

16.

Utilities

16 Utilities

This chapter describes existing utilities, as shown on Figure 16-1, that serve the site, the City of Concord, and the surrounding area. The utilities addressed in most detail are: water supply and wastewater management, including recycled water, stormwater management, and solid waste management. Electrical supply, natural gas supply, petroleum and oil pipeline systems, and information technology/communications (IT/COMM) are also addressed.

16.1 Existing Conditions

16.1.1 Water Supply

Water is supplied to the site, the City of Concord, and adjacent areas by the Contra Costa Water District (CCWD). The site receives its potable water from a connection with CCWD's water trunk line along the western side of the site near the existing Coast Guard Housing Complex located on Olivera Road. The existing water distribution system at the site includes five water storage tanks with a total capacity of 1.7 millions gallons and five pump stations that are currently owned by the U.S. Navy.

16.1.1.1 Water Supply Sources

The major supply source of CCWD's water is the Sacramento–San Joaquin Delta, where the water originates from rivers draining the Sierra Nevada and flows into the Sacramento and San Joaquin Rivers, eventually reaching the Delta and San Francisco Bay. CCWD's water supply delivery is from the Central Valley Project (CVP). CCWD's long-term CVP contract was recently renewed to 2045. The CVP contract with the U.S. Bureau of Reclamation (Reclamation) provides for a maximum delivery of 195,000 acre-feet of water per year, with a reduction in deliveries during water shortages including regulatory restrictions and drought. Other sources available to CCWD include the San Joaquin River, Mallard Slough, recycled water, local well water, and water transfers

CCWD's three existing intakes, which are located near Discovery Bay at Old River, east of Oakley at Pumping Plant I at Rock Slough, and in Bay Point at Mallard Slough, are vulnerable to saltwater intrusion from the Bay in the late summer and fall months and during prolonged droughts. Figure 16-2 shows the locations of CCWD's existing and proposed water intakes. To address the water quality challenges at the intakes, CCWD initiated the Alternative Intake Project 4 (CCWD, 2006), which involves building a fourth water intake on Victoria Island in a location where higher quality water is available at key times of year. The new intake would provide water quality benefits to CCWD by changing the location and timing of diversions, but would not increase the total amount of water that can be diverted from the Delta. The new intake is expected to be on line by 2010.

16.1.1.2 Water Treatment Facilities

CCWD owns and operates two water treatment facilities: the Bollman Water Treatment Plant (WTP) in Concord, as shown on Figure 16-1, and the Randall-Bold WTP in Oakley. The current combined water treatment capacities for both WTPs are 115 million gallons per day (mgd). Both of these plants use ozone gas for primary disinfection and chloramine for residual disinfection after the treated water leaves the treatment plants. CCWD's treated drinking water meets all State and federal drinking water standards.

The Bollman WTP (CCWD, 2001a) has reached its current capacity of 75 mgd. This WTP provides treated water to 220,000 residents in central Contra Costa County along with supplemental deliveries from the District's Randall-Bold WTP. Delta water is conveyed in the Contra Costa Canal to Mallard Reservoir northwest of the site before being treated at the Bollman WTP.

The Randall-Bold WTP (CCWD, 2001b), which is jointly owned with Diablo Water District, has an existing capacity of 40 mgd with a designed expansion potential to 80 mgd. The Randall-Bold WTP provides treated water to Antioch, Diablo Water District, Brentwood, and to CCWD's retail customers in central country via the Multi-Purpose Pipeline (MPP). CCWD's 21-mile MPP (CCWD, 2000) is a 42-inch-diameter welded steel pipeline that delivers treated water west from the Randall-Bold WTP to the District's treated water distribution system in north Concord. Untreated water delivered from the Delta and/or Los Vaqueros Reservoir is channeled using the Contra Costa Canal to either the Randall-Bold grit basin before being treated at the Randall-Bold WTP or to the Bollman WTP.

16.1.1.3 Water Distribution Canals

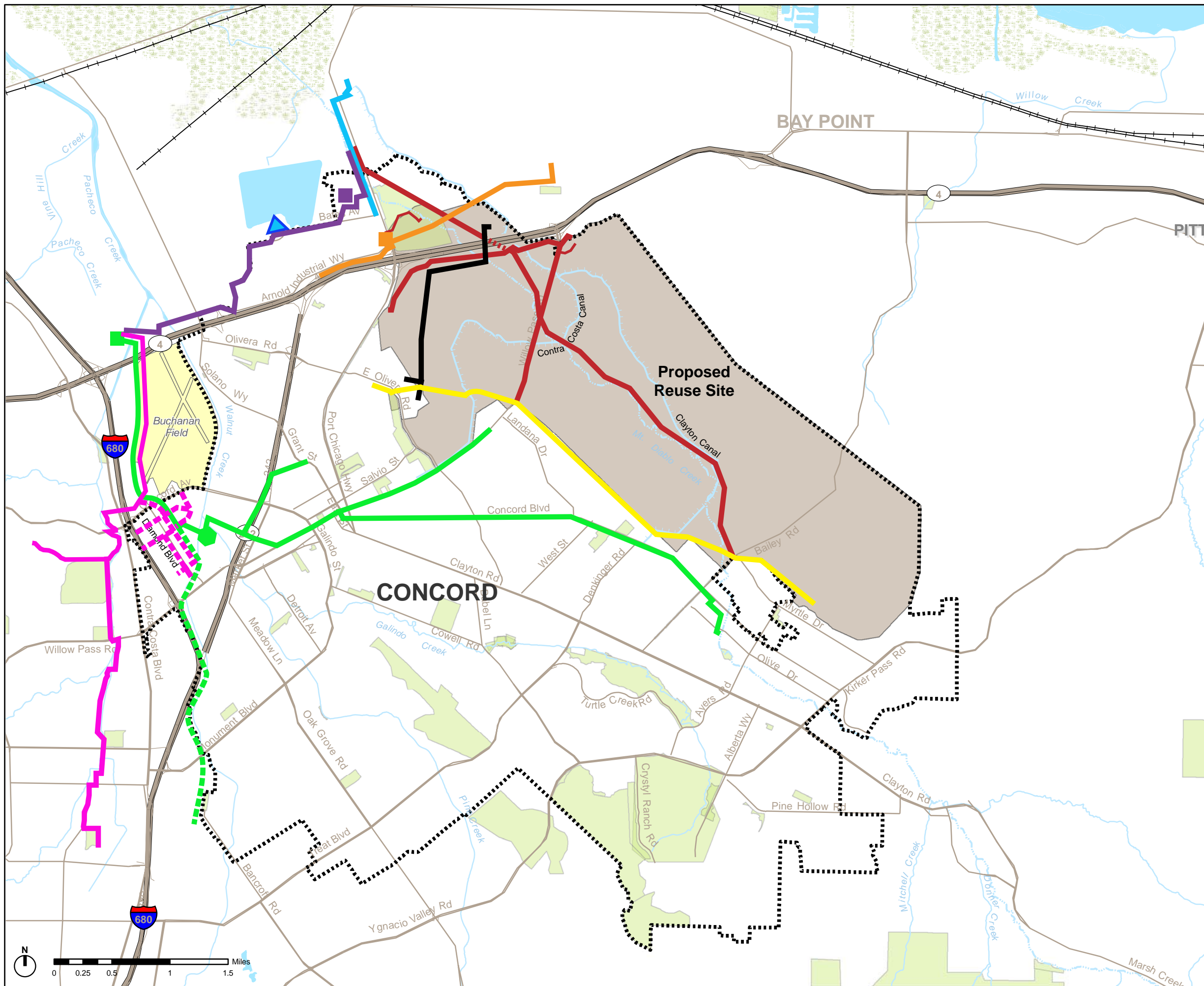
The Contra Costa Canal and Clayton Canal currently run through the site. Both canals were built as part of the Delta Division of the CVP by the USBR. The rights of way of the canals are owned by the USBR and managed by CCWD. The Contra Costa Canal is currently in use, while use of the Clayton Canal has been discontinued.

The Contra Costa Canal forms the northeastern boundary of the site to the south of Clyde and north of State Route (SR) 4. It enters the site near SR 4 before crossing under the highway and the Bay Area Rapid Transit (BART) District rail line through an underground culvert. The canal then winds through the hilly area south of SR 4 next to the North Concord BART Station and exits the site at the west of the intersection between Willow Pass Road and St. Vincente Drive and forms the site boundary along Willow Pass Road. The portion of the Contra Costa Canal running through the hilly area next to North Concord BART Station is approximately 3.7 miles in length.

As part of the agreement with the USBR, CCWD currently maintains the Contra Costa Canal. The canal acts as a drainage channel during the wet season within the site and also is used for carrying storm drainage within the City. There are off-site access and utility easements for crossing the canal within the City.

