APPENDIX D

Water Supply Assessment (Final)

Final Subsequent Environmental Impact Report

North Bayshore Precise Plan

City of Mountain View
November 2017

CITY OF MOUNTAIN VIEW

Revised Draft

Water Supply Assessment
For
City of Mountain View
North Bayshore Precise Plan Project

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INTRODUCTION

Proposed Project

The North Bayshore Precise Plan project is located in northern Mountain View (**Figure 1**), and is defined by high-technology office campuses and suburban-style office parks, but also includes residential properties, commercial land use, and open space. The total project area encompasses 650 acres, with a net parcel area (excluding rights-of-way) of 586 acres. The project area borders San Francisco Bay to the north, Highway 101 to the south, the City of Palo Alto and San Antonio Road to the west, and Stevens Creek to the east, and is herein referred to as the project area (**Figure 2**).

Project Description

The project proposes the preparation of a City-initiated Precise Plan for the area identified in the *Mountain View 2030 General Plan* as the North Bayshore Change Area. The new North Bayshore Precise Plan is expected to provide a single set of goals and policies, development standards, and design guidelines for the properties in this area, in conformance with the 2030 General Plan vision for the area. Precise Plans are defined in Section 36.70 of the City's Municipal Zoning Ordinance, and are a tool for coordinating future public and private improvements on specific properties where special conditions of size, shape, land ownership or existing or desired development require particular attention. Currently, the proposed North Bayshore Precise Plan area includes five different Precise Plans: *Shoreline West (P1)*, *Charleston South Industrial (P2)*, *North Shoreline Boulevard (P3)*, *L'Avenida South (P33)*, and *North Bayshore (P34)*. The proposed Precise Plan would update and consolidate all of the existing Precise Plans, along with areas zoned *Limited Industrial (ML)*, *General Industrial (MM-40)*, and *Flood Plain (F)* into a single North Bayshore Precise Plan zoning district.

The North Bayshore Precise Plan was adopted by the City in November 2014, and is one of the major change areas identified in the General Plan Strategy. In February 2015, the City Council asked for the North Bayshore Precise Plan to be amended to include residential land uses (Mountain View, 2016b). The updated project contains a mix of land uses, including multi-family residential, single-family residential, general office/R&D, industrial non-manufacturing, general manufacturing, retail, and parks/recreational facilities. The existing land use map is shown on **Figure 3**. The updated North Bayshore Precise Plan Project will add almost 10,000 multi-family residential units and approximately 3.5 million square feet of non-residential space by the year 2030. The General Plan vision includes changing office parks from suburban campuses to more compact and connected multi-use campuses, encouraging walking and biking, improving transit, and adding new retail. The residential expansion (almost 10,000 units), however, was not part of the 2012 General Plan. **Figure 4** is the relevant portion of the

2030 General Plan Land Use Map (Mountain View, 2012); the North Bayshore Precise Plan area is highlighted. The General Plan land use designations include *High-Intensity Office, North Bayshore Mixed-Use*, *Mixed-Use Center*, *North Bayshore Residential Uses,* and *Parks, Schools, and City Facilities*. Specific redevelopment plans for most of the project area have not been developed.

The North Bayshore Precise Plan is organized into four different areas, each with a desired urban form and character: the Gateway, Core Area, General Area, and Edge Area. **Figure 5** shows the extent of each character area. Each one supports a range of employment activities and the principal components of the sustainability framework. The character areas differ in their physical character, urban form, interfaces with habitat and open space, and building intensity and scale.

Along with the direction of land use and urban form, the Precise Plan defines green building standards and guidelines for North Bayshore. New construction will meet the intent of the Leadership in Energy and Environmental Design (LEED) rating system and the mandatory CALGreen requirements. A system of performance bonuses for green building and public benefit or district-improvement projects will be used to determine the allowable floor area ratio (FAR) for future development (Raimi + Associates, 2014). As a result, the actual future areas (square footage) of retail, office and commercial land uses are likely to be different—and possibly greater—than the areas listed above. Maximum FAR values for each Character Area are defined in the Precise Plan policy framework, as are the FAR bonuses. It is important to note that this WSA applies historical water demand factors; accordingly, the WSA provides a more conservative estimate of future water demand that off-sets the possible greater floor areas.

Figure 6 shows the project area with reference to the city limits, city water supply zones, and major roads. As indicated, North Bayshore is in the San Francisco Public Utility Commission (SFPUC) supply zone.

Background

The California Water Code section 10910 (also termed Senate Bill 610 or SB610) requires that a water supply assessment (WSA) be provided to cities and counties for projects (of a specified type and size) that are subject to the California Environmental Quality Act (CEQA). The City recognizes the North Bayshore Precise Plan as subject to CEQA and SB610. Cities and counties are mandated to identify the public water system that might provide the project's water supply and then to request a WSA documenting water supply sources, quantifying water demands, evaluating drought impacts, and providing a comparison of water supply and demand that is the basis for an assessment of water supply sufficiency. The City of Mountain View is the public water provider.

A foundational document for preparation of the WSA is the Urban Water Management Plan (UWMP). The City of Mountain View prepared a 2015 Urban Water Management Plan that was adopted on May 24, 2016. WSAs and UWMPs both require water supply reliability information to be provided for the water service area in five-year increments over a 20 year planning horizon. Recognizing the role of the UWMP in future WSAs, the City prepared its UWMP with water supply reliability information over a 25-year horizon.

The 2015 UWMP (Mountain View, 2016a) was prepared in accordance with the General Plan Strategy, and thereby includes increases in Commercial, Institutional, and Industrial (CII) water demand over the 25-year horizon. With its basis in the General Plan Strategy, the UWMP recognizes the intensification of land use for the North Bayshore Precise Plan area. This includes the land use mix of *High Intensity Office, North Bayshore Mixed-Use*, *Mixed-Use Center*, *North Bayshore Residential Uses,* and *Parks, Schools, and City Facilities* for the North Bayshore area shown in the UWMP's Figure 2-1 and on **Figure 4**. It is noted that the UWMP does not address specific proposed development projects, although it does account for the general land use intensification included in the 2030 General Plan. The residential expansion (almost 10,000 units) was not part of the General Plan. However, the UWMP recognizes a "higher growth" alternative which includes the North Bayshore Precise Plan's proposed residential expansion (Mountain View, 2016a).

The water supply and demand analysis presented in the 2015 UWMP is relied upon for this WSA. Because the North Bayshore Precise Plan project area residential expansion was not part of the General Plan, this WSA adds the project's water demand to the UWMP water demand.

Purpose

The purpose of this WSA is to document the City of Mountain View's existing and future water supplies for its service area and compare them to the area's future water demand including that of the proposed project. This comparison, conducted for both normal and drought conditions, is the basis for an assessment of water supply sufficiency in accordance with the requirements of California Water Code section 10910 (Senate Bill 610).

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PROJECT WATER DEMAND

This section addresses water demands for the existing project area and for the proposed land use. The North Bayshore Precise Plan area currently includes 7.6 million square feet of office, R&D, light industrial uses, restaurant, retail, services, institutional/recreational, and church space. The project involves adding 3.5 million square feet of such non-residential space by 2030 for a total of 11.1 million square feet and adding almost 10,000 multi-family residential units.

Existing Water Use

The North Bayshore project area is currently dominated by office buildings and water is supplied by the City of Mountain View. **Table 1** summarizes historical water use for 2005 through 2015 based on metered water usage provided by the City of Mountain View. The historical water use includes potable water and recycled water from 2010 to 2015. The potable water is used for indoor uses and outdoor landscaping, while the recycled water currently is used for outdoor landscaping.

Figure 7 illustrates the historical metered water demand (compiled on a bimonthly basis) for the project area. The water demand shows a strong seasonal pattern. High water use occurs in the summer months and low water use occurs in the winter wet season when irrigation and cooling needs are minimal. Total water use has declined since 2012 as a result of drought conservation measures. Potable water use decreased approximately 36 percent from 914 AF in 2012 to 589 AF in 2015. Recycled water use began in 2010 and has increased almost six-fold, from 21 AF in 2010 to 124 AF in 2015. In 2015, recycled water use was approximately 17 percent of total water use. Recycled water use replaces potable water use and does not necessarily reflect an increase in demand.

Estimated Future Water Demand

Estimation of the future demand for the proposed project area[1] involves application of water demand factors developed by the City for the North Bayshore Precise Plan. For the purposes of planning, the City has developed unit duty factors (UDFs) for various land uses, including office (90 gpd/1,000 sf), industrial (60 gpd/1,000 sf), R&D (130 gpd/1,000 sf), restaurant (1,200 gpd/1,000 sf), retail (130 gpd/1,000 sf), services (130 gpd/1,000 sf), multi-family residential (100 gpd/dwelling), hotel (100 gpd/room), and institutional/ recreational (165 gpd/1,000 sf). Calculations of water demand based on these UDFs are shown in **Table 2** for both the existing project area and proposed project.

As shown on **Table 2**, the proposed project is estimated to use 2,518 AFY, for a net increase of

[1] The project land use area was provided by Raimi + Associates in September 2016.

1,414 AFY. It is reiterated that this estimate may be conservative (i.e., high) given that it entails projection of historical water use rates for a future project that proposes significant water-saving measures.

Future Water Conservation

The proposed Precise Plan defines green building standards and guidelines for North Bayshore. New construction will meet the mandatory CALGreen requirements and the intent of the Leadership in Energy and Environmental Design (LEED) rating system, consistent with the vision for sustainable development indicated in the General Plan (Mountain View, 2012).

The proposed Precise Plan will include mandatory elements of CALGreen. These elements involve a performance-based target of a 20 percent indoor water use reduction, and prescriptive measures for outdoor water uses such as 100 percent use of xeriscaping, low-water use, or native plants; creation of a water budget; and installation of submeters and irrigation controllers.

All new construction in the Precise Plan area also must meet the intent of the LEED Gold rating. LEED consists of a suite of rating systems for the design, construction and operation of buildings. LEED rating involves 100 points; a Gold rating is based on 60 to 70 points and a Platinum rating (the highest) achieves 80 to 100 points. One of the major categories is Water Efficiency with a total of 11 points; the goal of this category is to encourage smart use of water (indoors and out), typically through more efficient appliances, fixtures, and water-conscious landscaping (USGBC, 2012). Credits for water efficient landscaping involve a 50 percent reduction in comparable water demands through use of indigenous and adaptive plants, high efficiency irrigation, climate-based irrigation controls, and use of captured stormwater for irrigation. Indoor conservation for new construction involves a 20 to 40 percent reduction below baseline using water saving technologies and strategies (Hoffman, 2012). While implementation of greater water conservation measures (e.g., LEED Platinum) allows increased floor space, this would be offset in part by the water conservation measures.

In addition, most of North Bayshore is within the City's recycled water service area. In North Bayshore, recycled water is required by the City for landscape use by retail, commercial and industrial customers. In January 2017, recycled water will be required for toilets in new non-residential buildings over 25,000 square feet.

