID WASTE

ENVIRONMENTAL SETTING

Regulatory Framework

State Regulations

Assembly Bill 939 – California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 and the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, were enacted to reduce, recycle, and reuse solid waste generated in the State to the maximum extent feasible. Specifically, Assembly Bill 939 (AB 939) requires cities and counties to identify an implementation schedule to divert 50 percent of the total waste stream from landfill disposal by 2000. AB 939 also requires each city and county to promote source reduction, recycling, and safe disposal or transformation. Cities and counties are required to maintain the 50 percent diversion specified by AB 939 past the year 2000.

AB 939 further requires each city and county to conduct a Solid Waste Generation Study and to prepare a Source Reduction and Recycling Element (SRRE) to describe how it would reach the goals, which must be updated annually to account for changing market and infrastructure conditions. As projects and programs are implemented, the characteristics of the waste stream, the capacities of the current solid waste disposal facilities, and the operational status of those facilities are upgraded, as appropriate. California cities and counties are required to submit annual reports to the California Department of Resources Recycling and Recovery (CalRecycle) to update their progress toward the AB 939 goals (i.e., source reduction, recycling and composting, and environmentally safe land disposal).¹³

Senate Bill 1327 – California Solid Waste Reuse and the Recycling Access Act of 1991

The California Solid Waste Reuse and the Recycling Access Act of 1991, as amended, requires each city and county to adopt an ordinance requiring commercial, industrial, or institutional building, marina, or residential buildings having five or more living units to provide an adequate storage area for the collection and removal of recyclable materials. The sizes of these storage areas are to be determined by the appropriate jurisdictions' ordinance.

¹³ California Public Resources Code, §40050 et seq. These reports formerly were submitted to the California Integrated Waste Management Board (CIWMB), which was abolished in 2010.

Senate Bill 1374 – Construction and Demolition Waste Materials Diversion Requirements

Passed in 2002, the Construction and Demolition Waste Materials Diversion Requirements dictate that jurisdictions include in their annual AB 939 report a summary of the progress made in diverting C&D waste. The legislation also required that the CIWMB adopt a model ordinance for diverting 50 to 75 percent of all C&D waste from landfills.

Zero Waste California

Zero Waste California is a State-launched program that promotes a new vision of waste. Zero waste is based on the concept that wasting resources is inefficient and that the efficient use of natural resources should be pursued. The concept is premised on maximizing existing recycling and reuses efforts, while ensuring that products are designed to be environmentally friendly and have the potential to be repaired, reused, or recycled. The Zero Waste California program promotes the goals of market development, recycled product procurement, and research and development of new and sustainable technologies.

County of Los Angeles

Los Angeles County Integrated Waste Management Plan

The Los Angeles County Integrated Waste Management Plan (CIWMP), approved on June 23, 1999, is a set of planning documents that sets forth a regional approach for the management of solid waste through source reduction, recycling and composting, and environmentally safe transformation and disposal. The CIWMP recognizes that landfills will remain an integral part of the County’s solid waste management system in the foreseeable future and assures that the waste management practices of cities and other jurisdictions in the County are consistent with the solid waste diversion goals of AB 939. The County Department of Public Works updates the CIWMP annually that analyzes solid waste disposal and estimated future remaining capacity at County landfills.

City of La Cañada Flintridge

The City of La Cañada Flintridge (LCF) does not provide trash collection services and requires all new development to contract with one of four permitted waste haulers prior to the issuance of building permits. LCF’s Public Works Department is responsible for waste hauler contract administration and maintains the list of permitted companies, which includes Allied Waste Services, Athens Services, Crown Disposal, and Looney Bins. Additional information on the specific waste haulers associated with solid waste collection is provided below in Table IV.N.3-1.

LCF has developed a comprehensive set of programs to achieve and maintain compliance with the AB 939 (as amended), including the 50 percent waste landfill diversion goal. These programs are primarily implemented by the City’s authorized waste haulers and include recycling, green waste reuse and composting, mixed waste processing for material recovery, waste-to-energy, and Household Hazardous

Waste collection. LCF's authorized Waste Haulers are required to achieve certain waste landfill diversion levels and can pay higher or lower Solid Waste Management Fees based on the amount of waste diverted from landfilling.

The City prohibits self-hauling and contracting with waste haulers other than those that have a Service Agreement with the City. LCF's Municipal Code Section 9.12.120 specifies that it is a misdemeanor for non-permitted waste collectors to collect waste within the City. Fines of up to \$500 per day may be assessed as long as the unauthorized collection continues.

