North Fair Oaks Community Council
San Mateo County Coordinated
Departmental Response

DATE: March 19, 2018
NFOCC MEETING DATE: March 22, 2018
SPECIAL NOTICE/HEARING: 10 days, within 300 feet
VOTE REQUIRED: Majority

To: Members, North Fair Oaks Community Council

From: Planning Staff

Subject: Consideration of a proposed two- and three-story 90-unit residential elderly care facility requiring a Lot Merger to merge six parcels into one parcel, Zoning Map and Text Amendment to rezone all six parcels (one parcel zoned "Two-Family Residential District" (R-2) and the other five parcels zoned "Neighborhood Mixed Use- El Camino Real" (NMU-ECR)) to "Planned Unit Development" (PUD), a General Plan Map Amendment to change the land use designation of the residential parcel from "Multi-Family Residential" to "Commercial Mixed Use" (CMU), a Grading Permit for approximately 11,000 cubic yards of excavation for the proposed facility's 63-space underground parking garage, and a General Plan Conformity for the vacation of a dead-end alley and public sewer easement located north of East Selby Lane. The project is located at the corner of El Camino Real and East Selby Lane in the unincorporated North Fair Oaks area of San Mateo County.

County File Number: PLN 2017-00251

PROPOSAL

Sunrise Senior Living Facility

The applicant proposes to construct a two- and three-story residential elderly care facility on a merged 61,726 sq. ft. (1.42 acre) parcel located at the corner of El Camino Real (ECR) and East Selby Lane in the unincorporated North Fair Oaks area of San Mateo County. The facility staff will provide assisted living services for up to 127 elderly residents in 90 residential units (53 studio, 19 double, and 18 semi-private). The proposed building will include a 63-space underground parking garage (56 standard, 3 accessible, 3 electric vehicle, and 1 accessible electric vehicle) with a 15-bicycle storage area, courtyard, pick up/drop off area accessible via East Selby Lane, and a roof garden. Various rooms that will be used by residents and staff such as a dining room, kitchen, laundry room, lobby, and reflection room are located throughout the

building. An access road (accessed via ECR) and delivery area will be located on the northern side of the building.

Alley and Public Sewer Easement

The applicant is requesting the vacation of a 20-foot wide dead-end alley and public sewer easement accessed via East Selby Lane to allow for the proposed development. The alley and public sewer easement runs approximately 267 linear feet north of East Selby Lane and adjoins all six subject parcels and a neighboring parcel (APN 054-285-260, 2907 ECR). This alley is one of three segments of alleys parallel to ECR. The other two segments run from East Selby Lane, bisecting Columbia Avenue, and ending at 5th Avenue.

The application for the vacation request was submitted to the County Real Property Division (Real Property) and is currently in the process of notifying property owners within 500 feet of the project site and service providers in the surrounding area. After this step in the process, Real Property will submit a General Plan Conformity (GPC) application to the County Planning Department (Planning) for review and to determine if the vacation request is in conformance with the County General Plan. Planning will present the GPC to the County Planning Commission (PC) who will make a recommendation to the County Board of Supervisors (BOS). Conformance with the County General Plan will be further discussed in the Section A.1 of this report.

Permits Required

The proposed project will require the following:

1. Lot Merger to merge the six subject parcels (060-271-060, -070, -080, -090, -100, and -110) to create one 61,726 sq. ft. parcel for the proposed development.

2. Zoning Map and Text Amendment to rezone one of the six parcels (APN 060-271-060) zoned Two-Family Residential District/ S-5 Combining District (R-2/S-5) and the other five parcels zoned Neighborhood Mixed Use District- El Camino Real (NMU-ECR) to Planned Unit Development (PUD).

3. General Plan Map Amendment to change the land use designation of one parcel (APN 060-271-060) from Multi-Family Residential to Commercial Mixed Use (CMU)

4. Grading Permit for approximately 11,000 cubic yards of excavation for the proposed facility's underground parking garage.

5. General Plan Conformity for the vacation of the alley and public sewer easement.

RECOMMENDATION

That the North Fair Oaks Community Council provide a recommendation to the Planning Commission on the proposed residential elderly care facility and alley and public sewer easement vacation request.

BACKGROUND

Report Prepared By: Carmelisa Morales, Project Planner, Telephone 650/363-1873

Applicant: Jerry Liang, Sunrise Senior Living

Owners: Mortgage Investors III LLC, Mortgage Investors IV LLC, Mortgage Investors XI LLC, Mortgage Investors XII LLC

Parcel Information:

APN	Address	Parcel Size	General Plan Designation	Existing Zoning	Existing Land Use
060-271-060	21 Markham Avenue	13,673 sq. ft.	Multi-Family Residential	Two-Family Residential District/ S-5 Combining District (R-2/S-5)	Single-Family Dwelling
060-271-070	No Assigned Address	7,791 sq. ft.	Commercial Mixed Use (CMU)	Neighborhood Mixed Use- El Camino Real (NMU-ECR)	Parking Lot
060-271-080	No Assigned Address	9,684 sq. ft.	CMU	NMU-ECR	Parking Lot
060-271-090	2991 El Camino Real	6,556 sq. ft.	CMU	NMU-ECR	Offices (Vacant)
060-271-100	2963 El Camino Real	11,400 sq. ft.	CMU	NMU-ECR	Parking Lot
060-271-110	2915 El Camino Real	5,884 sq. ft.	CMU	NMU-ECR	Restaurant

Water Supply: Municipal water service is provided by California Water Service- Bear Gulch District

Sewage Disposal: County Administered Sewer (Fair Oaks Sewer Maintenance District)

Flood Zone: The project site is located in Flood Zone X as defined by FEMA (Community Panel Number 06081C0302E, dated October 16, 2012, and Community Panel Number 06081C0204E, not printed), which is an area with minimal potential for flooding.

Environmental Evaluation: The Final Environmental Impact Report (EIR) for the North Fair Oaks (NFO) Community Plan was published on October 17, 2011. Pursuant to

Section 15168(b) (*Program EIR*) of the California Environmental Quality Act (CEQA) Guidelines, Staff will prepare a written checklist or similar device to determine if the environmental impacts posed by the project, if any, were covered in the NFO Community Plan EIR.

Setting: All six parcels are generally flat and improved with existing development. The parcel farthest west (2915 ECR) has a two-story building in which a restaurant, John Bentley's Restaurant, is located. The parcel immediately south (2991 ECR) and the two parcels farthest east contain surface parking lots. A one-story office building is located on the parcel at the corner of ECR and East Selby Lane. A single-family dwelling is located on the northernmost, residentially zoned parcel facing Markham Avenue (21 Markham Avenue). A private access road along the southern property line of the parcel farthest west (2915 ECR) allows access from ECR to the alley. A 20-foot wide dead-end alley and public sewer easement are located approximately 120 feet northeast of the corner of ECR and East Selby Lane. The alley is accessed from East Selby Lane and dead-ends behind a neighboring parcel (2907 ECR) approximately 267 feet northwest from East Selby Lane. The alley is currently being used for access to the privately owned surface parking lots on the project site.

Twenty-eight (28) significant-sized trees (trees with diameters at breast height (dbh) of 12 inches or more) are scattered throughout the six parcels with a majority of the trees in the public right-of-way (sidewalk area) along East Selby Lane and Markham Avenue. Various ornamental shrubbery are also located along the various facades of the existing buildings.

A residential neighborhood within the Town of Atherton's jurisdiction is located on the western side of ECR, opposite of the project site. The project site is surrounded by commercial development to the north and south and an unincorporated North Fair Oaks neighborhood on the east.

Chronology:

Date		Action
January 26, 2017	-	Application for Major Development Pre-Application Workshop (Planning Case No. PRE 2017-00006) submitted.
May 4, 2017	-	Major Development Pre-Application Workshop.
June 21, 2017	-	Application for a Planned Unit Development (PUD, General Plan Amendment, Zoning Map Amendment, Lot Merger, Grading Permit, and General Plan Conformity (GPC), the subject of this application, submitted.
March 9, 2018	-	Application deemed complete.
March 22, 2018	-	North Fair Oaks Community Council meeting.

To Be Determined - Planning Commission public hearing.

To Be Determined - Board of Supervisors public hearing.

DISCUSSION

A. KEY ISSUES

1. Compliance with the General Plan/ North Fair Oaks Community Plan

The proposal complies with the following General Plan (GP) and North Fair Oaks (NFO) Community Plan Policies:

a. Land Use

GP Policy 8.12a (*General Plan Land Use Designations for Urban Areas*) encourages the adoption of the land use designations of the North Fair Oaks (NFO) Community Plan. GP Policy 8.28 (*Parcel Consolidation*) encourages the consolidation of smaller parcels which are designated for intense land uses to achieve quality site planning and greater design flexibility.

The three parcels fronting ECR and the two parcels along East Selby Lane and Markham Avenue are designated as Commercial Mixed Use (CMU) with a maximum density of 80 residential units (d.u.) per acre and no maximum density for institutional uses. The parcel at the northeastern corner (APN 060-271-060, 21 Markham Avenue) is designated as Multi-Family Residential with a minimum density of 24 d.u. per acre and maximum density of 60 d.u. per acre. Both land use designations were adopted in the NFO Community Plan and provide for medium to high density residential uses in addition to the commercial uses allowed under the CMU designation (e.g. a mix of regionally-oriented commercial and institutional uses supported by community facilities).

The applicant is proposing the construction of a 44-foot tall, 90-unit residential elderly care facility on a merged 61,726 sq. ft. parcel. The proposed facility is considered an institutional and residential use with a density of 63 d. u. per acre. Re-designation of the Multi-Family Residential designated parcel to CMU will allow for a consistent land use designation throughout the proposed merged parcel. Re-designation of the parcel will also achieve the higher density adopted in the NFO Community Plan for this area. Further, the consolidation of the six parcels of varying parcel sizes from 5,884 sq. ft. to 13,673 sq. ft. into one merged 61,726 sq. ft. parcel is required for the feasibility of the project (building footprint and proposed landscaping spans all six parcels) and is therefore necessary to achieve quality site planning and greater design flexibility.

b. Zoning

To ensure that development is consistent with land use designations, GP Policy 8.35 (*Zoning Regulations*) encourages the continuation of the use of zoning districts which regulate development by applying specific standards.

The County Board of Supervisors (BOS) approved and adopted Ordinance No. 4787 by the County Board of Supervisors (BOS) on November 21, 2017 to rezone specific NFO areas along ECR and 5th Avenue to implement and make this NFO area consistent with the land use categories adopted in the NFO Community Plan. The new zoning also incorporates the design, development, and performance standards outlined in the NFO Community Plan, specifically Chapter 7 (*Design Standards and Guidelines*). Prior to the approval of this new zoning, the subject parcels had the following zoning designations: the three parcels along ECR are zoned C-2/S-1 (General Commercial District/ S-1 Combining District); the two parcels along Markham Avenue and East Selby Lane are zoned P (Parking); and the parcel at the northeastern corner fronting Markham Avenue is zoned R-2/S-5 (Two-Family Residential/ S-5 Combining District). Ordinance No. 4787 rezoned five of the parcels to NMU-ECR (Neighborhood-Mixed Use-ECR). The residential parcel was not included in the rezoning.

The proposed project is not a permitted use and does not comply with all the development standards of the NMU-ECR District, thus requiring a Zoning Map and Text Amendment to rezone all six parcels to Planned Unit Development (PUD). Although this PUD District will have its own specific conditions that will regulate the use of the property, the project was designed to be in general compliance with the development, design, and performance standards of the NMU-ECR District to the extent feasible. The general compliance with the required standards of the NMU-ECR District and findings required for the Planning Commission to approve the PUD District will be discussed in Sections A.2 and A.3 of this report.

c. Proposed Design

GP Policy 4.14 (*Appearance of New Development*) regulates development to promote and enhance good design, site relationships and other aesthetic considerations. Policy 2C and 2D of the NFO Community Plan also encourage sidewalk improvements for continuous ADA-accessible sidewalks, street trees, landscaping, and other amenities.

As discussed in the previous section, the parcels are proposed to be rezoned to PUD. Although the subject application was submitted prior to December 21, 2017, the effective date of Ordinance No. 4787, the

project was designed to comply with most of the development, design, and performance standards of the NMU-ECR Zoning District to the extent feasible which includes compliant building setbacks, a primary ECR façade, articulated building facades and roofs, high-quality, durable roofing and wall materials, underground parking, underground utility lines, screened trash enclosures, a 10-foot-wide sidewalk on ECR with street trees and bicycle racks, and landscaped open areas. With its general compliance with the NMU-ECR zoning standards, the proposed project will improve the appearance and visual character of the project area and its surrounding vicinity aligning with the goals and vision of the NFO Community Plan.

GP Policy 8.43 (*Buildings*) encourages the construction of energy-efficient buildings which use renewable resources and resource-efficient design to the maximum extent possible.

The applicant has informed the County of his commitment to certify the proposed facility to adhere to the criteria of the Environmental Protection Agency Energy Star Program, a voluntary energy efficiency program. The proposed facility will have a comprehensive maintenance program in place to maintain equipment and conserve energy costs in order to meet the criteria for certification. The proposed building will include various energy-efficient elements such as a thermal envelope designed to minimize heat loss/gain and reduce the load on heating systems, LED lighting, and a “solar ready” roof that will be structurally and electrically prepared for future solar panels.

d. Parking and Transportation

GP Policy 8.40 (*Parking Requirements*) encourages the regulation of on-site parking and parking development standards to accommodate the parking needs of the development, provide convenient and safe access, prevent congestion on public streets, establish orderly development patterns, and discourage an over-reliance on auto travel to the exclusion of other travel modes. Policy 5P of the NFO Community Plan also requires effective and meaningful Transportation Demand Management (TDM) programs for new higher intensity development.

An existing access road connects ECR to the alley and private parking lots on the project parcels. The proposed facility will include a driveway from East Selby Lane for primary vehicular access that leads to a pickup/drop off area and ramp to access the underground parking garage. An access road that will be used for deliveries, trash pickup, and other maintenance activities, is proposed along the northern side of the building in generally the same location and configuration as the existing access road. A median strip on ECR prevents vehicles from entering and exiting the access road in both directions. All vehicles

must come from northbound and exit towards the northbound direction.

To analyze the potential transportation and parking impacts of the project, the applicant submitted a Transportation Assessment and a Supplemental Parking and TDM Report prepared by Fehr & Peers. The reports analyzed the potential transportation impacts of the project based on trip generation estimates and surveyed data from Sunrise facilities in Belmont and Palo Alto.

Fehr & Peers calculated the expected traffic generated from the proposed use by applying trip generations rates from surveys conducted at the Belmont and Palo Alto Sunrise facilities, similar facilities with a comparable number of units (78 and 81 respectively). The estimated traffic for the restaurant was calculated by counting ingress/egress at the driveways of the Belmont and Palo Alto Sunrise facilities during morning and evening peak commute hours. For the single-family residence and office building (currently vacant), Fehr & Peers used estimated rates from the Institute of Transportation Engineers (ITE) Parking Generation Manual.

Fehr & Peers concluded that the proposed facility would generate fewer daily vehicle trips, but slightly more morning and evening peak hour vehicle trips (approximately 10 more trips) than the existing restaurant and single-family residence. The slightly higher peak hour vehicle trips were determined to be due to the different operating characteristics of the existing uses (more vehicle trips during lunch and dinner times) and proposed use. If the office building was occupied and generating traffic, the proposed facility's vehicle trips would not change during morning and evening peak hours, but would have a greater reduction of vehicle trips per day. Based on the estimated number of additional vehicle trips that would be generated if the NFO area was completely built out as intended by the NFO Community Plan, Fehr & Peers concluded that the proposed use's trip generation estimates would be well below the estimated buildout totals.

Regarding parking rates, Fehr & Peers used the ITE Parking Generation Manual parking rates for assisted living developments of 0.41 spaces per unit and 0.54 spaces per unit for the 85th percentile rate (where 85% of the surveyed parking rates are lower). Parking surveys were conducted in December 2016 at the Belmont and Palo Alto Sunrise facilities. The Belmont Sunrise facility had parking demand rates of 0.33 spaces per unit and 0.37 spaces per occupied unit at 92% occupancy. For the Palo Alto Sunrise facility, the parking demand rates were 0.44 spaces per unit and 0.48 spaces per occupied unit at 93% occupancy. The proposed facility, which includes a 63-space underground parking garage, will have a parking

supply rate of 0.70 spaces per unit. Based on the lower than average parking demand rates of the existing Sunrise facilities analyzed and the average ITE parking demand rates for assisted living development, Fehr & Peers concluded that the proposed facility has an adequate number of parking spaces for the proposed use.

The reports also include a preliminary TDM Plan that will be used to reduce the amount of vehicle traffic and parking generated by the development by creating measures, strategies, incentives, and policies to shift the people (primarily employees) from driving alone to using other travel modes such as public transit, carpooling, cycling, and walking. Several TDM measures are included in the TDM Plan such as bicycle parking, showers and changing facilities for staff, job positions to support the TDM Plan such as a Transportation Coordinator, a Commuter Assistance Center, and carpool matching service. Fehr & Peers concluded that the TDM measures to help reduce the amount of vehicle traffic and to incentivize staff, residents, and visitors to seek alternative modes of transportation.

e. Trees and Vegetation

GP Policy 4.3 (*Protection of Vegetation*) aims to minimize the removal of visually significant trees and vegetation to accommodate structural development. The project requires the removal of fourteen (14) significant-sized trees (trees with diameters at breast height (dbh) of 12 inches or more). The applicant submitted an arborist report prepared by Walter Levison, the project's consulting arborist that assesses the twenty-eight (28) significant-sized trees on the property including the health of the trees, the potential impacts of the project, tree protection and maintenance recommendations fourteen (14) trees to be preserved, and replacement tree recommendations. Upon review of the arborist report submitted, Staff determined that the fourteen significant-trees require removal to accommodate the proposed facility. The County Significant Tree Ordinance requires a 1:1 replacement for every tree proposed for removal. Every coast live oak tree proposed for removal (total of 6) will be replaced with a coast live oak tree of at least 48-inch box size. The proposed landscaping, replacement trees, and proposed street trees will minimize the visual impact of the proposed development and improve the visual quality of the project area and surrounding vicinity.

f. Grading and Erosion and Sediment Control

GP Policy 2.17 (*Regulate Development to Minimize Soil Erosion and Sedimentation*) regulates development to minimize soil erosion and sedimentation including, but not limited to, ensuring the stabilization of disturbed areas. The project includes 11,000 cubic yards of excavation for the proposed underground parking garage on the

subject parcel, therefore requiring the approval of a Grading Permit. The applicant submitted a grading plan and geotechnical assessment that were both reviewed and approved by the County Geotechnical Consultant. Erosion and sedimentation control measures are also proposed and outlined in the applicant's preliminary erosion control plan to ensure the stabilization of disturbed areas.

g. Alley and Public Sewer Easement

In reviewing requests for sale, vacation, or abandonment of County streets, rights-of-way, or easements, GP Policy 12.23 (*Vacation of County Streets and Easements*) requires the consideration of the following: (1) whether access is available to existing parcels and developed areas adjacent to the subject area, or possible future development based on adopted area plans; (2) the area to be vacated is not suitable for public transit use based on adopted plans; and (3) the area to be vacated is not suitable for non-motorized use.

As discussed in the previous sections, the applicant is requesting the vacation of a 20-foot dead-end alley and public sewer easement accessed via East Selby Lane to allow for the proposed development. The subject alley is one of three segments of an alley that is parallel to ECR and runs south, bisecting East Selby Lane and Columbia Avenue, and eventually ending at 5th Avenue. The alley was created through the Dumbarton Park subdivision approved by the BOS on January 18, 1926 and recorded on January 20, 1926. The BOS were offered, but rejected all public rights-of-way in the subdivision, including the subject alley. On December 16, 1929, the BOS approved and adopted the acceptance of a sewer easement for several streets within and near the project area, including the streets and alley involved in the project.

The subject alley currently provides ingress and egress for the private parking lots on the subject parcels and dead-ends behind a neighboring parcel (APN 054-285-260, 2907 El Camino Real). Although the other two segments of alleys south of East Selby Lane are actively being used for access between public streets, the property owners (property owners of all the subject parcels) state that the subject parcels are not and have not been used for any purpose other than private site access. Specifically, the parking lots on three of the subject parcels serve two existing uses on two other subject parcels with primarily access from ECR. The only parcel that does not have access to the alley is the residentially zoned parcel fronting Markham Avenue. Maintenance of the subject alley is conducted solely by the property owners.

The feasibility of the project is dependent on the vacation of the alley and public sewer easement. Access to the proposed facility will be

provided along El Camino Real, East Selby Lane, and Markham Avenue. The alley is not suitable for public transit or non-motorized use as it dead-ends before reaching Berkshire Avenue.

Several utilities can be found over and under the alley such as a County maintained public sanitary sewer line and an underground PG&E gas line both serving only the subject parcels, and an overhead power line serving the subject parcels and potentially other nearby parcels. Real Property is reviewing the applicant's vacation request application and in the process of notifying property owners within 500 feet of the project site and service providers in the surrounding area. As mentioned earlier in this report, upon completion of the public notification process of the vacation request application, Real Property will submit a GPC application to Planning. If Planning finds the vacation to be in conformance with the GP, the GPC application will be presented (as part of the subject application) to the County Planning Commission (PC) for recommendation to the County Board of Supervisors (BOS).

2. Compliance with the Zoning Regulations

As discussed in the previous sections, five of the six parcels were rezoned to NMU-ECR (Neighborhood-Mixed Use-El Camino Real). The sixth parcel was not rezoned and still has the R-2/S-5 (Two-Family Residential/ S-5 Combining District) zoning designation. Since the proposed project is not a permitted use and does not comply with all the development standards of the NMU-ECR District, a Zoning Map and Text Amendment to rezone all six parcels to Planned Unit Development (PUD) is required. Although this PUD District will have its own specific conditions that will regulate the use of the property, the project was designed to be in general compliance with the development standards of the NMU-ECR District to the extent feasible.