The Clayton Canal branches from the Contra Costa Canal south of Willow Pass Road and runs longitudinally through the site north of Kinne Boulevard until it makes a 90-degree turn to exit the site at Denkinger Road. Approximately 3.5 miles of the length of the Clayton Canal are within the site and 1.35 miles of the length are off-site in the City.

The Clayton Canal was last used for water transportation more than 20 years ago and CCWD has no plan to put it back in service. If the Clayton Canal were to be permanently abandoned, the action would need to be approved by both CCWD and the USBR and would also require Congressional approval.



Legend

- CCWD Mult-Purpose Water Line
- ▲ CCWD Bollman Water Treatment Plant
- CCCSD Trunk Sewers
- CCCSD Concord Industrial Pump Station
- City of Concord Trunk Sewers
- ◆ City of Concord Sewer Pump Station
- - - Planned Trunk Sewers
- CCCSD Wastewater Treatment Plant
- CCCSD Recycled Water System
- - - CCCSD Planned Recycled Water System
- PG&E Electricity (overhead lines at the site)
- PG&E Natual Gas Pipelines
- PG&E Concord Gas Meter Station
- Comcast Telecom (at the site)
- Oil/Petroleum Pipelines (at the site)

Base Map

- Concord City Limit
- Site Area
- Park or Open Space
- Swamp or Marsh
- Railroad
- Mt. Diablo Creek
- Canal
- Other Creek or Stream

Notes & Sources

CCCSD: Central Contra Costa Sanitary District
 CCWD: Contra Costa Water District

Figure 16-1
Existing Major Utility Network

16.1.2 Wastewater Management

Wastewater generated at the site is collected in either the Central Contra Costa Sanitary District (CCCSD) system or by the City of Concord. Approximately 43 percent of the site was annexed by CCCSD in 1967 as part of its DA 12-1 service area, which mainly includes the northeastern portion of the site, except for a small portion of land in the west near the abandoned airfield. Another 43 percent of the site, the southwestern portion, does not have an existing sewer system but is entitled to have its sanitary sewer collection service provided by the City of Concord and wastewater treatment services provided by CCCSD. The remaining 14 percent of the site, near the abandoned airfield, currently does not have a designated sanitary sewer collection service provider. Its future sanitary sewer collection services could either be provided by CCCSD or the City of Concord, while the wastewater treatment service would be provided by the CCCSD.

16.1.2.1 City of Concord Wastewater System

The City of Concord maintains and operates the majority of the sewer collection system in Concord, all of the sewer collection system in Clayton, and a small portion of the sewer collection system in Walnut Creek as well as certain unincorporated areas in the county, primarily in the Ayers Ranch area. The sewage is conveyed to CCCSD's system through three sewage collection zones, each with its own meter. The largest zone flows by gravity to Concord's Sewage Pump Station, located next to Waterworld at the confluence of Pine Creek and the Walnut Creek Flood Control Channel. This zone accounts for approximately 86 percent of the City's total flow. The other two zones are gravity-flow all the way to their connection with CCCSD's system.

The City is responsible for paying a flow-proportional share of the costs associated with operating and maintaining CCCSD's Wastewater Treatment Plant (WWTP), as well as a flow-proportional share of related CCCSD capital costs (e.g., treatment plant improvements). The City has a 20 Year Sewer Enterprise Plan which forecasts the anticipated revenues and expenditures associated with operating and maintaining the Sewage Pump Station and sewage collection system, the cost of treating the City's sewage at CCCSD, Concord's share of related CCCSD capital improvements, and capital improvement projects associated with Concord's sewage infrastructure.

The City's sewer collection infrastructure consists of approximately 502 miles of underground pipelines. The sewer mains range in size from 6 inches to 54 inches in diameter, and the portion of the sewer laterals that Concord maintains are typically 4 inches to 6 inches in diameter. The Concord Sewage Pump Station pumps an average of approximately 12 mgd to CCCSD, but is capable of pumping up to 40 mgd during peak wet weather flows (PWWF). An additional 8 mgd of wastewater can be conveyed to CCCSD from the Sewage Pump Station through two gravity-flow bypass lines.

16.1.2.2 Central Contra Costa Sanitary District

CCCSD (CCCSD, 2000) is a special district, established in 1946, providing sewage collection, wastewater treatment, recycled water distribution and household hazardous waste collection services. Its service area is approximately 142 square miles, including Concord, Clayton, Walnut Creek, Pleasant Hill, Lafayette, Moraga, Orinda, Danville,

portions of Martinez and San Ramon, and the adjacent unincorporated areas within Contra Costa County. The total population served is 448,700, as of 2007.

CCCSD provides sewage treatment for the City by contract. In addition, CCCSD maintains and operates a limited amount of collection pipes within the City's limit. CCCSD's sewer collection infrastructure consists of about 1,500 miles of underground pipelines. The pipes range in size from 6 inches to 102 inches in diameter.

Wastewater generated from homes and businesses in Concord and in other central Contra Costa County communities flows through underground pipelines to the WWTP northeast of the intersection of Interstate Highway (I-) 680 and State Route (SR). Much of the wastewater flows through the pipes by force of gravity. Some areas exist, however, where hills prevent natural flow and pumping facilities are required to "lift" the water over these inclines.

CCCSD and the City have initiated design and construction of the second phase (Phase 2A) of their A-Line Relief Interceptor project, the goal of which is to eliminate the need for the existing Concord Sewage Pump Station. The new line is designed to be deep enough to allow for a gravity-flow connection between the City's sanitary sewer collection system and CCCSD's system. The A-Line Relief Interceptor project will include installation of 10,955 feet of 48-inch to 102-inch-diameter sewer pipes and 3,100 feet of 8-inch diameter recycled water main from CCCSD's WWTP via Buchanan Field's Golf Course to the intersection of Meridian Park Boulevard and Galaxy Way in Concord. The A-Line Relief Interceptor Project is expected to be completed no later than 2010.

16.1.2.3 Wastewater Treatment and Disposal

The WWTP (CCCSD, 2007) currently collects and treats an average of 48 mgd of wastewater per day for residents and businesses in central Contra Costa County. Wastewater is treated to either secondary or advanced levels. The secondary treated wastewater is released into Suisun Bay, while the water destined for recycling receives additional advanced treatment steps at CCCSD's Filter Plant. This treatment includes chemical-assisted filtration and chlorine disinfection. The result is high-quality recycled water suitable for nonpotable uses. The CCCSD stores all excess recycled water at the 30-million gallon capacity WWTP storage basin.

The WWTP is mainly operated with its own cogeneration power plant, using natural gas and methane gas from a neighboring landfill. Secondary back-up generators have been installed to provide emergency electricity. The WWTP also has a connection with Pacific Gas and Electric Company (PG&E).

The WWTP's physical maximum capacity is treating 90 mgd, but its permitted treatment plant capacity in the dry weather season is 53.8 mgd, which is the effluent discharge limit to Suisun Bay set by the District's National Pollution Discharge Elimination System (NPDES) permit approved by the California Regional Water Quality Control Board, San Francisco Bay Region (Water Board). The average dry weather flow (ADWF) of the WWTP in Fiscal Year 2005 was 41.4 mgd. During wet weather, the District diverts excess sewer inflow into a holding tank in the WWTP, and can handle up to 240 mgd of wet weather flow while remaining within the effluent discharge limit of 53.8 mgd.

16.1.2.4 Recycled Water

The site does not have any existing recycled water service and any future recycled water service will be provided by CCCSD. The closest service connection point for obtaining recycled water is west of the site, either at the WWTP or by connecting to the existing or planned extensions of the recycled water distribution system shown on Figure 16-1. CCCSD has a current recycled-water generation capacity of approximately 3 mgd. This capacity has already been allotted to current and future customers in the Concord/Pleasant Hill (Zone 1) area. Additional generation capacity can be obtained with improvements to the filtration and disinfection systems.

The recycled water is approved for non-potable purposes only, such as irrigation, landscaping and industrial uses, but it is not treated to drinking water standards and is not to be used for potable purpose or meeting fire demand requirement.

16.1.3 Stormwater Management

The storm drainage pattern at the site is controlled generally by the topography and the surface drainage features. The majority of the existing site is pervious, undeveloped area which allows certain amounts of rain run off to infiltrate into the ground and reduce the total runoff to surface water features.

The City is responsible for the operation and maintenance of the storm drainage collection system within the City limits and the City's system is solely conveyed through gravity-flow.