Chapter 9.14 of LCF's Municipal Code establishes requirements for recycling and diversion of construction and demolition debris, including the following:

- A. All applicants for demolition or building permits involving any covered project (i.e., 2,000 square feet or more) shall submit a properly completed building debris management report on a form provided by the city as part of the application packet for the permit.
- B. The report shall require first that applicant identify all debris to the best of applicant's ability to be generated from demolition and construction on the project work site.
- C. The report shall then require the applicant to provide documentation that verifies a minimum of 50 percent of the debris or material generated was diverted from a landfill. Documentation shall include receipts of disposal, reuse or recycling of generated materials stating where the materials were taken, the date they were received, the amount received, and the type of material received.
- D. Applicant shall make reasonable efforts to ensure that all construction and demolition debris diverted or landfilled are measured and recorded using the most accurate method of measurement available. To the extent practical, all construction and demolition material shall be weighed by measurement on scales and reported in tons or cubic yards. Such scales shall be in compliance with all regulatory requirements for accuracy and maintenance. For construction and demolition debris for which weighing is not practical due to small size or other considerations, a volumetric measurement may be used.
- E. Applicant must return the completed report to the city prior to a request for final inspection. Final inspection shall not be completed until review and approval of the report and its documentation.

Section 9.14.030 encourages non-protected projects (i.e., less than 2,000 square feet) to divert at least 50 percent of all project-related construction and demolition debris.

Landfills

Solid waste from the LCF is disposed of at three landfills, depending on the waste hauler, as shown on Table IV.N.3-1.

**Table IV.N.3-1
Landfill Capacity and Intake**

Landfill Facility	Remaining Life (years)	Permitted Intake (tons/day)	Daily Disposal (tons/day)	Available Intake (tons/day)
Sunshine Canyon	22	12,100	7,701	4,399
Scholl Canyon	15	3,400	910	2,490
Chiquita Canyon	1 ¹	6,000	3,446	2,554
Total		21,500	12,057	9,443
¹ The existing Conditional Use Permit (CUP) expires November 24, 2019 or when the maximum capacity is reached, whichever is sooner. Proposed expansion pending. CUP limits waste disposal to 30,000 tons per week or 5,000 tons per day. Source: Los Angeles County Countywide Integrated Waste Management Plan, 2015 Annual Report, December 2016.				

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Appendix G of the CEQA Guidelines

In accordance with Appendix G of the *CEQA Guidelines*, a project could have a significant environmental impact if the project would result in the following:

- (a) Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- (b) Conflict with federal, state, and local statutes and regulations related to solid waste.

As discussed in Section IV.A (Impacts Found to be Less Than Significant), the Project would not result in any impacts related to issue "b." Thus, no further analysis of this issue is required.

Project Impacts

Flintridge Sacred Heart Academy Campus

Construction

Construction waste would be generated during demolition and construction activities. Based on demolition and construction waste generation rates estimated in the U.S. EPA’s *Characterization of Building-Related Construction and Demolition Debris in the United States*, the Project would generate approximately 807 tons of solid waste over the construction period (refer to Table IV.N.3-2). The Project developer would be required to comply with LCF’s Municipal Code Chapter 9.14 and divert at least 50 percent of the demolition/construction debris to a recycling facility (which shall included as part of the Construction Management Plan for the Project). As discussed previously, the remaining daily intake capacity of Sunshine Canyon, Scholl Canyon, and Chiquita Canyon landfills is 9,585 tons per day and as such, would be adequate to accommodate the demolition/construction debris generated by the Project. Thus, Project construction would not require the need for new or expanded landfill capacity. Therefore, the Project’s construction-related impacts on solid waste would be less than significant.

**Table IV.N.3-2
Project Solid Waste Generation – Demolition and Construction**

Land Use	Size (sf)	Generation Rate (lbs/sf)¹	Total (tons)
Demolition			
Non-residential	6,640	173 lbs/sf	574
Construction			
Non-residential	116,151	4.02	233
Total Construction Waste			807 tons
<i>sf = square feet lbs = pounds</i>			
¹ U.S. Environmental Protection Agency Report No. EPA530-98-010. <i>Characterization of Building Related Construction and Demolition Debris in the United States</i> , June 1998, Table A-3 and Table A-4, pages A-2 to A-3: http://www.epa.gov/osw/hazard/generation/sqg/cd-rpt.pdf .			

Operation

Solid waste generation associated with FHSA operations is largely tied to student enrollment and number of faculty. The Project does not include an increase in student enrollment or the number of faculty, and it is anticipated that buildout of the Specific Plan would not result in an increase in daily solid waste generation. However, for a conservative analysis, this EIR assumes an increase in solid waste generation based on square footage and not student enrollment and faculty. As shown on Table IV.N.3-3, excluding the effectiveness of the City’s recycling requirements and the recycling program implemented at the school, the Project conservatively would generate approximately 0.4 tons of solid waste per day. This potential increase in solid waste generation at the school would represent 0.004 percent of the available daily intake at Sunshine Canyon, Scholl Canyon, and Chiquita Canyon landfills serving the Project site.