The following table outlines a comparison of the proposed project and the development standards of the NMU-ECR District. The non-conforming development standards are in **bold**:

	NMU-ECR Development Standards[1]	**Proposal**
Minimum Parcel Area	5,000 sq. ft.	61,726 sq. ft.
Minimum Parcel Width	50 feet	58.24 feet (shortest width)
Building Front Setback	0 - 10 feet	10 feet
Building Rear Setback	20 feet (directly adjoining R-1 (Single-Family Residential District) zoned parcels / 5 feet (all other cases)	22 feet / 21 feet

	NMU-ECR Development Standards[1]	Proposal
Building Side Setbacks	No Requirement	Minimum 10 feet
Required Frontage	ECR Frontage	Complies
Maximum Building Floor Area[2]	61,726 sq. ft. (100% for institutional uses)	**78,026 sq. ft. (including garage)**
Maximum Lot Coverage	No Requirement	28, 965 sq. ft.
Maximum Building Height	40 feet	**46 feet**
Vehicle Parking[3]	78 covered or uncovered spaces	**63 covered spaces**
Private Bicycle Parking[3]	52 spaces (each 1,500 sq. ft.)	**25 spaces (15 spaces in garage and 10 spaces on the first level)**
Public BicycleParking[3]	34 spaces[3] (2 spaces required each 35 feet of street frontage[4])	**6 spaces (along ECR)**
Electric Vehicle (EV) Charging Stations[3]	8 EV Charging Stations[3] (1 minimum; 10% of required parking over 10 spaces)	**4 EV Charging Stations**

[1] *From Chapter 29.3 (NMU-ECR District) of the County Zoning Regulations*

[2] *Pursuant to Section 6569.4 of the County Zoning Regulations, parcels within the NMU-ECR District shall comply with the Maximum Building Floor Area as specified in Section 6567.4.*

[3] The proposed use is not a permitted use in the NMU-ECR District. *For the purposes of this comparison, the "Any Institutional or Other Use in this subsection in a Mixed-Use Development" parking requirement in Table 1 of Section 6567.8 of the County Zoning Regulations was used for both vehicle and bicycle parking. However, there is no parking requirement for this proposed PUD zoned use.*

[4] *Proposed 609-foot street frontage (along ECR, East Selby Lane, and Markham Avenue).*

Proposed development in the NMU-ECR Zoning District must comply with specific public realm and private design standards outlined in Sections 6566.15 (*Public Realm Requirements for Private Development*) and 6566.16 (*Private Property Design Standards*) of the County Zoning Regulations. The proposed project complies with these standards to the extent feasible such as traffic calming devices for pedestrian safety, wider sidewalks along ECR and East Selby Lane, street trees, bicycle racks for public use, a proposed handicap bulb-out at the corner of ECR and East Selby Lane, and a conscious building design with articulate walls and roofs and adequate screening from existing and proposed landscaping.

3. Compliance with Planned Unit Development Findings

Pursuant to Section 6191 (*Review and Findings*) of the County Zoning Regulations, a Planned Unit Development (PUD) District may not be enacted for any area unless and until the Planning Commission has:

Reviewed a precise plan of the subject area and its environs, and found that the proposed zoning of the area would be in harmony with said plan, and would not be in conflict with the County Master Plan, or with any other current land use plan for a sub area of the County previously adopted by the Commission.

Staff's Response: With the conditional approval of the change in land use designation of the residential parcel from Multi-Family Residential to Commercial Mixed-Use (CMU), the project will be in compliance with the County General Plan and North Fair Oaks (NFO) Community Plan. Additionally, although not required due to the unique PUD zoning proposed, the project complies with the development standards of the NMU-ECR (Neighborhood-Mixed Use- El Camino Real) Zoning District to the extent feasible. Ordinance No. 4787, an ordinance that was approved and adopted by the County Board of Supervisors (BOS) to rezone specific NFO areas along ECR and 5th Avenue, implements and is consistent with the land use categories adopted in the NFO Community Plan.

The Planning Commission must also find that the specific PUD District:

a. *Is a desirable guide for future growth of the subject area of the County*.

Staff's Response: The proposed facility will have a density of 63 dwelling units (d.u.) per acre. With the conditional approval of a General Plan Map Amendment to change the land use designation of the residential parcel from Multi-Family Residential to CMU, an adopted CMU land use designation from the NFO Community Plan, the proposed use will have a consistent land use designation throughout the merged parcel. The proposed facility will also comply with the density requirement of the CMU land use designation, which would otherwise not be possible if the residential parcel continued to have a Multi-Family Residential land use designation. Based on these findings, the project is expected to help guide future growth for this area.

b. *Will not be detrimental to the character and the social and economic stability of the subject area and its environs, and will assure the orderly and beneficial development of such areas.*

Staff's Response: The proposed development is required to comply with the California Building Code and all other applicable regulations. The project will improve the value of these parcels and the surrounding area, and help fulfill the goals and visions of the NFO Community Plan to revitalize and promote beneficial redevelopment of this area.

c. *Will be in harmony with the zoning in adjoining unincorporated areas.*

Staff's Response: The zoning of the surrounding unincorporated areas includes the following: R-1/S-73 (Single-Family Residential District/ S-73 Combining District) and R-3/S-5 (Multi-Family Residential District/ S-5 Combining District) to the east; CMU-2 (Commercial Mixed-Use District) to the north; and NMU-ECR (the existing zoning of five of the six project parcels) to the south. Although the proposed merged parcel will be zoned PUD and have its own specific conditions that will regulate the use of the property, the project generally complies with most of the development and design standards of the NMU-ECR District. The proposed development includes articulated building facades and roofs for a smooth transition from the ECR commercial and transportation corridor to the unincorporated residential neighborhood on Markham Avenue. The third level and primary facade of the proposed building is concentrated along ECR where adjoining unincorporated areas to the north and south also have similar zoning and land use designations. The section of the building closest to Markham Avenue will be two stories tall with articulated building facades and roofs to lessen the visual impact on the adjacent unincorporated residential neighborhood. The proposed garden on the Markham Avenue side will also provide an open space barrier between the proposed facility and residential neighborhood. As designed, the proposed project will be in harmony with the zoning in adjoining unincorporated areas.

d. *Will obviate the menace to the public safety resulting from land uses proposed adjacent to highways in the County, and will not cause undue interference with existing or proposed traffic movements on said highways.*

Staff's Response: An existing access road connects ECR to the alley and private parking lots on the project parcels. The proposed facility will include a driveway from East Selby Lane for primary vehicular access that leads to a pickup/drop off area and ramp to access the underground parking garage. An access road that will be used for deliveries, trash pickup, and other maintenance activities, is proposed along the northern side of the building in generally the same location and configuration as the existing access road. A median strip on ECR prevents vehicles from entering and exiting the access road in both directions. All vehicles must come from northbound and exit towards the northbound direction.

The Transportation Assessment and Supplemental Parking and Transportation Demand Management Report submitted by the applicant analyze potential transportation and parking impacts of the proposed project. The expected traffic generated for the proposed use are based on trip generation estimates and surveyed data from existing Sunrise facilities in Belmont and Palo Alto. The reports concluded that the proposed use would generate fewer daily vehicle

trips than the existing uses on the project parcels and that the projected parking demand rates for the proposed use is below the average ITE parking demand rate for assisted living developments. The project is not expected to adversely impact local or regional traffic patterns or volumes. An adequate number of parking spaces is also proposed.

e. *Will provide adequate light, air, privacy and convenience of access to the subject property and further, that said property shall not be made subject to unusual or undue risk from fire, inundation, or other dangers*.

Staff's Response: The project's overall site design, including the design of the building and landscaping will provide adequate light, air, privacy, and convenience of access to the subject property. Further, the project is required to comply with the current California Building Code and all other applicable regulations required by other agencies including the County Department of Public Works and Redwood City Fire Protection District that will ensure there are no unusual or undue risk from fire, inundation, or other dangers.

f. *Will not result in overcrowding of the land or undue congestion of population*.

Staff's Response: The proposed facility will have a density of 63 d.u. per acre which complies with the density requirement (a maximum of 80 residential units (d.u.) per acre and no maximum density for institutional uses) of the CMU land use designation for five of the six subject parcels and the proposed CMU land use designation of the sixth parcel currently designated as Multi-Family Residential (24 to 60 d.u. per acre). The project will not result in overcrowding of the land or undue congestion of population as medium to high residential uses and institutional uses are all permitted and promoted under the CMU land use designation adopted from the NFO Community Plan.

4. Major Development Pre-Application Workshop

Section 6415 (*Major Development Pre-Application Procedures*) requires a major development pre-application workshop to foster early public involvement and input on major development projects, and, to the extent feasible, resolve potential issues before the formal County review process begins. The public workshop was held on May 4, 2017 at the Fair Oaks Health Center in North Fair Oaks.

ATTACHMENTS

A. Parcel Map
B. Project Plans

All application materials can be viewed and downloaded from the San Mateo County Planning and Building Department website at: https://planning.smcgov.org/sunrise-senior-living-facility-north-fair-oaks

CJM;aow – CJMCC0136_WAU.DOCX

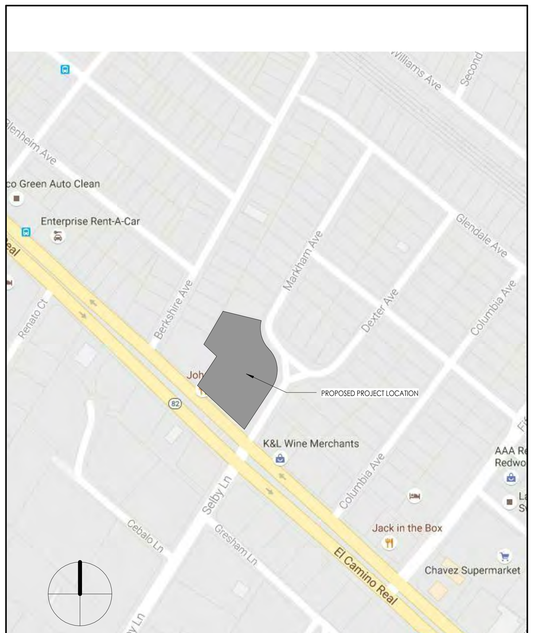
Attachment A

Attachment B

SUNRISE REDWOOD CITY

ASSISTED LIVING FACILITY
REDWOOD CITY, CA

VICINITY MAP NOT TO SCALE



CONTACTS

OWNER
SUNRISE SENIOR LIVING
7900 WESTPARK DRIVE, SUITE T-900
McLEAN, VA 22102
Tel. 703.744.1830
CONTACT: MR. JERRY LIANG

ARCHITECT
HPI ARCHITECTURE
115 22ND ST., NEWPORT BEACH, CA 92663
Tel. 949.675.6442 Fax. 949.675.4543
CONTACT: LEA BROUKHIM, PROJECT MANAGER
JOHN PARIS, PRINCIPAL

LANDSCAPE ARCHITECT
LINDA GATES & ASSOCIATES
2671 CROW CANYON RD
SAN RAMON, CA 94583
Tel. 925.736.8176
CONTACT: LINDA GATES

CIVIL
KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
2850 COLLIER CANYON ROAD
LIVERMOORE, CA 94551
Tel. 925.245.8788 Fax. 925.245.8796
CONTACT: EMAD SARIE-DHINE

APPLICABLE CODES

APPLICABLE CODES

PART 1 2016 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE, TITLE 24 C.C.R.
PART 2 2016 CALIFORNIA BUILDING CODE, TITLE 24 C.C.R.
(2016 INTERNATIONAL BUILDING CODE OF THE INTERNATIONAL CODE COUNCIL, WITH CALIFORNIA AMENDMENTS)
2016 CALIFORNIA ELECTRICAL CODE, TITLE 24 C.C.R.
PART 3 (2011 NATIONAL ELECTRICAL CODE OF THE NATIONAL FIRE PROTECTION ASSOCIATION, NFPA)
2016 CALIFORNIA MECHANICAL CODE, TITLE 24 C.C.R.
PART 4 (2016 UNIFORM MECHANICAL CODE OF THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS, IAPMO)
2016 CALIFORNIA PLUMBING CODE, TITLE 24 C.C.R.
PART 5 (2016 UNIFORM PLUMBING CODE OF THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS, IAPMO)
2016 CALIFORNIA ENERGY CODE, TITLE 24 C.C.R.
PART 6 *CURRENTLY VACANT*
PART 7 2016 CALIFORNIA HISTORICAL BUILDING CODE, TITLE 24 C.C.R.
PART 8 2016 CALIFORNIA FIRE CODE, TITLE 24 C.C.R.
PART 9 (2016 INTERNATIONAL FIRE CODE OF THE INTERNATIONAL CODE COUNCIL)
2016 CALIFORNIA EXISTING BUILDING CODE, TITLE 24 C.C.R.
PART 10 (2016 INTERNATIONAL EXISTING BUILDING CODE OF THE INTERNATIONAL CODE COUNCIL, WITH CALIFORNIA AMENDMENTS)
2016 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN CODE), TITLE 24 C.C.R.
PART 11 2016 CALIFORNIA REFERENCED STANDARDS CODE, TITLE 24 C.C.R.
PART 12

PARTIAL LIST OF APPLICABLE STANDARDS

2016 CALIFORNIA BUILDING CODE (FOR SFM) REFERENCED STANDARDS CHAPTER 35

NFPA 13 AUTOMATIC SPRINKLER SYSTEMS (CALIFORNIA AMENDED) 2016 EDITION
NFPA 14 STANDPIPE SYSTEMS (CALIFORNIA AMENDED) 2016 EDITION
NFPA 17 DRY CHEMICAL EXTINGUISHING SYSTEMS 2016 EDITION
NFPA 17A WET CHEMICAL EXTINGUISHING SYSTEMS 2016 EDITION
NFPA 20 STATIONARY PUMPS 2016 EDITION
NFPA 24 PRIVATE FIRE SERVICE MAINS (CALIFORNIA AMENDED) 2016 EDITION
NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE (CALIFORNIA AMENDED)
(NOTE: SEE UL STANDARD 1971 FOR "VISUAL DEVICES") 2016 EDITION
NFPA 80 FIRE DOOR AND OTHER OPENING PROTECTIVES 2016 EDITION
NFPA 253 CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS 2016 EDITION
NFPA 2001 CLEAN AGENT FIRE EXTINGUISHING SYSTEMS (CALIFORNIA AMENDED) 2016 EDITION

SITE INFORMATION

ADDRESS:	SUNRISE SENIOR LIVING 2991 EL CAMINO REAL REDWOOD CITY, CA 94063
APN:	254-285-260, 060-271-118, 054-285-210, 060-271-060
PIN:	SEE CIVIL DWGS.
TRACT:	SEE CIVIL DWGS.
LOT #	SEE CIVIL DWGS.
LOT SIZE:	1.42 ACRES (61,725 S.F.)

LEGAL DESCRIPTION: SEE CIVIL DWGS.

PROPOSED DEVELOPMENT

24-HOUR RESIDENTIAL CARE FACILITY FOR THE ELDERLY LICENSED BY THE STATE OF CALIFORNIA
2/3 STORY BUILDING WITH BELOW GRADE PARKING GARAGE
90 UNITS
1.42 ACRES
28,965 S.F. FOOT BUILDING FOOTPRINT
78,026 S.F. BUILDING AREA

SHEET INDEX

Attachment B

NOTE:
- **INSTALL "NO IDLING" SIGN VISIBLE FROM PUBLIC STREETS.**

NOTE:
- **EMERGENCY GENERATOR TO BE TESTED ONCE A MONTH FOR 30 MINUTES.**
- **EMERGENCY GENERATOR TO COMPLY WITH CH 4.88 (NOISE CONTROL) OF THE SAN MATEO COUNTY ORDINANCE UPON SUBMITTAL FOR BUILDING PERMIT.**

SITE DATA:

APN'S: 060-271-060; 060-271-070; 060-271-080; 060-271-090; 060-271-100; 060-271-110

SITE AREA: 61,725 SF

EXISTING LAND USE: C-2, S-1, P, R-2/S-5
PROPOSED LAND USE:C-2, S-1, P, R-2/S-5

PROPOSED DEVELOPMENT

3 STORY - 90 UNITS - ASSISTED LIVING FACILITY
BUILDING AREA: 78,026 SF
FAR: 1.28
BUILDING FOOTPRINT: 28,965 SF
LOT COVERAGE: 46.9%

PARKING REQUIREMENTS:

1 SPACE PER 5 BEDS
100 BEDS - **20** PARKING REQUIRED

56 STANDARD STALLS PROVIDED
(03 ACCESSIBLE STALLS REQUIRED, CBC 118-208.2)
03 ACCESSIBLE STALLS PROVIDED
(04 ELEC. VEHICLE STALLS REQUIRED(GREEN CODE)
03 ELECT. VEHICLE STALLS PROVIDED
01 ACCESSIBLE ELEC. STALL PROVIDED
63 TOTAL SPACES PROVIDED (SUBTERRANEAN PARKING)

BICYCLE PARKING REQUIREMENTS:

25 (PER COUNTY REQUIREMENT)

15 BIKE STALLS PROVIDED ON GARAGE LEVEL**
10 BIKE STALLS PROVIDED ON GROUND LEVEL**
25 BIKE STALLS PROVIDED

*3 BIKE RACKS (6 STALLS) ALSO PROVIDED ALONG EL CAMINO REAL. NOT A PART OF CALCULATION.
** SEE FIRST FLOOR & GARAGE PLANS

UNIT MIX:

STUDIO	350 SF	53
DOUBLE	550 SF	19
SEMI-PRIVATE	470 SF	18
TOTAL UNITS		90

BUILDING CODE ANALYSIS

CODE REFERENCE SECTION - 2016 CBC

TYPE OF CONSTRUCTION: I-B SECTIONS 601, 602.2 & TABLE 601 - FULLY SPRINKLERED PER NPFA13 (SEPARATE PERMIT)

OCCUPANCY GROUP: MIXED USE AND NON-SEPARATED USE **SECTION 508.2.4**
R-2.1 RESIDENTIAL, **SECTION 310.4.1**
S-2 STORAGE, **SECTION 311.3**

HEIGHT: HEIGHT REQUIREMENT TO BE DETERMINED

- **ACTUAL BUILDING HEIGHT (FEET): 46'** (ABOVE GRADE)
- **ACTUAL NUMBERS OF FLOOR: 2-STORY & 3-STORY** (ABOVE GRADE)

AREA: CBC 2016 TABLE 506.2

- **ALLOWABLE AREA:** R-2.1 165,000 SF; S-2 237,000 SF
- **ACTUAL AREA:**

FIRST FLOOR:	28,965 SF
SECOND FLOOR:	33,684 SF
THIRD FLOOR:	15,377 SF
TOTAL BUILDING AREA:	**78,026 SF**
DECKS:	5,456 SF
PARKING STRUCTURE:	38,153 SF

STAFFING REQUIREMENTS: 30 EMPLOYEES PER PEAK SHIFT.

SUSTAINABILITY NOTES

Sunrise is committed to environmental stewardship. The design for the Sunrise of Redwood City is concerned with its impact on the environment as it is constructed, and with a long-range commitment to energy efficiency as it operates.

Exterior Envelope
A robust, continuous thermal envelope with a continuous air infiltration barrier, continuous exterior insulation and a high R value will ensure minimal heat loss/gain and reduce the load on heating systems.

The windows will have a low U value, low E coating and will be argon gas-filled, which also translates to heat/cold resistance and reduces the load on heating and cooling the building. They are also carefully detailed to prevent thermal bridging and avoid air infiltration.

Windows are plentiful and placed to take advantage of daylighting opportunities.

The flat roof portions of the building will be covered in white, light reflecting TPO, which will reduce the heat gain.

The roof will be "solar ready", meaning that both structurally and electrically, if solar panels are added in the future they can be very easily accommodated.

The building will also be computer modeled to show compliance with the new Mass IECC and stretch code requirements.

After construction, the mechanical systems will be commissioned to ensure that they are installed correctly to reach maximum efficiency during operation.

Interior of Building
We will use LED lighting wherever possible and will utilize occupancy sensors and lighting controls.

Exterior lighting is on automatic controls to conserve energy.

The interior environment is planned to enhance the resident's well-being. Fresh ventilation is provided to each room. Low VOC paints will be specified, and low emitting materials will be utilized.

Energy Recovery Units will be provided as part of the mechanical system. They utilize the temperature of exhausting air to temper the incoming ventilation air, thus reducing the energy required to either heat or cool incoming air to the desired temperature.

Units will be equipped with indoor air quality monitoring.

Site
The site design uses permeable paving that allows water to drain through which then recharges the storm water system replenishing the natural water supply.

Plants are specified as drought tolerant, and indigenous to the area.

Irrigation is provided with a "smart" system which gathers local weather data and regulates the amount of water that goes out to the heads. This reduces water use and prevents over-watering and potential damage to the hardscape.

The building is located within walking distance to a public bus stop, and employees are encouraged to car pool and use public transit.

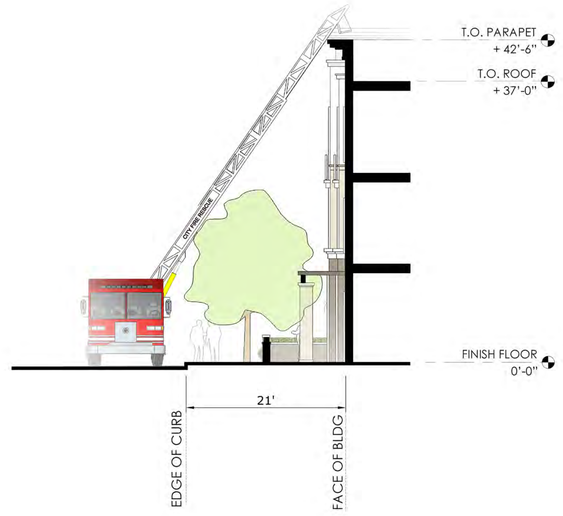
Post Construction
After construction, during normal operation, Sunrise has committed to being certified by the EPA Energy Star Program. The EPA Energy Star Program is a voluntary energy efficiency program. It promotes products and practices that help protect the environment. Sunrise is already committed to the Energy Star Program and enrolls its communities in the program. Since the EPA created "Senior Housing" as a building type for Energy Star Certification, Sunrise Senior Living communities have been certified every year. The water, gas and electric bills for all these communities are monitored monthly and rated against other Energy Star participants. The ENERGY STAR certification signifies that these buildings perform in the top 25 percent of similar buildings nationwide for energy efficiency and meet strict performance levels set by the EPA. These communities use an average of 35 percent less energy and release 35 percent less carbon dioxide than typical communities.

