5.15 Utilities and Service Systems

This section provides a discussion of utilities and service systems that may be affected by the implementation of the Proposed Project. Existing utility systems that would provide services to the Proposed Project are identified and evaluated for potential impacts. The analysis is based on information provided by service providers and utility companies.

"Preliminary Water Reports" prepared by KWC Engineers dated June 2013 analyzed the project under Option 1 and Option 2 access conditions (Appendix P to this DEIR). "Preliminary Sewer Reports," also by KWC Engineers, dated June 2013 analyzed the project under Option 1 and Option 2 (Appendix Q to this DEIR).

A Northeast Area Planning Study (NEAPS) was prepared by Carollo Engineers dated March 2013 (Appendix R to this DEIR). The NEAPS report evaluated the capacity of the existing water service to supply areas of new development, including the Proposed Project. Information from the NEAPS, as well as the "Yorba Linda Water District 2005 Domestic Water System Master Plan" (YLWD Water Master Plan) (Appendix S to this DEIR) and the "Yorba Linda Water District 2010 Urban Water Management Plan" (YLWD UWMP) (Appendix T to this DEIR), has been included in this analysis.

Service request letters were sent to Southern California Edison (SCE), Southern California Gas Company (SCG), AT&T, Time Warner Cable, the Yorba Linda Water District (YLWD), and Yorba Linda Disposal in order to accurately assess potential impacts of the project. Responses to these letters are included in Appendix U of this DEIR.

Acronyms used in this section:

AMSL	above mean sea level
BPS	Booster Pump Station
CEQA	California Environmental Quality Act
cfs	cubic feet per second
d/D	depth over pipe diameter
DEIR	Draft Environmental Impact Report
DU/ac	dwelling unit per acre
fps	feet per second
gpd/DU	gallons per day per dwelling unit
gpm	gallons per minute
mg	million gallons
mgd	million gallons per day
MWD	Metropolitan Water District
NEAPS	Northeast Area Planning Study
OCFA	Orange County Fire Authority
OCSD	Orange County Sanitation District
psi	pounds per square inch
RWQCB	Regional Water Quality Control Board
SCG	Southern California Gas Company
SCE	Southern California Edison
TDH	total dynamic head
UWMP	Urban Water Management Plan
VHFHSZ	Very High Fire Hazard Severity Zone
VCP	vitrified clay pipe
YLWD	Yorba Linda Water District

5.15.1 Existing Conditions

The Esperanza Hills property is substantially undeveloped and is characterized by rolling hills that support a variety of habitats. Portions of the property are currently used for oil production (three working wells), water line transmission for Metropolitan Water District of (MWD) and YLWD, and electrical energy transmission for (SCE). Easement locations for SCE, YLWD, MWD, and SCG are depicted on Exhibit 5-161 – Physical Characteristics. The YLWD and SCG easements are south and west of the property boundaries, respectively.

1. Water Service

The YLWD is an independent special district that provides water and sewer services to residents and businesses within a 27-square-mile service area. The site is located within the YLWD Improvement District 1 water service area. The YLWD will be the potable water purveyor for the Proposed Project. The YLWD Water Master Plan, prepared by Carollo Engineers and dated May 2005 (Appendix S to this DEIR), identified existing and future proposed water supply, storage, and transmission facilities within the YLWD's ultimate service area. The service area is divided into zones as identified below. The report also included information regarding the YLWD's planning and evaluation criteria, which can be applied to determine projected water demands, including the Proposed Project Site.

The NEAPS evaluated the capacity of existing distribution system facilities and recommended sizing of infrastructure to provide water for future demands. Yorba Linda Estates, the Project Applicant, participated in funding the cost of the water system review and preparation of the NEAPS. The NEAPS determined that the Proposed Project and the Sage (Cielo Vista) developments are projected to add 542 acre-feet per year to the annual YLWD demand. This equates to a 2% demand increase of the YLWD's annual overall system demand (25,388 acre-feet per year). The current maximum day demand is anticipated to increase by 0.7 million gallons per day (mgd) to 33.6 mgd. The study results are discussed further in Section 5.15.3, Project Impacts Prior to Mitigation below.

The project water demands are based on the proposed land use and sizing criteria identified in the YLWD Water Master Plan and the NEAPS report. The NEAPS recommends that the source of water supply for Esperanza Hills will come from the Zone 1000-1 of the existing YLWD system, served by the Little Canyon Reservoir and fed by the Fairmount pumping station to two reservoirs to be built on-site at 1,200-foot and 1,390-foot elevations.

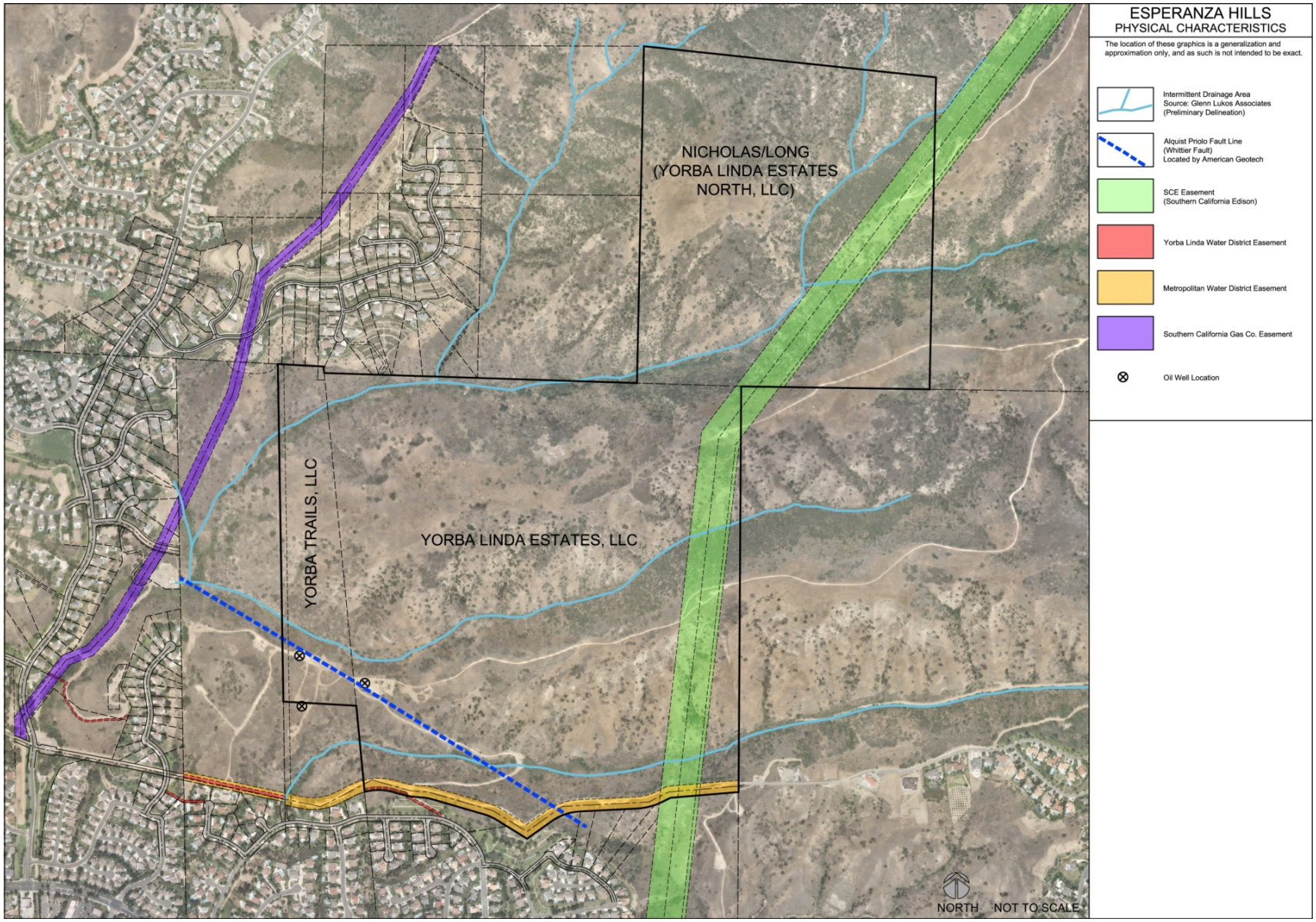

Exhibit 5-161 – Physical Characteristics

Table 5-15-1 depicts the existing water facilities in the vicinity of the Proposed Project.