The City of Concord stormwater collection system is composed of 229 miles of storm drain pipes, 1,140 manholes and almost 6,000 catch basins, and is maintained by the Public Works Maintenance Services Department. The storm drain pipes typically drain into 11 miles of creeks and drainage channels, among them Mt. Diablo Creek, Galindo Creek, Pine Creek and their tributaries, and/or the Walnut Creek Flood Control Channel, which is maintained by the Contra Costa County Flood Control and Water Conservation District (CCCFC&WCD).

The majority of the site's rain runoff drains into Mt. Diablo Creek due to the site topography. Mt. Diablo Creek and Holbrook Channel, also known as the Clayton Valley Drain, are the major surface drainage features within the site. The Clayton Canal and Contra Costa Canal are also within the site and can convey stormwater even though the Contra Costa Canal's major function is to transport raw water as previously introduced (Welch, 2006, pers. comm).

The Holbrook Channel receives storm runoff from an upstream watershed in the City through a 36-inch outfall at the intersection between Willow Pass Road and the site boundary. According to the City of Concord (Pascual, 2006, pers. comm.), in a recent storm event, a portion of the Holbrook Channel near the abandoned airfield and the area at the outfall location experienced flooding. The City of Concord believes it is due to the existing undersized culvert crossings, which may be the three 18-inch pipe culverts crossing the Contra Costa Canal and/or the two 72-inch pipe culverts near the intersection of Willow Pass Road and Olivera Road. There is no existing capacity analysis report for the City's storm drainage system.

The CCCFC&WCD maintains and oversees maintenance of surface water bodies within its service area including Mt. Diablo Creek and the Holbrook Channel. The District ensures that adequate capacity exists to manage stormwater runoff from development and requires that storm channels be designed to handle a 25-year storm event. Storm drainage facilities require meeting the CCCFC&WCD's standards and ensuring adequate and safe flow to minimize flooding.

As described in Chapter 7. Hydrology and Water Quality, the Federal Emergency Management Agency (FEMA) flood maps were completed for the site in 1996 and updated in 2000. Approximately 125 acres of the site are designated by FEMA as being within the 100-year Floodplain Zone.

The City's Municipal Code, Chapter 86 "Stormwater Management and Grading and Erosion Control," requires new development to submit a grading permit and a stormwater control plan that meets the criteria in the most recent version of the Contra Costa Clean Water Program Stormwater C.3. Guidebook; to control discharge to meet the City's NDPES permit requirements; and be in compliance with Best Management Practices (BMPs) in order to reduce erosion, sedimentation, and other urban runoff from parking lots and commercial centers through the use of permeable surfaces, on-site detention, sediment trapping and filtering, and landscaping.

The Contra Costa Clean Water Program's Joint Municipal NPDES Permit, Provision "C.3" was amended on February 19, 2003. The Amended Stormwater Permit requires most new and redevelopment projects to capture and treat and/or infiltrate a specific quantity of stormwater onsite prior to discharge. It also requires that new runoff be managed to protect streams from erosive flows. To effectively address these new development standards, today's drainage systems must cost-effectively manage flooding, control streambank erosion, and protect water quality.

The following are some of the current requirements related to stormwater management:

- Project site designs must minimize the area of new roofs and paving.
- Where feasible, pervious surfaces should be used instead of paving so runoff can percolate to the underlying soil.
- Water runoff from impervious areas must be captured and treated.
- Projects may also be required to detain or infiltrate runoff so that peak flows and durations match pre-project conditions.
- In addition, project applicants must prepare plans and execute agreements to ensure that the stormwater treatment devices are maintained in perpetuity.

16.1.4 Solid Waste Management

Solid waste, recycling and greenwaste collection services at the site are currently provided by Concord Disposal Service (CDS), which was established in the 1930's to provide residential and commercial garbage and recycling collection services for the City of Concord (CDS, 2005). Figure 16-4 shows the existing solid waste facilities in the vicinity of the site.

16.1.4.1 Solid Waste Disposal

Based on the *City of Concord 2030 Urban Area General Plan (General Plan)* (City of Concord, 2007a), the total amount of solid waste generated in the CDS service area was about 247,259 tons. Forty-four percent was diverted for recycling, resulting in a net solid waste disposal of 138,465 tons per year. Approximately 73 percent of the total (100,937 tons) was disposed of at the Potrero Hills Landfill. The remaining 27 percent of the solid waste was disposed of at the Keller Canyon Landfill.

16.1.4.2 Landfills

The Potrero Hills Landfill (CIWMB, 2005) is located along Highway 12 in Suisun City, about 16 miles to the north of the site in Solano County. It is a Class III Landfill with a projected closure date of January 2011. The facility accepts municipal solid waste, industrial waste, construction waste, ash, tires, and sludges. Based on the most current data available, the facility has a permitted capacity of 21.5 million cubic yards (cy) and can accept up to 4,330 tons per day. The remaining capacity as of Year 2006 was 8.2 million cy. The yearly disposal tonnage was 896,475 in 2005.

Keller Canyon Landfill is located on Bailey Road in Pittsburg about 4 miles northeast of the site. The Keller Canyon Landfill is a Class II Landfill with a projected closure date of December 2030. The facility accepts municipal solid waste, non-liquid industrial waste, contaminated soils, ash, grit and sludges. The facility has a permitted capacity of 75 million cy and can accept up to 3,500 tons per day. The remaining capacity as of 2000 was 68.3 million cy. The yearly disposal tonnage was 842,629 in 2005.

16.1.4.3 Residential and Commercial Solid Waste Recycling

The City of Concord and other California communities are required by state law to achieve at least a 50 percent recycling rate each year starting in the year 2000. This means that 50 percent of all solid waste generated annually in the community by residences and businesses, including construction and demolition waste, must be diverted from the landfill by recycling programs. Residential, commercial, industrial, and office recycling services, including greenwaste commonly referred to as yard waste, are available through CDS.

The City of Concord is also served by the Household Hazardous Waste Collection Facility that is operated by CCCSD. Programs such as these have led to an increase in the amount of the City's solid waste that is diverted from landfills.

16.1.4.4 Construction and Demolition Waste Recycling

The City of Concord has a Construction and Demolition Recycling Ordinance (City of Concord, 2007b), effective July 1, 2007 that requires recycling of a minimum of 50 percent of all construction and demolition waste and 75 percent of all concrete, soil, asphalt, and masonry products (inert debris). The material can be recycled or reused, as long as it is diverted from disposal in a landfill. The amount of self-hauled construction and demolition waste in Concord in 2004 was approximately 20,649 tons, or 8.3 percent of total waste generation.

16.1.5 Electrical Supply

The Navy currently purchases electrical power for the site directly from the Western Area Power Administration (Western) (WAPA, 2008) and distributes the power throughout the majority of the site using a 4.16-kilovolt (kv) system. Western most likely will not continue to be the electricity supplier for the site in the future because it functions as an electricity wholesaler.

PG&E, which is the electricity supplier for the City of Concord, will most likely be the future electricity supplier for the site. PG&E has a 21-kv overhead line running through the middle of the site adjacent to Kinne Boulevard, parallel to Western's transmission facilities; and a 12-kv line passes through the site adjacent to Willow Pass Road. These electricity distribution lines also provide utility feeds to the City of Clayton and to the area north of Willow Pass Road. PG&E also operates a 115-kv transmission route in the utility corridors. This transmission line travels from east to west parallel to SR 4 in Pittsburg, turns south at the intersection of SR 4 and Kirker Pass Road, and continues along Kirker Pass Road toward the southwest. Several of PG&E's electrical substations are currently located in the City of Concord.

PG&E obtains its energy supplies from power plants (CEC, 2008) in northern California and from energy purchased outside its service area and delivered through high voltage transmission lines. In Contra Costa County, 25 power plants, such as Calpine's Los Medanos Energy Center in Pittsburgh (Calpine, 2008), with combined on-line baseload capacity provide about 4.4 thousand megawatts.

16.1.6 Natural Gas Supply

PG&E currently is the natural gas supplier for the site and the City of Concord. A PG&E natural gas distribution line terminates near the front entrance gate of the site, north of SR 4. A 24-inch high-pressure gas main traverses the site north of SR 4 and a 20-inch high-pressure gas main travels in the utility corridor next to Kirker Pass Road. PG&E's Concord Gas Meter Station is located at the north of the intersection between Port Chicago Highway and SR 4.

Natural gas is provided to the City by PG&E from several gas lines stretching from Milpitas to San Francisco. Gas is delivered from basins in Canada and/or Texas by transmission mains and deposited at PG&E's Milpitas Gas Terminal.