Estimated Future Recycled Water Use

Recycled water has been used within the North Bayshore area and is available for future use. Future recycled water use is required for irrigation and for toilets in new non-residential buildings over 25,000 square feet, and is encouraged for cooling (Mountain View, 2016a). As shown on **Table 3**, existing landscaping water use was estimated based on the existing parcel area provided by Raimi + Associates, an estimated percentage of impervious land based on the

North Bayshore Storm Drain Master Plan (Schaaf & Wheeler, 2013, Table 1), and an estimated landscaping water use factor. The proposed landscaping water use was estimated based on the minimum landscaped area for each character area provided by Raimi + Associates and the same water use factor used to estimate existing landscaping water use. A water use factor of 3.7 AFY per acre was assumed based on the baseline water demand for turf, presented in the Water Supply Assessment for the 2600 Marine Way Office Project, located within the North Bayshore area (Todd Engineers, 2014, Table 3). The estimated existing and proposed landscaping water use is 121.8 AFY and 527.8 AFY, respectively. These estimates indicate that the landscaping water use will increase by 406 AFY. The total landscaping water use (i.e., recycled water) is within the projected recycled water use of 1,091 AFY in 2030 (Mountain View, 2016a, Table 5-5). It should be noted that these are estimates. On one hand, not all parcels are likely to use recycled water and on the other hand, additional recycled water typically is applied to leach salts from the soil.

The landscaping water use is included in the UDFs used to estimate existing and future water use (**Table 2**). Therefore, the estimated increase in landscaping water use is included in the estimated increase in future water use.

CITY OF MOUNTAIN VIEW WATER DEMAND

This section summarizes water demands for the City's service area. The first part describes the factors affecting total water demand, including climate, population and employment, plus the mix of customer types, such as residential, commercial, and landscaping. The second part documents water demands not only under normal climatic conditions, but also during drought.

Climate

Climate has a significant influence on water demand on a seasonal and annual basis. This influence increases with the portion of water demand for outside uses, specifically landscape irrigation.

Table 4 summarizes representative climate data for the City, including average monthly and annual temperatures, minimum and maximum monthly and annual temperatures, and average and annual monthly rainfall and evapotranspiration (ETO). The City has a semi-arid, Mediterranean climate, characterized by warm dry summers and cool wet winters. Summer months have a higher water demand due to low rainfall and higher temperatures and ETO (Mountain View, 2016a).

Climate change may affect future water supply availability for the City of Mountain View by reducing the Sierran snow pack and stressing the SCVWD and Hetch-Hetchy water systems, changing local precipitation patterns, and increasing water demands. The City's development of a portfolio of different water supplies, including expansion of recycled water use for

landscaping and other uses, supports flexibility and reliability in long term water supply planning.

Between 2012 and 2015, California has endured the worst drought since record keeping began in 1895 (Mountain View, 2016a). Lower than average rainfall and higher than average temperatures impacted the State's water supply and resulted in strict water conservation actions. SCVWD called for a 20 percent water use reduction in February 2014, increased to 30 percent in March 2015, and back to 20 percent in June 2016 (Mountain View, 2016a). In May 2016, in response to improved water supply conditions, the State Water Board adjusted the water reduction targets to zero for agencies that are able to demonstrate adequate water supply for another three years of drought (SFPUC, 2016). SFPUC was able to demonstrate this, but nonetheless called for a 10 percent voluntary water restriction (SFPUC, 2016).

Population and Employment

City population and employment, key factors in water demand, are analyzed in the 2015 UWMP. **Table 5** reproduces the 2015 UWMP population and employment values for the City's water service area from 2015 and projections to 2040. Current population is based on California Department of Finance data, while future populations are based on the 2030 General Plan Strategy.

The City supplies water to commercial, institutional, and industrial (CII) customers in its service area, including the North Bayshore Precise Plan area. In the UWMP, CII customers were estimated to represent 80,817 jobs in 2015. Based on the 2030 General Plan Strategy, employment is anticipated to increase to 92,120 in 2030, with extension of the job growth trend resulting in an estimated 99,655 jobs in 2040.

Current Water Use Sectors and Water Demand

Table 6 documents the water demand for the City's service area by water use sectors for the calendar years 2010 through 2015, representing historical and recent conditions. The water use sectors (customer types) are listed on the left. Landscape irrigation refers to dedicated landscape irrigation meters. There are no sales to other agencies, saltwater barriers, groundwater recharge, or conjunctive use projects in the City. Water use was similar in 2010 and 2011 and then increased in 2012 and 2013. In response to drought conservation measures, water use dropped in 2014 and 2015 due to significant declines in landscaping water use, which, as shown on **Table 6**, are reflected in both single-family residential and landscape irrigation water use sectors (Mountain View, 2016a). Since drought conservation measures did not take full effect until 2014, 2013 represents "normal" water demand and is the baseline water demand to account for drought savings (Mountain View, 2016a).

Projected Water Demand

Table 7 summarizes projected water demands for the City's service area to 2040 (Mountain View, 2016a). These projections (reproduced from the 2015 UWMP) were developed using Maddaus Water Management's Demand Side Management Decision Support System (DSS model). These projections are based on regional water demand and conservation modeling and account for the new plumbing code requirements and up-to-date population and employment projections (Mountain View, 2016a). Overall, the projections indicate increasing water demands to 2040, including increases in residential, commercial/institutional, industrial, and landscaping uses. For purposes of the WSA, it should be noted that—while the projections incorporate water savings from plumbing code updates—they do not account for additional water conservation measures.

Table 7 also shows the 2013 water demands, from **Table 6**, for each customer type as the current baseline. The far-right column shows the increase in water demand from the baseline to 2040. As indicated, multi-family residential demand is projected to increase by 182 AFY, commercial/institutional demand is projected to increase by 374 AFY and industrial increases by 7 AFY. Landscaping also increases by 418 AFY; these four customer types amount to a projected increase of 981 AFY. The projected water demand includes both potable and recycled water for commercial/institutional, industrial, and landscape irrigation sectors (Mountain View, 2016a). Therefore, the baseline landscape irrigation water use on **Table 7** includes 2013 potable and recycled water use from **Table 6**.

The projected water demands reflect water demand increases associated with population and job growth envisioned in the General Plan, adopted in 2012. As described in the 2015 UWMP, the City is considering projects that may result in population and job growth increases that are beyond what was envisioned in the General Plan. Projects being considered by the City include the 10,000 multi-family units in the North Bayshore Precise Plan area. Therefore, alternative higher-growth water demand projections were generated based on the projects not in the General Plan but currently being studied by the City (Mountain View, 2016a). The projected 2040 water demand for the cumulative higher-growth alternative is 17,442 AFY (Mountain View, 2016a).

The estimated net increase in water demand associated with the North Bayshore Precise Plan (1,414 AFY; see **Table 2**) includes a projected increase of 1,104 AFY for the multi-family residential units and a projected increase of 310 AFY for the remainder of the project.

Drought Water Demand

The Santa Clara Valley has experienced major droughts in recent decades including the extreme single year drought of 1977, the prolonged severe drought of 1989-1992, and the recent drought of 2012 to 2015. In anticipation of future droughts, the City has updated its Water Shortage Contingency Plan as part of the 2015 UWMP. The Water Shortage Contingency Plan addresses shortages in several stages up to 50 percent as a result of drought, disaster, or water supply system failure. As documented in the UWMP, mandatory restrictions (for Stage 2 and above) include among others: reduction in the time to correct defective plumbing, restrictions on watering, prohibition of washing hard surfaces, and restrictions on water fountains and water features.

As summarized in the UWMP, landscape irrigation is considered a non-essential water use and its reduction is prioritized over business and home water use. Recycled water irrigation represents approximately 5 percent of the City's annual water use (Mountain View, 2016a). Where recycled water is available in the Precise Plan area, future development projects will likely use the recycled water, which is considered reliable (USEPA, 2013) as it does not diminish in drought like surface water supplies. The City of Mountain View (2013) considers recycled water as a dependable and drought-proof local supply, as do other California water agencies. Conversion to recycled water, where available, will reduce demands on potable water for landscape irrigation use.

WATER SUPPLY

The City of Mountain View's potable water is supplied primarily by imports through the San Francisco Public Utility Commission (SFPUC) and Santa Clara Valley Water District (SCVWD). Within the City, several small areas are served by Cal Water. Mountain View has seven active groundwater wells supplementing imported supplies; these wells also act as a backup system in the event of temporary interruption of imported water. Recycled water is available for non-potable uses in the northern portion of the City. **Figure 8** shows the recycled water service area.

The City of Mountain View's service area is essentially defined by the City limits, covering an area of approximately 12 square miles. Within the service area, three separate zones are maintained for the potable water supply sources. **Figure 6** shows the zones; the project area is in Zone 1 served with SFPUC water.

Table 8 lists the City's portfolio of water supply sources, while **Table 9** summarizes recent water supply production (from 2010 through 2015). Water supply production from 2010 to 2015 reflects cutbacks in response to the recent (2013-2016) drought. The Governor's January 2014 drought state of emergency required the City to reduce water demand by 16 percent in 2015/2016 and 0 percent in 2016/2017. SFPUC maintained a 10 percent conservation request and SCVWD requested 30 percent conservation in 2015/2016 and 20 percent conservation in 2016/2017. In 2014, the City declared a Stage 2 Water Shortage Emergency Condition (11 to 25

percent water use reduction) directing implementation of Stage 2 water reduction measures. In June 2016, the City approved a change from Stage 2 to Stage I (up to 10 percent water use reduction). **Table 10** presents projected water supplies production. Each of these tables is presented and described in the City's 2015 UWMP.

In May 2017, the City agreed to transfer 1 million gallons per day, or 1,120 AFY, of its water supply rights from the San Francisco Regional Water System to East Palo Alto (City of Mountain View, 2017). This water transfer agreement is documented in an addendum to the 2015 UWMP (City of Mountain View, 2017).

Imported Water

Imported water sources represent the primary supply; the City's 2015 UWMP provides detailed discussion of the SFPUC and SCVWD supplies and their long-term reliability, including potential impacts of climate change.

San Francisco Public Utility Commission (SFPUC)

The SFPUC manages the Hetch-Hetchy water system for the City of San Francisco and 29 wholesale water agencies in three Bay Area counties. The City of Mountain View has an individual contractual agreement with the City and County of San Francisco guaranteeing Mountain View with a supply of 15,077 acre-feet per year during normal years. In 2009, the City and SFPUC entered into a new agreement that extends to 2034, with supply guarantees that continue in perpetuity. The City's 2017 agreement to transfer a portion of its SFPUC water supply rights to East Palo Alto reduced the City's SFPUC maximum available supply to 13,955 AFY (City of Mountain View, 2017).