Table 5-15-1 Existing Water Facilities

Zone	Street	Pipe Size
1000 (5B)	San Antonio Way	10"
780-3 (4C)	MWD Easement	33"
1000 (5B)	Stonehaven Drive	12"
Santiago Reservoir - 1000 (5B)	Green Crest Drive	12"
Hidden Hills Reservoir - 1390 (6C)	Wire Spring Trail	12"

The NEAPS also recommends several off-site water system improvements be made to support the supply needs of the Proposed Project in addition to the Proposed Project water infrastructure facilities. Following are the minimum off-site system improvements recommended to support the supply needs of the Proposed Project and other proposed future projects:

1. Increase firm pumping capacity of the existing Fairmont Pump Station;
2. Construction of a parallel 16-inch diameter pipeline (3,500 linear feet) and future abandonment of the existing 12-inch diameter Zone 1000-1 pipeline along Fairmont Boulevard between Fairmont Pump Station and Forest Avenue;
3. Construction of a new 24-inch diameter pipeline in Fairmont Boulevard from Bastanchury Road to the Fairmont Pump Station; and
4. Additional off-site well capacity and pipeline upgrades (including zone reconfiguration improvements) to be determined by the YLWD staff.

Existing Facilities

- 1000 Zone - An existing 10-inch 1000 zone (5B) line is located in San Antonio Road, and an 8-inch line is located in Aspen Way connecting to the 36-inch transmission line along the MWD pipeline. The zone is supplied by the Little Canyon Reservoir, which has a capacity of 0.88 million gallons (mg), and by the Santiago Reservoir, which has a capacity of 1.10 mg, both with a high water elevation of 1,000 feet. Water pressure is supplied by three booster stations. The booster stations are identified as the Fairmont Booster Pump Station (BPS), the Springview BPS, and the Hidden Hills BPS.

  An existing 12-inch 1000 Zone (5B) water line is located in the MWD easement and in Stonehaven Drive at Davenport Circle south of the Project Site. This line is supplied by the Hidden Hills BPS and the 1000 Zone Santiago Reservoir.

- 780 Zone - An existing 36-inch/33-inch 780 Zone (4C) water line is located along the existing MWD easement southwest of the Project Site. The YLWD Water Master Plan noted a storage deficit of approximately 9.0 mg in Zones 780 (4A), 780 (4B), and 780 (4C). The deficit has been addressed by interconnecting

these zones with new pipelines, thereby reducing the storage requirement for the 780 Zone to 10.0 mg. This line is supplied by the 8.00-mg Springview Reservoir and the 1.98-mg Gardenia Reservoir.

- 1390 Zone - An existing 12-inch 1390 Zone (6C) water line is located in Hidden Hills Road and in Wire Spring Trail east of the Project Site. This line is supplied by the Hidden Hills Reservoir, which has a capacity of 2.0 mg. The Santiago BPS supplies the pressure to the 1390 pressure zone.

  YLWD is obligated by an existing development agreement to provide the necessary backbone facilities to supply and service the Proposed Project Area, which is located in Improvement District No. 1, as identified in the YLWD Water Master Plan. There are currently no existing master planned water facilities available to service the upper pressure zones of the Project Site and adjacent developments.

2. Sanitary Sewer Service

The site is located within the Orange County Sanitation District (OCSD) sewer area for sewer treatment and YLWD for local sewer service area. OCSD serves 80% of Orange County's population within a 471-square-mile area. The OCSD Facilities Master Plan, prepared in December 2009, provides a regional study identifying existing and proposed major sewer facilities within the OCSD ultimate service area. The study also identifies capital improvements required for the OCSD to maintain the required level of service.

The YLWD will provide the sanitary sewer disposal collection system for the Proposed Project. Sewer improvements provided by the project will be designed and constructed in accordance with the YLWD's Standards and Specifications. The YLWD 2010 Sewer Master Plan Update, dated February 2011, provides a study of the area west of the site identifying existing and proposed major sewer facilities within YLWD's service area. An update to the Master Plan incorporating the recently acquired sewer service area from the City, including the Proposed Project, has not been completed.

An existing 10-inch sewer line in Stonehaven Drive drains to the south into an existing 10-inch main in Yorba Linda Boulevard, then to a 12-inch main in Via de la Escuela. Flows are conveyed southwesterly toward the 51-inch OCSD Santa Ana River Interceptor (trunk line), which drains southwesterly to Wastewater Treatment Plant #1 in Fountain Valley. This Plant #1 facility, along with Plant #2 in Huntington Beach, treat 207 mg of wastewater each day.

3. Solid Waste

Yorba Linda Disposal, a division of Republic Services, provides refuse collection and recycling services for the Project Area. The Olinda Alpha Landfill, owned and operated by the County of Orange and located in Brea, is the solid waste facility serving the Project Area. The landfill accepts a maximum of 8,000 tons per day. The Class II landfill (municipal solid waste) has a network of proactive environmental

programs and control systems to prevent any potential impacts to the surrounding areas. The landfill is currently scheduled to close in December 2021. No decision has been made to extend the 2021 date. Orange County Waste Management indicates that after 2021, the area will be serviced by the Frank R. Bowerman landfill (Irvine) and the Prima Deschecha (San Juan Capistrano) landfill[37].

4. Electricity

Electricity to the area is provided by Southern California Edison (SCE), which provides electric power to 13 million people located within 11 counties and 180 cities in Central, Coastal, and Southern California covering an area of 50,000 square miles. Existing electrical lines are located on Aspen Way and Stonehaven Drive. SCE currently has a transmission line easement through the Project Site as depicted on Exhibit 5-161 – Physical Characteristics (page 5-627). Existing transmissions lines will remain in place.

5. Natural Gas

Natural gas for the Project Site will be provided by Southern California Gas (SCG), which provides gas to over 20 million people in more than 500 communities in central and southern California. A gas transmission line easement is located west of the Proposed Project Site. Gas lines are located in Aspen Way and Stonehaven Drive.

6. Telephone

Telephone service to the Project Site will be provided by AT&T. Existing points of connection are located in Aspen Way and Stonehaven Drive.

7. Cable

Cable television services will be provided by Time Warner. Existing points of connection are located in Aspen Way and Stonehaven Drive.

5.15.2 Thresholds of Significance

The state encourages local agencies to adopt their own thresholds, but it is not required. The County of Orange does not have adopted thresholds of significance for utilities and service systems. For purposes of this analysis, the applicable thresholds listed in the CEQA Guidelines will be used. Appendix G of the CEQA Guidelines states that the project could have a significant adverse impact on utilities and service systems if the project would:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;

[37] Personal communication with John Arnaux, CEQA Compliance Manager, Orange County Waste Management, July 22, 2013

b) 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;
c) 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;
d) Require new or expanded entitlements to have sufficient water supplies available to serve the project;
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that the project does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
f) Be served by a landfill without insufficient permitted capacity to accommodate the project's solid waste disposal needs;
g) Not comply with federal, state and local statutes and regulations related to solid waste.

