3223 HANOVER

FORMAL ARB APPLICATION

Sand Hill Property Company

FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

Form4

Phase 2

CS 0.0

June 14, 2017
November 20, 2017
January 12, 2018
April 2, 2018

INDEX

PROJECT DATA

This application is the 2nd Phase of a project, where the 1st Phase was approved on March 2, 2017 (16PLN-00190). The approved existing Phase 1 includes Building 1, the below-grade garage, and stair & elevator pavilion in the courtyard, trash elclosure and the garage portals. Phase 2 includes Building 2, a second trash enclosure, and surface parking on the east lower tier of the property.

Development Standards	Standard		Proposed Project		Conforms
Lot Size	none		443,005	10.17 acres	yes
Min Bldg Setback:					
Front Yard - (west) Hanover Street	50'		50'		yes
Side Yard (south)	20'		350' - 6"		yes
Side Yard (north)	20'		285'		yes
Rear Yard (east) Residential	50'		228'		yes
Max Site Coverage	132,902	30%			
Existing Phase 1 (ground floor)			55,000		
Proposed Phase 2 (ground floor)			32,555		
Total Coverage Proposed (ground floor)			**87,555**	20%	yes
Floor Area Ratio (FAR)	177,202	40%			
Existing Phase 1			110,000		
Proposed Phase 2 (see total Bldg Area Breakdn Below)			67,202		
Total FAR Proposed			**177,202**	40%	yes
Max Height *	35'		35'		yes
Daylight Plane	NA		NA		yes
Parking Required Ph 1 & 2 Combined	591	1/300sf			
Parking Provided					
Lower Garage			167		
Upper Garage			191		
Upper Surface			27		
Lower Surface			206		
subtotal			**591**		yes
Bicycle Parking (minimum), Ord. Section 18.52.040	59	1/3000 sf			
Short Term	12	20%	12		yes
Long Term	47	80%	47		yes
Phase 2 Building Area Breakdown:					
Trash Enclosure (included in FAR)			262		
Utility Rooms Added to Ph1 Garage (included in FAR)			423		
Base Building (included in FAR)			66,517		
Subtotal			67,202	*this is he gross area of FAR elements*	
Base Building FAR			66,517		
Ammenity Allowance +/- 5% (not included in FAR)			3,783		
Subtotal			70,300	*this is the gross area of ph 2 building*	

PARKING RESERVE

Please note that the City minimum number of spaces, 591combined between existing Phase 1 and proposed Phase 2, will be constructed with the initial construction. The balance of the spaces shown in this submittal will be landscaped initially and held in reserve as is the policy desired by Stanford. These spaces may be converted into actual parking spaces if required by on-site traffic demands in the future, and at the discretion of the Building Owner. Please see Sire Plan, Sheet A 1.1 for location of spaces that will be held in reserve.

NOTE:

The proposed site was split from a larger site (See sheet C0.0).
The data for the remainder site is as follows:
Total Site = 686,854 SF
Existing FAR (Net or Amenity space) = 158,936 SF or 23%
Coverage = 127,272 SF/686,854 SF = 19%

						Compliance Path Verification							
						Plan Check		Rough GB Inspection IVR # 112		Final Inspection IVR # 974			
										Part 1	Part 1	Part 2	Part 2
5.1 Planning and Design		Code Section	Y	N	Plan Sheet, Spec or Attachment Reference	CORR	INITIAL	CORR	INITIAL	CORR	INITIAL	CORR	INITIAL
Mandatory	Mandatory	Storm water pollution prevention	5.106.1	X	C6.0, C6.1								
	Mandatory	Local storm water pollution prevention	PAMC 16.14.290/ 5.106.1.1	X	C6.0, C6.1								
	Mandatory	Best management practices	5.106.1.2	X	C7.0-C7.4								
	Mandatory	Bicycle parking	PAMC 18.54.060/ 5.106.4	X	PG A2.02, A1.00								
	Mandatory	Short term bicycle parking	5.106.4.1.1	X	A1.00								
	Mandatory	Long term bicycle parking	5.106.4.1.2	X	PG A2.02								
	Mandatory	(Bicycle) Parking stall markings	5.106.5.2.1	X	PG A2.02								
	Tier 2 Mand.	Designated parking - 12% of Parking Capacity	A5.106.5.1.2	X	PG A2.02								
	Tier 2 Mand.	Electric Vehicle (EV) Charging for Non-Residential Structures (EVSE) [N]- New Construction, Shall provide Conduit Only, EVSE-Ready Outlet, or EVSE Installed for at least 25% of parking spaces, among which at least 5% (and no fewer than one) shall be EVSE Installed.	PAMC 16.14.430/ A5.106.5.3.2	X	PG A2.02			See EVSE Checklist					
	Mandatory	Light pollution reduction	PAMC 16.14.295/ 5.106.8	X	E0.3								
	Mandatory	Grading and paving (exception for additions and alterations not altering the drainage path)	5.106.10	X	C2.0, C3.0, C4.1-C4.5			SW					
	Tier 2 Mand.	Cool roof for reduction of heat island effect: SRI of 82 ≤ 2:12 and SRI of 27 > 2:12	A5.106.11.2	X	Spec 13520								
Electives (choose 3)	Electives	Community connectivity	A5.103.1	X	LEED SSc2, CC document								
	Electives	Brownfield or greyfield site redevelopment or infill area development	A5.103.2	X	LEED SSc3 = remediation materials								
	Electives	Reduce development footprint and optimize open space	A5.104.1	X	LEED SSc5.2, Landscape								
	Electives	Existing building structure (75%)	A5.105.1.1	X									
	Electives	Existing non-structure elements (50%)	A5.105.1.2	X									
	Electives	Salvage	A5.105.1.3	X									
	Electives	Storm water runoff rate and quantity	A5.106.2.1		maybe								
	Electives	Storm water runoff quality	A5.106.2.2	X	C6.0, C6.1								
	Electives	Low impact development (LID)	A5.106.3	X									
	Electives	Greyfield or infill site	A5.106.3.2	X									
	Electives	Changing rooms	A5.106.4.3	X									
	Electives	Parking capacity	A5.106.6	X	NA								
	Electives	Reduce parking capacity	A5.106.6.1	X									
	Electives	Exterior wall shading: Fenestration- East and west walls	A5.106.7.1.1	X									
	Electives	Exterior wall shading: Fenestration- South walls	A5.106.7.1.2	X									
	Electives	Exterior wall shading: Opaque wall areas	A5.106.7.2	X									
	Electives	Heat island effect: Hardscape alternatives and cool roof reduction	A5.106.11	X									
	Electives	Heat island effect: Cool roof for reduction of heat island	A5.106.11.2		Spec 13530, LEED SSc7.2								
	Electives	Heat island effect: Solar reflectance	A5.106.11.2.1	X	Spec 13520								
	Electives	Heat island effect: Thermal emittance	A5.106.11.2.2	X	Part of Tier II Requirments								
	Electives	Heat island effect: Solar reflectance index alternative	A5.106.11.2.3	X									
PAMC 16.17 Energy Reach Code													
Mandatory	Mandatory or	Option 1: Performance approach specified within the 2016 California Energy Code shall be used to demonstrate that the TDV Energy of proposed non-residential construction is at least: Ten percent less than TDV energy of the Standard Design if the proposed building does not include a photovoltaic system or includes a photovoltaic system smaller than 5kW.	PAMC 16.17.050/ Title 24, Part 6	X				See Energy Ace Checklist					
	Mandatory	Option 2: Performance approach specified within the 2016 California Energy Code shall be used to demonstrate that the TDV Energy of proposed non-residential construction is at least: Equal to the TDV Energy of the Standard Design if the proposed building includes a 5kW or greater photovoltaic system.	PAMC 16.17.050/ Title 24, Part 6		X NA			See Energy Ace Checklist					
	Mandatory	Energy Star portfolio manager- All new construction or renovation projects greater than $100,000 in value	PAMC 16.14.380/ 5.410.4.6	X									
	Mandatory	Performance Review- For projects over 10,000 SF	PAMC 16.14.390/ 5.410.4.7	X									
5.3 Water Efficiency and Conservation													
Mandatory	Mandatory	Meters	5.303.1	X									
	Mandatory	New buildings or additions in excess of 50,000 square feet	5.303.1.1	X									
	Mandatory	Excess consumption (Submeters for additions that consume over 1,000 gal/ day)	5.303.1.2	X	NA								
	Tier 2 Mand.	Water Reduction- 20% savings over the "water use baseline" Table A5.303.2.3.1	A5.303.2.3.2	X									
	Mandatory	Indoor Water Use: Water closets (shall not exceed 1.28 gallons per flush)	5.303.3.1	X									
	Mandatory	Indoor Water Use: Wall-mounted urinals (0.125gpf)	5.303.3.2.1	X									
	Mandatory	Indoor Water Use: Floor-mounted urinals (0.5 gpf)	5.303.3.2	X	NA								
	Mandatory	Indoor Water Use: Single showerhead (2.0 gpm at 80 psi)	5.303.3.3.1	X									
	Mandatory	Indoor Water Use: Multiple showerheads serving one shower (flow rate of 2.0 gpm at 80 psi)	5.303.3.3.2	X	NA								
	Mandatory	Indoor Water Use: Nonresidential lavatory faucets (0.5 gpm at 60 psi)	5.303.3.4.1	X									
	Mandatory	Indoor Water Use: Kitchen faucets (1.8 gpm at 60 psi)	5.303.3.4.2	X									
	Mandatory	Indoor Water Use: Wash fountains (1.8 gpm at 60 psi)	5.303.3.4.3	X	NA								
	Mandatory	Indoor Water Use: Metering faucets (0.2 gallons/ cycle)	5.303.3.4.4	X									
	Mandatory	Indoor Water Use: Metering faucets for wash fountains (0.2 gallons/ cycle)	5.303.3.4.5	X	NA								
	Mandatory	Commercial kitchen equipment	5.303.4	X	NA								
	Mandatory	Food waste disposers	5.303.4.1	X	NA								
	Mandatory	Indoor water use: Areas of addition or alteration	5.303.5	X	NA								
	Mandatory	Dual plumbing	PAMC 16.14.300/ 5.303.5	X	NA								
	Mandatory	Indoor Water Use: Standards for plumbing fixtures and fittings (2016 Cal Plumbing Code)	5.303.6	X	NA								
	Mandatory	Outdoor Water Use : Landscape areas ≥ 500 SF	Title 23, Chapter 2.7/ 5.304.1	X									
	Mandatory	Outdoor Water Use : Rehabilitated landscape projects ≥ 2,500 SF	Title 23, Chapter 2.7/ 5.304.3	X	NA								
	Mandatory	Outdoor Water Use: Landscape areas of ≤ 2,500 SF	5.304.4	X	NA								
	Mandatory	Outdoor Water Use: Graywater or Rainwater Use: Landscape areas ≤ 2,500 SF	5.304.5	X	NA								
	Mandatory	Potable water elimination	PAMC 16.14.350/ 5.304.5	X									
	Mandatory	New construction; recycled water use for irrigation (See recycled water ordinance # 5002, of PAMC 16.12)	PAMC 16.12.030	X									
	Mandatory	Invasive species prohibited	PAMC 16.14.360/ 5.304.6	X									
	Mandatory	Non-residential enhanced water budget	5.305.1	X	NA								
Elective (9)	Electives	Indoor water use: 25% reduction	A5.303.2.3.3	X									
	Electives	Nonpotable water systems for indoor water use	A5.303.2.3.4	X									
	Electives	Appliances and fixtures for commercial application	A5.303.3	X									
	Electives	Nonwater supplied urinals	A5.303.4.1	X									
	Electives	Outdoor Water Use: Restoration of areas disturbed by construction	A5.304.6	X									
	Electives	Outdoor Water Use: Previously developed sites: restore or protect 50 % of site area	A5.304.7	X									
	Electives	Outdoor Water Use: Graywater irrigation system	A5.304.8	X									
	Electives	Nonpotable water systems	A5.305.1	X									
	Electives	Irrigation system	A5.305.2	X									
5.4 Material Conservation and Resource Efficiency													
Mandatory	Tier 2 Mand.	Recycled content: Use materials with a total recycled content of 15%	A5.405.4	X	LEED MRc4 documentation								
	Mandatory	Weather protection	5.407.1	X	A3.1.0, A3.2.0, A3.3.0, Glazing, Metal panel and			See Foundation inspection checklist					
	Mandatory	Moisture control: Sprinklers	5.407.2.1	X	Drip system, no sprinklers								
	Mandatory	Moisture control: Entries + Openings	5.407.2.2	X	A3.1.0, A3.2.0, A3.3.0								
	Mandatory	Moisture control: Exterior door protection	5.407.2.2.1	X	A3.1.0, A3.2.0, A3.3.0								
	Mandatory	Moisture control: Flashing	5.407.2.2.2	X									
	Mandatory	Construction waste management	5.408.1	X	LEED MRc2, Spec 017419								
	Mandatory	Construction waste management plan	5.408.1.1	X	LEED MRc2, Spec 017419								
	Mandatory	Waste management company	5.408.1.2	X	LEED MRc2, Spec 017419								
	Mandatory	Waste stream reduction alternative	5.408.1.3		NA								
	Mandatory	Documentation: Construction waste management plan, waste management company, waste stream reduction alternative	5.408.1.4		NA								
	Mandatory	Excavated soil and land clearing debris (100% reuse or recycle)	5.408.3	X	Spec 017419								
	Tier 2 Mand.	Enhanced construction waste reduction (80% diversion rate for projects exceeding $25,000 in value; 65% diversion rate for projects less than $25,000)	PAMC 16.14.370/ A5.408.3.1.1	X	LEED MRc2, Spec 017419			See www.greenhalosystems.com					
	Mandatory	Recycling by occupants	5.410.1	X	LEED MRp1								
	Mandatory	Commissioning (≥ 10,000 SF) [N]	5.410.2	X	LEED EAp1, Cx spec								
	Mandatory	Commissioning plan [N]	5.410.2.3	X	LEED EAp1, Cx spec								
	Mandatory	Functional performance testing [N]	5.410.2.4	X	LEED EAp1, Cx spec								
	Mandatory	Documentation and Training: Systems manual	5.410.2.5	X	LEED EAp1, Cx spec								
	Mandatory	Documentation and Training: Systems operations training [N]	5.410.2.5.2	X	LEED EAp1, Cx spec								
	Mandatory	Commissioning report [N]	5.410.2.6	X	LEED EAp1, Cx spec								
	Mandatory	Testing and adjusting for [N] buildings < 10,000 SF or new systems that serve additions or alterations [AA]	5.410.4	X	LEED EAp1, Cx spec								
	Mandatory	Testing and adjusting for systems: HVAC, lighting, water heating, renewable energy, landscape irrigation, and water reuse	5.410.4.2	X	LEED EAp1, Cx spec								
	Mandatory	Testing and adjusting: Procedures	5.410.4.3	X	LEED EAp1, Cx spec								
	Mandatory	Testing and adjusting: HVAC balancing	5.410.4.3.1	X	LEED EAp1, Cx spec								
	Mandatory	Testing, adjusting and balancing: Reporting for HVAC balancing	5.410.4.4	X	LEED EAp1, Cx spec								
	Mandatory	Operation and maintenance (O&M) manual	5.410.4.5	X	LEED EAp1, Cx spec								
	Mandatory	Performance reviews- Water (sites > 1 acre)	PAMC 16.14.400/ 5.410.4.8	X	LEED EAp1, Cx spec								
	Mandatory	Inspection and reports [AA] + [N] < 10,000 SF	5.410.4.5.1	X	LEED EAp1, Cx spec								

						Compliance Path Verification							
						Plan Check		Rough GB Inspection IVR # 112		Final Inspection IVR # 974			
										Part 1	Part 1	Part 2	Part 2
5.4 Material Conservation and Resource Efficiency, continued		Code Section	Y	N	Plan Sheet, Spec or Attachment Reference	CORR	INITIAL	CORR	INITIAL	CORR	INITIAL	CORR	INITIAL
Electives (choose 3)	Electives	Wood Framing: Structural or fire-resistance integrity	A5.404.1.1		X								
	Electives	Wood Framing: Framing specifications	A5.404.1.2		X								
	Electives	Regional materials	A5.405.1		X								
	Electives	Bio-based materials: Certified wood	A5.405.2.1	X		LEED MRc6 FSC wood							
	Electives	Bio-based materials: Rapidly renewable materials	A5.405.2.2										
	Electives	Reused materials	A5.405.3		X								
	Electives	Alternate method for concrete	A5.405.4.5		X								
	Electives	Cement and concrete: Cement	A5.405.5.1		X								
	Electives	Cement and concrete: Concrete	A5.405.5.2	X									
	Electives	Additional means of compliance- Cement: Alternative fuels	A5.405.5.3.1.1		X								
	Electives	Additional means of compliance- Cement: Alternative power	A5.405.5.3.1.2		X								
	Electives	Additional means of compliance- Concrete: Alternative energy	A5.405.5.3.2.1		X								
	Electives	Additional means of compliance- Concrete: Recycled aggregate	A5.405.5.3.2.2		X								
	Electives	Additional means of compliance- Concrete: Mixing water	A5.405.5.3.2.3		X								
	Electives	Additional means of compliance- Concrete: High strength concrete	A5.405.5.3.2.4		X								
	Electives	Choice of materials: Service life	A5.406.1.1	X		Spec 074213.13, 092400, 092480							
	Electives	Choice of materials: Reduced maintenance	A5.406.1.2	X		Spec 074213.13, 092400, 092480							
	Electives	Choice of materials: Recyclability	A5.406.1.3		X								
	Electives	Life Cycle Assessment shall be ISO 14044 compliant	A5.409.1		X								
	Electives	Whole building life cycle assessment	A5.409.2		X								
	Electives	Materials and system assemblies	A5.409.3		X								
	Electives	Substitution of prescriptive standards	A5.409.4		X								
	Electives	Verification of compliance	A5.409.5		X								
5.5 Environmental Quality													
Mandatory	Mandatory	Fireplaces	5.503.1		X	NA							
	Mandatory	Woodstoves	5.503.1.1		X	NA							
	Mandatory	Temporary ventilation (MERV 8)	5.504.1.3	X									
	Mandatory	Covering of duct openings and protection of mechanical equipment during construction	5.504.3	X									
	Mandatory	Adhesives, sealants and caulks: Comply with VOC limits (Table 5.504.4.1 and 5.504.4.2)	5.504.4.1	X		SPEC 013520, LEED EQc4.1							
	Mandatory	Paints and Coatings: Comply with VOC Limits (Table 5.504.4.3)	5.504.4.3	X		SPEC 013520, LEED EQc4.2							
	Mandatory	Aerosol paints and coatings	5.504.4.3.1	X		SPEC 013520, LEED EQc4.2							
	Mandatory	Verification, for paints and coatings	5.504.4.3.2	X		SPEC 013520, LEED EQc4.2							
	Mandatory	Carpet systems: Carpet cushion	5.504.4.4.1	X		SPEC 013520, LEED EQc4.3							
	Mandatory	Carpet systems: Carpet adhesive	5.504.4.4.2	X		SPEC 013520, LEED EQc4.3							
	Mandatory	Composite wood products: Formaldehyde limits (Table 5.504.4.5)	5.504.4.5	X		SPEC 013520, LEED EQc4.4							
	Mandatory	Composite wood products: Documentation	5.504.4.5.3	X		SPEC 013520, LEED EQc4.4							
	Tier 2 Mand.	Resilient Flooring system, 100%	A5.504.4.7.1	X		SPEC 013520, LEED EQc4.4							
	Tier 2 Mand.	No added formaldehyde- Tier 2 level	A5.504.4.8.1	X		SPEC 013520, LEED EQc4.4							
	Tier 2 Mand.	Thermal Insulation	A5.504.4.8.1	X									
	Tier 2 Mand.	Filters (MERV 13)	A5.504.5.3.1.1	X		LEED EQc5							
	Mandatory	Environmental tobacco smoke (ETS) control	5.504.7	X		LEED EQp2							
	Mandatory	Outside air delivery (For Indoor Air Quality)	5.506.1	X									
	Mandatory	Carbon dioxide (CO2) monitoring (For Indoor Air Quality)	5.506.2	X									
	Mandatory	Acoustical control (STC Values per ASTM E90 and ASTM E413)	5.507.4	X									
	Mandatory	Exterior noise transmission, prescriptive method	5.507.4.1		X	NA							
	Mandatory	Exterior noise transmission, performance method	5.507.4.2		X	NA							
	Mandatory	Interior sound transmission	5.507.4.3		X	NA							
	Mandatory	Ozone depletion and greenhouse gas reductions	5.508.1	X									
	Mandatory	Chlorofluorocarbons	5.508.1.1	X									
	Mandatory	Halons	5.508.1.2	X									
	Mandatory	Supermarket refrigerant leak reduction	5.508.2		X	NA							
	Mandatory	Refrigerant piping	5.508.2.1		X	NA							
	Mandatory	Refrigerant piping valves	5.508.2.2		X	NA							
	Mandatory	Refrigerant piping access valves	5.508.2.2.2		X	NA							
	Mandatory	Refrigerated service case	5.508.2.3		X	NA							
	Mandatory	Refrigerant receivers	5.508.2.4		X	NA							
	Mandatory	Pressure testing	5.508.2.5		X	NA							
	Mandatory	Evacuation (after pressure testing)	5.508.2.6		X	NA							
	Electives	Indoor air quality (IAQ) during constructions: Temporary ventilation	A5.504.1.1		X	NA							
	Electives	Indoor air quality (IAQ) during constructions: Additional IAQ measures	A5.504.1.2	X		LEED EQc3							
	Electives	IAQ postconstruction	A5.504.2		X								
	Electives	IAQ testing	A5.504.2.1		X								
	Electives	Maximum levels of contaminants	A5.504.2.1.1		X								
	Electives	Test protocols	A5.504.2.1.2		X								
	Electives	Noncompliying building areas	A5.504.2.1.3		X								
	Electives	No added formaldehyde- Tier 2 requirement	A5.504.4.5.1	X		SPEC 013520, LEED EQc4.4							
	Electives	Acoustical ceiling and wall panels	A5.504.4.9		X								
	Electives	Hazardous particulates and chemical pollutants	A5.504.5		X								
	Electives	Entryway systems (to control pollutants)	A5.504.5.1		X								
	Electives	Isolation of pollutant sources (to control pollutants)	A5.504.5.2	X		LEED EQc5							
	Electives	Lighting and thermal comfort controls: Single occupant spaces- Lighting and Thermal Comfort	A5.507.1.1.1		X								
			A5.507.1.1.2		X								
	Electives	Lighting and thermal comfort controls: Multi-occupant spaces	A5.507.1.2		X								
	Electives	Daylight: Toplighting and sidelighting	A5.507.2		X								
	Electives	Views: Direct line of sign to outdoors	A5.507.3.1										
	Electives	Views- Multi-occupant spaces	A5.507.3.2										
	Electives	Hydro-chlorofluorocarbons (HCFCs) (for HVAC and refrigeration equipment)	A5.508.1.3		X								
	Electives	Hydro-fluorocarbons (HFCs) (for HVAC, refrigeration and fire suppression equipment)	A5.508.1.4		X								
Required Additional Electives (Choose 3 additional Electives from any category)			A5.601.3.1										
Mand.	Tier 2 Mand.		A5.601.3.1	X		A5.106.3.2 Stormwater Quality							
	Tier 2 Mand.		A5.601.3.1	X		A5.106.11.2.1 Cool Roof SRI							
	Tier 2 Mand.		A5.601.3.1	X		A5.106.11.2.1 Cool Roof SRI							

Legend:

Y - Yes; the measure is selected as mandatory
N - No; the measure is not selected as an elective
[N] - New Construction

Instructions:

The Green Building Survey is a required project submittal. The survey can be found at the following link. The survey shall be completed on Survey Monkey and a screenshot shall be included on a seperate page in this plan set. Please indicate the reference page here G1.0.2.

The Energy Star Benchmark Portfolio profile is a required project submittal. The profile can be found at the follwoing link. The portfolio profile shall be opened and a screenshot shall be included on a seperate page in this plan set. Please indicate the reference page here G1.0.2.

Acknowledgement

This project is required to comply with the State California Green Building Code (T24 Part 11) and the City of Palo Alto's local amendments (PAMC 16.14). I, the **property owner / legal representative**, acknowledge and understand the requirements and penalties for noncompliance ($50 per ton of waste not diverted from the landfill with a minimum of $1000, and $500 a day for the remaining green building measure noncompliance). I am responsible for all activities performed by design team members, contractors and subcontractors in meeting the requirements. I understand that the project may be subject to a **Green Building Incremental Verification** (IVR #112) during Rough Inspection and a **Green Building Final Inspection** (IVR# 974) prior to scheduling the final inspection. The team will consult the **Palo Alto Green Building Inspection Checklist** to verify compliance. I also understand that my project may be subject to an energy or water performance review to assess compliance with the program after construction and during operation.
Note: In lieu of a signature, an attachment letter is acceptable if the owner is not local and cannot sign this GB-1 sheet.

9/6/2017
Signature Date

Laura Billings 510-390-3179
Print Full Name

Laura@sagegreendevelopment.com
Phone or Email

SCHEDULE A GREEN BUILDING INCREMENTAL VERIFICATION (IVR#112) DURING ROUGH INSPECTION

Schedule a Green Building Incremental Verification (IVR#112) if any of the following CALGreen provisions or PAMC Sections are marked with an "X" under the "Y" column of this sheet.

- CALGreen 5.303.1.1 Separate Meters
- CALGreen 5.303.1.2 Separate Meters
- PAMC 16.14.190 Recycled Water Interior Infrastructure
- PAMC 16.14.230 Recycled Water for Irrigation
- CALGreen 5.504.1.3 Temporary Ventilation
- CALGreen 5.504.3 Duct & HVAC Protection
- CALGreen A5.504.1 IAQ During Construction

SECTION TO BE COMPLETED AFTER CONSTRUCTION

In order to schedule a final building inspection with the Building Department, follow the procedures below.

☐ Schedule a **two-part** Final Green Building Inspection with the City Green Building Personnel in accordance with the Palo Alto Non-Residential Green Building Inspection Guideline.

☐ At Part 1 of the Final Green Building Inspection prepare all submittals and supporting documentation for the items identified with a "X" under the "Y" column of this sheet in accordance with the Green Building Inspection Guideline.

☐ At Part 2 of the Final Green Building Inspection prepare for a field inspection for the items identified with a "X" under the "Y" column of this sheet in accordance with the Green Building Inspection Guideline.

I certify that:

☐ There have been no alterations that have impacted the energy report for the project, unless the new report is provided.

☐ All mandatory CALGreen measures and required electives noted in the checklist have been implemented, unless a new checklist is provided along with support for alternative electives claimed.

☐ **Within six months (6) from the date of final inspection I will provide the** City with the project's Commissioning Report (only required for new projects over 10,000 SF) and execute compliance with landscaping measures, unless completed at the time of final inspection.

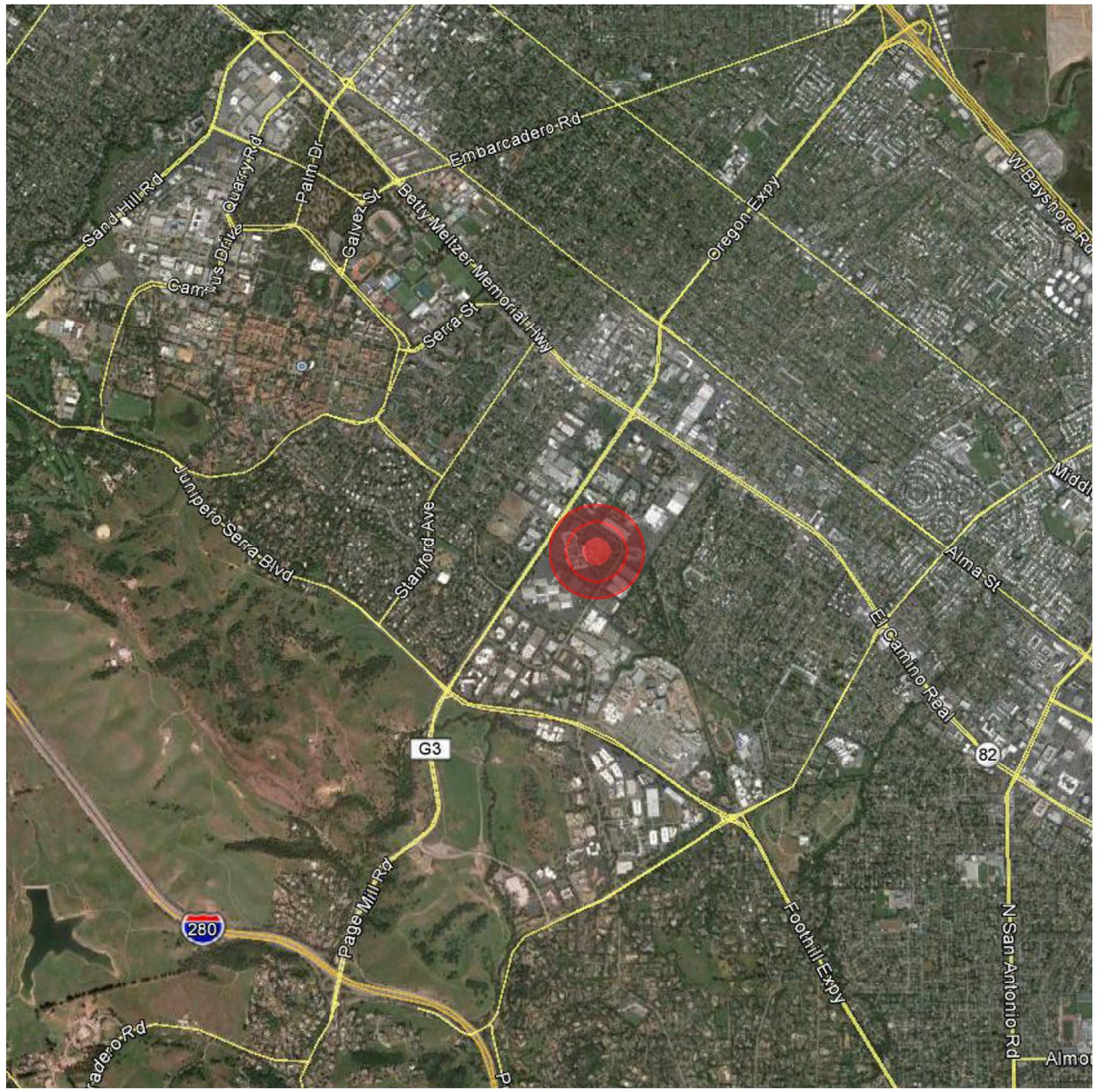
Signature (Owner) Signature (Contractor)
Sign only after construction is completed.
Print Name Print Name
Date Date

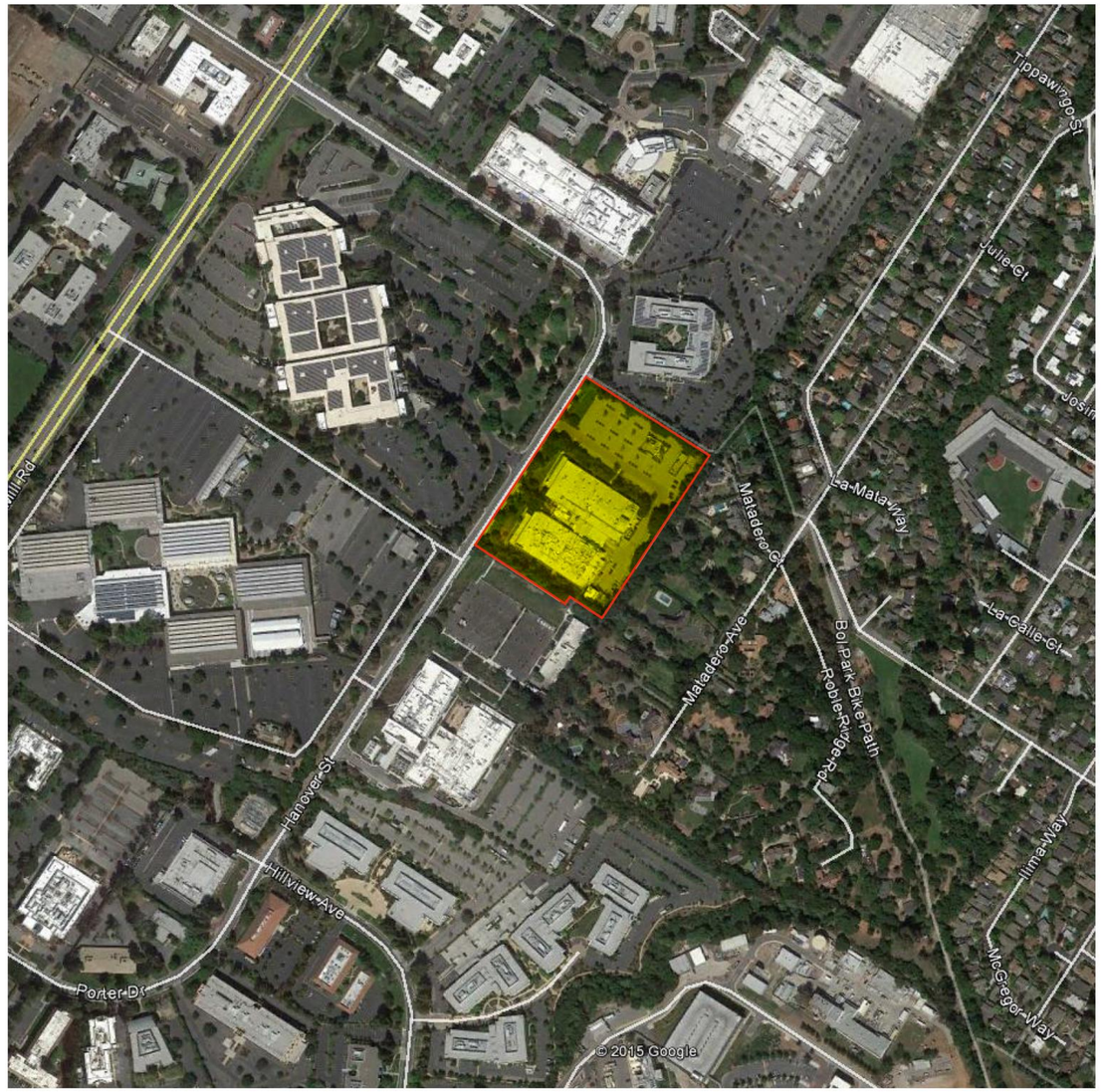
CITY OF PALO ALTO

Title 24, Part 11, California Green Building Code (CALGreen) http://www.bsc.ca.gov/Home/CALGreen.aspx
City of Palo Alto Green Building Ordinance 5393 (PAMC 16.14 Amendments) https://www.cityofpaloalto.org/civicax/filebank/documents/54976
City of Palo Alto Development Center Green Building Requirements http://www.cityofpaloalto.org/gov/depts/ds/green_building/default.asp
Updated Model Water Efficient Landscape Ordinance- Effective February 1, 2016 http://www.water.ca.gov/wateruseefficiency/landscapeordinance/docs/Title%2023%20extract%20-%20Official%20CCR%20pages.pdf

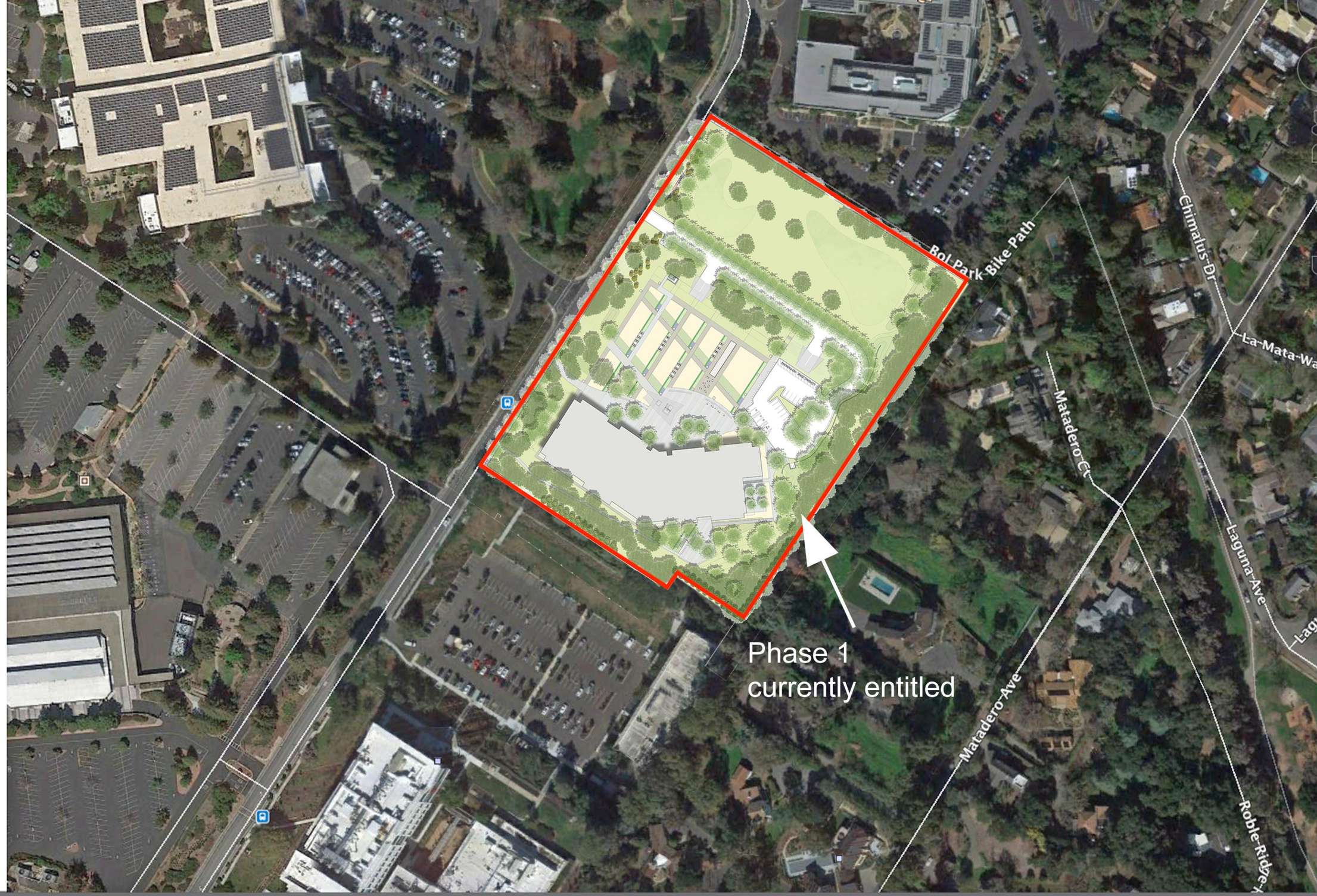
2016 NONRESIDENTIAL GREEN BUILDING APPLICATION **CALGREEN + TIER 2**
Version 01/17

Application: This plan sheet is for use by nonresidential new construction or additions of 1,000 SF or greater.