Santa Clara Valley Water District (SCVWD)

SCVWD manages a portfolio of water sources including surface water supplies from local reservoirs, groundwater, recycled water, and imported water. With regard to imported supply, SCVWD contracts with both the California Department of Water Resources (DWR) and the U. S. Bureau of Reclamation to receive, treat, and distribute imported surface water. In 1984, Mountain View began a 70-year contract with the SCVWD for imported water. Pursuant to this agreement, the City submits proposed delivery schedules to SCVWD; SCVWD manages all of its water supplies in an effort to meet the requested water deliveries.

Groundwater Supply (SCVWD)

As indicated in **Tables 8** and **9**, groundwater has been a source of water supply for the City of Mountain View. Groundwater is available from the Santa Clara Valley groundwater basin, designated by the DWR as Groundwater Basin Number 2-9.02 (CDWR, 2003).
Mountain View overlies the confined portion of Santa Clara subbasin, as shown in **Figure 1.**

The City of Mountain View currently has seven potable water supply wells situated in the confined portion of the Santa Clara Valley groundwater basin. They are maintained to augment water supply and to provide emergency water supply. From 2010 through 2015, the wells pumped an average of 429 AFY, or about 3.8 percent of the total available supply. Mountain View staff performs the required water quality testing and system maintenance. On **Table 8**, the maximum amount available is based on the City's historical maximum pumping; no entitlement or water right is indicated because the Santa Clara Valley groundwater basin has not been adjudicated and groundwater entitlements or rights have not otherwise been defined.

The City's 2015 UWMP and the SCVWD's 2012 Groundwater Management Plan (SCVWD, 2012) provide a detailed description of the groundwater basin (including geology, recharge areas, groundwater level trends, groundwater storage, and groundwater quality), regional groundwater management led by SCVWD, and the City's historical pumping. The operational capacity of the Santa Clara Plain is 350,000 AF and can supply groundwater pumping of 95,000 AFY to all entities (SCVWD, 2012).

The groundwater basin is intensively managed for storage and long-term sustainability. SCVWD has the primary responsibility for managing the Santa Clara Valley groundwater basin; SCVWD's groundwater management plan is included in the City's UWMP as Appendix H. SCVWD has worked to minimize subsidence and protect groundwater resources through managed recharge of the groundwater basin, water conservation, acquisition of surface water and imported water supplies, and prevention of water waste. Reflecting this management, groundwater levels in the Santa Clara Valley have generally risen since 1965 as demonstrated by hydrographs of index wells monitored by SCVWD (SCVWD, 2012).

SCVWD also has ongoing groundwater quality protection programs that address well permitting, well destruction, wellhead protection, toxic cleanup, land use and development review, nitrate management, and saltwater intrusion (SCVWD, 2012). SCVWD also collects water quality data each fall from 70 wells throughout the groundwater basin. None of these wells, however, are in Mountain View. Annual water quality reports from 2000 through 2015 and monthly reports thereafter are available online (SCVWD, 2016). SCVWD completed a Water Supply and Infrastructure Master Plan (SCVWD, 2012) that updates the district's strategy for ensuring future water supply reliability in light of future uncertainty and increasing demands (Hemmeter and Baker, 2012).

Recycled Water

The City of Mountain View has been using recycled water since 1980 (Mountain View, 2016a). In 2004, the City adopted Article V, Chapter 35 of the City Code requiring that existing and future retail, commercial, and industrial customers within the North Bayshore area use recycled water for landscape irrigation (Mountain View, 2010). Specifically, all applications for land use permits, building permits and other discretionary actions within the area should include:

- Incorporation of recycled water usage into the design of landscape and irrigation systems,
- Consideration of plants suitable for irrigation with recycled water,
- Installation of the infrastructure necessary to connect the irrigation system to the City's recycled water supply, and
- Use of recycled water in lieu of potable water during construction activity.

Failure to comply may result in penalties including surcharges for using potable water for irrigation, and after due warning, discontinuation of water service for irrigation.

Recycled water is currently available for delivery to the project area as shown on **Figure 8**, and has been used in the North Bayshore area since early 2010 (**Table 1**). Recycled water is generated at the Palo Alto Regional Water Quality Control Plant (RWQCP), which produces disinfected tertiary recycled water, the highest quality of four recycled water types defined by State regulations (Palo Alto and Carollo Engineers, 2012). The recycled water is piped approximately 4.5 miles from the RWQCP to 27 private and public connections in the North Bayshore area, including the Shoreline Golf Links and Shoreline Park (Mountain View, 2013). The recycled water has a relatively high content of total dissolved solids (887 parts per million in 2015; Mountain View, 2016a), which has the potential to harm some plants, including redwood trees (Mountain View, 2016a). However, RWQCP is working with its partners to monitor and further reduce recycled water salinity.

Water recycling is a continuing element of both SCVWD and City water supply planning efforts; water recycling plans are summarized in the District's Water Supply Master Plan (Hemmeter and Baker, 2012) and Integrated Water Resources Planning Study 2003 (SCVWD, 2005) as well as in the City's 2015 UWMP.

A Recycled Water Feasibility Study completed in 2014 (Carollo, 2014) considered several recycled water project alternatives and recommended a project which includes portions of North Bayshore. The project would allow reduced development of additional potable water supplies, including water from the Sacramento-San Joaquin Delta (Carollo, 2014). The City's FY 2016-17 Capital Improvement Program includes over five million dollars for recycled water distribution system construction (City of Mountain View, 2016c).

Expanded use of recycled water within the plan area (i.e., dual plumbing) would reduce demand for potable water. Recycled water demands for the plan area (landscape irrigation and indoor recycled water systems) would be served by either re-using existing services that are not yet activated or using new services, depending on required connection locations. Due to periodic system interruptions, the City requires back-up (e.g., potable backup connection) for internal building uses to ensure that a supply is available (Palo Alto and Carollo Engineers, 2012).

Water Supply in Normal and Drought Periods

The California Water Code requires a WSA to include discussion of how supply will meet demand during normal, single dry, and multiple dry water years during a 20-year projection. The City's 2015 UWMP provides discussion of water supply and demand in normal and drought periods, included herein by reference. Based on the City's 2015 UWMP and the project's estimated future water demand (provided in **Table 2**), **Table 11** summarizes water supply and demand for the City in a normal year, while **Tables 12** and **13** show supply and demand in single-year and multi-year drought conditions.

The project area is located in the part of the City primarily served by SFPUC (**Figure 6)**. In order to meet its goals for water quality and system water supply reliability, SFPUC has undertaken the Water System Improvement Program (WSIP), which includes substantial capital improvements. The WSIP was approximately 90 percent complete at the end of 2015 and is expected to be fully completed in 2019 (Mountain View, 2016a). In the case of a temporary interruption of the SFPUC system, water from other sources (SCVWD, groundwater, or from nearby cities) may be used as supplemental sources. SFPUC and its wholesale customers have developed a Water Shortage Allocation Plan, which establishes the amount of water available from SFPUC in time of drought (up to 20 percent reduction in supplies) and determines how it is shared among the agencies. This process is summarized in the City's 2015 UWMP.

Review of **Tables 11, 12, and 13** shows that imported water would be reduced during multiple dry year droughts. The City expects to meet water demands during normal years with its portfolio of water sources including SFPUC supply of up to a maximum of 15,078 AFY (Mountain View, 2016a). In dry year scenarios, SFPUC will supply up to 10,597 AFY in single dry years and 13,189 AFY in the first year of multiple dry years and 10,597 AFY in the second and third years of multiple dry years. Shortfalls are indicated to occur in single dry years and multiple dry years. In single dry years, shortfalls of 3 to 11 percent occur from 2020 to 2040 (**Table 12**). In multiple dry years, demand is met in the first dry year, but shortfalls occur in the second and third dry years from 2020 to 2040 (**Table 13**). According to the City's UWMP, projected dry-year shortfalls will be addressed through implementation of temporary water demand management measures, which are described in the City's water shortage contingency plan. These measures would reduce the City's water demand by the same amount as the water supply reduction. Recycled water is recognized for its reliability during dry conditions and is shown as unaffected by drought in **Tables 12** and **13**.

For purposes of this analysis, project water is assumed to be potable water; however, many projects will be required to use recycled water thereby decreasing the impacts to the City's potable water system. Over the long term, additional development of recycled water would help reduce the future potable water demand.

COMPARISON OF SUPPLY AND DEMAND

The North Bayshore Precise Plan was adopted by the City in November 2014, and is one of the major change areas identified in the General Plan Strategy. In February 2015, the City Council asked for the North Bayshore Precise Plan to be amended to include residential land uses (Mountain View, 2016b). The residential expansion (almost 10,000 units), however, was not part of the 2012 General Plan. The City of Mountain View 2015 Urban Water Management Plan (adopted June 24, 2016) was prepared in accordance with the General Plan Strategy, and thereby includes increases in water demand over a 25-year horizon. The UWMP recognizes intensification of land use for the North Bayshore area, as shown in the UWMP's Figure 2-1. The UWMP, however, does not account for the North Bayshore Precise Plan's water demand. The UWMP recognizes the "higher-growth" alternative, which includes the North Bayshore Precise Plan's proposed residential expansion and several other projects being evaluated by the City (Mountain View, 2016a). Therefore, this WSA assumes that the project's water demand is added to the UWMP water demand.

The increase in water demand for this project is estimated to be 1,414 AFY, based on water demand factors developed by the City for the North Bayshore Precise Plan (see **Table 2**). In accordance with the 2012 General Plan, the City of Mountain View plans an overall net increase in water demand of 1,325 AFY (see **Table 7**). The City's "higher-growth" alternative would add up to 41,750 residents and 11,667 jobs in 2040 beyond what was envisioned in the 2012 General Plan. As described in the 2015 UWMP, normal year water demand in this "higher-growth" alternative would be 17,442 AFY, 1,091 AFY of which would be met with recycled water. This normal year water demand would be met.

Based on the City's 2015 UWMP and the project's estimated future water demand increase (1,414 AFY, see **Table 2**), supply shortfalls are expected in single dry years and multiple dry years. Single dry year shortfalls would be 3 to 11 percent from 2020 to 2040 and multiple dry year shortfalls would be 5 to 13 percent from 2020 to 2040. This includes SFPUC supply up to 10,597 AFY in single dry years and 13,189 AFY in the first year of multiple dry years and 10,597 AFY in the second and third years of multiple dry years. Because the City conserved 28 percent in 2015 in response to the drought, the 2015 UWMP reasonably assumes that drought reductions of this magnitude are feasible in the future. Therefore, conservation programs would reduce the expected dry-year supply shortfall in the higher-growth alternative. In addition, Mountain View may receive more drought allocation from SFPUC in future dry years than was modeled in the 2015 UWMP if the City exceeds the growth of its neighboring cities (Mountain View, 2016a). Also, some future projects will be required to use recycled water, thereby decreasing the impact to the City's potable water system.