Because the landfills serving the Project would have adequate capacity to accommodate the potential increase in solid waste associated with the Project, the Project’s operation phase would not require the need for new or expanded landfill capacity. Therefore, the Project’s operation-related impacts on solid waste would be less than significant.

**Table IV.N.3-3
Estimated Project Solid Waste Generation**

Land Use	Size (sf)	Solid Waste Generation Rates¹	Total (tpd)²
School	116,151	0.007 lbs/sf/day	0.4
<i>sf = square feet lbs = pounds tpd = tons per day</i>			
¹ <i>CalRecycle Estimated Solid Waste Generation Rates:</i> http://www.calrecycle.ca.gov/wastechar/wastegenrates/			
² <i>The estimated solid waste generation shown on this table for the Project does not reflect implementation of any of the City’s required recycling efforts.</i>			

Southern California Edison Sub-Transmission Pole/Line Replacement

Removal and installation of the electricity poles would require the wooden poles to be disposed of at an appropriate landfill. The wooden poles would represent a relatively small amount of solid waste and would not cause the need for new or expanded landfill capacity. Therefore, impacts related to solid waste as a result of the removal and installation of the electricity poles would be less than significant.

CUMULATIVE IMPACTS

Construction

As shown in Table IV.L.3-4 the related projects in combination with the Project would generate approximately 2,983 tons of demolition/construction solid waste. As with the Project, the developers of the related projects would be required to comply with LCF’s Municipal Code Chapter 9.14 and divert at least 50 percent of the demolition/construction debris to a recycling facility. As discussed previously, the remaining daily intake capacity of Sunshine Canyon, Scholl Canyon, and Chiquita Canyon landfills is 9,443 tons per day and as such, would be adequate to accommodate the demolition/construction debris generated by cumulative development. Thus, cumulative demolition/construction would not require the need for new or expanded landfill capacity. Therefore, cumulative demolition/construction-related impacts on solid waste would be less than significant.

**Table IV.N.3-4
Estimated Cumulative Demolition/Construction Solid Waste Generation**

Land Use	Size (sf)	Solid Waste Rates ¹	Total (tons)
Demolition			
Non Residential	5,743	173 lb/sf/day	497
Residential	23,743	115 lbs/sf/day	1,365
Construction			
Non Residential	2,300	4.02 lbs/sf/day	5
Residential	141,713	4.38 lbs/sf/day	310
Related Projects Total			2,177
Project Total			806
Cumulative Total			2,983
<i>sf = square feet lbs = pounds</i> ¹ U.S. Environmental Protection Agency Report No. EPA530-98-010. <i>Characterization of Building Related Construction and Demolition Debris in the United States, June 1998, Tables A-1 and A-2, page A-1: http://www.epa.gov/osw/hazard/generation/sqg/cd-rpt.pdf.</i>			

Operation

As shown on Table II-3 in Section II (Environmental Setting), 10 related projects have been identified, including a church with an assisted living facility (Related Project 1) and 9 new single-family homes (Related Projects 2-10). Related Project 1 includes demolition of an existing 5,743-square-foot church and development of a new 2,300-square-foot church and a 58,600-square-foot assisted living facility. Additionally, each of the related projects that includes development of a new single-family home also includes demolition of an existing single-family home. As such, the church land use component of Related Project 1 and Related Projects 2 through 10 would not result in any net increase in solid waste generation. However, implementation of the assisted living facility could result in a net increase in the number of residents and employees in LCF and could further increase the solid waste generation.

As shown in Table IV.L.3-5 the related projects in combination with the Project would generate approximately 0.32 tons per day of operation solid waste. This cumulative increase in solid waste would represent 0.003 percent of the available daily intake at Sunshine Canyon, Scholl Canyon, and Chiquita Canyon landfills serving the Project site. Because the landfills serving the City would have adequate capacity to accommodate the increase in solid waste associated with cumulative development, cumulative development would not require the need for new or expanded landfill capacity. Thus, cumulative development would not create the need for new or expanded landfills. Therefore, cumulative impacts on solid waste would be less than significant.

**Table IV.N.3-5
Estimated Cumulative Solid Waste Generation**

Land Use	Size	Solid Waste Generation Rates¹	Total (tpd)
Church	2,300 sf (-5,743 sf)	0.007 lbs/day/sf	0.008 <i>(-0.02)</i> -0.012
Assisted Living	48 du	12.23 lbs/day/du	0.29
Single-family Residential	9 du (-9 du)	12.23 lbs/day/du	0.05 <i>(-0.05)</i> 0
Related Projects Total			0.28
Project Total			0.4
Cumulative Total			0.32
<i>tpd = tons per day sf = square feet du = dwelling unit</i>			
¹ CalRecycle Estimated Solid Waste Generation Rates: http://www.calrecycle.ca.gov/wastechar/wastegenrates/			

MITIGATION MEASURES

No significant impacts related to solid waste service have been identified, and no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts related to solid waste service would be less than significant.