REGIONAL CONTEXT



3223 Hanover Street Phase 2

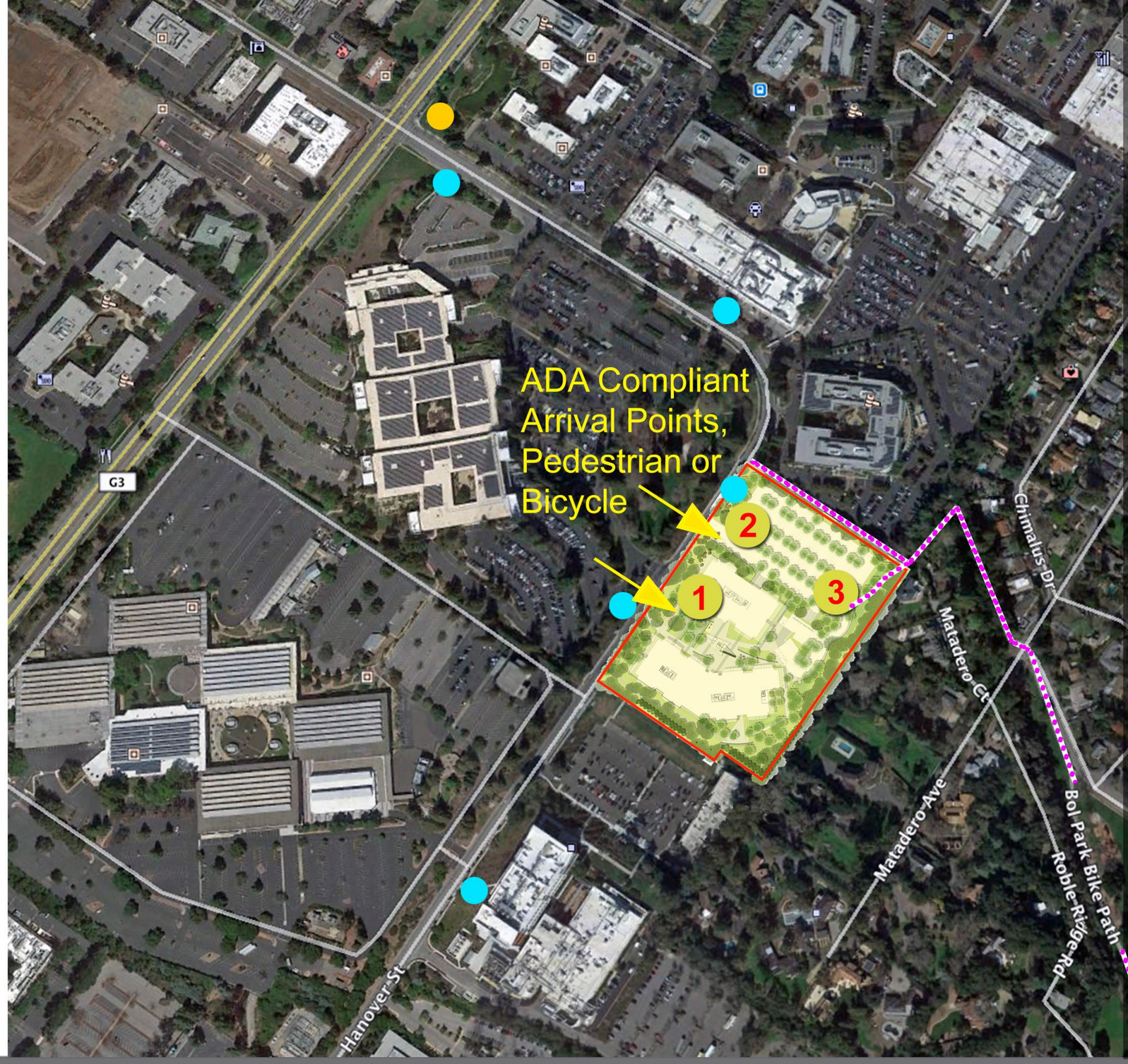
Formal ARB Application

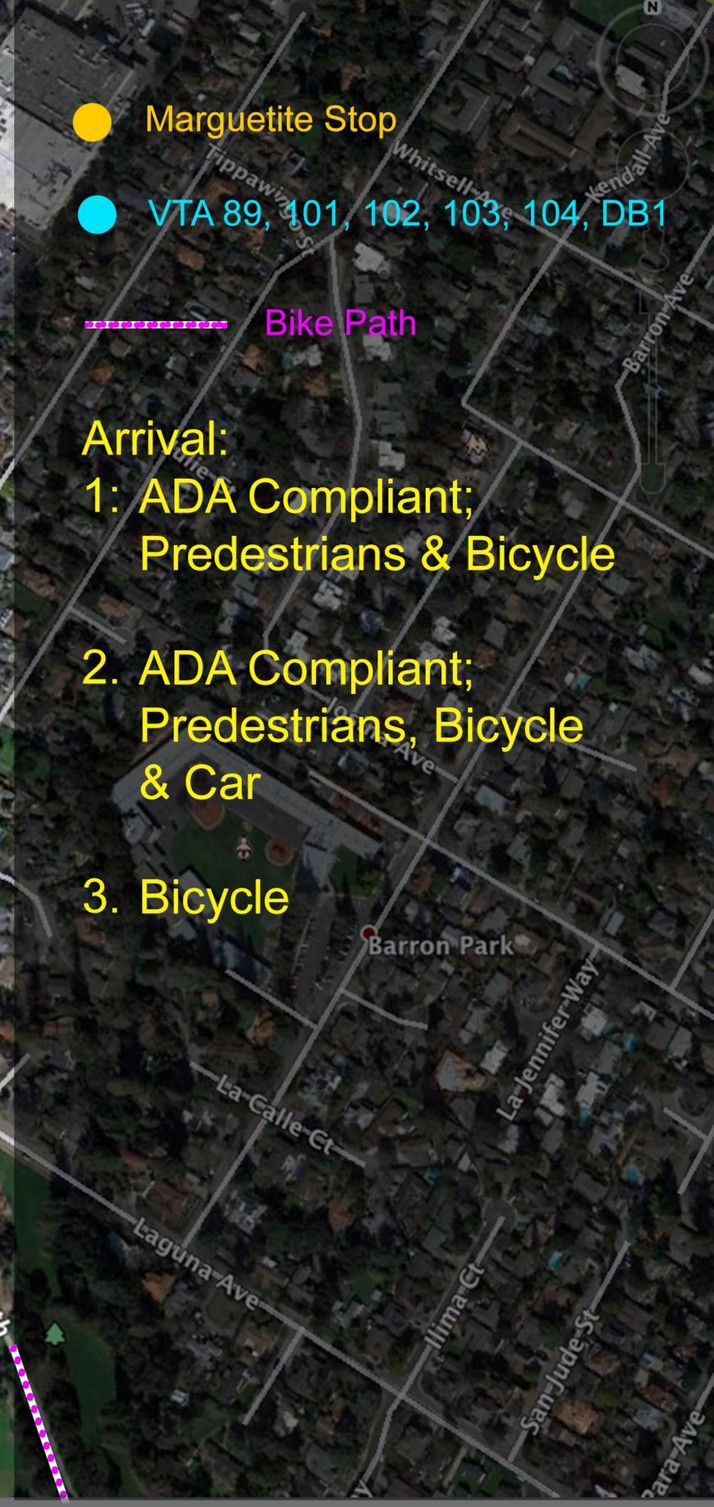
Sand Hill Properties Company

AERIAL - Existing Conditions

MP 1.2

June 14, 2017


ADA Compliant
Arrival Points,
Pedestrian or
Bicycle
1
2
3
G3
Hanover St
Matadero Ave
Matadero Ct
Bol Park Bike Path
Roble Ridge Rd
Chimalus Dr


Marguetite Stop
VTA 89, 101, 102, 103, 104, DB1
Bike Path
Arrival:
1: ADA Compliant;
Predestrians & Bicycle
2. ADA Compliant;
Predestrians, Bicycle
& Car
3. Bicycle
Barron Park
La Calle Ct
La Jennifer Way
Laguna Ave
Illima Ct
San Jude St
Barron Ave
Kendall Ave
Whitsell Ave

HANOVER

VTA Stop

VTA Stop

40'-0"

50'-0"

SPECIAL SETBACK

24'-0"

1'-0"

570'-4"

Public Art

Trash Enclosure

City Bike Path Adjacent to Site

Line of Garage Below

GARAGE ENTRY DN

(N) BUILDING
FFE 73.00
Two Story
115,500 gsf

73'-0"

Short Bike Racks

Stair/Elevator Pavilion from Garage Below

LOBBY

32 PARKING RESERVE STALLS

NEW PHASE I LANDSCAPE

GARAGE BELOW

FFE 73.00

26 STALLS

LOADING ZONE - NO PARKING

GARAGE ENTRY UP

446'-6"

Switchgear Transformer

Electric Room

LANDSCAPE COMBINING DISTRICT

90'-0"

50'-0"

10'-0"

UTILITY EASEMENT

TRUE NORTH

PROJECT NORTH

0 30' 1"

SCALE: 1" = 30'-0"

FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

3223 Hanover Street Phase 2

Formal ARB Application

Sand Hill Properties Company

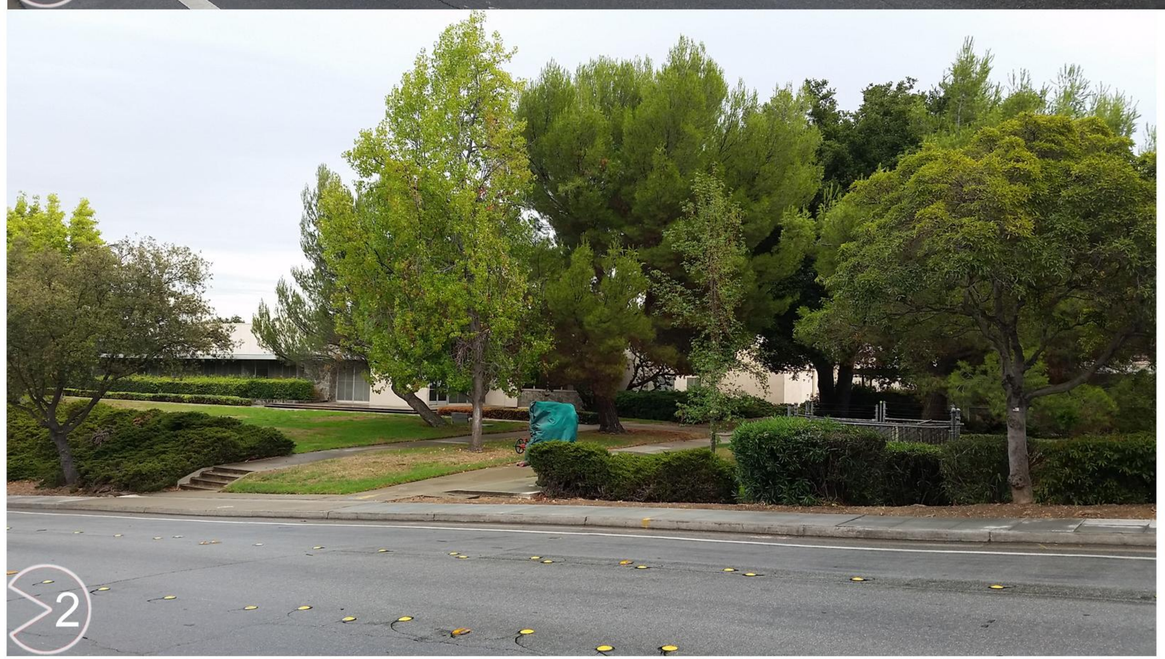
EXISTING SITE PLAN

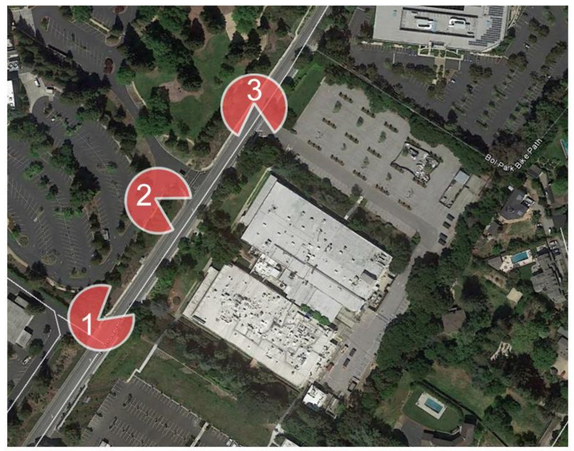
MP 1.4

June 14, 2017


1


3


2


3
2
1

DIAGRAMATIC VIEW OF PROPOSED SITE.
SEE SHEET ILLUSTRATION PLAN AND
LANDSCAPE SHEETS FOR DETAIL.

FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

3223 Hanover Street Phase 2

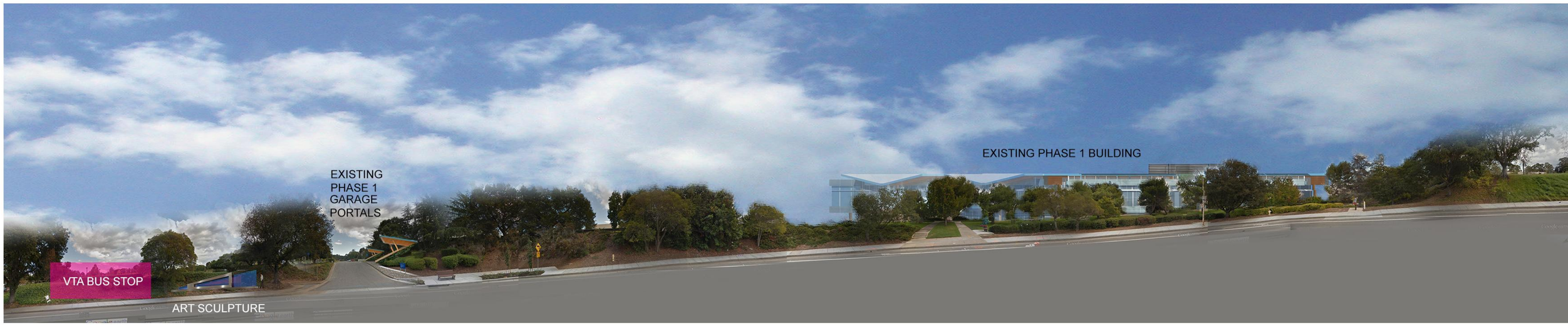
Formal ARB Application

Sand Hill Properties Company

SITE AXON

MP 2.1

June 1, 2016
April 2, 2018



EXISTING PHASE 1 STREET ELEVATION

PROPOSED PHASE 2 STREET ELEVATION

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3223 Hanover Street Phase 2
Formal ARB Application
Sand Hill Properties Company

CONTEXT STREET ELEVATIONS

MP 2.2
June 14, 2017
November 20, 2017

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3223 Hanover Street Phase 2

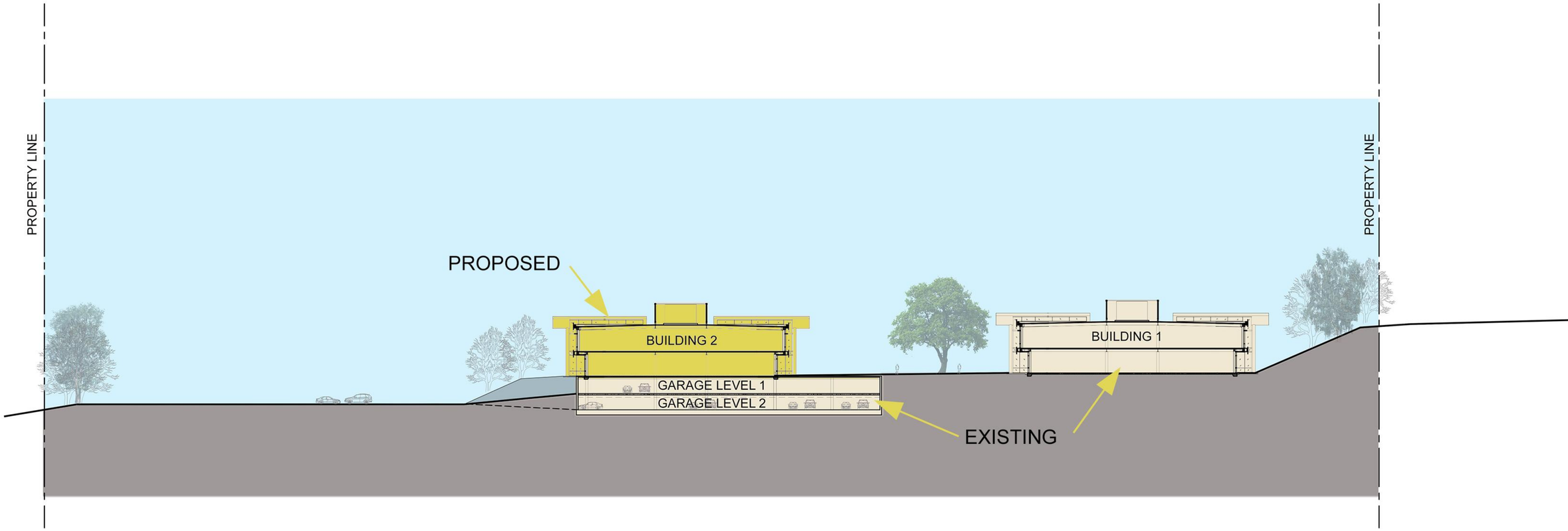
Formal ARB Application

Sand Hill Properties Company

SITE ARRIVAL RENDERING

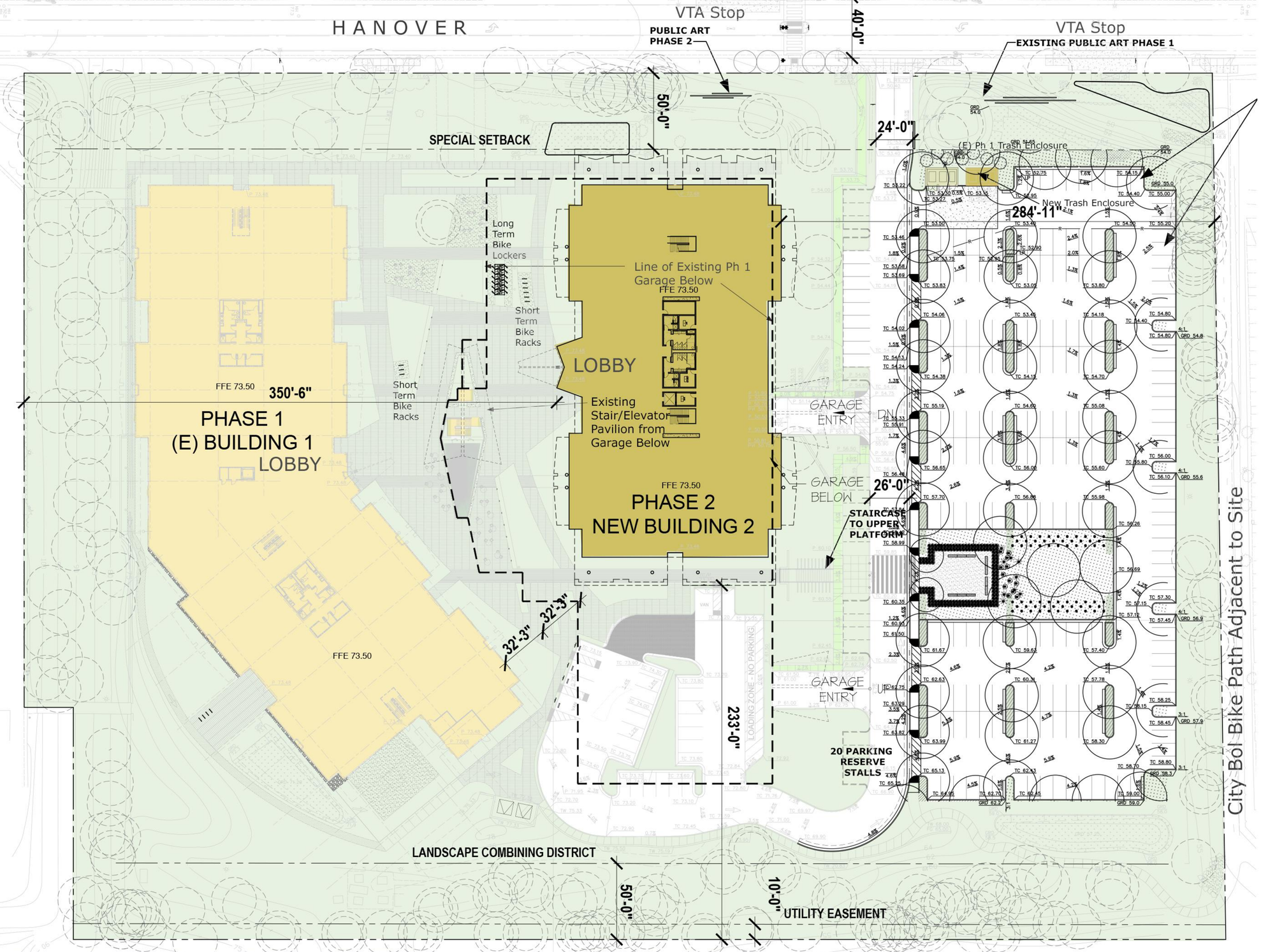
MP 2.3

June 14, 2017



North South Section

0 30' 60'
SCALE: 1" = 30'-0"



PARKING RESERVE

Please see Data SHeet CS 0.1
for note regarding Parking Reserve.

The City minimum parking count will
be provided at the outset of the project, and
the spaces in the perimeter rows shown here
will initially be landscaped with groundcover.

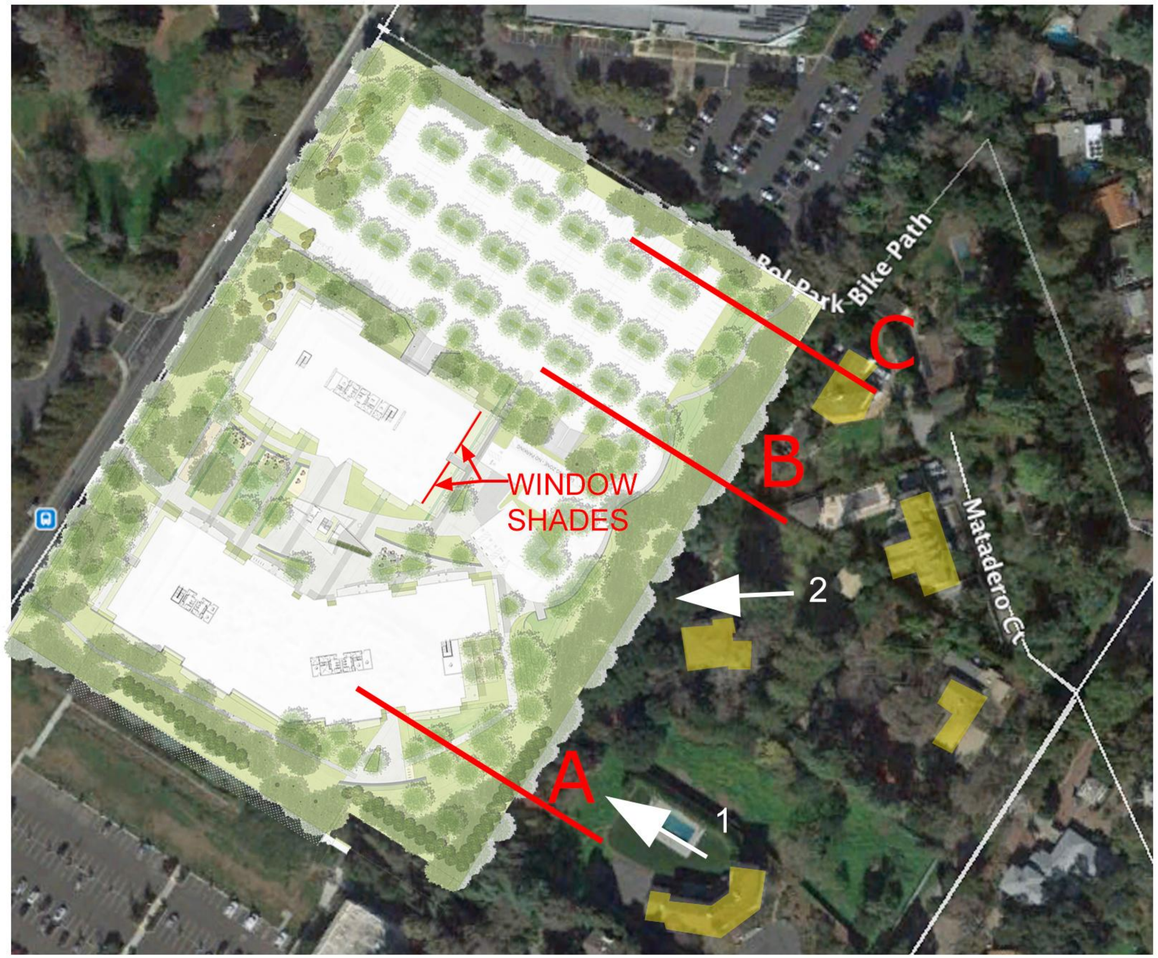
As on-site parking demand warrents, the Owner
may elect to construct these reserved spaces.

TRUE NORTH PROJECT NORTH

0 30' 60'

SCALE: 1" = 30'-0"

Typical Views from Neighbors.

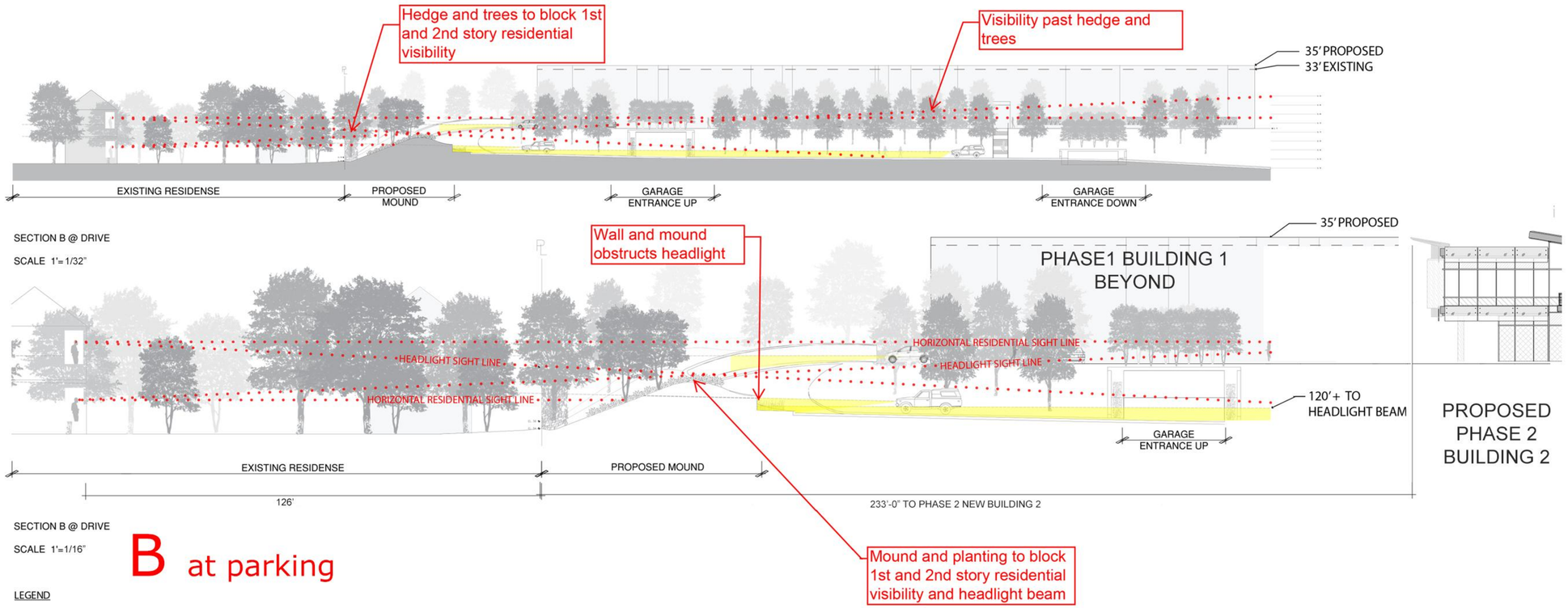


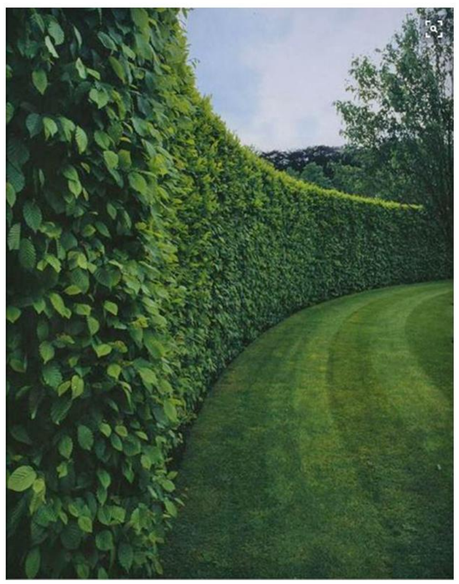
SCREENING STRATEGY:

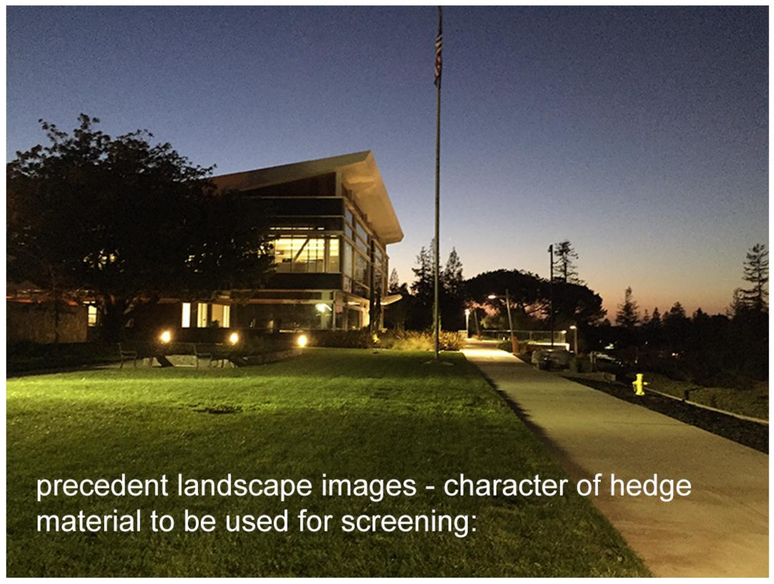
please see next two sheets for site sections

An important goal for this project is to mitigate noise and light to our residential neighbors to the east. The following strategies are being utilized:

- **Setback**: There is an existing 50' Landscape Overlay setback on the east property line. This project holds the buildings back an **additional +/- 178' beyond that**.
- Windows on the short end of the building will have clear fritted glass in the lower 30" to **avoid floor to ceiling clear glass**.
- **Low site walls and earth berms** will mitigate car headlights and car noise at the ground floor.
- **Existing mature landscaping** currently blocks much of the view between properties, and that will be **augmented with plant material and solid hedges.**
- **Window Shades**: This project shall incorporate internal window shades on the first and second floors of the east elevation.





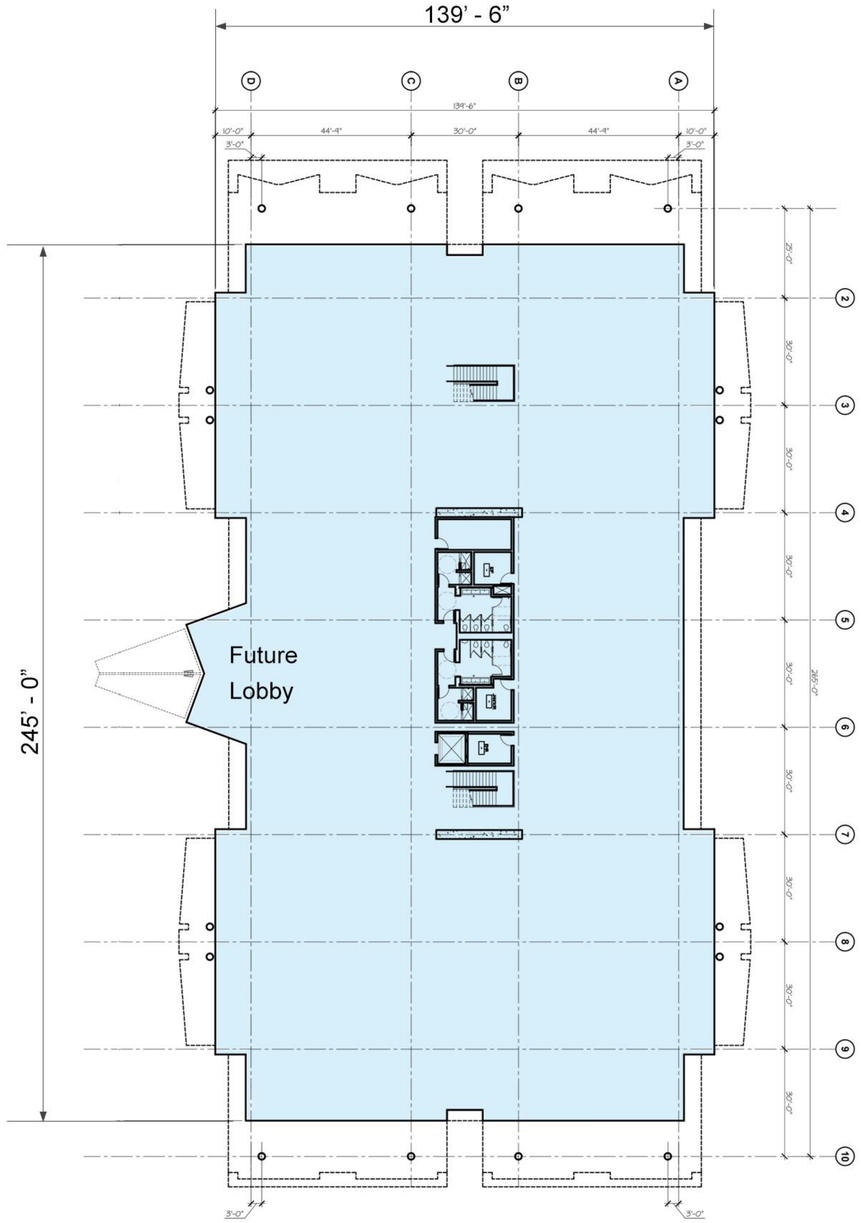


3223 Hanover Street Phase 2
Formal ARB Application
Sand Hill Properties Company

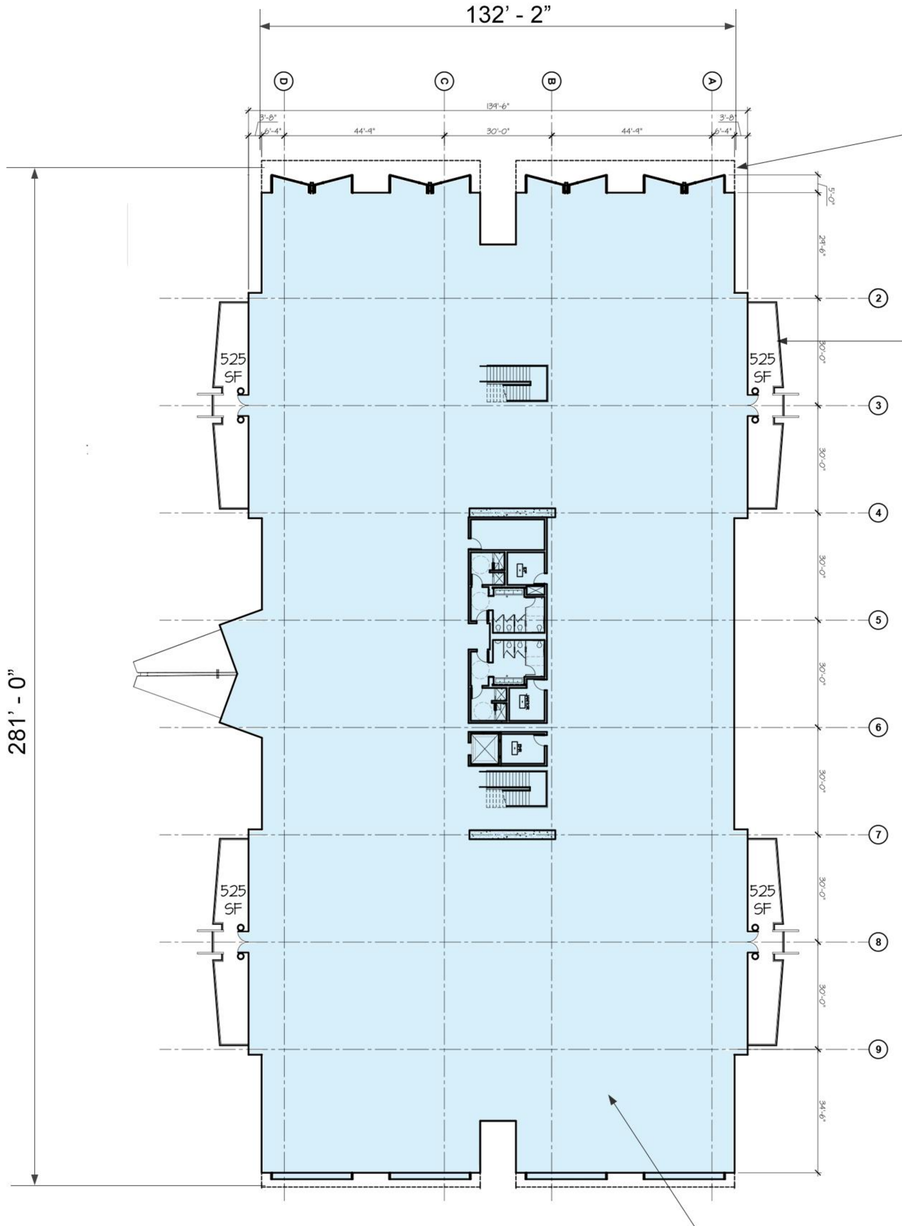
NEIGHBOR SCREENING

A 1.3

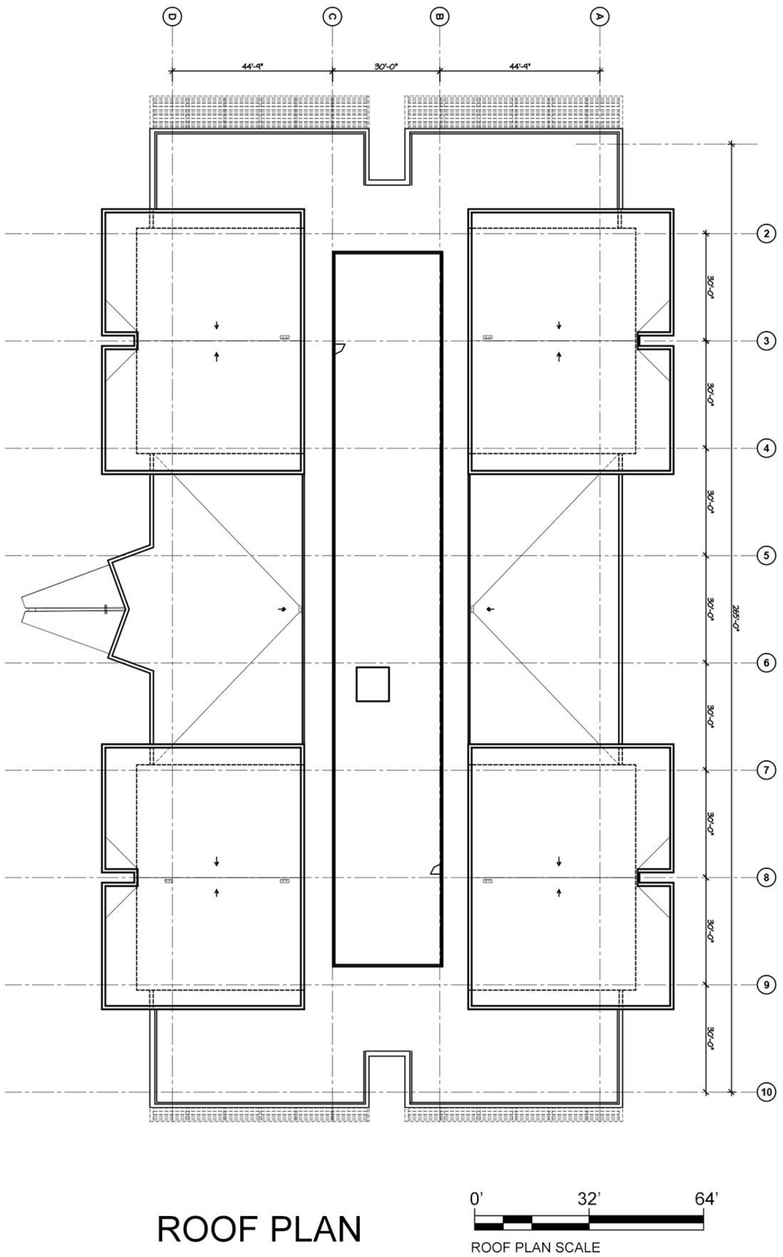
June 14, 2017
November 20, 2017
April 2, 2018



GROUND FLOOR
32,555 sf



SECOND FLOOR
37,745 sf



ROOF PLAN

0' 32' 64'
ROOF PLAN SCALE

0' 32' 64'
SECOND FLOOR PLANS SCALE

Shading indicates area counted toward Floor Area Ratio

Second Floor

Stair & Elevator

Trash Enclosures

Ground Floor & Site

0' 30' 60'
GROUND FLOOR AND SITE PLAN SCALE

Machine Room
Communications Rooms &
Electrical Utility Room
(Included in FAR)

0' 32' 64'
GARAGE PLANS SCALE

Bike
Rm

Garage (shown larger scale than floor plans above)

Floor Area Ratio

SUMMARY: Phase 1 & 2

Please see Data Sheet CS 0.1 for tabulations.