16.1.7 Petroleum and Oil Transmission Pipeline Systems

According to the National Pipeline Mapping System (DOT, 2007), three pipelines traverse the site: a 20-inch-diameter pipeline operated by Shell Pipeline Company LP, a 10-inch-diameter pipeline operated by Kinder Morgan, and a 16-inch-diameter pipeline operated by ConocoPhillips all run longitudinally across the site, along its southern boundary. Figure 16-1 shows the location of existing petroleum and oil transmission pipeline at the site.

Record drawings were obtained for the pipelines that show the pipeline easement right-of-way is typically 20 to 25 feet in width. A title survey for the site will be required to reveal any additional information about pipelines or pipeline easements on the site. Petroleum-pipeline warning markers are located onsite along the pipeline alignment.

16.1.8 Information Technology/Communications (IT/COMM)

AT&T is the major telecommunication provider in the City. Comcast and Astound Broadband also provide telecommunication as well as cable television services in the City. Underground conduits and overhead cables are present at the site. The site is within the franchise agreement area between Comcast and the City. Comcast maintains an existing aerial line running through the site and a 2-inch conduit fiber-optic cable runs across the site transversely in the area between Port Chicago Highway and Willow Pass Road.

16.2 Standards of Significance

Criteria for determining the significance of impacts to utilities have been developed based on Appendix G of the California Environmental Quality Act (CEQA, 1970) Guidelines and relevant agency thresholds. For the purposes of this Environmental Impact Report (EIR), an alternative may have a significant impact on utilities if it would:

- Exceed wastewater treatment requirements of the Water Board.
- 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.
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Result in insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Result in insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Violate federal, State, and local statutes and regulations related to solid waste.

16.3 Potential Utilities Impacts

This section begins with a description of assumptions that have been incorporated in the analysis of potential impacts to utilities. Then, impacts common (C) to all seven alternative reuse concepts are identified. Impacts that are considered to be significant are presented first, accompanied by an explanation of why the application of a standard resulted in a determination that the impact would be significant. When a significant impact has been set forth, mitigation measures to address that potential impact are also presented, along with a determination of whether the impact will continue to be significant after implementation of the mitigation measure. Next, impacts that are less than significant are presented. After the presentation of information about the impacts common to all of the seven alternative reuse concepts, information is then presented about potential population, housing, and

employment impacts that are specific to Alternative Concepts 1 through 7. Potentially significant impacts and mitigation measures are presented first, followed by impacts that are considered to be less than significant. The section concludes with a description of the potential impacts of the “No Project” (NP) Alternative.

16.3.1 Assumptions about Potential Utilities Impacts

The following are assumptions that have been applied in the analysis of the potential utility impacts of the seven alternative reuse concepts. These assumptions are based on information gathered during the planning process to develop the seven alternative reuse concepts. This information has been incorporated into all reuse concepts as ways to avoid or minimize their environmental consequences.

- All future development at the site will need to comply with the requirements of the General Plan. Table 16-1 identifies the principles and policies set forth in the General Plan that will need to be complied with to ensure adequate public utilities to support development at the site.

Table 16-1: City of Concord Requirements Related to Provision of Utilities

Principle PF-1.1:	Provide a Safe and Reliable Water Supply.
Policy PF-1.1.1:	Coordinate with the Contra Costa Water District (CCWD) to provide an adequate and safe water supply.
Policy PF-1.1.2:	Encourage water conservation through City programs and cooperation with the CCWD.
Policy PF-1.1.3:	Coordinate with the San Francisco Bay Regional Water Quality Control Board to provide for the implementation of Stormwater Management Programs intended to protect receiving water sources from pollutants.
Principle PF-1.2:	Ensure Public Health and Safety by Providing Effective Wastewater Collection and Treatment.
Policy PF-1.2.1:	Operate and maintain the City-owned wastewater collection system, including transfer to Central Contra Costa County Sanitary District for treatment and disposal.
Policy PF-1.2.2:	Reduce the need for sewer system improvements by requiring new development to incorporate water conservation measures.
Policy PF-1.2.3:	Cooperate with Central Contra Costa Sanitary District and other service providers to develop a wastewater reclamation program as a supplement to water supplies.
Principle PF-1.3:	Protect the Community from Adverse Impacts of Water Runoff.
Policy PF-1.3.1:	Require new development to provide any needed storm drains that are not part of the city’s master storm drain system and to incorporate features into site improvement plans to minimize surface runoff. <i>Such features may include additional landscaped areas and/or swales, permeable paving, parking area design that minimizes runoff and stormwater detention basins.</i>
Policy PF-1.3.2:	Schedule master drainage improvement projects in the Capital Improvement Program.
Policy PF-1.3.3:	Maintain master storm drain system maps that identify locations where easements should be reserved for the eventual installation of pipes and

	<p>structures to ensure appropriate storm drainage management.</p> <p><i>By providing clear guidelines to developers, the City can minimize costs of storm drainage improvements and ensure the system works efficiently.</i></p>
Policy PF-1.3.4:	Continue the Drainage Area Fee Program to fund master storm drainage improvements.
Policy PF-1.3.5:	Ensure that new development contributes needed drainage improvements in proportion to a project's impacts, to assure an equitable distribution of costs to construct and maintain the City's master storm drainage system.
Principle PF-1.4:	Ensure Access to Utility Systems.
Policy PF-1.4.1:	Require new development to coordinate with all utility providers to assure quality services to all residents and businesses throughout the community.
Principle PF-1.5:	Continue Solid Waste Reduction and Recycling Efforts.
Policy PF-1.5.1:	<p>Continue reduction and recycling efforts within the City to divert increasingly larger portions of the waste stream from local landfills.</p> <p><i>The City diverts approximately 50 percent of potential landfill material by utilizing a variety of programs, such as curbside recycling, recycling of debris from construction sites, back yard composting and recycling of green waste and tires.</i></p>
Policy PF-1.5.2:	<p>Promote the importance of recycling industrial and construction wastes.</p> <p><i>Industrial and commercial uses create significantly higher waste streams than do residential uses. The diversion of recyclable materials from commercial and industrial uses would greatly reduce the waste tonnage sent to local landfills each day.</i></p>
Policy PF-1.5.3:	Prepare and distribute informational handouts to the public regarding opportunities to reduce waste at homes and businesses, as well as methods of safe disposal of hazardous materials.
Policy PF-1.5.4:	Require builders to incorporate adequate storage areas appropriately screened from the street for recyclables into new multifamily, commercial and industrial structures.

- It is unknown how the existing water distribution system at the site, including the five water pump stations and the five water storage tanks, will be incorporated into any of the seven alternative reuse concepts.
- The future site uses in the areas currently occupied by the Contra Costa Canal and the Clayton Canal require further planning and analysis. The Contra Costa Canal could be rerouted or placed in a pipe but such action would require approval of CCWD and the USBR. Abandonment of the unused Clayton Canal would require the same approvals and Congressional action. In addition, the City of Concord or some other legal entity would need to become responsible for the 1.35 miles of the Clayton Canal that are located off the site.
- The closest connection to the CCCSD 3 mgd recycled water system is at the WWTP or along the existing or proposed recycled water distribution lines. If recycled water were to be provided to the site, the capacity of the existing treatment facility would need to be expanded and a connection to the site would need to be developed.

- Stormwater from the site would be managed to comply with NPDES requirements. Management of stormwater will incorporate all the requirements identified in Section 16.1.3 of this chapter. Stormwater management measures shall also incorporate best management practices (BMPs) required by the Water Board for all development.
- Solid waste management at the site will comply with State diversion requirements.
- Solid waste from demolition of the existing munitions storage bunkers, railroad revetments, and buildings will be managed to comply with the requirements of the Concord Construction and Demolition Recycling Ordinance. Similarly, solid waste from site construction will be managed to meet the ordinance requirements.
- Future electricity and natural gas needs will be supplied by PG&E. Future IT/COMM needs will be provided by the local franchise holders or other appropriate providers.
- The uses allowed in the areas where the existing petroleum pipelines are located will be compatible with those facilities and will respect their existing easements or the pipelines will need to be rerouted and paid for as part of the development of the alternatives.
- The utilities demand analyses are based on the land uses proposed for the seven alternative reuse concepts. At a maximum, build-out of the site would create a minimum of 6,250 new residential units (Alternative 7) and a maximum of 13,000 units (Alternative 2). This would result in a minimum population of 14,700 at the site (Alternative 7) and a maximum population of 30,600 (Alternative 2) by 2030. For the purposes of utilities demand analysis, impacts were determined based on the maximum potential development level and mitigation measures were identified to mitigate for the maximum potential development level.
- The site is assumed to have only minimal existing utility demand. Table 16-2 shows the initial assessment of the estimated maximum demand for the potential development with the seven alternative reuse concepts. It is recognized that the seven alternative reuse concepts could vary in utility demands depending on the final site configuration/design and when development would occur. Therefore, using the maximum design is considered a conservative estimate.