This Sunrise community will have a comprehensive maintenance program in place to maintain equipment and conserve energy costs; they will focus on best practices for efficiency in the areas of kitchen and laundry operations, lighting and HVAC&R (Heating Ventilation Air Conditioning and Refrigeration).

Attachment B

FIRE DEPARTMENT GENERAL NOTES

- All utility's in front of building on El Camino to go underground including around East Selby Lane past Pavilion entrance. Aerial Ladder Access to be established along full length of the building facing El Camino Real. The aerial ladder placement shall meet the prescriptive distance requirements outlined in CFC Appendix D105.
- Fire apparatus roadways, including public and private streets and in some cases driveways used for vehicle access, shall be capable of supporting the imposed weight of a 75,000 pound (34,050 kg) fire apparatus and shall be provided with an all-weather driving surface per CFC 2016, Appendix D.
- Private Roadways shall be all-weather roads with a minimum width of 20 feet and a clear height of 13 feet 6 inches. Roadways shall be designed to accommodate the weight of the fire apparatus and the minimum turning radii of 36 feet for fire apparatus. Dead end roads in excess of 150 feet in length shall be provided with a turn-a-round as specified by CFC Appendix D, Table D103.4. Access roads exceeding 1 mile in length shall be provided with approved turn-a-round areas at ½ Mile Intervals.
- All curbing located within the complex that has not been assigned as onsite parking shall be designated as "No Parking Fire Lane". All fire lanes to comply with MPFPD standard for "Designation and Marking of Fire Lane"; since there are only two points of access to the complex "Entrance Sign B" will be used at each pint of access to complex. Provide a complete no parking-fire lane stripping plan with no parking signage in accordance to MPFPD standard on subsequent submittal:
  1) 20 feet roadway width shall require curb stripping with no parking signage as per MPFPD Standard.
  2) Required no parking signage installed at an approved location at entrances.
- Fire apparatus roadways, including public or private streets or roads used for vehicle access shall be installed and in service prior to construction. Fire protection water serving all hydrants shall be provided as soon as combustible material arrives on the site:
  3) Prior to combustible material arriving on the site, contact the Menlo Park Fire Protection District (MPFPD) to schedule an inspection of roadways and fire hydrants. CFC 2016.
  e. For buildings 30 feet (9144 mm) and over in height above natural grade, the required fire apparatus access roadway shall be a minimum of 26 feet (7925 mm) in width, and shall be positioned parallel to at least one entire side of the building, and the fire lane shall be located within a minimum of 15 feet (4573 mm) and a maximum of 30 feet (9144 mm) from the building. CFC 2016, Appendix D105.
  4) Fire District staging areas to be located and provides details for Aerial Ladder Truck Minimum and Maximum climbing angles, if a climbing angle is less than 50 degrees the roadway shall be adjusted to comply to the charging condition listed above. Note Aerial Ladder requires minimum 4-foot setback on any side to allow for outriggers.



SECTION A-A
AERIAL LADDER ACCESS DIAGRAM

Attachment B

Attachment B

UNIT MIX (FIRST FLOOR):

SINGLE	14
DOUBLE	04
SEMI-PRIVATE	04
TOTAL	22

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NORTH 0 20' 40' 80'

22 UNITS 28,965 S.F.

FIRST FLOOR PLAN A2.1

| JANUARY 22 2018 | REDWOOD CITY ASSISTED LIVING

SUNRISE SENIOR LIVING

Attachment B

UNIT MIX (SECOND FLOOR):	
SINGLE	27
DOUBLE	08
SEMI-PRIVATE	11
TOTAL	46

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NORTH 0 20' 40' 80'

46 UNITS 33,684 S.F.

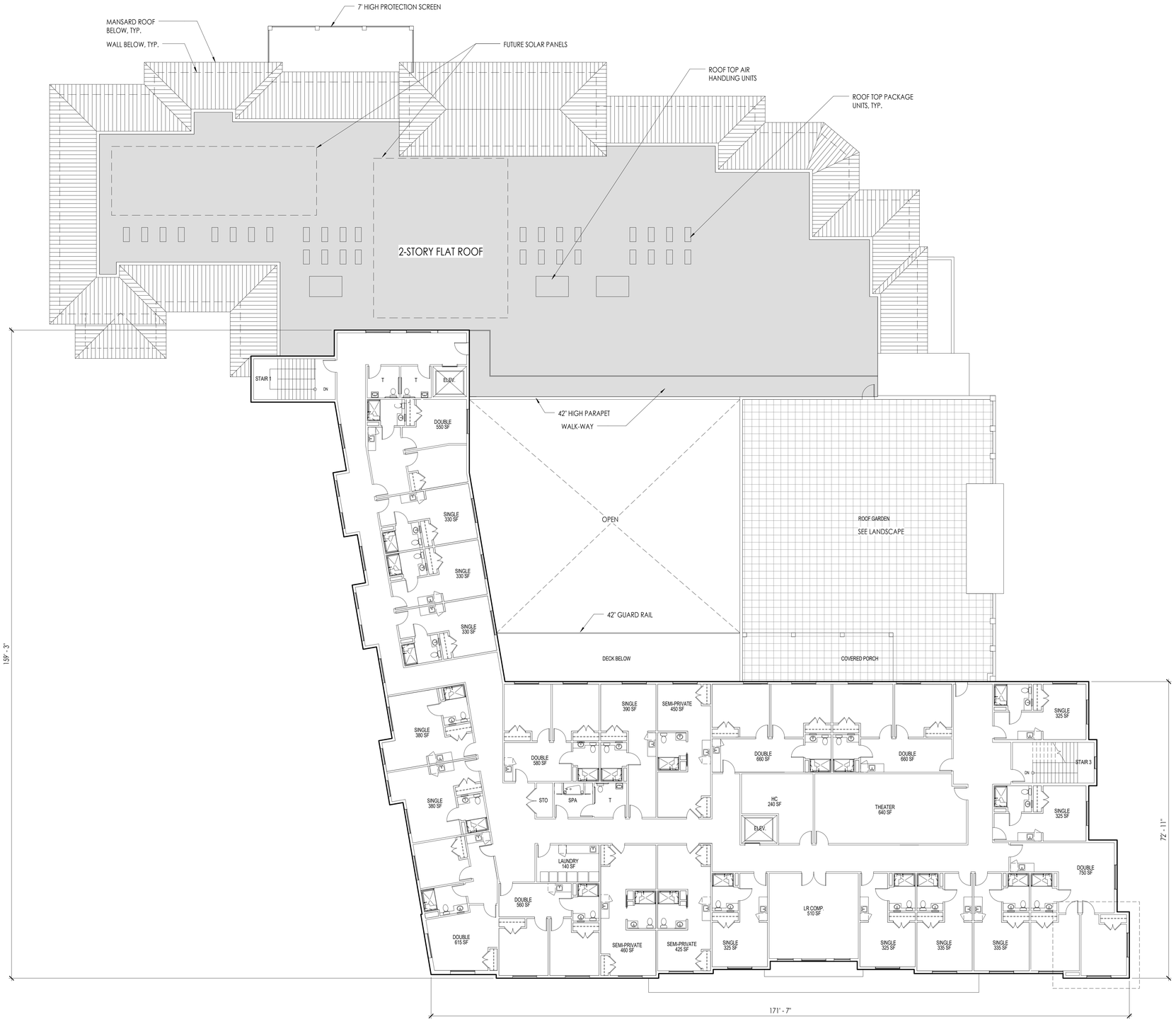
SECOND FLOOR PLAN A2.2

| JANUARY 22 2018 | REDWOOD CITY ASSISTED LIVING

SUNRISE SENIOR LIVING

Attachment B

UNIT MIX (THIRD FLOOR):	
SINGLE	12
DOUBLE	07
SEMI-PRIVATE	03
TOTAL	22



HPI architecture

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NORTH 0 20' 40' 80'

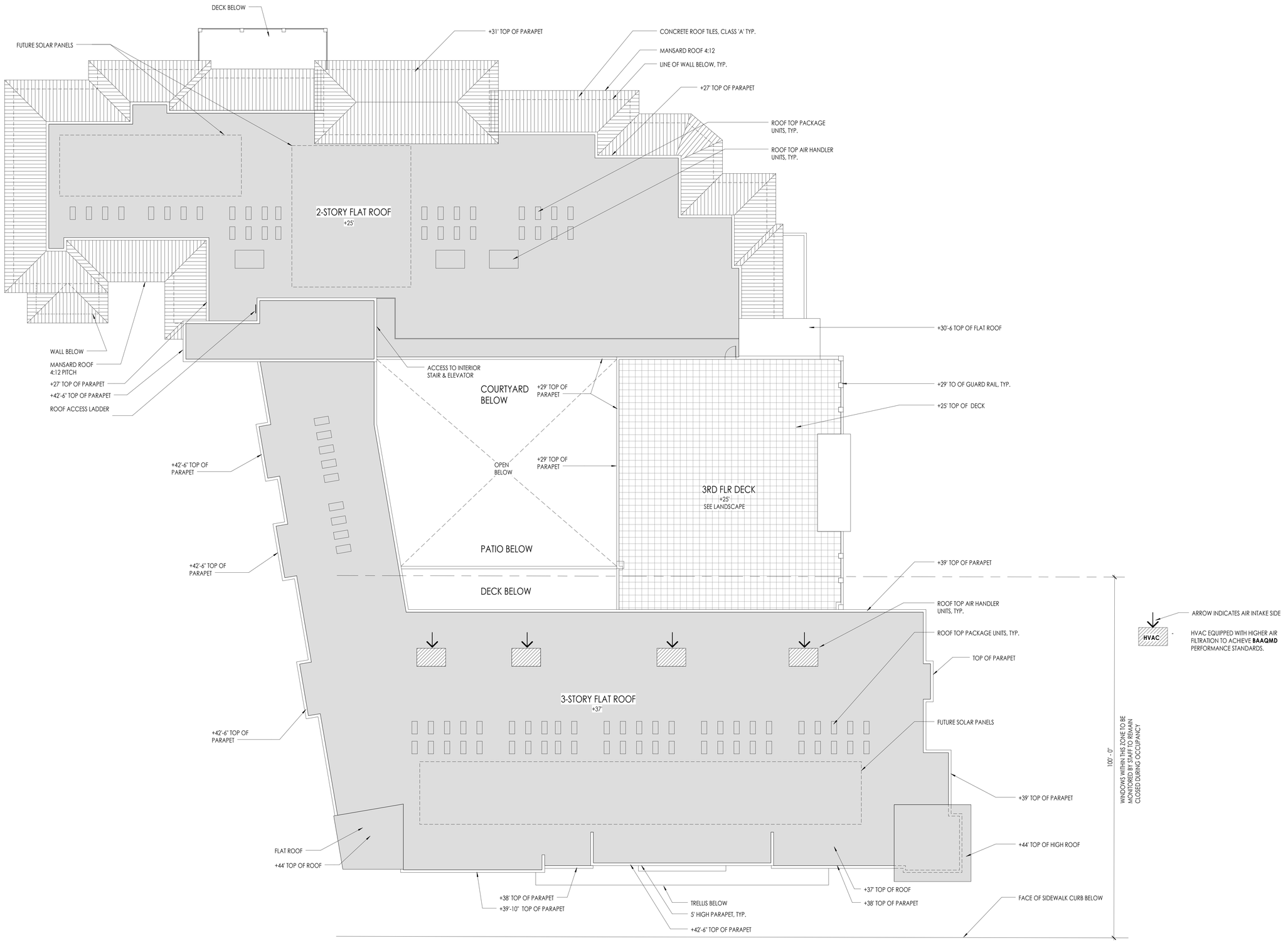
22 UNITS 15,377 S.F.

THIRD FLOOR PLAN A2.3

| JANUARY 22 2018 | REDWOOD CITY ASSISTED LIVING

SUNRISE SENIOR LIVING

Attachment B



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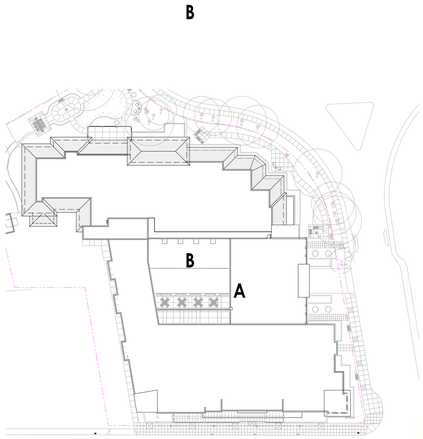
NORTH 0 20' 40' 80'

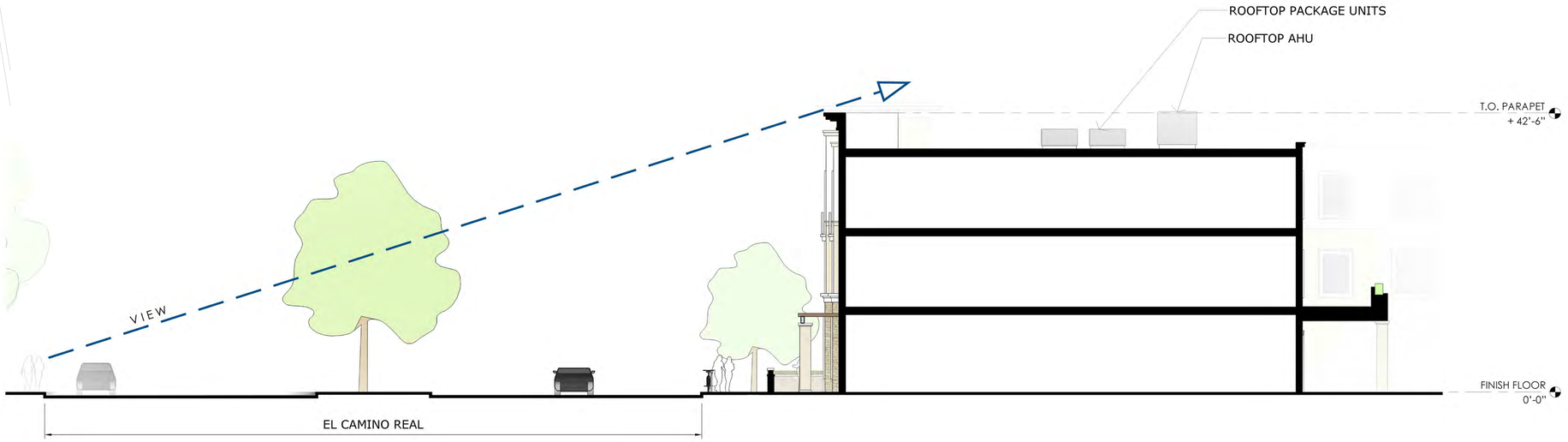
ROOF PLAN A2.4

| JANUARY 22 2018 | REDWOOD CITY ASSISTED LIVING

SUNRISE SENIOR LIVING



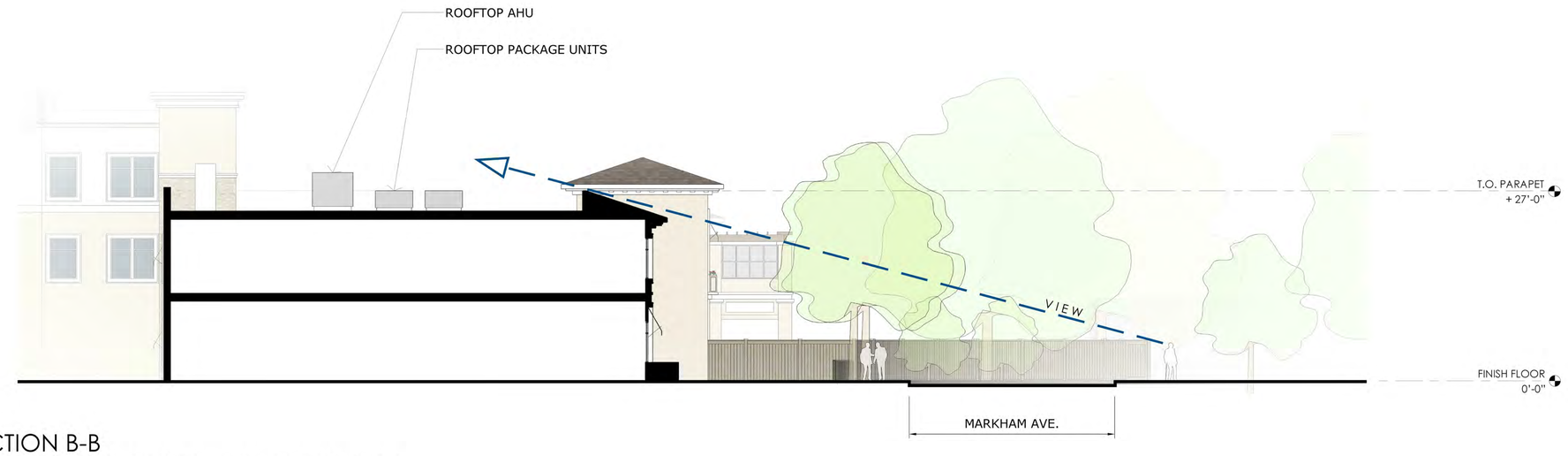
KEYPLAN



SECTION A-A
MECHANICAL EQUIPMENT SCREENING

NOTE:

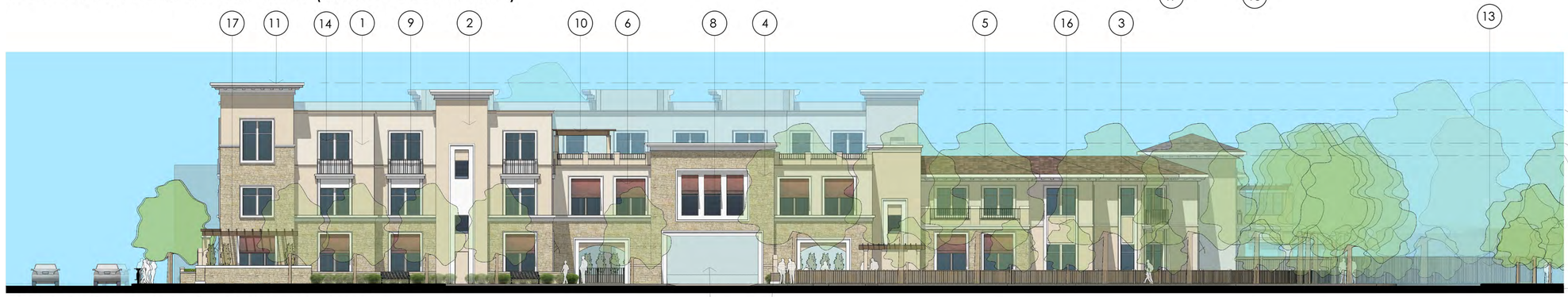
EMERGENCY GENERATOR TO BE TESTED ONCE A MONTH FOR 30 MINUTES.