5.15.3 Project Impacts Prior to Mitigation

1. Water Service

The Yorba Linda Water District (YLWD) provided a conditional will-serve letter dated January 8, 2013, regarding its ability to provide water and sewer service to the Proposed Project. A subsequent letter dated January 11, 2013, notes that any future binding commitment by the YLWD will be subject to the availability of water and the planning, design, and construction of adequate facilities to meet the demands of the Proposed Project. Provision of water to the Proposed Project is further conditioned by requiring the YLWD and the Project Applicant to enter into a Development Agreement for water and sewer service. The Proposed Project does not require the preparation of a water supply assessment per *California Water Code* §10910, because the Proposed Project has fewer than 500 dwelling units. However, adequacy of water supply has been confirmed in the Yorba Linda Urban Water Management Plan, which stated that water is available to serve YLWD up to year 2035. As noted, water will be provided in coordination with the YLWD Water Master Plan.

In a pending annexation request, YLWD is seeking to annex approximately 6,100 acres into the Orange County Water District, which is responsible for maintaining the quality and availability of groundwater for YLWD in this area. There is an EIR currently out for review on that annexation request. The YLWD has already determined, in its UWMP, that it has sufficient water supply to meet its needs, including the projected needs of Esperanza Hills and the proposed Cielo Vista project, through 2035, whether or not the annexation to OCWD is approved. The YLWD UWMP is included herein as Appendix T)

a. Northeast Area Planning Study

The NEAPS report was based on hydraulic modeling to determine the alternative means to service the potential new residential developments in the Project Area. Fire flow requirements established by the Orange County Fire Authority (OCFA) were factored into the study. Future water demands from the Proposed Project, as well as the other adjacent developments, were included in the regional analysis to verify that there will be sufficient water supply to the developments within the upper pressure zones where no existing master planned water facilities are currently in place. However, because the potential development of the Project Site was considered in the YLWD Water Master Plan, as well as the County of Orange General Plan, it is not anticipated that any significant impacts will occur. The County General Plan Land Use Element includes policies that seek to phase new development consistent with the adequacy of public services and facilities.

The NEAPS report suggested that the Proposed Project and the proposed Cielo Vista project be divided into two pressure zones with hydraulic grade lines at 1,200 feet above mean sea level (AMSL) and 1,390 feet AMSL with a reservoir storage capacity of 1.3 mg. Storage was recommended to be accommodated in reservoirs within the development areas rather than utilizing existing reservoirs for additional storage. Pump station upgrades were recommended, including additional pump units at Fairmont BPS, Hidden Hills BPS, and Santiago BPS to accommodate potential use of Hidden Hills Reservoir for storage.

The NEAPS report estimated average daily demand based on the water demand factors in the 2005 Water Master Plan. The projected average daily demand for both developments is 0.48 mgd, with a maximum daily demand of 0.72 mgd. Criteria used to compare existing storage volumes with the required volumes for the proposed developments are operational storage, fire flow storage, and emergency storage. The NEAPS report analyzed impacts related to water quality due to high water age and provided treatment recommendations to ensure key water quality parameters are maintained. In addition, connecting the proposed development to existing reservoirs would improve water cycling due to increased demand, further improving water quality conditions.

With specific regard to the Proposed Project, the NEAPS report concluded that dedicated storage for the new development would be preferred due to reliability, water quality concerns and reduced energy usage. The infrastructure required for this preferred option is:

- Two pump stations within the development, one for each pressure zone
- Two tanks with a combined capacity of 1.3 mg
- Pressure-reducing station (if upper tank is sized to meet some demands in the lower zone)
- In-tract development pipelines

- Increase to firm capacity of Fairmont Pump Station
- Additional off-site improvements including additional well capacity and pipeline upgrades determined by YLWD staff

In addition, the NEAPS report recommended that the YLWD include the following elements in the design phase for future new reservoirs:

- Separate inlet and outlets
- Mixing device within the reservoir
- Samplers to provide real-time automated monitoring of chlorine residual

b. Preliminary Water Report

The Preliminary Water Reports prepared by KWC Engineers dated June 2013 analyzed water system requirements and improvements for Option 1 and Option 2 utilizing water duty factors used in similar YLWD developments and in consultation with YLWD staff engineers. The project water demands were based on the proposed land use and sizing criteria identified in the YLWD Water System Plan and the 2013 NEAPS.

The water distribution system designed for the Proposed Project maintains static pressures between 60 pounds per square inch (psi) and 125 psi. Computer modeling will be performed during final design and submitted to YLWD to ensure that adequate residual pressures are achieved under all demand conditions. The system shall be designed to yield minimum static pressures of 60 psi at reservoirs' high water level, residual pressures of 40 psi during non-fire demands, and 20 psi during maximum day demand plus fire flow conditions. Where the maximum pressure at the service connection exceeds 80 psi, individual pressure regulators shall be equipped at the service connection in accordance with the *Uniform Plumbing Code*. Headloss in water lines is calculated using the Hazen-Williams equation with a "C" value of 120. "Headloss" is a measure of the reduction in the elevation head, the velocity head, and the pressure head caused by friction between the fluid and the pipe. Only locations where customers are served will need to meet such pressure requirements.

Transmission and distribution pipelines were designed to have a maximum velocity of 5 feet per second (fps). The maximum velocity can increase to 7 fps for maximum day and peak hour non-fire scenarios. For fire flow scenarios, the pipe can have a maximum velocity of 15 fps. The volume of storage in a water system consists of water for operational storage, emergency storage and fire flow storage. YLWD has directed that the Proposed Project's operational storage and emergency storage is required to be equivalent to 30% of the maximum day demand and 100% of the average day demand, respectively. Two underground reservoirs are proposed to meet the project's storage capacity.

The project is proposing to provide the minimum fire flow storage of 1,500 gallons per minute (gpm) for a 2-hour duration with a minimum residual pressure of 20 psi to meet OCFA and YLWD fire flow requirements for single-family residential developments. OCFA normally allows a reduction to the fire flow requirements for developments that have incorporated fire sprinkler systems, specific building construction types, fuel modification, fire breaks, and other special fire protection measures. However, OCFA has indicated that it will not allow credits or reduction on the fire flow requirements for the Project because it is located in a Very High Fire Hazard Severity Zone (VHFHSZ). The proposed water distribution system complies with the California Fire Code fire flow requirement of 1,500 gpm for a 2-hour duration.

As noted, no existing master planned water facilities are currently available to service the upper pressure zones of the Proposed Project and adjacent developments. A Development Agreement will be entered into with YLWD to construct the water facilities on-site to serve the project only, or alternatively to construct water facilities on-site and provide financial contribution to YLWD to construct off-site facilities to balance the water supply for the area while at the same time serving the project. The proposed water improvements will be designed to meet the demands of the project while also improving the water service reliability and fire protection for the surrounding area.

Details for providing water under Option 1 and Option 2 are described below.

1) Option 1 - Stonehaven Drive Access

Option 1 consists of three proposed water pressure zones that will service the Proposed Project. These pressure zones are identified as the 1000 Zone, the 1200 Zone, and the 1390 Zone water system. A network of 12-inch transmission water lines and two booster stations are proposed to supply water to the two on-site underground reservoirs that will service the upper 1200 and 1390 pressure zones within the project. The proposed 1,000-foot pressure zone will be served via a proposed 16-inch transmission line and tie-in point to the existing 780-foot zone water system (33-inch diameter transmission pipeline) located east of Dorinda Road within the existing MWD easement, or at such other points as designated by the YLWD if it chooses to supply the Proposed Project or any of the adjoining developments from its 1000-1 zone.

The 1200 Zone Reservoir will have a capacity of approximately 0.70 mg, and the 1390 Zone Reservoir will have a capacity of 0.40 mg. The 1200 Zone Reservoir and the 1390 Zone Reservoir are sized to include storage for the Proposed Project only, unless agreements are reached with adjoining property owners and development agreements between adjoining property owners and YLWD are entered into as set forth above. Per the NEAPS, the total storage requirement for the Proposed Project and the proposed Cielo Vista project for all pressure zones is 1.30 mg. Note

that storage requirements discussed herein are estimates only. The OCFA is responsible for establishing final fire flow requirements, and additional storage requirements shall be determined and finalized after completion of the design and approval by all jurisdictional agencies.