IV. ENVIRONMENTAL IMPACT ANALYSIS

N. UTILITIES AND SERVICE SYSTEMS

4. ENERGY

ENVIRONMENTAL SETTING

Regulatory Framework

State Building Energy Efficiency Standards

New buildings in California are required to conform to energy conservation standards specified in Title 24 of the California Code of Regulations (CCR). The California Green Building Standards Code (CalGreen) establishes “energy budgets” for different types of residential and nonresidential buildings which all new buildings must comply with. The energy budget has a space conditioning component and a water-heating component, both expressed in terms of energy (British thermal units, or BTU) consumed per year. The regulations allow for trade-offs within and between the components to meet the overall budget. The building efficiency standards are enforced through the local building or individual agency permit and approval processes.¹⁴

California Green Building Standards Code (CalGreen)

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code, or CalGreen. The purpose of the California Green Building Standards Code is to “improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality.” As of January 1, 2011, compliance with the California Green Building Standards Code is mandatory for all new buildings constructed in the state. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design and overall environmental quality. The California Green Building Standards Code was most recently updated in 2013 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on July 1, 2014.

¹⁴ CalGreen: http://www.documents.dgs.ca.gov/bsc/CALGreen/2010_CA_Green_Bldg.pdf, January 2017.

EXISTING CONDITIONS

Electricity

Southern California Edison

Southern California Edison (SCE) provides electrical service to the Project site. An overhead electric sub-transmission line runs near the northwestern portion of the campus. There are no overhead wires on the campus itself; all electric lines on the site are underground.

Renewable Energy

SCE allows its customer to obtain their electricity entirely from renewable sources by subscribing to a "green rate."¹⁵

In 2006, SCE planned to secure 1,500 megawatts or more of power generated from new projects to be built in the Tehachapi Pass Wind Farm area. The contract, which more than doubles SCE's wind energy portfolio, envisions more than 50 square miles (130 km²) of wind parks in the Tehachapi region, which is triple the size of any existing U.S. wind farm.¹⁶

In March 2008, SCE announced an \$875 million project to build a network of 250 megawatts of photovoltaic solar power generation, making it the biggest solar cell project in the nation. The photovoltaic cells will cover 65,000,000 square feet (6,000,000 m²) of rooftops in southern California and will generate enough power to serve 162,000 homes.¹⁷

¹⁵ Southern California Edison, https://www.sce.com/wps/portal/home/residential/rates/Standard-Residential-Rate-Plan/Green-Rates!/ut/p/b1/hdBNU4MwEAbgX8OVLOEjqbe01DSREOpYaS4OHSONIjAU6983ai9-VPe2O887s7tloOqprj6app5M39Xte6-iOyli5vEAC76Yx8BmURnGMsMUlgu2FsCZYvBf_hapryS9ihmwmzxL6KbwaB6cgEc5W4kCBM_CAIQkJRBiwS X5AXKCLdgsK3TuYaD4BGYcliuZWICufRD-Gq4LxnywW3yCP66QSDVtv_v4yJZ1O582SI36QY96dF9GO95P03C4cMAB3bmv5skM-t7Ubj82DvwW2veHCVXfLRqeKzDiMWyPCXsDC3iZ7A!!/dl4/d5/L2dBISEvZ0FBIS9nQSEh/, accessed on May 3, 2017.

¹⁶ Trip to County, <http://triptocounty.blogspot.com/2017/01/southern-california-edison-county.html>, accessed on May 3, 2017.

¹⁷ USA Today, <https://www.usatoday.com/story/tech/2015/02/10/worlds-largest-solar-plant-california-riverside-county/23159235/>, accessed on May 3, 2017.

In 2014, SCE installed more than 600,000 lithium-ion battery cells at a substation in Tehachapi, California in order to test storing power generated from an area that currently has 5,000 wind turbines.¹⁸

In 2014 SCE had a renewables mix of 23 percent.¹⁹

Natural Gas

Southern California Gas Company

Southern California Gas Company (SCG) provides natural gas service to the Project site. SCG is a subsidiary of Sempra Energy and the nation's largest natural gas supplier, distributing natural gas to 19.5 million residential, commercial, and industrial customers throughout the southern half of California. SCG owns and operates 95,000 miles of gas distribution mains and service lines, as well as nearly 3,000 miles of transmission and storage pipeline. The utility also owns gas transmission compressor stations and underground storage facilities. The total 137.1 billion cubic feet (Bcf) of natural gas storage capacity is divided as follows: 83 Bcf is for core residential, small industrial, and commercial customers; 4.2 Bcf is for system balancing; and the remaining 49.9 Bcf is available to other customers.²⁰ Natural gas service is provided in accordance with SCG's policies and extension rules on file with the California Public Utilities Commission (PUC) at the time contractual agreements are made between the Project and SCG.