Other office, commercial and residential projects are currently being planned or have been approved since the 2015 UWMP. **Table 14** is a list of projects in the City's service area, derived from the August 1, 2016, City of Mountain View Planning Division Update. The Planning Division Update was reviewed for projects that have been approved or permitted, are in the

plan check phase or awaiting revision, or are under construction. These are listed with the respective floor area of offices or commercial space, or number of dwelling units. Projects with insignificant water demands were not included.

As indicated in **Table 14**, the project water demands were estimated by applying the respective demand factors listed at the bottom of the table. The total proposed water demand from **Table 14** represents the identified projects in August 2016 and amounts to 1,670 AFY. Addition of the estimated water demand for the North Bayshore Precise Plan—1,414 AFY—would bring the total to 3,084 AFY. This additional water demand can be compared to the "higher-growth" alternative water demand planned to 2040, which is 17,442 AFY. It is understood, however, that the demand from many of the projects shown on **Table 14** may have been included in the General Plan and the 2015 UWMP. Therefore, comparing the demand from these projects to the "higher-growth" alternative is a conservative approach. Comparison of the additional water demand and the UWMP planned increases suggests that proposed projects have not outpaced the UWMP planning for future water supply and demand. It should be noted that this comparison is not absolute. The **Table 14** values do not account for replacement of existing offices; this would reduce the **Table 14** values. Moreover, the **Table 14** values do not account for water conservation beyond the conservation envisioned in the General Plan and 2015 UWMP and incorporated in the UDFs (namely those associated with LEED certification); accordingly, the values would be over-estimates.

Addition of the North Bayshore Precise Plan project and its residential uses with its water demand estimates (1,414 AFY) can be included within the projected water demand of the UWMP, particularly in light of the "higher-growth" alternatives recognized by the City and proposed water conservation measures and use of recycled water. In sum, the City of Mountain View has sufficient water supply for the proposed project in normal years. The City of Mountain View has considered potential water shortages in dry years, and has developed a water shortage contingency plan that provides measures to reduce demand to match available supply.

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Table 1. Historical Water Use (AF), North Bayshore

Year	Potable	Recycled	Total
2005	888	0	888
2006	908	0	908
2007	984	0	984
2008	986	0	986
2009	941	0	941
2010	841	21	862
2011	865	33	899
2012	914	45	959
2013	895	56	951
2014	757	96	853
2015	589	124	713
Total	**9,568**	**375**	**9,944**
Annual Average	**870**	**63**	**904**

Metered water usage provided by City of Mountain View, by way of Schaaf and Wheeler.

Table 2. Estimation of Future Water Demand, North Bayshore

	Office	Industrial	R&D	Restaurant	Retail	Services	Single Family	Multi-Family	Hotel	Institutional / Recreational	Church [2]	Total
Unit Duty Factors (UDFs) [1]												
Recommended UDF	90	60	130	1,200	130	130	305	100	100	165	165	--
UDF unit	gpd/1,000 sf	gpd/1,000 sf	gpd/1,000 sf	gpd/1,000 sf	gpd/1,000 sf	gpd/1,000 sf	gpd/dwelling	gpd/dwelling	gpd/room	gpd/1,000 sf	gpd/1,000 sf	
Existing Land Use (2015)												
Area (SF)	325,290	231,074	6,577,147	11,056	15,102	153,418	1 unit	4 units	0 rooms	211,670	100,551	
Daily Demand (gpd)	29,276	13,864	855,029	13,267	1,963	19,944	305	400	0	34,926	16,591	985,566
Demand (AFY)	33	16	958	15	2	22	0.3	0	0	39	19	1,105
Proposed Land Use (2030)												
Area (SF)	5,732,053	150,833	4,591,664	4,400	194,138	26,138	1 unit	9,849 units	400 rooms	298,170	100,551	
Daily Demand (gpd)	515,885	9,050	596,916	5,280	25,238	3,398	305	984,900	40,000	49,198	16,591	2,246,761
Demand (AFY)	578	10	669	6	28	4	0.3	1,104	45	55	19	2,518
Estimated Increase (Existing to 2030)												
Area (SF)	5,406,763	(80,241)	(1,985,483)	(6,656)	179,036	(127,280)	-	9,845	400 rooms	86,500	-	
Daily Demand (gpd)	486,609	(4,814)	(258,113)	(7,987)	23,275	(16,546)	-	984,500	40,000	14,273	-	1,261,195
Demand (AFY)	545	(5)	(289)	(9)	26	(19)	-	1,104	45	16	-	1,414

Notes:

1. Unit Duty Factors (UDFs) are provided by the City of Mountain View and are specific to North Bayshore. However, the Single Family Unit (Individual Lot) 2005-2006 water use per meter is 305 gpd, from Table 3-6; City of Mountain View Water System Master Plan (2010).
2. Unit duty factor for Church assumed to be the same as Institutional/Recreational.

Table 3. Estimated Landscaping Water Use

Existing Landscaping Water Use (2015)

Land Use Type	Existing (2015) Land Use Parcel Area (Acre) [1]	Percent Impervious [2]		Existing (2015) Pervious Parcel Area (Acre)	Estimated Landscaping Water Use Factor (AFY/Acre) [3]	Estimated Landscaping Water Use (AFY)
		Type	Percentage			
Industrial	5.3	General Industrial	92%	0.4	3.7	1.6
Institutional/Recreation	4.9	Commercial Service	94%	0.3	3.7	1.1
Multi-Family	1.1	Multiple Family	87%	0.1	3.7	0.5
Office	7.5	Commercial Office	83%	1.3	3.7	4.7
R&D	151.0	Limited Industrial	80%	30.2	3.7	111.7
Restaurant	0.3	Commercial Service	94%	0.02	3.7	0.1
Retail	0.3	Commercial Service	94%	0.02	3.7	0.1
Services	3.5	Commercial Service	94%	0.2	3.7	0.8
Single Family	1.0	Single Family	79%	0.2	3.7	0.8
Hotel	0.0	Commercial Service	94%	0.0	3.7	0.0
Church	2.3	Commercial Service	94%	0.1	3.7	0.5
Total	**177.1**			**32.9**		**121.8**

Proposed Landscaping Water Use (2030)

Character Area	Estimate of the Minimum Landscaped Area (Acre) [4]	Estimated Landscaping Water Use Factor (AFY/Acre) [3]	Estimated Landscaping Water Use (AFY)
Within Complete Neighborhood Area			
Gateway Non-Residential	5.1	3.7	18.7
Core and General [5]	27.4	3.7	101.3
Edge [5]	4.4	3.7	16.3
Outside Complete Neighborhood Area			
Core Non-Residential	4.8	3.7	17.8
General Non-Residential	63.6	3.7	235.3
Edge Non-Residential	37.4	3.7	138.5
Total	**142.7**		**527.8**

Change in Landscaping Water Use (AFY) =	**406.0**

Notes:

1. Existing Land Use Parcel Area from Raimi + Associates.
2. Percent Impervious from North Bayshore Storm Drain Master Plan (Schaaf & Wheeler, 2013, Table 1).
3. Landscaping water use rate based on baseline water demand for turf, from the Water Supply Assessment for City of Mountain View, 2600 Marine Way Office Project (Todd Engineers, 2014, Table 3).
4. Estimate of the minimum landscaped area from Raimi + Associates.

Table 4. Climate Data

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
$Temp_{ave}$ (˚F)	48	51	54	57	61	65	67	67	65	61	54	48	**58**
$Temp_{Min}$ (˚F)	39	41	43	45	49	53	55	55	53	48	43	38	**47**
$Temp_{Max}$ (˚F)	57	61	64	68	73	77	78	78	78	73	64	58	**69**
Rainfall (in)	3.2	2.9	2.3	1.0	0.4	0.1	0.0	0.1	0.2	0.7	1.7	2.7	**15**
ETO (in)	1.4	1.9	3.4	4.4	5.5	6.0	6.2	5.5	4.4	3.1	1.7	1.3	**45**

Note:
Rainfall and temperature data are from the Western Regional Climate Center, Palo Alto station (1953 to 2015). ETO data are from the California Irrigation Management Information System, Union City station (1991 to 2015).
Source: City of Mountain View 2015 Urban Water Management Plan (UWMP), Table 2-2.

Table 5. Population and Employment Projections*

Parameter	2015	2020	2025	2030	2035	2040
Population	75,430	79,010	82,590	86,170	89,750	93,330
Employment	80,817	84,585	88,352	92,120	95,888	99,655

Note:
*Both population and employment figures subtract land uses included in the 2030 General Plan that are outside of the City's water service area (e.g., Cal Water customers).
Source: City of Mountain View 2015 UWMP, Table 2-1.

Table 6. Historical Water Demand by Water Use Sectors (AFY)

Customer Type	2010	2011	2012	2013	2014	2015	Average
Potable Water Use							
Single Family Residential	2,885	2,863	3,060	3,110	2,721	2,147	2,798
Multi-Family Residential	3,417	3,324	3,360	3,343	3,004	2,760	3,201
Commercial/Institutional	1,528	1,521	1,532	1,568	1,508	1,381	1,506
Industrial	451	470	475	487	497	405	464
Landscape Irrigation	2,088	2,091	2,247	2,651	2,190	1,520	2,131
Construction	5	7	4	3	7	2	5
Total Potable Water Use	**10,374**	**10,276**	**10,678**	**11,162**	**9,927**	**8,215**	**10,105**
Recycled Water Use							
Landscape Irrigation	502	468	547	224	395	394	422
Construction	0	0	0	0	5	1	1
Total Recycled Water Use	**502**	**468**	**547**	**224**	**400**	**395**	**423**
TOTAL WATER USE	**10,876**	**10,744**	**11,225**	**11,386**	**10,327**	**8,610**	**10,528**

Source of annual values: City of Mountain View 2015 UWMP, Table 4-1.

Table 7. Projected Water Demand by Water Use Sectors (AFY)

Customer Type	Baseline[1]	Projected Water Demand (AFY)[2]					Increase: Baseline to 2040 (AFY)
		2020	2025	2030	2035	2040	
Single Family Residential	3,110	3,140	3,146	3,150	3,175	3,214	104
Multi-Family Residential	3,343	3,240	3,298	3,351	3,430	3,525	182
Commercial/Institutional	1,568	1,728	1,778	1,830	1,885	1,942	374
Industrial	487	515	509	504	499	494	7
Landscape Irrigation	2,875	2,799	2,923	3,046	3,170	3,293	418
Construction	3	5	6	6	6	6	3
Unaccounted Water[3]	797	880	918	958	996	1,034	237
TOTAL	**12,183**	**12,307**	**12,578**	**12,845**	**13,161**	**13,509**	**1,325**

Notes:

1. Baseline is represented by the 2013 water demand (see Table 6) and unaccounted water.
2. Includes both potable and recycled water use.
3. Baseline unaccounted water is assumed as 7 percent of the total.

Source of annual values: City of Mountain View 2015 UWMP, Table 4-5.