SECTION B-B
MECHANICAL EQUIPMENT SCREENING

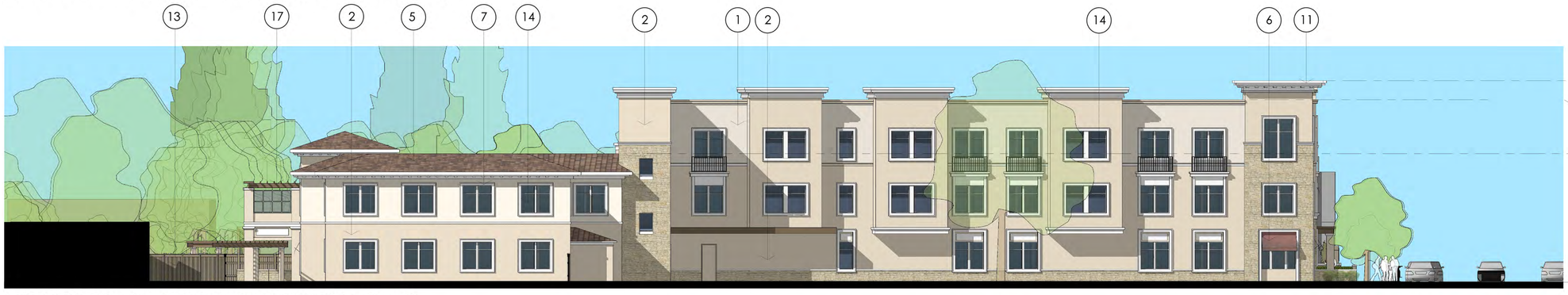
Attachment B

VIEW FROM EL CAMINO REAL (SOUTH ELEVATION)



VIEW FROM SELBY (EAST ELEVATION)

VIEW FROM MARKHAM (NORTH ELEVATION)



VIEW FROM PARKING (WEST ELEVATION)

KEY NOTES

1 STUCCO FINISH (FIELD)*
2 STUCCO FINISH (ACCENT)*
3 3' HIGH WOOD FENCE
4 STONE VENEER*
5 CONCRETE TILE ROOF*
6 AWNING*
7 MOULDINGS @ WINDOWS*
8 PUNCHED WINDOWS
9 DECORATIVE BALCONIES
10 ROOF DECK PATIO TRELLIS
11 STONE MOULDING @ PARAPET*
12 BOX PLANTER
13 6' HIGH WOOD FENCE
14 DOUBLE GLAZED DIVIDED LITE WINDOW
15 OPEN @ ENTRY DRIVE
16 PANEL REVEAL
17 OUTRIGGER TRELLIS*
18 MONUMENT SIGN

* SEE MATERIALS DESCRIPTION BELOW

MATERIALS

ROOFING:
Eagle Roofing
Bel Air Flat Concrete Tile
4645 Sunrise Blend

STONE VENEER:
CORONADO Country Rubble
Antique Cream (Stacked)

PAINT:
STUCCO** FIELD:
Sherwin Williams
SW6140 Moderate White

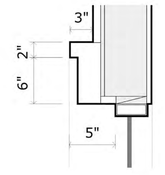
STUCCO** / CORNICE ACCENT:
Sherwin Williams
SW6141 Softer Tan

CORNICE / WINDOW TRIM:
Sherwin Williams
SW7138 Lavender Wisp

TRELLIS / WROUGHT IRON:
Sherwin Williams
SW7040 Smokehouse

AWNINGS:
Hunter Douglas M Screen 6005
Charcoal / Mandarin

** LaHabra stucco: 7/8" 3-coat stucco over approved substrate



WINDOW TRIM PROFILE

0 20' 40' 80'

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EXTERIOR ELEVATIONS A4.0

| JANUARY 22 2018 | REDWOOD CITY ASSISTED LIVING

SUNRISE SENIOR LIVING

1 VIEW FROM CORNER OF EL CAMINO REAL AND E. SELBY LANE

KEY SITE PLAN N

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PERSPECTIVES A5.0

| JANUARY 22 2018 | REDWOOD CITY ASSISTED LIVING

SUNRISE SENIOR LIVING

2 VIEW FROM CORNER OF E. SELBY LANE AND MARKHAM AVE.

KEY SITE PLAN

3 VIEW OF MAIN ENTRY FROM E. SELBY LANE

KEY SITE PLAN

4 VIEW FROM MARKHAM AVE.

KEY SITE PLAN N

5 VIEW OF MAIN ENTRY FROM E. SELBY LANE

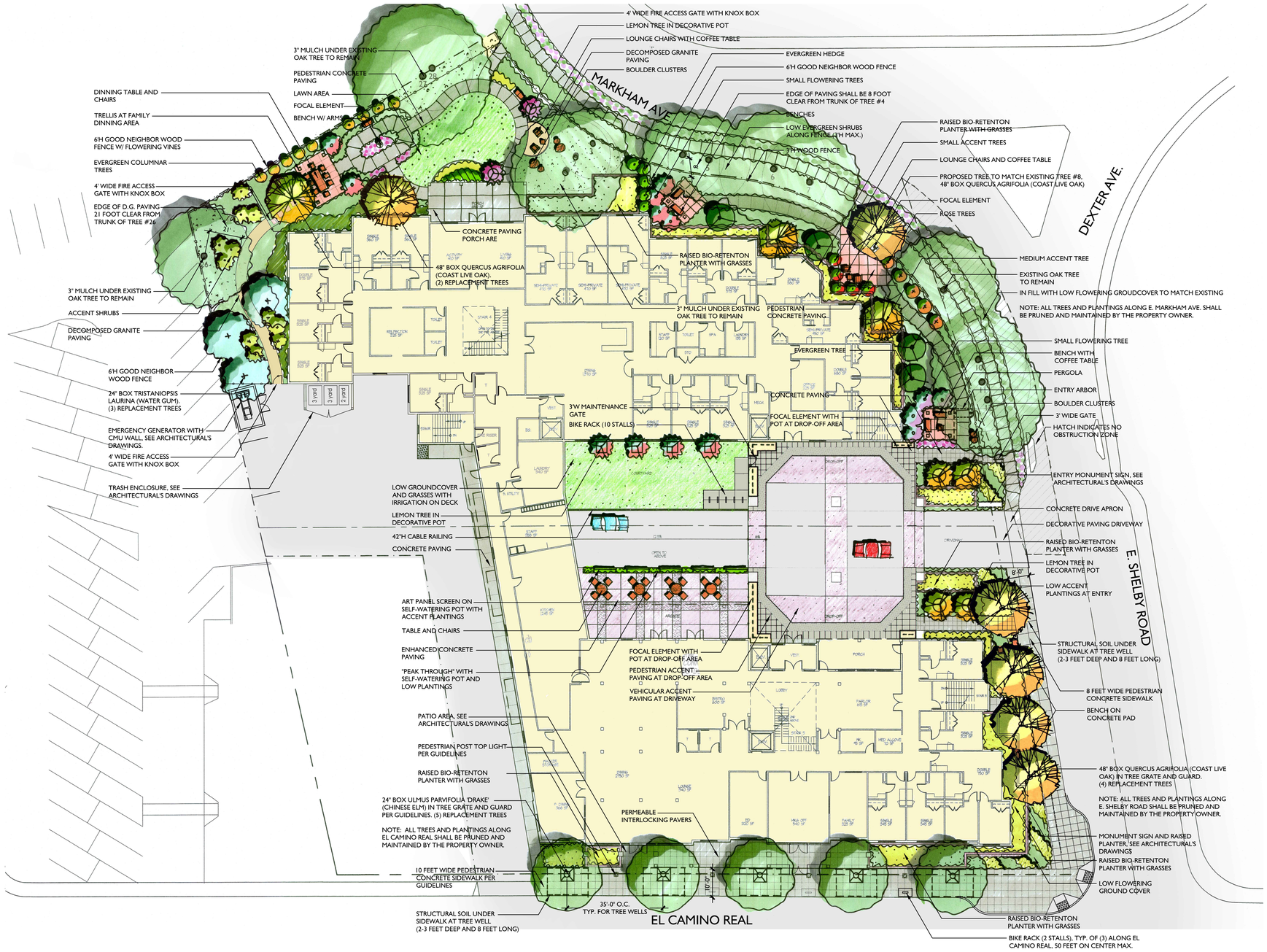
KEY SITE PLAN

Attachment B

AERIAL VIEW FROM NORTH-EAST

AERIAL VIEW FROM SOUTH-EAST

Attachment B



0 8' 16' 32'

L-1

GATES +ASSOCIATES

SUNRISE REDWOOD CITY SAN MATEO COUNTY

LANDSCAPE CONCEPTUAL PLAN (GROUND LEVEL)

MARCH 2, 2018

Attachment B

ASSISTED LIVING COURTYARD


PERGOLA


ENTRY ARBOR


LARGE BENCH W/ ARM


TABLE AND CHAIRS


3' HIGH WOOD FENCE

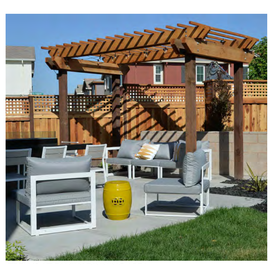

BIRD BATH


BIRD HOUSE


RAISED VEGETABLE PLANTER

MEMORY CARE COURTYARD

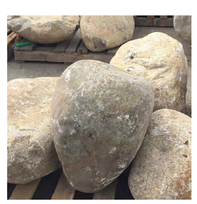

6'H GOOD NEIGHBOR WOOD FENCE


TRELLIS AT FAMILY DINNING AREA


DINNING TABLE AND CHAIRS


SMALL BENCH W/ ARM


LOUNGE CHAIR AND COFFEE TABLE


BOULDERS

"GREEN" COURTYARD AND DROP-OFF AREA


LEMON TREES IN POT


42"H CABLE RAILING


GREEN COURTYARD


FOCAL ELEMENT AT AT DROP-OFF AREA

OUTDOOR DINNING

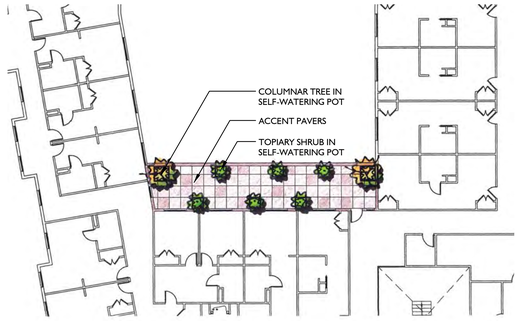

ART PANEL SCREEN ON POTS

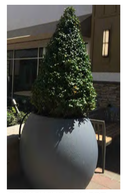

TABLE AND CHAIRS


BIKE RACK

L-2

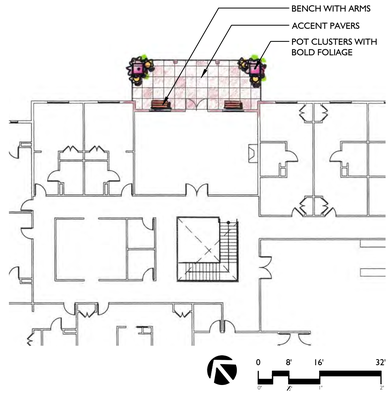
Attachment B




TOPIARY SHRUB IN POT


ITALIAN CYPRESS IN POT

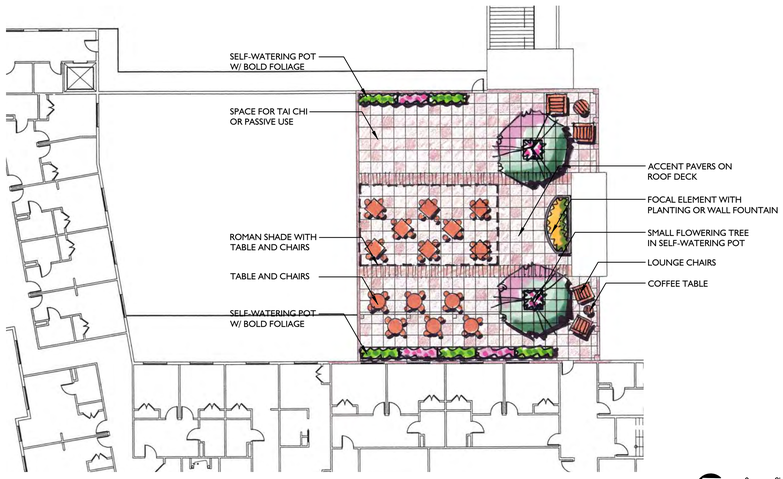
TOPIARY DECK ON SECOND LEVEL




BOLD FOLIAGE ON POT


SMALL BENCH W/ ARM

ACTIVITY DECK ON SECOND LEVEL



ROOF DECK ON THIRD LEVEL


SELF-WATERING TREE POT


SELF-WATERING POT


LOUNGE CHAIR AND COFFEE TABLE


TABLE AND CHAIRS


TAI CHI ACTIVITY


WALL WATER FEATURE


ROMAN SHADE STRUCTURE


ACCENT PAVERS ON ROOF DECK

L-3

Attachment B

TREES


ACER GRISEUM


CITRUS TREES

CUPRESSUS SEMPERVIRENS


LAGERSTROEMIA 'MUSKOGEE'


QUERCUS AGRIFOLIA


TRISTANIOPSIS LAURINA


ROSA TREE

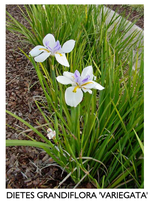

ULMUS PARVIFOLIA 'DRAKE'

SHRUBS/ GROUND COVER/ GRASSES


BUXUS SEMPERVIRENS


CAREX TUMULICOLA


CISTUS 'SUNSET'


DIETES GRANDIFLORA 'VARIEGATA'


ERIGERON KARVINSKIANUS


HEBE 'VERONICA LAKE'


HEMEROCALLIS HYBRID 'SPARKLES'


HELICTOTRICHON SEMPERVIRENS


LAVENDULA INTERMEDIA 'PROVENCE'


LIRIOPE MUSCARI


LOMANDRIA LONGIFOLIA 'BREEZE'


SALVIA MICROPHYLLA 'LITTLE KISS'

RAISED BIO-RETENTION PLANTER


CHONDROPETALUM TECTORUM


JUNCUS PATENS

VINES


HARDENBERGIA VIOLACEA


JASMINUM POLYANTHUM


SOLANUM JASMINOIDES

PLANT LIST

TREES

Symbol	Botanical Name	Common Name	Size	Spacing	Water Needs
AS	Acer griseum	Paperbark Maple	15 Gallon	AS SHOWN	MOD
CT	x Chitalpa tashkentensis	Chitalpa	24" Box	AS SHOWN	LOW
CI	Citrus trees	Lemon	15 Gallon	AS SHOWN	MOD
CS	Cupressus sempervirens	Italian Cypress	15 Gallon	AS SHOWN	LOW
LU	Lagerstroemia 'Muskogee'	Crape Myrtle	24" Box	AS SHOWN	LOW
LT	Lagerstroemia 'Tuscarora'	Crape Myrtle	24" Box	AS SHOWN	LOW
QA	Quercus agrifolia	Coast Live Oak	36" Box	AS SHOWN	VERY LOW
RS	Rosa spp. Standard	Rose Standard	15 Gallon	AS SHOWN	MOD
TL	Tristaniopsis laurina	Water Gum	24" Box	AS SHOWN	MOD
UP	Ulmus parvifolia 'Drake'	Chinese Lacebark Elm	24" Box	AS SHOWN	LOW

SHRUBS

Symbol	Botanical Name	Common Name	Size	Spacing	Water needs
AA	Agapanthus 'Peter Pan'	Peter Pan's Lily of the Nile	1 Gallon	2'-0" O.C.	MOD
AG	Agapanthus 'Elaine'	Elaine's Lily of the Nile	1 Gallon	2'-0" O.C.	MOD
AJ	Aucuba japonica 'Variegata'	Variegated Japanese Aucuba	5 Gallon	3'-0" O.C.	MOD
BD	Buddleja davidii 'Blue Chip'	Blue Chip Butterfly Bush	1 Gallon	3'-0" O.C.	LOW
BS	Buxus sempervirens	Common Boxwood	1 Gallon	3'-0" O.C.	LOW
CA	Camellia x 'Buttermint'	Buttermint Camellia	5 Gallon	4'-0" O.C.	MOD
CS	Cistus 'Sunset'	Sunset Rockrose	1 Gallon	3'-0" O.C.	LOW
CO	Correa pulchella	Australian Fuchsia	1 Gallon	3'-0" O.C.	LOW
DV	Dietes grandiflora 'Variegata'	Striped Fortnight Lily	5 Gallon	3'-0" O.C.	LOW
EC	Escallonia 'Compakta'	Compact Escallonia	5 Gallon	3'-0" O.C.	MOD
GJ	Gardenia jasminoides	Gardenia	1 Gallon	3'-0" O.C.	MOD
HB	Hebe 'Veronica Lake'	Veronica Lake Hebe	5 Gallon	3'-0" O.C.	MOD
HH	Hemerocallis hybrid 'Sparkles'	Evergreen Day Lily	1 Gallon	2'-0" O.C.	MOD
LI	Lavendula intermedia 'Provence'	Provence Lavender	1 Gallon	2'-6" O.C.	LOW
LC	Loropetalum chinensis	Loropetalum	5 Gallon	4'-0" O.C.	LOW
ND	Nadina domestica 'Gulf Stream'	Heavenly Bamboo	5 Gallon	3'-0" O.C.	LOW
RC	Rhaphiolepis indica 'Ballerina'	Ballerina Indian Hawthorn	5 Gallon	4'-0" O.C.	LOW
RJ	Rhaphiolepis indica 'Jack Evans'	Jack Evans Indian Hawthorn	5 Gallon	4'-0" O.C.	LOW
RO	Rhododendron 'Mollis Hybrid	Yellow Rhododendron	5 Gallon	4'-6" O.C.	MOD
SL	Salvia microphylla 'Little Kiss'	Little Kiss Sage	5 Gallon	2'-0" O.C.	MOD
VB	Viburnum xburkwoodii 'Mohawk'	Mohawk Viburnum	5 Gallon	5'-0" O.C.	MOD

GROUND COVERS/GRASSES

Symbol	Botanical Name	Common Name	Size	Spacing	Water needs
CT	Carex tumulicola	Berkeley Sedge	1 Gallon	1'-6" O.C.	MOD
CH	Chondropetalum tectorum	Little Cape Rush	5 Gallon	3'-6" O.C.	MOD
EK	Erigeron karvinskianus	Fleabane	1 Gallon	2'-0" O.C.	LOW
FI	Festuca idahoensis	Idaho Fescue	1 Gallon	1'-0" O.C.	LOW
HS	Helictotrichon sempervirens	Blue Oat Grass	1 Gallon	1'-0" O.C.	LOW
JP	Juncus patens	California Gray Rush	1 Gallon	2'-6" O.C.	MOD
GJ	Geranium 'Johnson's Blue'	Johnson's Blue Geranium	1 Gallon	2'-0" O.C.	MOD
LK	Lantana 'Rainbow'	Rainbow Lantana	1 Gallon	3'-0" O.C.	LOW
LE	Limonium perezii	Sea Lavender	1 Gallon	3'-0" O.C.	LOW
LM	Liriope muscari	Lily Turf	1 Gallon	1'-0" O.C.	MOD
LL	Lomandria longifolia 'Breeze'	Mat Rush	1 Gallon	3'-0" O.C.	LOW
RM	Rosa meidiland - yellow	Yellow Carpet Rose	2 Gallon	4'-0" O.C.	MOD
TJ	Trachelospermum jasminoides	Star Jasmine	1 Gallon	2'-6" O.C.	MOD

VINES

Symbol	Botanical Name	Common Name	Size	Spacing	Water needs
HV	Hardenbergia violacea	Lilac Vine	1 Gallon	AS SHOWN	MOD
JP	Jasminum polyanthum	Jasmine	1 Gallon	AS SHOWN	MOD
SJ	Solanum jasminoides	Potato Vine	1 Gallon	AS SHOWN	MOD

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Attachment B

TREE INVENTORY SPREADSHEET

TREE NO.	COMMON NAME	BOTANICAL NAME	DBH (IN.)	HEIGHT & SPREAD (FT.)	HEIGHT & STRUCTURE RATINGS (0-100% EACH)	REMOVE?	PROTECTED TREE PER COUNTY OF SAN MATEO
1	COAST LIVE OAK	QUERCUS AGRIFOLIA	30.4	30/40	90/65		X
2	COAST LIVE OAK	QUERCUS AGRIFOLIA	18.8	35/25	80/70		X
3	COAST LIVE OAK	QUERCUS AGRIFOLIA	28.2	30/25	75/65		X
4	CALIFORNIA VALLEY OAK	QUERCUS LOBATA	16.5	45/30	86/77		X
5	CALIFORNIA VALLEY OAK	QUERCUS LOBATA	20.4	45/30	85/80		X
6	COAST LIVE OAK	QUERCUS AGRIFOLIA	24	35/45	75/75		X
7	COAST LIVE OAK	QUERCUS AGRIFOLIA	14.3	35/35	80/70		X
8	COAST LIVE OAK	QUERCUS AGRIFOLIA	22	40/30	20/20	X	X
9	TREE OF HEAVEN	AILANTHUS ALTISSIMA	22	45/40	75/75		X
10	COAST LIVE OAK	QUERCUS AGRIFOLIA	18.8	35/35	85/75		X
11	COAST LIVE OAK	QUERCUS AGRIFOLIA	15.8	27/30	90/55		X
12	COAST LIVE OAK	QUERCUS AGRIFOLIA	19.4	35/40	85/80		X
13	COAST LIVE OAK	QUERCUS AGRIFOLIA	13.6	35/25	85/75	X	X
14	COAST LIVE OAK	QUERCUS AGRIFOLIA	12	20/20	75/50	X	X
15	EUROPEAN BIRCH	BETULA PENDULA	27	35/45	65/50	X	X
16	TULIP POPLAR	LIRIODENDRON TULIPIFERA	17.5	25/30	70/45	X	X
17	TULIP POPLAR	LIRIODENDRON TULIPIFERA	17.3	25/30	65/55	X	X
18	TULIP POPLAR	LIRIODENDRON TULIPIFERA	15.6	30/25	65/55	X	X
19	AMERICAN ELM	ULMUS AMERICANA	29.7	35/40	25/25	X	X
20	TREE OF HEAVEN	AILANTHUS ALTISSIMA	28.1	35/30	20/15	X	X
21	AMERICAN ELM	ULMUS AMERICANA	43.5	45/45	40/30	X	X
22	TREE OF HEAVEN	AILANTHUS ALTISSIMA	21	35/30	70/55	X	X
23	COAST LIVE OAK	QUERCUS AGRIFOLIA	35	40/50	90/60	X	X
24	COAST LIVE OAK	QUERCUS AGRIFOLIA	26	35/30	90/60	X	X
25	COAST LIVE OAK	QUERCUS AGRIFOLIA	26	27/30	90/40	X	X
26	CALIFORNIA VALLEY OAK	QUERCUS LOBATA	30	35/35	75/65		X
27	COAST LIVE OAK	QUERCUS AGRIFOLIA	30.5	50/50	90/70		X
28	COAST LIVE OAK	QUERCUS AGRIFOLIA	30.3	30/30	75/60		X

LEGEND:

- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO REMAIN
- TREE PROTECTIVE FENCING

NOTE:
1. INFORMATION PROVIDED ON THIS PLAN IS BASED ON THE MAY 2, 2017 TREE REPORT BY WALTER LEVISON, CONSULTING ARBORIST. AND REVISED REPORT DATED OCTOBER 25, 2017.
2. TREE NUMBERING ARE PER ARBORIST REPORT.
3. SEE SHEET L-6 FOR TREE PROTECTION NOTES AND DETAIL.
4. REPLACEMENT TREES FOR TREES REMOVED SHALL BE 1:1 RATIO.
5. (6) COAST LIVE OAK PROPOSED TO BE REMOVED SHALL BE REPLACED WITH 48" BOX SIZE COAST LIVE OAK TREE.
6. AN ARBORIST'S REPORT IS REQUIRED FOR SIGNIFICANT OR HERITAGE TREES PROPOSED FOR REMOVAL ON THE BASIS OF POOR HEALTH, POTENTIAL HAZARD, OR WHEN A SIGNIFICANT OR HERITAGE TREE(S) IS PROPOSED TO REMAIN, BUT NEW DEVELOPMENT WOULD ENCROACH WITHIN THE DRIP LINE OF THE TREE.
7. THE ARBORIST'S REPORT SHALL ASSESS TREE CONDITION FOR ALL SIGNIFICANT OR HERITAGE TREES, AND ANY MEASURES NECESSARY TO PROTECT TREES ON SITE DURING DEMOLITION OR CONSTRUCTION, INCLUDING ANY REMEDIAL MEASURES NECESSARY TO SUSTAIN IMPACTED TREES. TREE PROTECTION MEASURES SHALL COMPLY WITH SAN MATEO COUNTY'S TREE PROTECTION REQUIREMENTS.
8. FOR DEVELOPMENT WITHIN A TREE DRIPLINE THE REPORT SHALL ASSESS POTENTIAL TREE SURVIVAL AND LONGEVITY, AND SPECIAL MEASURES NEEDED TO PROTECT ANY SUCH TREES OR POST CONSTRUCTION.