The State produces about 15 percent of the natural gas it uses. The remaining 85 percent is obtained from sources outside of the State, 62 percent from the Southwest and Rocky Mountain area, and 23 percent from Canada. In the last ten years, three new interstate gas pipelines were built to serve California, expanding the over one million miles of existing pipelines. However, the availability of natural gas is based upon present conditions of gas supply and regulatory policies. As a public utility, SCG is under the jurisdiction of the PUC, and federal regulatory agencies, including the Federal Energy Regulatory Commission and the Department of Energy. Should these agencies take any action affecting natural gas supply or the conditions under which service is available, natural gas service would be provided in accordance with those revised conditions.

The 2016 California Gas Report includes projections regarding future demand for natural gas in the Southern California region. SCG projects total gas demand to decline at an annual rate of 0.6 percent from 2016 to 2035. The decline in throughput demand is due to modest economic growth, CPUC-mandated energy efficiency (EE) standards and programs, renewable electricity goals, the decline in

¹⁸ Bloomberg, <https://www.bloomberg.com/news/articles/2014-10-13/giant-battery-unit-aims-at-wind-storage-holy-grail-commodities>, accessed May 3, 2017.

¹⁹ California Public Utilities Commission, *Biennial RPS Program Update, January 2016*.

²⁰ 2016 California Gas Report, pg 83: <https://www.socalgas.com/regulatory/documents/cgr/2016-cgr.pdf>.

commercial and industrial demand, and conservation savings linked to Advanced Metering Infrastructure (AMI). From 2016 to 2035, residential demand is expected to decline from 239 Bcf to 218 Bcf. The decline is due to declining use per meter offsetting new meter growth. The core, non-residential markets are expected to decline from 113 Bcf in 2016 to 105 Bcf by 2035. The change reflects an annual growth rate of 0.5 percent over the forecast period. The noncore, non-EG markets are expected to decline from 170 Bcf in 2016 to 153 Bcf by 2035. The annual rate of decline is approximately 0.5 percent due to very aggressive energy efficiency goals and associated programs. On the other hand, utility gas demand for enhanced oil recovery (EOR) steaming operations, which had declined since the FERC-regulated Kern/Mojave interstate pipeline began offering direct service to California customers in 1992, has shown some growth in recent years because of continuing high oil prices and is expected to show further growth in the early years of the forecast period. EOR demand is expected to remain at about its 2015 level through 2035 as gains are offset by the depletion of older oil fields.²¹

In 2016 gas demand for California is projected to average 6,072 million cubic feet per day (cf/day) and is projected to decrease to 4,626 million cf/day by 2035, a decline of 1.35 percent per year.²² Table IV.N.4-1 shows the anticipated statewide total supplies and requirements for natural gas for 2014 to 2030. In 2014 (the latest data available from the 2014 California Gas Report), SCG's highest winter sendout was 4,881 million cf/day and highest summer sendout was 3,393 million cf/day.²³

²¹ 2016 CA Gas Report: <https://www.socalgas.com/regulatory/documents/cgr/2016-cgr.pdf>, November 19, 2016.

²² *Ibid.*

²³ *Ibid.*

**Table IV.N.4-1
Statewide Total Supplies and Requirements**

	2016	2018	2020	2025	2030
Utility Supply Source					
California Sources	165	165	165	165	165
Out-of-State	5,060	4,758	4,668	4,599	4,489
Non-Utility Served Load	1,132	985	813	547	258
Statewide Supply Source Total	6,358	5,909	5,645	5,312	4,912
Utility Requirements					
Residential	1,181	1,185	1,155	1,114	1,076
Commercial	484	481	473	454	443
Natural Gas Vehicles	46	50	54	66	85
Industrial	964	943	932	930	938
Electric Generation	1,897	1,623	1,566	1,548	1,453
Enhanced Oil Recovery Steaming	46	46	46	46	46
Wholesale/International Exchange	241	246	247	247	256
Company Use and Unaccounted-For	79	74	73	72	71
Non-Utility Served Load	1,132	985	813	547	258
Statewide Requirements Total	6,072	5,623	5,360	5,026	4,626
<i>All measurements in million cf per day. Numbers in the table may not add up exactly due to rounding. Average temperature and normal hydro year.</i>					
<i>Source: 2016 California Gas Report: https://www.socalgas.com/regulatory/documents/cgr/2016-cgr.pdf, November 19, 2016.</i>					