The 1200 Zone BPS is sized to include one fire flow and emergency natural gas or diesel pump, two supply pumps, and one duty pump. This pump station is located at the southwest corner of the Proposed Project on a pad elevation of 720 feet and will be sized as required by the final design. The proposed 1390 Zone BPS is sized to include one fire flow and emergency natural gas or diesel pump, two supply pumps, and one duty pump. This pump station is located at the central portion of the Proposed Project Site on a pad elevation of 1,021 feet and will be sized for a pumping capacity as required by the final design. A pressure-reducing station interconnection is proposed to reduce the operating pressures from the 1390 Zone water system to the 1200 Zone and from the 1200 Zone water system to the 1000 Zone. This will provide redundancy to the water system in the event that the 1200 Zone Reservoir is non-operational. The proposed water system infrastructure improvements are shown in Exhibit 5-162 – Proposed Water Facilities Plan, Option 1.

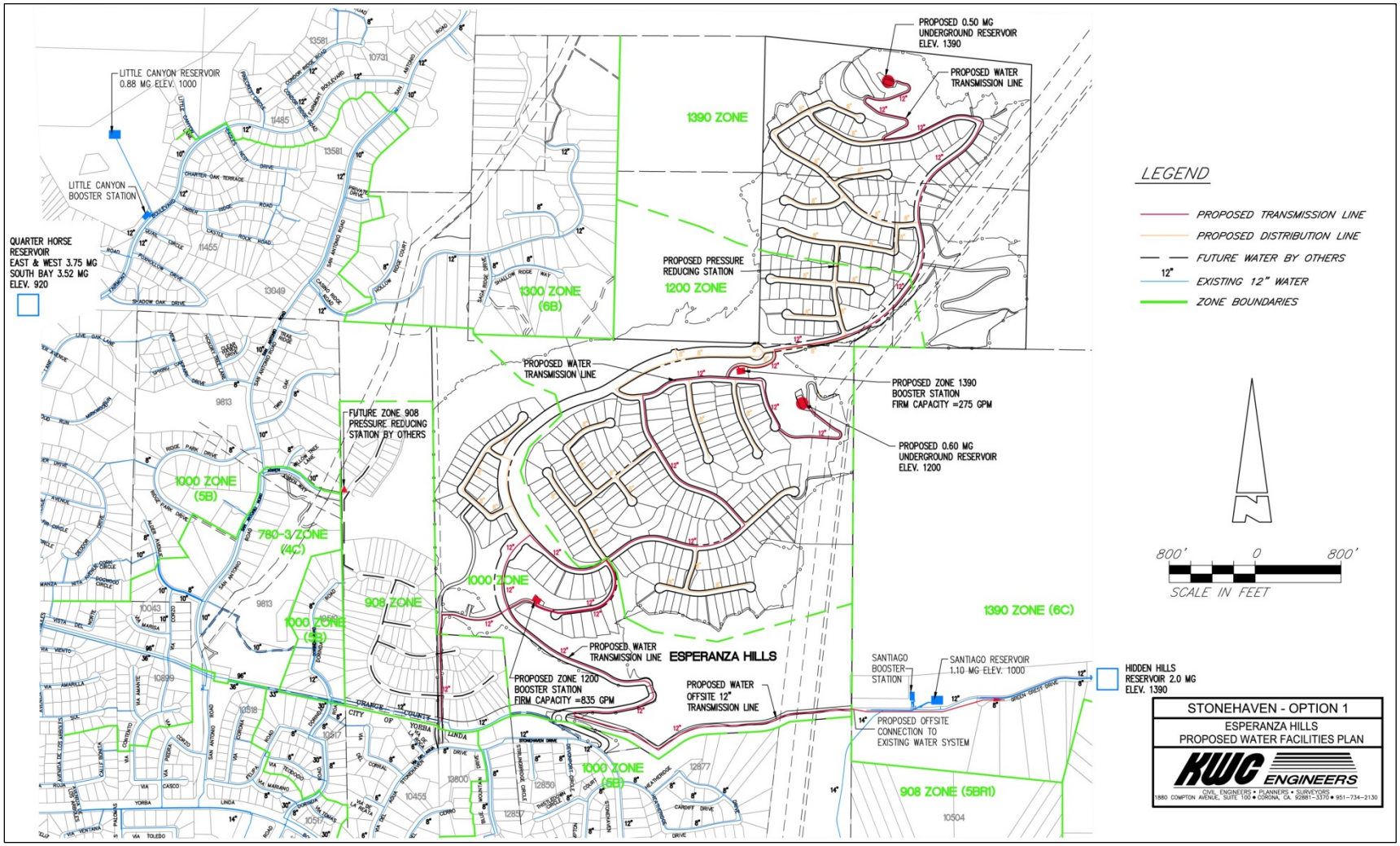

Exhibit 5-162 – Proposed Water Facilities Plan, Option 1

2) Option 2 - Aspen Way Access

Option 2 consists of three proposed water pressure zones that will service the project. These pressure zones are identified as the 1000 Zone, the 1200 Zone, and the 1390 Zone water system. A network of transmission water lines and two booster stations are proposed to supply water to the two proposed on-site underground reservoirs. The two reservoirs will service the upper 1,200-foot and 1,390-foot pressure zones within the Proposed Project as well as the proposed 1,000-foot pressure zones via a proposed 16-inch transmission line and tie in point to the existing 780-foot zone water system (33-inch diameter transmission pipeline) located east of Dorinda Road within the existing MWD easement or at such other points as designated by the YLWD if it chooses to supply the Proposed Project or any of the adjoining developments from its 1000-1 zone.

The 1200 Zone Reservoir will have a capacity of approximately 0.70 mg, and the 1390 Zone Reservoir will have a capacity of 0.40 mg. The 1200 Zone Reservoir and the 1390 Reservoir are sized to include storage for the Esperanza Hills project only, unless agreements are reached with adjoining property owners and development agreements between adjoining property owners and YLWD are entered into as set forth above. If necessary, storage capacity can be increased to accommodate adjacent property. Per the NEAPS, the total storage requirement for the Proposed Project and the proposed Cielo Vista project for all pressure zones is 1.30 mg. Note that storage requirements discussed herein are estimates only. As discussed in this section, the OCFA is responsible for establishing final fire flow requirements, and additional storage requirements shall be determined and finalized after completion of the design and approval by all jurisdictional agencies.

The 1200 Zone BPS is sized to include one fire flow and emergency natural gas or diesel pump, two supply pumps, and one duty pump. This pump station is located at the southwest corner of the Proposed Project Site on a pad elevation of 765 feet and will be sized as required by the final design. The proposed 1390 Zone BPS is sized to include one fire flow and emergency natural gas or diesel pump, two supply pumps, and one duty pump. This pump station is located at the central portion of the Project Site on a pad elevation of 1,021 feet and will be sized as required by the final design. A pressure-reducing station interconnection is proposed to reduce the operating pressures from the 1390 Zone water system to the 1200 Zone and from the 1200 Zone water system to the 1000 Zone. This will provide redundancy to the water system in the event that the 1200 Zone Reservoir is non-operational. The proposed water system infrastructure improvements are shown in Exhibit 5-163 – Proposed Water Facilities, Option 2.