0 8' 16' 32'

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GATES +ASSOCIATES

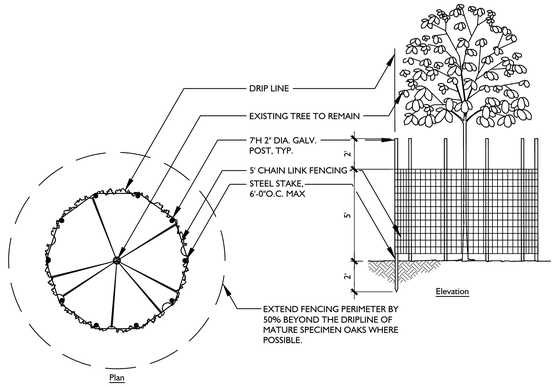
SUNRISE REDWOOD CITY SAN MATEO COUNTY

TREE PROTECTION PLAN

MARCH 2, 2018

TREE PROTECTION NOTES

1. PRIOR TO INITIATING ANY CONSTRUCTION ACTIVITY IN THE AREA, INCLUDING GRADING, TEMPORARY PROTECTIVE FENCING SHALL BE INSTALLED AT EACH SITE TREE. FENCING SHALL BE LOCATED AT OR BEYOND THE CANOPY DRIP LINE SO THAT 100% OF THE DRIP LINE WILL BE PROTECTED BY FENCING. TO REDUCE SOIL COMPACTION FROM EQUIPMENT.
2. THE CONTRACTOR IS REQUIRED TO WATER, FERTILIZE AND ATTEND TO OTHER MAINTENANCE NEEDS OF EXISTING TREES AS NEEDED PER ARBORIST'S RECOMMENDATIONS TO MAINTAIN HEALTHY GROWTH THROUGHOUT THE CONSTRUCTION PERIOD. SIX FEET DIAMETER, MINIMUM, BY SIX INCH TALL EARTH BERMS SHALL BE CONSTRUCTED AT THE BASE OF EACH TREE TO FUNCTION AS TEMPORARY WATERING BASINS DURING THE CONSTRUCTION PERIOD. TREES SHALL BE WATERED ACCORDING TO WEATHER AND TREE REQUIREMENTS. APPROVED MULCH OF 1-2 INCH SIZED WOOD CHIPS SHALL BE PLACED AT A DEPTH OF 4 INCHES WHERE NO EXCAVATION IS TO OCCUR IN THE VICINITY OF THE TREES TO BE PROTECTED.
3. THE TREE PROTECTION FENCE SHALL BE 5' HIGH CHAIN LINK FENCE WITH IMMOVABLE POSTS. THE FENCING SHALL FORM A CONTINUOUS BARRIER WITHOUT ENTRY POINTS AROUND EACH TREE. ANY ENCROACHMENT INTO THE DRIP LINE FOR FENCING OR CONSTRUCTION PURPOSES SHALL NOT BE PERMITTED.
4. LOW HANGING LIMBS OF SAVED TREES SHALL BE PRUNED PRIOR TO GRADING, OR ANY EQUIPMENT MOBILIZATION ON SITE. THE PURPOSE OF THIS REQUIREMENT IS TO AVOID TEARING LIMBS BY HEAVY EQUIPMENT. ALL LIMBS TO BE PRUNED SHALL BE SUPERVISED BY THE ARBORIST OF RECORD FOR THE JOB.
5. THIS FENCING SHALL SERVE AS A BARRIER TO PREVENT DRIP LINE ENCROACHMENT OF ANY TYPE OF CONSTRUCTION ACTIVITIES AND EQUIPMENT. NO OILS,. GAS, CHEMICALS, LIQUID WASTE, SOLID WASTE CONSTRUCTION MACHINERY OR CONSTRUCTION MATERIALS SHALL BE STORED OR ALLOWED TO STAND FOR ANY PERIOD OF TIME WITHIN THE DRIP LINE OF THE TREE. FURTHER, NO ONE SHALL ENTER THE FENCE PERIMETER FOR ANY REASON EXCEPT FOR THE PURPOSE OF MONITORING THE HEALTH OF THE TREE. ACCIDENTAL DAMAGE TO BARK, ROOT CROWN, OR LIMBS MAY INCREASE POTENTIAL FOR FUTURE DECLINE.
6. CONTRACTORS AND SUBCONTRACTORS SHALL DIRECT ALL EQUIPMENT AND PERSONNEL TO REMAIN OUTSIDE THE FENCED AREA AND AT ALL TIMES UNTIL PROJECT IS COMPLETE, AND SHALL INSTRUCT EMPLOYEES AS TO THE PURPOSE AND IMPORTANCE OF FENCING.
7. A 'TREE PROTECTION ZONE' SIGN SHALL BE POSTED AT EACH TREE INDICATING THE PURPOSE OF THE FENCING.
8. THE ARBORIST OF RECORD FOR THE JOB OR THE CITY ARBORIST SHALL BE RESPONSIBLE FOR INSPECTION AND APPROVAL OF THE FENCING PRIOR TO ANY GRADING OPERATIONS.
9. FENCING MUST REMAIN IN PLACE AND SHALL NOT BE REMOVED UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETED. THIS SHALL INCLUDE GRADING AND COMPACTION ACTIVITIES, INSTALLATION OF UNDERGROUND, ALL CONSTRUCTION ACTIVITIES AND ANY OTHER CONSTRUCTION OR ACTIVITY WHICH IS SCHEDULED PRIOR OR LANDSCAPE INSTALLATION.
10. ROOTS OF SINGLE STANDING TREES OFTEN EXTEND UP TO THREE TIMES THE DISTANCE OF THE ACTUAL DRIP LINE AND FUNCTION PRIMARILY IN THEY UPTAKE OF NUTRIENTS AND WATER. THE DRIP LINE IS ARBITRARILY ESTABLISHED AS THE MINIMUM ROOT AREA GENERALLY REQUIRED TO PRESERVE TREE HEALTH. AS MUCH AREA AROUND THE CIRCUMFERENCE OF THE TREE SHOULD HAVE MINIMUM INTRUSION TO FURTHER INSURE TREE SURVIVAL AND HEALTH.
11. UNAUTHORIZED TREE REMOVAL IS SUBJECT TO IN-KIND REPLACEMENT EQUAL TO THE VALUE OF THE MATURE RESOURCE LOST, AS DETERMINED BY THE COUNTY OF SAN MATEO.
12. NO MECHANICAL TRENCHING SHALL OCCUR WITHIN THE TREE PROTECTION ZONE. ANY EXCAVATION IF REQUIRED SHALL BE BY HAND, AIR SPADE OR BY VACUUM. CUTTING OF ANY ROOTS OVER 3" DIA SHALL BE REVIEWED BY AN ARBORIST.
13. THE CONTRACTOR SHALL CONTRACT WITH AN ARBORIST AS REQUIRED TO ENSURE PROPER TREE HEALTH IF A PROJECT ARBORIST OR CITY ARBORIST HAS NOT BEEN CONTRACTED.



1 EXISTING TREE PROTECTIVE FENCING

SCALE: 1/4" = 1'-0"

WATER EFFICIENCY LANDSCAPE ORDINANCE (WELO) WORKSHEET

§ 495 BARCLAYS CALIFORNIA CODE OF REGULATIONS Title 23

Appendix B — Sample Water Efficient Landscape Worksheet.

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.

Reference Evapotranspiration (ETo) 42.8

Hydrozone # /Planting Description[a]	Plant Factor (PF)	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU)[d]
Regular Landscape Areas							
Low water use plantings	.2	drip	.81	.25	7,620	1,905	50,551
moderate water use plantings	.5	drip	.81	.62	4,780	2,963	78,626
lawn	.85	spray head	.75	1.13	800	904	23,988
				Totals	13,200	5,772	
Special Landscape Areas							
	[redacted]			1			
				1			
				1			
				Totals			
						ETWU Total	153,165
				Maximum Allowed Water Allowance (MAWA)[e]			192,651

[a] *Hydrozone #/Planting Description*
E.g
1.) front lawn
2.) low water use plantings
3.) medium water use planting

[b] *Irrigation Method*
overhead spray or drip

[c] *Irrigation Efficiency*
0.75 for spray head
0.81 for drip

[d] *ETWU* (Annual Gallons Required) = *ETo x 0.62 x ETAF x Area*
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

[e] *MAWA (Annual Gallons Allowed) = (Eto) (.62) [(ETAF x LA) + ((1-ETAF) x SLA)]*
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	5,772
Total Area	13,200
Average ETAF	.44

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area	5,772
Total Area	13,200
Sitewide ETAF	.44

HISTORY

1. New Appendix B filed 9–10–2009; operative 9–10–2009 pursuant to Government Code section 11343.4 (Register 2009, No. 37).
2. Repealer and new Appendix B filed 9–15–2015; operative 9–15–2015. Exempt from OAL review and submitted to OAL for printing only pursuant to Governor's Executive Order No. B–29–15 (4–1–2015) (Register 2015, No. 38).

WATER EFFICIENT LANDSCAPE STATEMENT

1. THE IRRIGATION SYSTEM SHALL BE DESIGNED TO MEET CURRENT WATER EFFICIENCY STANDARDS AND STATE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE AB1881 AS REQUIRED BY LOCAL JURISDICTIONS WHILE ACHIEVING THE GOAL OF EFFECTIVELY AND EFFICIENTLY PROVIDING THE LANDSCAPE WITH WATER BY MEANS OF HIGH EFFICIENCY SPRAY IRRIGATION TO THE TURF AND GROUND COVER AREAS AND DRIP IRRIGATION BUBBLERS TO RESTRICTED SHRUB PLANTING AND SHRUB MASS PLANTING AREAS AS APPLICABLE.
2. IRRIGATION SYSTEMS SHALL BE DESIGNED TO ACCOMMODATE RECYCLED WATER WHERE AVAILABLE EITHER CURRENTLY OR IN THE FUTURE AS DIRECTED BY THE LOCAL WATER PURVEYOR. RECYCLED WATER SYSTEMS SHALL BE DESIGNED IN ACCORDANCE WITH LOCAL AND STATE CODES.
3. IRRIGATION SYSTEMS FOR LANDSCAPES GREATER THAT 5,000 SF SHALL HAVE A DEDICATED WATER METER FOR IRRIGATION.
4. A WATER EFFICIENT LANDSCAPE WORKSHEET SHALL BE INCLUDED WITH HYDROZONE INFORMATION TABLE, WATER BUDGET CALCULATIONS AND IRRIGATION OPERATION SCHEDULES.
5. A STATE OF THE ART ET BASED SELF ADJUSTING IRRIGATION CONTROLLER SHALL BE SPECIFIED FOR THIS PROJECT TO AUTOMATICALLY CONTROL THE WATER ALLOCATED TO EACH VALVE GROUPED PER INDIVIDUAL HYDROZONE (BASED ON PLANT TYPE AND EXPOSURE). THIS SHALL INCLUDE RAIN AND FLOW SENSORS AS APPLICABLE FOR A HIGHER LEVEL OF WATER CONSERVATION.
6. TREE BUBBLERS SHALL BE INCLUDED ON SEPARATE CIRCUITS TO ISOLATE THE IRRIGATION TO THE TREES AND PROVIDE DEEP WATERING TO PROMOTE A DEEPER ROOT STRUCTURE.
7. SPRAY IRRIGATION SYSTEMS FOR GROUNDCOVER AREAS GREATER THAN 8' WIDE IN ANY DIRECTION SHALL BE DESIGNED WITH COMMERCIAL SERIES SPRAY HEADS WITH HIGH EFFICIENCY NOZZLES THAT INCLUDE INTERNAL CHECK VALVES AND PRESSURE COMPENSATION DEVICES. THE HEADS SHALL BE DESIGNED IN A HEAD TO HEAD LAYOUT TO ACHIEVE AN EVEN LEVEL OF PRECIPITATION THROUGHOUT THE IRRIGATION SYSTEM. THE NOZZLES DELIVER WATER AT MINIMUM 70% EFFICIENCY WITH A LOW PRECIPITATION RATE THAT MATCHES THE INFILTRATION RATE OF THE SOIL.
8. THE DRIP SYSTEM WILL INCORPORATE PRESSURE COMPENSATING DRIP BUBBLERS WITH 1/4" DRIP TUBES TO EACH PLANT WHICH DELIVERS WATER AT 90% EFFICIENCY AT AN APPLICATION RATE THAT MATCHES THE SOIL TYPE.

Attachment B

LEGEND

	ASPHALT BERM
	BUILDING LINE
	CENTERLINE
	CONCRETE/BLOCK/RETAINING WALL
	CONCRETE CURB
	CONCRETE CURB & GUTTER
300	CONTOUR LINE
300	OBSCURED CONTOUR LINE
	DRIVEWAY
	EASEMENT LINE
	EDGE OF PAVEMENT
E	ELECTRIC LINE
	FENCE LINE
FO	FIBER OPTICS LINE
FS	FIRE SERVICE & VALVE
G GM	GAS LINE-VALVE & METER
JT	JOINT TRENCH
	LOT LINE
	MONUMENT/MONUMENT LINE
OH	OVERHEAD POWER LINE
	PROPERTY LINE
SS	SANITARY SEWER-MANHOLE & CLEANOUT
	SIDEWALK
+300.00	SPOT ELEVATION
SD	STORM DRAIN-MANHOLE & CATCH BASIN
T	TELEPHONE LINE
TS	TRAFFIC SIGNAL CONDUIT LINE
UKN	UNKNOWN UTILITY LINE
W	WATER LINE & VALVE
	AUTOMATIC SPRINKLER RISER
	BACKFLOW PREVENTION DEVICE
	BLOWOFF VALVE
	ELECTROLIER
	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT
	FLAG POLE
	GUY ANCHOR
	GAS METER
	HANDICAP SYMBOL
	HOSEBIBB
	MAIL BOX
	UTILITY LINE MARKER
	TELEPHONE BOOTH
	POST INDICATOR VALVE
	POWER POLE/JOINT POLE
	RAILROAD CROSSING
	TRANSFORMER
	TRAFFIC SIGNAL POLE
	TRAFFIC SIGN
12"TR	TREE
	UTILITY BOX
	WATER VALVE
	WELL
AP	ANGLE POINT
AP	ANGLE POINT
BC	BACK OF CURB
BL	BUILDING LINE
BL	BUILDING LINE
BLRD	BOLLARD
BOL	BOLLARD
BS	BOTTOM OF STAIR
BTM	BOTTOM
BW	BACK OF WALK
C	CONCRETE
CATV	CABLE TELEVISION
CL	CENTER LINE
DWY	DRIVEWAY
EB	ELECTRIC BOX
EP	EDGE OF PAVEMENT
EW	EDGE OF WALK
EXC	EXCEPTION
FC	FACE OF CURB
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISH FLOOR
FH	FIRE HYDRANT
FL	FLOWLINE
FNC	FENCE
FOMH	FIBER OPTIC MANHOLE
FW	FACE OF WALL
GA	GUY ANCHOR
GAS	GAS LINE
GB	GRADE BREAK
GM	GAS MARKER/METER
GV	GAS VALVE
HCR	HANDICAP RAMP
HDR	HEADER BOARD
HSB	HOSEBIB
IE	INVERT ELEVATION
JP	JOINT POWER POLE
LIP	LIP OF GUTTER
MH	MANHOLE
N	NORTH
OH	OVERHEAD
P.	PAVEMENT
PIV	POST INDICATOR VALVE
POC	POINT OF CONNECTION
RE	RIM ELEVATION
RET	CURB RETURN
RWL	RAIN WATER LEADER
SL	STREET LIGHT
SL	STREET LIGHT
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEAN OUT
SSMH	SANITARY SEWER MANHOLE
SWL	SWALE
TB	TELEPHONE BOX
TC	TOP OF CURB
TS	TOP OF STAIR
UB	UNKNOWN UTILITY BOX
USAY	GAS-OIL-STREAM CHEMICAL
TMH	TELEPHONE MANHOLE
WB	WATER BOX
WM	WATER METER
WI	WROUGHT IRON
WD	WOOD
WV	WATER VALVE

NOTES

1. THIS SURVEY WAS PREPARED FROM INFORMATION FURNISHED IN A CONCEPTUAL TITLE REPORT, PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY DATED AS OF SEPTEMBER 1, 2016, ORDER NUMBER NCS–817144–DC72, FURNISHED TO KIER & WRIGHT CIVIL ENGINEERS & SURVEYORS, INC BY SUNRISE SENIOR LIVING ON OCTOBER 25, 2016. NO LIABILITY IS ASSUMED FOR MATTERS OF RECORD NOT STATED IN SAID REPORT THAT MAY AFFECT THE TITLE LINES, OR EXCEPTIONS, OR EASEMENTS OF THE PROPERTY.
2. ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.
3. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.
4. BENCHMARK: CITY OF REDWOOD CITY, BENCHMARK BM38, CARLOS AVE AT CYPRESS ST. – TOP OF DISC ON CURB, ON CARLOS AVE., NORTHEAST OF INTERSECTION ON SOUTHEAST SIDE OF STREET, AT BEGINNING OF CURVE OF CURB RETURN, 2.5' FROM FIRE HYDRANT.

   ELEVATION = 35.40 FEET (NAVD 88)
5. BASIS OF BEARINGS:
   THE BEARING OF SOUTH 32° 32' 00" WEST TAKEN ON THE NORTHWESTERLY RIGHT OF WAY LINE OF MARKHAM AVENUE AS SHOWN ON THAT CERTAIN MAP ENTITLED "DUMBARTON PARK, SAN MATEO COUNTY, CALIF." FILED FOR RECORD ON JANUARY 20, 1926 IN BOOK 13 OF MAPS AT PAGE 29, OFFICIAL RECORDS OF SAN MATEO COUNTY WAS TAKEN AS THE BASIS FOR ALL BEARINGS SHOWN HEREON.