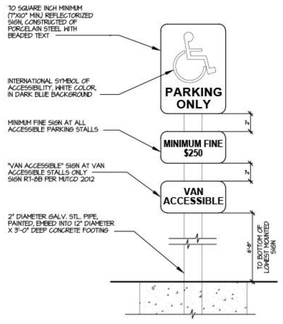
Garage (no FAR):
Bike Room: Exempt: 18.52.040(b)(2)

FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

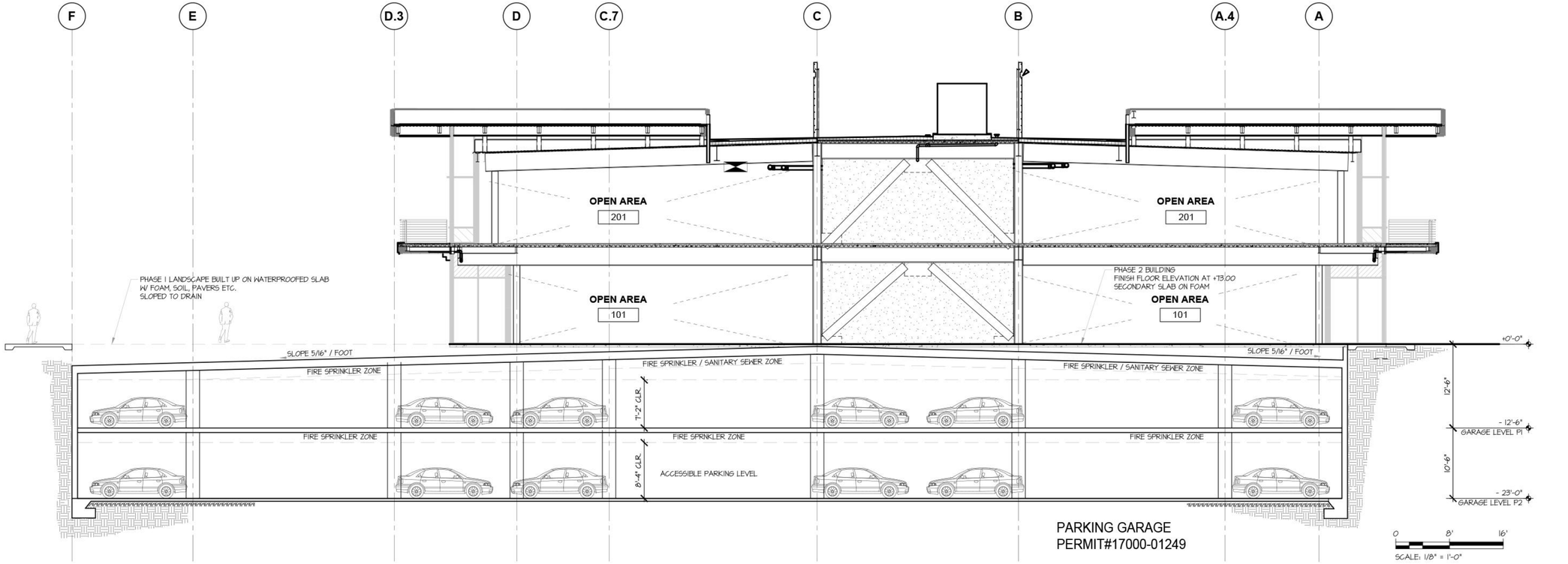
3223 Hanover Street Phase 2
Formal ARB Application
Sand Hill Properties Company

ROOF PLAN & FAR SUMMARY DIAGRAM

A 2.2
June 14, 2017
November 20, 2017
April 2, 2018

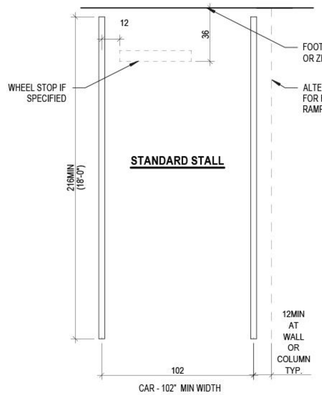


ACCESSIBILITY PARKING SIGN



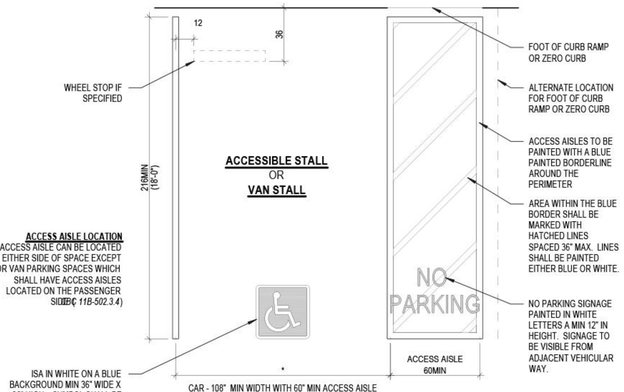
PARKING GARAGE
PERMIT#17000-01249

PARKING GARAGE AND PHASE 2 BUILDING SECTION

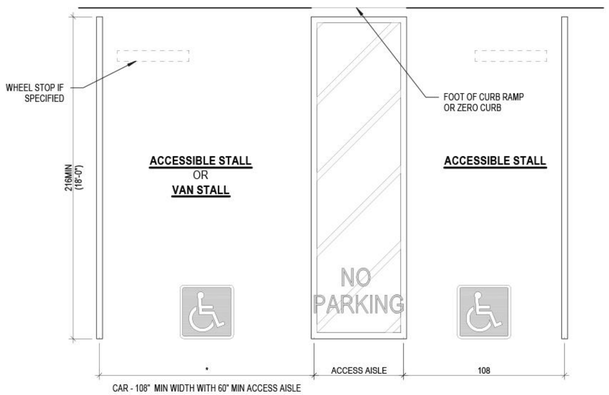


(PAMC 18.54.07)

SINGLE STANDARD STALL



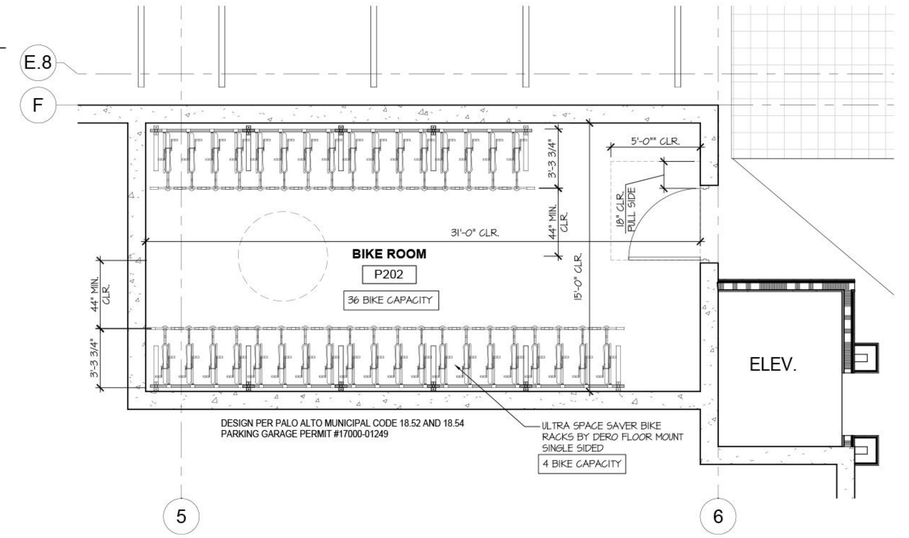
SINGLE PARKING SPACE



DOUBLE PARKING SPACE

(SEE SINGLE PARKING SPACE DRAWING FOR SIM REQUIREMENTS)

PARKING GARAGE
PERMIT#17000-01249



PARKING GARAGE - ENLARGED BIKE ROOM PLAN - LOWER LEVEL P2

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3223 Hanover Street Phase 2

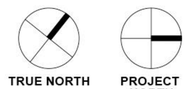
Formal ARB Application

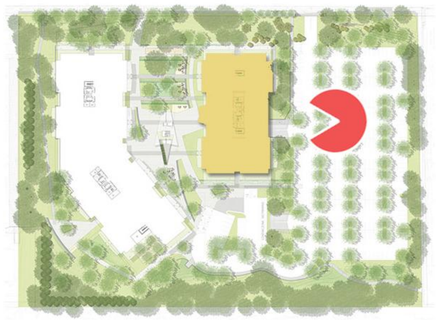
Sand Hill Properties Company

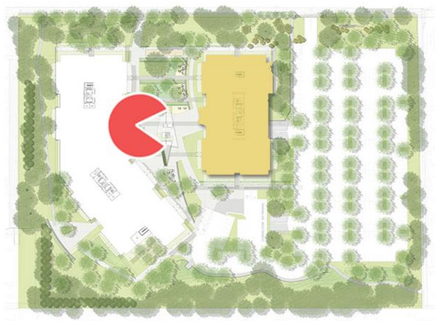
RENDERING - CENTRAL COURTYARD

A 3.1

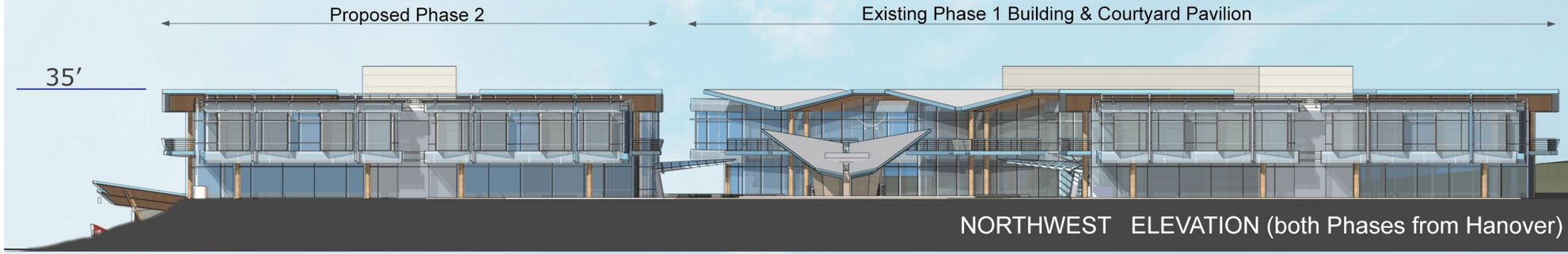
June 14, 2017





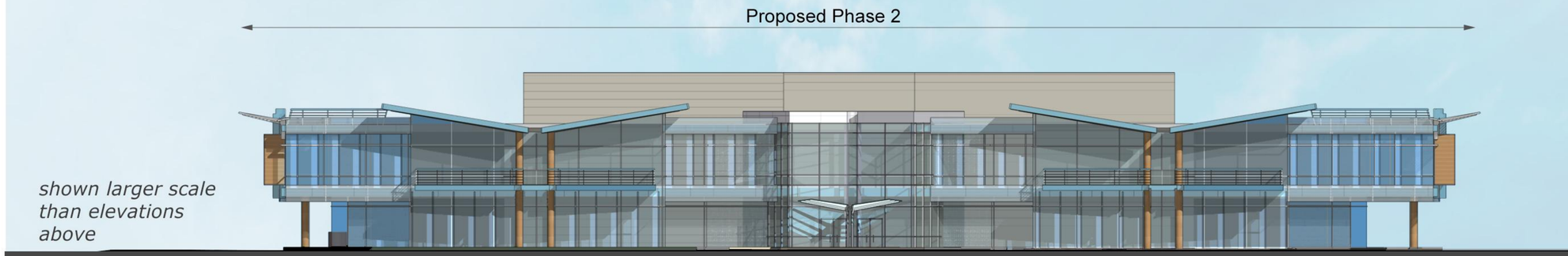


No building element is taller than 35'
other than the mechanical equipment screen (exempt).



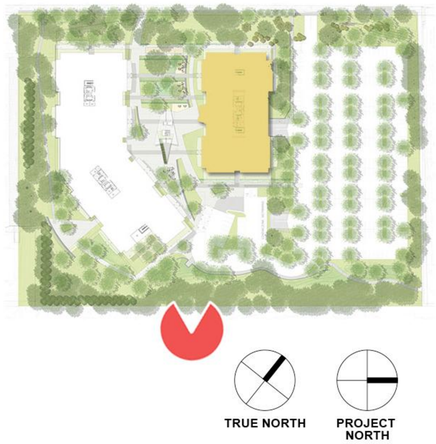
NORTHWEST ELEVATION (both Phases from Hanover)

NORTHEAST ELEVATION (from Lower Parking Area)



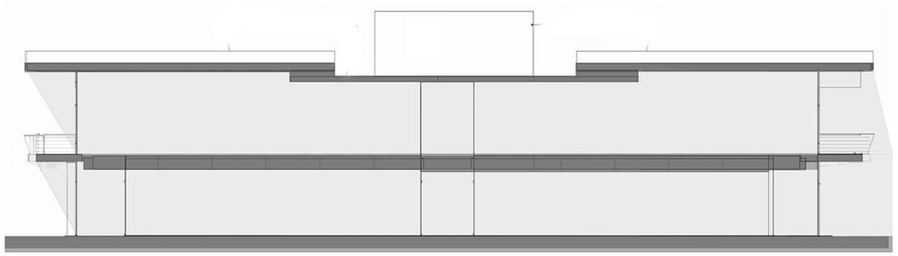
shown larger scale than elevations above

SOUTHWEST ELEVATION (from Courtyard)



SUSTAINABILITY STRATEGY:

The balconies & butterfly roofs on this project effectively shade the glass skin no matter where the sun is. The combination of high efficiency low emissivity clear glass and almost complete shading will control heat gain and provide a highly efficient envelope.



SECTION SHOWING
OVERHANGING ROOF

PRELIMINARY ENERGY MODEL

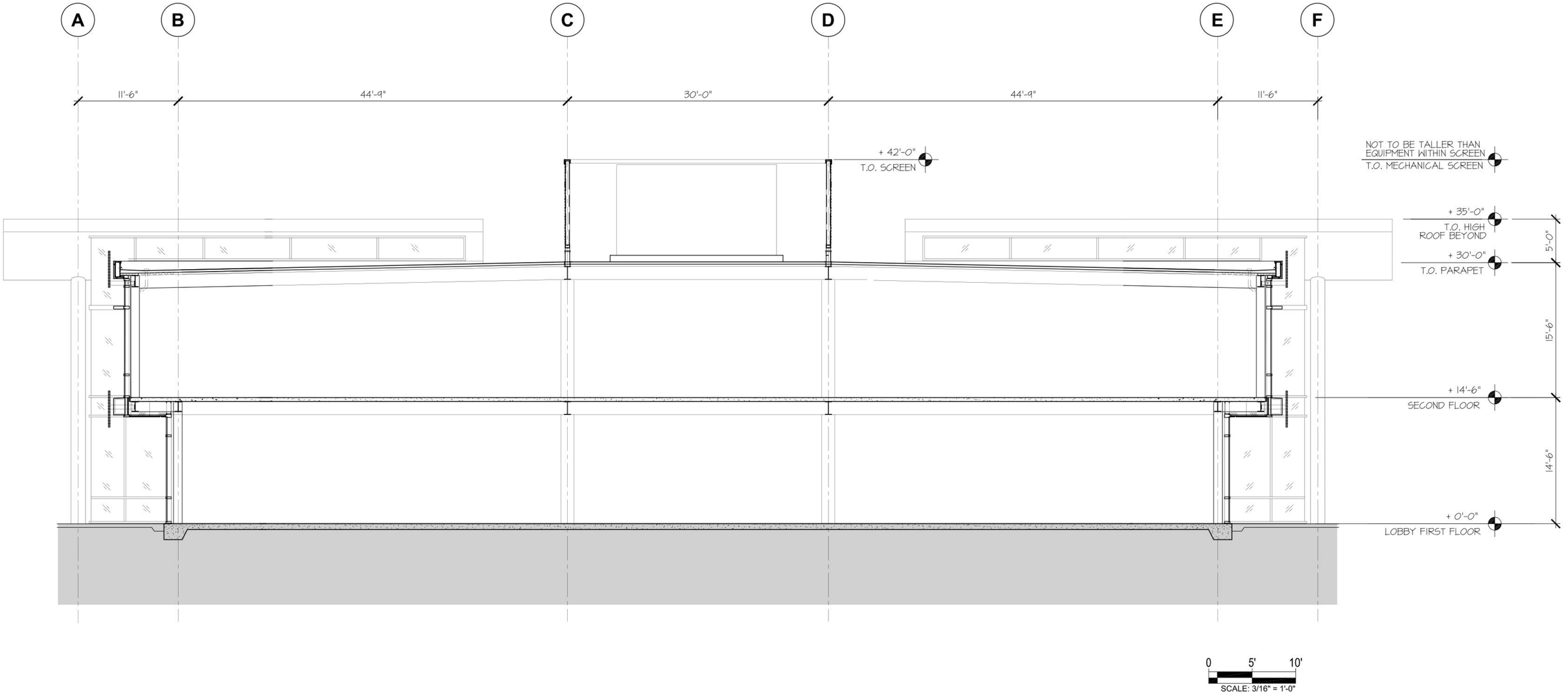
The preliminary energy model is shown to the right, and the project exceeds the City's requirement of 10%.

Project Name:	3223Hanover_Preliminary_T24	NRCC-PRF-01-E	Page 1 of 21
Project Address:	3251 Hanover Street Palo Alto 94306	Calculation Date/Time:	09:34, Thu, Jun 01, 2017
Compliance Scope:	NewComplete	Input File Name:	3223Hanover.cibd16

A. PROJECT GENERAL INFORMATION					
1.	Project Location (city)	Palo Alto	**8.**	Standards Version	Compliance2016
2.	CA Zip Code	94306	**9.**	Compliance Software (version)	CBECC-Com 2016.2.1 (868)
3.	Climate Zone	4	**10.**	Building Orientation (deg)	(N) 0 deg
4.	Total Conditioned Floor Area in Scope	66,982 ft^2	**11.**	Permitted Scope of Work	NewComplete
5.	Total Unconditioned Floor Area	2,684 ft^2	**12.**	Building Type(s)	Nonresidential
6.	Total # of Stories (Habitable Above Grade)	2	13	Gas Type	NaturalGas
7.	Total # of dwelling units	0			

B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft^2-yr)				**§ 140.1**
BUILDING COMPLIES				
1. Energy Component	**2. Standard Design (TDV)**	**3. Proposed Design (TDV)**	**4. Compliance Margin (TDV)**	**5. Percent Better than Standard**
Space Heating	14.29	13.05	1.24	8.7%
Space Cooling	45.83	36.51	9.32	20.3%
Indoor Fans	16.53	16.93	-0.40	-2.4%
Heat Rejection	--	--	--	--
Pumps & Misc.	1.08	1.10	-0.02	-1.9%
Domestic Hot Water	1.77	1.62	0.15	8.5%
Indoor Lighting	32.64	31.43	1.21	3.7%
COMPLIANCE TOTAL	**112.14**	**100.64**	**11.50**	**10.3%**
Receptacle	110.62	110.62	0.0	0.0%
Process	--	--	--	--
Other Ltg	1.25	1.25	0.0	0.0%
TOTAL	**224.01**	**212.51**	**11.5**	**5.1%**

CA Building Energy Efficiency Standards- 2016 Nonresidential Compliance Report Version: NRCC-PRF-01-E-05312017-4377 Report Generated at: 2017-06-01 09:50:02



FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

3223 Hanover Street Phase 2

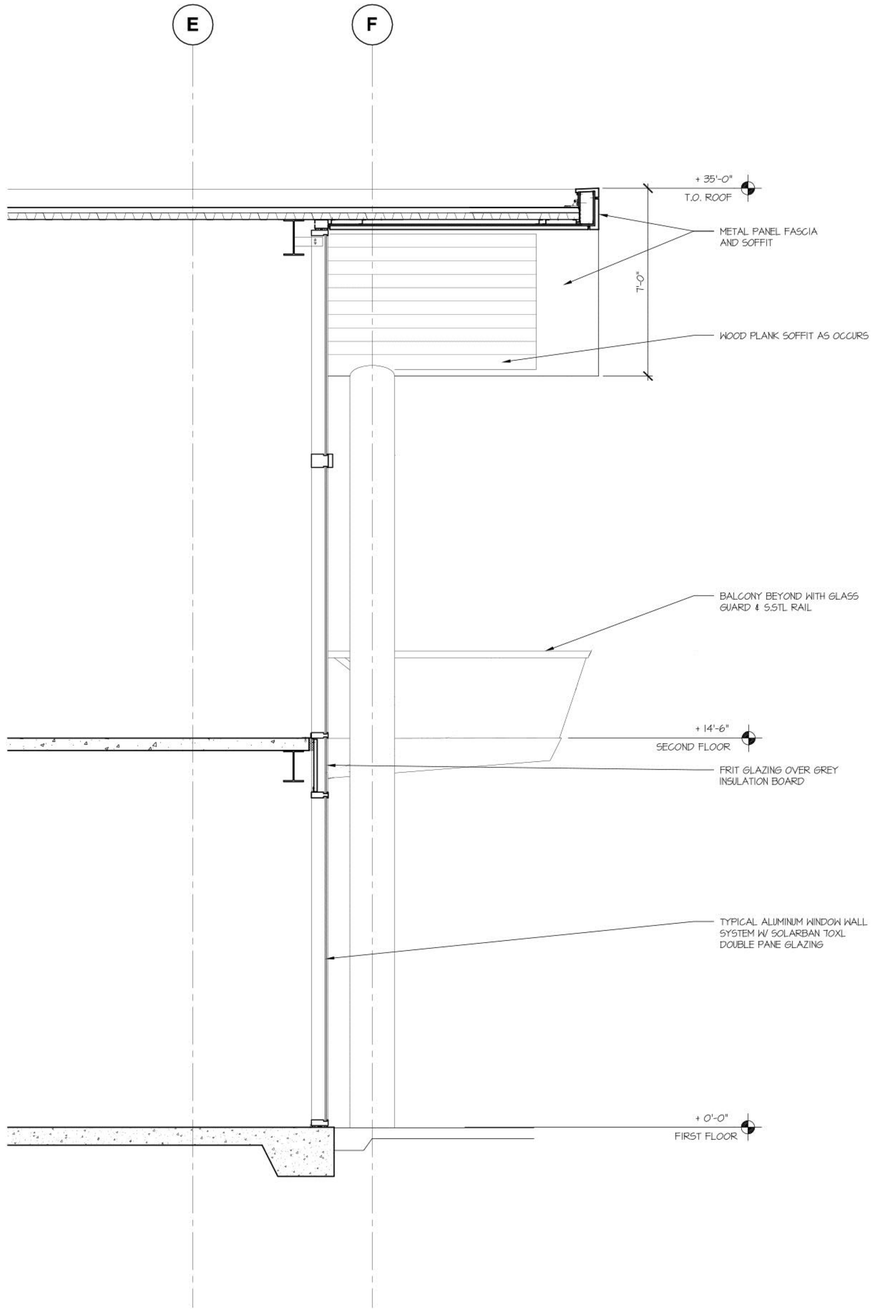
Formal ARB Application

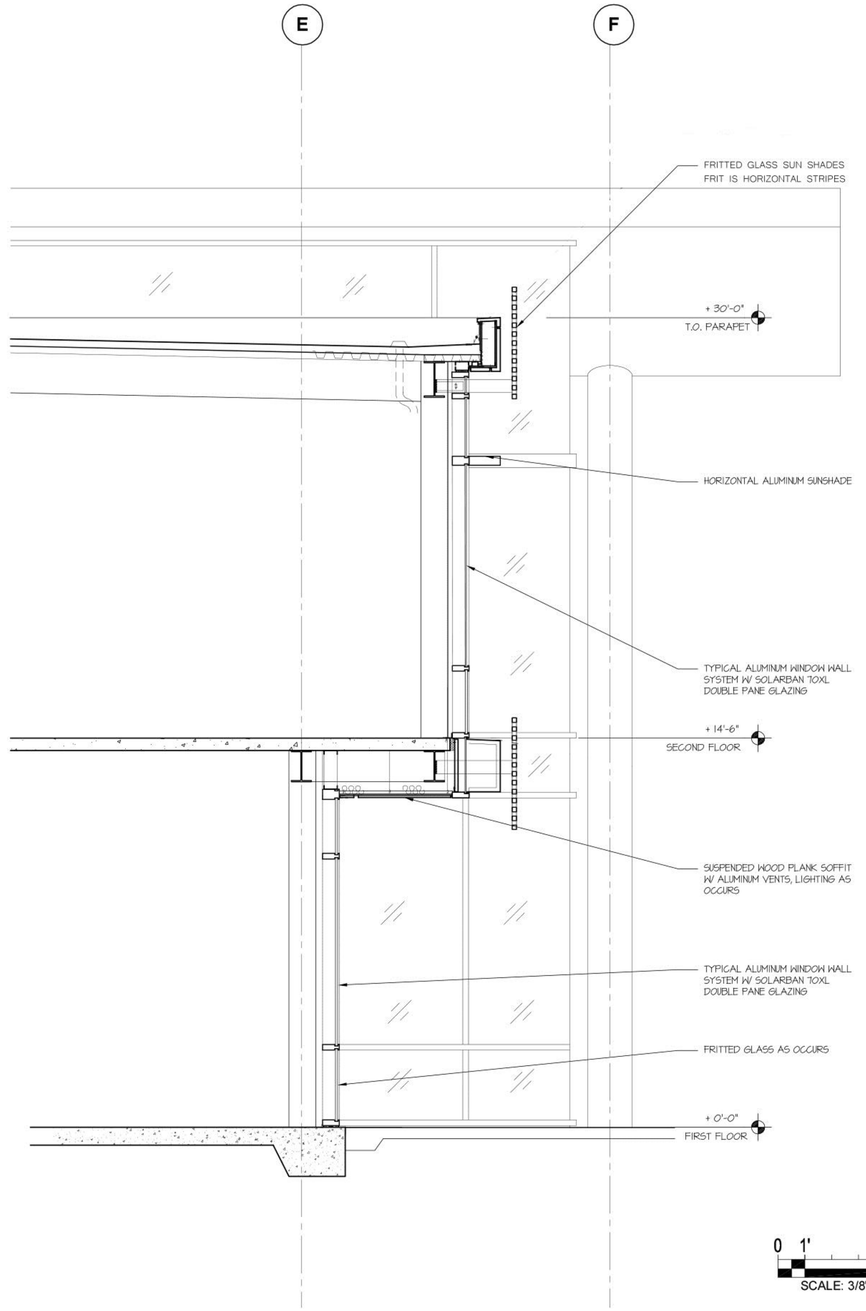
Sand Hill Properties Company

BUILDING SECTION

A 4.1

June 14, 2017





0 1' 5'

SCALE: 3/8" = 1'-0"

FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

3223 Hanover Street Phase 2

Formal ARB Application

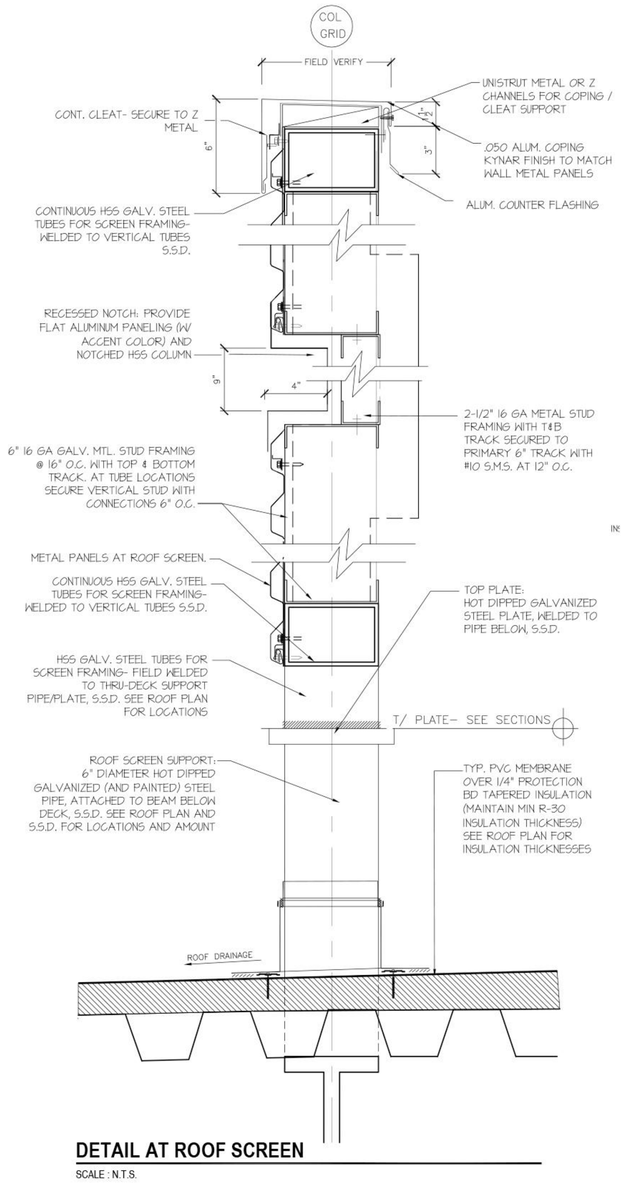
Sand Hill Properties Company

WALL SECTIONS

A 4.2

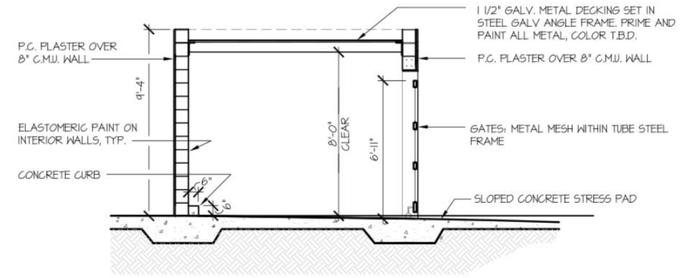
June 14, 2017

January 12, 2018



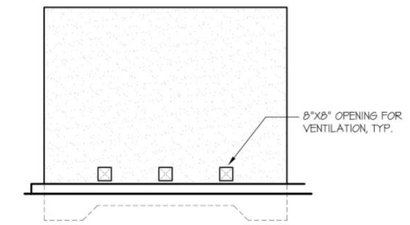
DETAIL AT ROOF SCREEN

SCALE : N.T.S.



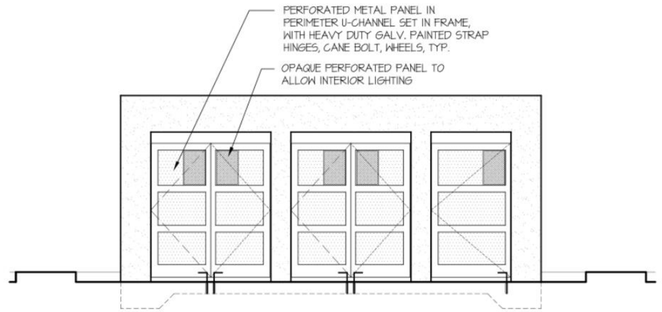
TYP. TRASH ENCLOSURE SECTION 4

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



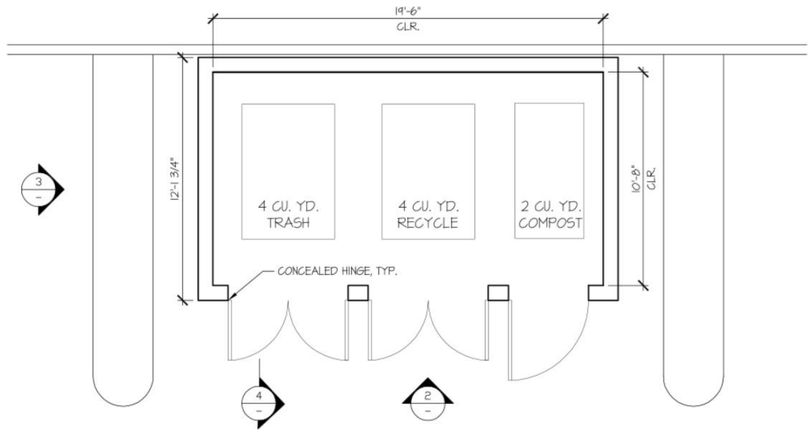
TYP. TRASH ENCLOSURE ELEVATION 3

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



TYP. TRASH ENCLOSURE ELEVATION 2

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



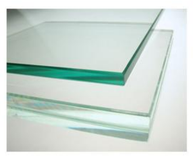
TYPICAL TRASH ENCLOSURE PLAN 1

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

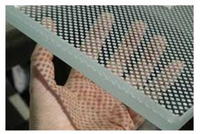
Fascias & Balcony Edges: Metalic Blue

Aluminim Mullions, Lobby Entry Canopy & Sun Shades: “Silversmith”

Soffits & Wood Sides at Bay Windows: Wood Boards stained per sample left



Primary Glass: Clear - Solarban 70 or similar



Glass 30” off floor, both floors (except at bay windows on Hanover): Clear with grey polka dot frit

Floating Gass Sun Shades: Striated Fritted Clear Glass

3223 Hanover Street Phase 2
Formal ARB Application
Sand Hill Properties Company

MATERIALS & COLORS

A 6.0
June 14, 2017
April 2, 2018

PLANTING NOTES

1. PROVIDE MATCHING SIZES AND FORMS FOR EACH SPECIES FOR TREES INSTALLED IN GRID OR SPACED EQUALLY IN ROWS AS SHOWN ON DRAWINGS. ALIGN TREES ACROSS ROADWAYS, DRIVES OR WALKWAYS. ADJUST SPACING AS NECESSARY, SUBJECT TO REVIEW BY THE LANDSCAPE ARCHITECT.
2. PROVIDE MATCHING SIZES AND FORMS FOR ALL HEDGE PLANTINGS. SPACE EQUALLY ON TRIANGULAR OR GRID SPACING AS CALLED FOR ON DETAIL.
3. INSTALL ROOT BARRIER AT ALL TREES LOCATED WITHIN FOUR (4) FEET OF BACK OF CURB, EDGE OF WALL OR PAVING.
4. MARK OFF ALL MAJOR SHRUB AND GROUNDCOVER AREAS ON THE GROUND FOR REVIEW BY LANDSCAPE ARCHITECT PRIOR TO INSTALLING MATERIALS.
5. FORM BERMED WATERING BASIN AROUND ALL TREES INSTALLED IN SHRUB OR GROUNDCOVER AREAS. FILL BASIN WITH WOOD CHIP MULCH AS SHOWN ON DETAIL AND AS SPECIFIED. DO NOT INSTALL BERM AT TREES IN LAWN OR PAVED AREAS.
6. EQUALLY SPACE VINES PLANTED IN ROWS AGAINST WALLS OR FENCES. SEE DRAWINGS FOR QUANTITY AND SPACING. REMOVE ALL VINES FROM NURSERY STAKES AND SPREAD OUT ONTO WALL PRIOR TO ATTACHING TO SURFACE. SIMILARLY ATTACH VINES AT PILASTERS OR POSTS.
7. STAKE OUT LOCATION OF EACH TREE AS SPECIFIED. EACH LOCATION OF ALL TREES SHALL BE ACCEPTED BY LANDSCAPE ARCHITECT PRIOR TO FINAL INSTALLATION.
8. EXACT PLACEMENT FOR ALL HEADERS SHALL BE ACCEPTED BY LANDSCAPE ARCHITECT PRIOR TO FINAL INSTALLATION.
9. COORDINATE WITH IRRIGATION AND LIGHTING CONSULTANTS AS NECESSARY TO ASSURE CORRECT PLACEMENT OF SPRAY HEADS AND LIGHTING AT TREES.
10. PLANT NAMES MAY BE ABBREVIATED ON THE DRAWINGS. SEE PLANT LIST FOR KEY AND CLASSIFICATION.
11. ALL PLANT COUNT QUANITIES ARE SHOWN FOR CONTRACTOR CONVENIENCE ONLY. CONTRACTOR SHALL VERIFY ALL FINAL PLANT COUNTS.

LANDSCAPE LIGHTING NOTES

1. THIS DRAWING IS PROVIDED FOR INFORMATION IN LOCATION OF FIXTURES ON SITE ONLY. REFER TO THE ELECTRICAL ENGINEER'S DRAWINGS FOR ALL EQUIPMENT, TRANSFORMERS, VAULTS, CONDUIT, JUNCTION BOXES, PANEL BOARDS, BREAKERS AND SCHEDULES.
2. ALL POLE– AND RISER–MOUNTED LIGHTING SHALL BE INSTALLED PLUMB. ALL WALL–MOUNTED LIGHT FIXTURES SHALL BE INSTALLED HORIZONTALLY REGARDLESS OF SLOPE OF ADJACENT WALLS OR SURFACES.
3. COORDINATE INSTALLATION OF TREE UPLIGHTS WITH TREE PLANTING WORK UNDER THE PLANTING SECTION. ALL TREE UPLIGHTS SHALL BE ADJUSTED AS DIRECTED BY THE LANDSCAPE ARCHITECT.
4. LIGHTING MEANT TO BE INSTALLED WITHIN THE TREE CANOPY OR UPON THE TRUNK SHALL BE ATTACHED IN A MANNER SO AS NOT TO CAUSE DAMAGE TO THE TREE AND NOT INHIBIT PLANT GROWTH. SEE DETAILS.

LANDSCAPE FINE GRADING NOTES

I. VERIFY ELEVATIONS OF ALL EXISTING BUILDINGS, WALLS, DRAINS, ROADS AND CURBS EFFECTING LANDSCAPE SCOPE OF WORK WITH RELEVANT ARCHITECTURAL AND ENGINEERING DRAWINGS PRIOR TO COMMENCING SITE WORK.
2. VERIFY LOCATION OF ALL DRAINS, MANHOLES, CONDUIT AND PIPING WITH THE ENGINEER'S DRAWINGS.
3. HOLD FENCES, POSTS, AND TOPS OF WALLS LEVEL UNLESS INDICATED OTHERWISE. HOLD ALL PATH POSTS PLUMB REGARDLESS OF ADJACENT SLOPES.
4. PROVIDE SMOOTH EVEN TRANSITIONS BETWEEN SLOPES AND RELATIVELY LEVEL AREAS. MAINTAIN UNIFORM PLANES OF GRADING WITH LOW SPOTS OR LOCALIZED MOUNDS UNLESS CALLED FOR ON DRAWINGS. ROUND OFF TOPS AND TOES OF SLOPES.
5. GRADES NOT OTHERWISE INDICATED SHALL BE UNIFORM LEVELS OR SLOPES BETWEEN SPOT ELEVATIONS GIVEN.
6. ALL GRADES DISTURBED DURING INSTALLATION OF IRRIGATION LINES AND EQUIPMENT SHALL BE RESTORED PRIOR TO COMMENCEMENT OF PLANTING OPERATIONS.
7. ALL GRADED AREAS SHALL BE TRUE TO GRADE WITHIN ONE INCH WHEN TESTED WITH A 10–FOOT STRAIGHT EDGE.
8. ALL WORK PERFORMED WITHIN THE DRIP LINE OF TREES DESIGNATED "EXISTING TREES TO REMAIN" SHALL BE HAND LABOR. SEE LAYOUT PLAN AND SPECIFICATIONS FOR RESTRICTIONS.

LANDSCAPE LAYOUT NOTES

1. VERIFY LOCATION OF ALL BUILDINGS, WALLS, ROADS AND CURBS AFFECTING LANDSCAPE SCOPE OF WORK WITH RELEVANT ARCHITECTURAL AND ENGINEERING DRAWINGS PRIOR TO COMMENCING SITE WORK. UNLESS OTHERWISE NOTED, PROVIDE 2% SLOPE AWAY FROM BUILDING IN PLANTING AND PAVED AREAS.
2. VERIFY LOCATION OF ALL VAULTS, ELECTRICAL DUCT BANKS, MANHOLES, CONDUIT AND PIPING, DRAINAGE STRUCTURES, LIGHTING AND OTHER UTILITIES WITH THE APPROPRIATE ENGINEER'S DRAWINGS.
3. WHERE NOT SHOWN ON LANDSCAPE DRAWINGS, SEE CIVIL ENGINEER'S DRAWINGS FOR ROADWAY CENTERLINE, STATION POINTS, BENCH MARKS AND BUILDING SETBACKS.
4. TAKE ALL DIMENSIONS FROM FACE OF CURB, WALL OR BUILDING OR TO CENTERLINE OF BUILDING COLUMNS OR TREES UNLESS OTHERWISE NOTED.
5. ALL DIMENSIONS CALLED OUT AS "EQUAL" SHALL BE EQUAL DISTANT MEASUREMENTS BETWEEN THE TWO REFERENCE POINTS SHOWN.
6. ALL ANGLES SHALL BE 90 DEGREES AND ALL LINES OF PAVING AND FENCING SHALL BE HELD PARALLEL UNLESS OTHERWISE NOTED ON THE DRAWINGS. MAINTAIN HORIZONTAL ALIGNMENT FOR ALL ADJACENT ELEMENTS SO REFERENCED ON THE DRAWINGS.
7. ALL ITEMS DESIGNATED AS "SIMILAR" OR "TYPICAL" SHALL BE CONSTRUCTED IN THE MANNER OF THE DETAIL REFERENCED, WITH MINOR ADJUSTMENT FOR SPECIFIC CONDITION.
8. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALE APPARENT ON DRAWINGS. DO NOT SCALE FROM DRAWINGS. SEE ENLARGED PLANS AND SPECIFIC DETAILS FOR ADDITIONAL INFORMATION.
9. INDIVIDUAL NOTES AND DETAILS ON SPECIFIC DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND GENERIC DETAILS.
10. ALL WORK PERFORMED WITHIN THE DRIP LINE OF TREES DESIGNATED AS "EXISTING TREES TO REMAIN" SHALL BE HAND LABOR. NO ROOTS OVER ONE INCH IN CALIPER SHALL BE SEVERED WITHOUT REVIEW AND ACCEPTANCE BY LANDSCAPE ARCHITECT OR ARBORIST.
11. ALL CONCRETE SLABS, RAMPS, STAIRS OR FOOTINGS SHALL BE DOWELED INTO ABUTTING WALLS, FOUNDATIONS OR FOOTINGS USING BARS OF THE SAME SIZE AND SPACING UNLESS NOTED OTHERWISE. SEE JOINTING DETAILS. PROVIDE CONTINUOUS EXPANSION JOINT AT ALL DOWELED CONNECTIONS.