Table 8. Water Supply Sources

Supply Source	Est. Max. Available (AFY)	Basis
Imported Water - SFPUC	13,955	Individual supply guarantee
Imported Water - SCVWD Treated	1,200	7-year projections
Groundwater*	1,525	20-year historical maximum
Recycled Water	3,361	Capacity ownership
Total Supply	**20,041**	--

* Most produced groundwater is pumped to the potable water distribution system.; however a portion is used for general operation and maintenance of the groundwater wells.

Source: City of Mountain View 2015 UWMP Addendum No. 1, Updated Table 5-4.

Table 9. Recent Water Supply Production (AFY)*

Water Supply Sources	2010	2011	2012	2013	2014	2015	5 Year Average	20 Year Average
Imported Water								
SFPUC	9,476	9,668	9,702	10,559	8,847	8,043	**9,364**	**11,055**
SCVWD Treated	1,007	1,038	1,188	1,327	1,017	682	**1,050**	**1,209**
Total Imported	*10,484*	*10,706*	*10,890*	*11,886*	*9,864*	*8,726*	**10,414**	**12,265**
Groundwater**	476	441	387	389	782	145	**429**	**563**
Recycled Water	389	483	550	242	413	450	**428**	**NA**
TOTAL	**11,348**	**11,630**	**11,827**	**12,518**	**11,059**	**9,320**	**11,271**	**12,961**

* This is the estimated supply production needed to meet demand; it is not the maximum supply available to the City.

** Most produced groundwater is pumped to the potable water distribution system; however a portion is used for general operation and maintenance of the groundwater wells.

Source: City of Mountain View 2015 UWMP Table 5-3.

Table 10. Projected Water Supply Production (AFY)*

Water Supply Sources	2020	2025	2030	2035	2040
Imported Water:					
SFPUC	9,546	9,713	9,966	10,266	10,603
SCVWD Treated	1,200	1,200	1,200	1,200	1,195
**Groundwater ** **	566	574	588	604	621
Total Potable Supply	*11,312*	*11,487*	*11,754*	*12,070*	*12,419*
Recycled Water	995	1,091	1,091	1,091	1,091
TOTAL	**12,307**	**12,578**	**12,845**	**13,161**	**13,510**

* This is the estimated supply production needed to meet demand; it is not the maximum supply available to the City.

** Most produced groundwater is pumped to the potable water distribution system.; however a portion is used for general operation and maintenance of the groundwater wells.

Source: City of Mountain View 2015 UWMP Table 5-5.

Table 11. Normal Year Supply and Demand Comparison

Supply Source	Projected Water Supply and Demand (AFY)				
	2020	2025	2030	2035	2040
SFPUC [1]	10,960	11,127	11,380	11,680	12,017
SCVWD Treated	1,200	1,200	1,200	1,200	1,195
Groundwater	566	574	588	604	621
Potable Supply	12,726	12,901	13,168	13,484	13,833
Potable Demand	11,312	11,487	11,754	12,070	12,419
Project Demand [2]	1,414	1,414	1,414	1,414	1,414
Total Demand	12,726	12,901	13,168	13,484	13,833
Difference (% demand)	**0%**	**0%**	**0%**	**0%**	**0%**
Recycled Supply	995	1,091	1,091	1,091	1,091
Recycled Demand	995	1,091	1,091	1,091	1,091
Difference (% Demand)	**0%**	**0%**	**0%**	**0%**	**0%**

Table 12. Single Dry Year Supply and Demand Comparison

Supply Source	Projected Water Supply and Demand (AFY)				
	2020	2025	2030	2035	2040
SFPUC [3]	10,597	10,597	10,597	10,597	10,597
SCVWD Treated	1,200	1,200	1,200	1,200	1,104
Groundwater	566	574	588	604	621
Potable Supply	12,363	12,371	12,385	12,401	12,322
Potable Demand	11,312	11,487	11,754	12,070	12,419
Project Demand [2]	1,414	1,414	1,414	1,414	1,414
Total Demand	12,726	12,901	13,168	13,484	13,833
Difference (% demand)	**-3%**	**-4%**	**-6%**	**-8%**	**-11%**
Recycled Supply	995	1,091	1,091	1,091	1,091
Recycled Demand	995	1,091	1,091	1,091	1,091
Difference (% Demand)	**0%**	**0%**	**0%**	**0%**	**0%**

Notes:

1. SFPUC supply includes UWMP supply and additional supply to meet total demand.
2. North Bayshore Precise Plan project demand increase from Table 2 (1,414 AFY).
3. Represents the SFPUC single dry year maximum supply.
4. Represents the SFPUC multiple dry year maximum supply.

Table 13. Multiple Dry Year Supply and Demand Comparison

Supply Source	Projected Water Supply and Demand (AFY)														
	2020			2025			2030			2035			2040		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
SFPUC [4]	13,189	10,597	10,597	13,189	10,597	10,597	13,189	10,597	10,597	13,189	10,597	10,597	13,189	10,597	10,597
SCVWD	978	769	894	1,016	833	937	992	805	906	968	778	864	954	755	843
Groundwater	566	566	566	574	574	574	588	588	588	604	604	604	621	621	621
Potable Supply	14,733	11,932	12,057	14,779	12,004	12,108	14,769	11,990	12,091	14,761	11,979	12,065	14,764	11,973	12,061
Potable Demand	11,312	11,312	11,312	11,487	11,487	11,487	11,754	11,754	11,754	12,070	12,070	12,070	12,419	12,419	12,419
Project Demand [2]	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414	1,414
Total Demand	12,726	12,726	12,726	12,901	12,901	12,901	13,168	13,168	13,168	13,484	13,484	13,484	13,833	13,833	13,833
Difference (% demand)	**16%**	**-6%**	**-5%**	**15%**	**-7%**	**-6%**	**12%**	**-9%**	**-8%**	**9%**	**-11%**	**-11%**	**7%**	**-13%**	**-13%**
Recycled Supply	995	995	995	1,091	1,091	1,091	1,091	1,091	1,091	1,091	1,091	1,091	1,091	1,091	1,091
Recycled Demand	995	995	995	1,091	1,091	1,091	1,091	1,091	1,091	1,091	1,091	1,091	1,091	1,091	1,091
Difference (% demand)	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

Source: City of Mountain View 2015 UWMP Tables 6-3, 6-4, and 6-5.

Table 14. Projects Planned, Approved or Under Construction [1, 2]

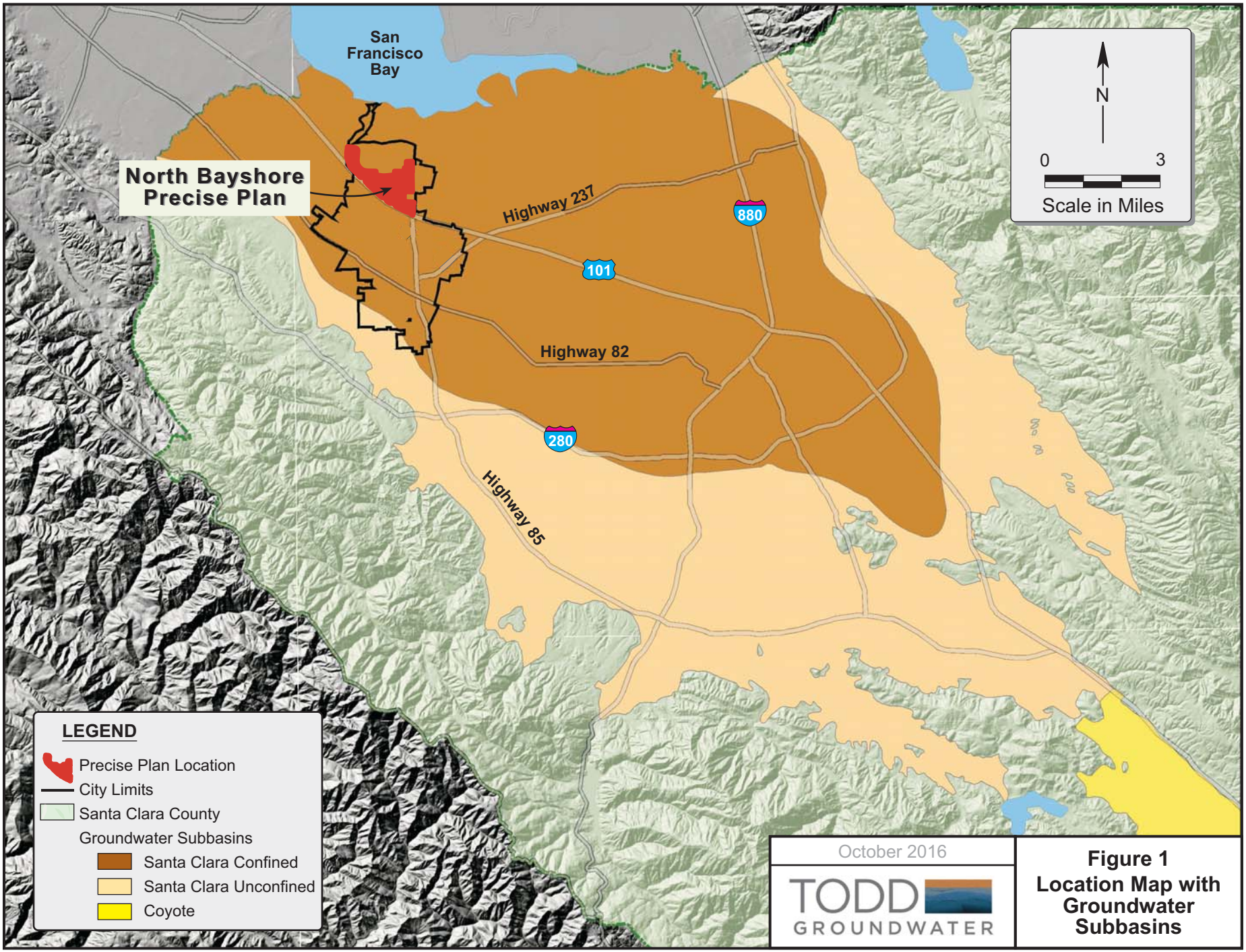
Property Location [3]	Description	Office/R&D (sf)	Commercial Mixed Use (sf)	Individual Lot Single Family (units)	Single Family (units)	Multi-Family (units)	Institutional / Recreational (sf)	Hotel (rooms)
400 San Antonio Road	582 apartment units; 11,162 sf commercial		11,162			582		
405 San Antonio Road	360,909 sf office; 107,835 retail/commercial; cinema (1410 seats); hotel (167 rooms)	360,909	107,835					167
2645 & 2655 Fayette Dr.	24-unit residential condominium					24		
2300 W. El Camino Real	hotel (157 rooms)							157
2268 W. El Camino Real	204-unit residential apartment					204		
1984 W. El Camino Real	160-unit apartment; 4,000 sf retail		4,000			160		
1854 W. El Camino Real	8,940 sf hotel (assume 20 rooms)							20
1740 W. El Camino Real	hotel (32 rooms)							32
1720 W. El Camino Real	162-unit residential apartment building					162		
1616 W. El Camino Real	66-unit apartment building;					66		
1701 W. El Camino Real	65-unit apartment development					65		
1101 W. El Camino Real	52-unit condominium development					52		
801 W. El Camino Real	164 apartment units; 10,800 sf commercial		10,800			164		
86 El Camino Real	4,800 sf preschool						4,800	
790 E El Camino Real	2,940 sf convenience store		2,940					
600 National Ave	140,654 sf office building	160,654						
369 N. Whisman Rd.	office buildings (70,846 and 109,927 sf)	180,773						
580-620 Clyde Ave.	178,477 sf office building	178,477						
575 E. Middlefield Rd.	102,410 sf office building	102,410						
100 Moffett Blvd.	184-unit apartment project					184		
390 Moffett Blvd.	hotel addition (21 rooms; 11,630 sf)							21
231-235 Hope St.	9-unit condominium project					9		
605 Castro Street	8 condominium units; 28,000 sf commercial		28,000			8		
325, 333, and 339 Franklin St.	15-unit condominium					15		
582 Hope Street	mixed use development: 96,500 sf commercial; 8,000 sf retail; 12 residential units; 3,400 sf church		104,500			12	3,400	
881 Castro Street	8,500 sf commercial; 18 condominium units		8,500			18		
908 N. Rengstorff Ave.	8,088 sf daycare center						8,088	
827 N. Rengstorff Ave.	24-unit row house development				24			
858 Sierra Vista Ave.	4 single family homes			4				
2392 Rock St.	3-unit single family development			3				
1946 San Luis Ave	28-unit rowhouse				28			
1998-2024 Montecito Ave	17-unit condominiums					17		
647 Sierra Vista Ave	29-unit rowhouse				29			
1968 Hackett & 208-210 Sierra Vista Ave	24-unit rowhouse				24			
2025 and 2065 San Luis Ave.	33-unit rowhouse				33			
1001 N. Shoreline Blvd	111,443 sf office	111,443						
1075 Terra Bella Ave.	13,046 sf R&D building	13,046						