11-23-2016
DATE

PREPARED BY OR UNDER THE SUPERVISION OF
RICHARD JAMES HICKENBOTTOM, P.L.S. 8654
LICENSE EXPIRES: 12-31-17

LICENSED LAND SURVEYOR
RICHARD JAMES HICKENBOTTOM
No. 8654
12/31/17
STATE OF CALIFORNIA

NO.	REVISION	BY

NO.	REVISION	BY
1	PLANNING SUBMITTAL 06/05/2017	
2	PLANNING SUBMITTAL 09/14/2017	
3	PLANNING RESUBMITTAL 10/31/2017	
4	PLANNING RESUBMITTAL 1/22/2018	
5	PLANNING RESUBMITTAL 3/2/2018	

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Fax (925) 245-8796

TOPOGRAPHIC SURVEY
OF
2915 EL CAMINO REAL
FOR
SUNRISE SENIOR LIVING
REDWOOD CITY, CALIFORNIA

DATE	NOV, 2016
SCALE	1" = 20'
DESIGNER	EYS
JOB NO.	A16704
SHEET	C1
OF	- SHEETS

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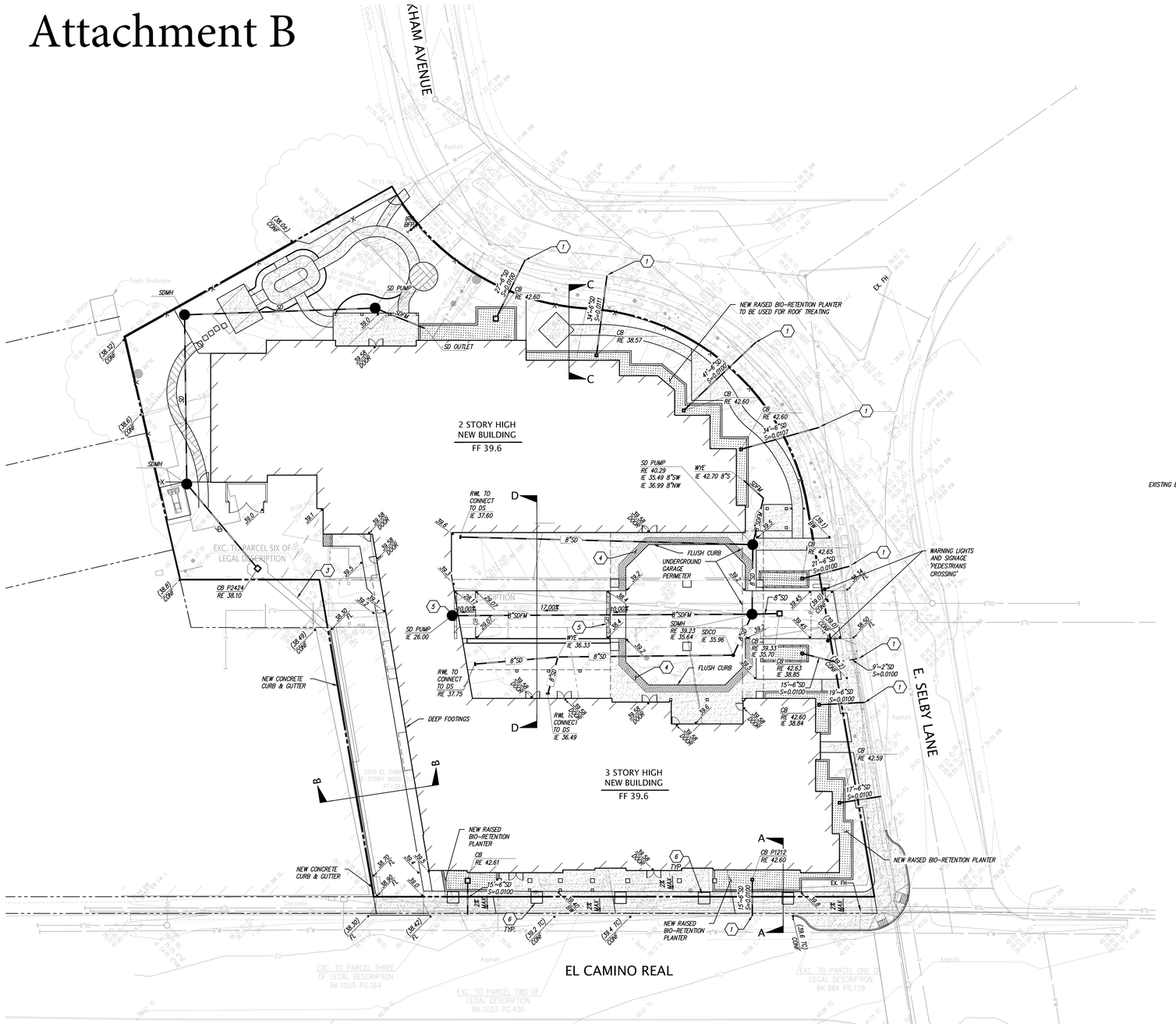
Attachment B



EARTHWORK SUMMARY

CUT: 11,000± CY

FILL: 0 CY

NOTES:

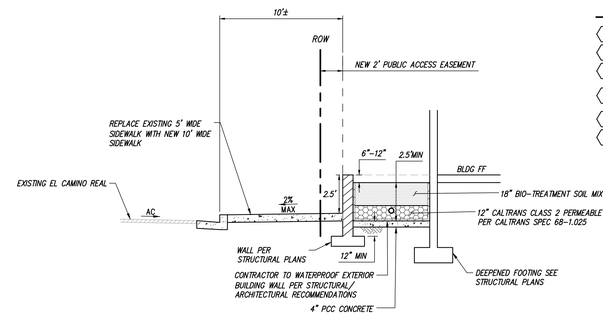
1. THE EARTHWORK QUANTITIES LISTED ON THESE PLANS ARE STATED ONLY FOR CALCULATION OF GRADING AND BUILDING PERMIT FEES. THESE QUANTITIES DO NOT INCLUDE TRENCH OR FOOTING SPOILS, SHRINK OR SWELL FROM COMPACTING EFFORTS OR OTHER VARIABLES. THE ENGINEER MAKES NO REPRESENTATION THIS SITE WILL BALANCE. THE CONTRACTOR SHALL DETERMINE HIS OWN EARTHWORK QUANTITIES AND BASE HIS BID ACCORDINGLY.

LEGEND

- AREA DRAIN
- STORM DRAIN CATCH BASIN
- STORM DRAIN JUNCTION BOX
- STORM DRAIN MANHOLE
- FL FLOW LINE
- FF FINISH FLOOR
- PV PAVEMENT
- RE RIM ELEVATION
- ROW RIGHT-OF-WAY
- 23.8 SPOT ELEVATION
- X"SD STORM DRAIN LINE
- TC TOP OF CURB
- BIO-RETENTION PLANTER
- NEW IMPERVIOUS PAVEMENT
- CONCRETE SIDEWALK; 5.5" PCC OVER 6" CLASS II AB
- PERMEABLE PAVERS

LEGEND

1. DAY LIGHT THROUGH CURB
2. VACATE EXISTING 20' PUBLIC ACCESS ROAD
3. 3' WIDE VALLEY GUTTER
4. 3' WIDE TRUNCATED DOMES TO BE EMBEDDED IN CONCRETE
5. TRENCH DRAIN
6. NEW TREE WELLS



SECTION A

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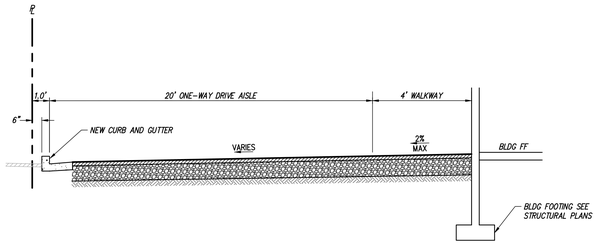

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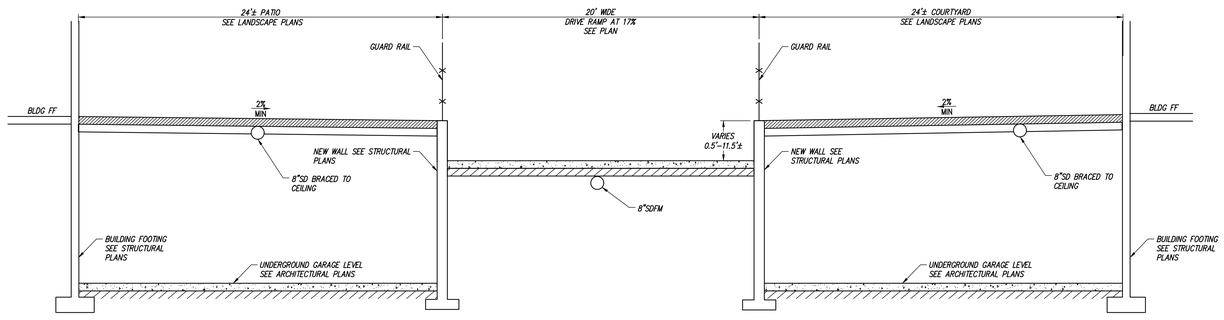
NOT TO SCALE



SECTION D

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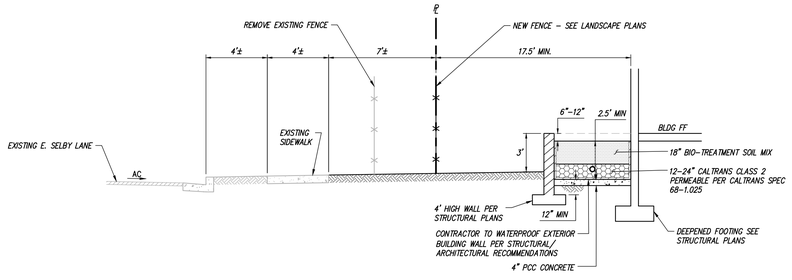

SECTION C

NOT TO SCALE

NO.	BY	REVISION

NO.	BY	REVISION
		PLANNING SUBMITTAL 06/05/2017
		PLANNING SUBMITTAL 09/14/2017
		PLANNING RESUBMITTAL 10/31/2017
		PLANNING RESUBMITTAL 1/22/2018
		PLANNING RESUBMITTAL 3/2/2018

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REGISTERED PROFESSIONAL ENGINEER
CHAD T. SARTHOUTIS
No. 35112
CIVIL
STATE OF CALIFORNIA

CONCEPTUAL GRADING AND DRAINAGE PLAN

OF

2915 EL CAMINO REAL

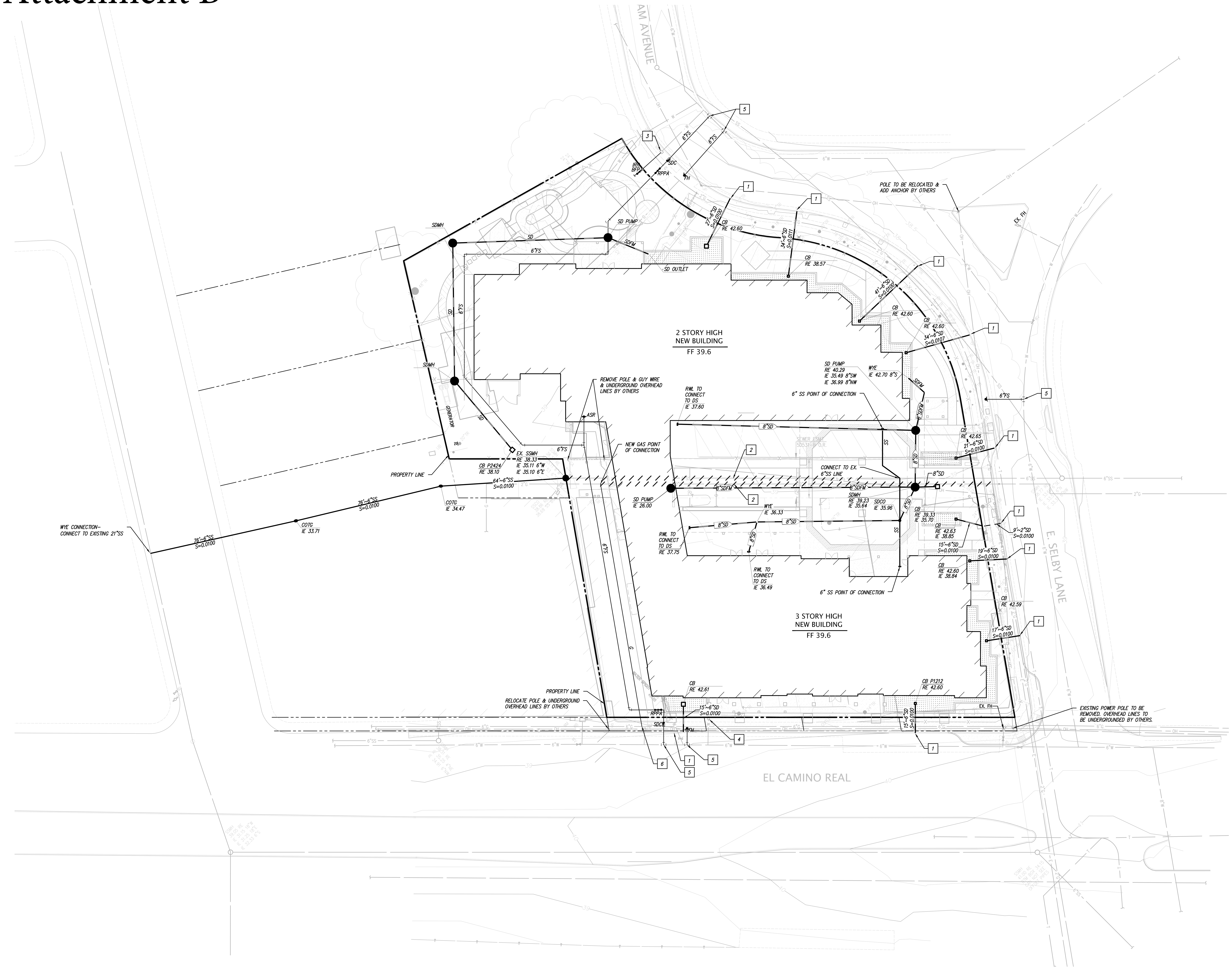
FOR

SUNRISE SENIOR LIVING

REDWOOD CITY, CALIFORNIA

DATE	NOV, 2016
SCALE	1" = 20'
DESIGNER	EYS
JOB NO.	A16704
SHEET	C2
OF	- SHEETS

Attachment B



0 10 20 40 60
Scale 1" = 20'

LEGEND

ASR	AUTOMATIC SPRINKLER RISER
RE	RIM ELEVATION
TC	TOP OF CURB
WS	WATER SERVICE
	EXISTING UTILITY TO BE ABANDONED BY REMOVAL
FS	FIRE SERVICE
SS	SANITARY SEWER
COTG	CLEANOUT TO GRADE
	STORM DRAIN LINE
	AREA DRAIN
	STORM DRAIN CATCH BASIN
	STORM DRAIN JUNCTION BOX
	STORM DRAIN MANHOLE
	REDUCED PRESSURE PRINCIPLE ASSEMBLY
	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT & VALVE
	POST INDICATOR VALVE
SSMH	SANITARY SEWER MANHOLE
	SINGLE DETECTOR CHECK
SDMH	STORM DRAIN MANHOLE
	WATER METER

LEGEND

1	DAYLIGHT THROUGH CURB
2	ABANDON EXISTING SEWER AND GAS LINE IN PUBLIC ACCESS ROAD
3	EXISTING WATER METER TO BE REUSED FOR IRRIGATION USE
4	EXISTING WATER METER TO BE REUSED FOR DOMESTIC USE
5	CONNECT TO EXISTING WATER MAIN
6	CONNECT TO EXISTING GAS LINE

NO.	REVISION	BY
	PLANNING SUBMITTAL 06/05/2017	
	PLANNING SUBMITTAL 09/14/2017	
	PLANNING RESUBMITTAL 10/31/2017	
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No. 55112
CIVIL
STATE OF CALIFORNIA

PRELIMINARY UTILITY PLAN
OF
2915 EL CAMINO REAL
FOR
SUNRISE SENIOR LIVING

REDWOOD CITY, CALIFORNIA

DATE	NOV, 2016
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DESIGNER	EYS
JOB NO.	A16704
SHEET	C3
OF	– SHEETS

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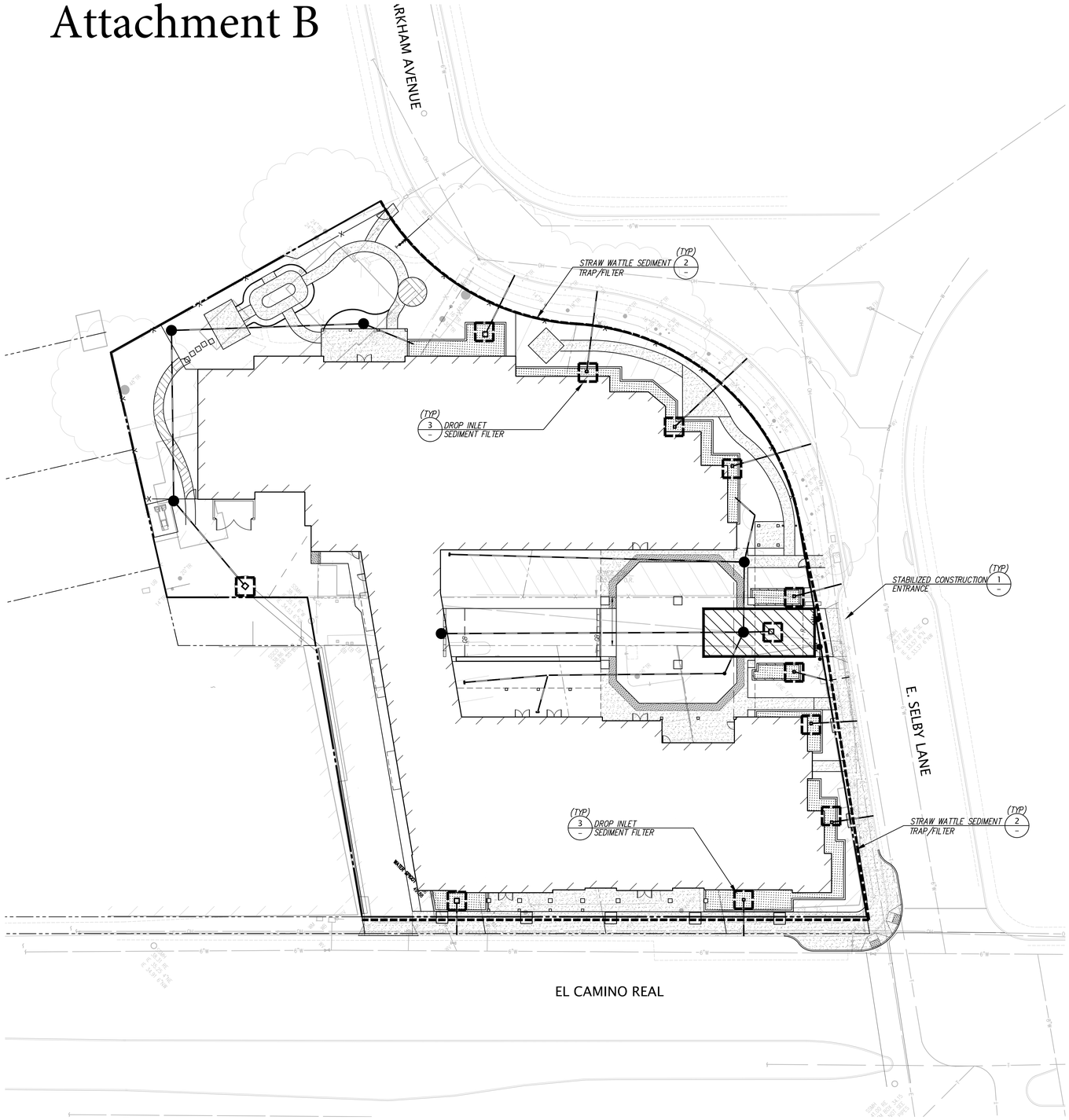
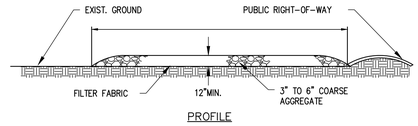
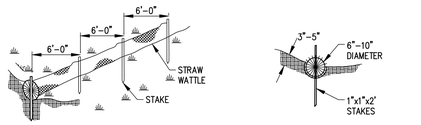




STABILIZED CONSTRUCTION ENTRANCE 1

NOT TO SCALE

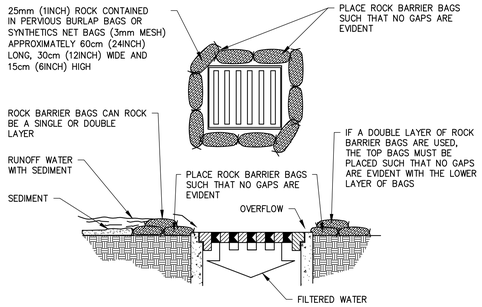


NOTE:

1. STRAW WATTLES ARE TUBES MADE FROM STRAW BOUND W/BIO-DEGRADABLE NETTING. THEY ARE APPROX. 6"-10" DIA AND 20-30 FT LONG.
2. STRAW WATTLES TRAP SEDIMENT AND REDUCE SHEET AND HILL EROSION BY REDUCING SLOPE GRADIENT, INCREASING INFILTRATION RATES AND BY PRODUCING A FAVORABLE ENVIRONMENT FOR PLANT ESTABLISHMENT.
3. STRAW WATTLE INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE WATTLE IN A TRENCH 3"-5" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND WATTLE.

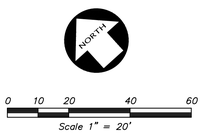
STRAW WATTLE SEDIMENT TRAP/FILTER 2

NOT TO SCALE



DROP INLET SEDIMENT FILTER UTILIZING ROCK BARRIER BAGS 3

NOT TO SCALE



LEGEND

- 1 – STABILIZED CONSTRUCTION ENTRANCE
- 2 – STRAW WATTLE SEDIMENT TRAP/FILTER
- 3 – DROP INLET SEDIMENT FILTER

EROSION & SEDIMENT CONTROL MEASURES

1. *EROSION AND SEDIMENT CONTROL MEASURES SHALL BE EFFECTIVE FOR THE DURATION OF CONSTRUCTION.*
2. *AFTER THE UNDERGROUND STORM DRAIN SYSTEM IS INSTALLED, THE CATCH BASINS WILL BE INSTALLED (AS SOON AS PRACTICAL) AND ROCK BARRIER BAGS WILL BE PLACED AROUND THOSE CATCH BASINS AS SHOWN ON THIS PLAN UNTIL THIS SITE IS PAVED.*
3. *SHOULD THE ON-SITE STORM DRAINS NOT BE INSTALLED COMPLETELY BY OCTOBER 15, THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SEDIMENT BASINS AT THE EXISTING STORM PIPES STUBBED TO THE SITE.*
4. *PERSON RESPONSIBLE FOR IMPLEMENTATION OF EROSION AND SEDIMENTATION PLAN.*