Table 16-2: Maximum Estimated Utility Demand

Type of Utilities	Maximum	Demand
Potable Water	6.9	mgd
Wastewater	3.1	mgd
Irrigation Water (Recycled/Untreated Water)	1.1	mgd
Electricity	0.106	Mega-Kw
Natural Gas	11.0	Mega-Therm/yr
Solid Waste	74.2	Kilo-Ton/yr

Notes: mgd = million gallons per day, KW = kilowatt, /yr = per year.

Source: Arup, 2008.

- The maximum estimated utility demand among the seven alternative reuse concepts is summarized in Table 16-3.

Table 16-3: Estimated Utility Demand for the Proposed Seven Alternative Reuse Concepts

Utilities Demand	Unit	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Assumptions
Treated Water	mgd	5.7	6.9	6.2	5.4	5.2	4.4	3.8	Residential demand 80 gpd per resident including irrigation of 1,785 gpd per acre of landscape area; Office demand 50 gpd per employee; Retail demand 15 gpd per person; Hotel demand 170 gpd per room Campus demand 75 gpd per student; Health Care demand 80 gpd per bed; Other facilities demand varies from 0.13 to 0.39 gallon/gsf
Untreated Water	mgd	0.88	0.89	1.1	1.1	0.79	0.92	0.71	Exclude residential irrigation demand; Include irrigation demand of 1,785 gpd per acre of landscape area; Exclude open space, not requiring any irrigation.
Waste-water	mgd	2.2	3.1	2.6	2.3	2.3	2.0	1.7	High and moderate density residential generation: 150 gallons/unit Low density residential generation: 225 gallons/unit Commercial generation: 100 gallons/1,000 square feet
Solid Waste	kilo-ton/yr	47.4	74.2	61.6	53.6	62.9	54.3	47.0	Residential Disposal Rate 0.42 tons/capita/year Multi-Family Unit Disposal Rate 0.46 tons/unit/year Commercial Disposal Rate 0.3 – 2.1 tons/employee/year
Electricity	mega-kW	0.091	0.106	0.096	0.083	0.076	0.071	0.057	Residential demand 0.0024 kW/gsf Office demand 0.0030 kW/gsf Retail demand 0.0060 to 0.0080 kW/gsf Hotel demand 0.0050 kW/gsf Campus demand 0.0040 kW/gsf Street demand 0.0002 kW/sf Other facilities demand 0.0004 to 0.0040 kW/sf
Natural Gas	mega-therm/yr	9.5	11.0	9.4	8.3	7.7	7.0	5.7	Residential demand 0.2 therm/year/sf Office demand 0.3 therm/year/sf Retail demand 0.4 therm/year/sf Hotel demand 0.3 therm/year/sf Campus demand 0.12 therm/year/sf Other facilities demand 0.08 to 0.3 therm/year/sf

Notes: gpd = gallons per day; mgd = million gallons per day; kW = kilowatts; sf = square feet; gsf = gross square feet; yr = per year.
Source: Arup, 2008.

- The maximum estimated demand for treated water, wastewater, electricity, natural gas and solid waste occurs with Alternative Concept 2 because that alternative would result in the greatest increase in population among all seven alternative reuse concepts. The maximum estimated demand for irrigation water, which could be met by using either recycled or untreated water, occurs in Alternative Concepts 3 and 4 because among the seven alternative reuse concepts, these alternatives would result in the greatest area designated, approximately 625 acres, for parks and recreational facilities among the seven alternative reuse concepts.

16.3.2 Utilities Impacts Common (C) to all Seven Alternative Reuse Concepts

16.3.2.1 Common Potentially Significant Utilities Impacts

Impact Utilities C-1: Implementation of the seven alternative reuse concepts would result in an increase in demand for water that could exceed supply limits. This impact is considered to be potentially significant.

The projected population growth that could occur as a result of the seven alternative reuse concepts ranges from 14,700 (Alternative 7) to 30,600 (Alternative 2). CCWD completed the Future Water Supply Study (FWSS) to identify alternatives to offer customers a high quality, reliable supply for the next 50 years. The FWSS examined water demand, conservation, and existing and potential supplies for a range of service area alternatives. The demand projections and supply alternatives developed by CCWD were based on approved general plans for the cities and communities served by CCWD.

The development that would occur as a result of implementation of any of the seven alternative reuse concepts is not anticipated in the Concord General Plan because the site was excluded from the General Plan update effort. With the potential of land transfer from Navy ownership and urban development and population increase that would occur with the alternatives, additional water supply would be required for all alternatives. CCWD has not included the increase demand for water from the reuse alternatives or any new facilities to support that growth in its projections, resulting in a potentially significant impact. Further, there could be disruptions to the ability to provide water as a result of climate change which could reduce the snow pack in the Sierra Nevada or result in other changes that would prevent CCWD from having sufficient water supplies to meet the needs of any of the seven alternative reuse concepts.

Mitigation Measure Utilities C-1: The City of Concord shall provide all needed information regarding the population and land uses requiring water supply as a result of the development associated with the seven alternative reuse concepts so that CCWD can assess the future water demand and prepare a Water Supply Assessment (WSA). No development of the site shall be allowed by the City of Concord until CCWD can demonstrate that adequate supplies can be delivered to meet the identified water demands. With the implementation of this mitigation measure, this potential significant impact will be reduced to a level that is less than significant.

Pursuant to Water Code Section 10910, et seq., the City shall request that CCWD prepare a WSA once a Reuse Plan has been approved. CCWD can use the information required to

be provided by the City to update its plans, to secure additional supplies, and to program facilities improvements to accommodate the development at the site. Additional water could be obtained from the CVP, from purchase and transfer of water rights, or other sources. CCWD will prepare an evaluation of the development alternatives to identify the water supply facilities required to provide service to the site. The demand analysis may result in demand calculations that will differ from those presented in Tables 16-2 and 16-3 above. Implementation of this mitigation measure will ensure adequate supplies are available to meet the needs of any new development and this impact would be reduced to a level that is less than significant.

Impact Utilities C-2: Implementation of the seven alternative reuse concepts would result in a need for potable water that could require the construction of new or expansion of existing facilities to provide treated water. This impact is considered to be potentially significant.

The average day demand for potable water would range from a minimum of 3.8 mgd (Alternative 7) to a maximum of 6.9 mgd (Alternative 2). If the additional supplies are available to meet these needs, limited water treatment capacity exists currently at the two WTPs. The construction of a sedimentation basin (CCWD, 2006) at Randall-Bold WTP has been completed that maximizes uses of that plant's design capacity of 40 mgd. The Randall-Bold WTP was designed to be expandable to up to 80 mgd.. However, even if CCWD has adequate water treatment capacity to meet the needs of the seven alternative reuse concepts, there is inadequate infrastructure at the site to deliver and distribute the water.

Mitigation Measure Utilities C-2: The City of Concord shall ensure that all required water distribution systems, water storage tanks, pump stations, and other facilities at the site to supply the demand for potable water are constructed to meet CCWD's requirements and standards. With the implementation of this mitigation measure, the potentially significant impact will be reduced to a level that is less than significant.

New treated water distribution system components, including water storage tanks, pump stations, and other facilities (including treated and untreated water conveyance), will need to be constructed at or adjacent to the site to accommodate the anticipated demand. The water storage tanks shall be designed with the operational, emergency, and fire service capacities required by CCWD. Implementation of this mitigation measure will ensure needs of the new development would be reduced to a level that is less than significant.

Impact Utilities C-3: Implementation of the seven alternative reuse concepts could result in an increase in demand for untreated or raw water for irrigation or other non-potable uses. However, providing untreated water to the site would require a new distribution system, possibly including pump stations and storage tanks. This impact is considered to be potentially significant.

Untreated, raw water could be taken from the Contra Costa Canal that crosses the site. The increase in parks and recreational facilities associated with the alternatives, depending on how they are designed, could result in areas that have the potential to be irrigated with untreated water. There is also the potential that untreated water could be used to supply

residential, commercial, and community facilities at the site, if those potential uses comply with applicable regulations.

The demand for non-potable water for implementation of the seven alternative reuse concepts is not addressed in the Concord General Plan. CCWD has not included the potential increased demand for untreated water that could result from the implementation of any of the seven alternative reuse concepts in its projections.

Mitigation Measure Utilities C-3a: The City of Concord shall provide data to CCWD and request that CCWD assess the future demand for untreated or raw water supplies to demonstrate that they can supply the water to the site as part of the WSA.