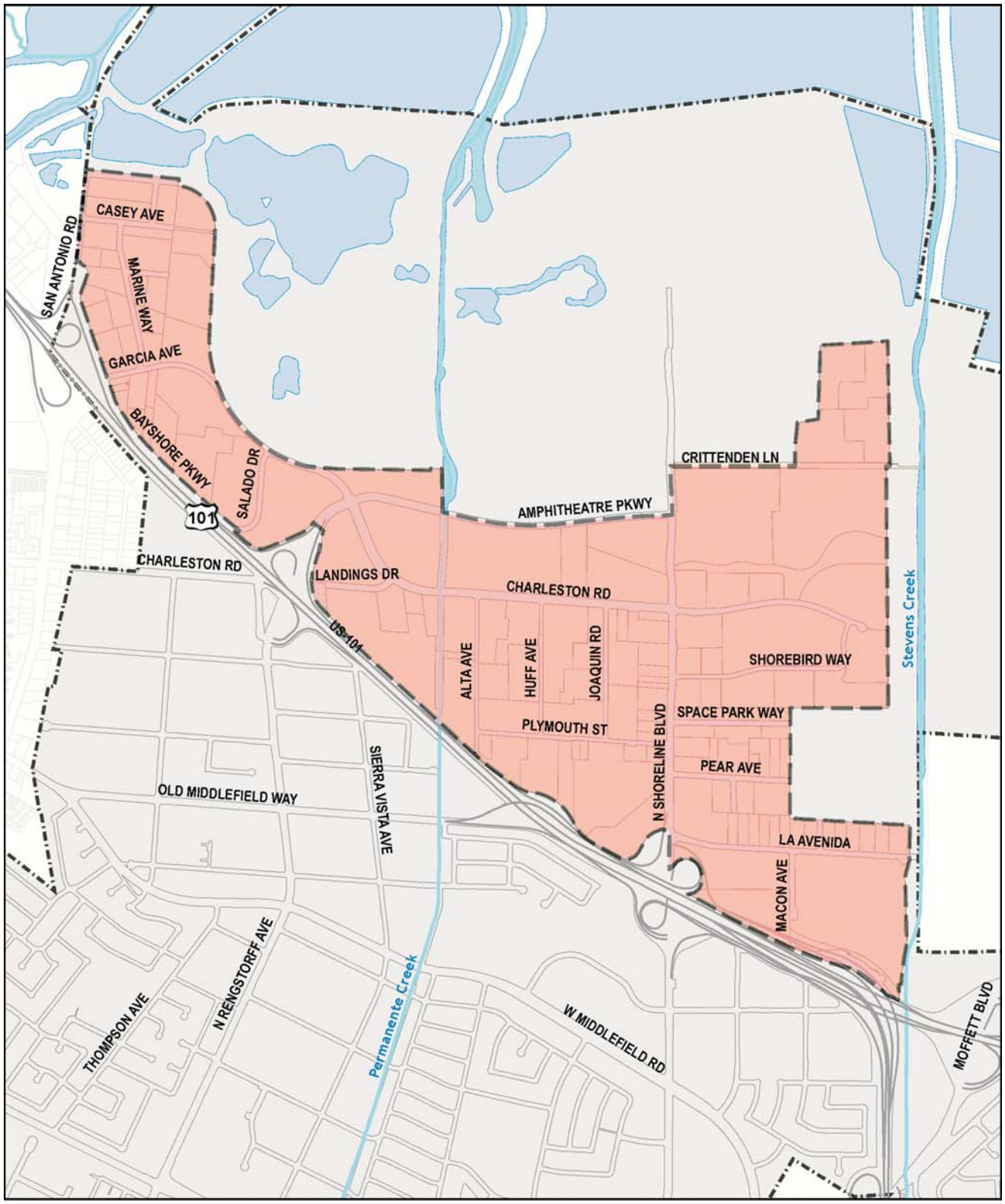
Table 14. Projects Planned, Approved or Under Construction [1, 2]

Property Location [3]	Description	Office/R&D (sf)	Commercial Mixed Use (sf)	Individual Lot Single Family (units)	Single Family (units)	Multi-Family (units)	Institutional / Recreational (sf)	Hotel (rooms)
750 Moffett Blvd.	hotel (255 rooms); 200,000 sf office	20,000						255
870 Leong Dr.	hotel (78 rooms; 41,039 sf)							78
660 Tyrella Dr.	37-unit rowhouse				37			
111 & 123 Fairchild Dr.	18 rowhomes				18			
277 Fairchild Dr.	26 single family homes (22 attached, 4 detached)			4	22			
450 N. Whisman Dr.	37-unit rowhouse				37			
186 East Middlefield Rd.	8-unit condominium					8		
167 North Whisman Rd.	2-unit single family subdivision (6,600 sf)			2				
Pacific Dr.	16 single family homes			16				
100 and 420-430 Ferguson Drive	198-unit rowhouse				198			
500 Ferguson Drive	394 residential apartments; 3,000 sf commercial		3,000			394		
2296 Mora Drive	75 attached rowhomes				75			
394 Ortega Avenue	144-unit apartment building					144		
1958 Latham Street	6-unit rowhouse project				6			
574 Escuela Ave	assisted living facility with 44 beds on 0.55 acre site (assume 20,000 sf)						20,000	
2500 Grant Road	56,000 sf behavioral health building; 265,000 sf medical office building						321,000	
525 East Evelyn Ave	70-unit rowhouse				70			
779 East Evelyn Ave	116-unit apartment building					116		
334 Bryant Ave	assisted living facility with 44 beds on 0.55 acre site (assume 20,000 sf)			4				
1991 Sun Mor Avenue	11 single family homes			11				
	Subtotal	1,127,712	280,737	44	601	2,404	357,288	730
	Unit Duty Factor [4, 5, 6]	210 gpd/1,000 sf	130 gpd/1,000 sf	138 gpdc	113 gpdc	82 gpdc	165 gpd/1,000 sf	100 gpd/room
	Daily Demand (gpd)	236,820	36,496	24,288	271,652	788,512	58,953	73,000
	Calculated Water Demand for Projects (AFY)	**265**	**41**	**27**	**304**	**884**	**66**	**82**
							Total (AFY)	**1,670**

Notes:

1. Compiled from August 1, 2016, City of Mountain View Planning Division Update, available at*: http://www.mountainview.gov/news/displaynews.asp?NewsID=793&TargetID=27*
2. Projects that are requested, approved, or under construction as indicated in the Planning Division Update.
3. Projects within the North Bayshore Precise Plan Area are not included.
4. Unit duty factors from City of Mountain View Water System Master Plan (2010, Table 3-6). Assumed four people per residential unit.
5. Landscaping water use rate based on baseline water demand for turf, from the Water Supply Assessment for the City of Mountain View, 2600 Marine Way Office Project (Todd Engineers, 2014, Table 3).
6. Institutional/Recreational and Hotel water use rate based on water demand factors provided by the City of Mountain View for the North Bayshore Precise Plan.


San Francisco Bay
North Bayshore Precise Plan
Highway 237
880
101
Highway 82
280
Highway 85
N
0
3
Scale in Miles
LEGEND
Precise Plan Location
City Limits
Santa Clara County
Groundwater Subbasins
Santa Clara Confined
Santa Clara Unconfined
Coyote
October 2016
TODD GROUNDWATER
Figure 1
Location Map with Groundwater Subbasins



Source: City of Mountain View, R+A, 2013.

