L. UTILITIES AND INFRASTRUCTURE

This section evaluates the effects of implementation of the Station Area Plan on water, wastewater, and solid waste and disposal. Potential impacts on these services are identified, and mitigation measures are recommended, as necessary. The information provided in this section is based on the Larkspur SMART Station Area Plan Existing Conditions Report,[1] Station Area Plan[2] and Infrastructure Needs Analysis Technical Report (Technical Report).[3] This Technical Report is included in Appendix E.

1. Setting

This section describes Larkspur's existing infrastructure, including the water supply and distribution system; the wastewater collection, treatment, and disposal system; and solid waste.

a. Water. The following discussion provides background information on the City's water supply, water treatment facilities, and water distribution system.

(1) Water Supply. The Marin Municipal Water District (MMWD) owns and operates existing water facilities within the City of Larkspur and the Plan area. MMWD provides water to an area of 147 square miles within south and central Marin County through an approximately 900-mile distribution and transmission piping system. The majority of water supplied to this region consists of surface water runoff from Lagunitas Creek stored in MMWD reservoirs. The balance of the water, approximately 25 percent of the total supply, comes from the Russian River Basin in Sonoma County under a contract with the Sonoma County Water Agency (SCWA).

MMWD also has recycled water available that provides a drought-resistant water supply to portions of MMWD service area for non-potable uses. The current recycled water service area includes portions of Terra Linda, Marinwood, Santa Venetia and the Marin Civic Center. Although a recycled water source has not yet been identified for the Larkspur area, redevelopment of the Plan area would likely require installation of recycled water infrastructure in anticipation of future availability.

Long-term water supply for most communities within the San Francisco Bay Area region continues to be a concern. MMWD adopted the 2010 Urban Water Management Plan (UWMP) in July 2011. The UWMP included an assessment of water demand and supplies over a 25-year planning horizon (2010-2035). The conclusion of the assessment was that the District's commitment to water conservation and implementation of the Water Conservation Master Plan, as well as its commitment to complying with the Water Conservation Bill of 2009, are projected to maintain water demand at a level that can be supplied from existing water supply sources. The Water Conservation Bill of 2009 includes elements of the 20x2020 Water Conservation Plan which was designed to reduce the statewide per capita urban water use by 20 percent by the year 2020.

[1] BMS Design Group, 2012. *Larkspur SMART Station Area Plan Existing Conditions Report,* July 31.

[2] Larkspur, City of, 2014. *Larkspur SMART Station Area Plan, Public Review Draft*. February.

[3] BMS Design Group, 2013. *Larkspur Station Area Plan Infrastructure Needs Analysis Technical Report.* December 10.

(2) Water Facilities and Distribution. MMWD has three water treatment plants that treat and purify water prior to distribution to MMWD service area customers. Surface water that fills the reservoirs is treated at either the San Geronimo Treatment Plant in Woodacre or the Bon Tempe Treatment Plant in the Mount Tamalpais watershed. The balance of the water supply is imported from the SCWA and is treated at MMWD's Ignacio treatment facility.

The MMWD water storage capacity, treatment capacity, and distribution systems are currently functioning within normal operating ranges. MMWD defines its service capabilities in the Plan area as very good with sufficiently sized pipes, modern construction, and good service pressures.[4] The water distribution system within the vicinity of the Plan area consists of a network of pressure pipes, pressurized by both gravity and/or booster pumps. The major water main within Sub-area 1A is a 16-inch pipe that runs from U.S. Highway 101 (U.S. 101) within Sir Francis Drake Boulevard and loops around Larkspur Landing Circle. The 16-inch main is fed from the Greenbrae storage tank in Sub-area 1B near Eliseo Drive and Corte Fedora through a 14-inch main under U.S. 101. This main connects the water facilities within Via La Combre to those within Larkspur Landing Circle through the Century Larkspur Landing Theater site east of U.S. 101. A network of predominantly 8-inch water mains forms the bulk of the water distribution within Sub-area 1A.[5]

Sub-area 1B consists of a mixture of water main sizes where pipes range from 4 to 16 inches. A 16-inch main is located within Sir Francis Drake Boulevard west of Barry Way. The southernmost portion of Sub-area 1B is fed by 8-inch water mains within the roads connected to the north by a 16-inch pipe crossing Sir Francis Drake Boulevard within Barry Way. The major water main within Sub-area 2 is a 12-inch pipe within Redwood Highway. Sub-areas 1A and 2 are also connected by a 12-inch main within U.S. 101 that crosses Corte Madera Creek.

(3) Existing Water Demand. Based on the Technical Report, estimated rates of water use were assumed for each opportunity site within the Plan area based on existing land uses and current water usage rates. These rates are shown in Table IV.L-1. Current water usage rates do not account for future water conservation measures, which could reduce anticipated water demands, nor do they account for changes to other areas not identified as an opportunity site. As shown in Table IV.L-2, existing water demand for the Plan area (excluding Redwood Highway area, as no changes are proposed to that area) is approximately 0.1 million gallons per day (mgd).

Table IV.L-1: Estimated Water Demand Rates for Land Uses on Opportunity Sites

	Office/Public (gpd/sf)	Hotel (gpd/room)	Retail/Cinema (gpd/sf)	Residential (gpd)	Industrial/ Auto-Serving (gpd/sf)
Rates	0.1035	175	0.2820	179	0.1035

gpd = gallon per day
sf= square feet

Source: BMS Design Group, 2013. *Larkspur Station Area Plan Infrastructure Needs Analysis Technical Report.* December 10.