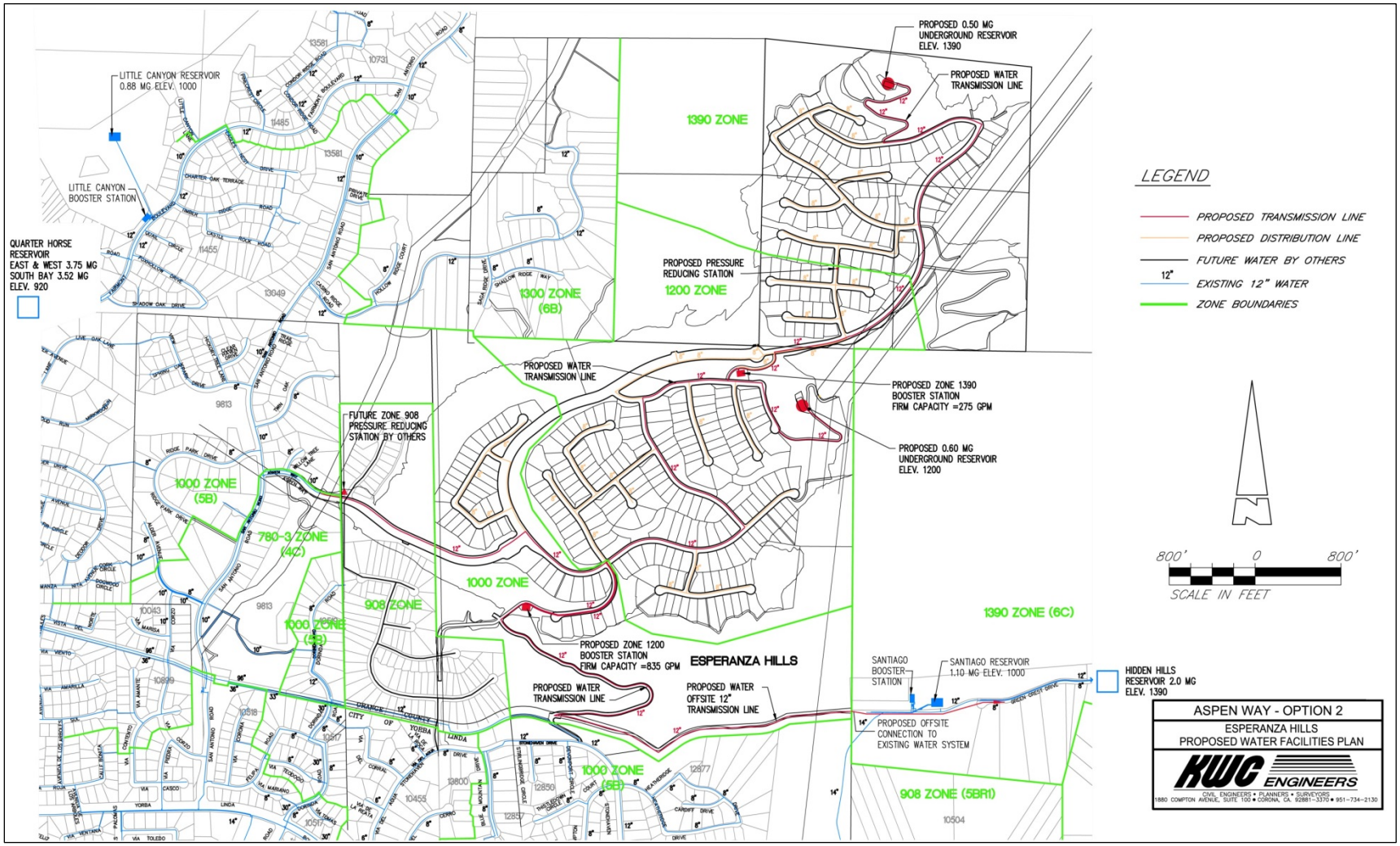

Exhibit 5-163 – Proposed Water Facilities, Option 2

c. Proposed Improvements

- 780 Zone - A new 16-inch transmission pipeline will be constructed along existing MWD 100-foot-wide easement located southwest of the project from Dorinda Road easterly and northerly along an existing roadway and public utility easement into the Project Site. This line will be connected to the existing 33-inch transmission line at Dorinda Road and continue to a proposed 1200 Zone BPS located at the southwest corner of the Proposed Project. This line will serve as the primary point of connection for the Project Site. The source of supply is fed from the Fairmont BPS.
- 1000 Zone - A new 8-inch distribution pipeline will be constructed from the proposed 1200 Zone BPS to service the proposed 1000 Zone areas within the Proposed Project. Located at the discharge line of the 1200 Zone BPS will be a pressure-reducing station that will decrease the pressures to be able to adequately serve the lots within the proposed 1000 Zone.
- 1200 Zone - The new 12-inch transmission line will continue northeasterly from the proposed 1200 Zone BPS to the proposed 1200 Zone underground reservoir to serve the homes in the proposed 1200 Zone with the Proposed Project. The 1200 Zone BPS is sized to include one fire flow and emergency natural gas pump at 1,500 gpm (approximately 460 feet total dynamic head (TDH)), two supply pumps at 835 gpm each, and one pump at 200 gpm (approximately 460-feet TDH). The 1200 Zone Reservoir is sized for a total storage capacity of 0.7 mg. A pressure-reducing station is also required to reduce the operating pressures from the 1390 Zone water system. This will provide redundancy to the water system in the event the 1200 Zone Reservoir is non-operational. A network of 8-inch distribution lines will also be proposed to serve the project. The sizing of these facilities is preliminary and shall be verified during final design.
- 1390 Zone - A 1390 BPS located at the proposed 1200 Zone Reservoir site is proposed to boost the water via a proposed on-site 12-inch transmission line to the proposed 1390 Zone underground reservoir located at the northeast corner of the Project Site. The proposed 1390 Zone BPS is sized to include one fire flow and emergency natural gas pump at 1,500 gpm (approximately 230 feet TDH), two supply pumps at 290 gpm each and one pump at 100 gpm (approximately 230 feet TDH). The reservoir is sized for a total storage capacity of 0.4 mg. A network of 8-inch distribution lines will also be proposed to serve the project development. The sizing of these facilities is preliminary and shall be verified during final design.

d. Projected Water Demand

Under Option 1 and Option 2, a projected water demand factor of 1,070 gallons per day per dwelling unit (gpd/DU) was used to determine the Average Day, Maximum Day, and Peak Hour Demands. This assumes an approximate density of 1 dwelling unit per acre (DU/ac). The maximum day and peak hour demands are estimated as 1.48 and 2.55 times the average daily demand, respectively, as identified in the YLWD Water Master Plan. The 1000 Zone has 46 proposed lots, the 1200 Zone has 200 proposed lots, and the 1390 Zone has 88 proposed residential lots, including two estate lots. The following tables summarize the projected water demands for Option 1 and Option 2.

Table 5-15-2 Project Development Water Demand Summary, Esperanza Hills Option 1

Watershed ID	Tributary Lots (dwelling units)	Average Day Demand (mgd)	Maximum Day Demand (mgd)	Peak Hour Demand (mgd)
Esperanza Hills	334	0.36	0.53	0.91
Total	334	0.36	0.53	0.91

Note: Demands based on unit count within each zone assuming an approximate density of 1 dwelling unit per acre

Table 5-15-3 Esperanza Hills Water Demand Summary - Option 1

Watershed ID	Tributary Lots (dwelling units)	Average Day Demand (mgd)	Maximum Day Demand (mgd)	Peak Hour Demand (mgd)
1000 Zone	46	0.04	0.06	0.11
1200 Zone	200	0.22	0.33	0.56
1390 Zone	88	0.09	0.14	0.24
Total	334	0.36	0.53	0.91

Table 5-15-4 Project Development Water Demand Summary, Esperanza Hills Option 2

Watershed ID	Tributary Lots (dwelling units)	Average Day Demand (mgd)	Maximum Day Demand (mgd)	Peak Hour Demand (mgd)
Esperanza Hills	340	0.36	0.54	0.93
Total	340	0.36	0.54	0.93

Note: Demands based on unit count within each zone assuming an approximate density of 1 dwelling unit per acre