The SCG demands for 2015 and 2035 are shown on Table IV.N.4-2. Demand is expected to be relatively flat (commercial) or exhibit annual declines (residential, industrial) due to modest economic growth, PUC-mandated demand-side management goals and renewable electricity goals, decline in commercial and industrial demand, and continued increased use of non-utility pipeline systems by EOR customers and savings linked to advanced metering modules.²⁴

²⁴ *Ibid.*

**Table IV.N.4-2
SCG Natural Gas Demands**

	2015	2035	Difference
Residential	239	218	-21
Core Commercial	81	65	-16
Non-Core Commercial	16.4	14.7	-1.7
Industrial	21.6	15.3	-6.3
<i>All measurements in billion cf</i>			
2016 California Gas Report: https://www.socalgas.com/regulatory/documents/cgr/2016-cgr.pdf , August 31, 2016.			

ENVIRONMENTAL IMPACTS

CEQA Guidelines

Appendix F, Energy Conservation, of the *CEQA Guidelines* directs an EIR to discuss the following, if applicable or relevant:

- (a) The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed;
- (b) The effects of the project on local and regional energy supplies and on requirements for additional capacity;
- (c) The effects of the project on peak and base period demands for electricity and other forms of energy;
- (d) The degree to which the project complies with existing energy standards;
- (e) The effects of the project on energy resources; and
- (f) The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

Project Impacts

Electricity

*Construction*²⁵

The Project's construction phase could occur intermittently over an approximate 15-year period. However, for the purposes of this EIR, it is conservatively assumed that all Project activities would occur sequentially over approximately three years. This sequential construction schedule is summarized on Table IV.N.4-3.

During the Project's construction phase, short-term construction activities would consume relatively small quantities of electricity (i.e., temporary use for lighting and small power tools). Lighting and small power tools would be powered with charging stations supplied by temporary power poles or portable generators. There would be no need for and no additional use of any permanent infrastructure for the delivery of electricity until after construction of the Project beyond what already exist on the site.

Electricity, when needed, would be supplied by SCE via existing on-site connections. This would help to reduce air pollution associated with construction activities by using electricity from power poles, rather than temporary diesel- or gasoline-powered generators. Electricity used to provide temporary power for lighting and electronic equipment (e.g., computers, etc.) inside temporary construction trailers, and for lighting when necessary for general construction and renovation activity would generally not result in a net increase in on-site electricity use over existing conditions, since the Project site is currently occupied.

Heavy-duty diesel-fueled construction equipment that would be used during the Project's construction phase includes the following:

- Excavators
- Cranes
- Forklifts
- Rubber Tired Dozers
- Tractors/Loaders/Backhoes
- Graders
- Pavers
- Rollers

²⁵ *The discussion of electricity needs for construction addresses both construction activities associated with buildout of the Specific Plan and the Southern California Edison Transmission Pole/Line Replacement.*

**Table IV.N.4-3
Proposed Construction Schedule**

Phase	Subphase	Duration	Notes
Phase One A	Demolition of fire pump	1/1/18-1/8/18	360 cubic yards of debris from fire pump enclosure
	Site preparation for fire protection plan	1/9/18-1/23/18	
	Grading for fire protection plan	1/24/18-2/9/18	1,644 net cubic yards of export
	Paving of fire truck access road	2/10/18-3/10/18	
	Southern California Edison Transmission Pole/Line Replacement Activities	3/11/18-5/11/18	Replacing/installing up to 13 66-kV sub-transmission poles by truck and by helicopter; removing 3 4-kV distribution poles; installing 4 new 16-kV distribution poles; blading approximately 0.7 acre access road
Phase One B	Demolition of Cottages 1 and 2	7/2/18-7/9/18	1,200 cubic yards of debris export
	Grading for Art Center and Dominican Garden	7/10/18-8/10/18	790 cubic yards of cut and 1,500 cubic yards of fill
	Building construction for Art Center	8/11/18-2/11/19	
	Architectural coatings for Art Center	2/12/19-4/12/19	
Phase Two	Demolition of parking lot	4/13/19-4/20/19	690 cubic yards of parking lot asphalt hauled away
	Grading of parking structure site	4/21/19-5/21/19	13,436 cubic yards of soil excavated, with 12,890 cubic yards exported to Lot A Palmerstone property for athletic concourse and parking
	Building Construction of parking structure	5/22/19-1/15/20	239-space garage produces
Phase Three	Site Preparation for high school expansion	1/16/20-1/23/20	
	Grading of high school expansion	1/24/20-2/24/20	5,589 cubic yards of cut
	Building construction of high school expansion	2/25/20-10/25/20	
	Paving of parking lot D with courtyard and surface parking	10/26/20-11/26/20	
	Architectural coatings for high school expansion	11/27/20-1/20/21	
Phase Four	Site preparation of athletic concourse at Palmerstone property	1/21/21-2/21/21	
	Grading of athletic concourse	2/22/21-8/22/21	No net export or import

Source: DKA Planning, 2017

- Dumpers/Tenders
- Off-Highway Trucks
- Helicopter

Other construction equipment that would be used would include the following, which would be powered by a combination of energy sources, such as gasoline/diesel, generator, battery, or electricity:

- Air Compressor
- Concrete/Industrial Saws
- Generator Sets
- Bore/Drill Rigs
- Welders

Construction equipment fuels would be provided by local or regional suppliers and vendors.