Mitigation Measure Utilities C-3b: Based on agreement with CCWD on the amount of raw water to be supplied, the City of Concord shall ensure that future development at the site includes construction of the untreated water distribution system, storage tanks/ponds, filtering system, pump stations, and other facilities needed to supply the desired amount of untreated or raw water.

Mitigation Measure Utilities C-3c: The City of Concord shall ensure that any untreated or raw water obtained from the Contra Costa Canal will be at a metered location designated by CCWD.

Mitigation Measure Utilities C-3d: The City of Concord shall ensure that any use of untreated or raw water at the site includes the measures identified by CCWD to upgrade or improve the Contra Costa Canal to supply the agreed to amount of water. With the implementation of these mitigation measures, this potentially significant impact will be reduced to a level that is less than significant.

The City and CCWD will work together to identify the potential level of use of untreated or raw water at the site. CCWD can use the information to update its plan and to identify ways to obtain the additional water and to program facilities improvements to accommodate for the level of use of untreated or raw water as part of the WSA that will be prepared in accordance with Water Code Section 10910 et. seq.

It is recognized that CCWD can provide untreated or raw water to the site directly during most of the year from the Contra Costa Canal for irrigation and other purposes if the supply is available. The use of untreated or raw water could reduce the demand for potable water. However, depending on how the alternatives are to be developed, a separate system supplied either with treated or untreated water may be required to accommodate the interruption of untreated water service during the Contra Costa Canal annual maintenance period. Cross connecting treated and untreated water is unacceptable. The City will also need to require that future development at the site includes the facilities required to store and distribute the untreated or raw water and that the water is obtained from a location and in a manner that complies with the requirements of CCWD. The implementation of these mitigation measures will reduce this impact to a level that is less than significant.

Impact Utilities C-4: Implementation of the seven alternative reuse concepts would result in an increase in wastewater generation that could exceed the capability of the

CCCSD to comply with the wastewater discharge requirements of the Water Board. In addition, implementation of the seven alternative reuse concepts would result in an increase in wastewater generation that could exceed the capacity CCCSD and City facilities, resulting in the need to construct additional facilities. This impact is considered to be potentially significant.

The WWTP permitted effluent discharge limit of 53.8 mgd ADWF was obtained by CCCSD to accommodate buildout of the land use plans of jurisdictions within CCCSD's service area, expected to occur by the year 2035. Only substantial and currently unplanned development projects might increase wastewater treatment demand beyond the existing discharge limit, which is lower than the physical capacity of the wastewater treatment plan.

The projected increase in demand for wastewater treatment as a result of implementing any of the seven alternative reuse concepts would range from a minimum of 1.7 mgd (Alternative 7) to 3.1 mgd (Alternative 2) by 2030. As newly-planned growth, this additional wastewater generated could cause CCCSD to reach its effluent discharge limit sooner than 2035. Since sewer connections are issued on a first-come, first-served basis and whatever flow comes to CCCSD from the City must be accommodated, there may be room within the discharge limit at the time development at the site is ready for wastewater utility service. If all other wastewater flow projections used in the most recent discharge limit increase are realized, however, the discharge limit could be reached sooner than 2035. If that happens, some future development projects (planned pre-2000) could cause an additional discharge limit increase to be needed. Such an increase would require a discretionary approval by the Water Board. Conversely, there may still be sufficient wastewater treatment capacity with the development at the site if other growth does not build out as densely as planned, if a worst-case assumption of groundwater infiltration does not occur, or if CCCSD continues to be successful at recycling water.

If CCCSD reaches its effluent discharge limit and is unable to obtain a needed increase, a sewer connection moratorium could be triggered. A sewer connection moratorium would pose a barrier to growth. It is possible, though, that developers would seek alternative wastewater services (on-site package treatment plants, community septic systems, and similar options) to meet the needs of their projects. This impact is potentially significant.

Mitigation Measure Utilities C-4a: The City of Concord, in coordination with CCCSD, shall not allow any development at the site until it can be documented that sufficient capacity exists to transport, treat, and discharge wastewater to be generated at the site.

Depending on the split of wastewater flow between CCCSD's and the City's collection system, improvements could be needed to both systems, such as CCCSD's pipelines and pumping station in North Concord which had been sized for a much lower flow coming from the site. Similarly, CCCSD's WWTP may need improvements to its solids handling facilities and primary sedimentation processes. The City may also have sewer facilities that need expanding.

Impacts from construction of new facilities could include disturbances related to noise, air quality (dust) and traffic; however, these construction-related impacts would be temporary. These impacts would be considered less-than-significant given the impacts-minimizing

construction specifications of the two agencies. These potential improvements would result in temporary, less-than-significant construction-related impacts.

The demand for wastewater treatment required to support implementation of any of the seven alternative reuse concepts is not addressed in the General Plan. CCCSD has not included the potential increased demand for wastewater treatment that could result from the implementation of any of the seven alternative reuse concepts in its projections. By updating the projections for future wastewater generation in its service areas, CCCSD and the City will be able to include needed projects in their respective capital improvement and developer fee programs to fund these capacity expansions.

Mitigation Measure Utilities C-4b: The City of Concord shall require that all future development at the site include waste water discharge reduction strategies to reduce the discharge to the CCCSD. With the implementation of these mitigation measures, this potentially significant impact will be reduced to a level that is less than significant.

The demand for wastewater treatment required to support implementation of any of the seven alternative reuse concepts is not addressed in the Concord General Plan. The CCCSD has not included the potential increased demand for wastewater treatment that could result from the implementation of any of the seven alternative reuse concepts in its projections. By updating the projections for future wastewater treatment, the CCCSD will be able to program the development of the increase in capacity to meet the needs of the development. Also, the City of Concord will ensure that measures to reduce the demand for wastewater treatment are incorporated in the alternatives to reduce the need for treatment. Implementation of these mitigation measures will reduce this impact so it is less than significant.

Impact Utilities C-5: Implementation of any of the seven alternative reuse concepts would result in an increase in impervious surface which could increase the rate and amount of surface runoff and create additional runoff. This would result in an alteration of the existing site drainage pattern that would exceed the capacity of existing stormwater drainage system, and require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. This impact is considered to be potentially significant.

The majority of the existing site is pervious undeveloped area which allows a certain amount of rain runoff to infiltrate into the ground and reduces the total runoff to the surface water features. The potential development will increase the amount of impervious surface by introducing buildings and pavement, which will increase the rate and amount of surface runoff, as well as create additional runoff. The potential site development could also result in changes to the existing topography that may alter the existing drainage pattern of the site.

Mitigation Measure Utilities C-5: Prior to approving any development at the site, the City of Concord shall require new development to implement BMPs to reduce runoff and consult with the CCCFCWCD to manage any additional stormwater generated at the site. With the implementation of this mitigation measure, this potentially significant impact would be reduced to a level that is less than significant.

In addition to complying with the requirements of the Concord General Plan with respect to managing stormwater, BMPs will be required for all alternatives that would need to comply with NPDES permit requirements. In addition, compliance with the current requirements related to managing stormwater identified in Chapter 7. Hydrology and Water Quality, will further ensure that the NPDES requirements are met. However, there may need to be further capacity provided to effectively convey stormwater from the site. If the City of Concord withholds approval of development at the site until it can be demonstrated that there is adequate capacity to convey stormwater from the site, the potential impact will be less than significant.

Impact Utilities C-6: Implementation of the seven alternative reuse concepts would result in an increase in demand for electricity that could require or result in the construction of new electricity facilities, transformers, distribution systems, substations, or expansion of existing electricity facilities. This impact is considered to be potentially significant.

It is assumed that PG&E will be the electricity provider for households, businesses and community facilities at the site. The projected increase in electricity demand ranges from a minimum of 0.057 Mega kilowatt (mega-kW) for Alternative 7 to a maximum of 0.106 mega-kW for Alternative 2 by 2030.

PG&E has not included the increase electricity demand from the site in their projection for electricity demand and supply, since the proposed development program is not included in the City's General Plan.

There is no existing major electricity distribution system at the site to accommodate the new development.

Mitigation Measure Utilities C-6a: Prior to approving any development at the site, the City of Concord shall coordinate with PG&E regarding the planned development and provide data for PG&E to assess the future electricity demand.

Mitigation Measure Utilities C-6b: Prior to approving any development at the site, the City of Concord shall require that PG&E demonstrate that it can upgrade its existing electrical supply infrastructure and construct new electrical substations either on or off-site to meet potential energy demand for the development. With the implementation of these mitigation measures, this potentially significant impact will be reduced to a level that is less than significant.

It is assumed that PG&E can use the information provided by the City to update its planning processes and program facilities to accommodate the planned development. The City shall withhold development approvals until PG&E has demonstrated that it can supply the required electrical service to support development of any of the alternatives. Implementing these mitigation measures will reduce this potential impact to a level that is less than significant.