Table 5-15-5 Esperanza Hills Water Demand Summary - Option 2

Watershed ID	Tributary Lots (dwelling units)	Average Day Demand (mgd)	Maximum Day Demand (mgd)	Peak Hour Demand (mgd)
1000 Zone	46	0.05	0.07	0.13
1200 Zone	206	0.22	0.33	0.56
1390 Zone	88	0.09	0.14	0.24
Total	340	0.36	0.54	0.93

The results show that there is a slight differential in water demands between Option 1 and Option 2. This will have no significant impact on the sizing of the proposed water infrastructure facilities within the Proposed Project. The

Proposed Project's water infrastructure system shall be designed to meet YLWD's design minimum and maximum requirements for system pressures, pipe velocity, reservoir storage, and fire flow capacities. A minimum static pressure of 60 psi shall be provided for the project based on the reservoirs' designed high water level for each pressure zone. OCFA is the agency responsible for establishing the fire flow requirements for the YLWD's service area. These flows are based on the current California Fire Code. A minimum fire flow storage of 1,500 gpm for a 2-hour duration with a minimum residual pressure of 20 psi is proposed for the project to meet OCFA's and YLWD's fire flow requirements for single-family residential developments. OCFA normally allows a reduction to the fire flow requirements for developments that have incorporated fire sprinkler systems, specific building construction types, fuel modification, fire breaks, and other special fire protection measures. However, OCFA has indicated that it will not allow credits or reduction on the fire flow requirements for this project, because it is located in a VHFHSZ.

A model of the Proposed Project's water system will be prepared and analyzed during final design to ensure that the proposed infrastructure system meets YLWD's design minimum and maximum requirements for pressures, pipe velocity, reservoir storage, and fire flow capacities. The water storage required for the homes within the proposed 1000 Zone will be supplied by the proposed 1200 Zone Reservoir.

Table 5-15-6 summarizes the water system's static pressures based upon the proposed pad elevations of each lot. The Proposed Project's water infrastructure system will meet YLWD's design minimum and maximum requirements for system pressures, pipe velocity, reservoir storage, and fire flow capacities. The OCFA is the agency responsible for establishing the fire flow requirements for the YLWD's service area. These flows are based on the current California Fire Code. A minimum fire flow storage of 1,500 gpm for a 2-hour duration with a minimum residual pressure of 20 psi is proposed for the project to meet OCFA's and YLWD's fire flow requirements for single-family residential developments. OCFA normally allows a reduction to the fire flow requirements for developments that have incorporated fire sprinkler systems, specific building construction types, fuel modification, fire breaks, and other special fire protection measures. However, the OCFA has indicated that it will not allow credits or reduction on the fire flow requirements for this project, because it is located in a VHFHSZ.

Table 5-15-6 – Esperanza Hills Water Service Zone Static Pressure Summary

Watershed ID	Maximum Lot Elevation (feet)	Maximum Static Pressure (pounds per square inch)
1000 Zone	881	82
1200 Zone	1,086	132
1390 Zone	1,275	119

e. Reservoir Storage

The Zone 1200 and 1390 reservoirs are sized to include storage capacity for the Proposed Project only, unless agreements are reached with adjoining property owners and development agreements are entered into between adjoining property owners and YLWD. Per the NEAPS, the total storage requirement for the Proposed Project and the proposed Cielo Vista project for all pressure zones is approximately 1.30 mg. The following storage requirements are estimates only.

Table 5-15-7 Reservoir Storage Requirements

Watershed ID	Average Day Demand (million gallons/day)	Required Operational Storage (million gallons)	Required Emergency Storage (million gallons)	Required Fire Flow Storage (million gallons)	Total Required Storage (million gallons)
1000 Zone	0.05	0.07	0.15	0.18	0.40
1200 Zone	0.22	0.33	0.66	0.18	1.17
1390 Zone	0.09	0.13	0.18	0.18	0.49

Note: Operational Storage is based on 1.48 × average daily demand; Emergency Storage is based on 3 × average daily demand; and Fire Flow Demand is based on 1,500 gallons per minute for 2 hours.

The Proposed Project is proposing to construct two underground reservoirs to supply the necessary storage and pressures needed to service the proposed 1200 Zone and the 1390 Zone. The proposed 1200 Zone Reservoir capacity is 0.70 mg. The capacity of the 1390 Zone Reservoir is 0.40 mg. The water storage required for the homes within the proposed 1000 Zone will be supplied by the proposed 1200 Zone Reservoir.

The Proposed Project will require the following water infrastructure to be constructed for the build-out condition:

- YLWD capital improvements
  - Increase firm pumping capacity of the existing Fairmont Pump Station
  - Construction of a parallel 16-inch diameter pipeline (3,500 linear feet) and future abandonment of the existing 12-inch diameter Zone 1000-1 pipeline along Fairmont Boulevard between Fairmont Pump Station and Forest Avenue
  - Construction of a new 24-inch diameter pipeline in Fairmont Boulevard from Bastanchury Road to the Fairmont Pump Station
  - Additional off-site well capacity and pipeline upgrades (including zone reconfiguration improvements) to be determined by the YLWD staff
- Esperanza Hills Infrastructure Improvements
  - 16-inch 780 Zone off-site transmission waterline along existing 100-foot MWD easement and 50-foot roadway/public utilities

easement from existing 33-inch transmission pipeline (780 Zone) at Dorinda Road to proposed 1200 Zone BPS
- 12-inch 1200 Zone on-site waterline within the project from the proposed 1200 Zone BPS to proposed 1200 Zone Reservoir and 1390 Zone BPS
- 12-inch 1390 Zone on-site waterline within the project from the proposed 1390 Zone BPS to proposed 1390 Zone Reservoir
- Proposed 1200 BPS completed to its ultimate firm capacity of 835 gpm
- Proposed 1390 BPS completed to its ultimate firm capacity of 290 gpm
- Proposed 1390/1200 and 1200/1000 Pressure Reducing Station
- 0.7 mg 1200 Zone Reservoir within Project Site
- 0.4 mg 1390 Zone Reservoir within Project Site
- 8-inch on-site water distribution lines

The proposed YLWD capital improvements identified herein are preliminary and will be verified by YLWD during final design. The proposed infrastructure facilities are consistent with the YLWD Water Master Plan and the 2013 NEAPS. The Proposed Project will be required to contribute the Project's fair share cost of the proposed off-site water improvements.

2. Sanitary Sewer Service

The Proposed Project is in the Orange County Sanitation District (OCSD) service area for sewer treatment and the Yorba Linda Water District (YLWD) for local sewer service. On January 8, 2012, the YLWD provided a conditional will-serve letter for sewer service to the Project Site. A commitment by the YLWD is subject to the availability of sewer facilities and the planning, design and construction of adequate facilities to meet the demands of the project. The provision of such services will be in accordance with the terms and conditions of a Development Agreement between the Project Applicant and the YLWD for water and sewer service.

The YLWD has informed the Project Applicant that it will require gravity-sewer service from all areas of the Proposed Project development, with such service extending southerly and westerly downward to and through the adjacent proposed Cielo Vista project to connect to existing YLWD sewers.

Preliminary Sewer Reports (Option 1 and Option 2) dated June 2013 were prepared by KWC Engineers to assess the estimated sewer contributions for the Proposed Project and how they relate to existing improvements in the area. The reports identify the appropriate alignments and pipe sizes for the proposed sewer facilities, provide information concerning existing facilities, and recommend sewer facilities and phasing to support the project. The reports are included herein as Appendix P.

a. Orange County Sanitation District (OCSD)

The OCSD Facilities Master Plan dated December 2009 provides a regional study identifying existing and proposed major sewer facilities within the OCSD service area. The study includes capital improvements required for the OCSD to maintain the required level of service. No improvements are proposed along the downstream path of the Project Site.

b. Yorba Linda Water District 2010 Sewer Master Plan Update

The Yorba Linda Water District 2010 Sewer Master Plan Update, dated February 2011, provided a regional study of the area to the west of the Proposed Project identifying existing and proposed major sewer facilities within the YLWD service area. The YLWD has not completed an update to the Sewer Master Plan incorporating the recently acquired sewer service area from the City, which would include the Proposed Project Site and the downstream facilities.

c. Design Criteria

The design criteria from the YLWD used to estimate the sewage flows and evaluate existing and recommended sewer system improvements are shown in Table 5-15-8 below.