As shown on Table IV.N.4-4, it is estimated that approximately 2,666 would be required to haul the material to off-site reuse and disposal facilities.

**Table IV.N.4-4
Estimated Haul Trips**

Phase	Haul Trips
Demolition of cottages 1 and 2	120
Demolition of fire pump	180
Grading for fire protection plan	155
Demolition of parking lot	69
Grading of parking structure site	1,344
Grading for High School expansion	559
Grading for Art Center and Garden	239
Total	2,666

Source: DKA Planning, 2017. (Refer to Appendix C.)

Off-street parking for construction workers would be provided on the Project site, and any needed off-site parking would be provided in the immediate vicinity of the Project site. Staging of construction equipment and materials would be accommodated on the Project site. The number of construction workers that would be required would vary based on the phase of construction and activity taking place. The transportation fuel required by construction workers would depend on the total number of worker trips estimated for the duration of construction activity.

A study by Caltrans found that the statewide average fuel economy for all vehicle types (automobiles, trucks, and motorcycles) is projected at 22.711 miles per gallon (mpg) and for diesel trucks is 6.178 mpg (conservative estimate) in 2015.²⁶ Assuming construction worker vehicles have an average fuel economy consistent with the Caltrans study, and assuming the mpg for gasoline and diesel indicated above, the Project would use approximately 9,255 gallons of fuel.²⁷ In 2015, California consumed approximately 140.43 billion gallons (or approximately 3.34 billion barrels) of gasoline per day.²⁸ Thus, the Project would represent 0.000000006 percent of the statewide daily gasoline consumption.²⁹ The expected construction gasoline and diesel fuel for the Project would be negligible compared with statewide supplies and would be readily accommodated by local or regional suppliers and vendors.

Energy Conservation

The Project would be required by the City to utilize construction contractors who demonstrate compliance with applicable California Air Resources Board (CARB) regulations governing the accelerated retrofitting, repowering, or replacement of heavy-duty diesel on- and off-road equipment. CARB has adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. This measure prohibits diesel-fueled commercial vehicles greater than 10,000 pounds from idling for more than five minutes at any given time. CARB has also approved the Truck and Bus regulation (CARB Rules Division 3, Chapter 1, Section 2025, subsection [h]) to reduce nitrogen oxides and particulate emissions from existing diesel vehicles operating in California; this regulation will be phased in with full implementation by 2023.³⁰ In addition to limiting exhaust from idling trucks, CARB recently promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement,

²⁶ California Department of Transportation, 2007 California Motor Vehicle Stock, Travel and Fuel Forecast, Table 7, <http://www.energy.ca.gov/2008publications/CALTRANS-1000-2008-036/CALTRANS-1000-2008-036.PDF>.

²⁷ Construction vehicle miles traveled (VMT) derived from the client provided information, and air quality trips and VMT model sheets, included in Appendix C to the Draft EIR. Worker, vendor, and haul trips x trip lengths x length of phase. $VMT / mpg = \text{gallons}$. The Project would generate approximately 840 total worker trips, 264 total vendor trips, and 2,666 total haul trips, which would equal approximately 12,348 worker miles, 1,822 vendor miles, and 9,255 haul truck miles.

²⁸ Preliminary data for 2015. <https://www.eia.gov/tools/faqs/faq.cfm?id=23&t=10>

²⁹ The Project's daily construction vehicle fuel consumption was calculated as follows: Approximately total construction schedule = 3 years x 365 days = 1,095 days. 9,255 gallons of fuel/1,095 days = 8.5 gallons per day.

³⁰ California Air Resources Board, Final Regulation Order, Amendments to the Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from In-Use On-Road Diesel-Fueled Vehicles, <http://www.arb.ca.gov/msprog/onrdiesel/documents/tbfinalreg.pdf>, April 14, 2015.

replacement, or repower of older, dirtier engines with newer emission-controlled models. Implementation began January 1, 2014 and the compliance schedule requires that best available control technology turnovers or retrofits be fully implemented by 2023 for large and medium equipment fleets and by 2028 for small fleets. Compliance with the above anti-idling and emissions regulations would result in efficient use of construction-related energy and the minimization or elimination of wasteful and unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption, as would use of haul trucks with larger capacities, as previously stated.