MATERIALS SCHEDULE – 3223 HANOVER STREET (PH2)

SYMBOL	DESCRIPTION	LOCATION	PRODUCTS/ITEM #	FINISH/COLOR	SOURCE
PAVING					
PV–1	ASPHALT		S.C.D.		
PV–2	4" CONCRETE PAVING – PED (1'–5" SCORE PATTERN)		P.I.P. CONCRETE, ⅜" TOOL JOINT, ⅜" EJ, EVERY 10' O.C.	TOP CAST #15 FINISH, COLOR: PEBBLE	DAVIS COLOR
PV–2a	PRECAST CONCRETE PAVER–PED. TYPE–1		FIELD: NARROW FORMAT PAVER– (ACCENT): 4"x3"X18"	FINISH: SHOT BLAST, COLOR: GRANADA WHITE	ACKERSTONE
PV–3	4" CONCRETE PAVING–PED.		SEE CITY STANDARD	SANDBLAST, NATURAL GRAY	SEE CITY STANDARDS
PV–4	6" CONCRETE PAVING–VEH.		SEE CITY STANDARD	NATURAL GRAY	SEE CITY STANDARDS
PV–5	4" INTERGRAL COLOR CONCRETE ⅜" TOOL JOINT W/ ⅜" EJ.		P.I.P CONCRETE, INTEGRAL COLOR, MED. SAND BLAST FINISH	SANDSTONE	DAVIS COLOR
PV–6	PRECAST CONCRETE PAVER–PED. TYPE 2		NARROW MOD. PAVER, 4"x3"X12"	FINISH: SHOT BLAST, COLOR: PORCELAIN	ACKERSTONE
PV–7	DECOMPOSED GRANITE W/ GRAVEL PAVE2 SYSTEM		1/4" CLEAN/GRAVELPAVE2	D.G. COLOR: SIERRA TAN GRAVELPAVE2: CHARCOAL	SBI BUILDING MATERIALS/ INVISIBLE STRUCTURE
PV–8	NOT USED				
PV–9	6" INTEGRAL COLOR CONCRETE		P.I.P CONCRETE, INTEGRAL COLOR, MED. SAND BLAST FINISH	NATURAL GRAY	SEE CITY STANDARDS
PV–10	TRUNCATED DOME PAVER		2x12"x12"	CITY STANDARDS–CHARCOAL GREY	ACKERSTONE
PV–11	PRECAST CONC. PAVING–VEH. TYPE 1		NARROW MOD. PAVER, 4"x3"X12"	FINISH: SHOT BLAST, COLOR: PORCELAIN	ACKERSTONE
PV–12	PAVE EDGE RESTRAINT (NATURAL GROUND)		3"x3" W/ ASPHALT EDGE	FINISH: MILL	PERMALOC
PV–13	PAVE EDGE RESTRAINT (PODIUM)		3"x3" W/ GEOEDGE	FINISH: MILL	PERMALOC
PV–14	LANDSCAPE HEADER		.125x4" CLEANLINE W/ GEOEDGE	COLOR: BRONZE	PERMALOC
PV–15	SLATE CHIP PAVING		BUCKINGHAM, DIA. SIZE: 3–6"	COLOR: GREY	ECHUGERON SLATE
WALL & CURBS					
W–1	SITE CURB & GUTTER		S.C.D.		
W–2	SEAT WALL – ON PODIUM		P.I.P CONCRETE, INTEGRAL COLOR	FINISH: MED. SAND BLAST, COLOR: SANDSTONE	DAVIS COLOR
W–2a	SEAT WALL – NATURAL GROUND		P.I.P CONCRETE, INTEGRAL COLOR	FINISH: MED. SAND BLAST, COLOR: SANDSTONE	DAVIS COLOR
W–3	NOT USED			PALISADE	LANDSCAPE FORMS
W–4	TRASH ENCLOSURE WALLS		S.A.D.		
W–5	SITE RETAINING WALL – TYPE 1		GRAVITY BLOCK W/ PLANT POCKET	GREY/OLIVE	FURBISH CO. CONTACT: 443.874.7465
W–6	SITE RETAINING WALL – TYPE 2		P.I.P CONCRETE, INTEGRAL COLOR	FINISH: MED. SAND BLAST, COLOR: SANDSTONE	DAVIS COLOR
STAIRS AND RAILS					
S–1	HANDRAIL		CUSTOM	STAINLESS STEEL	CUSTOM
S–2	SITE STAIR		P.I.P. CONCRETE, INTEGRAL COLOR	FINISH: MED. SAND BLAST, COLOR: SANDSTONE	CUSTOM
S–3	SITE RAMP		P.I.P. CONCRETE, INTEGRAL COLOR	FINISH: MED. SAND BLAST, COLOR: SANDSTONE	CUSTOM
SITE FURNISHINGS					
SF–1	BOCCE COURT		SURFACE: BOCCE BUILDERS, ENCLOSURE: P.I.P CONC., INTEGRAL COLOR W/ IPE BUMPER	OFFICIAL WORLD SYNTHETIC, COLOR: LUCA OR TUSCANY	CUSTOM FABRICATION–BOCCE BUILDERS OF AMERICA
SF–2	NOT USED				
SF–3	BISTRO TABLE		OKO, MAMA GREEN	WOOD/STEEL	TENANT TO PROVIDE
SF–4	BISTRO CHAIR		OKO, MAMA GREEN	WOOD/STEEL	TENANT TO PROVIDE
SF–5	COFFEE TABLE		OKO, MAMA GREEN	WOOD/STEEL	TENANT TO PROVIDE
SF–6	BIKE LOCKERS		2 UNIT	GALVANIZED	DURA BIKE
SF–7	LOUNGE CHAIR		OKO, MAMA GREEN	WOOD/STEEL	TENANT TO PROVIDE
SF–8	NOT USED				
SF–9	BIKE RACKS		BOLA	STAINLESS STEEL	LANDSCAPE FORMS
SF–10	LITTER RECEPT./ASH URN		PARC VUE	POWDER COAT	LANDSCAPE FORMS
SF–11	ART PIECE		CUSTOM	GLASS	GORDON HUETHER STUDIO
SF–12	UMBRELLA		OCEAN MAASTER, 9.5' ZERO HORIZON W/ AUTO SCOPE, AUTOLOCK LIFT SYSTEM, SUNBRELLA FABRIC, FISH TAIL CANOPY EDGE, EMBED SLEEVE FOR UMBRELLA POST, TYP., BLUE SKY OUTDOOR, BOB	COLOR: T.B.D	TENANT TO PROVIDE
SF–13	WOODEN BENCH			PALISADE	LANDSCAPE FORMS
DRAINAGE					
D–1	BIORETENTION		S.C.D. FOR DRAINAGE PLAN		
D–2	AREA DRAIN		S.C.D. FOR DRAINAGE PLAN		
D–3	FRENCH DRAIN		S.C.D. FOR DRAINAGE PLAN		
LIGHTING					
L–1	POLE LIGHT				
L–2	BOLLARD LIGHT				
L–3	RECESSED WALL LIGHT				
L–4	IN GRADE UP–LIGHT				

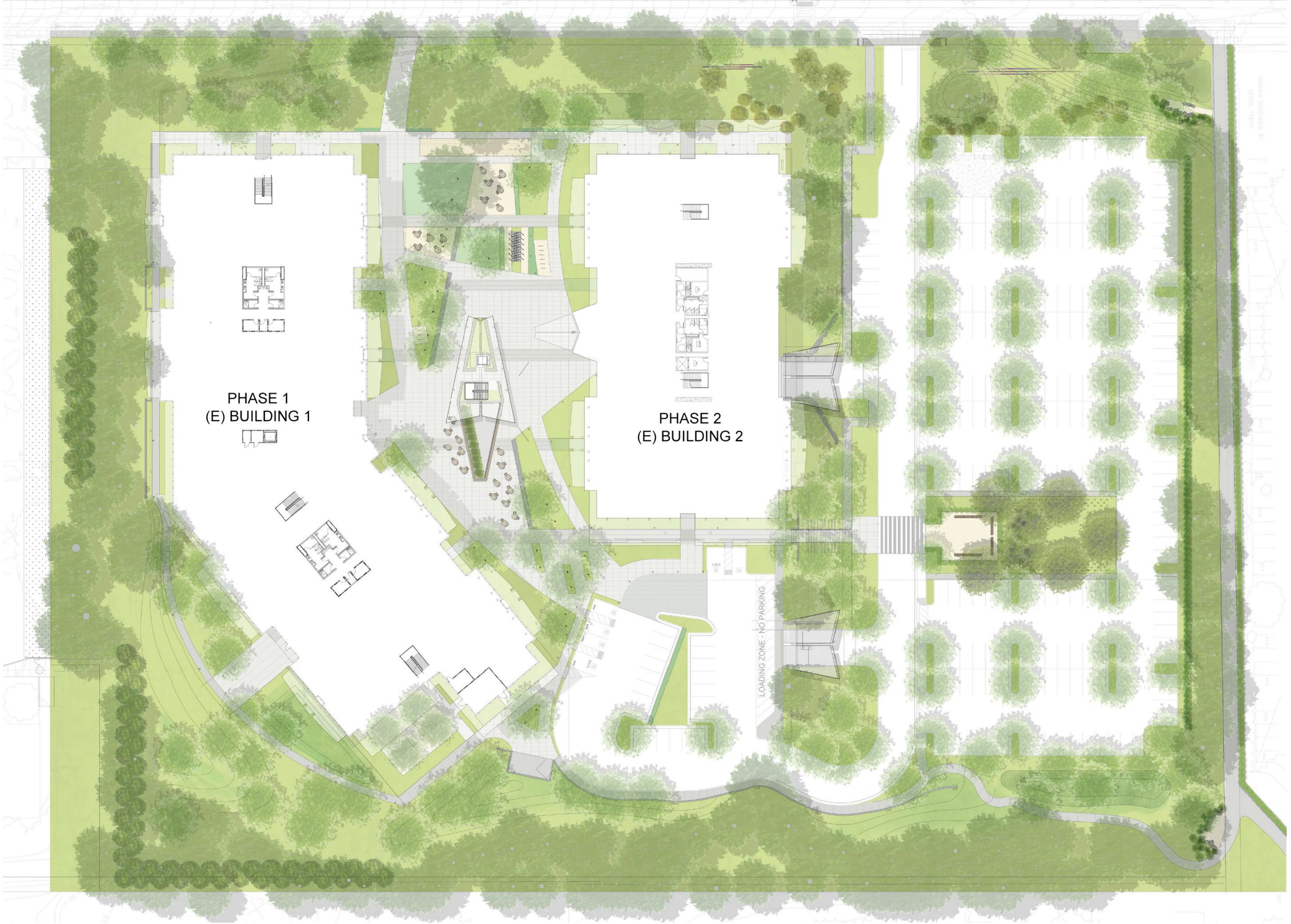
LEGEND & ABBREVIATIONS

- CENTER LINE
- PROPERTY LINE
- MATCH LINE
- (E) OR (EX.) EXISTING
- ALIGN
- TREE TRUNK
- R RADIUS
- S.C.D. SEE CIVIL DWGS
- CL CENTER LINE
- PA PLANTING AREA
- EQ. EQUAL
- FFE FINISHED FLOOR ELEVATION
- TYP TYPICAL
- PLANT CALLOUT (SHRUB)
- XX–# MATERIAL CALLOUT
- EJ EXPANSION JOINT
- BOC BACK OF CURB
- QUANTITY OR SPACING
- BOTANICAL NAME
- XX | XX XXXX / SIZE | XX XXXX PLANT CALLOUT (TREE)
- COMMON NAME
- CONTAINER SIZE

PLANT SCHEDULE – 3223 HANOVER STREET (PH2)

SIZE	ID	BOTANICAL NAME	COMMON NAME	QUANTITY	WUCOL
		TREES			
24" BOX	CER CAN	Cercis canadensis	Redbud		M
24" BOX	QUE KEL	Quercus kelloggii	California Black Oak		M
24" BOX	QUE VIR	Quercus virginiana 'standard'	Southern live Oak		M
36"/48" BOX	QUE AGR	Quercus agrifolia 'natural'	California live oak		M
36" BOX	GLE TRI	Gleditsia tricanthos	Thornless Honey Locust		M
24" BOX	MAG GRA	Magnolia grandiflora	Magnolia 'Majestic Beauty'		M
24" BOX	ROB PSE	Robinia pseudoacacia	Black Locust		M
15 GAL	FEJ SEL	Feijoa sellowiana	Pineapple Guava		L
36" BOX	LAG IND	Lagerstroemia indica 'Natchez'	Crape Myrtle, Single/Multi		L
36" BOX	AES CAL	Aesculus californica	California Buckeye		L
24" BOX	COR CAP	Cornus capitata 'Mountain Moon'	Evergreen Dogwood		L
24" BOX	ARB MAR	Arbutus 'Marina'	Arbutus		L
24" BOX	QUE FRA	Quercus frainetto	Hungarian Oak		L
24" BOX	CED DEO	Cedrus deodara	Himalayan Cedar		L
24" BOX	OLE EUR	Olea europaea	Olive Tree		L
24" BOX	CAR BET	Carpinus beetles 'Fastigiate'	Hornbeam		L
15 GAL	PHY NIG	Phyllostachys nigra	Black Bamboo		L
SIZE	ID	BOTANICAL NAME	COMMON NAME	SPACING	WUCOL
		SHRUBS			
5 Gal.	AUC	Arbutus unedo 'Compacta'	Strawberry Tree	AS SHOWN	L
1 Gal.	APM	Arctostaphylos 'Pacific Mist'	Manzanita	36" O.C.	L
5 Gal.	ARS	Arctostaphylos 'Sunset'	Manzanita	30" O.C.	L
1 Gal.	BPP	Baccharis pilularis 'Pigeon Point'	Coyote Brush	36" O.C.	L
5 Gal.	RCM	Rhamnus cal. 'Mound San Bruno'	Coffee 'Mound San Bruno'	24" O.C.	L
5 Gal.	OLE	Olea europaea 'little ollie'	Little Ollie	AS SHOWN	M
5 Gal.	RA	Rhamnus alternus	Italian Buckthorn	24" O.C.	L
1 Gal.	CAS	Calandrinia spectabilis	Rock Purslane	24" O.C.	L
5 Gal.	CJC	Ceanothus 'Joyce Coulter'	Evergreen Mountain Lilac	24" O.C.	L
5 Gal.	HQ	Hydrangea quercifolia 'Pee Wee'	Oak–leaved Hydrangea	AS SHOWN	M
5 Gal.	PCN	Pittosporum crassifolium 'Nana'	Dwarf Karo	30" O.C.	M
5 Gal.	BJ	Buxus japonica 'Green Beauty'	Green Beauty Boxwood	AS SHOWN	M
15 Gal.	PL	Prunus laurocerasus	English Laurel	AS SHOWN	M
1 Gal	ROS	Rosmarinus officinalis 'Tuscan Blue'	Upright Rosemary	AS SHOWN	L
		PERENNIALS			
1 Gal.	SS	Salvia sonomensis	Creeping Sage	24" O.C.	L
1 Gal.	SC	Salvia charnaedryoides	Blue Sage	24" O.C.	L
4" Pot	AM	Achillea millefolium – White	Yarrow	24" O.C.	L
1 Gal.	SGA	Salvia greggii 'Alba'	White Sage	24" O.C.	L
1 Gal.	VB	Verbena bonariensis	Purple Top Verbena	24" O.C.	L
1 Gal.	BF	Bulbine frutescens	Stalked Bulbine	24" O.C.	M
1 Gal.	GL	Gaura lindheimeri 'Whirling Butterflies'	Gaura Whirling Butterflies	24" O.C.	L
1 Gal.	LSW, LSP	Liatris spicata– White & Lavender	Gayfeather	24" O.C.	M
4" Pot	NF	Nepeta x faassenii	Catmint	24" O.C.	L
4" Pot	ERI	Erigeron karvinskianus	Fleabane	AS SHOWN	M
		SUCCULENTS/GROUNDCOVERS/GRASSES			
5 Gal	AL	Aloe barbadensis	Aloe	24" O.C.	L
15 Gal	YG	Yucca gloriosa	Yucca	24" O.C.	L
4" Pot	SM	Scenecio mantevidensis	Bluefingers	24" O.C.	L
1 Gal.	CS	Cistus spp 'alba'	Sageleaf Rockrose	18/36" O.C.	L
4" Pot	LTL	Leymus tridicoites 'Lagunitas'	Creeping Wild Rye	18" O.C.	L
2" Plug	CP	Carex pansa	California Meadow Sedge	24" O.C.	L
4" Pot	LLB	Lomandra longifolia 'Breeze'	Dwarf Mat Rush	24" O.C.	L
2" Plug	CT	Carex tumulicola	Berkeley Sedge	18" O.C.	M
1 Gal.	JP	Juncus patens	California Gray Rush	24" O.C.	M
2" Plug	MR	Muhlenbergia rigens	Deer Grass	24" O.C.	M
2" Plug	SA	Sesleria autumnalis	Autumn Moor Grass	18" O.C.	M
2" Plug	PS	Pennisetum spathiolatum	Slender Veldt Grass	24" O.C.	L
1 Gal	SBB	Salvia sonomensis 'Bees Bliss'	Creeping Sage	18" O.C.	L
4" Pot	HS	Helictrotrichon sempervirens	Blue Oat Grass	18" O.C.	L
1 Gal.	NC	Nephrolepis cordifolia	Sword Fern	AS SHOWN	M
Sod	FR	Festuca rubra 'No Mow'	Red Fescue/No Mow	24" O.C.	L
		BOTANICAL NAME	COMMON NAME	SPACING	WUCOL
		HYDROSEED			
100%		California Native Wildflower Mix	by Pacific Coast Seed	18 lbs/ac	L

		BOTANICAL NAME	COMMON NAME	SPACING	WUCOL
		GRAVITY BLOCK WALL			
4" Pot	PFT	Pennisetum 'Fairy Tails'	Evergreen Fountain Grass	18" O.C.	L
4" Pot	ERI	Erigeron karvinskianus	Fleabane	18" O.C.	M



FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

3223 Hanover Street Phase 2

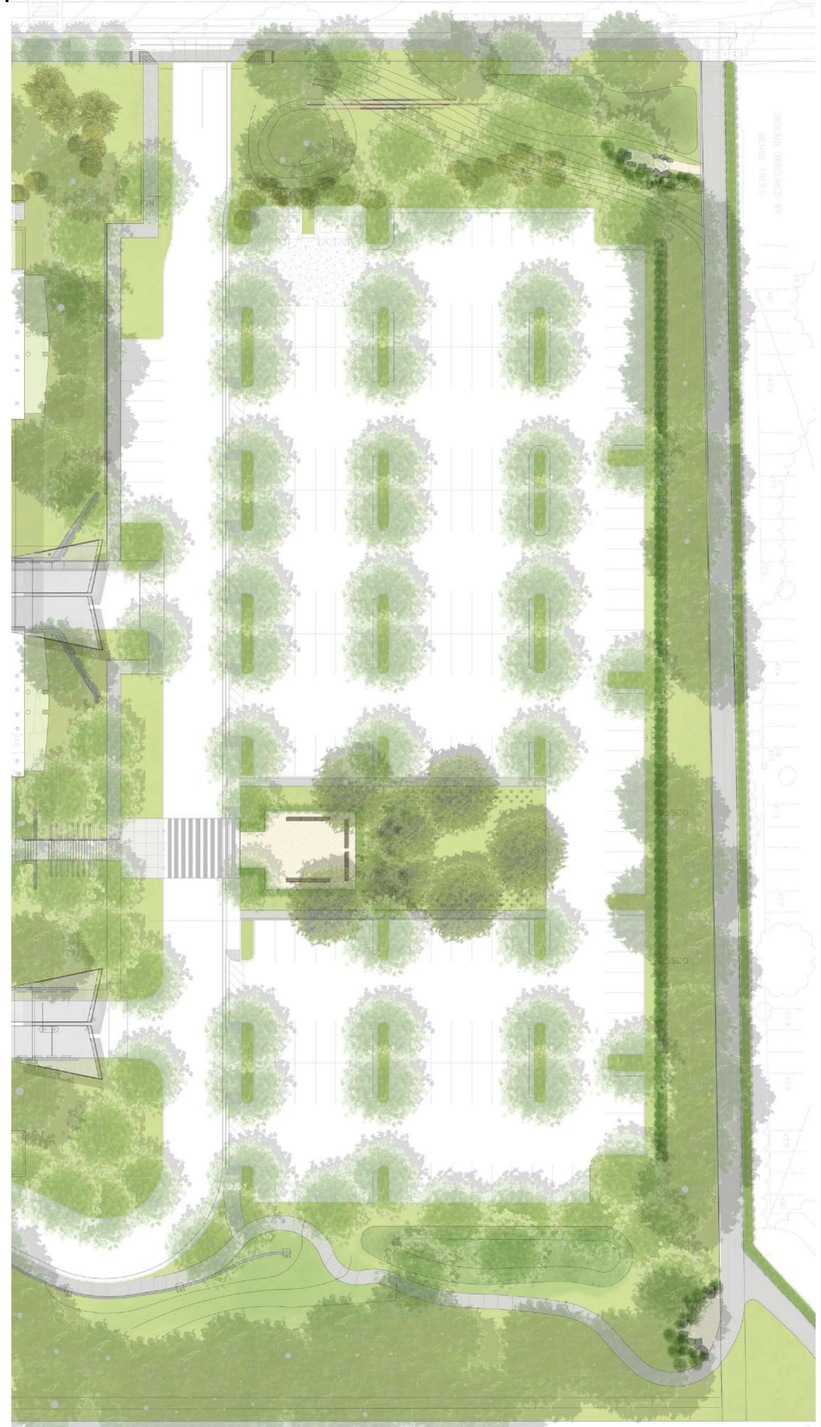
Formal ARB Application

Sand Hill Properties Company

ILLUSTRATIVE LANDSCAPE PLAN

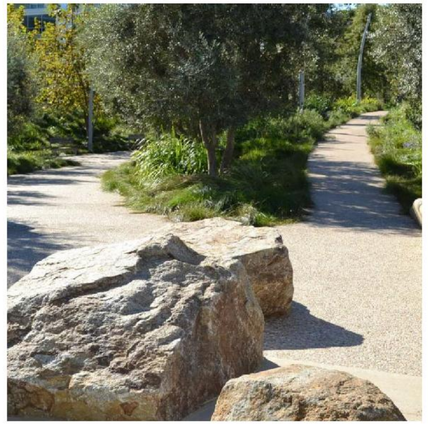
L_0.02

June 14, 2017
November 20, 2017
April 2, 2018

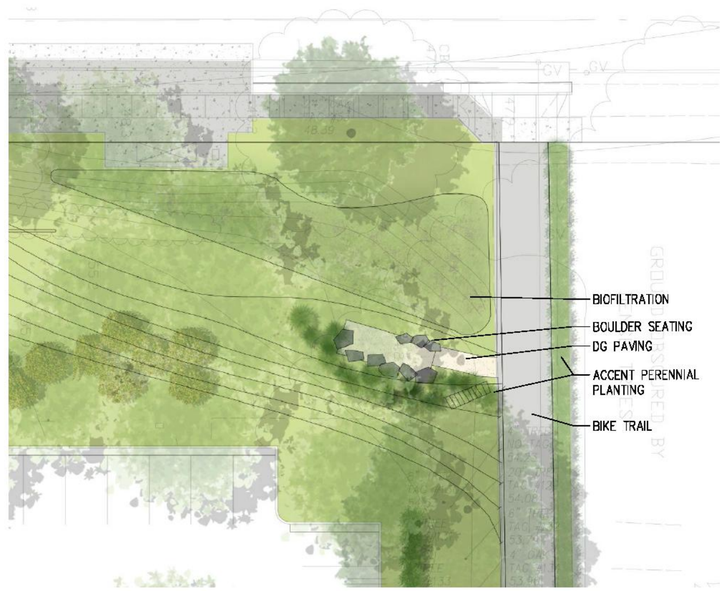


1 OVERALL PARKING LOT W/ BIKE TRAIL
SCALE: NTS FILENAME

BIKE TRAIL HEAD CHARACTER



2 BIKE TRAIL HEAD 1
SCALE: NTS FILENAME



3 BIKE TRAIL HEAD 2
SCALE: NTS FILENAME

3223 Hanover Street Phase 2
Formal ARB Application
Sand Hill Properties Company

ILLUSTRATIVE BIKE TRAIL PLAN

L_0.02A
November 20, 2017
April 2, 2018

Google Image of Bike Path through Site

IESNA recommends light level average for bike paths with residential adjacency to be .5FC AVG. We recommend a uniformity ratio of 4:1 for visual comfort and safety.

The intent is for sufficient continuous illumination that permits bicyclists to see each other as well as the path, and the occassional pedestrian. The recommendation advises that fixture should have minimal distracting glare.

Pole mounted or bollards are both common and acceptable applications for bike path illuminance. We are recommending approx 4'-0" bollard, and have included 2 manufacturer options for competetive pricing.

The City may have a standard product that is recommended for city bike paths. This will need to be explored with the city, as well as any other lighting standards that apply to this usage.

illume
a vision of me engineers

Bike Path Lighting Recommendations

3223 Hanover
Palo Alto, California

2018.03.01

Revision Number:0

Prepared by: Illume/ME

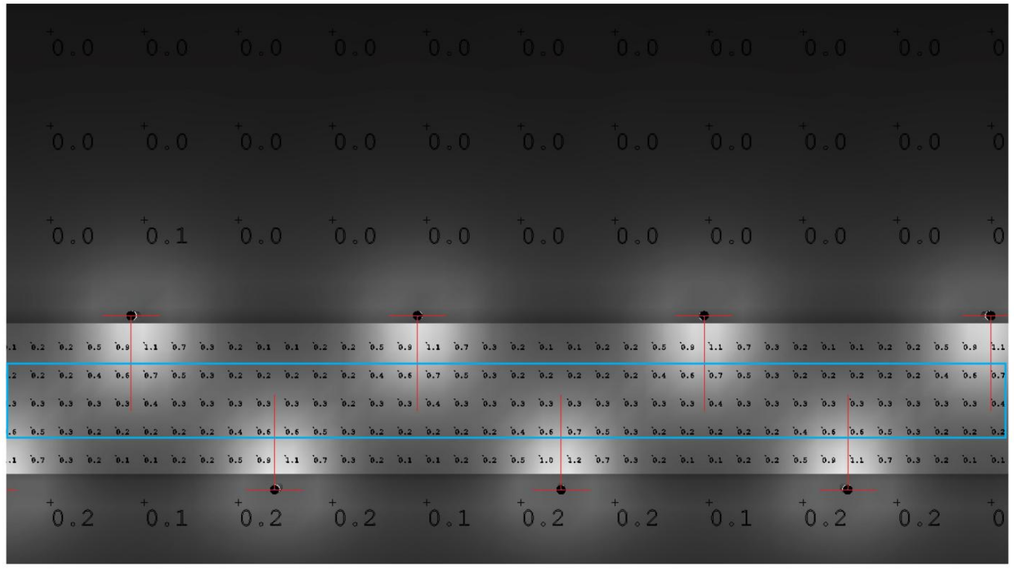
Bollard application

Using a 180 degree beam distribution that focuses light on the pathway, and a 4'-0" height bollard, we recommend this application for low level, consistent horizontal illumination with sufficient vertical illumination for visual recognition. Spacing is 15'-0", alternating sides of pathway for most even illumination.

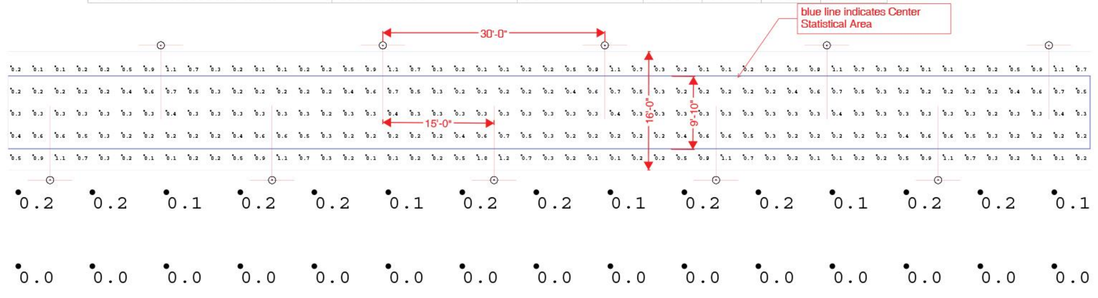
Pole application

Poles tend to be more expensive, have limitations in product selection based on light distribution needed to control spill light as well as glare (shorter poles and potential glare more visible), and may have more visual impact. Paths shared extensively with pedestrians may benefit, however, and if this is the case then this application can be further studied.

STUDIO FIVE | DESIGN
Landscape Architecture + Site Planning

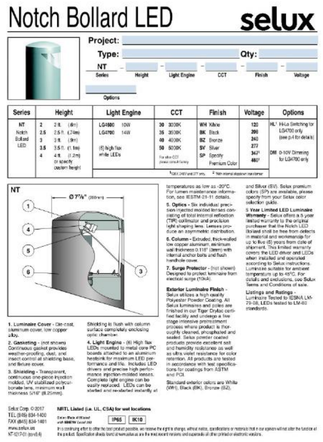


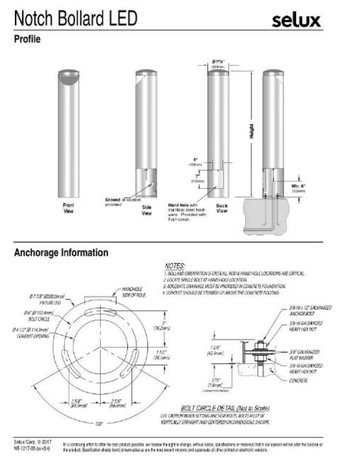
Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
ground_Top_1	Illuminance	Fc	0.04	0.2	0.0	N.A.
path_Top_1	Illuminance	Fc	0.37	1.2	0.1	3.70
CENTER STATISTICAL AREA	Illuminance	Fc	0.33	0.7	0.1	3.30

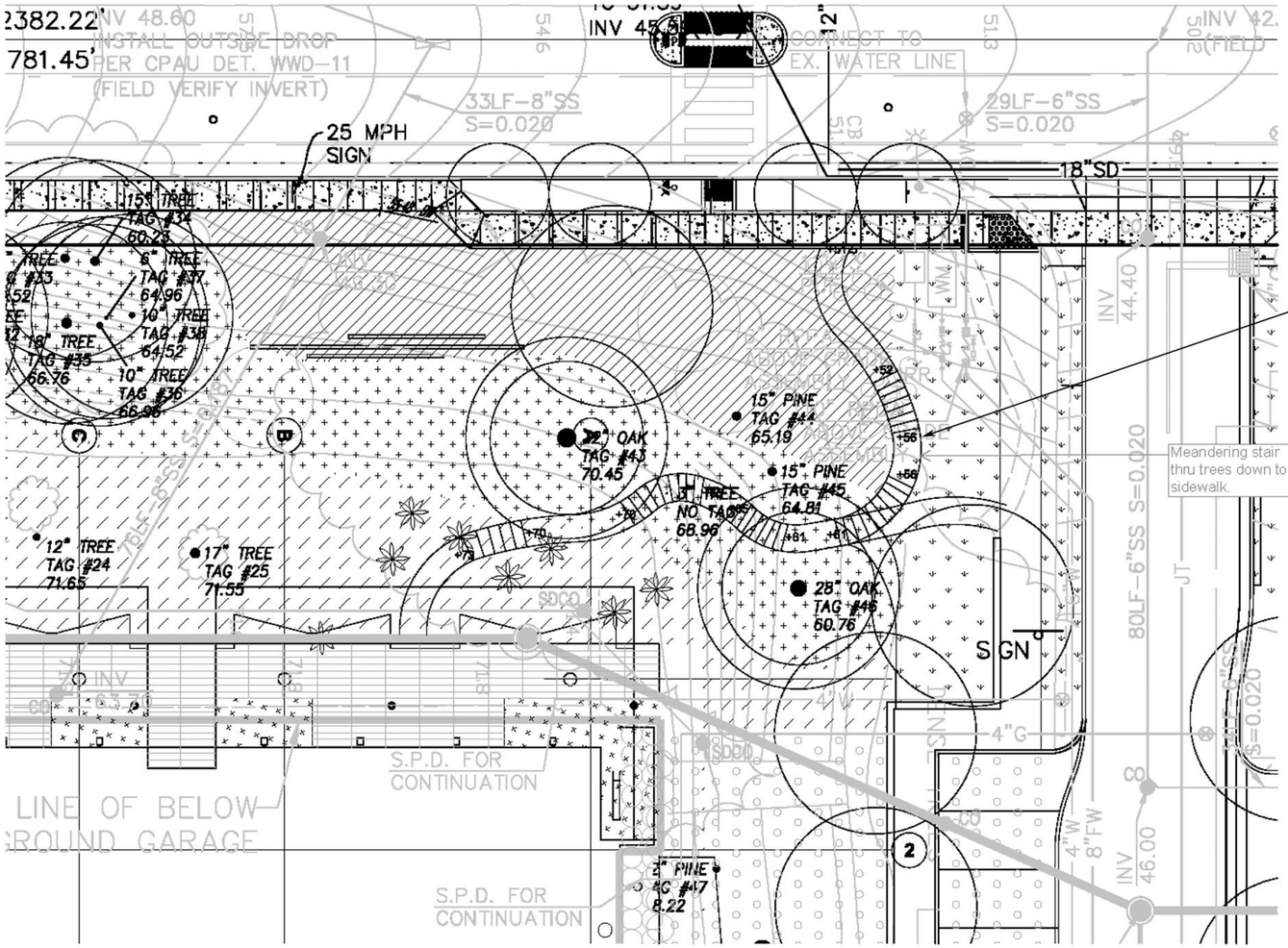


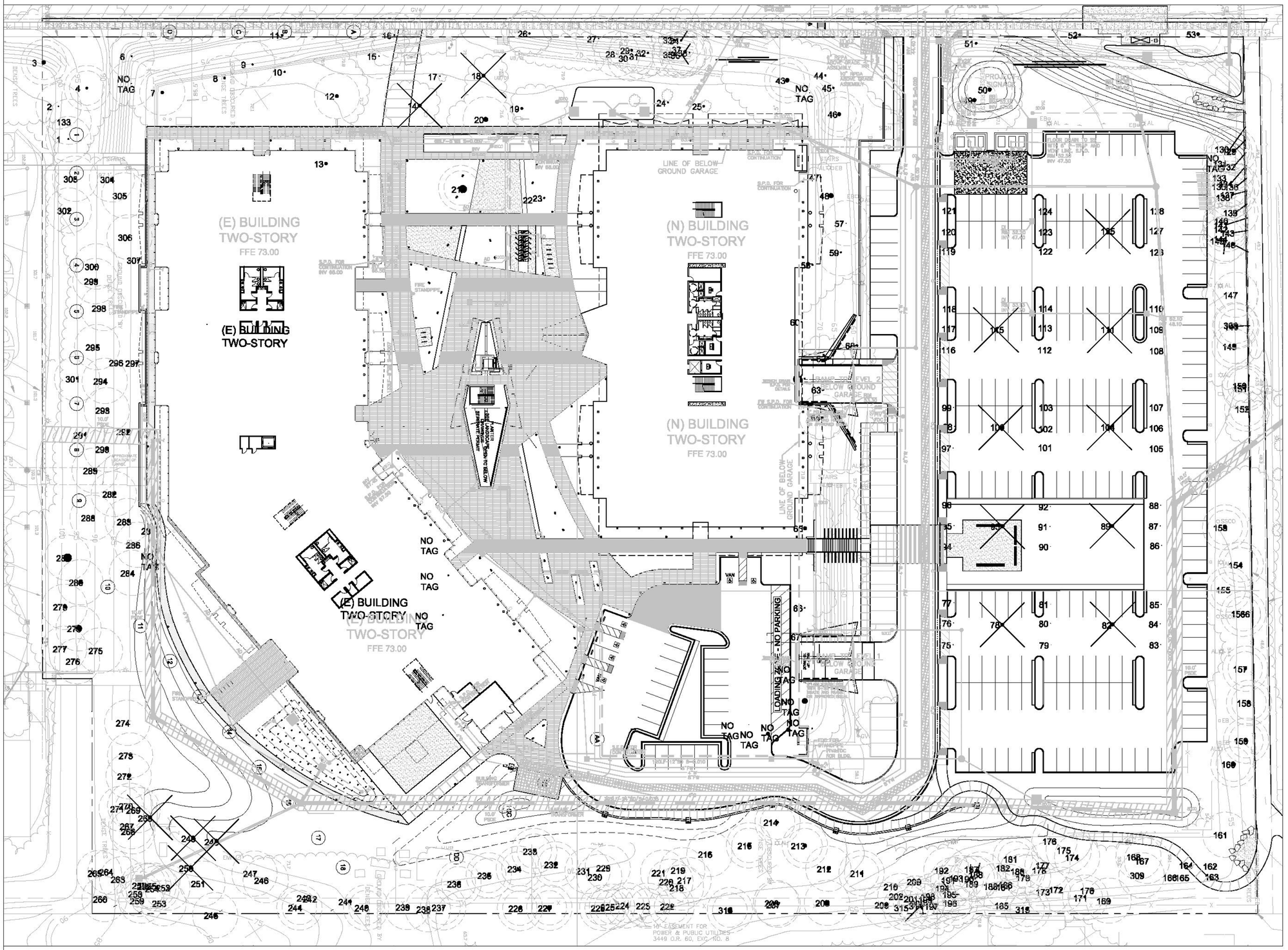
Selux Notch

Characteristics:
180 degree lens, high impact acrylic lens
Single unit, requires full replacement if damaged
3000K, 80 CRI (other CCT options avail)
Die-cast for durability
Finish options: white, black, bronze, silver
Very low visual glare
Estimated unit cost:






MEANDERING STAIR THROUGH TREES DOWN TO SIDEWALK
Meandering stair thru trees down to sidewalk.
25 MPH SIGN
33LF-8"SS S=0.020
29LF-6"SS S=0.020
80LF-6"SS S=0.020
18"SD
INSTALL OUTSIDE DROP PER CPAU DET. WWD-11 (FIELD VERIFY INVERT)
CONNECT TO EX. WATER LINE
INV 48.60
INV 45.5
INV 42.
(FIELD
INV 44.40
INV 46.00
15" TREE TAG #34 60.23
6" TREE TAG #37 64.96
10" TREE TAG #38 64.52
18" TREE TAG #35 66.76
10" TREE TAG #36 66.96
15" PINE TAG #44 65.19
32" OAK TAG #43 70.45
15" PINE TAG #45 64.81
TREE NO TAG 68.96
28" OAK TAG #46 60.76
12" TREE TAG #24 71.65
17" TREE TAG #25 71.55
SIGN
S.P.D. FOR CONTINUATION
LINE OF BELOW GROUND GARAGE
2" PINE TAG #47 8.22
S.P.D. FOR CONTINUATION
4"G
4"W
8"FW
SDCO
JT
TRUE NORTH
PROJECT NORTH
0 10' 20'
SCALE: 1" = 10'-0"



TREE SUMMARY

	REGULATED TREE TO REMAIN	SEE PHASE 1
	TREE TO REMAIN	SEE PHASE 1
	REGULATED TREE TO BE REMOVED	SEE PHASE 1
	TREE TO BE REMOVED	15
T	REGULATED TREE TO BE TRANSPLANTED	SEE PHASE 1

TREES TO BE REMOVED

SYMBOL	TREE NO.	DBH	TREE SPECIES	TREE NO.	DBH	TREE SPECIES
X	14	23"	ALEPPO PINE			
	18	12"	SWEETGUM			
	78	3"	LONDON PLANE TREE			
	82	7"	LONDON PLANE TREE			
	89	7"	LONDON PLANE TREE			
	93	7"	LONDON PLANE TREE			
	100	6"	LONDON PLANE TREE			
	104	7"	LONDON PLANE TREE			
	111	6"	LONDON PLANE TREE			
	115	5"	LONDON PLANE TREE			
	125	7"	LONDON PLANE TREE			
	248	11"	SWEETGUM			
	249	5"	EVERGREEN PEAR			
	250	10"	SWEETGUM			
	268	10",8"	EVERGREEN PEAR			
	TOTAL TREES TO BE REMOVED: 9					
	TOTAL TREES REQUIRED FOR REPLACEMENT: SEE PHASE 1					

TRUE NORTH

0 30' 1"

SCALE: 1" = 30'-0"

FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

3223 Hanover Street Phase 2

Formal ARB Application

Sand Hill Properties Company

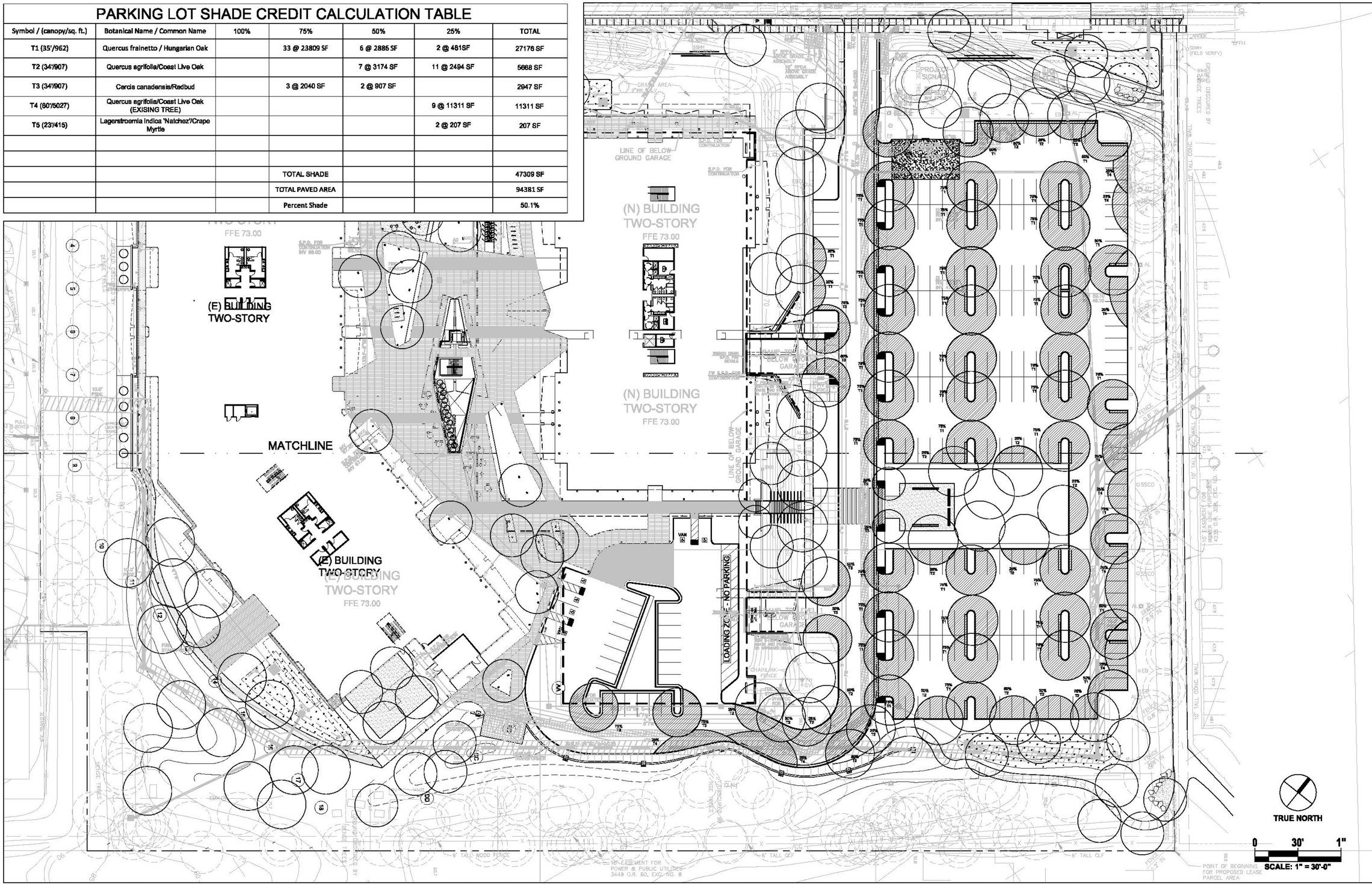
TREE DISPOSITION PLAN

L_0.03

June 14, 2017
November 20, 2017
April 2, 2018

PARKING LOT SHADE CREDIT CALCULATION TABLE

Symbol / (canopy/sq. ft.)	Botanical Name / Common Name	100%	75%	50%	25%	TOTAL
T1 (35'/962)	Quercus frainetto / Hungarian Oak		33 @ 23809 SF	6 @ 2886 SF	2 @ 481SF	27176 SF
T2 (34'/907)	Quercus agrifolia/Coast Live Oak			7 @ 3174 SF	11 @ 2494 SF	5668 SF
T3 (34'/907)	Cercis canadensis/Redbud		3 @ 2040 SF	2 @ 907 SF		2947 SF
T4 (60'/5027)	Quercus agrifolia/Coast Live Oak (EXISING TREE)				9 @ 11311 SF	11311 SF
T5 (23'/415)	Lagerstroemia Indica 'Natchez'/Crape Myrtle				2 @ 207 SF	207 SF
			TOTAL SHADE			47309 SF
			TOTAL PAVED AREA			94381 SF
			Percent Shade			50.1%



FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

3223 Hanover Street Phase 2

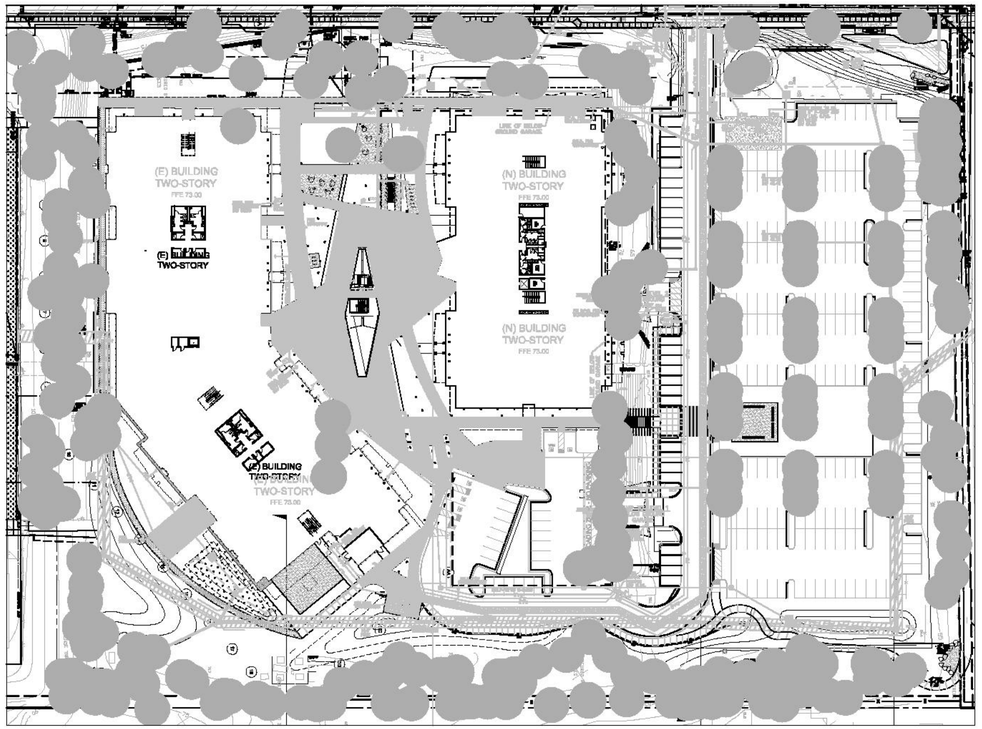
Formal ARB Application

Sand Hill Properties Company

PARKING LOT SHADE PLAN

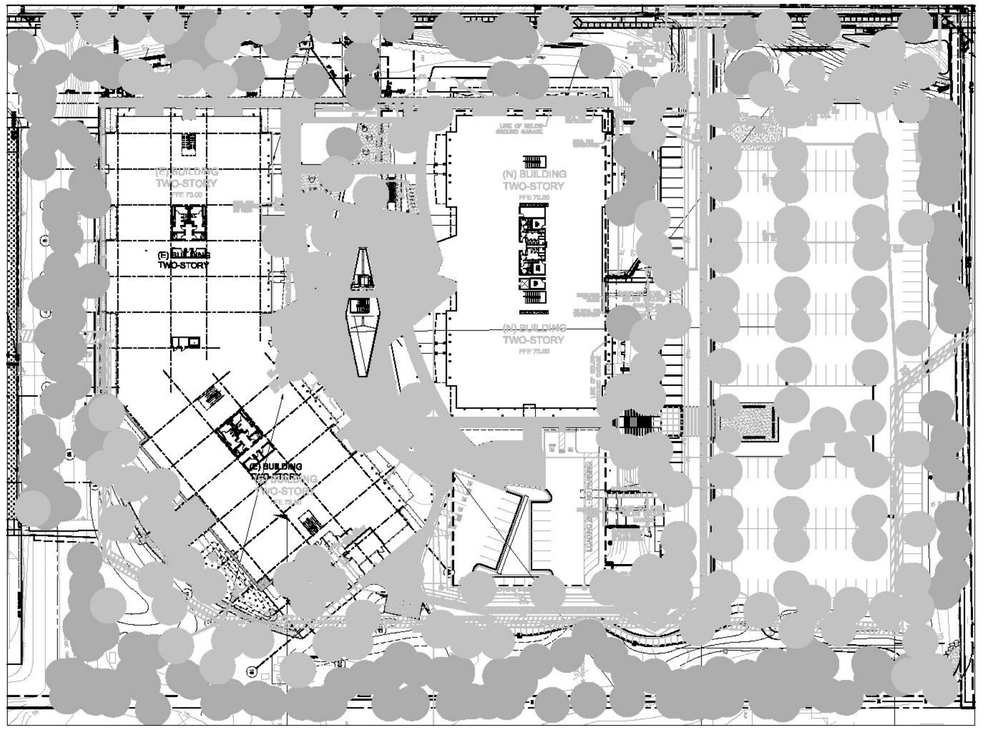
L_0.04

June 14, 2017
November 20, 2017
April 2, 2018



1 EXISTING TREE CANOPY COVERAGE

SCALE: FULL SCALE FILENAME



2 PROPOSED TREE CANOPY COVERAGE

SCALE: FULL SCALE FILENAME

LANDSCAPE COVERAGE CALCULATIONS

FULL AREA FOR EACH TREE		25% OVERLAP FACTOR*
TOTAL EXISTING TREES:	223,490 sqft	167,618 sqft
TOTAL EXISTING TREES TO BE REMOVED:	13,286 sqft	9,964 sqft
TOTAL REMAINING EXISTING TREES:	210,204 sqft	153,389 sqft
TOTAL PROPOSED TREES:	170,387 sqft	132,422 sqft
TOTAL TREES:	380,591 sqft	285,811 sqft
TOTAL PROPOSED TREES:	70% ADD. COVERAGE	67% ADD. COVERAGE

*25% overlap factor accounts for overlap of canopies for existing and proposed trees.