[4] BMS Design Group, 2013.

[5] BMS Design Group, 2012, op. cit.

Table IV.L-2: Estimated Water Demand for Existing Uses on Opportunity Sites

Opportunity Sites	Office/Public (gpd)	Hotel (gpd)	Retail/Cinema (gpd)	Residential (gpd)
1. Ferry Terminal	2,588	0	0	0
2. Airporter	259	0	0	0
3. Larkspur Offices and Cinema	19,665	0	4,512	0
4. Marin Country Mart	4,658	0	49,350	0
5. Sanitary District	0	0	0	0
6. Drakes Landing	13,041	0	0	0
7. Offices	1,863	0	0	0
Total	**42,073**	**0**	**53,862**	**0**

gpd = gallon per day

Note: Sites within the Redwood Highway area are not included in the estimated water demand analysis for existing land use.

Source: BMS Design Group, 2013. *Larkspur Station Area Plan Infrastructure Needs Analysis Technical Report.* December 10.

(4) Regulatory Context. The following discussion summarizes regulations that apply to water supply and water quality in Larkspur.

Federal. Drinking water is regulated by federal and State laws. The federal government sets minimum standards for water quality, including for drinking water and bodies of water. The Safe Drinking Water Act (SDWA) of 1974 and subsequent amendments, gave the U.S. Environmental Protection Agency (EPA) the authority to establish standards for contaminants in drinking water supplies. The National Primary Drinking Water Standards establish the maximum contaminant levels (MCLs) allowed in public distribution systems. The National Secondary Drinking Water Standards establish the MCLs that apply to potable water supplies at the point of delivery to the customer. The EPA administers the SDWA at the federal level and establishes MCLs for bacteriological, inorganic, organic and radiological contaminants.[6]

State. The California Environmental Protection Agency (Cal EPA) administers and enforces the drinking water program and has adopted its own SDWA, which incorporates the federal SDWA requirements, including some requirements specific only to California (California Health and Safety Code, Section 116350 and related sections).

The California Office of Environmental Health Hazard Assessment (OEHHA) has initiated evaluation of several chemicals for which new MCLs have been promulgated by the EPA, which triggers a requirement that OEHHA prepare a Public Health Goal (PHG) designed to define the level of pollutant at which no adverse health effect is expected to occur. PHG levels are concentrations of chemicals in drinking water that are not anticipated to produce adverse health effects following long-term exposures. These goals are advisory but must be used as the health basis to update the State's primary drinking water standards (MCLs) by the California Department of Public Health (DPH).[7]

[6] U.S. Code Title 42, and Code of Federal Regulations Title 40.

[7] Health and Safety Code, Section 116365(b)(1).

Pursuant to State Water Code requirements, water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (approximately 980 million gallons) of water annually must prepare and adopt an urban water management plan and update it every 5 years. The State Water Code requires water agencies to evaluate and describe their water resource supplies and projected needs over a 20-year planning horizon, and to address a number of related subjects including water conservation, water service reliability, water recycling, opportunities for water transfers, and contingency plans for drought events. MMWD adopted its 2010 Urban Water Management Plan in June 2011.[8]

In February 2008, Governor Schwarzeneger introduced a comprehensive plan for improving the Sacramento-San Joaquin Delta. A key component of the plan is to achieve a 20 percent reduction in per capita water use statewide by the year 2020. In November 2009, SB 7, the Water Conservation Act of 2009, was enacted, which directs urban water suppliers to calculate their baseline per capita water use and to establish a 2020 water use target that will result in a 20 percent reduction compared to the baseline use. Water agencies had until July 2011 to fulfill the mandate to calculate their baselines and reduction targets. These baselines and targets are included in the MMWD's 2010 Urban Water Management Plan.

Larkspur General Plan Policies. The following policies from the 1990 General Plan are related to water supply.

Environmental Resources Element

Goal 5: Reduce water consumption.

- Policy j: Support the efforts of the Marin Municipal Water District to reduce water consumption.
    - Action Program [16]: Require new and replacement public and private landscaping to use drought tolerant plantings. Standards will be developed in an implementing ordinance.
    - Action Program [17]: Require the installation of water-conserving plumbing fixtures in new buildings and when existing fixtures are replaced.

Larkspur Municipal Code Ordinance 990. In addition to the water conservation goals set by the State with the 20x2020 Plan, the City of Larkspur has recently adopted amendments to their Municipal Code with Ordinance 990 on May 1, 2013, which will assist in meeting the goals set by the 20x2020 Plan. For new residential construction or residential alteration projects of various values, minimum levels of compliance with the 2010 Edition of the California Green Building Standards Code have been adopted. For new non-residential construction, or alterations of various values, minimum levels of compliance with LEED must be met. Both of these "green construction codes" have various options for compliance and reduction of energy consumption and water consumption (and therefore wastewater production) to allow for a selection of methods to meet the requirements for all projects. However, for all non-residential construction projects, the new Municipal Code specifies that LEED Water Efficiency Pre-requisite 1 (WE P1) must be met as a minimum requirement. WE P1 states that water consumption for a building must be 20 percent below its established baseline.

[8] HDR, 2011. *2010 Urban Water Management Plan, Marin Municipal Water District*. June.

b. Wastewater. The following discussion provides background information on the City's wastewater collection and treatment system.