As a result, the Project’s short-term demand for electricity during construction would not result in a wasteful or inefficient use of energy.

Operation

Implementation of the Specific Plan would not result in an increase in the student enrollment at the school or an increase in the number of faculty. However, the school would result in an increase in the overall amount of building square footage on the campus. Also, in case of a fire, the school would require a temporary increase in the need for electricity to operate the upgraded pump system required for fire flow. The estimated increase in electricity demand associated with the Project is shown on Table IV.N.4-5.

**Table IV.N.4-5
Estimated Project Electricity Demand**

Land Use	Size	Electricity Consumption Rates¹	Total (kw-h/yr)
Institutional	17,151 sf	11.55 kw-h/year/sf	198,094
<i>sf = square feet kw-h/yr = kilowatt hour per year</i>			
<i>Note: The electricity demand is based on electricity usage rates from SCAQMD that do not include the Project’s energy conservation features, which would reduce electricity usage.</i>			
¹ <i>SCAQMD Air Quality Handbook, 1993, Table A9-11-A Electricity Usage Rate</i>			

As discussed in Section III (Project Description), the existing 66-kilovolt (kV) sub-transmission line would be modified to include a new 16-kV distribution line measuring approximately 4,000 feet in length. To accommodate the new SCE service line, the existing point of transfer and the 277/280-volt (V) FSHA-owned substation facilities would be modified and relocated.

Additionally, the Project would implement the following energy conservation features to reduce the Project’s need for energy (including electricity):

- Light-colored or porous paving materials would be used in parking areas and walkways to reduce heat-island effects and thus minimize the demand for energy for cooling.

- Trees and other shading vegetation would be used around and within parking lots and buildings to reduce the amount of energy needed for cooling.
- Landscape areas would be incorporated to serve as carbon sinks and minimize heat-island effects, thus minimizing the demand for energy for cooling.
- New and rehabilitated buildings would be constructed to current building codes and standards and would meet minimum HVAC requirements.
- All new building construction would meet current energy conservation standards required by the city and state.

The Project’s demand for electricity could be served by SCE via existing sources, and additional sources of electricity would not be needed to accommodate the Project. Therefore, Project long-term demand for electricity during the operational phase of the Project would not result in a wasteful or inefficient use of energy.

Natural Gas Demand

The estimated increase in electricity demand associated with the Project is shown on Table IV.N.4-6.

**Table IV.N.4-6
Estimated Project Natural Gas Demand**

Land Use	Size	Natural Gas Consumption Rates¹	Total (cf/mo)
Institutional	17,151 sf	2.0 cf/mo/unit	34,302
<i>sf = square feet cf = cubic feet</i>			
¹ <i>SCAQMD Air Quality Handbook, 1993, Appendix 9, Table A9-12-A, Natural Gas Usage Rate</i>			

The natural gas demand is based on natural gas usage rates from the SCAQMD but does not include the Project’s energy conservation features, which would reduce natural gas usage. The approximate demand is based on the best available data and is intended to provide an analysis of the estimated demand as compared to SCG’s overall supply. The SCG retail core peak day demand in 2014 is estimated at 3,101 million cubic feet per day and 2020 is estimated at 6,187 million cubic feet per day. The Project’s 0.001 million cubic feet per day represents a fraction of a percent of the 2020 demand. Thus, there is adequate local and regional natural gas supply to accommodate the Project’s demand for natural gas. Additionally, as discussed above, the Project would incorporate various energy conservation measures to further reduce the Project’s need for energy (such as natural gas). Therefore, the Project’s demand for natural gas during the operational phase of the Project would not result in a wasteful or inefficient use of energy.

CUMULATIVE IMPACTS

As shown on Table II-3 in Section II (Environmental Setting), 10 related projects have been identified, including a church with an assisted living facility and 9 new single-family homes. Related Project 1 includes demolition of an existing 5,743-square-foot church and development of a new 2,300-square-foot church and a 58,600-square-foot assisted living facility. Each of the other 9 related projects that includes development of a new single-family home also includes demolition of an existing single-family home. As such, the church land use component of Related Project 1 and Related Projects 2 through 9 generally would not result in any net increase in the need for energy. The applicant/developer of each related project would be required to coordinate with SCE and SCG to determine their respective energy needs and energy conservation features. SCE and SCG would accommodate each related project on a project-by-project basis. As stated previously, Project impacts related to energy consumption would be less than significant. Therefore, cumulative development would not result in a wasteful or inefficient use of energy.

MITIGATION MEASURES

No significant impacts related to energy have been identified, and no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts related to energy would be less than significant.