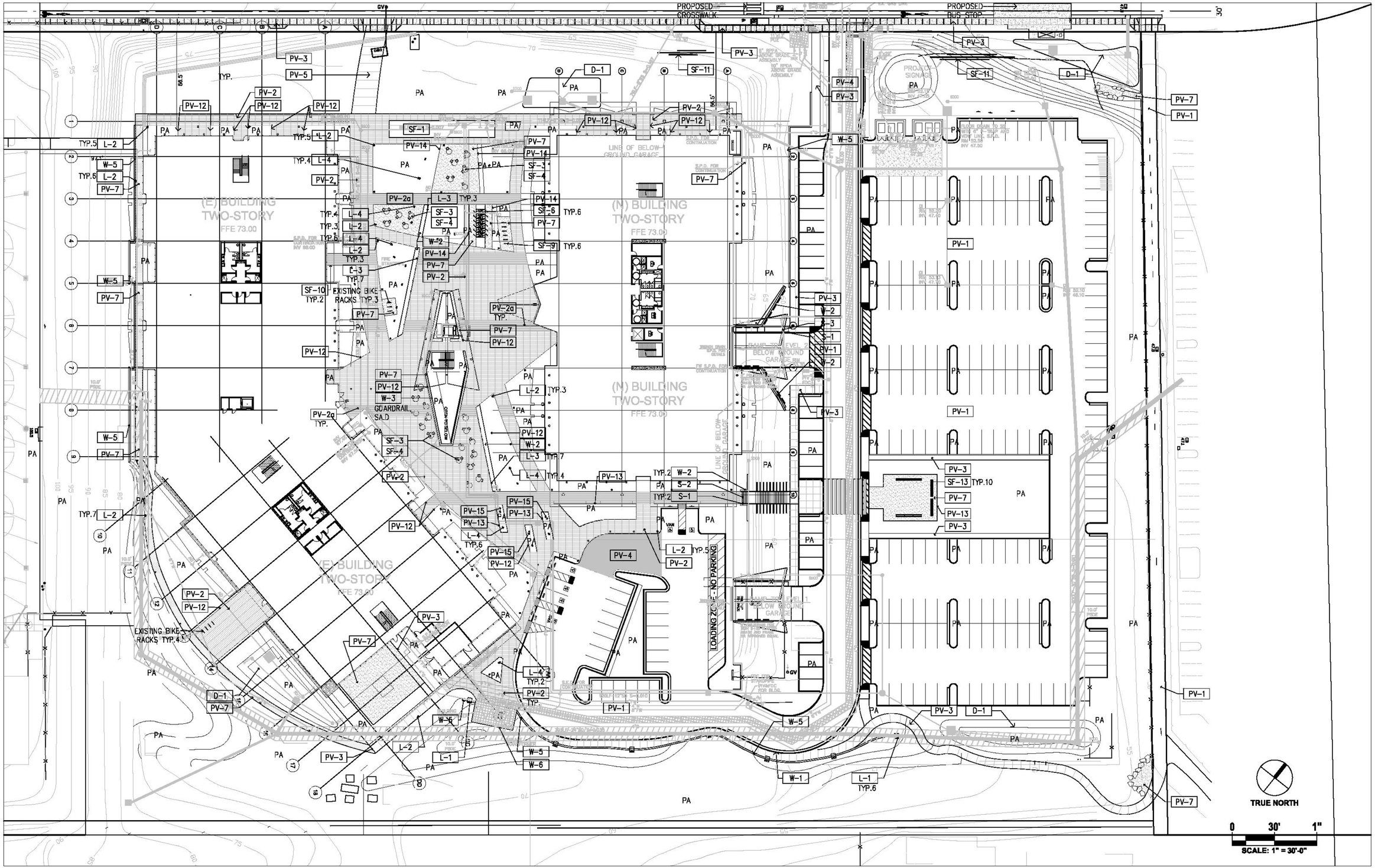
PROPOSED TREES

EXISTING TREES

TRUE NORTH

0 30' 1"

SCALE: 1" = 30'-0"



FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

3223 Hanover Street Phase 2

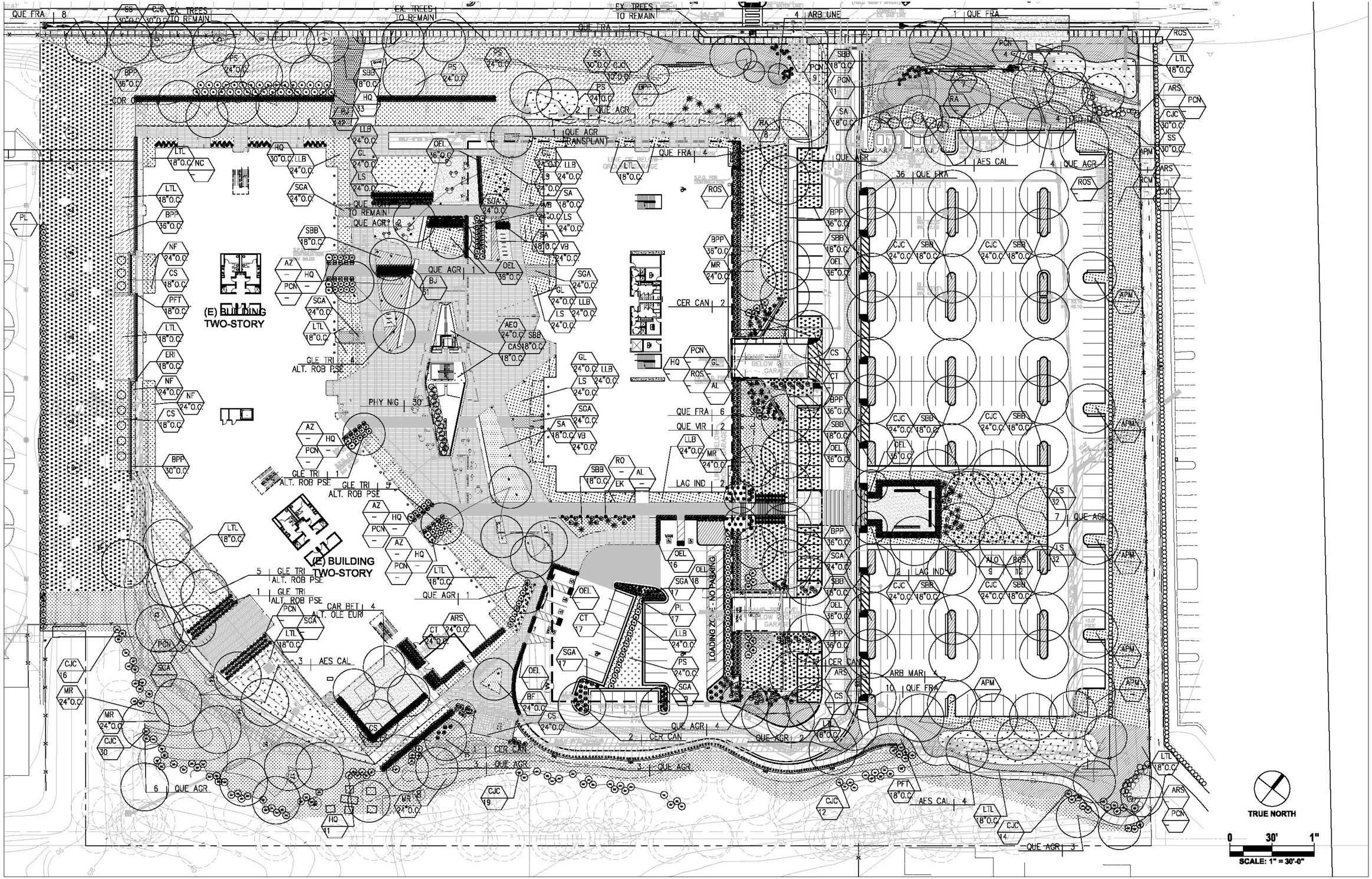
Formal ARB Application

Sand Hill Properties Company

LAYOUT PLAN

L_1.0

June 14, 2017
November 20, 2017
April 2, 2018



FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

3223 Hanover Street Phase 2

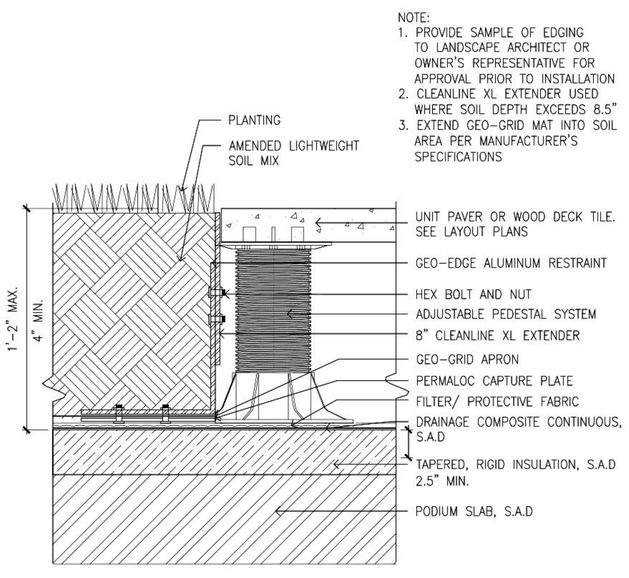
Formal ARB Application

Sand Hill Properties Company

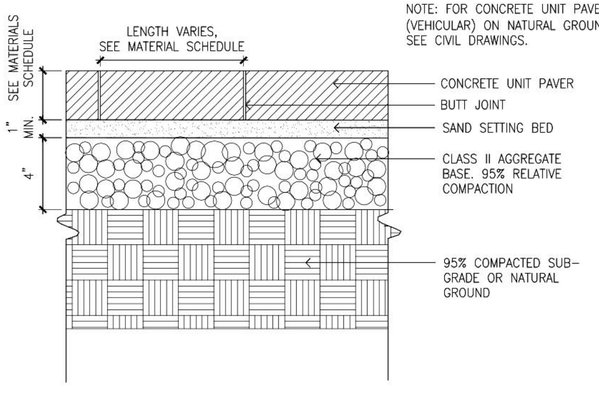
PLANTING PLAN

L_2.0

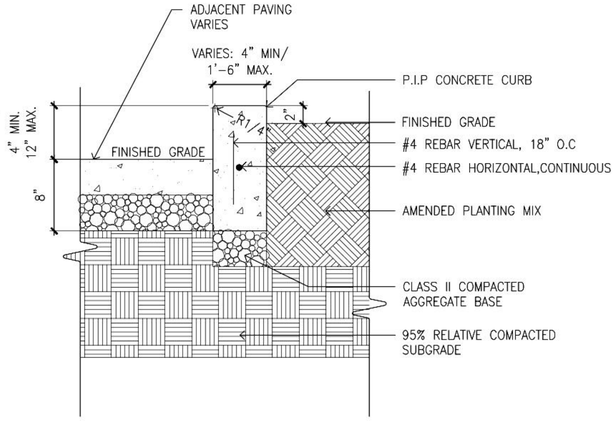
June 14, 2017
November 20, 2017
April 2, 2018



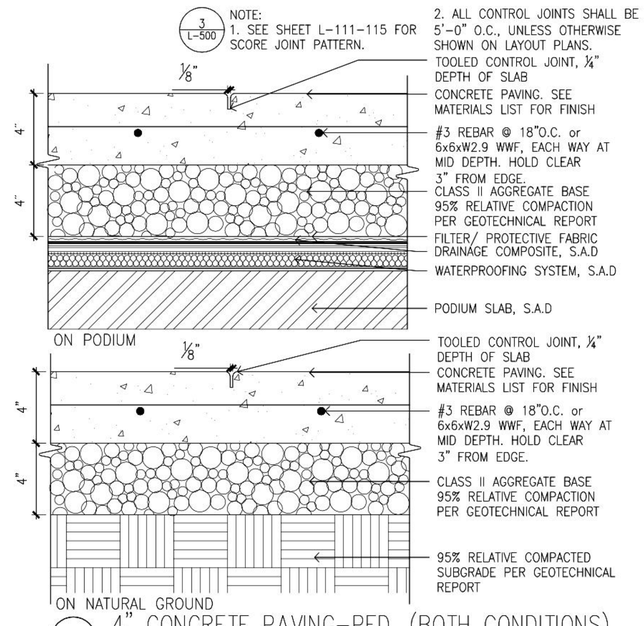
11 PAVING EDGE RESTRAINT-PAVING (ON PODIUM)
SCALE: 3"=1'-0" pave edge restraint-PAVE-podium.dwg



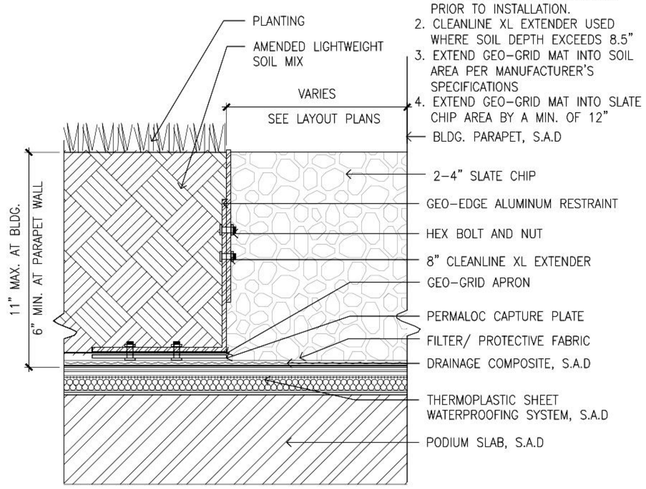
8 CONCRETE UNIT PAVER (ON NATURAL GROUND)
SCALE: 3"=1'-0" unit-pave2.dwg



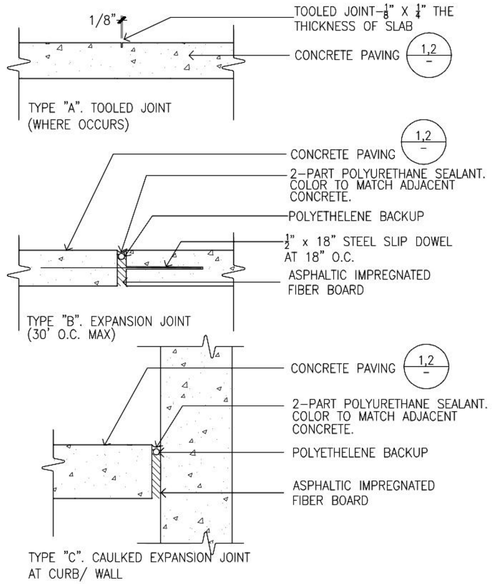
5 CONCRETE CURB
SCALE: 1 1/2" = 1'-0" curb



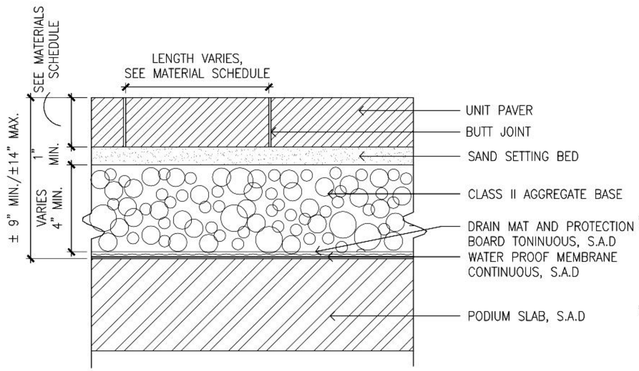
2 4" CONCRETE PAVING-PED. (BOTH CONDITIONS)
SCALE: 3"=1'-0" conc-pave-004



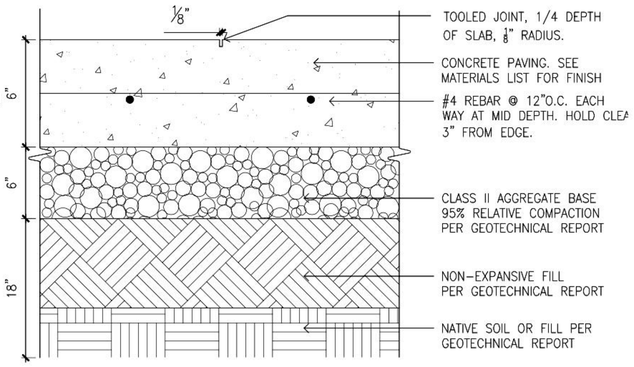
12 LANDSCAPE HEADER (ON PODIUM)
SCALE: 3"=1'-0" pave edge restraint-PLNT-podium.dwg



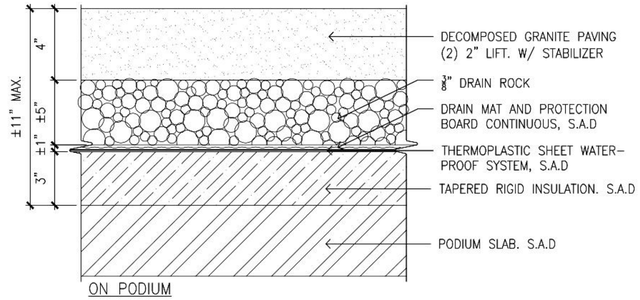
9 JOINTING
SCALE: 1 1/2" = 1'-0"



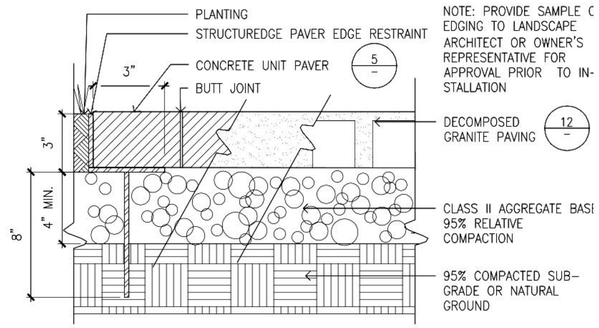
6 CONCRETE UNIT PAVER - ON PODIUM
SCALE: 3"=1'-0" unit-pave2.dwg



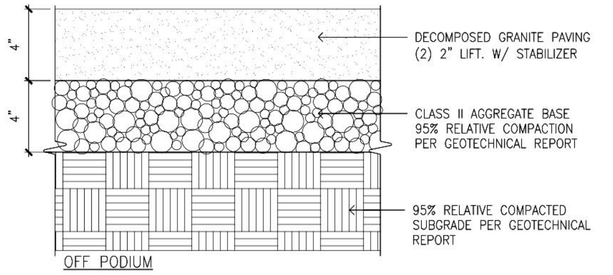
3 6" CONCRETE PAVING-VEH. (NATURAL GROUND)
SCALE: 3"=1'-0" colored-conc-pavedwg



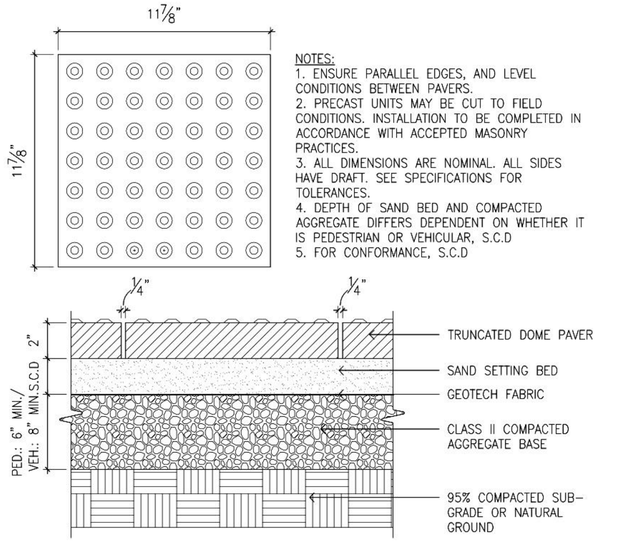
5 DECOMPOSED GRANITE PAVING (PODIUM)
SCALE: 3"=1'-0" dg-pave-001



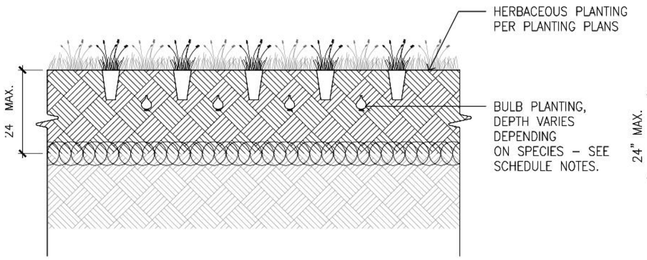
2 PAVING EDGE RESTRAINT (ON NATURAL GROUND)
SCALE: 3"=1'-0" unit-pave1-edge.dwg



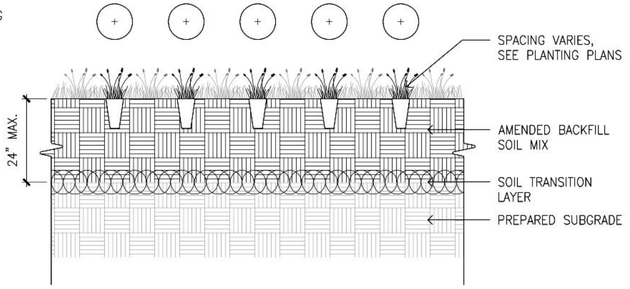
6 DECOMPOSED GRANITE PAVING (NATURAL GROUND)
SCALE: 3"=1'-0" dg-pave-001



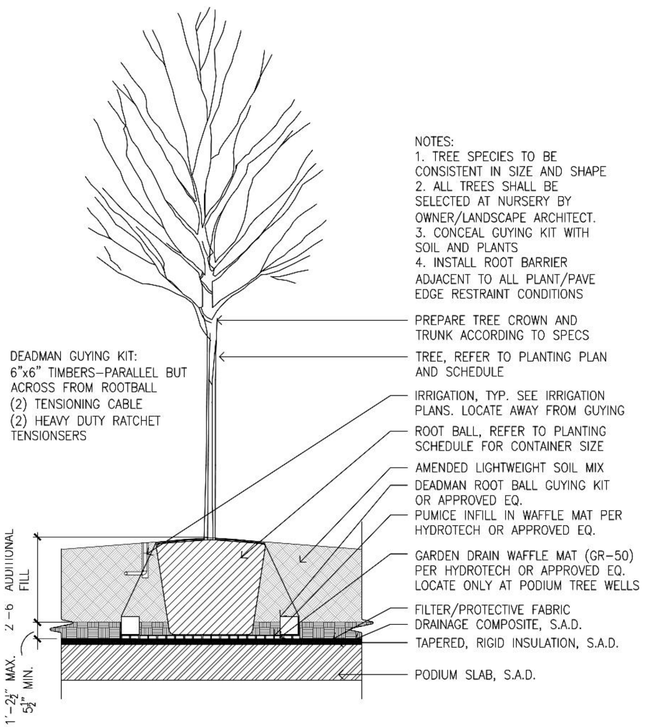
3 TRUNCATED DOME PAVER (NATURAL GROUND)
SCALE: 3"=1'-0" truncated dome paver.dwg



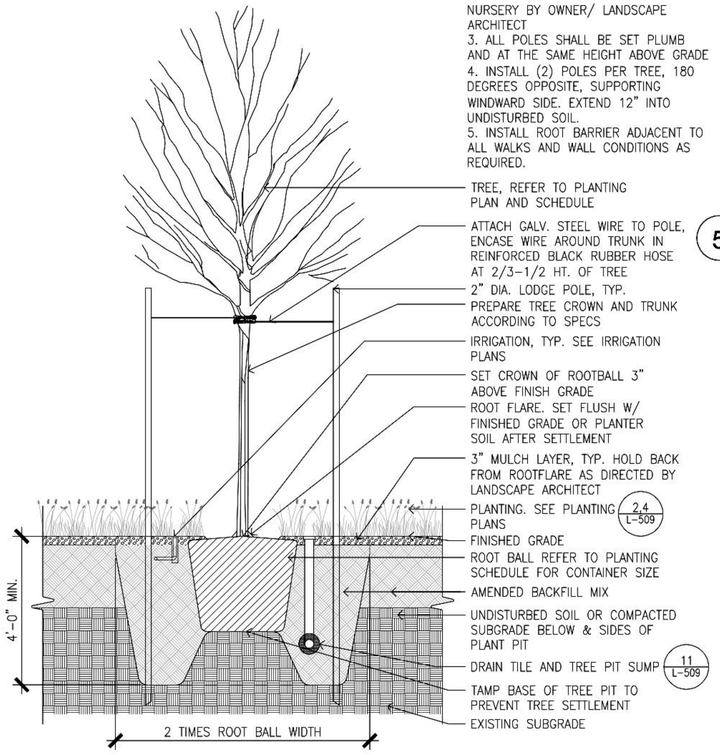
10 BULB PLANTING, TYP.
SCALE: 1" = 1'-0"



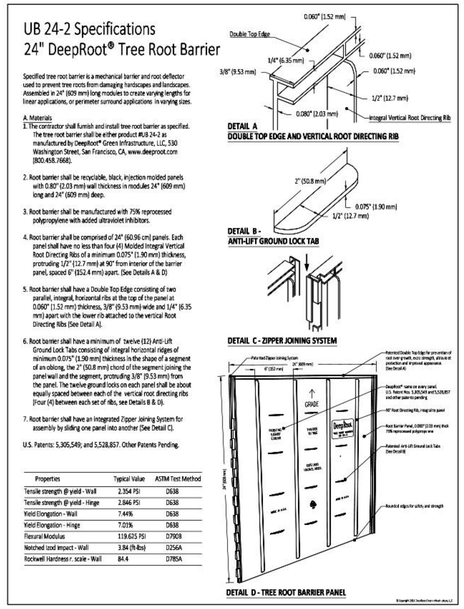
7 GRASS PLUG PLANTING, TYP.
SCALE: 1" = 1'-0"



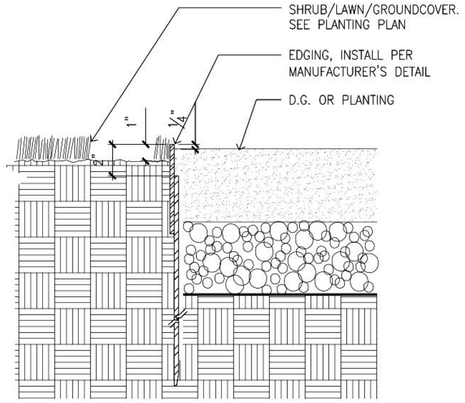
12 24" BOX AND SMALLER–TREE PLANTING DETAIL (ON PODIUM)
SCALE: NTS DT–PLANT–13.DWG



9 36" BOX AND SMALLER–TREE PLANTING IN PLANTING
SCALE: NTS DT–PLANT–01.DWG



5 ROOT BARRIER FOR TREE
SCALE: NOT TO SCALE

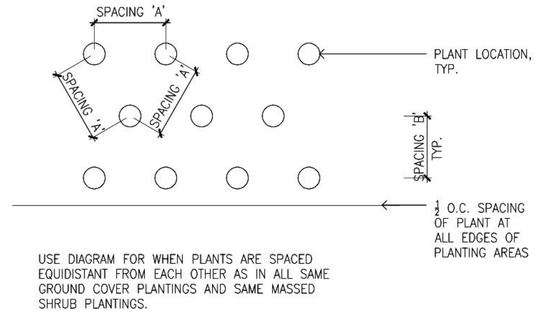


6 LANDSCAPE HEADER (NATURAL GROUND)
SCALE: 3"=1'-0" edging–001

SPACING 'A'	SPACING 'B'	# OF PLANTS / SQUARE FOOT
6" O.C.	5.20"	4.60
8" O.C.	6.93"	2.60
9" O.C.	7.79"	1.78
10" O.C.	8.66"	1.66
12" O.C.	10.40"	1.15
15" O.C.	13.00"	0.74
18" O.C.	15.60"	0.51
24" O.C.	20.80"	0.29
30" O.C.	26.00"	0.18
36" O.C.	30.00"	0.12
48" O.C.	40.00"	0.07
72" O.C.	62.35"	0.04

SEE PLANT SPACING DIAGRAM FOR MAXIMUM TRIANGULAR SPACING 'A'. THIS CHART IIS TO BE USED TO DETERMINE NUMBER OF GROUND COVER PLANTS REQUIRED IN A GIVEN AREA.

2 PLANT QUANTITY DIAGRAM
SCALE: NOT TO SCALE



3 PLANT SPACING DIAGRAM
SCALE: NOT TO SCALE

City of Palo Alto

Tree Protection - It's Part of the Plan!

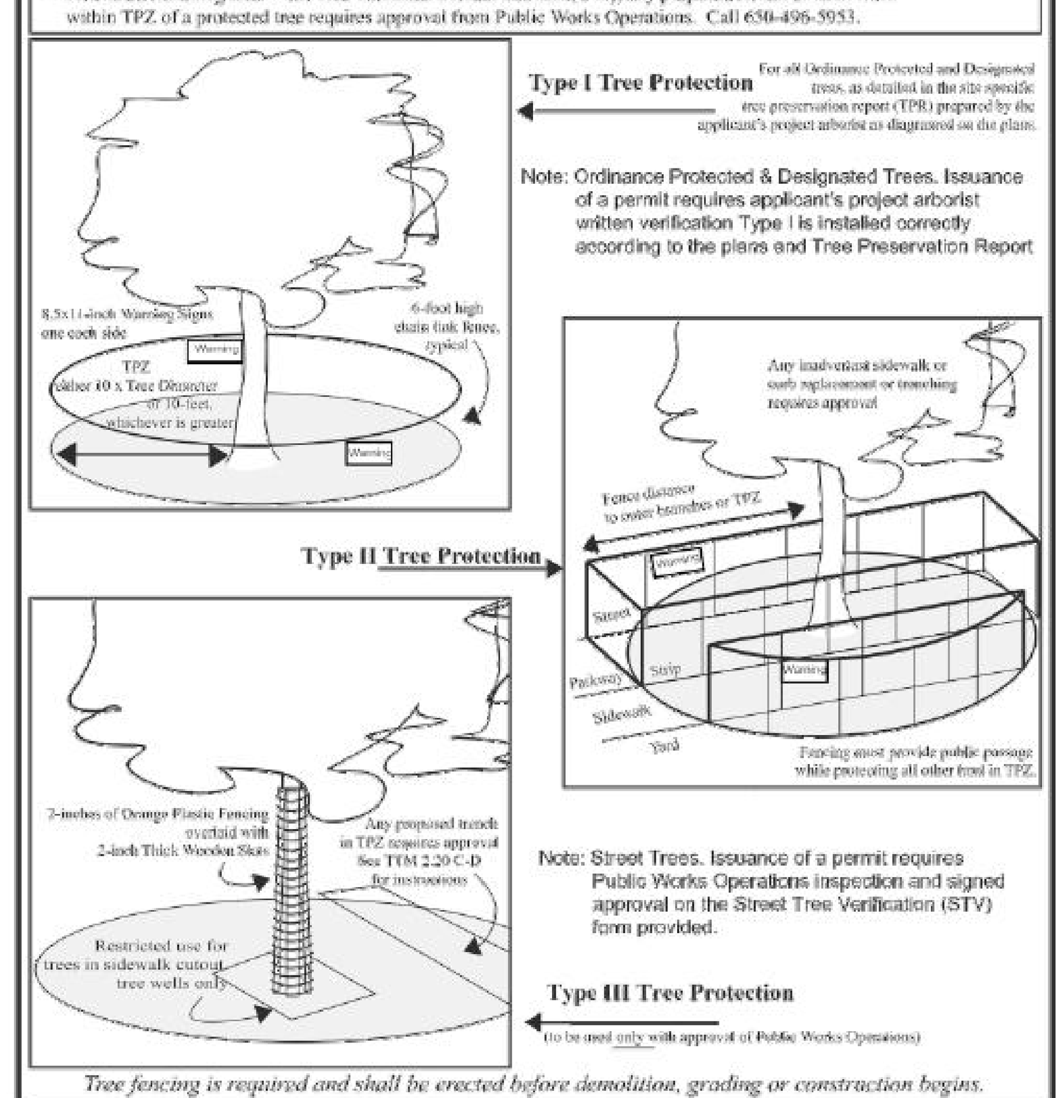
Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. **An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree.**
For detailed information on Palo Alto's regulated trees and protection during development, review the **City Tree Technical Manual** (TTM) found at www.cityofpaloalto.org/trees/.

TREE DISCLOSURE STATEMENT — CITY OF PALO ALTO, Planning Division, 250 Hamilton Avenue, Palo Alto, CA 94301

PROPERTY ADDRESS: 3223 Hanover Street, Palo Alto, CA 94301

FOR STAFF USE:



Tree fencing is required and shall be erected before demolition, grading or construction begins.

Tree Protection During Construction — City of Palo Alto Standard — Approved by: Dave Dockter — Date 2006 — Dwg No. 605

Table 2-2 Palo Alto Tree Technical Manual — CONTRACTOR & ARBORIST INSPECTION SCHEDULE

ADDENDUM 11 — Monthly Tree Activity Report- *Construction Site*

City of Palo Alto — Tree Technical Manual — To purchase the Tree Technical Manual — June, 2001 First Edition

APPENDIX J — PALO ALTO STREET TREE PROTECTION INSTRUCTIONS —SECTION 31—

City of Palo Alto Tree Department — Verification of Street Tree Protection

ADDRESS/LOCATION OF STREET TREES TO BE PROTECTED: 3223 Hanover Street, Palo Alto, CA. 94301

---WARNING---
Tree Protection Zone

This fencing shall not be removed without City Arborist approval (650-496-5953)

Removal without permission is subject to a $500 fine per day*

***Palo Alto Municipal Code Section 8.10.110**

City of Palo Alto Tree Protection Instructions are located at http://www.city.palo-alto.ca.us/trees/technical-manual.html

SPECIAL INSPECTIONS — PLANNING DEPARTMENT

TREE PROTECTION INSPECTIONS MANDATORY

BUILDING PERMIT DATE: ______

DATE OF 1ST TREE ACTIVITY REPORT: ______

CITY STAFF: ______

Apply Tree Protection Report on sheet(s) T-2

Use addtional "T" sheets as needed

3223 HANOVER STREET
Palo Alto, California

Project Data

T-1

All other tree-related reports shall be added to the space provided on this sheet (adding as needed)
Include this sheet(s) on Project Sheet Index or Legend Page.
A copy of T-1 can be downloaded at
http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460

Special Tree Protection Instruction Sheet
City of Palo Alto

T-1

FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

3223 Hanover Street Phase 2
Formal ARB Application
Sand Hill Properties Company

TREE PROTECTION

T 1
June 14, 2017

City of Palo Alto

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Make sure your crews and subs do the job right!

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For detailed information on Palo Alto's regulated trees and protection during development, review the **City Tree Technical Manual** (TTM) found at www.cityofpaloalto.org/trees/.

ARBOR RESOURCES
professional consulting arborists and tree care

TREE SURVEY REPORT

3251 HANOVER STREET
PALO ALTO, CALIFORNIA

Submitted to:

Steep Slope Property, LLC
c/o Sand Hill Property Company
2882 Sand Hill Road, Suite 241
Menlo Park, CA 94025

Prepared by:

David L. Babby
Registered Consulting Arborist® #399
Board-Certified Master Arborist® #WE-4001B

TABLE OF CONTENTS

EXHIBITS

1.0 INTRODUCTION

Steep Slope Property, LLC has retained me to prepare this *Tree Survey Report* in connection with the future redevelopment of **3251 Hanover Street**, Palo Alto. Specific tasks assigned to execute are as follows:

- Visit the site to identify **316 trees** within or immediately adjacent to the project site, and have at least one trunk with a diameter 2four inches at 54 inches above grade. Site visits were performed on 10/5/15, 11/5/15, 11/6/15 and 11/11/15.
- Measure each tree's trunk diameter pursuant to the City's *Tree Technical Manual*[1] and the *Guide for Plant Appraisal, 9th Edition*.[2] Diameters are rounded to the nearest inch, and trees listed with more than one are formed by multiple trunks.
- Estimate each tree's average canopy spread (rounded to the nearest fifth).
- Ascertain each tree's health and structural integrity, and assign an overall condition rating (e.g. good, fair, poor or dead).
- Determine each tree's suitability for preservation (e.g. high, moderate or low).
- Assign numbers in a sequential pattern from #1 thru 316, and affix metal tags with corresponding numbers the trunks, major limbs or adjacent fencing of trees #1-53, 57-58 and 75-307.[3] Tags within the grouping of #1 thru 300 are round with engraved numbers, and of those, the following 14 trees were inaccessible and nailed to the wood fence adjacent to their trunks: #225-228, 237-240, 244, 245, 252, 253, 261 and 262. Tags for trees #301 thru 316 are rectangular aluminum with handwritten numbers, and of those, #310 thru 316 are tied to chain link adjacent to their trunks.
- Show the roughly approximate group or specific locations on the aerial map in Exhibit B (aerial derived from *Google Earth*, imagery date of 3/28/15). Identify trees defined as regulated by the Palo Alto Municipal Code (PAMC).
- Review an ALTA survey by BKF, dated 3/12/15, to identify property lines.
- Provide general design guidelines to help avoid or mitigate impacts to retained trees.
- Prepare a written report that presents the aforementioned information, and submit via email as a PDF document.