(1) Wastewater Facilities. Wastewater facilities within the Plan area are owned and maintained by several different agencies including Sanitary District No. 1 (Ross Valley Sanitary District [RVSD]), Sanitary District No. 2 (Corte Madera), and the Central Marin Sanitation Agency (CMSA). Sanitary District No. 1 is responsible for wastewater collection and maintenance of the wastewater facilities in Sub-areas 1A and 1B. Wastewater facilities located within Sub-area 2 are under the jurisdiction of Sanitary District No. 2. Both districts ultimately convey their sewage to the CMSA sanitation treatment plant located in San Rafael through a 54-inch transmission force main in Sir Francis Drake Boulevard.

The RVSD service area includes the communities of Fairfax, San Anselmo, Ross, Larkspur, Bon Air, Sleepy Hollow, Kentfield, Kent Woodlands, Oak Manor, and Greenbrae, in addition to Murray Park and San Quentin Prison. RVSD's wastewater facilities within Sub-areas 1A and 1B consist of gravity and pressure force mains of various sizes and materials including polyvinyl chloride (PVC), vitrified clay (VCP), high density polyethylene (HDPE), and cast iron (CIP). In addition to the over 40,000 linear feet of sewer pipes, RVSD also owns and maintains four sewer pump stations within the Plan area. These pump stations, and associated force mains, convey wastewater within areas of flat topography where it is not feasible to provide gravity flow to the CMSA facilities.

The major sewer trunk line within Sub-area 2 is a 22-inch force main that conveys wastewater flow north within Redwood Highway and connects to a CMSA 54-inch force main in Sir Francis Drake Boulevard at U.S. 101. Gravity mains within Sub-area 2 are limited to a few service lines within the retail center and in Redwood Highway. Two pump stations located within Sub-area 2, in addition to one pump station located immediately west of the Plan area at Fifer Avenue and Tamal Vista Boulevard, pump to the 22-inch force main. Sanitary District No. 2 (Corte Madera) owns and maintains all of the sewer facilities within Sub-area 2. However, maintenance for the pump stations is contracted out directly to CMSA.

Much of the wastewater infrastructure within the Station Area Plan area is old and many of RVSD's wastewater facilities currently in service were installed prior to 1950. In January 2007, RVSD published a Sewer System Replacement Plan, which documents a specific strategy for maintenance and replacement of existing lines on a timeline commensurate with the known state of the system at that time. Since 2011, RVSD has been in the process of performing a video assessment of the entire system. As of March 2013, 50 percent of the assessment is complete.[9]

On March 25, 2013, the San Francisco Bay Region of the California Regional Water Quality Control Board (RWQCB) issued a Tentative Cease and Desist Order for RVSD. A public hearing was held on May 8, 2013. Because of the recent discovery of the deteriorated conditions of the system, an accelerated rate of main replacement is likely to be implemented. A new evaluation and report of the system is yet to be completed, and it is not clear if lines in the Plan area are included among the sewer mains of highest concern. In either case, replacement of sewer mains due to age would occur, regardless of new development in any area of RSVD.

[9] BMS Design Group, 2013, op. cit.

(2) Wastewater Treatment. The CMSA wastewater treatment plant serves the communities of Larkspur, San Rafael, Ross Valley, and Corte Madera and treats an average of approximately 11 million gallons of wastewater per day (mgd). As part of their NPDES permit requirements, CMSA completed improvements to their treatment facilities in 2010, which increased their treatment capacity from 90 mgd to 125 mgd and their hydraulic capacity from 90 mgd to over 155 mgd.

(3) Wastewater Generation. As a general estimate, wastewater flows for dry weather can be estimated as 90 percent of the water usage rates. Using this assumption, existing land uses in the Plan area would generate an estimated 0.09 mgd of sewer flow in dry weather conditions.[10]

(4) Regulatory Context. The following discussion summarizes regulations that apply to wastewater in Larkspur.

Federal and State. The EPA is the lead federal agency responsible for managing water quality. The Clean Water Act (CWA) of 1972 regulates the discharge of pollutants to waters of the United States from any point source. The California State Water Resources Control Board (State Board) and the nine Regional Water Quality Control Boards (RWQCBs) have the authority in California to protect and enhance water quality, including administration of the National Pollutant Discharge Elimination System (NPDES) permit program for discharges, stormwater and construction site runoff. The discharge of treated wastewater is included in the NPDES program. Wastewater systems are closely regulated for health and environmental concerns. The RWQCB regulates operations and discharges from sewage systems through the NPDES permit.

Adopted on October 14, 2009, the permit provides a uniform standard for wastewater and stormwater discharges for the counties and agencies surrounding the San Francisco Bay. Municipalities in Marin County are under the jurisdiction of the San Francisco Bay RWQCB. State and federal laws, statutes, and regulations mandate compliance with the Municipal Regional Stormwater NPDES Permit (MRP).

As previously described in Section IV.H-Hydrology and Water Quality, pursuant to Section 402 of the CWA and the Porter-Cologne Water Quality Control Act, municipal stormwater discharges in Marin County are regulated under the statewide NPDES General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit). Local Small MS4 Permit activities (MCSTOPPP) are overseen by the Water Board.

An updated Small MS4 Permit (Order No. 2013-0001-DWQ) will go into effect July 1, 2013. This updated permit includes a number of post-construction stormwater management criteria for new development and redevelopment projects including Site Design and Low Impact Development (LID) runoff requirements. After June 30, 2015, the use of runoff reduction and treatment measures for development and redevelopment projects that create or replace more than 5,000 square feet of impervious surface will be required. MCSTOPP is currently developing the administrative tools to implement these changes in the MS4 permit.

c. Stormwater Drainage System. The following discussion provides information on the City of Larkspur stormwater drainage system.

[10] Ibid.