   NAME: TBD
   ADDRESS: TBD
   TELEPHONE: TBD

5. *THE CONTRACTOR SHALL PLACE 3"-6" COARSE AGGREGATE AS A GRAVEL ROADWAY (12" MIN. THICK FOR THE FULL WIDTH AND 50 FEET LONG) AT EACH D/W ENTRANCE TO SITE. ANY MUD THAT IS TRACKED ONTO PUBLIC STREETS SHALL BE REMOVED THAT SAME DAY AND AS REQUIRED BY THE CITY OF REDWOOD CITY.*
6. *ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED AND CHANGES TO THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE CITY ENGINEER.*
7. *ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT-LADEN RUN-OFF TO ANY STORM DRAINAGE SYSTEM.*
8. *THIS PLAN COVERS ONLY THE FIRST WINTER FOLLOWING GRADING. PLANS ARE TO BE RESUBMITTED FOR CITY APPROVAL PRIOR TO THE SEPTEMBER FIRST OF EACH SUBSEQUENT YEAR UNTIL THE SITE IMPROVEMENTS ARE ACCEPTED BY THE CITY.*
9. *ALL EROSION CONTROL FACILITIES MUST BE INSPECTED AND REPAIRED AT THE END OF EACH WORKING DAY.*
10. *SEDIMENT BASINS SHALL BE CLEANED OUT WHENEVER SEDIMENT REACHES THE SEDIMENT CLEANOUT LEVEL INDICATED ON THE PLANS.*
11. *BORROW AREAS AND TEMPORARY STOCKPILES SHALL BE PROTECTED WITH APPROPRIATE EROSION CONTROL MEASURES TO THE SATISFACTION OF THE CITY ENGINEER.*
12. *ALL CUT AND FILL SLOPES ARE TO BE PROTECTED TO PREVENT OVERBANK FLOW.*
13. *INLETS WHICH ARE NOT USED IN CONJUNCTION WITH ROCK BARRIER BAGS OR SEDIMENT BASINS SHOULD BE COVERED, OR OTHERWISE ADJUSTED TO PREVENT INFLOW, UNLESS THE AREA DRAINED IS UNDISTURBED OR STABILIZED.*
14. *THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO ANTICIPATED FIELD CONDITIONS. VARIATIONS MAY BE MADE TO THE PLAN IN THE FIELD SUBJECT TO THE APPROVAL OF THE ENGINEER.*
15. *DETAILS FOR THE CONSTRUCTION OF FACILITIES ARE SHOWN ON THESE PLANS.*
16. *THIS PLAN IS INTENDED TO BE USED FOR EROSION CONTROL ONLY. OTHER INFORMATION SHOWN HEREIN MAY NOT BE THE MOST CURRENT. SEE SHEET C2 FOR OTHER INFORMATION.*
17. *EROSION CONTROL POINT OF CONTACT. (PLEASE PROVIDE AN EROSION CONTROL POINT OF CONTACT INCLUDING NAME, TITLE/QUALIFICATION, EMAIL, AND PHONE NUMBER. THE EC POINT OF CONTACT WILL BE THE COUNTY'S MAIN POINT OF CONTACT IF EROSION CONTROL OR TREE PROTECTION CORRECTIONS ARE REQUIRED).*
18. *PERFORM CLEARING AND EARTH-MOVING ACTIVITIES ONLY DURING DRY WEATHER. MEASURES TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL SHALL BE INSTALLED PRIOR TO EARTH-MOVING ACTIVITIES AND CONSTRUCTION.*
19. *MEASURES TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL ARE REQUIRED YEAR-ROUND. STABILIZE ALL DENUDED AREAS AND MAINTAIN EROSION CONTROL MEASURES CONTINUOUSLY BETWEEN OCTOBER 1 AND APRIL 30.*
20. *STORE, HANDLE, AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES PROPERTY, SO AS TO PREVENT THEIR CONTACT WITH STORMWATER.*
21. *CONTROL AND PREVENT THE DISCHARGE OF ALL POTENTIAL POLLUTANTS, INCLUDING PAVEMENT CUTTING WASTES, PAINTS, CONCRETE, PETROLEUM PRODUCTS, CHEMICALS, WASH WATER OR SEDIMENTS, AND NON-STORMWATER DISCHARGES TO STORM DRAINS AND WATERCOURSES.*
22. *USE SEDIMENT CONTROLS OR FILTRATION TO REMOVE SEDIMENT WHEN DEWATERING SITE AND OBTAIN REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) PERMIT(S) AS NECESSARY.*
23. *AVOID CLEANING, FUELING, OR MAINTAINING VEHICLES ON-SITE, EXCEPT IN A DESIGNATED AREA WHERE WASH WATER IS CONTAINED AND TREATED.*
24. *LIMIT AND TIME APPLICATIONS OF PESTICIDES AND FERTILIZERS TO PREVENT POLLUTED RUNOFF.*
25. *LIMIT CONSTRUCTION ACCESS ROUTES TO STABILIZED, DESIGNATED ACCESS POINTS.*
26. *AVOID TRACKING DIRT OR OTHER MATERIALS OFF-SITE; CLEAN OFF-SITE PAVED AREAS AND SIDEWALKS USING DRY SWEEPING METHODS.*
27. *TRAIN AND PROVIDE INSTRUCTION TO ALL EMPLOYEES AND SUBCONTRACTORS REGARDING THE WATERSHED PROTECTION MAINTENANCE STANDARDS AND CONSTRUCTION BEST MANAGEMENT PRACTICES.*
28. *PLACEMENT OF EROSION MATERIALS AT THESE LOCATIONS ARE REQUIRED ON WEEKENDS AND DURING RAIN EVENTS: (LIST LOCATIONS)*
29. *THE AREAS DELINEATED ON THE PLANS FOR PARKING, GRUBBING, STORAGE, ECT., SHALL NOT BE ENLARGED OR "RUN OVER."*
30. *CONSTRUCTION SITES ARE REQUIRED TO HAVE EROSION CONTROL MATERIALS ON-SITE DURING THE "OFF-SEASON."*
31. *DUST CONTROL IS REQUIRED YEAR-ROUND.*
32. *EROSION CONTROL MATERIALS SHALL BE STORED ON-SITE.*
33. *USE OF PLASTIC SHEETING BETWEEN OCTOBER 1 AND APRIL 30 IS NOT ACCEPTABLE, UNLESS FOR USE ON STOCKPILES WHERE THE STOCKPILE IS ALSO PROTECTED WITH FIBER ROLLS CONTAINING THE BASE OF THE STOCKPILE.*
34. *TREE PROTECTION SHALL BE IN PLACE BEFORE ANY DEMOLITION, GRADING, EXCAVATING OR GRUBBING IS STARTED.*
35. *LENGTH OF CONSTRUCTION IS APPROXIMATELY 18 MONTHS.*

NO.	BY	REVISION

NO.	BY	REVISION	DATE
1		PLANNING SUBMITTAL	06/05/2017
2		PLANNING SUBMITTAL	09/14/2017
3		PLANNING RESUBMITTAL	10/31/2017
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5		PLANNING RESUBMITTAL	3/2/2018

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REGISTERED PROFESSIONAL ENGINEER
RICHARD T. SARTOORTE
No. 35112
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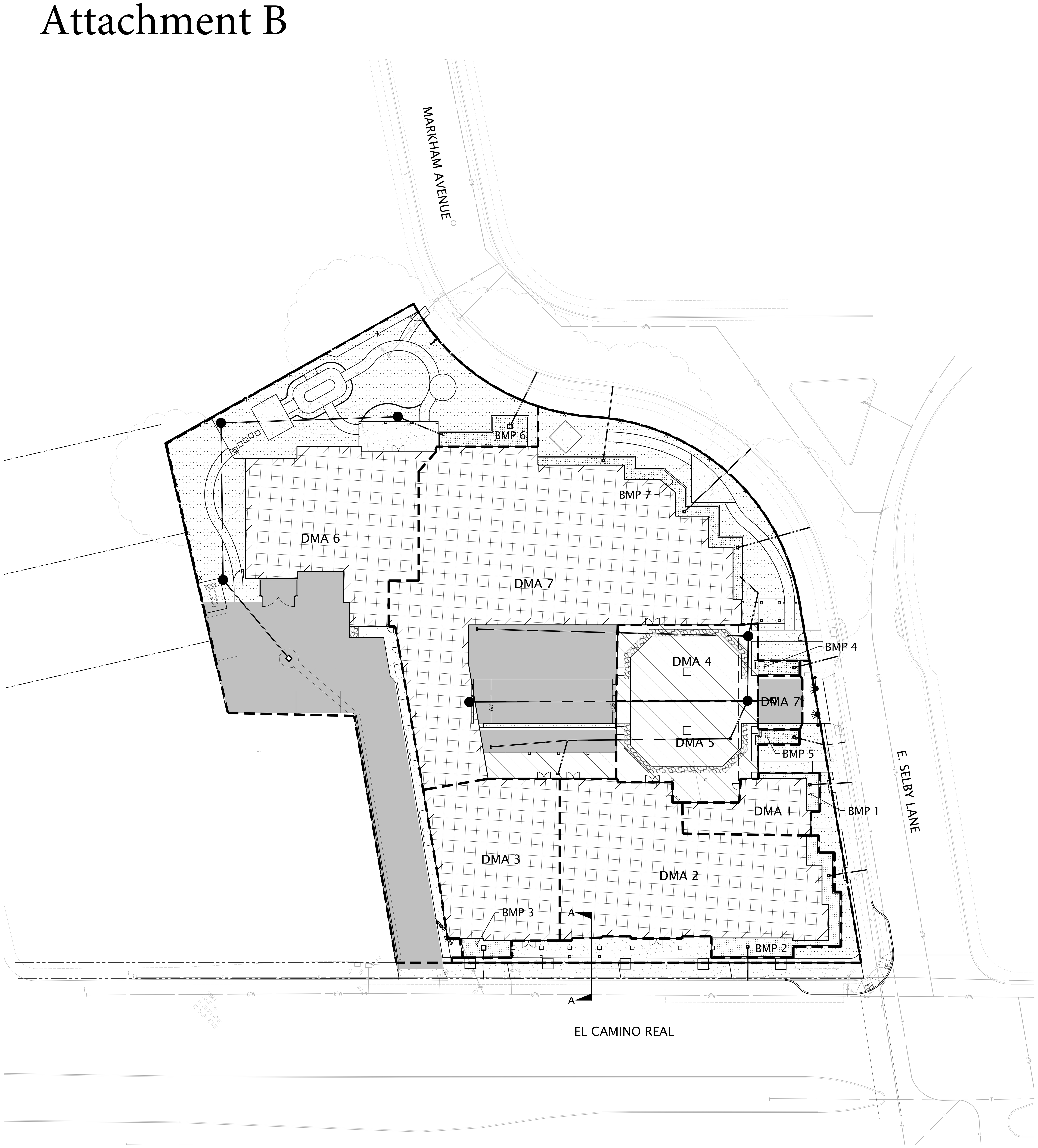
STATE OF CALIFORNIA

PRELIMINARY EROSION CONTROL PLAN
OF
2915 EL CAMINO REAL
FOR
SUNRISE SENIOR LIVING
REDWOOD CITY, CALIFORNIA

DATE	NOV. 2016
SCALE	1" = 20'
DESIGNER	EYS
JOB NO.	A16704
SHEET	C4
OF	- SHEETS

Attachment B



LEGEND

- TRIBUTARY AREA LIMITS
- PERVIOUS AREA
- IMPERVIOUS ROOFTOP DRAINING TO FLOW THROUGH PLANTER
- IMPERVIOUS PAVEMENT DRAINING TO FLOW THROUGH PLANTER
- BIO-RETENTION TREATMENT AREA
- CONCRETE AREA
- DECK AREA

BIO-RETENTION SIZING CALCULATIONS

Calculations are based off the San Mateo County C.3 Techincal Guidance, Chapter 5, Section 5.1, Version 4.1 "Combination Flow and Volume Sizing Approach"

Refer to sheet C5.1 for calculation spreadsheets of each DMA.

Drainage Area	Area (SF)	Area (AC)	Pervious (SF)	Pervious (AC)	Impervious (SF)	Impervious (AC)	Total Treatment Area* (SF)	ponding depth (in.)	BMP Required (SF)	BMP Provided (SF)	BMP Dimensions	Sizing Ratio	BMP Provided
1	1,300	0.030	0	0.000	1,174	0.027	1,174	6	37	126	(2'x21')+(6'x14')	10.73%	Flow-through planter
2	7,325	0.168	0	0.000	6,710	0.154	6,710	6	210	615	see plan	9.17%	Flow-through planter
3	4,196	0.096	0	0.000	4,032	0.093	4,032	12	103	164	(10'x8')+(12'x7')	4.07%	Flow-through planter
4	2,320	0.053	0	0.000	2,212	0.051	2,212	12	57	108	18'x6'	4.88%	Flow-through planter
5	2,736	0.063	0	0.000	2,634	0.060	2,634	12	68	102	17'x6'	3.87%	Flow-through planter
6	20,033	0.460	5,997	0.138	13,671	0.314	14,271	12	364	365	see plan	2.56%	Flow-through planter
7	21,052	0.483	2,302	0.053	18,107	0.416	18,337	6	572	643	see plan	3.51%	Flow-through planter
Total:	58,962	1.354											
Self-retaining	2,763	0.063											
TOTAL SITE	**61,725**	**1.417**											

*: Total Treatment Area is equal to Impervious Area + 0.10 * Landscape Area.

SAN MATEO COUNTYWIDE WATER POLLUTION PREVENTION PROGRAM

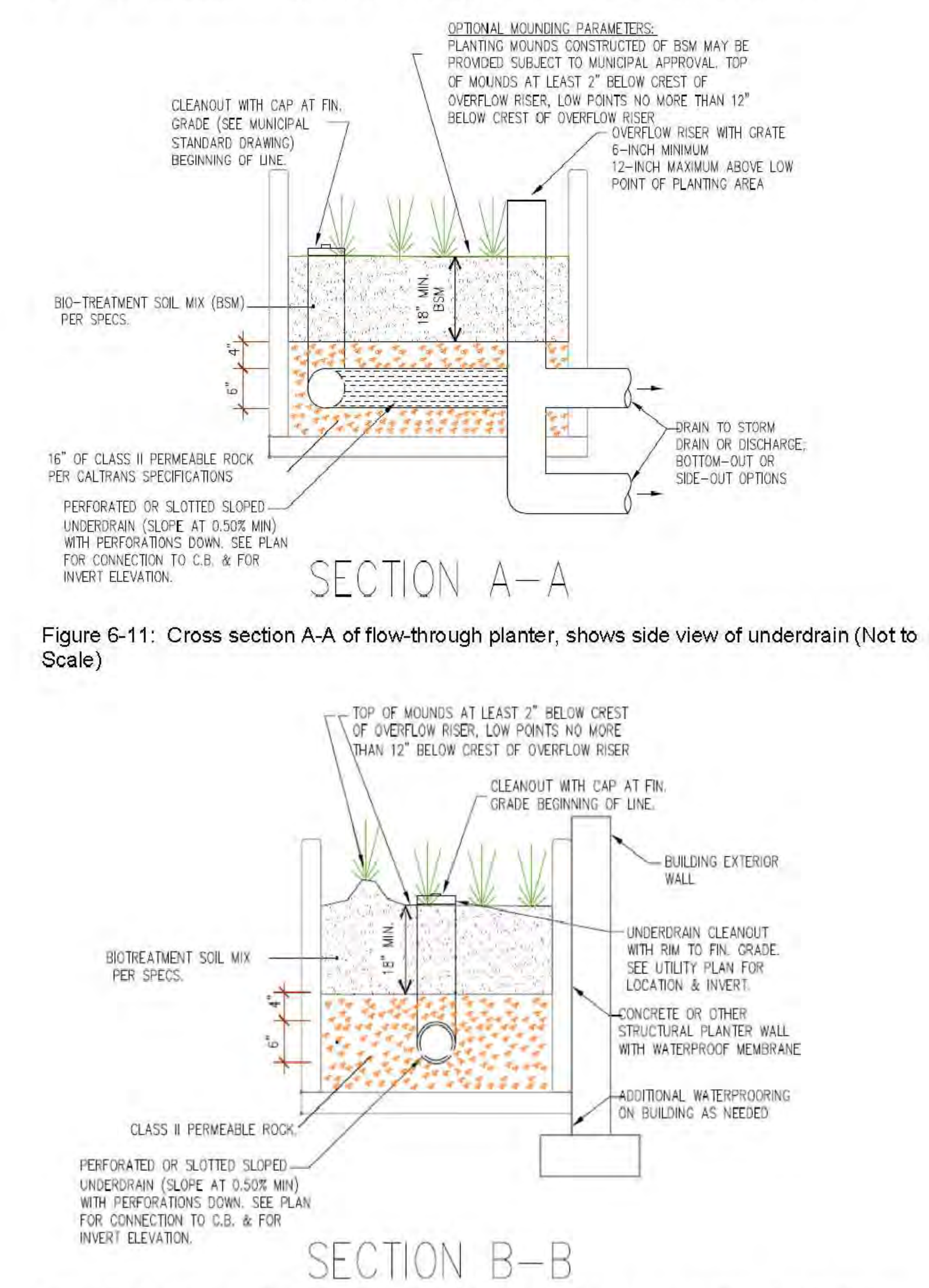


Figure 6-11: Cross section A-A of flow-through planter, shows side view of underdrain (Not to Scale)

Figure 6-12: Cross section B-B of flow-through planter, shows cross section of underdrain

6-14 CHAPTER 6

REVISION	BY	NO.
PLANNING SUBMITTAL 06/05/2017		△
PLANNING SUBMITTAL 09/14/2017		△
PLANNING RESUBMITTAL 10/31/2017		△
PLANNING RESUBMITTAL 1/22/2018		△
PLANNING RESUBMITTAL 3/2/2018		△

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REGISTERED PROFESSIONAL ENGINEER
EMAD Y. SARIEDDINE
No. 65112
CIVIL
STATE OF CALIFORNIA

PRELIMINARY STORM WATER QUALITY CONTROL
OF
2915 EL CAMINO REAL
FOR
SUNRISE SENIOR LIVING
REDWOOD CITY, CALIFORNIA

DATE	NOV, 2016
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DESIGNER	EYS
JOB NO.	A16704
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OF -	SHEETS

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Attachment B

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1 Project Name: **Sunrise Senior Living**
1-2 City application ID:
1-3 Site Address or APN:
1-4 Tract or Parcel Map No:
1-5 Rainfall Region **4**
1-6 Region Mean Annual Precipitation (MAP) **14.60**
1-7 Site Mean Annual Precipitation (MAP) **19**

The calculations presented here are based on the **combination flow and volume sizing method** provided in the Countywide Program's C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Section 5.1 of the Guidance, applicable portions of which are included in this file, in the sheet named "Guidance from Chapter 5".

Click here for map

1-8 ***MAP adjustment factor is automatically calculated as:*** **1.30**
(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5-3, below.) Refer to the map in Appendix C of the C.3 Technical Guidance to identify the Rainfall Region for the site.

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: **DMA 1**
For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft.)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	1,174	1.0	1,174
2-3	Pervious surface	126	0.1	13
	Total DMA Area (square feet) =	1,300		

2-4 ***Total Effective Impervious Area (EIA)*** **1,187** Square feet

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-3. Unit Basin Storage Volumes in Inches for 80 Percent Capture Using 48-Hour Drawdowns, based on runoff coefficient

Region	Station, and Mean Annual Precipitation (Inches)	Runoff Coefficient of 1.0
1	Boulder Creek, 55.9"	2.04"
2	La Honda, 24.4"	0.86"
3	Half Moon Bay, 25.92"	0.82"
4	Palo Alto, 14.6"	0.64"
5	San Francisco, 21.0"	0.73"
6	San Francisco airport, 20.1"	0.85"
7	San Francisco Oceanside, 19.3"	0.72"

3-1 ***Unit basin storage volume from Table 5-3:*** **0.64**
(The coefficient for this method is always 1.0, due to the conversion of any landscaping to effective impervious area.)
3-2 ***Adjusted unit basin storage volume:*** **0.83** Inches
(The unit basin storage volume [Item 3-1] is adjusted by applying the MAP adjustment factor [Item 1-8].)
3-3 ***Required Capture Volume (in cubic feet):*** **82** Cubic feet
(The adjusted unit basin sizing volume [Item 3-2] is multiplied by the DMA EIA [Item 2-4] and converted to cubic feet)

4.0 Calculate the Duration of the Rain Event

4-1 Rainfall intensity **0.2** Inches per hour
4-2 Divide Item 3-2 by Item 4-1 **4.16** Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1 4% of DMA EIA (Item 2-4) **47** Square feet
5-2 Area 25% smaller than Item 5-1 (i.e., 3% of DMA EIA) **36** Square feet
5-3 Volume of treated runoff for area in Item 5-2 **62** Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1 Subtract Item 5-3 from Item 3-3 **21** Cubic feet (Amount of runoff to be stored in ponding area)
6-2 Divide Item 6-1 by Item 5-2 **0.58** Feet (Depth of stored runoff in surface ponding area)
6-3 Convert Item 6-2 from feet to inches **6.94** Inches (Depth of stored runoff in surface ponding area)
6-4 If ponding depth in Item 6-3 meets your target depth (recommend 6"), skip to Item 8-1. If not, continue to Step 7-1.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

7.0 Optimize Size of Treatment Measure

7-1 Enter an area larger than Item 5-2 **37** Sq.ft. (enter larger area if you need less ponding depth.)
7-2 Volume of treated runoff for area in Item 7-1 **64** Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3 Subtract Item 7-2 from Item 3-3 **18** Cubic feet (Amount of runoff to be stored in ponding area)
7-4 Divide Item 7-3 by Item 7-1 **0.49** Feet (Depth of stored runoff in surface ponding area)
7-5 Convert Item 7-4 from ft. to inches **5.89** Inches (Depth of stored runoff in surface ponding area)
7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

8.0 Surface Area of Treatment Measure for DMA

8-1 Final surface area of treatment **37** Square feet (Either Item 5-2 or final amount in Item 7-1)

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1 Project Name: **Sunrise Senior Living**
1-2 City application ID:
1-3 Site Address or APN:
1-4 Tract or Parcel Map No:
1-5 Rainfall Region **4**
1-6 Region Mean Annual Precipitation (MAP) **14.60**
1-7 Site Mean Annual Precipitation (MAP) **19**

The calculations presented here are based on the **combination flow and volume sizing method** provided in the Countywide Program's C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Section 5.1 of the Guidance, applicable portions of which are included in this file, in the sheet named "Guidance from Chapter 5".

Click here for map

1-8 ***MAP adjustment factor is automatically calculated as:*** **1.30**
(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5-3, below.) Refer to the map in Appendix C of the C.3 Technical Guidance to identify the Rainfall Region for the site.