1 Available for viewing at www.cityofpaloalto.org/civicax/filebank/blobdload.asp?BlobID=6456.
2 Authored by the Council of Tree & Landscape Appraisers, and published by the International Society of Arboriculture (ISA).
3 Trees not assigned numbers are groupings situated on the property within heavily gated areas.

2.0 TREE COUNT AND COMPOSITION

Three-hundred sixteen (316) trees of 33 various species were inventoried for this report. They are sequentially numbered **as 1 thru 316**, and the table below (and continued on the following page) identifies their names, assigned numbers, counts and overall percentages.

NAME	TREE NUMBER(S)	COUNT	% OF TOTAL
Aleppo pine	12, 14, 19, 20	4	1%
Almond	148	1	0%
American sweetgum	8-10, 17, 18, 24, 25, 66, 67, 86, 248, 250	12	4%
Blackwood acacia	6, 26, 152-156, 177, 241-243, 251-254, 255, 257, 269-271, 274	31	10%
Blue Atlas cedar	7, 256, 265	3	1%
Canary Island pine	272, 273	2	1%
Carob tree	29, 70-74	6	2%
Catalina ironwood	85	1	0%
Chinese flame tree	209, 210	2	1%
Chinese pistache	1, 2, 161, 302, 303	5	2%
Coast live oak	3-5, 21, 36, 43, 45, 57-59, 59, 133, 135, 141, 142, 145, 150-160, 169-175, 179-182, 184-190, 201, 203, 204, 208, 211, 213-220, 222-227, 236, 240, 244, 301, 310, 313-316	92	29%
Crape myrtle	75-77, 79-81, 83-85, 90-92, 94-99, 101-103, 105-110, 112-114, 116-124, 126-128	45	14%
Deodar cedar	44, 46, 47, 48, 178, 183, 258, 262, 286-290, 292, 294-300	19	6%
European olive tree	61-64, 200, 205-207, 275-277, 283-287, 304-307	20	6%

Table continued:

NAME	TREE NUMBER(S)	COUNT	% OF TOTAL
Evergreen pear	249, 268	2	1%
Firethorn	137	1	0%
Flowering pear	176	1	0%
Glossy privet	27, 33, 34, 131, 134, 138, 139, 143, 144, 212, 309	11	3%
Holly oak	11, 28, 30-32, 35, 37, 38, 51, 53, 130, 132, 133, 140, 147	15	5%
Holly juniper	22, 23	2	1%
Interior live oak	202, 238	2	1%
Italian oak	39-42	4	1%
Italian stone pine	278-281	4	1%
Japanese loquat	13	1	0%
Japanese maple	54-56	3	1%
Lemonwood tree	15, 16, 52	3	1%
London plane tree	78, 82, 89, 93, 100, 104, 111, 115, 125	9	3%
Monterey pine	311	1	0%
Peruvian pepper tree	305, 312	2	1%
Red gum	245-247	3	1%
Spotted gum	167, 168	2	1%
Strawberry tree	49, 50, 221	3	1%
Valley oak	33, 60, 148, 149	4	1%
	Total	**316**	**100%**

Specific information regarding each tree is presented within the table in **Exhibit A**, and the trees' assigned **numbers** and approximate **locations** can be viewed on the aerial map in **Exhibit B**.

Due to security restrictions of Lockheed Martin, I was unauthorized to take **photographs** during my site visit, but can be provided at a later date.

As illustrated in the above table, the site is populated predominantly by coast live oak, crape myrtle and Blackwood acacia.

A summary of the **trees' locations** is as follows:

- **#1 thru 53** are along the site frontage, #1 thru 48 in front of the existing building, and #49 thru 53 in front of the existing parking lot.
- **#54 thru 56** are Japanese maples situated within a gated area at the mid-rear of the existing building.
- **#57 thru 74** are along the existing building's northeast side, between the existing parking lot and building. Trees #69 thru 74 are within a gated area at the eastern building corner.
- **#75 thru 128** are crape myrtles and London planes populating the entire parking lot area.
- **#129 thru 265, 308 and 309** align the wide planter areas northeast and southeast of the parking lot and rear drive aisle.
- **#266 thru 307** are along the wide, northeast facing slope immediately southwest of the existing building.
- **#310 thru 316** originate from the southeast side of existing fence, setback from the fence to the extent I could not reach their trunks. Of these, the trunks of #310 and 311 are offsite and originate from neighboring properties, and the others are close or possibly span the property line (survey dependent).
- **#11, 16, 26, 39-42, 51-53** have trunks situated within the public right-of-way along Hanover **Street**, and are regulated by PAMC as **street trees**. Of these, #39 thru 42 are within planters between the sidewalk and street, and all others are southeast of the walk.

3.0 REGULATED TREES

The PAMC **regulates** specific types of trees on public and private property for the purpose of avoiding their removal or disfigurement without first being reviewed and permitted by the City. Three categories within the status of **regulated trees** include **protected trees** (PAMC 8.10), **street trees** (PAMC 8.04.020), and **designated trees**. Additional information regarding "regulated" trees can be viewed on page xiii of the City's *Tree Technical Manual*.

Fifty (50) trees are defined as **protected trees** due to being a either a coast live oak or valley oak with measured trunk diameters ≥11.5 inches; they include **#3-5, 21, 43, 46, 59, 148-150, 152-160, 171, 180, 181, 187, 196, 197, 199, 211, 213-216, 222-228, 232-237, 240, 244, 310, 313, 315 and 316.**

As previously mentioned, **#11, 16, 26, 39-42, 51-53** are situated within the public right-of-way and defined as **street trees.**

The **designated tree** category may apply to a select number of existing trees planted on a commercial or planned development site, either for designated landscape or mitigation for tree removal. This category can be enacted by the City and applied to any specific tree associated with a proposed development project. In the event the City qualifies a specific tree to this category, it may become provisioned to be saved and protected.

4.0 SUITABILITY FOR TREE PRESERVATION

Each tree has been assigned either a "high," "moderate" or "low" suitability for preservation rating as a means to cumulatively measure its existing health, structural integrity, anticipated life span, location, size, particular species, tolerance to construction impacts, growing space, and safety to property and persons within striking distance. Descriptions of these ratings are presented below; the high category is comprised of **29 trees** (or 9%), the moderate category **180** (or 57%), and the low category **107** (or 34%).

High: Applies to **trees #4, 8, 31, 36, 39-43, 46, 48, 89, 68, 183, 184, 160, 171, 180, 196, 211, 213, 235, 236, 244, 292, 298, 298, 301 and 316.**
These trees appear healthy and seemingly structurally stable; have no apparent, significant health issues or structural defects; present a high potential for contributing long-term to the site; and require only periodic or regular care and monitoring to maintain their longevity and structural integrity. Trees assigned this rating are typically the most suitable for retaining and incorporating into the future landscape.

Moderate: Applies to **trees #1-3, 6, 7, 10-12, 14-18, 20, 24-28, 30, 32, 35, 44, 47, 49, 50-58, 60, 61, 65, 70, 75-128, 135, 141, 147-152, 155-159, 161, 169, 170, 172-175, 177, 181, 182, 187, 189-191, 193, 194, 197, 199, 204-206, 214-220, 222-227, 229, 230, 232-234, 237-240, 246, 248, 252, 253, 259, 265, 270, 272, 275, 276, 280-282, 284, 288-290, 296, 297, 299, 302, 303, 310, 312, 314 and 315.**
These trees contribute to the site, but at levels less than those assigned a good suitability; may have health and/or structural issues that may or may not be reasonably addressed and properly mitigated; and frequent care is typically required for their remaining lifespans. These trees might be worth retaining, if provided proper care, but not seemingly at significant expense or major design revisions.

Project Data
3223 HANOVER STREET
Palo Alto, California

T-2

All other tree-related reports shall be added to the space provided on this sheet (adding as needed)
Include this sheet(s) on Project Sheet Index or Legend Page.
A copy of T-1 can be downloaded at
http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460

Special Tree Protection Instruction Sheet
City of Palo Alto

T-2

City of Palo Alto

Tree Protection - It's Part of the Plan!

Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. **An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree.**
For detailed information on Palo Alto's regulated trees and protection during development, review the **City Tree Technical Manual** (TTM) found at www.cityofpaloalto.org/trees/.

Low Applies to **trees 88, 13, 19, 22, 23, 29, 31, 33, 34, 37, 38, 45, 62-64, 66, 67, 69, 71-74, 129-134, 136-140, 142-146, 162-168, 176, 178, 179, 183-186, 188, 192, 195, 198, 200, 209, 210, 212, 221, 229, 231, 241-243, 245, 247, 249-251, 254-258, 260-264, 266-269, 271, 273, 274, 277-279, 283, 285-287, 291, 293, 294, 300, 304-309, 311 and 313.**
These trees are either dead, nearly dead, or have serious or significantly weakened health and/or structural issues expected to worsen regardless of tree care measures employed (i.e. beyond likely recovery). Removing these trees is recommended regardless of future development. Note that of these, #228 has fallen over, and the following 15 are dead or nearly dead: #66, 67, 143, 146, 162-166, 178, 183, 210 and 241-243.

5.0 GENERAL DESIGN GUIDELINES

Recommendations presented within this section serve as general design guidelines to help mitigate or avoid impacts to trees being retained and achieve conformance with City requirements. They are subject to revision upon reviewing the project plans, and I should be consulted in the event any cannot be feasibly implemented. Please note that all referenced **distances from trunks** are intended to be from the closest edge (face of) of their outermost perimeter at soil grade.

1. The **Tree Protection Zone (TPZ)** is where all trenching, soil scraping, compaction, mass grading (cuts and fill), finish-grading, overexcavation, subexcavation, swales, bioswales, storm drains, equipment cleaning, stockpiling and dumping of materials, and equipment/vehicle operation shall be avoided. For general design purposes, **the TPZ** of a particular tree should be a minimum distance from its trunk of **five to seven times its diameter** (strive towards ten times the diameter, and/or, beyond the actual canopy); for trees with multiple trunks, the diameter of the largest one would only be considered. Where an impact encroaches slightly within a setback, it can be reviewed on a case-by-case basis to determine appropriate mitigation measures. As the design progresses, I recommend continuing my involvement to identify appropriate TPZs for trees (as they may require setbacks greater or slightly less than the five to seven times the diameter guideline).

2. **TPZs** for **protected trees** within the wide planter aligning the **parking lot** perimeter should be beyond the trees' canopies, and **all grading, trenching, compaction, subexcavation and shoring** should remain at least **36 inches** away from existing curbs delineating the existing parking lot and drive aisle.

3. The design of future buildings and/or parking garages should consider the **retention of major limbs** (such as those four plus inches in diameter). In doing so, sufficient space is needed to construct a building, including shoring, erecting construction scaffolding, installing roofs, and exterior finishing. In some instances, pruning and/or tying back

branches may be a viable option for certain trees, but would need to be reviewed on a case-by-case basis.

4. **Shoring** shall be implemented to avoid soil disturbance within a TPZ. All shoring should be specified on the appropriate plan and provided for review. Where beneath a tree's canopy, soil nailing (versus using a pile driver) may be required to avoid conflicting with a tree's canopy. Where near a tree's canopy, any overexcavation or soil disturbance be needed beyond the walls (towards the tree's trunk), must be confined to a maximum of 36 inches.

5. The project design should consider all **soil disturbance** (e.g. overexcavation, subexcavation, grading, compaction and trenching) beyond a feature to be built within or near a TPZ shall be **reduced** to the maximum extent possible in the direction of a tree's trunk. In no instance should disturbance exceed **12 inches** for a curb, gutter, walkway or pier, or **24 inches** for retaining walls, foundations and concrete pads.

6. Trees inventoried for this report should be **shown on all site-related plans** (e.g. architectural site, demolition, grading and drainage, utilities and landscape). Information to show includes their assigned numbers; trunk diameters (shown as a circle to-scale); trunk locations; and canopy dimensions (where trees are densely grouped together, dimensions could be combined). As the design progresses, detailed dimensions of specific canopies (e.g. on-site survey versus aerial dimensions) may become required. For trees being retained, the civil plans should reflect their **surveyed trunk location** and **vertical ground elevations** (at least for those originating on-site).

7. Any **walkways, driveways and sections of drive aisle** proposed within a TPZ should be designed to be entirely on top of existing soil grade (including curb/gutter, base materials, edging and forms); if a vertical soil cut is necessary, the location and depth should be reviewed with me beforehand. Additionally, direct compaction of the existing soil surface or subgrade must be avoided (foot-tamping is acceptable), and any soil fill used to bevel the top of a walk or drive to existing grade should not exceed

beyond 12 to 24 inches from the landscape edge. Tensar® Biaxial **Geogrid** (*www.tensarcorp.com*) can be considered to help achieve these specifications.

8. All **existing, unused lines or pipes** within a TPZ shall be **abandoned** and cut off at existing soil grade (rather than being dug up and causing subsequent root damage); this provision should be specified on applicable plans (e.g. demolition plan).

9. The permanent and temporary **drainage design**, including downspouts, should not require water being discharged with TPZs. Additionally, the **drainage design** shall not require trenching within a TPZ, and **new bioswales** must be established *well beyond* a tree's canopy.

10. **Underground utilities and services** should be routed **beyond TPZs**. Where this is not feasible, the section of line(s) within the TPZ should be directionally-bored by at least four feet below existing grade, or installed by other means (e.g. pipe-bursting) to avoid an open trench; the ground above any tunnel must remain undisturbed, and access pits and any above-ground infrastructure (e.g. splice boxes, meters and vaults) must be established beyond all TPZs.

11. To restrict spoils and runoff from traveling into root zones, the future **erosion control design** should establish any silt fence and/or straw rolls uphill away from a tree trunk (not against it), and as close to the canopy edge as possible. Additionally, where within a TPZ, the material should require none or a maximum vertical soil cut of two inches for its embedment.

12. The future **staging area** and **route(s) of access** should be shown on the final site plan and avoided on unpaved areas beneath or near canopies.

13. The proposed **landscape design** should conform to the following additional guidelines:
    a. **Large growing trees**, such as those that can exceed the height of retained trees, should be installed beyond TPZs, and at least 10 to 15 feet from a future foundation, wall and landscape.

b. **Plant material** installed beneath the canopies of the oaks and cedars must be drought-tolerant, limited in amount, and planted at least five or more feet from their trunks. Plant material installed beneath the canopies of all other trees should be at least 36 inches from their trunks.
c. **Irrigation** can, overtime, adversely impact the oaks and should be avoided. Irrigation for any new plant material beneath their canopies should be low-volume, applied irregularly (such as only once or twice per week), and temporary (such as no more than three years). For cedars, irrigation during non-winter months (warm months may help improve their current condition.
d. **Irrigation** should not be applied within six inches from the trunks of existing trees being irrigated, and not applied against the trunks of new trees.
e. **Irrigation and lighting features** (e.g. main line, lateral lines, valve boxes, wiring and controllers) should be established so that no trenching occurs within a TPZ. In the event this is not feasible, they may require being installed in a radial direction to a tree's trunk, and terminate a specific distance from a trunk (versus crossing past it). Should this not be possible, the work may need to be performed using a pneumatic air device (such as an Air-Spade®) to avoid root damage. Any Netafim tubing used should be placed on grade, and header lines installed as mentioned above.
f. **New fencing** (posts) should be placed at least two feet from a tree's trunk (depends on the trunk size and growth pattern).
g. **Ground cover** beneath canopies should be comprised of a three- to four-inch layer of coarse wood chips or other high-quality mulch (gorilla hair, bark or rock, stone, gravel, black plastic or other synthetic ground cover should be avoided). Mulch should not be placed against the trees' trunks.
h. **Tilling, ripping and compaction** within TPZs shall be avoided, as well as applying herbicides within a TPZ. I also recommend no liming be specified within 50 feet from a trunk.
i. Border board or other **edging material** proposed beneath the canopies should be established on top of existing soil grade (such as by using vertical stakes).

14. The City will require the project plans are **reviewed** for **tree-related impacts**, and that a ***Tree Protection Report*** is subsequently prepared, essentially a report to address project specific mitigation measures to be implemented during demolition, grading, underground utility installation, construction and landscaping. Plans typically reviewed include the following: site; building elevations; grading and drainage; underground utility; landscaping (layout, planting and irrigation); electrical; plumbing; structural; and mechanical. To achieve a feasible design around trees to be retained, I recommend the plans are submitted to me for review and comment at (or earlier) the 50-percent design development stage, and again at the 50-percent construction document stage.

15. Pursuant to City Ordinance, a copy of the future "**Tree Protection Report**" shall be incorporated into the building permit (or before) plan set; titled Sheets T-1, T-2, etc. (Tree Protection Instructions); and referenced on all site-related plans. Also, the Sheet T-1 template and additional forms required by Palo Alto can be viewed at *http://www.cityofpaloalto.org/gov/depts/pln/planning_review.asp#5, Trees.*

6.0 ASSUMPTIONS AND LIMITING CONDITIONS

- All information presented herein covers only the inventoried trees, and reflects their size, condition, and items viewed from the ground and project site on performed on 10/5/15, 11/5/15, 11/6/15 and 11/11/15.
- Documented condition, suitability ratings and species of dormant trees are subject to change once they can be observed following the growth of new leaves.
- My observations were performed visually without probing, coring, dissecting or excavating. I cannot, in any way, assume responsibility for any defects that could only have been discovered by performing the mentioned services in the specific area(s) where a defect was located.
- The assignment pertains solely to trees listed in Exhibit A. I hold no opinion towards other trees on or surrounding the project area.
- I cannot provide a guarantee or warranty, expressed or implied, that deficiencies or problems of any trees or property in question may not arise in the future.
- No assurance can be offered that if all my recommendations and precautionary measures (verbal or in writing) are accepted and followed, that the desired results may be achieved.
- I cannot guarantee or be responsible for the accuracy of information provided by others.
- I assume no responsibility for the means and methods used by any person or company implementing the recommendations provided in this report.
- The information provided herein represents my opinion. Accordingly, my fee is in no way contingent upon the reporting of a specified finding, conclusion or value.
- The aerial map in Exhibit B is intended to only represent the trees' approximate locations.
- This report is proprietary to me and may not be copied or reproduced in whole or part without prior written consent. It has been prepared for the sole and exclusive use of the parties to who submitted for the purpose of contracting services provided by David L. Babby.
- If any part of this report or copy thereof be lost or altered, the entire evaluation shall be invalid.

Prepared By: David L. Babby
Registered Consulting Arborist® #399
Board-Certified Master Arborist® #WE-4001B

Date: November 16, 2015

EXHIBIT A:

TREE INVENTORY TABLE

(42 sheets)

3223 HANOVER STREET
Palo Alto, California

Project Data

T-3

All other tree-related reports shall be added to the space provided on this sheet (adding as needed)
Include this sheet(s) on Project Sheet Index or Legend Page.
A copy of T-1 can be downloaded at
http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460

Special Tree Protection Instruction Sheet
City of Palo Alto

T-3

City of Palo Alto

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Make sure your crews and subs do the job right!

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ARBOR RESOURCES
professional consulting arborists and tree care

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100%=Best, 0%=Worst)	TREE CONDITION: Structural Integrity (100%=Best, 0%=Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	"Protected Tree"	"Street Tree"	Comments
1	Chinese pistache (*Pistacia chinensis*)	9	30	30%	40%	Poor	Moderate			Codominants at 4.5' high. Very sparse canopy. Significant dieback along top. Near top of slope.
2	Chinese pistache (*Pistacia chinensis*)	7	20	60%	70%	Fair	Moderate			Buried root collar. At top of slope. Deadwood. Low-branching beginning at 4' high.
3	Coast live oak (*Quercus agrifolia*)	27	50	40%	40%	Poor	Moderate	X		Sparse canopy declined to advanced levels. Buried root collar along uphill side. Roots severed at top of slope, where ground is level. Surface roots, some being damaged. Trunk is at edge of top of slope. Multiple leaders at 6' high form, several unfavorably forming narrow angles of attachment.
4	Coast live oak (*Quercus agrifolia*)	16	25	60%	60%	Fair	High	X		Buried root collar. Multiple leaders at 6' high.
5	Coast live oak (*Quercus agrifolia*)	19	40	60%	60%	Fair	High	X		Buried root collar. Codominant leaders at 5.5' high, growing towards street. Deadwood.
6	Blackwood acacia (*Acacia melanoxylon*)	10	25	70%	70%	Good	Moderate			
7	Blue Atlas cedar (*Cedrus a.* 'Glauca')	23	10	40%	40%	Poor	Moderate			Multiple leaders at 10' high with very narrow attachments. Sparse canopy. Deadwood.

Site: 3251 Hanover Street, Palo Alto
Prepared for: Steep Slope Property, LLC
Prepared by: David L. Babby
1 of 42
November 16, 2015

ARBOR RESOURCES
professional consulting arborists and tree care

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100%=Best, 0%=Worst)	TREE CONDITION: Structural Integrity (100%=Best, 0%=Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	"Protected Tree"	"Street Tree"	Comments
8	American sweetgum (*Liquidambar styraciflua*)	16	20	10%	10%	Poor	Low			Remove, 85% dead. Limb has recently broke (lying near tree). Multiple leaders form weak attachment. Adjacent to v-ditch.
9	American sweetgum (*Liquidambar styraciflua*)	12	25	70%	60%	Fair	Moderate			Beginning dormancy. Trunk is upslope from a raised/cracked v-ditch by ~5'. Buried root collar along upslope side.
10	American sweetgum (*Liquidambar styraciflua*)	13	25	70%	40%	Fair	Moderate			Asymmetrical canopy. Past limb and branch failure.
11	Holly oak (*Quercus ilex*)	16	45	40%	40%	Poor	Moderate		X	Six leaders originate 4 to 6' high. A large root was cut 1' from sidewalk.
12	Aleppo pine (*Pinus halepensis*)	27	50	70%	30%	Fair	Moderate			Three codominant leaders at 6.5' high form a weak attachment.
13	Japanese loquat (*Eriobotrya japonica*)	14	25	50%	30%	Poor	Low			Within a raised planter. Asymmetrical, nearly one-sided canopy. Codominants at 2.5' high form a weak attachment. Large deadwood and girdling root.
14	Aleppo pine (*Pinus halepensis*)	23	45	60%	40%	Fair	Moderate			Mostly one-sided canopy towards south. Excessive limb weight. North side of limb structure sweeps.

Site: 3251 Hanover Street, Palo Alto
Prepared for: Steep Slope Property, LLC
Prepared by: David L. Babby
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November 16, 2015

ARBOR RESOURCES
professional consulting arborists and tree care

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100%=Best, 0%=Worst)	TREE CONDITION: Structural Integrity (100%=Best, 0%=Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	"Protected Tree"	"Street Tree"	Comments
15	Lemonwood tree (*Pittosporum eugenioides*)	6, 3	10	50%	40%	Poor	Moderate			Narrow form. Three-foot tall stem wound along 6" trunk.
16	Lemonwood tree (*Pittosporum eugenioides*)	19	20	60%	40%	Fair	Moderate		X	Street tree. Has large surface roots and a girdling root.
17	American sweetgum (*Liquidambar styraciflua*)	5	10	70%	40%	Fair	Moderate			Narrow form. Codominant leaders at 15' high. Old wound near base.
18	American sweetgum (*Liquidambar styraciflua*)	12	30	80%	40%	Fair	Moderate			Multiple leaders form a weak attachment at 17' high. Old wound healed over along lower trunk, resulting in a 3' tall seam.
19	Aleppo pine (*Pinus halepensis*)	21	50	40%	20%	Poor	Low			Severe, highly-pronounced lean towards north. Two alternatives for its disposition: one involves removal, the second is to cut the 11" long northernmost limb back to the upright limb. A supplemental measure, if retained, is to install a pole support following said pruning. Removal should occur regardless of project. Has a chlorotic canopy.
20	Aleppo pine (*Pinus halepensis*)	29	40	60%	50%	Fair	Moderate			Discoloration of trunk at 6' high, east side. Excessive limb weight.
21	Coast live oak (*Quercus agrifolia*)	51	70	90%	60%	Good	High	X		Healthy oak. Codominant leaders at 4' high. Slightly asymmetrical canopy along west side where it grows adjacent to tree #20's. Along the east side, there is a partial girdling root, and a lower section of the trunk is curved out. Existing concrete pad 5' from trunk. A walkway is 2.5' from trunk.

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ARBOR RESOURCES
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TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100%=Best, 0%=Worst)	TREE CONDITION: Structural Integrity (100%=Best, 0%=Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	"Protected Tree"	"Street Tree"	Comments
22	Hollywood juniper (*Juniperus c.* 'Torulosa')	19, 5, 4	20	50%	40%	Poor	Low			Asymmetrical canopy towards south and east, away from #23. Trunk leans south, away from adjacent building. Trunk's base is a few feet from building. Low canopy.
23	Hollywood juniper (*Juniperus c.* 'Torulosa')	15, 6, 5	25	70%	30%	Fair	Low			Along building side, the root plate is significantly raised above the adjacent building foundation. On bottom side of lean, the trunk is supported by a lateral limb embedded in the ground. Trunk leans west away from building, and canopy is one-sided and low.
24	American sweetgum (*Liquidambar styraciflua*)	11	25	80%	50%	Fair	Moderate			Codominant leaders at 5' high.
25	American sweetgum (*Liquidambar styraciflua*)	11	25	80%	50%	Fair	Moderate			Lower trunk leans NE. Codominant leaders at 5.5' high.
26	Holly oak (*Quercus ilex*)	13	25	40%	40%	Poor	Moderate		X	Street tree. Very sparse canopy. Trunk is situated a feet from sidewalk. Lower trunk leans slightly towards street.
27	Glossy privet (*Ligustrum lucidum*)	6, 4	15	40%	50%	Poor	Moderate			Two trunks form a weak attachment. Sparse canopy.
28	Valley oak (*Quercus lobata*)	5	10	70%	40%	Fair	Moderate			Asymmetrical, one-sided canopy away from #29 and 30. Near top of slope. Crowded-growing conditions.

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TREE INVENTORY TABLE

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29	Carob tree (*Ceratonia siliqua*)	20	30	50%	30%	Poor	Low			Along slope. Growing at angle towards street, possibly due to partially uprooting in past. Formed by three codominants at 5.5 to 6' high.
30	Holly oak (*Quercus ilex*)	7	20	50%	50%	Fair	Moderate			Wound at base. Codominants at 4 to 5'.
31	Holly oak (*Quercus ilex*)	9	15	60%	40%	Fair	Low			On slope. Highly crowded-growing conditions.
32	Holly oak (*Quercus ilex*)	9, 8	25	60%	40%	Fair	Moderate			
33	Glossy privet (*Ligustrum lucidum*)	7, 6, 6, 4	20	40%	40%	Poor	Low			Crowded-growing conditions.
34	Glossy privet (*Ligustrum lucidum*)	6, 4, 4	15	20%	30%	Poor	Low			Highly crowded-growing conditions.
35	Holly oak (*Quercus ilex*)	9, 7	30	60%	40%	Fair	Moderate			On slope. Crowded-growing conditions.
36	Coast live oak (*Quercus agrifolia*)	10	25	80%	60%	Good	High			On slope.

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TREE INVENTORY TABLE

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37	Holly oak (*Quercus ilex*)	5	5	60%	30%	Poor	Low			On slope. Highly crowded-growing conditions.
38	Holly oak (*Quercus ilex*)	9, 4	10	70%	40%	Fair	Low			Along slope. Highly crowded-growing conditions.
39	Italian oak (*Quercus frainetto*)	2	3	90%	70%	Good	High		X	Newly installed and staked.
40	Italian oak (*Quercus frainetto*)	2	5	80%	70%	Good	High		X	Newly installed and staked.
41	Italian oak (*Quercus frainetto*)	2	5	80%	70%	Good	High		X	Newly installed and staked.
42	Italian oak (*Quercus frainetto*)	2	5	80%	70%	Good	High		X	Newly installed and staked.
43	Coast live oak (*Quercus agrifolia*)	31	70	80%	60%	Good	High	X		Near top of slope. Base abuts and has raised adjacent v-ditch. Three codominants at 5.5 to 7'. Slight lean, and asymmetrical towards NE.
44	Deodar cedar (*Cedrus deodara*)	15	25	60%	60%	Fair	Moderate			Large deadwood within lower canopy. On slope. Some asymmetry.

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TREE INVENTORY TABLE

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45	Deodar cedar (*Cedrus deodara*)	18	20	50%	40%	Poor	Low			On slope. Ivy along lower trunk. Trunk sweeps north then vertical. Crowded-growing conditions. Possible broken branch near top.
46	Coast live oak (*Quercus agrifolia*)	24	55	100%	70%	Good	High	X		Asymmetrical canopy away from #45's. Near toe of slope.
47	Deodar cedar (*Cedrus deodara*)	10	20	60%	60%	Fair	Moderate			On slope. Crowded-growing conditions.
48	Deodar cedar (*Cedrus deodara*)	30	70	60%	80%	Fair	High			On slope. Branches encroaching on security light.
49	Strawberry tree (*Arbutus unedo*)	10, 10, 8, 5, 6, 6	35	70%	40%	Fair	Moderate			Canopy conjoined with, and asymmetrical away from, #50. Multi-trunk and low crown. Bowing east.
50	Strawberry tree (*Arbutus unedo*)	16, 14, 9, 4	45	60%	40%	Fair	Moderate			Canopy conjoined with #49's. Sparse top. Partial, very large girdling root around base of 16" trunk. The 16" and 14" trunks are low-branching. Broad form and low crown. Multi-trunk.
51	Holly oak (*Quercus ilex*)	19	40	40%	40%	Poor	Moderate		X	Large roots cut along sidewalk side. Codominant leaders 6' high. Declining canopy.

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TREE INVENTORY TABLE

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52	Lemonwood tree (*Pittosporum eugenioides*)	18	35	70%	40%	Fair	Moderate		X	Three codominant leaders at 7' high. Has a 3' tall seam along trunk, street side. Poor lateral root development.
53	Holly oak (*Quercus ilex*)	21	45	50%	40%	Poor	Moderate		X	High canopy. Five leaders form narrow attachment.
54	Japanese maple (*Acer palmatum*)	12	20	60%	50%	Fair	Moderate			Inaccessible and no tag. Within fenced area and limited visibility.
55	Japanese maple (*Acer palmatum*)	16	20	60%	50%	Fair	Moderate			Inaccessible and no tag. Within fenced area and highly limited visibility.
56	Japanese maple (*Acer palmatum*)	14	15	50%	50%	Fair	Moderate			Inaccessible and no tag. Within fenced area and barely visible.
57	Coast live oak (*Quercus agrifolia*)	5	10	70%	40%	Fair	Moderate			Crowded conditions beneath #48 (prune impeding limb of #48 to create growing space).
58	Coast live oak (*Quercus agrifolia*)	10	20	80%	50%	Fair	Moderate			Top of slope. Leans west. Dense wood shrubs surround trunk.
59	Coast live oak (*Quercus agrifolia*)	12, 9	35	90%	50%	Fair	High	X		On slope. Full canopy.

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3223 HANOVER STREET
Palo Alto, California

Project Data

T-4

All other tree-related reports shall be added to the space provided on this sheet (adding as needed)
Include this sheet(s) on Project Sheet Index or Legend Page.
A copy of T-1 can be downloaded at
http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460

Special Tree Protection Instruction Sheet
City of Palo Alto

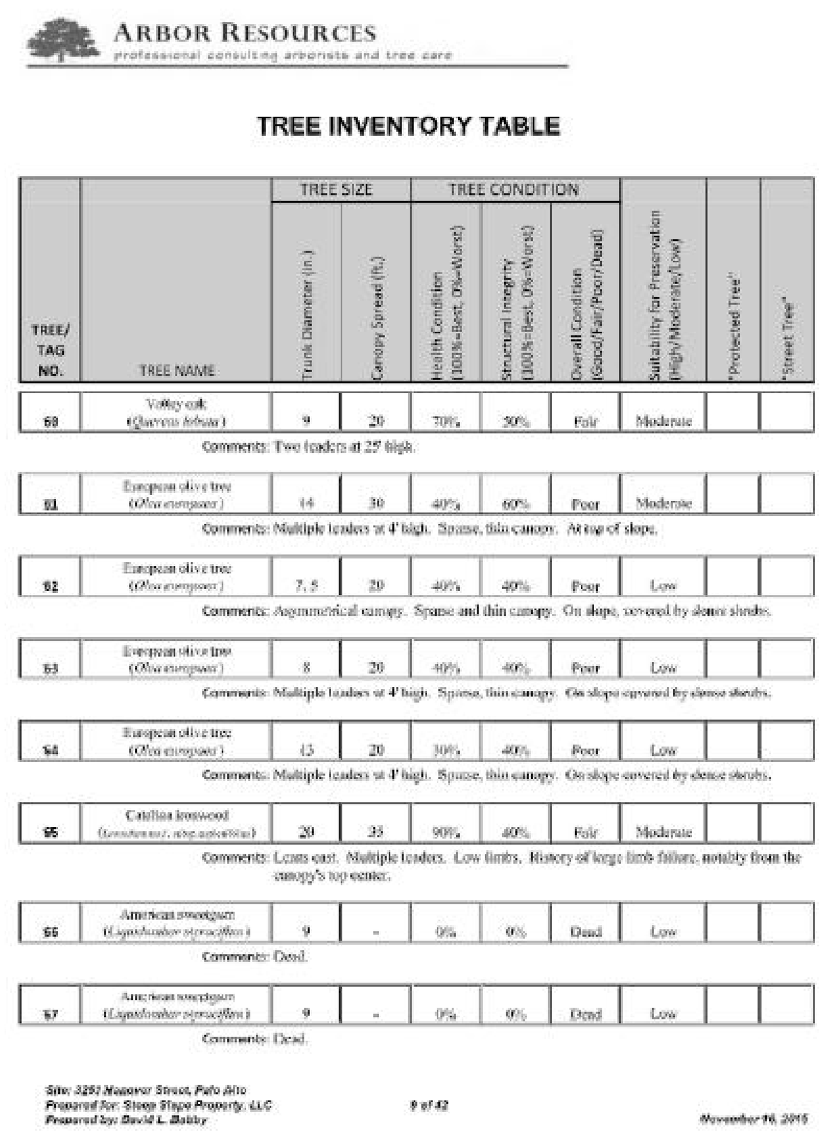
T-4

City of Palo Alto

Tree Protection - It's Part of the Plan!

Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. **An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree.** For detailed information on Palo Alto's regulated trees and protection during development, review the **City Tree Technical Manual** (TTM) found at www.cityofpaloalto.org/trees/.



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60	Valley oak (Quercus lobata)	9	20	70%	50%	Fair	Moderate			Two leaders at 25' high.
61	European olive tree (Olea europaea)	14	30	40%	60%	Poor	Moderate			Multiple leaders at 4' high. Sparse, thin canopy. At top of slope.
62	European olive tree (Olea europaea)	7, 5	20	40%	40%	Poor	Low			Asymmetrical canopy. Sparse and thin canopy. On slope, covered by dense shrubs.
63	European olive tree (Olea europaea)	8	20	40%	40%	Poor	Low			Multiple leaders at 4' high. Sparse, thin canopy. On slope covered by dense shrubs.
64	European olive tree (Olea europaea)	13	20	30%	40%	Poor	Low			Multiple leaders at 4' high. Sparse, thin canopy. On slope covered by dense shrubs.
65	Catalina ironwood (Lyonothamnus ssp. asplenifolius)	20	35	90%	40%	Fair	Moderate			Leans east. Multiple leaders. Low limbs. History of large limb failure, notably from the canopy's top center.
66	American sweetgum (Liquidambar styraciflua)	9	-	0%	0%	Dead	Low			Dead.
67	American sweetgum (Liquidambar styraciflua)	9	-	0%	0%	Dead	Low			Dead.

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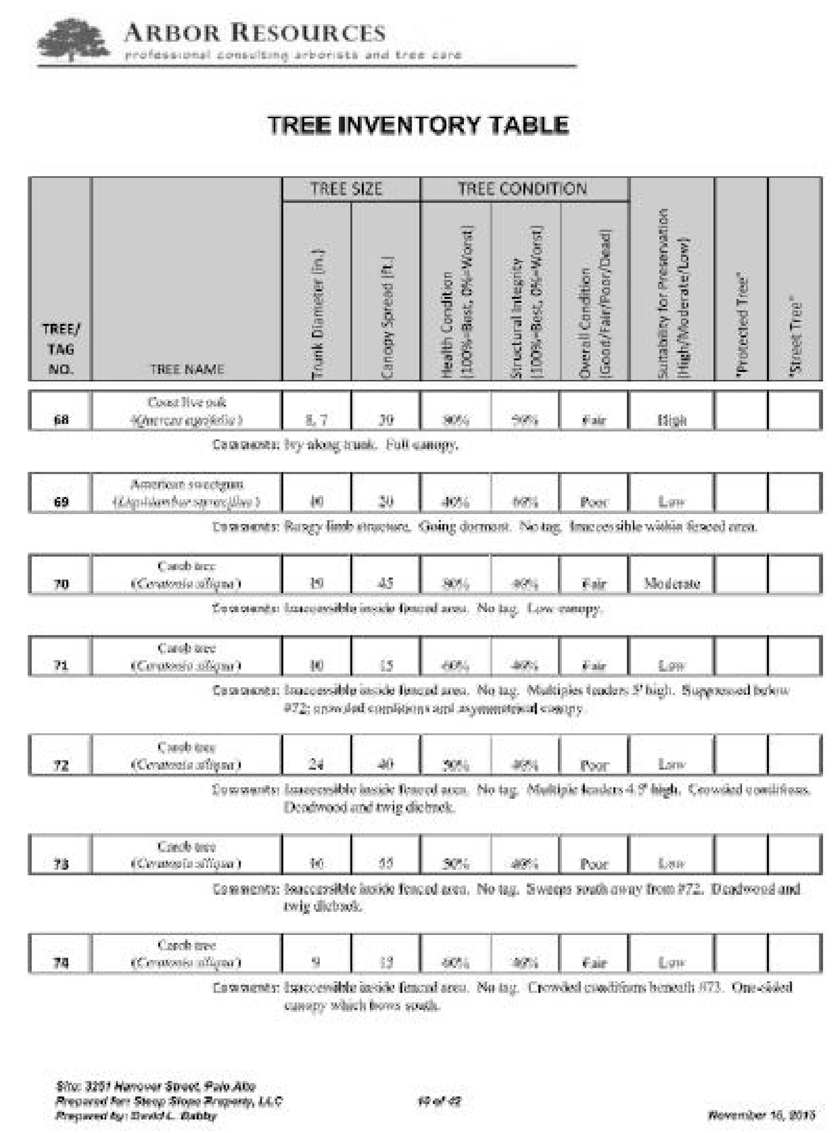

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68	Coast live oak (Quercus agrifolia)	8, 7	30	80%	50%	Fair	High			Ivy along trunk. Full canopy.
69	American sweetgum (Liquidambar styraciflua)	10	20	40%	60%	Poor	Low			Rangy limb structure. Going dormant. No tag. Inaccessible within fenced area.
70	Carob tree (Ceratonia siliqua)	19	45	80%	40%	Fair	Moderate			Inaccessible inside fenced area. No tag. Low canopy.
71	Carob tree (Ceratonia siliqua)	10	15	60%	40%	Fair	Low			Inaccessible inside fenced area. No tag. Multiple leaders 5' high. Suppressed below #72; crowded conditions and asymmetrical canopy.
72	Carob tree (Ceratonia siliqua)	24	40	50%	40%	Poor	Low			Inaccessible inside fenced area. No tag. Multiple leaders 4.5' high. Crowded conditions. Deadwood and twig dieback.
73	Carob tree (Ceratonia siliqua)	16	35	50%	40%	Poor	Low			Inaccessible inside fenced area. No tag. Sweeps south away from #72. Deadwood and twig dieback.
74	Carob tree (Ceratonia siliqua)	9	15	60%	40%	Fair	Low			Inaccessible inside fenced area. No tag. Crowded conditions beneath #73. One-sided canopy which bows south.