(1) Existing Conditions. As described in Section IV.H-Hydrology and Water Quality, the City of Larkspur has 15 miles of public storm drains, most of which were built in the 1950s and 1960s. The storm drains were developed in piecemeal fashion as the City developed and to resolve flooding problems. As a result, the City's storm drainage system has inconsistent construction quality and varying pipe sizing that has insufficient capacity for current stormwater flows.[11] Some of the system is located on private property with details not recorded with the City's Public Works Department. As a result, the drainage system has severe flooding and maintenance problems, including rusted metal pipes that cause drainways to collapse, and a lack of or under-designed inlets and pipes that cause flooding and erosion to occur.

Although deficiencies are present throughout the system, the City has determined that the most critical problems are present in the areas adjacent to Corte Madera Creek, which includes the central portion of the Plan area.[12] An intensive capital improvement program has been proposed to address these deficiencies. The City of Larkspur 2050 Capital Expenditure Plan[13] has designated streets, drainage systems, and bridges as its second priority and proposes replacement of approximately 4.5 miles of drain pipe over the next 20 years.

(2) Storm Drainage System in Plan Area. Major storm drainage infrastructure within the Plan area is owned and operated by the City of Larkspur and maintained by the City's Maintenance Division. The City is responsible for maintaining the drainage infrastructure, which includes drainpipes, flood channels, and natural creeks. Local collection systems consisting of underground pipes, concrete channels, culverts, and swales collect and convey stormwater to the creeks and San Francisco Bay.[14] Storm drainage pipes within the Plan area generally range from 12 to 24 inches. A 36-inch and 86-inch storm drainpipes with an outfall to Corte Madera Creek, are located adjacent west of Drake's Landing, and a pump station is located in the northern portion of Sub-area 2, south of Corte Madera Creek. Several outfalls are located along the Corte Madera Channel, along the Larkspur Ferry Terminal area.[15]

The Plan area consists of parcels that range from developed land with high percentages of impervious areas (Sub-areas 1A and 2) and parcels that contain more landscaping and open space (Sub-area 1B north of Sir Frances Drake Boulevard). It is assumed that the majority of stormwater runoff from parcels that contain more pervious surfaces currently flows directly into the public storm drainage system with little to no retention or treatment, resulting in negative impacts on downstream capacity and water quality in local creeks and Bay.[16]

d. Solid Waste. The following discussion provides background information on solid waste disposal in the City of Larkspur.

[11] Larkspur, City of, 2001. *Larkspur 2050 Capital Expenditure Plan*. March.

[12] Ibid.

[13] Ibid.

[14] BMS Design Group, 2013, op. cit.

[15] Ibid.

[16] Ibid.

(1) Nonhazardous Solid Waste. Marin Sanitary Services (MMS) provides solid waste and recycling services to the Plan area. These services include weekly garbage, recycling, food scrap, and yard waste collection for residents and businesses. All refuse collected is transferred to the Marin Sanitary Service Transfer Station at 1060 Andersen Drive in San Rafael and then transported to the Redwood Sanitary Landfill. MMS delivers recyclable materials and yard waste to either the Marin Resource and Recovery (MRR) or the Marin Resource Recovery Center (MRRC), where the materials are processed. Residual waste from both facilities is sent to the Transfer Station. Yard waste is delivered to Northern Recycling Compost-Zamora for composting.[17]

The Redwood Sanitary Landfill is located at 8950 Redwood Highway in the Novato, and handles mixed municipal, sludge, agricultural, construction/demolition, asbestos, tires, ash, wood waste, and other designated solid waste.[18] The landfill has a total estimated capacity of 19.1 million cubic yards. As of June 2011, the landfill's total estimated used capacity was approximately 12.9 million cubic yards, or 67.5 percent of the landfill's total capacity. The landfill has a permitted throughput of 2,300 tons per day[19] and is anticipated to have sufficient capacity until January 2039, its expected closure date.[20]

The City of Larkspur provides street sweeping services to each city-maintained street on a monthly basis. The streets are swept twice a month from October through January through a contract with MSS.[21]

(2) Hazardous Solid Waste. The City of San Rafael and the Marin County Hazardous & Solid Waste Joint Power Association sponsor the Marin Household Hazardous Waste Facility (HHWWF). MHHWF offers household hazardous waste disposal options for Larkspur residents at drop-off facilities. Hazardous waste generated by residential and business uses includes: paint, insecticides, herbicides, automotive parts, florescent lights, compact fluorescent lamps, batteries, computers, cell phones, cleaning products, solvents, and sharp objects. The Marin Resource Recycling and Resource Recovery Association works in partnership with these agencies to provide households and businesses who are Conditionally Exempt Small Quantity Household Hazardous Waste generators in Marin County (except Novato) with safe and hazardous waste disposal.[22]

(3) Regulatory Framework. The following section describes the solid waste regulatory context in Larkspur, including statewide mandates and Municipal Code requirements.

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[17] Hilton Farnkopf & Hobson (HF&H) Consultants, 2009. *Review of Marin Sanitary Sewer's 2010 Rate Application*. December 32.

[18] California Department of Resources Recycling and Recovery, 2013. *Solid Waste Information System*. Facility/Site Summary Details: Redwood Landfill. Website: www.CalRecycle.ca.gov/SWFacilities/Directory/ (accessed April 4).

[19] Permitted throughput is the maximum permitted amount of waste a landfill can handle and dispose of in one day. This figure is established in the current solid waste facilities permit issued by the Integrated Waste Management Board.