Table 5-15-8 Design Criteria

Description	YLWD Criteria
Average Daily Flow - Planned Residential Development	0.0015 cfs/ac
Multiplication Factor Average Daily Flow to Peak Flow	2 ratio
Minimum Diameter of Pipe (VCP)	8 inches
Velocity - minimum	2 feet per second
Velocity - maximum	15 feet per second
Slope - minimum (8")	0.40%
Slope - maximum	15%
Maximum d/D: 8" - 12" diameter	0.5 ratio
Maximum d/D: 15" - 18" diameter	0.75 ratio
Depth of Cover - minimum	7 feet
Distance between manholes for 8" - 15" - maximum	300 feet
Radius of Curvature for 8" - 12" - minimum	150 feet

Gravity sewers are designed to convey peak flow. All new sewers for the Proposed Project were designed to maintain a minimum velocity of 2 fps at design capacity to prevent the deposition of solids. To minimize excessive wear and tear of the pipe, the maximum velocity was not to exceed 15 fps.

- **Existing Facilities** - There is an existing 10-inch sewer line in Stonehaven Drive, draining to the south, which drains into an existing 10-inch main in Yorba Linda Boulevard, then into a 12-inch main in Via de la Escuela. Flows are conveyed southwesterly toward the 51-inch OCSD Santa Ana River Interceptor (trunk line) which

drains southwesterly to Wastewater Treatment Plant #1 in Fountain Valley. Treatment Plant #1 and Treatment Plant #2 (Huntington Beach) treat an average of 207 mg of wastewater each day. Treatment Plant #1 has a total rated primary capacity of 108 mgd and secondary treatment capacity of 80 mgd, for a total of 188 mgd. Treatment Plant #2 has a rated primary capacity of 168 mgd and secondary treatment capacity of 90 mgd, for a total of 258 mgd. Therefore, adequate capacity exists for the Proposed Project at Treatment Plant #1. In consultation with the YLWD, the Proposed Project sewer system was designed to convey the flows out towards Stonehaven Drive with either Option 1 or Option 2.

- **Proposed Facilities** - The Proposed Project will install approximately 32,100 feet of 8-inch vitrified clay pipe (VCP) gravity sewer. The proposed sewers will be installed in typical private street sections within an easement to the YLWD. Two exceptions are a cul-de-sac which drains through an easement and down an engineered slope and the project outlet through the adjacent Cielo Vista site. A portion of the Cielo Vista site north of Stonehaven Drive will drain into the proposed sewer pipe connecting to the existing Stonehaven Drive pipe. The proposed point of connection to the existing 10-inch sewer in Stonehaven Drive is approximately 170 feet northeast of the intersection of Stonehaven Drive and Via de la Roca.
- **Projected Sewage Flows** - Typical generation rates provided in the YLWD Sewer Master Plan Update are shown in Table 5-15-9 below.

Table 5-15-9 Typical Generation Rates

Typical household density	3.1 people per dwelling unit
Average generation rate	77 gallons per capita per day
Peaking factor	2 × average flow

Using the above criteria, the average sewage generation rate is 0.000369 cubic feet per second (cfs) per lot.

To project the ultimate build-out condition estimated sewer flows, the KWC analysis combined the adjacent proposed Cielo Vista project, a portion of which (95 lots) will drain into the proposed sewer pipe, and the adjacent Friend project (42 lots) plus the Proposed Project. All three projects are proposed to drain into Stonehaven Drive as well as the existing lots along the sewer lines downstream. The table below depicts the projected totals.

Table 5-15-10 Projected Sewer Flows

Phase	Number of Lots	Average Flow (cubic feet per second)	Peak Flow (cubic feet per seconds)
1- Esperanza Hills project			
Option 1	334	0.125	0.250
Option 2	340	0.125	0.250
2- Friend project	42	0.015	0.031
3- Cielo Vista project	95	0.035	0.070
Total	477	0.175	0.350

The peak sewer flows above were used in the Sewer Network Analysis utilizing the H2OMAP SWMM computer software to analyze the existing and proposed sewer lines per the YLWD design guidelines. The existing 10-inch VCP sewer in Yorba Linda Boulevard was analyzed from Via del Agua to Via de la Escuela for the proposed condition. The existing slope varies from 2.52% to 6.20%. Calculated flow depths over pipe diameter (d/D) are less than 0.5 in the proposed condition. The results (Option 1 and Option 2) are summarized in Table 5-15-11 below.

Table 5-15-11 Sewer Flow Velocity/Slopes

	Upstream of Via del Cerro (CDT-95)	Downstream of Via del Cerro (CDT-97)
Slope	6.2%	2.52%
Flow (cfs)	0.408	0.430
d/D	0.041	0.202
Max d/D	0.415	0.415
Velocity (fps)	1.33	3.95

The proposed 8-inch VCP sewer lines on-site were analyzed using the computer modeling software, design criteria, and peak flow generation described above. Proposed pipe slopes were determined using the Site Plan/Grading Plan, assuming manholes would typically be 8 feet deep. Slopes range from 0.4% to 11.8%, with flow depths ranging up to 0.17 feet (2.04 inches). The maximum velocity is 4.96 fps.

d. Proposed Sewer System – Option 1 and Option 2

- **Option 1** - Option 1 proposes a system of sewer collection lines that collect flows from the homes within the Proposed Project and approximately 140 future single-family residential lots adjacent and tributary to the project from other proposed developments. The proposed sewer collection system will consist of constructing approximately 32,100 feet of 8-inch gravity sewer line. A segment of the sewer system will consist of a temporary sewer siphon system located near Stonehaven Drive and Via de la Roca and in place until the future Sage development occurs. The

sewer flow is conveyed southerly to an existing 10-inch sewer collection system located in Stonehaven Drive and Yorba Linda Boulevard before entering into the YLWD and OCSD trunk sewer systems located southwesterly of the Project Site. The flows will drain to the existing Wastewater Treatment Plant #1 in Fountain Valley for treatment. Treatment Plant 1 and Treatment Plant #2 treat an average of 207 mg of wastewater each day.

- **Option 2** - Option 2 proposes a system of sewer collection lines that collects sewer flows from the Proposed Project and approximately 140 future single-family residential lots adjacent and tributary to the project from other proposed developments. The sewer collection system will be designed and constructed similar to the system proposed in Option 1.

The existing sewer system contains adequate capacity under current conditions. Using typical generation rates, the Proposed Project will result in 0.000369 cfs per lot with average flows of 0.175 (cfs) and peak flows of 0.350 cfs. The reports state that the proposed sewer infrastructure facilities with respect to their proximate locations, alignments, and sizes are consistent with the YLWD 2010 Sewer Master Plan Update and the OCSD Facilities Master Plan. The existing 10-inch sewer lines in Stonehaven Drive and Yorba Linda Boulevard will be sufficient to accept the proposed flows from the Esperanza Hills project as well as the proposed Cielo Vista and Friend projects. On-site 8-inch sewer lines will be sufficient to serve the Proposed Project and the future Friend project based on peak flows of 0.350 cfs.

The analysis presented in the KWC Sewer Report is a preliminary estimate of anticipated sewer facility requirements. Further studies may be required by YLWD during the development phase of the project.