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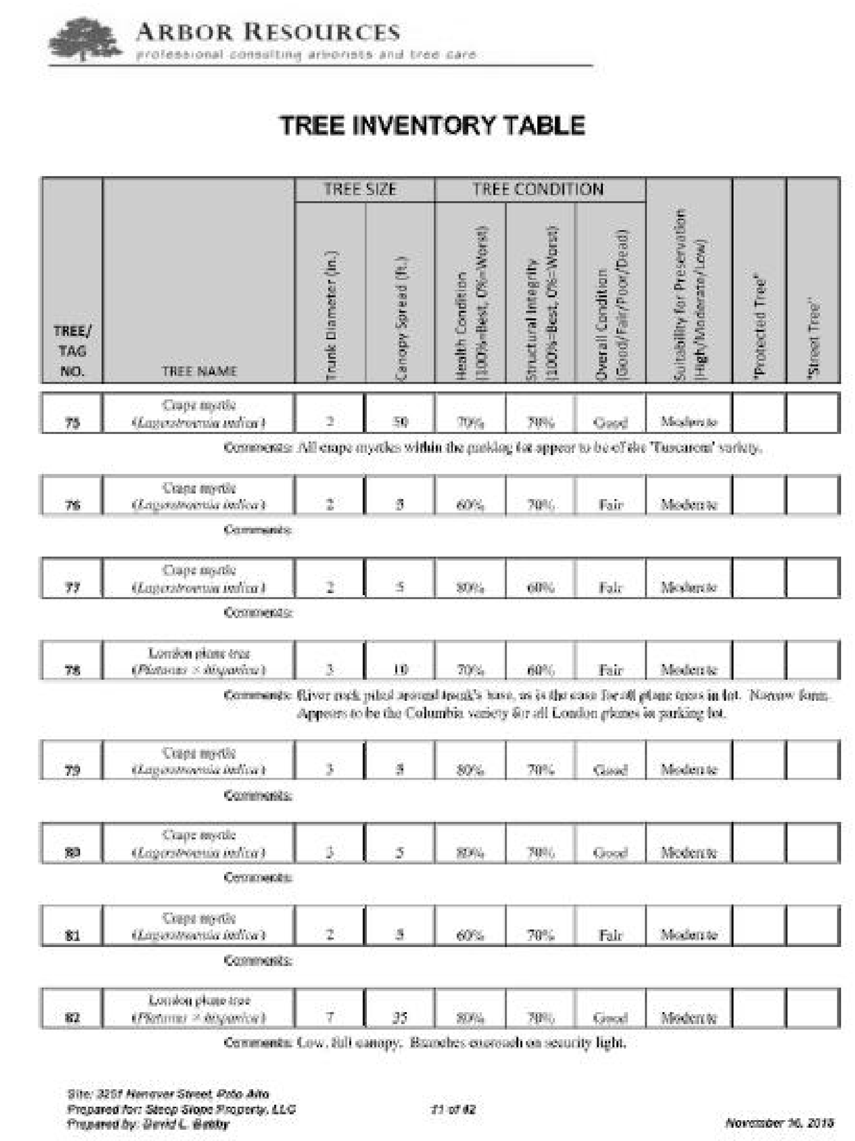

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75	Crape myrtle (Lagerstroemia indica)	2	10	70%	70%	Good	Moderate			All crape myrtles within the parking lot appear to be of the 'Tuscarora' variety.
76	Crape myrtle (Lagerstroemia indica)	2	5	60%	70%	Fair	Moderate			
77	Crape myrtle (Lagerstroemia indica)	2	5	80%	60%	Fair	Moderate			
78	London plane tree (Platanus × hispanica)	3	10	70%	60%	Fair	Moderate			River rock piled around trunk's base, as is the case for all plane trees in lot. Narrow form. Appears to be the Columbia variety for all London planes in parking lot.
79	Crape myrtle (Lagerstroemia indica)	3	5	80%	70%	Good	Moderate			
80	Crape myrtle (Lagerstroemia indica)	3	5	80%	70%	Good	Moderate			
81	Crape myrtle (Lagerstroemia indica)	2	5	60%	70%	Fair	Moderate			
82	London plane tree (Platanus × hispanica)	7	35	80%	70%	Good	Moderate			Low, full canopy. Branches encroach on security light.

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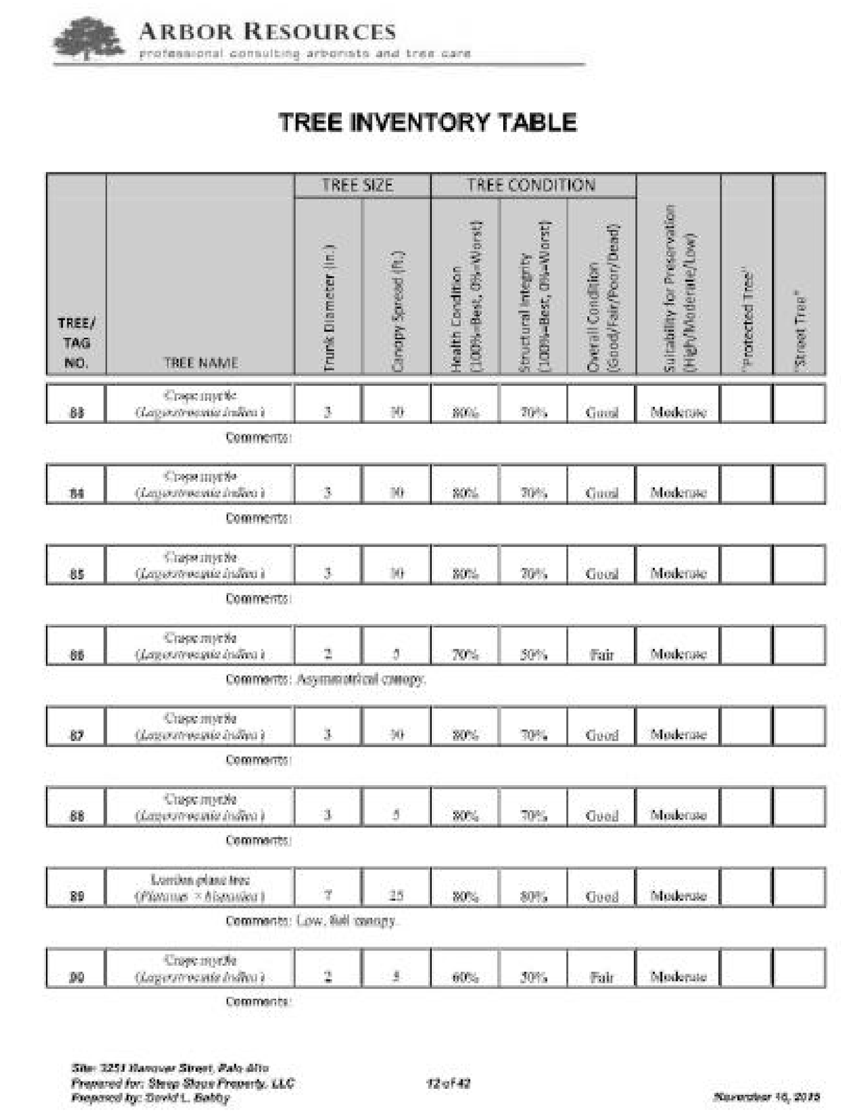

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83	Crape myrtle (Lagerstroemia indica)	3	10	80%	70%	Good	Moderate			
84	Crape myrtle (Lagerstroemia indica)	3	10	80%	70%	Good	Moderate			
85	Crape myrtle (Lagerstroemia indica)	3	10	80%	70%	Good	Moderate			
86	Crape myrtle (Lagerstroemia indica)	2	5	70%	50%	Fair	Moderate			Asymmetrical canopy.
87	Crape myrtle (Lagerstroemia indica)	3	10	80%	70%	Good	Moderate			
88	Crape myrtle (Lagerstroemia indica)	3	5	80%	70%	Good	Moderate			
89	London plane tree (Platanus × hispanica)	7	25	80%	80%	Good	Moderate			Low, full canopy.
90	Crape myrtle (Lagerstroemia indica)	2	5	60%	50%	Fair	Moderate			

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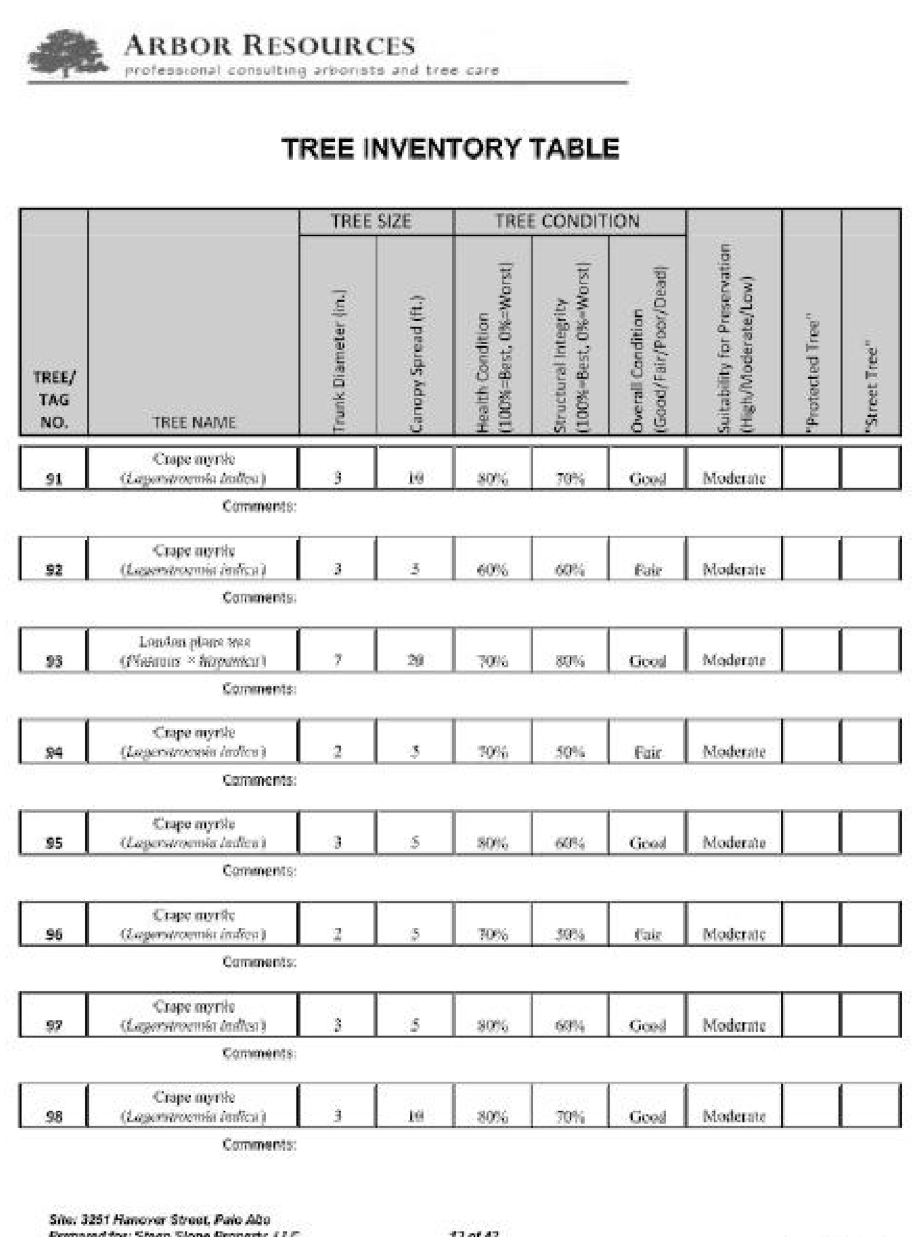

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91	Crape myrtle (Lagerstroemia indica)	3	10	80%	70%	Good	Moderate			
92	Crape myrtle (Lagerstroemia indica)	3	5	60%	60%	Fair	Moderate			
93	London plane tree (Platanus × hispanica)	7	20	70%	80%	Good	Moderate			
94	Crape myrtle (Lagerstroemia indica)	2	5	70%	50%	Fair	Moderate			
95	Crape myrtle (Lagerstroemia indica)	3	5	80%	60%	Good	Moderate			
96	Crape myrtle (Lagerstroemia indica)	2	5	70%	50%	Fair	Moderate			
97	Crape myrtle (Lagerstroemia indica)	3	5	80%	60%	Good	Moderate			
98	Crape myrtle (Lagerstroemia indica)	3	10	80%	70%	Good	Moderate			

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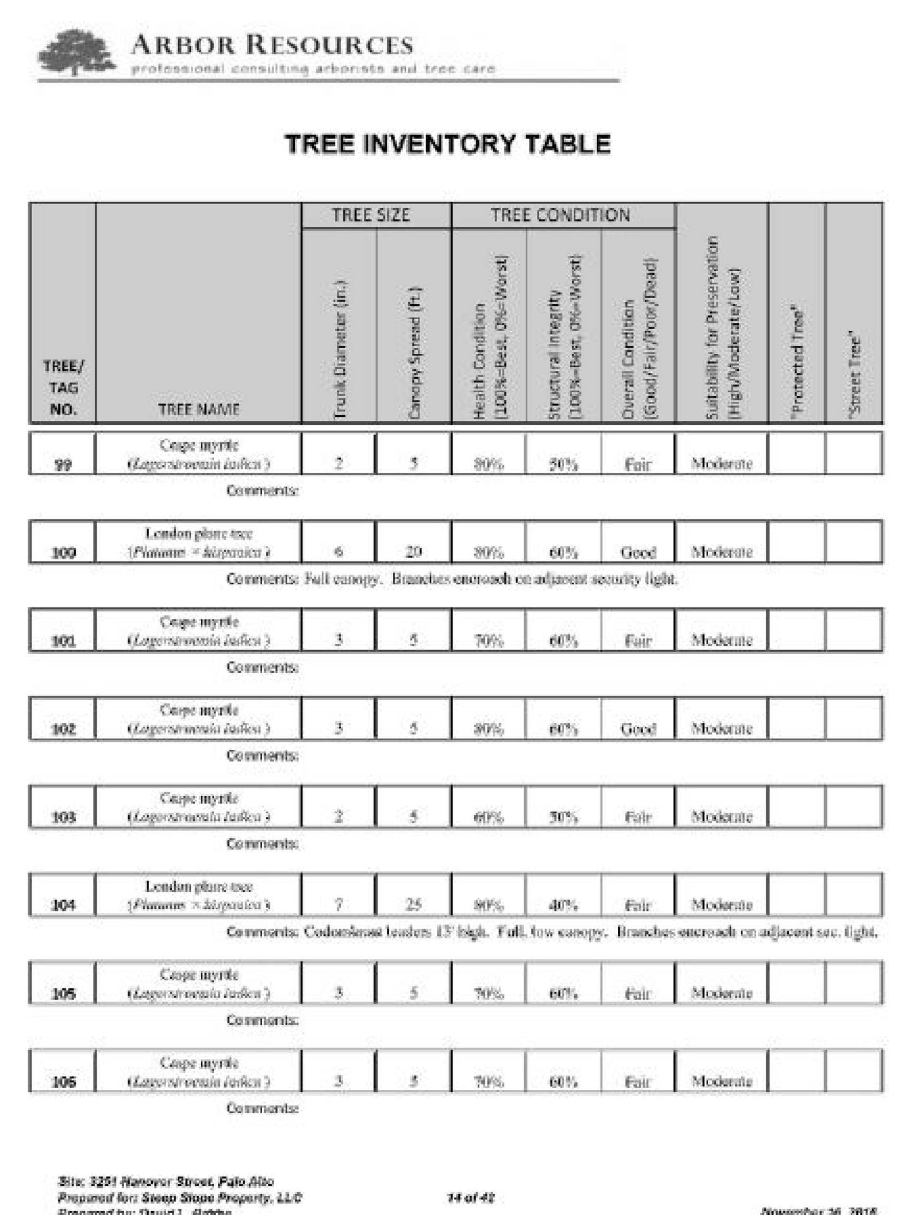

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99	Crape myrtle (Lagerstroemia indica)	2	5	80%	50%	Fair	Moderate			
100	London plane tree (Platanus × hispanica)	6	20	80%	60%	Good	Moderate			Full canopy. Branches encroach on adjacent security light.
101	Crape myrtle (Lagerstroemia indica)	3	5	70%	60%	Fair	Moderate			
102	Crape myrtle (Lagerstroemia indica)	3	5	80%	60%	Good	Moderate			
103	Crape myrtle (Lagerstroemia indica)	2	5	60%	50%	Fair	Moderate			
104	London plane tree (Platanus × hispanica)	7	25	80%	40%	Fair	Moderate			Codominant leaders 13' high. Full, low canopy. Branches encroach on adjacent sec. light.
105	Crape myrtle (Lagerstroemia indica)	3	5	70%	60%	Fair	Moderate			
106	Crape myrtle (Lagerstroemia indica)	3	5	70%	60%	Fair	Moderate			

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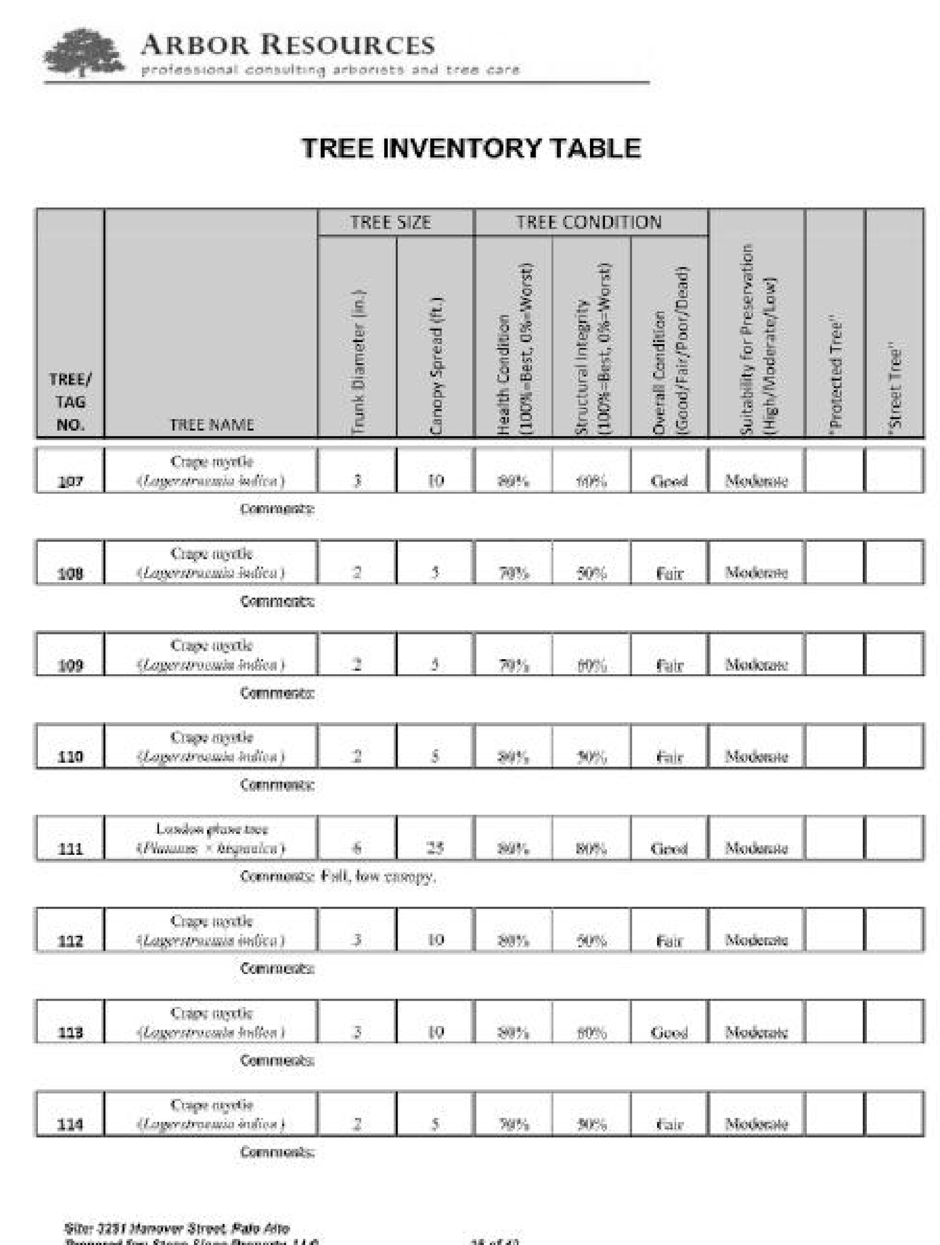

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107	Crape myrtle (Lagerstroemia indica)	3	10	80%	60%	Good	Moderate			
108	Crape myrtle (Lagerstroemia indica)	2	5	70%	50%	Fair	Moderate			
109	Crape myrtle (Lagerstroemia indica)	2	5	70%	60%	Fair	Moderate			
110	Crape myrtle (Lagerstroemia indica)	2	5	80%	50%	Fair	Moderate			
111	London plane tree (Platanus × hispanica)	6	25	80%	80%	Good	Moderate			Full, low canopy.
112	Crape myrtle (Lagerstroemia indica)	3	10	80%	50%	Fair	Moderate			
113	Crape myrtle (Lagerstroemia indica)	3	10	80%	60%	Good	Moderate			
114	Crape myrtle (Lagerstroemia indica)	2	5	70%	50%	Fair	Moderate			

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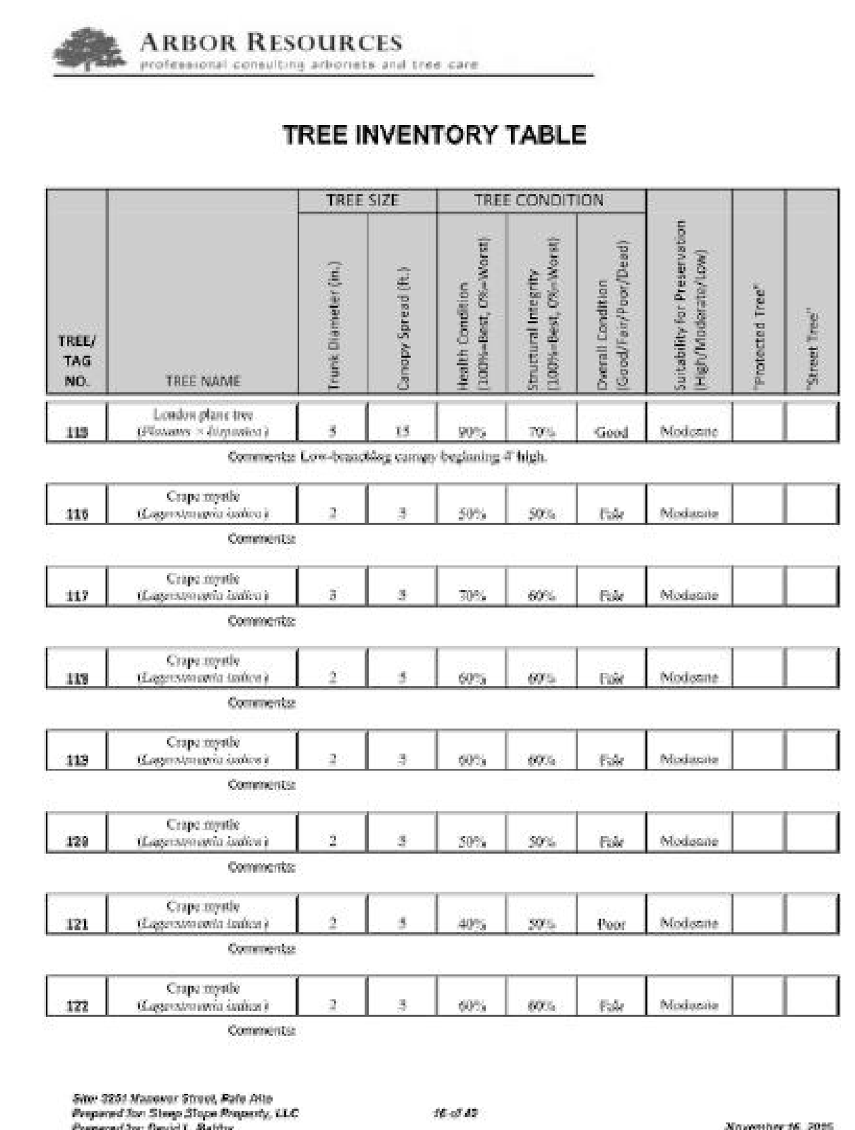

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115	London plane tree (Platanus × hispanica)	5	15	90%	70%	Good	Moderate			Low-branching canopy beginning 4' high.
116	Crape myrtle (Lagerstroemia indica)	2	5	50%	50%	Fair	Moderate			
117	Crape myrtle (Lagerstroemia indica)	3	5	70%	60%	Fair	Moderate			
118	Crape myrtle (Lagerstroemia indica)	2	5	60%	60%	Fair	Moderate			
119	Crape myrtle (Lagerstroemia indica)	2	5	60%	60%	Fair	Moderate			
120	Crape myrtle (Lagerstroemia indica)	2	5	50%	50%	Fair	Moderate			
121	Crape myrtle (Lagerstroemia indica)	2	5	40%	50%	Poor	Moderate			
122	Crape myrtle (Lagerstroemia indica)	2	5	60%	60%	Fair	Moderate			

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November 16, 2015

3223 HANOVER STREET
Palo Alto, California

Project Data

T-5

All other tree-related reports shall be added to the space provided on this sheet (adding as needed)
Include this sheet(s) on Project Sheet Index or Legend Page.
A copy of T-1 can be downloaded at
http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460

Special Tree Protection Instruction Sheet

City of Palo Alto

T-5

City of Palo Alto

Tree Protection - It's Part of the Plan!

Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. **An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree.** For detailed information on Palo Alto's regulated trees and protection during development, review the **City Tree Technical Manual** (TTM) found at www.cityofpaloalto.org/trees/.

ARBOR RESOURCES
professional consulting arborists and tree care

TREE INVENTORY TABLE

TREE/TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100%=Best, 0%=Worst)	TREE CONDITION: Structural Integrity (100%=Best, 0%=Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	"Protected Tree"	"Street Tree"	Comments
123	Crape myrtle (*Lagerstroemia indica*)	2	5	70%	50%	Fair	Moderate			
124	Crape myrtle (*Lagerstroemia indica*)	2	5	70%	60%	Fair	Moderate			
125	London plane tree (*Platanus × hispanica*)	7	25	80%	60%	Good	Moderate			Low, full canopy. Branches encroach onto adjacent security light.
126	Crape myrtle (*Lagerstroemia indica*)	2	5	70%	60%	Fair	Moderate			Two sprigs or sprouts arise above top of canopy.
127	Crape myrtle (*Lagerstroemia indica*)	2	10	80%	50%	Fair	Moderate			
128	Crape myrtle (*Lagerstroemia indica*)	2	5	70%	60%	Fair	Moderate			
129	Blackwood acacia (*Acacia melanoxylon*)	19	50	50%	10%	Poor	Low			Remove ASAP. A 14" limb reaches 3' from ground over parking lot, and has cracked in numerous locations; in effect, the limb has structurally failed. Entire canopy leans to south. History of large limb failure. Multiple dead limbs and branches are broke and hanging from canopy. Ivy along trunk.
130	Holly oak (*Quercus ilex*)	3	15	60%	30%	Poor	Low			Distinct lean south. Narrow form.

Site: 3281 Hanover Street, Palo Alto
Prepared for: Steep Slope Property, LLC
Prepared by: David L. Babby
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ARBOR RESOURCES
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TREE INVENTORY TABLE

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131	Glossy privet (*Ligustrum lucidum*)	8	25	60%	30%	Poor	Low			Multiple leaders 5' high. One-sided canopy bows east.
132	Holly oak (*Quercus ilex*)	5	15	60%	20%	Poor	Low			Decay along trunk. Low, suppressed canopy bows to south.
133	Holly oak (*Quercus ilex*)	4, 2	10	50%	30%	Poor	Low			Crowded conditions. One-sided and narrow canopy.
134	Glossy privet (*Ligustrum lucidum*)	4	10	50%	30%	Poor	Low			Leans east. Crowded conditions.
135	Coast live oak (*Quercus agrifolia*)	9	25	50%	40%	Poor	Moderate			Sparse, thin and asymmetrical canopy. Leans south. Basal decay at multiple locations. Western sycamore borer attacks. Buried root collar.
136	Glossy privet (*Ligustrum lucidum*)	5, 4	15	20%	40%	Poor	Low			Ivy along trunk. Bows north, crowded conditions. Advanced decline.
137	Firethorn (*Pyracantha sp.*)	7, 5	20	40%	40%	Poor	Low			Ivy along trunk. Crowded conditions.
138	Coast live oak (*Quercus agrifolia*)	5	10	60%	30%	Poor	Low			Crowded conditions. Leans south. Narrow form.

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ARBOR RESOURCES
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TREE INVENTORY TABLE

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139	Glossy privet (*Ligustrum lucidum*)	4	10	20%	30%	Poor	Low			Advanced decline. Crowded conditions.
140	Holly oak (*Quercus ilex*)	5	10	50%	40%	Poor	Low			Crowded conditions. Leans south. Ivy along trunk.
141	Coast live oak (*Quercus agrifolia*)	7	13	70%	50%	Fair	Moderate			Leans south. Crowded conditions. Ivy along trunk.
142	Coast live oak (*Quercus agrifolia*)	4	10	50%	40%	Poor	Low			Ivy along trunk. Crowded conditions.
143	Glossy privet (*Ligustrum lucidum*)	8, 6, 6, 5, 4, 4, 3, 3	13	10%	20%	Poor	Low			Nearly dead. Ivy along trunk.
144	Glossy privet (*Ligustrum lucidum*)	5	10	20%	30%	Poor	Low			Advanced decline.
145	Coast live oak (*Quercus agrifolia*)	5	10	60%	30%	Poor	Low			Crowded conditions. Leans SW. Narrow form.
146	Almond tree (*Prunus dulcis*)	12	-	0%	0%	Dead	Low			Dead.

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ARBOR RESOURCES
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TREE INVENTORY TABLE

TREE/TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100%=Best, 0%=Worst)	TREE CONDITION: Structural Integrity (100%=Best, 0%=Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	"Protected Tree"	"Street Tree"	Comments
147	Holly oak (*Quercus ilex*)	9	20	70%	40%	Fair	Moderate			Multiple leaders 4.5 to 5' high. Leans south. Weak attachment between a limb and leader.
148	Valley oak (*Quercus lobata*)	18	40	40%	40%	Poor	Moderate	X		Deadwood. Rangy form. Asymmetrical to west, away from #149. Ivy along trunk. On gentle slope. Pepper tree #208 is grafted to trunk. Thin canopy.
149	Valley oak (*Quercus lobata*)	24	50	60%	40%	Fair	Moderate	X		One limb encroaches on adjacent security light. Ivy along trunk. Codominant leaders at 8' high. Sinuous limb structure. Highly asymmetrical canopy towards SE. One main leader overhangs lot by around 15'.
150	Coast live oak (*Quercus agrifolia*)	7, 5, 3, 3, 3	20	70%	30%	Fair	Moderate	X		Low canopy, branches growing along ground. Suppressed beneath #149. Trunks represent suckers. Shrub form.
151	Coast live oak (*Quercus agrifolia*)	5, 4, 4, 3	25	80%	30%	Fair	Moderate			Trunks represent suckers. Low canopy along ground. Suppressed growth beneath #149.
152	Coast live oak (*Quercus agrifolia*)	10, 6, 5	35	60%	30%	Fair	Moderate	X		Ivy along trunk. Trunks represent suckers. Low canopy along ground.
153	Coast live oak (*Quercus agrifolia*)	29	65	60%	40%	Fair	High	X		Low crown. Structure formed by a several leaders attached at 5' high. Significantly elevated in past. Partial girdling root. Trunk is 5' from back of curb.

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Prepared for: Steep Slope Property, LLC
Prepared by: David L. Babby
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ARBOR RESOURCES
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TREE INVENTORY TABLE

TREE/TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100%=Best, 0%=Worst)	TREE CONDITION: Structural Integrity (100%=Best, 0%=Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	"Protected Tree"	"Street Tree"	Comments
154	Coast live oak (*Quercus agrifolia*)	22	70	80%	60%	Good	High	X		On slope, uphill side is buried. Conjoined canopy with #153. Asymmetrical canopy.
155	Coast live oak (*Quercus agrifolia*)	15	35	60%	30%	Poor	Moderate	X		Crowded conditions. Bows east.
156	Coast live oak (*Quercus agrifolia*)	18	35	60%	30%	Poor	Moderate	X		Sinuous, funky form. Ivy along trunk. Crowded conditions. Large limbs cut below where multiple leaders originate at 5.5' high.
157	Coast live oak (*Quercus agrifolia*)	24	55	80%	40%	Fair	Moderate	X		Ivy along trunk. On slope. Asymmetrical canopy, codominant leaders at 6' high. Structure is predominantly formed by eastern limb, western-half shorter and encroaches onto adjacent security light.
158	Coast live oak (*Quercus agrifolia*)	19	40	60%	50%	Fair	Moderate	X		Near bottom of slope. Crowded conditions. Ivy along trunk. Codominant leaders at 13' high. Large deadwood. Upright, compressed form between competing canopies.
159	Coast live oak (*Quercus agrifolia*)	21	40	70%	40%	Fair	Moderate	X		On slope. Buried root collar. Ivy along trunk. Crowded conditions between competing canopies. Narrow, sinuous form. Multiple leaders at 8' high.
160	Coast live oak (*Quercus agrifolia*)	27	90	80%	60%	Good	High	X		Very low canopy over parking lot, nearing 3' from grade. Basal decay visible through a hollow on north side. Discolored multiple locations at base. Multiple leaders 6 to 9' high.

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ARBOR RESOURCES
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TREE INVENTORY TABLE

TREE/TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100%=Best, 0%=Worst)	TREE CONDITION: Structural Integrity (100%=Best, 0%=Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	"Protected Tree"	"Street Tree"	Comments
161	Chinese pistache (*Pistacia chinensis*)	10	40	60%	40%	Fair	Moderate			Low canopy nearing 4' above parking lot. Asymmetrical. Excessive limb weight.
162	Blackwood acacia (*Acacia melanoxylon*)	8	25	10%	20%	Poor	Low			Nearly dead. Has a pronounced buttress root.
163	Blackwood acacia (*Acacia melanoxylon*)	6	-	0%	0%	Dead	Low			Dead.
164	Blackwood acacia (*Acacia melanoxylon*)	4	-	0%	0%	Dead	Low			Dead.
165	Blackwood acacia (*Acacia melanoxylon*)	4	-	0%	0%	Dead	Low			Dead.
166	Blackwood acacia (*Acacia melanoxylon*)	12	20	10%	20%	Poor	Low			Nearly dead.
167	Spotted gum (*Corymbia maculata*)	11, 4	25	80%	40%	Fair	Low			Codominant leader at 15' high.
168	Spotted gum (*Corymbia maculata*)	5	15	70%	40%	Fair	Low			Sinuous form. Crowded conditions.

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ARBOR RESOURCES
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TREE INVENTORY TABLE

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169	Coast live oak (*Quercus agrifolia*)	7	20	80%	40%	Fair	Moderate			Crowded conditions. Codominant leaders at 10' high.
170	Coast live oak (*Quercus agrifolia*)	10	25	50%	40%	Fair	Moderate			Ivy along trunk. Codominant leaders at 4'. Asymmetrical canopy, crowded conditions.
171	Coast live oak (*Quercus agrifolia*)	13	30	80%	50%	Fair	High	X		Trunk has a crook near base. Buried root collar. Multiple leaders form weak attachments.
172	Coast live oak (*Quercus agrifolia*)	8, 6	25	70%	30%	Fair	Moderate			Trunk bifurcates 1' high. Crowded conditions.
173	Coast live oak (*Quercus agrifolia*)	8	15	70%	40%	Fair	Moderate			Slight lean east. Excessive limb weight. Ivy along trunk.
174	Coast live oak (*Quercus agrifolia*)	11	20	80%	50%	Fair	Moderate			Ivy along trunk. Codominant leaders at 4' and form a weak attachment. Crowded conditions. Asymmetrical canopy.
175	Coast live oak (*Quercus agrifolia*)	8	15	60%	40%	Fair	Moderate			Ivy along trunk. Codominant leaders 7' high. Crowded conditions form asymmetry.
176	Flowering pear (*Pyrus calleryana*)	10	20	70%	30%	Fair	Low			Asymmetrical canopy grows low over lot. Codominant, multiple leaders at 4' high.

Site: 3281 Hanover Street, Palo Alto
Prepared for: Steep Slope Property, LLC
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ARBOR RESOURCES
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TREE INVENTORY TABLE

TREE/TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100%=Best, 0%=Worst)	TREE CONDITION: Structural Integrity (100%=Best, 0%=Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	"Protected Tree"	"Street Tree"	Comments
177	Blackwood acacia (*Acacia melanoxylon*)	9	25	70%	30%	Fair	Moderate			Crowded conditions form an asymmetrical, one-sided canopy.
178	Deodar cedar (*Cedrus deodara*)	17	-	0%	0%	Dead	Low			Dead.
179	Coast live oak (*Quercus agrifolia*)	5	10	30%	30%	Poor	Low			Short, suppressed canopy. Trunk bifurcates 1.5' high.
180	Coast live oak (*Quercus agrifolia*)	15	30	70%	50%	Fair	High	X		Ivy along trunk. Narrow but dominant canopy for location.
181	Coast live oak (*Quercus agrifolia*)	15	20	70%	40%	Fair	Moderate	X		Leans south. Ivy along trunk. Crowded conditions and asymmetrical canopy.
182	Coast live oak (*Quercus agrifolia*)	10	25	40%	30%	Poor	Moderate			Sinuous main stem. Asymmetrical, one-sided canopy from crowded conditions. Codominant leaders 12' high form a weak attachment.
183	Deodar cedar (*Cedrus deodara*)	14	-	0%	0%	Dead	Low			Dead.
184	Coast live oak (*Quercus agrifolia*)	7	15	40%	30%	Poor	Low			Scale along trunk. Asymmetrical canopy from crowded conditions. Large deadwood.

Site: 3281 Hanover Street, Palo Alto
Prepared for: Steep Slope Property, LLC
Prepared by: David L. Babby
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November 13, 2015

3223 HANOVER STREET
Palo Alto, California

Project Data

T-6

All other tree-related reports shall be added to the space provided on this sheet (adding as needed)
Include this sheet(s) on Project Sheet Index or Legend Page.
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http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460

Special Tree Protection Instruction Sheet

City of Palo Alto

T-6

FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

3223 Hanover Street Phase 2
Formal ARB Application
Sand Hill Properties Company

TREE PROTECTION

City of Palo Alto

Tree Protection - It's Part of the Plan!

Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. **An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree.** For detailed information on Palo Alto's regulated trees and protection during development, review the **City Tree Technical Manual** (TTM) found at www.cityofpaloalto.org/trees/.

ARBOR RESOURCES
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TREE INVENTORY TABLE

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185	Coast live oak (Quercus agrifolia)	8	15	60%	30%	Poor	Low			Crowded conditions and asymmetrical canopy. Trunk grows through fence and has chain link embedded in trunk.
186	Coast live oak (Quercus agrifolia)	4	10	60%	30%	Poor	Low			Asymmetrical canopy and crowded conditions.
187	Coast live oak (Quercus agrifolia)	8, 8, 7	30	70%	40%	Fair	Moderate	X		Asymmetrical canopy. Crowded conditions. Scale along one trunk.
188	Coast live oak (Quercus agrifolia)	8	15	60%	30%	Fair	Low			Narrow form. Asymmetrical canopy and crowded conditions.
189	Coast live oak (Quercus agrifolia)	8	20	60%	40%	Fair	Moderate			Top of slope. Buried root collar. Crowded conditions and narrow form.
190	Coast live oak (Quercus agrifolia)	5	10	60%	30%	Poor	Moderate			Scale on trunk. Crowded conditions.
191	Coast live oak (Quercus agrifolia)	7	10	60%	30%	Poor	Moderate			Sinuous trunk. Crowded conditions.
192	Coast live oak (Quercus agrifolia)	5	10	70%	30%	Fair	Low			Suppressed and short tree bows south.

Site: 3251 Hanover Street, Palo Alto
Prepared for: Steep Slope Property, LLC
Prepared by: David L. Babby
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November 16, 2015

ARBOR RESOURCES
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TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100%=Best, 0%=Worst)	TREE CONDITION: Structural Integrity (100%=Best, 0%=Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	"Protected Tree"	"Street Tree"	Comments
193	Coast live oak (Quercus agrifolia)	7	15	60%	30%	Fair	Moderate			Crowded conditions. Narrow form.
194	Coast live oak (Quercus agrifolia)	7	10	70%	30%	Fair	Moderate			Crowded conditions. Narrow form, slight lean south. Sinuous trunk.
195	Coast live oak (Quercus agrifolia)	3	10	50%	20%	Poor	Low			Extremely suppressed growth.
196	Coast live oak (Quercus agrifolia)	15	40	80%	50%	Fair	High	X		Large limb cut from lower trunk, leaving sizeable wound.
197	Coast live oak (Quercus agrifolia)	13	30	70%	40%	Fair	Moderate	X		Crowded conditions. Opposite side of fence, center of trunk 1' foot from fence.
198	Coast live oak (Quercus agrifolia)	6	15	60%	30%	Poor	Low			Entire trunk bows south.
199	Coast live oak (Quercus agrifolia)	12	30	60%	40%	Fair	Moderate	X		Sinuous trunk. Crowded conditions.
200	European olive tree (Olea europaea)	5	15	50%	30%	Poor	Low			Suppressed, sinuous form. Highly asymmetrical canopy.

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TREE INVENTORY TABLE

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201	Coast live oak (Quercus agrifolia)	7	15	60%	30%	Poor	Moderate			Canopy sweeps south. Crowded conditions.
202	Interior live oak (Quercus wislizeni)	5, 4	15	30%	60%	Poor	Moderate			Narrow form. Crowded conditions.
203	Coast live oak (Quercus agrifolia)	11, 8, 6	30	60%	40%	Fair	Moderate			Ivy and scales along lower trunk. Originates from project side of fence, and grows towards neighbor's, chain link embedded into one-sided of trunk.
204	Coast live oak (Quercus agrifolia)	15	30	50%	40%	Poor	Moderate			Abuts and originates from opposite side of fence. Grows at nearly 45-degree NE, away from #205. Crowded conditions.
205	European olive tree (Olea europaea)	11, 10, 9, 8, 7, 5, 3	45	40%	20%	Poor	Moderate			Large dead limb hinged in canopy.
206	European olive tree (Olea europaea)	7, 4, 4	20	50%	30%	Poor	Moderate			One-sided canopy bows uphill.
207	European olive tree (Olea europaea)	6, 6, 4	25	40%	40%	Poor	Moderate			Chain link embedded in trunk. Overhangs playground of neighboring residential property and creates significant litter.

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TREE INVENTORY TABLE

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208	Coast live oak (Quercus agrifolia)	8	15	60%	30%	Poor	Moderate			Originates from project site, and sweeps towards neighbor's through fence. Chain link is embedded in trunk.
209	Chinese flame tree (Koelreuteria bipinnata)	5	-	20%	20%	Poor	Low			Mostly dead and dormant.
210	Chinese flame tree (Koelreuteria bipinnata)	5, 4	-	0%	0%	Dead	Low			
211	Coast live oak (Quercus agrifolia)	21	65	70%	60%	Fair	High	X		Codominants at 12' high.
212	Glossy privet (Ligustrum lucidum)	20	20	30%	30%	Poor	Low			Crowded conditions beneath #213. Deadwood. Weak attachments. Multiple leaders 18".
213	Coast live oak (Quercus agrifolia)	25	80	70%	70%	Good	High	X		Deadwood. Codominants at 6' high.
214	Coast live oak (Quercus agrifolia)	17	35	90%	40%	Fair	Moderate	X		Asymmetrical, one-sided canopy towards south.
215	Coast live oak (Quercus agrifolia)	31	100	50%	70%	Fair	Moderate	X		Notably sparse canopy, particularly at top. Codominants 6 to 9'. Small girdling root.