[20] California Department of Resources Recycling and Recovery, 2013, op. cit.

[21] Larkspur, City of, 2012. Frequently Asked Questions, "When is My Street Scheduled to be Swept?" Website: www.ci.larkspur.ca.us/FAQ.aspx?QID=108 (accessed May 21).

[22] Marin Sanitary Service, 2013. *Marin Household Hazardous Waste Facility*. Website: www.marinsanitary.com/customer-service/recycling-information-directory/marin-sanitary-services/marin-household-hazardous-waste (accessed April 4).

California Integrated Waste Management Act (AB 939). In 1989, the California Legislature enacted the California Integrated Waste Management Act (AB 939), which requires the diversion of waste materials from landfills in order to preserve landfill capacity and natural resources. Cities and counties in California were required to divert 25 percent of solid waste by 1995, and 50 percent of solid waste by the year 2000. AB 939 further requires every city and county to prepare two documents demonstrating how the mandated rates of diversion will be achieved. The Source Reduction and Recycling Element (SRRE) must describe the chief source of the jurisdiction's waste, the existing diversion programs, and current rates of waste diversion and new or expanded diversion programs. The Household Hazardous Waste Element (HHWE) must describe each jurisdiction's responsibility in ensuring that household hazardous wastes are not mixed with non-hazardous solid wastes and subsequently deposited at a landfill. In 1997, the California Integrated Waste Management Board (now known as CalRecycle) recognized the Marin County Hazardous and Solid Waste Management Authority, which includes the cities and towns of Belvedere, Corte Madera, Fairfax, Larkspur, Mill Valley, Novato, Ross, San Anselmo, San Rafael, Sausalito, and Tiburon, and the County of Marin, as a regional agency. The regional agency status allows its members to report to the State as one political body instead of 12, as was previously required.[23] In 2006, CalRecycle certified that the Marin County Hazardous and Solid Waste Management Authority (JPA) had diverted 72 percent of its solid waste and met the requirements of the California Integrated Waste Management Act.[24]

In April 2012, the City of Larkspur joined the JPA in adopting a Zero Waste Goal, and pledged to develop a Strategic Plan to help achieve the County's Zero Waste Goal under Resolution No. 15/12.[25]

City of Larkspur Construction and Demolition Debris Program.[26] The City of Larkspur Construction and Demolition Debris Program establishes a program for the recycling and salvage of construction and demolition debris. The ordinance requires project applicants obtaining a building permit to submit a Construction and Demolition Diversion Report to the City's Building Department prior to final inspection of the project, except for those that may be eligible for self-certification. If the Building Official determines that the project applicant has not satisfied the diversion requirements, the project applicant must pay an Avoided Disposal Regulatory Fee, which is 3 percent of the value of the project and not to exceed $10,000. Diversion requirements for a project and for a certified construction and demolition recovery facility must be a minimum of 80 percent by December 31, 2012, and will increase to 85 percent by December 31, 2015, to 90 percent by December 31, 2018, and to 94 percent by December 31, 2025.

Larkspur General Plan Policies.[27] The following policies from the 1990 General Plan are related to solid waste.

[23] Zero Waste Marin, 2013. *About the JPA.* Website: zerowastemarin.org/who-we-are/about-the-jpa (accessed May 17).

[24] California Department of Resources Recycling and Recovery, 2013. *Jurisdiction Diversion/Disposal Rate Summary (1995-2006).* Website: www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversion.aspx (accessed May 17).

[25] Larkspur, City of, 2012. *Resolution No. 15/12-A Resolution of the City Council of the City of Larkspur Adopting a Zero Waste Goal.* April 18.

[26] Larkspur, City of, 2012. Municipal Code, Chapter 15.26, Construction and Demolition Debris Program.

[27] Larkspur, City of, 1990. *General Plan-Chapter 6, Environmental Resources.* November.

Environmental Resources Element

Goal 6: Reduce the Total Volume of the City's Waste Stream.

- Policy k: Support programs to recycle paper, cardboard, glass, metal, plastics, motor oil, and to compost or generate energy from tree prunings, brush and other vegetation.
    - Action Program [18]: Promote the use of goods containing recycled materials through City purchasing policies and other efforts.

2. Impacts and Mitigation Measures

This section discusses potential impacts to utilities that could result from implementation of the Station Area Plan. The section begins with the significance criteria, which establish the thresholds used to determine whether an impact is significant. The latter part of this section evaluates the Station Area Plan, and identifies mitigation measures, as necessary.

a. Criteria of Significance. Implementation of the Station Area Plan would have a significant effect on utilities and infrastructure if it would:

- Require new or expanded entitlements for water supplies, the development of which could result in significant environmental effects;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects;
- Generate a demand for wastewater treatment that exceeds the capacity of the wastewater treatment provider, when considered in addition to the provider's existing commitments;
- 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;
- Exceed wastewater treatment requirements of the Regional Water Quality Control Board;
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects;
- Generate a demand for solid waste disposal that cannot be accommodated by the landfill serving the project area; or
- Be inconsistent with federal, State, or local statutes and regulations related to solid waste.

b. Impacts Analysis. The following discussion describes impacts on utilities and infrastructure associated with implementation of the Station Area Plan.