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Figure 2
North Bayshore Precise Plan Location

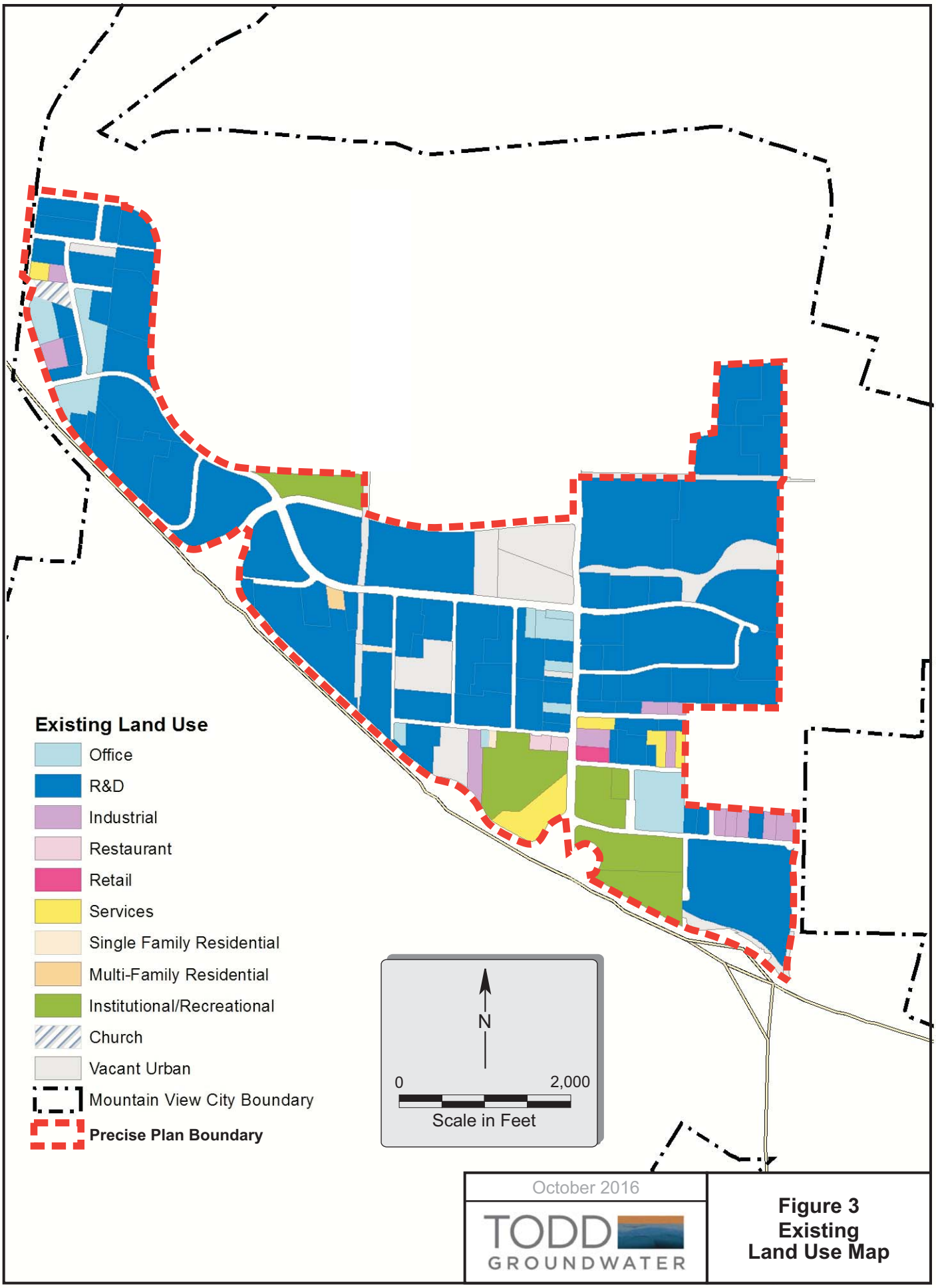

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Figure 3
Existing Land Use Map

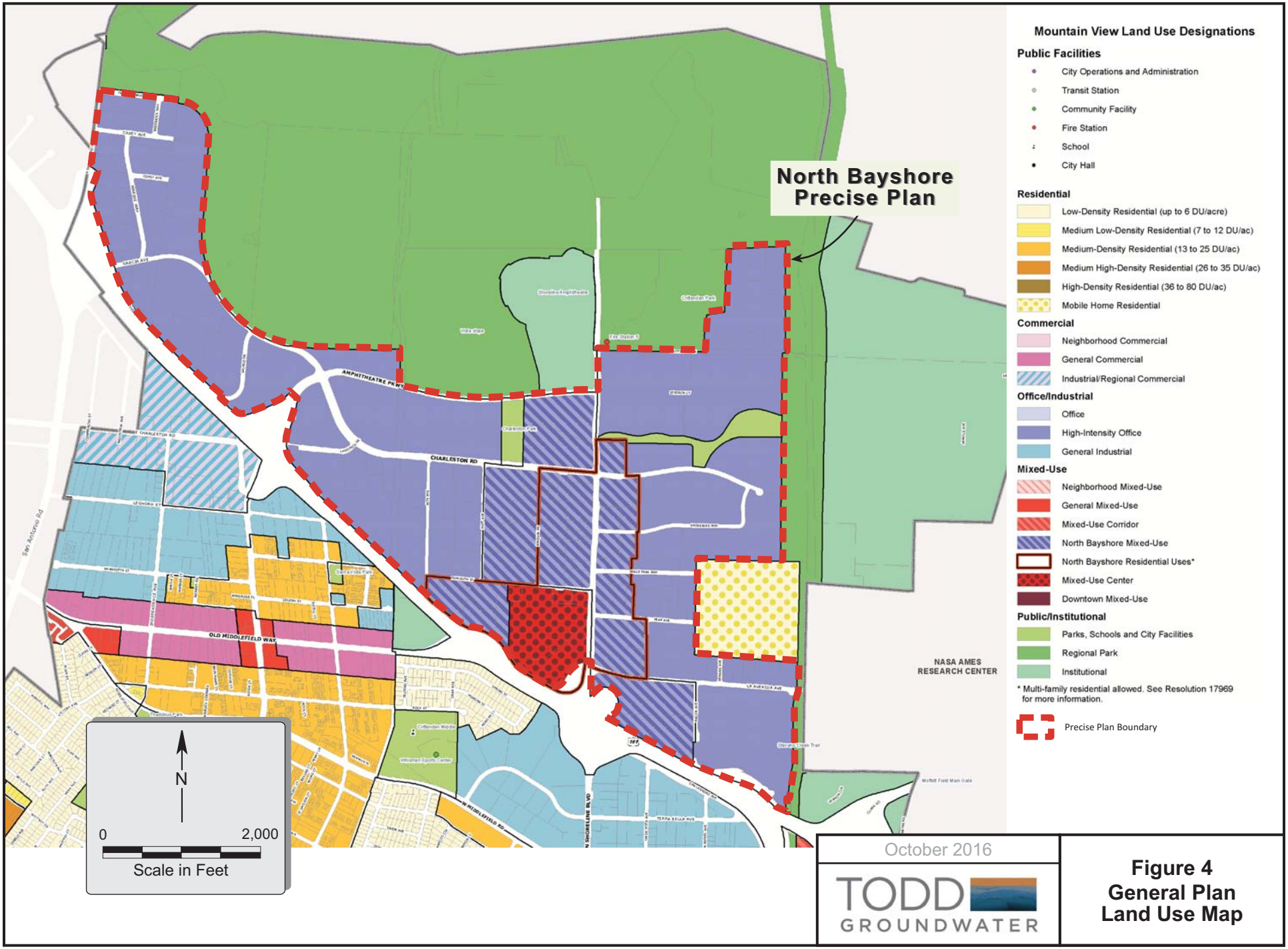

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Figure 4
General Plan Land Use Map