Impact Utilities C-7: Implementation of any of the seven alternative reuse concepts would result in an increase in demand for natural gas that could require or result in

the construction of new natural gas facilities, distribution systems, or expansion of existing natural gas facilities. This impact is considered to be potentially significant.

PG&E will be the natural gas provider for the site. The projected increase of natural gas demand for the alternatives would be a minimum of 5.7 Mega-Therm per year for Alternative 7 to a maximum of 11.0 Mega-Therm per year for Alternative 2 by 2030. PG&E has not already included the increase in natural gas demand from development at the site in its projections for natural gas demand and supply, because the potential development is not included in the Concord General Plan. No existing natural gas distribution system is present at the site to accommodate the potential development.

Mitigation Measure Utilities C-7a: Prior to approving any development at the site, the City of Concord shall coordinate with PG&E regarding the planned development and provide data for PG&E to assess the future natural gas demand.

Mitigation Measure Utilities C-7b: Prior to approving any development at the site, the City of Concord shall require that PG&E demonstrate that it can upgrade its existing gas supply infrastructure or construct new gas supply infrastructure to meet potential natural gas demand for the development. With the implementation of these mitigation measures, this potentially significant impact will be reduced to a level that is less than significant.

PG&E can use the information provided by the City to update its planning processes and program facilities improvement to accommodate for the planned development. The City shall withhold development approvals until PG&E has demonstrated that it can supply the required electrical service to support development of any of the alternatives. Implementing these mitigation measures will reduce this potentially significant impact to a level that is less than significant.

Impact Utilities C-8: Implementation of any of the seven alternative reuse concepts would result in an increase in demand of IT/COMM services at the site that would require additional levels of service or construction of additional IT/COMM facilities. This impact is considered to be potentially significant.

AT&T, Comcast, and/or Astound are the current IT/COMM providers in the City of Concord. They or another IT/COMM provider could service the site in the future. However, because there are minimal IT/COMM services and facilities at the site currently, development of any of the alternatives will require the provision of additional services and the development of new facilities. Provision of these additional services and facilities is considered to be a potentially significant impact.

Mitigation Measure Utilities C-8: Prior to approving any development at the site, the City of Concord shall require that the IT/COMM providers demonstrate that they can provide the needed services and facilities. With the implementation of this mitigation measure, this potentially significant impact will be reduced to a level that is less than significant.

The City shall withhold development approvals until the IT/COMM providers demonstrate that they can supply the required services and facilities to support the development of the

alternatives. Implementing this mitigation measure will reduce this impact to a level that is less than significant.

16.3.2.2 Common Utilities Impacts that are Less Than Significant

Impact Utilities C-9: Implementation of any of the seven alternative reuse concepts would result in an opportunity to use more recycled water at the site. However, additional treatment capacity would be required at the CCCSD WWTP to provide the additional recycled water and new transmission pipelines would be required to the site to convey the treated wastewater. This potential impact is considered to be less than significant.

The development of any of the alternatives would allow the incorporation of piping systems to be used for the distribution of treated water at the site. It is understood that any use of recycled water would have to comply with all applicable water quality regulations. The closest connection for obtaining recycled water is at the WWTP or along the existing recycled water distribution line or the proposed expansion line. A connection will have to be constructed from the existing treatment and distribution facilities to the site. In addition, the capacity of the WWTP to produce recycled water would have to be increased from the current production of 3.0 mgd. The potential increase in demand for the use of untreated water¹ at the site for irrigation is approximately 1.2 mgd, with the assumption that only the parks and recreational facilities and parkways will be irrigated by untreated water. However, treated water could also be used for irrigation at residential and commercial development; this would increase the need for additional treatment and for a larger distribution system. The use of recycled water could also result in a decrease in demand for water from the CVP system. Therefore, providing recycled water to the site would result in a condition that is considered to be a less than significant impact.

Mitigation Measure Utilities C-9: None required.

Impact Utilities C-10: Implementation of the seven alternative reuse concepts would increase residential and commercial land uses at the site, resulting in increased solid waste generation that the landfills in the service area may not have sufficient permitted capacity to accommodate. This potential impact is considered to be less than significant.

The CDS has not already included the increased solid waste generation and disposal in its planning scenarios, because the development proposed in the alternatives is not included in the Concord General Plan.

The estimated solid waste disposal from the alternatives would range from a minimum of 47.0 kilo-tons per year for Alternative 7 to a maximum of 74.2 kilo-tons per year for Alternative 2. This range of solid waste disposal is based on the assumption that residential disposal rates would be 0.42 tons per capita per year; multi-family unit would be 0.46 tons per unit per year; and commercial development would be 0.3 to 2.1 tons per employee per year. The maximum figure is the equivalent of 224 tons per day.

¹ Irrigation water demand may be fulfilled by using either recycled water or untreated water. Demand for other non-potable uses of recycled water or untreated water is not estimated in this EIR.

The daily capacity of Potrero Hills Landfill and Keller Canyon Landfill, at 4,330 and 3,500 tons per day, respectively, is expected to be sufficient to accommodate the increased generation of 224 ton per day. This comprises about 2.8 percent of Potrero Hills Landfill and Keller Canyon Landfill total daily capacity.

If the solid waste were disposed of at the Potrero Hills Landfill and the Keller Canyon Landfill at the same proportions as in 2004, which are 73 percent and 27 percent, respectively, the maximum yearly disposal tonnage to Potrero Hills Landfill and Keller Canyon Landfill from any of the alternatives would be approximately 54.2 and 20.0 kilo-tons per year, respectively. The yearly total disposal tonnage at Potrero Hills Landfill and the Keller Canyon Landfill is 391 and 200 kilo-tons per year, respectively. The projected increase of solid waste disposal demand from resulting from any of the alternatives would account for a maximum of 14 percent and 10 percent of Potrero Hills Landfill and the Keller Canyon Landfill yearly disposal tonnage, respectively.

The two landfills are expected to have sufficient permitted capacity to accommodate the solid waste disposal needs of the seven alternative reuse concepts. The projected closure dates for Potrero Hills Landfill (2011) and the Keller Canyon Landfill (2030), would be affected by the increase demand from the alternatives.

If the Potrero Hills Landfill and the Keller Canyon Landfill were closed before the current expected closure dates, the solid waste generated by the alternatives would require disposal at other permitted landfills with adequate capacity, but they could be further from the site. However, because there will be opportunities to dispose of the solid waste generated at the site at the Potrero Hills, Keller Canyon or other landfills this potential impact is considered to be less than significant.

Mitigation Measure Utilities C-10: None required.

16.3.3 Utility Impact of Alternative Concept 1

16.3.3.1 Potentially Significant Utilities Impacts of Alternative Concept 1

Impact Utilities 1-1: Alternative Concept 1 would result in development that would exceed the capacity of the existing systems supplying treated water, untreated water, wastewater and stormwater management, electricity, natural gas, and IT/COMMs. This impact is considered to be potentially significant.

Alternative Concept 1 would have a demand for treated water of 5.7 mgd, untreated water of .88 mgd, wastewater of 2.2 mgd (based on peak factor generation), electricity of .091 mega-kW, and natural gas of 9.5 mega therms per year as well as demand for stormwater management facilities. These demands exceed the current capacities of the CCWD, CCCSD, and PG&E. Also, new stormwater management facilities and IT/COMMs services and facilities would be required. Providing these new utilities will require new water, electricity, and gas supplies, treatment facilities, distribution facilities, and other infrastructure that is considered to create a potentially significant impact.

Mitigation Measure Utilities 1-1: Prior to allowing any development at the site, the City of Concord shall require implementation of Mitigation Measures Utilities C-1 through C-8. With the implementation of these

mitigation measure, this potentially significant impact will be reduced to a level that is less than significant.

The City of the Concord will withhold approval of any development as a result of Alternative Concept 1 until the appropriate utilities can demonstrate they have the capacity to serve the site. Implementing these mitigation measures will reduce this potential impact to less than significant.

16.3.3.2 Utilities Impacts of Alternative Concept 1 that are Less than Significant
None identified.

16.3.4 Utilities Impacts of Alternative Concept 2

16.3.4.1 Potentially Significant Utilities Impacts of Alternative Concept 2

Impact Utilities 2-1: Alternative Concept 2 would result in development that would exceed the capacity of the existing systems supplying treated water, untreated water, wastewater and stormwater management, electricity, natural gas, and IT/COMMs. This impact is considered to be potentially significant.