3. Solid Waste

Yorba Linda Disposal has expressed its ability to service the project, as proposed, in a letter dated June 13, 2013. Yorba Linda Disposal anticipates that each residence will generate approximately 95 pounds of trash per week (approximately 14 pounds per day), which is the standard generation rate for single-family residences.[38] The Olinda Alpha landfill accepts a maximum of 8,000 tons of trash daily. Using the above trash generation rates, the Proposed Project would result in 4,760 pounds (2.4 tons) of trash per day or approximately 0.03% of the landfill's daily capacity. Per discussion with Mark McGee, Operations Manager of Yorba Linda Disposal, the Proposed Project is not anticipated to generate an amount of solid waste that cannot be accommodated by Yorba Linda Disposal and the Olinda Alpha landfill; therefore, impacts will be less than significant.

[38] Personal communication with Mark McGee, Operations Manager, Yorba Linda Disposal, July 22, 2013

4. Electricity

Appendix F of the CEQA Guidelines, Energy Conservation, requires consideration of energy impacts and conservation measures to reduce impacts. As described in Section 5.2, Air Quality (beginning on page 5-65), the Proposed Project includes a number of energy-saving features designed to reduce impacts due to greenhouse gas emissions. These design features include the use of Energy Star appliances and dual paned windows, water conservation hardware, and drought tolerant landscaping among others. These design features have the added benefit of reducing energy consumption generally for the post-construction operation of the project. Energy use will be typical of residential uses in the area, and no commercial or industrial uses will be incorporated into the Proposed Project that could result in high energy consumption.

SCE has expressed its ability to service the Project, as proposed, in a letter dated October 17, 2013. Services will be provided via an extension of the existing electrical lines from Aspen Way or Stonehaven Drive. The transmission lines and easement currently on the Project Site will remain in place. Grading of the site could impact existing facilities if grading occurs in close proximity to the transmission lines. Therefore, Mitigation Measure U-3 is included to ensure adequate coordination to protect existing SCE facilities scheduled to remain in place and to ensure that impacts due to providing electricity to the Project Site will be less than significant.

5. Natural Gas

Southern California Gas (SCG) has expressed its ability to service the project, as proposed, in a letter dated May 16, 2013. The letter states that service will be provided subject to availability and in accordance with the rules and regulations in effect at the time service is initiated. In order to identify the location of existing facilities and prevent damage due to grading and construction activities, the project developer will be required to coordinate with SCG prior to initiation of gas line construction. Service will be provided via an extension of the existing gas lines from Aspen Way or Stonehaven Drive. Therefore, Mitigation Measure U-4 is included to ensure adequate coordination with SCG to provide the gas line extensions. Implementation of the mitigation will ensure that impacts due to provision of natural gas to the Project Site will be less than significant.

6. Telephone

AT&T has been contacted regarding its ability to service the project, as proposed. To date, AT&T has not provided a letter; however, telephone calls and emails have been exchanged to verify service. Existing service connection points in are located at Aspen Way and Stonehaven Drive. Project implementation will require the extension of existing service connections to provide connection to the Esperanza Hills community. Therefore, Mitigation Measure U-5 has been included to ensure adequate

coordination with AT&T and that the impacts due to provision of telephone service will be less than significant.

7. Cable

Time Warner Cable has been contacted regarding its ability to service the Project, as proposed. Telephone and email communications with engineering staff have occurred, but to date a letter has not been provided. A site visit was scheduled by Time Warner to verify its ability to provide connection throughout the site. Existing points of connection are located in Aspen Way and Stonehaven Drive. Mitigation Measure U-6 has been included to ensure adequate coordination with Time Warner and that the impacts due to provision of cable services will be less than significant.

5.15.4 Mitigation Measures

U-1 Prior to issuance of building permits, the Project Applicant shall enter into a Development Agreement with the Yorba Linda Water District for the provision of water facilities and service.

U-2 Prior to issuance of building permits, the Project Applicant shall enter into a Development Agreement with the Yorba Linda Water District for the provision of sanitary sewer facilities and service.

U-3 Prior to issuance of building permits, project developer shall coordinate with Southern California Edison to identify the location of the connection to existing electric service lines based on the final determination of access via Option 1 or Option 2 and to protect existing transmission lines on the Project Site.

U-4 Prior to issuance of building permits, project developer shall coordinate with Southern California Gas to identify the location of the connection to existing natural gas lines based on the final determination of access via Option 1 or Option 2.

U-5 Prior to issuance of building permits, project developer shall coordinate with AT&T to identify the location of the connection to existing telephone service lines based on the final determination of access via Option 1 or Option 2.

U-6 Prior to issuance of building permits, project developer shall coordinate with Time Warner Cable to determine the location of the connection to existing cable service lines based on the final determination of access via Option 1 or Option 2.

5.15.5 Level of Significance after Mitigation

The Proposed Project will not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB). OCSD has provided a conditional will-serve letter, and an agreement will be entered into with the YLWD outlining terms and conditions for provisions of such services.

The Project Applicant will be required enter into to a Development Agreement with the YLWD for water and sewer service prior to construction of such facilities. Based on technical reports for water and wastewater facility demands, the Proposed Project will not require construction or expansion of facilities to accommodate the Proposed Project. Mitigation has been included to ensure that the YLWD and the Project Applicant enter into agreements for the provision of water service to the Project Site so that the Proposed Project is adequately served. Provision of infrastructure as described will ensure that adequate facilities are provided to meet the water demands of the Proposed Project.

The Proposed Project will not require the construction of new storm water drainage facilities or expansion of existing facilities beyond those included as part of the Proposed Project. Because the Proposed Project is adjacent to existing development, storm water drainage facilities are available to connect with the proposed drains.

The Proposed Project will have sufficient water supplies available to serve the project. The YLWD UWMP has stated that water supply is available to serve the YLWD service area up to year 2035. As stated in the NEAPS, the combination of the proposed off-site YLWD water system improvements and the Proposed Project water infrastructure improvements will not only meet the demands of the future developments in the area but also improve the water service reliability and fire protection for the surrounding area.

The Proposed Project will be served by landfills with adequate capacity to accommodate the Project's needs. Orange County Waste Management has confirmed that the Proposed Project will be serviced by the Frank R. Bowerman landfill and subsequently by the Prima Deschecha landfill. All regulations and statues will be complied with related to solid waste.

Therefore, implementation of the Proposed Project would not result in significant adverse impacts related to water service, sanitary sewer service, solid waste disposal, electrical service, natural gas service, telephone service, or cable service. Utilities and service systems are not anticipated to experience significant impacts due to developer and service fees typically allocated to fund necessary on-site and off-site improvements, as well as the provision of the water and sewer system improvements outlined herein. Points of connection will be sufficient to accept increased flows from the Proposed Project. Adequate water supplies will be available to serve the Proposed Project. The Proposed Project will be served by a landfill with adequate capacity and will comply with all federal, state, and local statutes and regulations related to solid waste. Mitigation measures have been identified to ensure coordination with service providers in order to reduce potential impacts to a less than significant level.

5.15.6 Cumulative Impacts

Implementation of the Proposed Project would increase the demand for utility and service systems. Cumulative impacts from increased water demand by the Proposed Project and development of the proposed Cielo Vista and Friend residential projects can be met by the YLWD with appropriate improvements to the existing water delivery infrastructure. The NEAPS report was based on the addition of 340 residences in the Proposed Project, 112 residences in the proposed Cielo Vista project, and 42 residences in the proposed Friend project for a total of 494 residences. The cumulative total does not exceed the 500-residence threshold under SB 610 for the preparation of a water supply assessment, and a specific assessment was not required for the Proposed Project. However, the YLWD Water Master Plan and the 2013 NEAPS have considered the extent of the total development proposed and indicated that adequate water supply exists to serve the Proposed Projects.

5.15.7 Unavoidable Adverse Impacts

Implementation of recommended mitigation measures will reduce potential impacts to a level of less than significant for project implementation and cumulative conditions. Therefore, no unavoidable adverse impacts to utilities and service systems will result from the Proposed Project.