(1) New or Expanded Entitlements for Water Supplies. In 2001, Senate Bill (SB) 610 amended California law regarding review of water availability for large projects (Section 10910 et seq. of the Water Code, Section 21151.9 of the Public Resources Code [CEQA] and Section 15155 of the State CEQA Guidelines). Pursuant to SB 610, the preparation of a "water supply assessment" (WSA) is required for projects subject to CEQA that meet specified criteria regarding project size (e.g., for projects of 500 or more residential units, 500,000 square feet or more of retail commercial space, 250,000 square feet or more of office commercial space, 500 or more hotel rooms, specified industrial uses, or a project that would result in a water demand equal to or greater than the amount needed to serve a 500-unit residential project). These assessments, prepared by "public water systems" responsible for service, address whether there are adequate existing or projected water supplies available to serve proposed projects over a 20-year period, in addition to existing demand

and other anticipated development in the service area. Where a WSA concludes that insufficient supplies are available, the WSA must lay out steps that would be required to obtain the necessary supply. If the development was included as part of the projected water demand of the current Urban Water Management Plan (UWMP), the water demand for the proposed development does not need to be separately analyzed as long as water demand for the project has remained substantially the same.

As noted previously, the Station Area Plan includes many components; it identifies pedestrian, transit, vehicular, and bicycle access to the future station and circulation throughout the Plan area; it identifies the preferred land use scenario to be implemented over the next 20 years; and it incorporates public and private design policies and standards that will encourage pedestrian friendly design. While development parameters for opportunity sites have been identified, no projects which include site-specific development plans have been proposed, developed or submitted to the City. The Station Area Plan identifies the vision for development within the Plan area, but does not include site-specific development projects. As the Station Area Plan is a policy document, this EIR contains a "program level" evaluation, and WSAs are required for specific *projects* meeting the criteria included in Section 15155 of the *CEQA Guidelines*; a WSA would not be required as part of the adoption of the Station Area Plan.

According to the Infrastructure Needs Analysis Technical Report, and as shown in Table IV.L-3, the future water demand associated with development on opportunity sites is estimated to amount to approximately 0.3 MGD. With compliance with the California Green Building Standards Code requirements, as required by Ordinance 990, the projection is reduced to 0.24 MGD.

The MMWD Urban Water Management Plan (UWMP) accounts for some regional growth in their future estimates for water demand and system design. Development proposed by the Station Area Plan represents more than a 300 percent increase in water demand as compared with the current demand in the Plan area. The 300 percent increase is reduced to 254 percent using the 20 percent reduced future use rates. Only a portion of this increase is accounted for in the UWMP.

The 2010 UWMP is based on ABAG's 2009 projections for population growth in Larkspur that show an increase of 1,100 residents from 2010 to 2030. ABAG's projections, in turn, are based on the 1990 General Plan. The City is currently updating the General Plan, and this Station Area Plan and its increased growth projections will be incorporated into the updated General Plan.

The MMWD will publish a new UWMP in 2015. They are anticipating inclusion of updated growth estimates for the City of Larkspur based on the Station Area Plan. At this time, it is estimated that current MMWD storage facilities and distribution network are adequate to accommodate the projected growth; however, water supply must be confirmed for specific projects as they are proposed. New projects may be required to install infrastructure for recycled water, although it is not clear at this time what standards will trigger implementation.

It should be noted that on January 17, 2014, Governor Brown declared a drought State of Emergency within California, requesting that Californians reduce water usage by 20 percent. Furthermore, on January 21, 2014, the MMWD Board of Directors passed a resolution calling for an immediate 25 percent voluntary reduction in water usage as an initial phase of the District's Water Shortage Contingency Plan.

<u>Impact UTIL-1</u>: Existing water supply available to the City of Larkspur may not be adequate to accommodate full implementation of the Station Area Plan. (S)

As noted above, the MMWD UWMP does account for some regional growth; however, full implementation of the Station Area Plan, which would occur over 20 years, would be more than the City of Larkspur growth anticipated in the UWMP. The MMWD will include an updated growth estimate for the City of Larkspur in the 2015 UWMP update.

Implementation of Mitigation Measure UTIL-1 would reduce impacts associated with adequate water supply to a less-than-significant level:

> Mitigation Measure UTIL-1: The following language shall be included as a Condition of Approval for new projects associated with implementation of the Station Area Plan:
>
> - Until the Marin Municipal Water District (MMWD) updates their Urban Water Management Plan (UWMP) to account for water demands associated with the implementation of the Station Area Plan, and as a condition of approval, the City shall require all new development within the Plan area to confirm with the MMWD that adequate water to serve the project is available within current water allocations. This written confirmation of available water supply shall be provided prior to approval of any proposed development project. (LTS)

(2) Construction of New Water Facilities. As previously described, the Technical Report evaluates potential operational capacity impacts associated with the implementation of the Station Area Plan. The report indicated that new development in the Plan area is not anticipated to trigger improvements to regional storage capacity or treatment facilities. Standard water service extensions and the relocation of existing infrastructure could be necessary to support future development. Private development projects associated with the implementation of the Station Area Plan would be responsible for extending utilities to their site or modifying existing services. The Technical Report also indicated that standard operations and maintenance practices and schedules already in place are expected to accommodate the functionality of existing lines.

Although a recycled water source has not yet been identified for the Larkspur area, redevelopment of the Plan area would likely require installation of recycled water infrastructure in anticipation of future availability.

Implementation of the Station Area Plan would not require or result in the construction of new water facilities, the construction of which would cause significant environmental effects. This impact would be considered less than significant.