Alternative Concept 2 would have a demand for treated water of 6.9 mgd, untreated water of .89 mgd, wastewater of 3.1 mgd (based on peak factor generation), electricity of .106 mega-kW, and natural gas of 11.0 mega therms per year. These demands exceed the current capacities of the CCWD, CCCSD, and PG&E. Also, new stormwater management facilities and IT/COMMs services and facilities would be required. Providing these new utilities will require new water, electricity, and gas supplies, treatment facilities, distribution facilities, and other infrastructure that is considered to create a potentially significant impact.

Mitigation Measure Utilities 2-1: Prior to allowing any development at the site, the City shall require implementation of Mitigation Measures Utilities C-1 through C-8. With the implementation of these mitigation measure, this potentially significant impact will be reduced to a level that is less than significant..

The City of the Concord will withhold approval of any development as a result of Alternative Concept 2 until the appropriate utilities can demonstrate they have the capacity to serve the site. Implementing these mitigation measures will reduce this potential impact to less than significant.

16.3.4.2 Utilities Impacts of Alternative Concept 2 that are Less than Significant
None identified.

16.3.5 Utilities Impacts of Alternative Concept 3

16.3.5.1 Potentially Significant Utilities Impacts of Alternative Concept 3

Impact Utilities 3-1: Alternative Concept 3 would result in development that would exceed the capacity of the existing systems supplying treated water, untreated water,

**wastewater and stormwater management, electricity, natural gas, and IT/COMMs.
This impact is considered to be potentially significant.**

Alternative Concept 3 would have a demand for treated water of 6.2 mgd, untreated water of 1.1 mgd, wastewater of 2.6 mgd (based on peak factor generation), electricity of .096 mega-kW, and natural gas of 9.4 mega therms per year. These demands exceed the current capacities of the CCWD, CCCSD, and PG&E. Also, new stormwater management facilities and IT/COMMs services and facilities would be required. Providing these new utilities will require new water, electricity, and gas supplies, treatment facilities, distribution facilities, and other infrastructure that is considered to create a potentially significant impact.

Mitigation Measure Utilities 3-1: Prior to allowing any development at the site, the City shall require implementation of Mitigation Measures Utilities C-1 through C-8. With the implementation of these mitigation measure, this potentially significant impact will be reduced to a level that is less than significant.

The City of the Concord will withhold approval of any development as a result of Alternative Concept 3 until the appropriate utilities can demonstrate they have the capacity to serve the site. Implementing these mitigation measures will reduce this potential impact to less than significant.

16.3.5.2 Utilities Impacts of Alternative Concept 3 that are Less than Significant
None identified.

16.3.6 Utilities Impacts of Alternative Concept 4

16.3.6.1 Potentially Significant Utilities Impacts of Alternative Concept 4

**Impact Utilities 4-1: Alternative Concept 4 would result in development that would exceed the capacity of the existing systems supplying treated water, untreated water, wastewater and stormwater management, electricity, natural gas, and IT/COMMs.
This impact is considered to be potentially significant.**

Alternative Concept 4 would have a demand for treated water of 5.4 mgd, untreated water of 1.1 mgd, wastewater of 2.3 mgd (based on peak factor generation), electricity of .083 mega-kW, and natural gas of 8.3 mega therms per year. These demands exceed the current capacities of the CCWD, CCCSD, and PG&E. Also, new stormwater management facilities and IT/COMMs services and facilities would be required. Providing these new utilities will require new water, electricity and gas supplies, treatment facilities, distribution facilities, and other infrastructure that is considered to create a potentially significant impact.

Mitigation Measure Utilities 4-1: Prior to allowing any development at the site, the City shall require implementation of Mitigation Measures Utilities C-1 through C-8. With the implementation of these mitigation measure, this potentially significant impact will be reduced to a level that is less than significant.

The City of the Concord will withhold approval of any development as a result of Alternative Concept 4 until the appropriate utilities can demonstrate they have the capacity to serve the

site. Implementing these mitigation measures will reduce this potential impact to less than significant.

16.3.6.2 Utilities Impacts of Alternative Concept 4 that are Less than Significant
None identified.

16.3.7 Utilities Impacts of Alternative Concept 5

16.3.7.1 Potentially Significant Utilities Impacts of Alternative Concept 5

Impact Utilities 5-1: Alternative Concept 5 would result in development that would exceed the capacity of the existing systems supplying treated water, untreated water, wastewater and stormwater management, electricity, natural gas, and IT/COMMs. This impact is considered to be potentially significant.

Alternative Concept 5 would have a demand for treated water of 5.2 mgd, untreated water of .79 mgd, wastewater of 2.3 mgd (based on peak factor generation), electricity of .076 mega-kW, and natural gas of 7.7 mega therms per year. These demands exceed the current capacities of the CCWD, CCCSD, and PG&E. Also, new stormwater management facilities and IT/COMMs services and facilities would be required. Providing these new utilities will require new water, electricity and gas supplies, treatment facilities, distribution facilities and other infrastructure that is considered to create a potentially significant impact.

Mitigation Measure Utilities 5-1: Prior to allowing any development at the site, the City shall require implementation of Mitigation Measures Utilities C-1 through C-8. With the implementation of these mitigation measure, this potentially significant impact will be reduced to a level that is less than significant.

The City of the Concord will withhold approval of any development as a result of Alternative Concept 5 until the appropriate utilities can demonstrate they have the capacity to serve the site. Implementing these mitigation measures will reduce this potential impact to less than significant.

16.3.7.2 Utilities Impacts of Alternative Concept 5 that are Less than Significant
None identified.

16.3.8 Utilities Impacts of Alternative Concept 6

16.3.8.1 Potentially Significant Utilities Impacts of Alternative Concept 6

Impact Utilities 6-1: Alternative Concept 6 would result in development that would exceed the capacity of the existing systems supplying treated water, untreated water, wastewater and stormwater management, electricity, natural gas, and IT/COMMs. This impact is considered to be potentially significant.

Alternative Concept 6 would have a demand for treated water of 4.4 mgd, untreated water of .92 mgd, wastewater of 2.0 mgd (based on peak factor generation), electricity of .071 mega-kW, and natural gas of 7.0 mega therms per year. These demands exceed the

current capacities of the CCWD, CCCSD, and PG&E. Also, new stormwater management facilities and IT/COMMs services and facilities would be required. Providing these new utilities will require new water, electricity, and gas supplies; treatment facilities; distribution facilities, and other infrastructure that is considered to create a potentially significant impact.

Mitigation Measure Utilities 6-1: Prior to allowing any development at the site, the City shall require implementation of Mitigation Measures Utilities C-1 through C-8. With the implementation of these mitigation measure, this potentially significant impact will be reduced to a level that is less than significant.

The City of the Concord will withhold approval of any development as a result of Alternative Concept 6 until the appropriate utilities can demonstrate they have the capacity to serve the site. Implementing these mitigation measures will reduce this potential impact to less than significant.

16.3.8.2 Utilities Impacts of Alternative Concept 6 that are Less than Significant
None identified.

16.3.9 Utilities Impacts of Alternative Concept 7

16.3.9.1 Potentially Significant Utilities Impacts of Alternative Concept 7

Impact Utilities 7-1: Alternative Concept 7 would result in development that would exceed the capacity of the existing systems supplying treated water, untreated water, wastewater and stormwater management, electricity, natural gas, and IT/COMMs. This impact is considered to be potentially significant.

Alternative Concept 7 would have a demand for treated water of 3.8 mgd, untreated water of .71 mgd, wastewater of 1.7 mgd (based on peak factor generation), electricity of .057 mega-kW, and natural gas of 5.7 mega therms per year. These demands exceed the current capacities of the CCWD, CCCSD, and PG&E. Also, new stormwater management facilities and IT/COMMs services and facilities would be required. Providing these new utilities will require new water, electricity and gas supplies, treatment facilities, distribution facilities and other infrastructure that is considered to create a potentially significant impact.

Mitigation Measure Utilities 7-1: Prior to allowing any development at the site, the City shall require implementation of Mitigation Measures Utilities C-1 through C-8. With the implementation of these mitigation measure, this potentially significant impact will be reduced to a level that is less than significant.

The City of the Concord will withhold approval of any development as a result of Alternative Concept 7 until the appropriate utilities can demonstrate they have the capacity to serve the site. Implementing these mitigation measures will reduce this potential impact to less than significant.

16.3.9.2 Utilities Impacts of Alternative Concept 7 that are Less than Significant
None identified.

16.3.10 Utilities Impacts of “No Project” (NP) Alternative

16.3.10.1 Potentially Significant Utilities Impacts of the “No Project” (NP) Alternative

None identified.

16.3.10.2 Potential Utilities Impacts of the “No Project” (NP) Alternative that are Less Than Significant

None identified.

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