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: **DMA 2**
For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft.)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	6,710	1.0	6,710
2-3	Pervious surface	615	0.1	62
	Total DMA Area (square feet) =	7,325		

2-4 ***Total Effective Impervious Area (EIA)*** **6,772** Square feet

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-3. Unit Basin Storage Volumes in Inches for 80 Percent Capture Using 48-Hour Drawdowns, based on runoff coefficient

Region	Station, and Mean Annual Precipitation (Inches)	Runoff Coefficient of 1.0
1	Boulder Creek, 55.9"	2.04"
2	La Honda, 24.4"	0.86"
3	Half Moon Bay, 25.92"	0.82"
4	Palo Alto, 14.6"	0.64"
5	San Francisco, 21.0"	0.73"
6	San Francisco airport, 20.1"	0.85"
7	San Francisco Oceanside, 19.3"	0.72"

3-1 ***Unit basin storage volume from Table 5-3:*** **0.64**
(The coefficient for this method is always 1.0, due to the conversion of any landscaping to effective impervious area.)
3-2 ***Adjusted unit basin storage volume:*** **0.83** Inches
(The unit basin storage volume [Item 3-1] is adjusted by applying the MAP adjustment factor [Item 1-8].)
3-3 ***Required Capture Volume (in cubic feet):*** **470** Cubic feet
(The adjusted unit basin sizing volume [Item 3-2] is multiplied by the DMA EIA [Item 2-4] and converted to cubic feet)

4.0 Calculate the Duration of the Rain Event

4-1 Rainfall intensity **0.2** Inches per hour
4-2 Divide Item 3-2 by Item 4-1 **4.16** Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1 4% of DMA EIA (Item 2-4) **271** Square feet
5-2 Area 25% smaller than Item 5-1 (i.e., 3% of DMA EIA) **203** Square feet
5-3 Volume of treated runoff for area in Item 5-2 **352** Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1 Subtract Item 5-3 from Item 3-3 **117** Cubic feet (Amount of runoff to be stored in ponding area)
6-2 Divide Item 6-1 by Item 5-2 **0.58** Feet (Depth of stored runoff in surface ponding area)
6-3 Convert Item 6-2 from feet to inches **6.94** Inches (Depth of stored runoff in surface ponding area)
6-4 If ponding depth in Item 6-3 meets your target depth (recommend 6"), skip to Item 8-1. If not, continue to Step 7-1.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

7.0 Optimize Size of Treatment Measure

7-1 Enter an area larger than Item 5-2 **210** Sq.ft. (enter larger area if you need less ponding depth.)
7-2 Volume of treated runoff for area in Item 7-1 **364** Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3 Subtract Item 7-2 from Item 3-3 **106** Cubic feet (Amount of runoff to be stored in ponding area)
7-4 Divide Item 7-3 by Item 7-1 **0.50** Feet (Depth of stored runoff in surface ponding area)
7-5 Convert Item 7-4 from ft. to inches **6.03** Inches (Depth of stored runoff in surface ponding area)
7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

8.0 Surface Area of Treatment Measure for DMA

8-1 Final surface area of treatment **210** Square feet (Either Item 5-2 or final amount in Item 7-1)

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1 Project Name: **Sunrise Senior Living**
1-2 City application ID:
1-3 Site Address or APN:
1-4 Tract or Parcel Map No:
1-5 Rainfall Region **4**
1-6 Region Mean Annual Precipitation (MAP) **14.60**
1-7 Site Mean Annual Precipitation (MAP) **19**

The calculations presented here are based on the **combination flow and volume sizing method** provided in the Countywide Program's C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Section 5.1 of the Guidance, applicable portions of which are included in this file, in the sheet named "Guidance from Chapter 5".

Click here for map

1-8 ***MAP adjustment factor is automatically calculated as:*** **1.30**
(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5-3, below.) Refer to the map in Appendix C of the C.3 Technical Guidance to identify the Rainfall Region for the site.

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: **DMA 3**
For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft.)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	4,032	1.0	4,032
2-3	Pervious surface	164	0.1	16
	Total DMA Area (square feet) =	4,196		

2-4 ***Total Effective Impervious Area (EIA)*** **4,048** Square feet

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-3. Unit Basin Storage Volumes in Inches for 80 Percent Capture Using 48-Hour Drawdowns, based on runoff coefficient

Region	Station, and Mean Annual Precipitation (Inches)	Runoff Coefficient of 1.0
1	Boulder Creek, 55.9"	2.04"
2	La Honda, 24.4"	0.86"
3	Half Moon Bay, 25.92"	0.82"
4	Palo Alto, 14.6"	0.64"
5	San Francisco, 21.0"	0.73"
6	San Francisco airport, 20.1"	0.85"
7	San Francisco Oceanside, 19.3"	0.72"

3-1 ***Unit basin storage volume from Table 5-3:*** **0.64**
(The coefficient for this method is always 1.0, due to the conversion of any landscaping to effective impervious area.)
3-2 ***Adjusted unit basin storage volume:*** **0.83** Inches
(The unit basin storage volume [Item 3-1] is adjusted by applying the MAP adjustment factor [Item 1-8].)
3-3 ***Required Capture Volume (in cubic feet):*** **281** Cubic feet
(The adjusted unit basin sizing volume [Item 3-2] is multiplied by the DMA EIA [Item 2-4] and converted to cubic feet)

4.0 Calculate the Duration of the Rain Event

4-1 Rainfall intensity **0.2** Inches per hour
4-2 Divide Item 3-2 by Item 4-1 **4.16** Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1 4% of DMA EIA (Item 2-4) **162** Square feet
5-2 Area 25% smaller than Item 5-1 (i.e., 3% of DMA EIA) **121** Square feet
5-3 Volume of treated runoff for area in Item 5-2 **211** Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1 Subtract Item 5-3 from Item 3-3 **70** Cubic feet (Amount of runoff to be stored in ponding area)
6-2 Divide Item 6-1 by Item 5-2 **0.58** Feet (Depth of stored runoff in surface ponding area)
6-3 Convert Item 6-2 from feet to inches **6.94** Inches (Depth of stored runoff in surface ponding area)
6-4 If ponding depth in Item 6-3 meets your target depth (recommend 6"), skip to Item 8-1. If not, continue to Step 7-1.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

7.0 Optimize Size of Treatment Measure

7-1 Enter an area larger than Item 5-2 **103** Sq.ft. (enter larger area if you need less ponding depth.)
7-2 Volume of treated runoff for area in Item 7-1 **179** Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3 Subtract Item 7-2 from Item 3-3 **102** Cubic feet (Amount of runoff to be stored in ponding area)
7-4 Divide Item 7-3 by Item 7-1 **0.99** Feet (Depth of stored runoff in surface ponding area)
7-5 Convert Item 7-4 from ft. to inches **11.91** Inches (Depth of stored runoff in surface ponding area)
7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

8.0 Surface Area of Treatment Measure for DMA

8-1 Final surface area of treatment **103** Square feet (Either Item 5-2 or final amount in Item 7-1)

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1 Project Name: **Sunrise Senior Living**
1-2 City application ID:
1-3 Site Address or APN:
1-4 Tract or Parcel Map No:
1-5 Rainfall Region **4**
1-6 Region Mean Annual Precipitation (MAP) **14.60**
1-7 Site Mean Annual Precipitation (MAP) **19**

The calculations presented here are based on the **combination flow and volume sizing method** provided in the Countywide Program's C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Section 5.1 of the Guidance, applicable portions of which are included in this file, in the sheet named "Guidance from Chapter 5".

Click here for map

1-8 ***MAP adjustment factor is automatically calculated as:*** **1.30**
(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5-3, below.) Refer to the map in Appendix C of the C.3 Technical Guidance to identify the Rainfall Region for the site.

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: **DMA 4**
For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft.)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	2,212	1.0	2,212
2-3	Pervious surface	108	0.1	11
	Total DMA Area (square feet) =	2,320		

2-4 ***Total Effective Impervious Area (EIA)*** **2,223** Square feet

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-3. Unit Basin Storage Volumes in Inches for 80 Percent Capture Using 48-Hour Drawdowns, based on runoff coefficient

Region	Station, and Mean Annual Precipitation (Inches)	Runoff Coefficient of 1.0
1	Boulder Creek, 55.9"	2.04"
2	La Honda, 24.4"	0.86"
3	Half Moon Bay, 25.92"	0.82"
4	Palo Alto, 14.6"	0.64"
5	San Francisco, 21.0"	0.73"
6	San Francisco airport, 20.1"	0.85"
7	San Francisco Oceanside, 19.3"	0.72"

3-1 ***Unit basin storage volume from Table 5-3:*** **0.64**
(The coefficient for this method is always 1.0, due to the conversion of any landscaping to effective impervious area.)
3-2 ***Adjusted unit basin storage volume:*** **0.83** Inches
(The unit basin storage volume [Item 3-1] is adjusted by applying the MAP adjustment factor [Item 1-8].)
3-3 ***Required Capture Volume (in cubic feet):*** **154** Cubic feet
(The adjusted unit basin sizing volume [Item 3-2] is multiplied by the DMA EIA [Item 2-4] and converted to cubic feet)

4.0 Calculate the Duration of the Rain Event

4-1 Rainfall intensity **0.2** Inches per hour
4-2 Divide Item 3-2 by Item 4-1 **4.16** Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1 4% of DMA EIA (Item 2-4) **89** Square feet
5-2 Area 25% smaller than Item 5-1 (i.e., 3% of DMA EIA) **67** Square feet
5-3 Volume of treated runoff for area in Item 5-2 **116** Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1 Subtract Item 5-3 from Item 3-3 **39** Cubic feet (Amount of runoff to be stored in ponding area)
6-2 Divide Item 6-1 by Item 5-2 **0.58** Feet (Depth of stored runoff in surface ponding area)
6-3 Convert Item 6-2 from feet to inches **6.94** Inches (Depth of stored runoff in surface ponding area)
6-4 If ponding depth in Item 6-3 meets your target depth (recommend 6"), skip to Item 8-1. If not, continue to Step 7-1.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

7.0 Optimize Size of Treatment Measure

7-1 Enter an area larger than Item 5-2 **57** Sq.ft. (enter larger area if you need less ponding depth.)
7-2 Volume of treated runoff for area in Item 7-1 **99** Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3 Subtract Item 7-2 from Item 3-3 **55** Cubic feet (Amount of runoff to be stored in ponding area)
7-4 Divide Item 7-3 by Item 7-1 **0.97** Feet (Depth of stored runoff in surface ponding area)
7-5 Convert Item 7-4 from ft. to inches **11.66** Inches (Depth of stored runoff in surface ponding area)
7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

8.0 Surface Area of Treatment Measure for DMA

8-1 Final surface area of treatment **57** Square feet (Either Item 5-2 or final amount in Item 7-1)

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1 Project Name: **Sunrise Senior Living**
1-2 City application ID:
1-3 Site Address or APN:
1-4 Tract or Parcel Map No:
1-5 Rainfall Region **4**
1-6 Region Mean Annual Precipitation (MAP) **14.60**
1-7 Site Mean Annual Precipitation (MAP) **19**

The calculations presented here are based on the **combination flow and volume sizing method** provided in the Countywide Program's C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Section 5.1 of the Guidance, applicable portions of which are included in this file, in the sheet named "Guidance from Chapter 5".

Click here for map

1-8 ***MAP adjustment factor is automatically calculated as:*** **1.30**
(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5-3, below.) Refer to the map in Appendix C of the C.3 Technical Guidance to identify the Rainfall Region for the site.

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: **DMA 5**
For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft.)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	2,634	1.0	2,634
2-3	Pervious surface	102	0.1	10
	Total DMA Area (square feet) =	2,736		

2-4 ***Total Effective Impervious Area (EIA)*** **2,644** Square feet

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-3. Unit Basin Storage Volumes in Inches for 80 Percent Capture Using 48-Hour Drawdowns, based on runoff coefficient

Region	Station, and Mean Annual Precipitation (Inches)	Runoff Coefficient of 1.0
1	Boulder Creek, 55.9"	2.04"
2	La Honda, 24.4"	0.86"
3	Half Moon Bay, 25.92"	0.82"
4	Palo Alto, 14.6"	0.64"
5	San Francisco, 21.0"	0.73"
6	San Francisco airport, 20.1"	0.85"
7	San Francisco Oceanside, 19.3"	0.72"

3-1 ***Unit basin storage volume from Table 5-3:*** **0.64**
(The coefficient for this method is always 1.0, due to the conversion of any landscaping to effective impervious area.)
3-2 ***Adjusted unit basin storage volume:*** **0.83** Inches
(The unit basin storage volume [Item 3-1] is adjusted by applying the MAP adjustment factor [Item 1-8].)
3-3 ***Required Capture Volume (in cubic feet):*** **184** Cubic feet
(The adjusted unit basin sizing volume [Item 3-2] is multiplied by the DMA EIA [Item 2-4] and converted to cubic feet)

4.0 Calculate the Duration of the Rain Event

4-1 Rainfall intensity **0.2** Inches per hour
4-2 Divide Item 3-2 by Item 4-1 **4.16** Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1 4% of DMA EIA (Item 2-4) **106** Square feet
5-2 Area 25% smaller than Item 5-1 (i.e., 3% of DMA EIA) **79** Square feet
5-3 Volume of treated runoff for area in Item 5-2 **138** Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1 Subtract Item 5-3 from Item 3-3 **46** Cubic feet (Amount of runoff to be stored in ponding area)
6-2 Divide Item 6-1 by Item 5-2 **0.58** Feet (Depth of stored runoff in surface ponding area)
6-3 Convert Item 6-2 from feet to inches **6.94** Inches (Depth of stored runoff in surface ponding area)
6-4 If ponding depth in Item 6-3 meets your target depth (recommend 6"), skip to Item 8-1. If not, continue to Step 7-1.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

7.0 Optimize Size of Treatment Measure

7-1 Enter an area larger than Item 5-2 **68** Sq.ft. (enter larger area if you need less ponding depth.)
7-2 Volume of treated runoff for area in Item 7-1 **118** Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3 Subtract Item 7-2 from Item 3-3 **66** Cubic feet (Amount of runoff to be stored in ponding area)
7-4 Divide Item 7-3 by Item 7-1 **0.96** Feet (Depth of stored runoff in surface ponding area)
7-5 Convert Item 7-4 from ft. to inches **11.56** Inches (Depth of stored runoff in surface ponding area)
7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

8.0 Surface Area of Treatment Measure for DMA

8-1 Final surface area of treatment **68** Square feet (Either Item 5-2 or final amount in Item 7-1)

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1 Project Name: **Sunrise Senior Living**
1-2 City application ID:
1-3 Site Address or APN:
1-4 Tract or Parcel Map No:
1-5 Rainfall Region **4**
1-6 Region Mean Annual Precipitation (MAP) **14.60**
1-7 Site Mean Annual Precipitation (MAP) **19**

The calculations presented here are based on the **combination flow and volume sizing method** provided in the Countywide Program's C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Section 5.1 of the Guidance, applicable portions of which are included in this file, in the sheet named "Guidance from Chapter 5".

Click here for map

1-8 ***MAP adjustment factor is automatically calculated as:*** **1.30**
(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5-3, below.) Refer to the map in Appendix C of the C.3 Technical Guidance to identify the Rainfall Region for the site.

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: **DMA 6**
For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft.)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	13,671	1.0	13,671
2-3	Pervious surface	6,362	0.1	636
	Total DMA Area (square feet) =	20,033		

2-4 ***Total Effective Impervious Area (EIA)*** **14,307** Square feet

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-3. Unit Basin Storage Volumes in Inches for 80 Percent Capture Using 48-Hour Drawdowns, based on runoff coefficient

Region	Station, and Mean Annual Precipitation (Inches)	Runoff Coefficient of 1.0
1	Boulder Creek, 55.9"	2.04"
2	La Honda, 24.4"	0.86"
3	Half Moon Bay, 25.92"	0.82"
4	Palo Alto, 14.6"	0.64"
5	San Francisco, 21.0"	0.73"
6	San Francisco airport, 20.1"	0.85"
7	San Francisco Oceanside, 19.3"	0.72"

3-1 ***Unit basin storage volume from Table 5-3:*** **0.64**
(The coefficient for this method is always 1.0, due to the conversion of any landscaping to effective impervious area.)
3-2 ***Adjusted unit basin storage volume:*** **0.83** Inches
(The unit basin storage volume [Item 3-1] is adjusted by applying the MAP adjustment factor [Item 1-8].)
3-3 ***Required Capture Volume (in cubic feet):*** **993** Cubic feet
(The adjusted unit basin sizing volume [Item 3-2] is multiplied by the DMA EIA [Item 2-4] and converted to cubic feet)

4.0 Calculate the Duration of the Rain Event

4-1 Rainfall intensity **0.2** Inches per hour
4-2 Divide Item 3-2 by Item 4-1 **4.16** Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1 4% of DMA EIA (Item 2-4) **572** Square feet
5-2 Area 25% smaller than Item 5-1 (i.e., 3% of DMA EIA) **429** Square feet
5-3 Volume of treated runoff for area in Item 5-2 **745** Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1 Subtract Item 5-3 from Item 3-3 **248** Cubic feet (Amount of runoff to be stored in ponding area)
6-2 Divide Item 6-1 by Item 5-2 **0.58** Feet (Depth of stored runoff in surface ponding area)
6-3 Convert Item 6-2 from feet to inches **6.94** Inches (Depth of stored runoff in surface ponding area)
6-4 If ponding depth in Item 6-3 meets your target depth (recommend 6"), skip to Item 8-1. If not, continue to Step 7-1.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

7.0 Optimize Size of Treatment Measure

7-1 Enter an area larger than Item 5-2 **364** Sq.ft. (enter larger area if you need less ponding depth.)
7-2 Volume of treated runoff for area in Item 7-1 **632** Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3 Subtract Item 7-2 from Item 3-3 **361** Cubic feet (Amount of runoff to be stored in ponding area)
7-4 Divide Item 7-3 by Item 7-1 **0.99** Feet (Depth of stored runoff in surface ponding area)
7-5 Convert Item 7-4 from ft. to inches **11.91** Inches (Depth of stored runoff in surface ponding area)
7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

8.0 Surface Area of Treatment Measure for DMA

8-1 Final surface area of treatment **364** Square feet (Either Item 5-2 or final amount in Item 7-1)

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1 Project Name: **Sunrise Senior Living**
1-2 City application ID:
1-3 Site Address or APN:
1-4 Tract or Parcel Map No:
1-5 Rainfall Region **4**
1-6 Region Mean Annual Precipitation (MAP) **14.60**
1-7 Site Mean Annual Precipitation (MAP) **19**

The calculations presented here are based on the **combination flow and volume sizing method** provided in the Countywide Program's C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Section 5.1 of the Guidance, applicable portions of which are included in this file, in the sheet named "Guidance from Chapter 5".

Click here for map

1-8 ***MAP adjustment factor is automatically calculated as:*** **1.30**
(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5-3, below.) Refer to the map in Appendix C of the C.3 Technical Guidance to identify the Rainfall Region for the site.

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: **DMA 7**
For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft.)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	18,107	1.0	18,107
2-3	Pervious surface	2,945	0.1	295
	Total DMA Area (square feet) =	21,052		

2-4 ***Total Effective Impervious Area (EIA)*** **18,402** Square feet

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-3. Unit Basin Storage Volumes in Inches for 80 Percent Capture Using 48-Hour Drawdowns, based on runoff coefficient

Region	Station, and Mean Annual Precipitation (Inches)	Runoff Coefficient of 1.0
1	Boulder Creek, 55.9"	2.04"
2	La Honda, 24.4"	0.86"
3	Half Moon Bay, 25.92"	0.82"
4	Palo Alto, 14.6"	0.64"
5	San Francisco, 21.0"	0.73"
6	San Francisco airport, 20.1"	0.85"
7	San Francisco Oceanside, 19.3"	0.72"

3-1 ***Unit basin storage volume from Table 5-3:*** **0.64**
(The coefficient for this method is always 1.0, due to the conversion of any landscaping to effective impervious area.)
3-2 ***Adjusted unit basin storage volume:*** **0.83** Inches
(The unit basin storage volume [Item 3-1] is adjusted by applying the MAP adjustment factor [Item 1-8].)
3-3 ***Required Capture Volume (in cubic feet):*** **1,277** Cubic feet
(The adjusted unit basin sizing volume [Item 3-2] is multiplied by the DMA EIA [Item 2-4] and converted to cubic feet)

4.0 Calculate the Duration of the Rain Event

4-1 Rainfall intensity **0.2** Inches per hour
4-2 Divide Item 3-2 by Item 4-1 **4.16** Hours of Rain Event Duration

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1 4% of DMA EIA (Item 2-4) **736** Square feet
5-2 Area 25% smaller than Item 5-1 (i.e., 3% of DMA EIA) **552** Square feet
5-3 Volume of treated runoff for area in Item 5-2 **958** Cubic feet (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1 Subtract Item 5-3 from Item 3-3 **319** Cubic feet (Amount of runoff to be stored in ponding area)
6-2 Divide Item 6-1 by Item 5-2 **0.58** Feet (Depth of stored runoff in surface ponding area)
6-3 Convert Item 6-2 from feet to inches **6.94** Inches (Depth of stored runoff in surface ponding area)
6-4 If ponding depth in Item 6-3 meets your target depth (recommend 6"), skip to Item 8-1. If not, continue to Step 7-1.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

7.0 Optimize Size of Treatment Measure

7-1 Enter an area larger than Item 5-2 **572** Sq.ft. (enter larger area if you need less ponding depth.)
7-2 Volume of treated runoff for area in Item 7-1 **993** Cubic feet (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3 Subtract Item 7-2 from Item 3-3 **285** Cubic feet (Amount of runoff to be stored in ponding area)
7-4 Divide Item 7-3 by Item 7-1 **0.50** Feet (Depth of stored runoff in surface ponding area)
7-5 Convert Item 7-4 from ft. to inches **5.97** Inches (Depth of stored runoff in surface ponding area)
7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

8.0 Surface Area of Treatment Measure for DMA

8-1 Final surface area of treatment **572** Square feet (Either Item 5-2 or final amount in Item 7-1)

NO.	REVISION	BY
△	PLANNING SUBMITTAL 06/05/2017	
△	PLANNING SUBMITTAL 09/14/2017	
△	PLANNING RESUBMITTAL 10/31/2017	
△	PLANNING RESUBMITTAL 1/22/2018	
△	PLANNING RESUBMITTAL 3/2/2018	

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EMAD Y. SARIEDDINE
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CIVIL
STATE OF CALIFORNIA

PRELIMINARY STORM WATER QUALITY CONTROL
OF
2915 EL CAMINO REAL
FOR
SUNRISE SENIOR LIVING
REDWOOD CITY, CALIFORNIA

DATE	NOV, 2016
SCALE	1" = 20'
DESIGNER	EYS
JOB NO.	A16704
SHEET	C5.1
OF -	SHEETS

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