Table IV.L-3: Estimated Water Demand for Development of Opportunity Sites

Opportunity Sites	Office/Public (gpd)	Hotel (gpd)	Retail/Cinema (gpd)	Residential (gpd)
1. Ferry Terminal	2,588	0	705	53,700
2. Airporter	259	0	0	0
3. Larkspur Offices and Cinema	24,840	0	14,382	0
4. Marin Country Mart	0	0	60,630	53,700
5. Sanitary District	1,294	17,500	0	44,750
6. Drakes Landing	13,041	0	0	12,530
7. Offices	4,140	0	0	0
Total	**46,162**	**17,500**	**75,717**	**164,680**

gpd = gallon per day

Note: Sites within Redwood Highway North and South, and Cost Plus represent the Redwood Highway areas and are therefore not included in the estimated water demand analysis for existing lands use.

Source: BMS Design Group, 2013.

(3) Demand for Wastewater Treatment, Capacity, and Facilities. New growth and development associated with the implementation of the Station Area Plan would increase the demand for wastewater conveyance and treatment at the CMSA treatment plant. According to the Technical Report, the redevelopment of the Station Area Plan area is not anticipated to significantly impact the capacity of the CMSA treatment plant.

As a general estimate, sewer flows for dry weather can be estimated as 90 percent of the water usage rates. Using this rule, existing land uses in the station area would generate an estimated 0.09 MGD of sewer flow in dry weather, while the future flows with implementation of the Station Area Plan would be approximately 0.27 MGD, or an additional 0.19 MGD of sewer flow. Since the Central Marin Sanitation Agency (CMSA) wastewater treatment plant currently treats an average of 11 MGD, the anticipated flows represent about 2.5 percent of current treatment rates. However, with the current capacity of the plant at 125 MGD, it represents only about 0.2 percent of total capacity. Again, the future numbers will be lower than anticipated after the 20x2020 Plan is fully implemented.

It should be noted that while the existing lines may require replacement in the near future due to deteriorating structural integrity, the current line sizes appear to be adequate to support the development of the Station Area Plan. Aging lines requiring repair or replacement would require the work whether or not there was any new development in the area. This impact would be less than significant.

While existing lines could require replacement in the near future due to deteriorating structural conditions, the Infrastructure Needs Analysis Technical Report indicated that current line sizes appear to be adequate to support the development associated with the Station Area Plan. As previously described, aging lines in needs of repair or replacement would be required whether or not there was any new development in the area. Impacted wastewater lines may require mitigation, which could include modifications to the pump stations. Extensions of the main lines and construction of new services may also be required for the areas that may have limited existing infrastructure.[28]

Impact UTIL-2: Implementation of the Station Area Plan could require replacement or expansion of existing wastewater infrastructure. (S)
Implementation of Mitigation Measure UTIL-2 would reduce impacts associated with the replacement or expansion of wastewater infrastructure to a less-than-significant level:

> Mitigation Measure UTIL-2: The following language shall be included as a Condition of Approval for new projects associated with implementation of the Station Area Plan:
>
> - As private properties within the Plan area are developed, project-specific capacity and condition analyses of applicable wastewater facilities on and adjacent to the project sites shall be performed to identify any impacts to the wastewater system. The project applicants shall be responsible for any required modifications to impacted facilities identified in the analyses. (LTS)

(4) Stormwater Facilities. Employment and population growth associated with implementation of the Station Area Plan would increase the amount of impervious surfaces and the amount and rate of stormwater runoff volumes. As developments associated with the implementation of the Station Area Plan are constructed within a drainage area, new impervious surface cover would

[28] Ibid.

generate additional runoff that would be added to existing stormwater volumes. Unless appropriate controls are in place, over time, the cumulative runoff could exceed the capacity of existing drainage facilities during peak-flow conditions, resulting in localized flooding.

As previously described, future development within the Plan area must comply with programs and regulations currently in place that regulate storm drainage facilities, including the NPDES MRP regulations. An updated Small MS4 Permit, which includes post-construction stormwater management criteria for new development and redevelopment projects including Site Design and Low Impact Development (LID) runoff requirements, will go into effect July 1, 2013. The updated Small MS4 Permit would require the use of runoff reduction and treatment measures for development and redevelopment projects that create or replace more than 5,000 square feet of impervious surface. New developments that create or replace more than 10,000 square feet of impervious surface must also comply with Provision C.3 of the Marin County municipal stormwater permit and with the California State Water Board.[29]

Current State stormwater requirements mandate that new developments must maintain post-construction stormwater flows from the site at pre-construction levels, and no changes to the stormwater system are anticipated for the Plan area as a whole.[30] Therefore, implementation of the Station Area Plan would have a less-than-significant impact associated with the construction and expansion of stormwater facilities.

(5) Solid Waste. As previously described, the majority of solid waste generated in Larkspur would be transported to the Redwood Sanitary Landfill, which has a future operation life of approximately 26 years (the anticipated closing date is January 2039).

Construction and operational activities associated with Station Area Plan growth would generate additional solid waste. Estimated growth would add an additional 2,033 residents to the Plan area. According to CalRecycle, Marin County residents dispose about 2.3 pounds of nonhazardous waste per day.[31] New employees associated with the implementation of the Station Area Plan would also generate additional solid waste. Under the Station Area Plan, there would be approximately 558 new jobs by 2035. According to the CalRecycle's estimated solid waste disposal rates, employees dispose approximately 6.4 pounds of nonhazardous solid waste per day.[32,33] Therefore, growth associated with the Station Area Plan would generate a total of 4,676[34] pounds of nonhazardous waste per day

[29] Ibid.

[30] Ibid.

[31] California Department of Resources Recycling and Recovery, 2013. *Solid Waste Characterization Database.* Residential Waste Disposal Rates. Website: www.calrecycle.ca.gov/wastechar/ResDisp.htmApril 18 (accessed May 17).