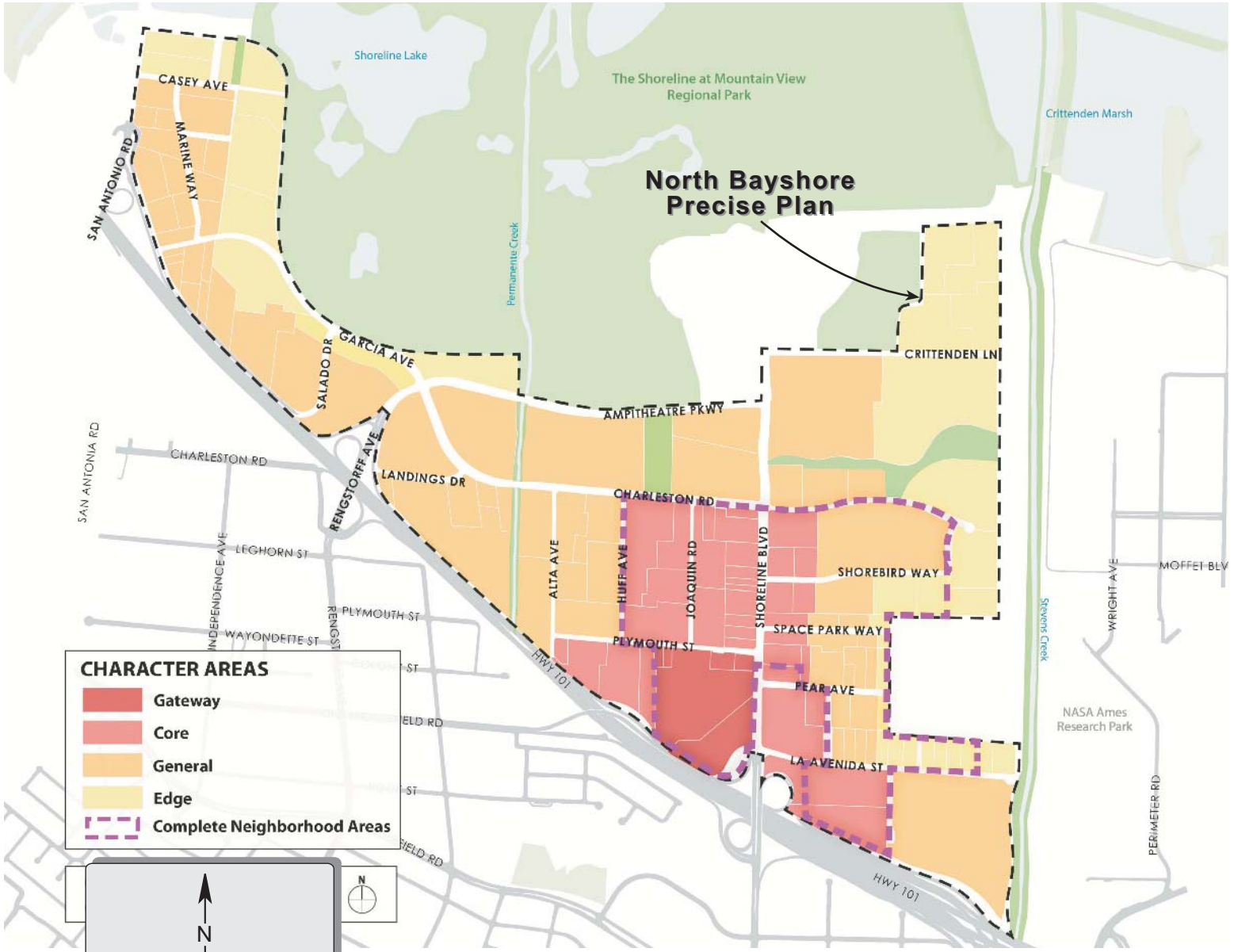

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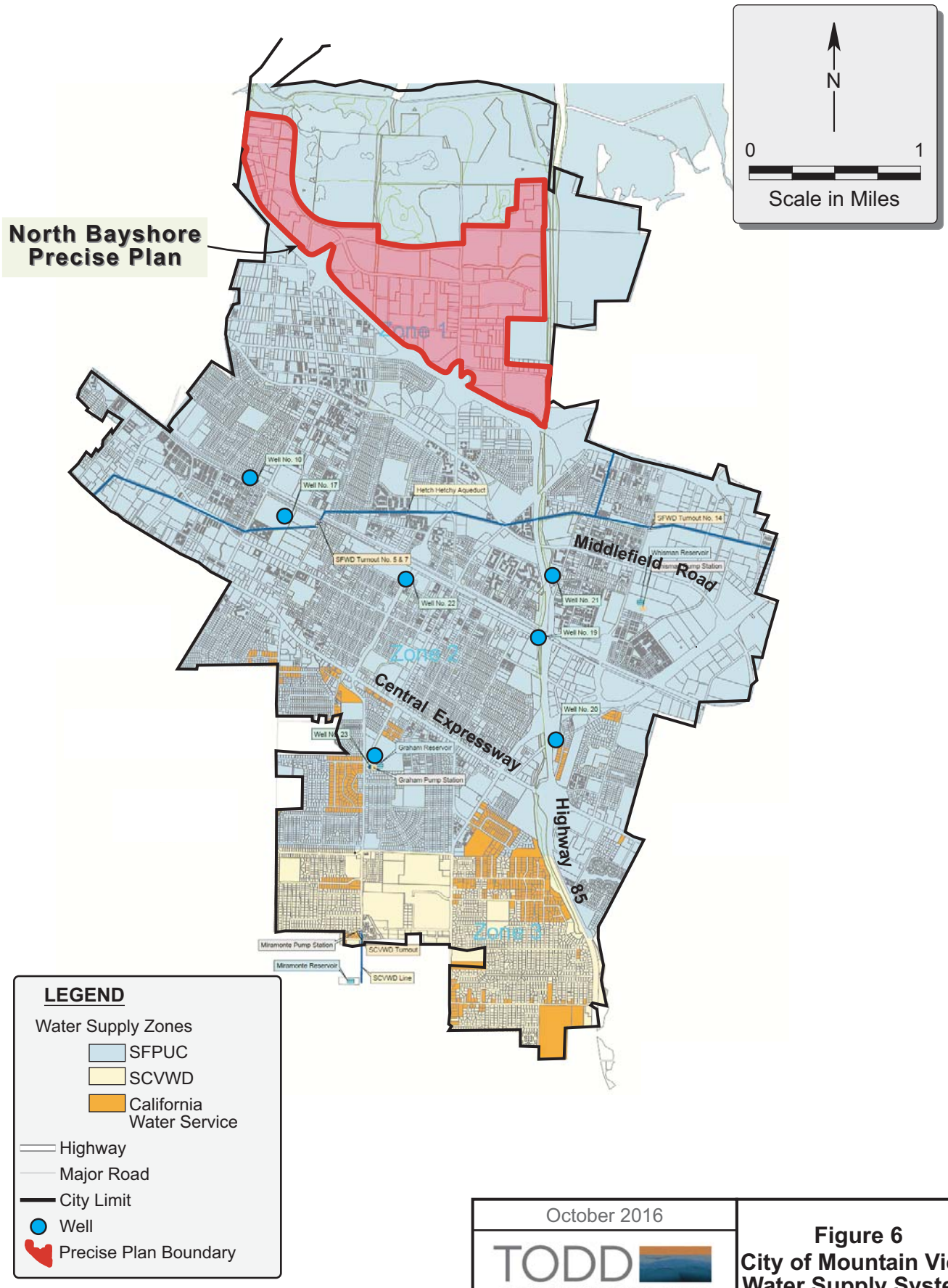
Figure 5
Character Areas



Source: Santa Clara County Parcel Map and City of Mountain View

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Figure 6
City of Mountain View Water Supply System

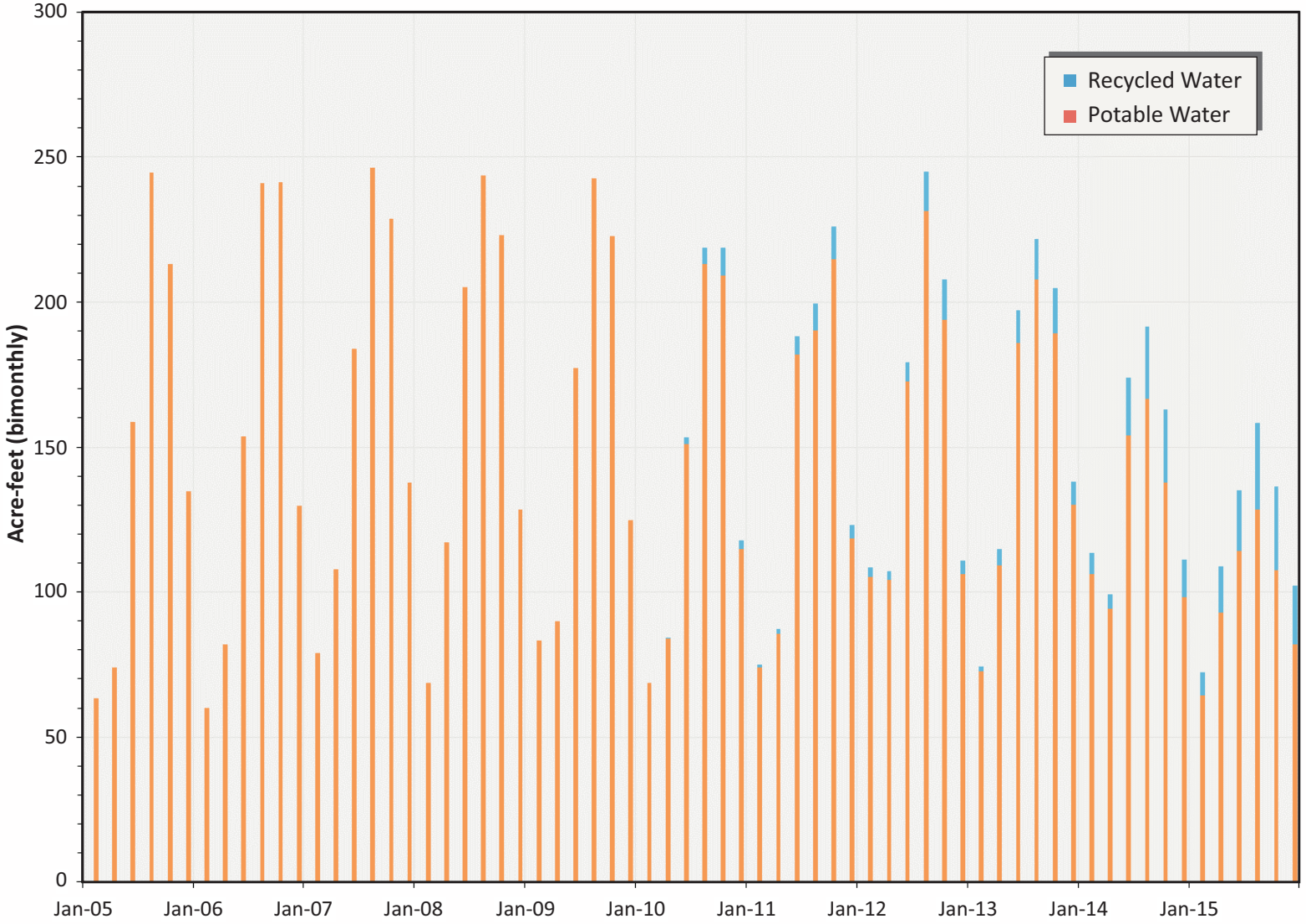

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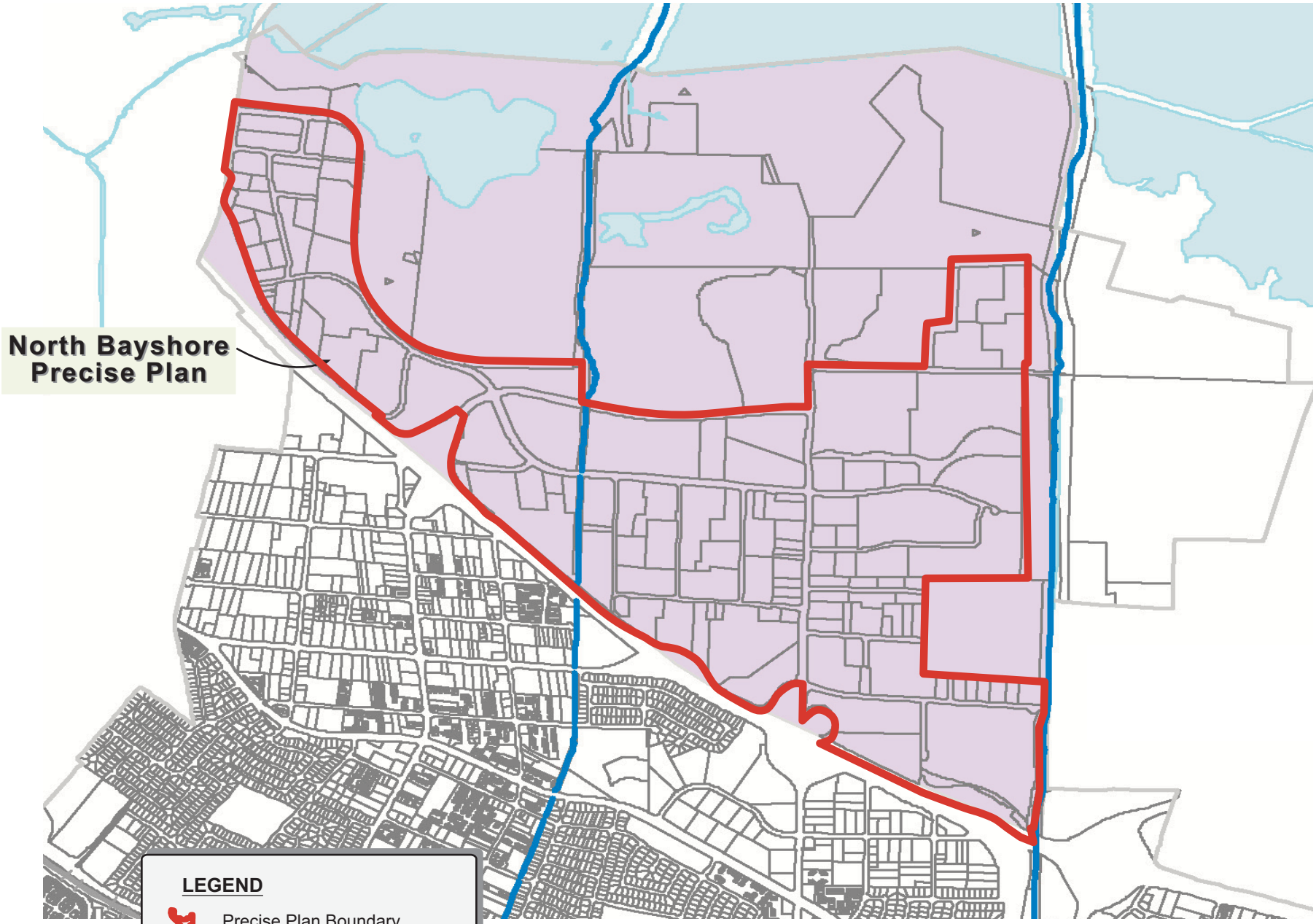
Figure 7
Historical Water Use (bimonthly)



October 2016

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Figure 8
Recycled
Water Service Area