[32] California Department of Resources Recycling and Recovery, 2013. *Waste Disposal Rates for Business Types*. Website: www.calrecycle.ca.gov/wastechar/DispRate.htm (accessed May 17). April 18.

[33] The disposal rate data was developed as part of the 1999 Statewide Waste Characterization Study. Disposal rates are affected by numerous factors and are used only for planning purposes. The disposal rate for employees was calculated by taking the average of the disposal rates of the following business sectors: Services-Other professional, Services-Motion Pictures, Services-Hotel/lodging, and Retail Trade-General Merchandise Stores.

[34] This calculation used the CalRecycle's per capita disposal rate of 2.3 pounds per resident per day.

associated with residential uses, and 3,571[35] pounds of nonhazardous waste per day associated with employees. In total, approximately 8,247 pounds of solid waste would be generated per day in the Plan area. This represents less than one percent of the permitted daily throughput of the Redwood Sanitary Landfill. Therefore, the current capacity of the Redwood Sanitary Landfill would be able to serve the growth expected to occur under the Station Area Plan. As such, implementation of the Station Area Plan would not generate a demand for solid waste disposal that would not be accommodated by existing landfills.

(6) Regulations Related to Solid Waste. State law requires that 50 percent of solid waste be diverted from landfills. As previously described, as of 2006, the Marin County Hazardous and Solid Waste Management Authority has a waste diversion rate of 72 percent. Therefore, the City of Larkspur is in compliance with State law. Additionally, Larkspur has committed to the waste reduction programs and plans, such as the Construction and Demolition Debris Program. Therefore, implementation of the Station Area Plan would not conflict with a federal, State, or local statute or regulation related to solid waste disposal. This impact would be less than significant.

c. Cumulative Impacts of the Station Area Plan. The utilities identified below are generally provided or delivered on a local level, but often originate from sources outside of the City and/or as a part of a regional distribution system. Development associated with the Station Area Plan would contribute to regional impacts associated with the provision of utilities, which would be considered less than significant, as described below.

Water Supply. Long term water supply for most communities within the San Francisco Bay Area region continues to be a concern. MMWD adopted the 2010 Urban Water Management Plan (UWMP) in July 2011. The UWMP included an assessment of water demand and supplies over a 25 year planning horizon (2010-2035). The conclusion of the assessment was that the District's commitment to water conservation and implementation of the Water Conservation Master Plan, as well as, its commitment to complying with the Water Conservation Bill of 2009 are projected to maintain water demand at a level that can be supplied from existing water supply sources. The Water Conservation Bill of 2009 includes elements of the 20x2020 Water Conservation Plan which was designed to reduce the statewide per capita urban water use by 20 percent by the year 2020.

In addition to the water conservation goals set by the state with the 20x2020 Plan, the City of Larkspur has recently adopted amendments to their Municipal Code with Ordinance 990 on May 1, 2013, which will assist in meeting the goals set by the 20x2020 Plan. For new residential construction, or residential alteration projects, minimum levels of compliance with the 2010 Edition of the California Green Building Standards Code have been adopted. For new non-residential construction, minimum levels of compliance with LEED must be met. Both of these "green construction codes" have various options for compliance at their different levels which could reduce energy consumption and water consumption (and therefore wastewater production). However, for all non-residential construction projects, the new Municipal Code specifies that LEED Water Efficiency Pre-requisite 1 (WE P1) must be met at a baseline as a minimum. WE P1 states that water consumption for a building must be 20 percent below its established baseline.

[35] This calculation used CalRecycle's estimated solid waste disposal rates of 6.4 pounds of nonhazardous solid waste per day.

As noted in this EIR, the MMWD UWMP does account for some regional growth; however, full implementation of the Station Area Plan would allow for more growth than anticipated in the UWMP. Implementation of the water conservation measures described above, in addition to the water service mitigation measure described in this Draft EIR, would ensure that cumulative water impacts would be less than significant.

Wastewater Treatment. Implementation of the Station Area Plan would generate additional wastewater treatment demand for the entire service area. However, as previously described, the CMSA wastewater treatment plant, has sufficient capacity for current dry and wet weather loads and for future load projections, and there are no plans for expansion of the plant. While it may be possible that on-site wastewater infrastructure may need to be replaced as new development is proposed (as discussed in the wastewater analysis section), implementation of Mitigation Measure UTIL-2 would ensure that development associated with implementation of the Station Area Plan would not result in a cumulative wastewater impact.

Stormwater System. Stormwater drainage systems are generally provided by local governments for areas within their jurisdictions, and are not provided on a regional basis. Future development within Larkspur and surrounding communities must comply with the NPDES MRP regulations currently in place, which regulate storm drainage facilities. New stormwater infrastructure that would be required to serve expected growth would be developed in compliance with existing local, State, and federal regulations, and would be appropriately sized for each development. Therefore, implementation of the Station Area Plan would not result in a significant cumulative impact on the stormwater drainage systems. This impact is considered to be less than significant.

Solid Waste. New development estimated to occur under the Station Area Plan would increase the generation of solid waste in Larkspur. Since growth associated with Station Area Plan would represent less than 1 percent of the permitted daily throughput of the Redwood Sanitary Landfill,[36] it is anticipated the landfill would have adequate capacity to accommodate solid waste generation from its surrounding communities. Therefore, implementation of the Station Area Plan would not result in a significant cumulative impact on solid waste management. This impact is considered to be less than significant.

[36] California Department of Resources Recycling and Recovery, 2013, op. cit.