Site: 3251 Hanover Street, Palo Alto
Prepared for: Steep Slope Property, LLC
Prepared by: David L. Babby
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November 16, 2015

ARBOR RESOURCES
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TREE INVENTORY TABLE

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216	Coast live oak (Quercus agrifolia)	20	50	70%	40%	Fair	Moderate	X		Deadwood. Asymmetrical, one-sided canopy.
217	Coast live oak (Quercus agrifolia)	5	15	70%	50%	Fair	Moderate			Sinuous, vertical form.
218	Coast live oak (Quercus agrifolia)	6	15	60%	50%	Fair	Moderate			Sinuous, vertical and narrow form.
219	Coast live oak (Quercus agrifolia)	5	10	60%	30%	Poor	Moderate			Leans uphill. Suppressed from crowded conditions. One-sided canopy.
220	Coast live oak (Quercus agrifolia)	14	20	70%	30%	Fair	Moderate			Crown sweeps uphill. Codominants 5.5' high.
221	Strawberry tree (Arbutus unedo)	5	15	70%	30%	Fair	Low			Suppressed canopy which sweeps east.
222	Coast live oak (Quercus agrifolia)	14	25	70%	40%	Fair	Moderate	X		Originates opposite side of fence, the center of trunk 8" from fence. Leans east. Crowded conditions. Deadwood.
223	Coast live oak (Quercus agrifolia)	13	35	60%	40%	Fair	Moderate	X		Originates opposite side of fence. Crowded conditions. Deadwood. Codominants 8' high. Abuts fence, and chain link embedded in trunk.

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ARBOR RESOURCES
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TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100%=Best, 0%=Worst)	TREE CONDITION: Structural Integrity (100%=Best, 0%=Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	"Protected Tree"	"Street Tree"	Comments
224	Coast live oak (Quercus agrifolia)	18	40	70%	40%	Fair	Moderate	X		Originates opposite side of fence. Abuts chain link. Multiple leaders 8 to 10' high.
225	Coast live oak (Quercus agrifolia)	15	25	60%	40%	Fair	Moderate	X		Tag on fence. Opposite side of fence, visibility being highly limited. Abuts fence. Deadwood and crowded-growing conditions.
226	Coast live oak (Quercus agrifolia)	17	29	60%	40%	Fair	Moderate	X		Tag on fence. Opposite side of fence, visibility being highly limited. Abuts fence. One-sided canopy towards SE.
227	Coast live oak (Quercus agrifolia)	36	59	60%	40%	Fair	Moderate	X		Tag on fence. Opposite side of fence, visibility being extremely limited. One-sided canopy and severe lean east; small mound opposite lean. Possibly partially uprooted in past. Low-limb structure. Trunk abuts and pushes out chain link fence.
228	Coast live oak (Quercus agrifolia)	42	30	40%	0%	Poor	Low	X		Tag on fence. Opposite side of fence, visibility barely visible from afar. Has fallen over, the root plate opposite fall direction forming a large and 2' tall mound. Crown lies on ground. Fence is raised and bent.
229	Coast live oak (Quercus agrifolia)	9	20	70%	40%	Fair	Moderate			Top of slope. Entire canopy sweeps NW. Low canopy. Has a very small girdling root.
230	Coast live oak (Quercus agrifolia)	8	20	60%	50%	Fair	Moderate			On slope. Deadwood and crowded conditions. Upright form compressed between adjacent canopies.

Site: 3251 Hanover Street, Palo Alto
Prepared for: Steep Slope Property, LLC
Prepared by: David L. Babby
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November 16, 2015

ARBOR RESOURCES
professional consulting arborists and tree care

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100%=Best, 0%=Worst)	TREE CONDITION: Structural Integrity (100%=Best, 0%=Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	"Protected Tree"	"Street Tree"	Comments
231	Coast live oak (Quercus agrifolia)	4	10	60%	30%	Poor	Low			Deadwood. Top of slope. Suppressed canopy sweeps to west. Low canopy nears inches from ground.
232	Coast live oak (Quercus agrifolia)	21	40	80%	40%	Fair	Moderate	X		One-sided canopy and crowded conditions. Two codominant leaders 8' high, and the entire canopy bows north. Top of slope. Deadwood. Low canopy nears 4' above grade.
233	Coast live oak (Quercus agrifolia)	20	30	60%	40%	Fair	Moderate	X		Very high, excessively elevated canopy. Crowded conditions. Large deadwood. Thin interior, and a one-sided and asymmetrical canopy away from #234. Five multi-leaders at 8 to 10' feet, bowing west. Watersprouts comprise foliage in lower crown.
234	Coast live oak (Quercus agrifolia)	26	60	50%	40%	Poor	Moderate	X		Very high, excessively elevated canopy. Crowded conditions. Large deadwood. Three codominants at 5.5' high. Small girdling root.
235	Coast live oak (Quercus agrifolia)	27	50	70%	60%	Fair	High	X		Crowded-growing conditions. One-sided canopy sweeps to south. At top of slope. Buried root collar uphill. Multiple leaders 6' high. Deadwood.
236	Coast live oak (Quercus agrifolia)	23	50	50%	70%	Fair	High	X		Large deadwood. Asymmetrical and sparse canopy nearing 2' above ground. Located slightly below top of slope.
237	Coast live oak (Quercus agrifolia)	19	35	70%	40%	Fair	Moderate	X		Tag on fence. Opposite side of fence, center of trunk 2' feet from chain link. Limited visibility of trunk.

Site: 3251 Hanover Street, Palo Alto
Prepared for: Steep Slope Property, LLC
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ARBOR RESOURCES
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TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100%=Best, 0%=Worst)	TREE CONDITION: Structural Integrity (100%=Best, 0%=Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	"Protected Tree"	"Street Tree"	Comments
238	Interior live oak (Quercus wislizeni)	10, 4	20	50%	40%	Poor	Moderate			Tag on fence. Opposite side of fence, center of trunk 2' from chain link. Barely visible tree. Canopy bows SW and has a narrow form. Deadwood.
239	Coast live oak (Quercus agrifolia)	8	30	50%	50%	Fair	Moderate			Tag on fence. Opposite of fence, and base abuts chain link. Very limited visibility of trunk, which bifurcates 10' high into codominant leaders. Low and thin canopy.
240	Coast live oak (Quercus agrifolia)	18	40	60%	30%	Poor	Moderate	X		Tag on fence. Opposite side of fence, base abutting chain link, which is embedded in trunk. Deadwood. Visibility of trunk is highly limited. Two codominant leaders at 9' high, and entire crown sweeps SW.
241	Blackwood acacia (Acacia melanoxylon)	24	-	0%	0%	Dead	Low			Dead. Near property line.
242	Blackwood acacia (Acacia melanoxylon)	5	-	0%	0%	Dead	Low			Dead.
243	Blackwood acacia (Acacia melanoxylon)	5	-	0%	0%	Dead	Low			Dead.
244	Coast live oak (Quercus agrifolia)	29	45	70%	80%	Good	High	X		Tag on fence. On opposite side of fence, and trunk is barely visible. Center of trunk is around 2.5 feet from chain link fence. Scale along trunk and limbs.

Site: 3251 Hanover Street, Palo Alto
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3223 HANOVER STREET
Palo Alto, California

Project Data

T-7

All other tree-related reports shall be added to the space provided on this sheet (adding as needed)
Include this sheet(s) on Project Sheet Index or Legend Page.
A copy of T-1 can be downloaded at
http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460

Special Tree Protection Instruction Sheet
City of Palo Alto

T-7

City of Palo Alto

Tree Protection - It's Part of the Plan!

Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. **An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree.**
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ARBOR RESOURCES
professional consulting arborists and tree care

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100% Best, 0% Worst)	TREE CONDITION: Structural Integrity (100% Best, 0% Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	*Protected Tree*	*Street Tree*	
195	Red gum (*Eucalyptus camaldulensis*)	32	70	30%	30%	Poor	Low			
Comments: Tag on fence. Offsite. Opposite side of fence, center of trunk 12' from chain link. Very sparse and thin canopy with large deadwood. Meadow lush filled everything up.										
196	Red gum (*Eucalyptus camaldulensis*)	9	10	30%	30%	Fair	Moderate			
Comments: Codominant tops. Slight lean west.										
197	Red gum (*Eucalyptus camaldulensis*)	8, 3	18	30%	30%	Fair	Low			
Comments: Two trunks form a weak attachment. Leans west.										
198	Australian tea tree (*Leptospermum laevigatum*)	11	30	60%	60%	Fair	Moderate			
Comments: Rests on parking against adjacent eucalyptus and causing uneven drainage path.										
199	Evergreen pear (*Pyrus kawakamii*)	5	15	30%	40%	Poor	Low			
Comments: Deadwood, high and asymmetrical canopy. Girdling root, below ground.										
200	Australian tea tree (*Leptospermum laevigatum*)	10	10	30%	40%	Poor	Low			
Comments: Trunk wrapped around trunk. Narrow, weakly attached canopy. Large deadwood.										
201	Blackwood acacia (*Acacia melanoxylon*)	7	20	70%	60%	Fair	Low			
Comments: Multiple tops. Crowded conditions.										
202	Blackwood acacia (*Acacia melanoxylon*)	6	15	70%	70%	Fair	Moderate			
Comments: Tag on fence. Opposite side of fence, center of trunk 6" from chain link. Crowded.										

ARBOR RESOURCES
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TREE INVENTORY TABLE

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253	Blackwood acacia (*Acacia melanoxylon*)	1, 3	10	50%	50%	Fair	Moderate			
Comments: Tag on fence. Opposite side and base abuts wood fence.										
254	Blackwood acacia (*Acacia melanoxylon*)	13, 9	25	50%	30%	Poor	Low			
Comments: Has a large girdling root. On slope and leans downhill. Deadwood. Large wound along the uphill side of both trunks.										
255	Blackwood acacia (*Acacia melanoxylon*)	9	20	60%	30%	Poor	Low			
Comments: On slope. Codominants at 25' form a weak attachment. Crowded conditions.										
256	Blackwood acacia (*Acacia melanoxylon*)	7	15	60%	30%	Poor	Low			
Comments: On slope. Crowded conditions. Leans downhill.										
257	Blackwood acacia (*Acacia melanoxylon*)	9, 7, 4	20	60%	40%	Fair	Low			
Comments: On slope. Large wound near base of 9" trunk. Crowded conditions.										
258	Blackwood acacia (*Acacia melanoxylon*)	6	10	60%	40%	Fair	Low			
Comments: On slope. Deadwood and crowded conditions.										
259	Blackwood acacia (*Acacia melanoxylon*)	7	15	70%	60%	Fair	Moderate			
Comments: Top of slope. Deadwood.										
260	Blackwood acacia (*Acacia melanoxylon*)	9	25	60%	40%	Fair	Low			
Comments: Codominants forming a weak attachment.										

ARBOR RESOURCES
professional consulting arborists and tree care

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100% Best, 0% Worst)	TREE CONDITION: Structural Integrity (100% Best, 0% Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	*Protected Tree*	*Street Tree*	
261	Blackwood acacia (*Acacia melanoxylon*)	7	15	50%	20%	Poor	Low			
Comments: Tag on fence. Opposite side of fence, base adjacent to wood fence. Lower trunk is not visible. Asymmetrical, suppressed growth away from 5269.										
262	Blackwood acacia (*Acacia melanoxylon*)	7	10	60%	40%	Fair	Low			
Comments: Opposite side of fence, trunk nearly abutting chain link. Tagged fence. Codominants at 3' high. Substantial amount of ivy along trunk.										
263	Blackwood acacia (*Acacia melanoxylon*)	9, 9, 7	30	70%	70%	Fair	Low			
Comments: 9" trunks form a very weak attachment. Asymmetrical canopy.										
264	Blackwood acacia (*Acacia melanoxylon*)	9	20	70%	40%	Fair	Low			
Comments: Codominant leaders form a weak attachment.										
265	Deodar cedar (*Cedrus deodara*)	15	30	50%	60%	Fair	Moderate			
Comments: Large dead limbs. Low-crown and sinuous trunk. There is a dead, 10" redwood beside approximately 20' uphill.										
266	Blackwood acacia (*Acacia melanoxylon*)	10, 9	25	70%	70%	Poor	Low			
Comments: Dead limbs within center, top of canopy. Old wounds and history of limb failure.										
267	Blackwood acacia (*Acacia melanoxylon*)	7	10	60%	70%	Poor	Low			
Comments: Large crow wound along low trunk. Highly crowded growing conditions.										

ARBOR RESOURCES
professional consulting arborists and tree care

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100% Best, 0% Worst)	TREE CONDITION: Structural Integrity (100% Best, 0% Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	*Protected Tree*	*Street Tree*	
268	Evergreen pear (*Pyrus kawakamii*)	10, 8	25	50%	40%	Poor	Low			
Comments: A large limb was cut from trunk sometime ago, leaving a large wound. Asymmetrical canopy and crowded conditions, suppressed below limb of adjacent acacia.										
269	Blackwood acacia (*Acacia melanoxylon*)	4	15	60%	40%	Fair	Low			
Comments: On slope. Crowded-growing conditions. Asymmetrical canopy.										
270	Blackwood acacia (*Acacia melanoxylon*)	7	20	60%	50%	Fair	Moderate			
Comments: On slope.										
271	Blackwood acacia (*Acacia melanoxylon*)	7	15	60%	40%	Fair	Low			
Comments: Crowded conditions. Asymmetrical canopy.										
272	Canary Island pine (*Pinus canariensis*)	24	45	50%	50%	Fair	Moderate			
Comments: On slope. Excessive limb weight. Sinuous trunk. Marginal condition. High canopy.										
273	Canary Island pine (*Pinus canariensis*)	20	40	40%	40%	Poor	Low			
Comments: On slope. Large deadwood and excessive limb weight. High canopy.										
274	Blackwood acacia (*Acacia melanoxylon*)	7	25	50%	60%	Poor	Low			
Comments: Highly siderotic, declining energy. Large wound along low-st trunk.										
275	European olive tree (*Olea europaea*)	18	25	60%	60%	Fair	Moderate			
Comments: Crowded conditions beneath 5276. Multiple leaders 2' high. Deadwood.										

ARBOR RESOURCES
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TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100% Best, 0% Worst)	TREE CONDITION: Structural Integrity (100% Best, 0% Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	*Protected Tree*	*Street Tree*	
283	European olive tree (*Olea europaea*)	19	30	40%	30%	Poor	Low			
Comments: Multiple leaders 4.5' high. Canopy sweeps downhill due to crowded conditions beneath 5292.										
284	European olive tree (*Olea europaea*)	8	15	50%	40%	Poor	Moderate			
Comments: Multiple leaders 8' high. Asymmetrical canopy bruss downhill.										
285	European olive tree (*Olea europaea*)	12	25	30%	40%	Poor	Low			
Comments: Multiple leaders 2' high. Sparse and declining canopy.										
286	European olive tree (*Olea europaea*)	9	20	30%	40%	Poor	Low			
Comments: Sparse and declining canopy.										
287	European olive tree (*Olea europaea*)	9	20	30%	40%	Poor	Low			
Comments: Multiple leaders at 2' high. Sparse and declining canopy.										
288	Deodar cedar (*Cedrus deodara*)	15	30	60%	40%	Fair	Moderate			
Comments: Multiple tops.										
289	Deodar cedar (*Cedrus deodara*)	14	25	50%	70%	Fair	Moderate			
Comments:										
290	Deodar cedar (*Cedrus deodara*)	27	45	50%	40%	Poor	Moderate			
Comments: Multiple leaders, two form a very weak attachment.										

ARBOR RESOURCES
professional consulting arborists and tree care

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100% Best, 0% Worst)	TREE CONDITION: Structural Integrity (100% Best, 0% Worst)	TREE CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	*Protected Tree*	*Street Tree*	
291	Blue Atlas cedar (*Cedrus a. 'Glauca'*)	14	20	20%	50%	Poor	Low			
Comments: Low branching. Advanced decline. Very thin top.										
292	Deodar cedar (*Cedrus deodara*)	18	35	60%	80%	Fair	High			
Comments:										
293	Blue Atlas cedar (*Cedrus a. 'Glauca'*)	13	25	30%	50%	Poor	Low			
Comments: Advanced dieback.										
294	Deodar cedar (*Cedrus deodara*)	12	25	30%	40%	Poor	Low			
Comments: Very sparse, declining canopy.										
295	Deodar cedar (*Cedrus deodara*)	19	60	60%	80%	Fair	High			
Comments:										
296	Deodar cedar (*Cedrus deodara*)	9	20	50%	60%	Fair	Moderate			
Comments:										
297	Deodar cedar (*Cedrus deodara*)	16	25	50%	70%	Fair	Moderate			
Comments: Deadwood.										
298	Deodar cedar (*Cedrus deodara*)	19	20	70%	90%	Good	High			
Comments:										

ARBOR RESOURCES
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TREE INVENTORY TABLE

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299	Deodar cedar (*Cedrus deodara*)	15	40	40%	70%	Fair	Moderate			
Comments: Sparse.										
300	Deodar cedar (*Cedrus deodara*)	8	10	60%	20%	Poor	Low			
Comments: Highly crowded-growing conditions through 5245's canopy.										
301	Coast live oak (*Quercus agrifolia v.*)	8	25	100%	80%	Good	High			
Comments: Full, dense canopy.										
302	Chinese pistache (*Pistacia chinensis*)	11	30	70%	20%	Fair	Moderate			
Comments:										
303	Chinese pistache (*Pistacia chinensis*)	11	30	80%	40%	Fair	Moderate			
Comments: Low-limb structure.										
304	European olive tree (*Olea europaea*)	15	30	60%	40%	Poor	Low			
Comments: Multiple leaders at 2' high.										
305	European olive tree (*Olea europaea*)	11	25	70%	40%	Poor	Low			
Comments: Multiple leaders at 2' high.										
306	European olive tree (*Olea europaea*)	9.6	25	60%	20%	Poor	Low			
Comments:										

3223 HANOVER STREET
Palo Alto, California

Project Data

T-8

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A copy of T-1 can be downloaded at
http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460

Special Tree Protection Instruction Sheet
City of Palo Alto

T-8

City of Palo Alto

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ARBOR RESOURCES
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TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100% Ideal, 0% Dead)	TREE CONDITION: Structural Integrity (100% Ideal, 0% Failed)	TREE CONDITION: Overall Condition (Good, Fair, Poor, Dead)	Suitability for Preservation (High, Moderate, Low)	*Protected Tree?	*Street Tree?
307	European olive tree (Olea europaea)	11	25	40%	30%	Poor	Low		
	Comments: Multiple leaders at 18" high.								
308	Peruvian pepper tree (Schinus molle)	7	20	50%	30%	Poor	Low		
	Comments: Base grafted to #148 valley oak, which it grows entirely beneath (high snowfall-growing conditions). A prior limb cut.								
309	Glossy privet (Ligustrum lucidum)	5	15	30%	40%	Poor	Low		
	Comments: Adjacent to tree #308.								
310	Coast live oak (Quercus agrifolia)	14, 12	35	50%	40%	Fair	Moderate	X	
	Comments: Offsite. Tag tied to chain link. Center of trunk ~8' from NE property corner. Highly limited visibility of tree. Old stump adjacent to trunks.								
311	Monterey pine (Pinus radiata)	13	25	50%	10%	Poor	Low		
	Comments: Appears offsite. Leans east towards adjacent home. History of large limb failure, and top has been removed; extremely poor remaining structure. Trunk is covered by a 5' tall wood pile. Excessive limb weight and deadwood. Tag tied to chain link.								
312	Peruvian pepper tree (Schinus molle)	8, 6	20	40%	40%	Poor	Moderate		
	Comments: Opposite side of fence, center of trunk ~ 3' from fence. Tag tied to chain link. Leans SE. Ivy along trunk.								
313	Coast live oak (Quercus agrifolia)	22	50	50%	30%	Poor	Low	X	
	Comments: Opposite side of fence; trunk appears to span property line, to center of fence. A massive stem failed years ago, leaving a large, decaying cavity. Multiple tags at 9' high. Tag tied to chain link.								

Site: 3251 Hanover Street, Palo Alto
Prepared for: Stoop Slope Property, LLC
Prepared by: David L. Bubby
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November 16, 2015

ARBOR RESOURCES
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TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	TREE SIZE: Trunk Diameter (in.)	TREE SIZE: Canopy Spread (ft.)	TREE CONDITION: Health Condition (100% Ideal, 0% Dead)	TREE CONDITION: Structural Integrity (100% Ideal, 0% Failed)	TREE CONDITION: Overall Condition (Good, Fair, Poor, Dead)	Suitability for Preservation (High, Moderate, Low)	*Protected Tree?	Private Tree?
314	Coast live oak (Quercus agrifolia)	7	15	60%	30%	Poor	Moderate		
	Comments: Opposite side of fence, center of trunk ~8' from fence. Adjacent to #201. Suppressed, highly asymmetrical canopy. Tag tied to chain link.								
315	Coast live oak (Quercus agrifolia)	14	25	60%	40%	Fair	Moderate	X	
	Comments: Opposite side of fence, center of trunk ~15' from fence. Asymmetrical, one-sided canopy. Near #200. Barbed wire through center of trunk. Tag tied to chain link.								
316	Coast live oak (Quercus agrifolia)	40	100	70%	70%	Good	High	X	
	Comments: Opposite side of fence, and immediately south of #200. Large deadwood. Tag tied to chain link. Trunk appears to span property line.								

Site: 3251 Hanover Street, Palo Alto
Prepared for: Stoop Slope Property, LLC
Prepared by: David L. Bubby
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November 16, 2015

David L. Bubby, Registered Consulting Arborist® *November 16, 2015*

EXHIBIT B:

AERIAL MAP

(one sheet)

3251 HANOVER STREET
Palo Alto, California

Project Data
3223 HANOVER STREET
Palo Alto, California

T-9

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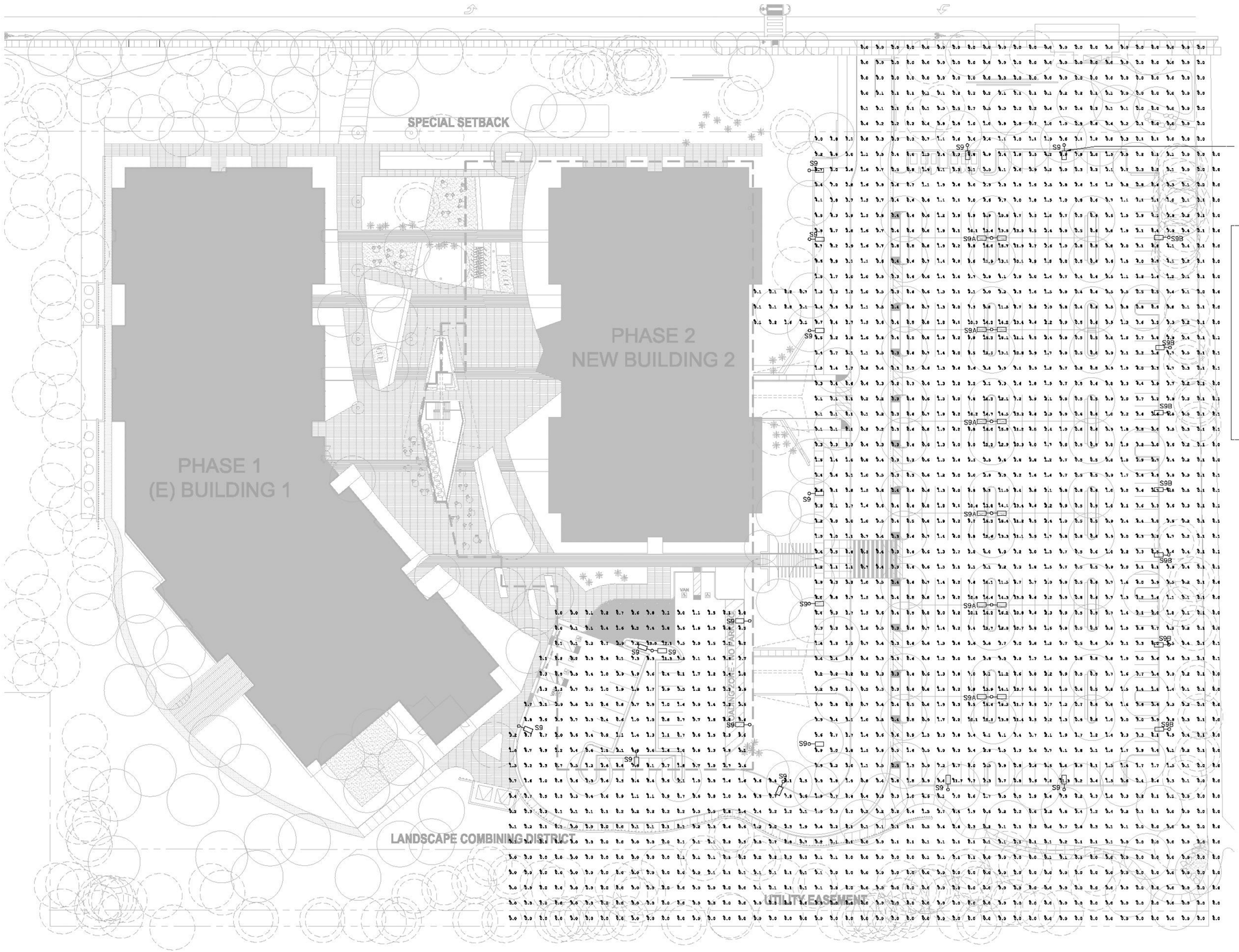
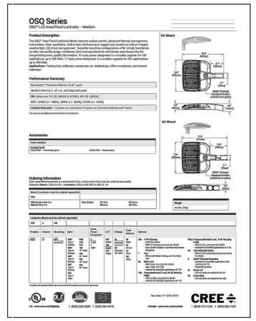
Special Tree Protection Instruction Sheet
City of Palo Alto

T-9

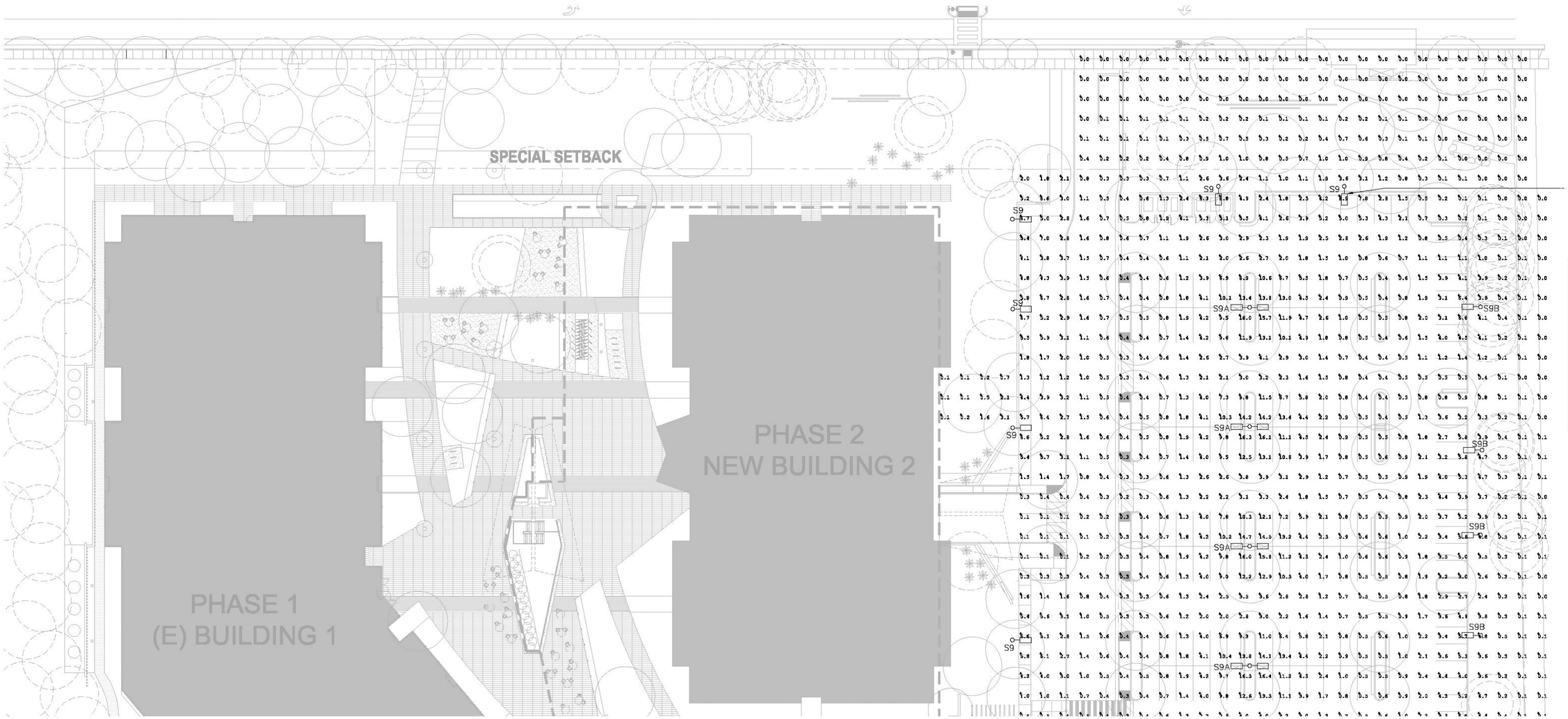


TYPE S9, S9A, S9B
POLE LIGHT

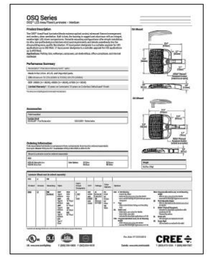
OSQ" Area with AA Mount



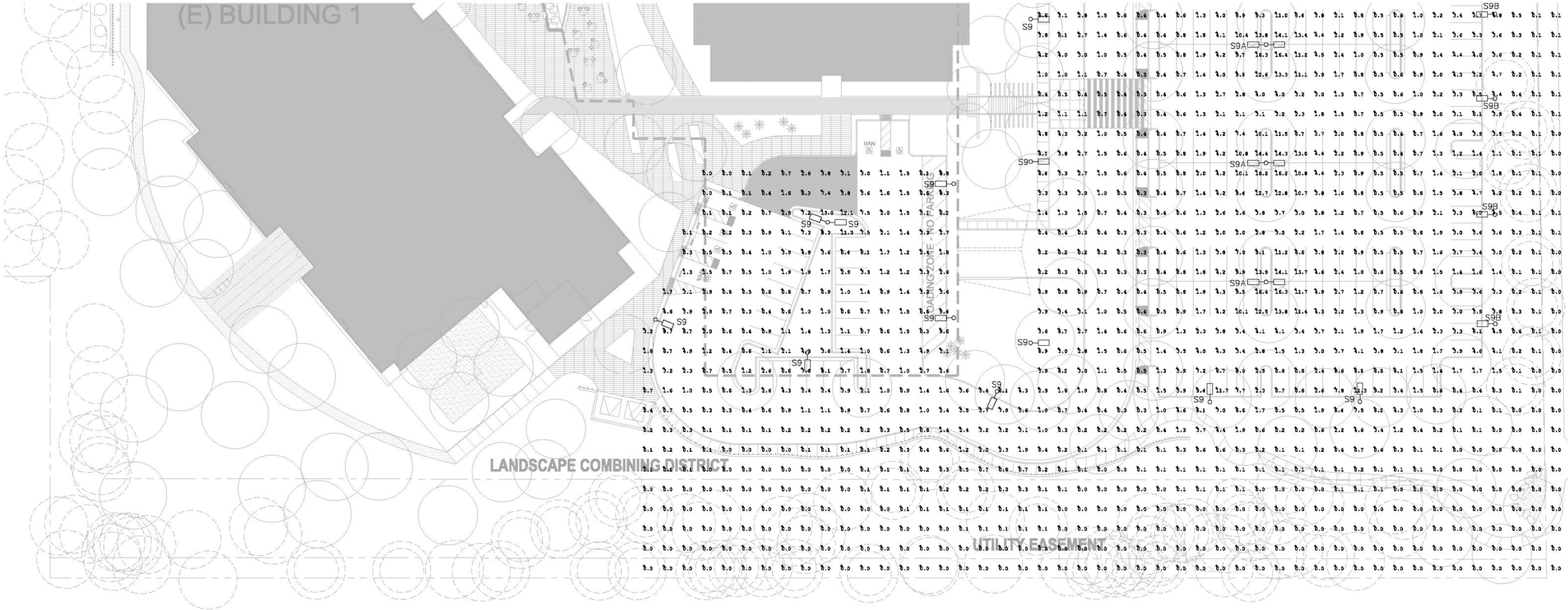
LIGHT LEVELS AT SITE BOUNDARY LINES ARE ZERO FOOTCANDELS TO ENSURE THAT THERE ISN'T ANY LIGHT SPILL OVER PROPERTY LINES



TYPE S9, S9A, S9B
POLE LIGHT



LIGHT LEVELS AT SITE BOUNDARY LINES ARE ZERO FOOTCANDELS TO ENSURE THAT THERE ISN'T ANY LIGHT SPILL OVER PROPERTY LINES

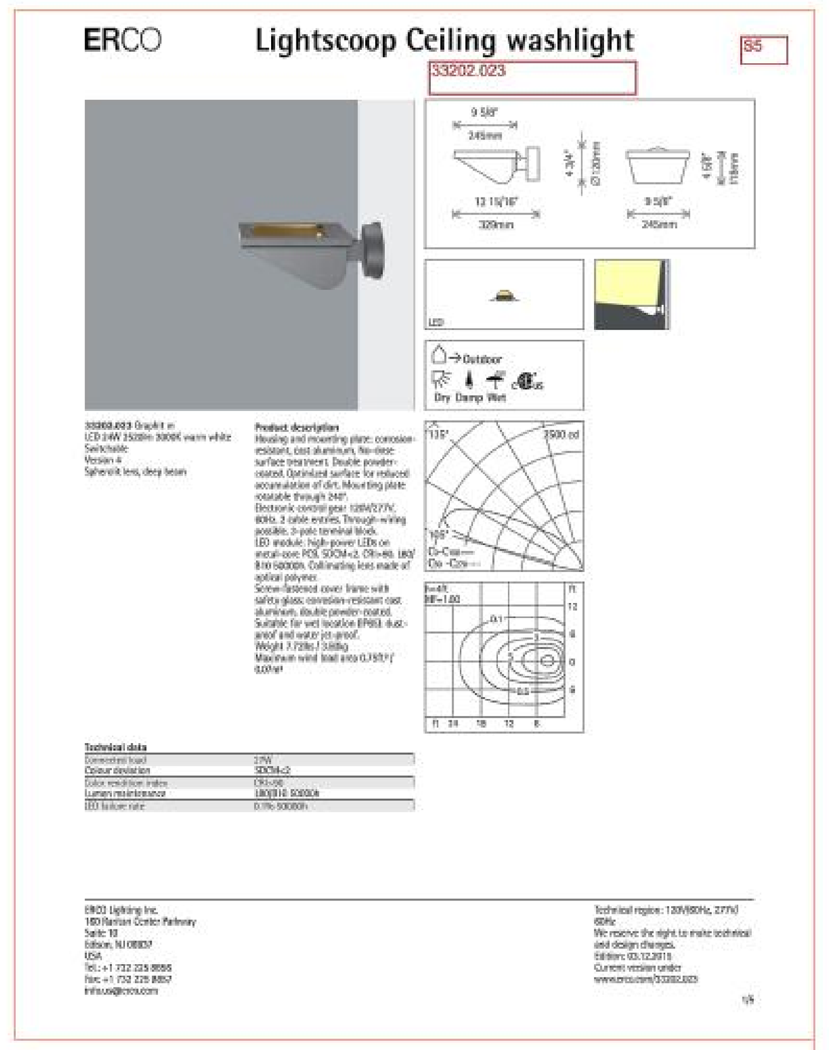


LIGHT LEVELS AT SITE BOUNDARY LINES ARE ZERO FOOTCANDELS TO ENSURE THAT THERE ISN'T ANY LIGHT SPILL OVER PROPERTY LINES

Δ	TAG	DESCRIPTION	MODEL NUMBER	LED LAMP DESCRIPTION	WATT	RATED LAMP LIFE/HR	COLOR TEMP	CRI	REMARKS
	S1	12'high, single mounted LED pole light	SELUX® RSAL-1-RP12-LS5-3500-SV-VOLTAGE	Included	tktw	kn,nnn	3500K	kn	
	S2	31.4"tall, ground mounted LED bollard	ERCO# 33287.000	Included	16w	50,000	4000K	80	
	S3	6-1/4"diameter, 9-1/4"long yoke mounted LED adjustable accent	HYDREL# 4640-12LED-WHT41K-MVOLT-FL-YM-JBA-IHL-DNA	Included	14w	50,000	4100K	80	
	S4	3-1/2"diameter, recessed LED step light with clear ribbed glass lens	COLE# L131GW	Included	4.2w	50,000	3000K	80	
	S5	9-5/8"wide, 12-15/16"deep wall mounted LED adjustable uplight	ERCO# 33202.023	Included	24w	50,000	3000K	80	
	S6	12-3/4"diameter, inground LED uplight	ERCO# 33033.023	Included	24w	50,000	3000K	80	
	S7	7"diameter, recessed LED downlight	ERCO# 84437.023	Included	16w	50,000	3000K	80	
1	S8	4'long, linear inground LED uplight with 10° x 10° optic, internal hexcell 60° glare control louver, and anti-slip lens.	LUMENPULSE# LOI HO-100/277V-48-40K-10x10-TS0-INTL-DIM-ASL	Included	15.25w/ft	50,000	4000K	80	
	S9	4'long, linear inground LED uplight	LUMENPULSE# LOI-ASHRAE-100/277-48-30K-10x60-TS0-INTL-DIM-ASL	Included	9w/ft	50,000	3000K	80	
	S10	4.3"diameter, ground mounted LED adjustable uplight	LUMASCAPE# LS422LED-16HI-NM-09-CB1 LS6104	Included	16w	50,000	3000K	80	
	S11	18'long, suspended linear LED direct/ indirect fixture	ALIGHT# D2-R18-ILS+DLH-40-U-M-D-HE-S-T-2-D	Included	9w/ft, 10w/ft	50,000	4000K	80	
	S12	4'long,linear wall mounted LED uplight	LUMENPULSE# LOG HO-VOLTAGE-48-40K-10x30-WAM2-SI-DIM-ETE	Included	15.25w/ft	50,000	4000K	80	
	S13	TBD							
	S14	TBD							
1	S15	3-1/8"diameter, 6-7/8"high surface mounted adjustable LED accent	ERCO# 34834.023	Included	6w	50,000	3000K	80	
	S16	3.5"wide, 4'long linear recessed LED downlight	ALIGHT# D5-4-LS-35-U-HE-TBD-T-D-E1	Included	9w/ft	50,000	3500K	80	
1	S17	7-1/2"diameter, 3-7/8"deep inground LED uplight	BK LIGHTING# S-CO2-LED-RS-e65-SF-A6-BRU-12-11	Included	7w	50,000	3000K	80	Fixture requires remote power supply.

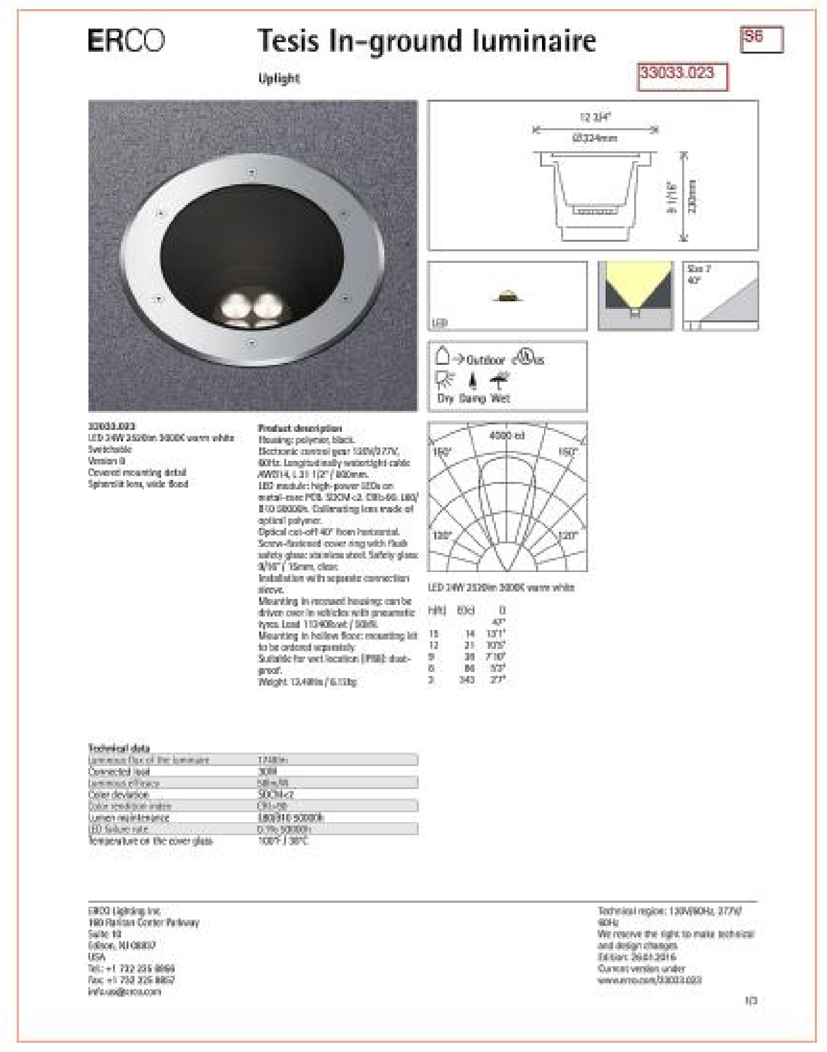
ISSUE DATE: 06.20.2017
1 REVISION DATE: 11.06.2017

TYPE S5 WALL MTD UPLIGHT

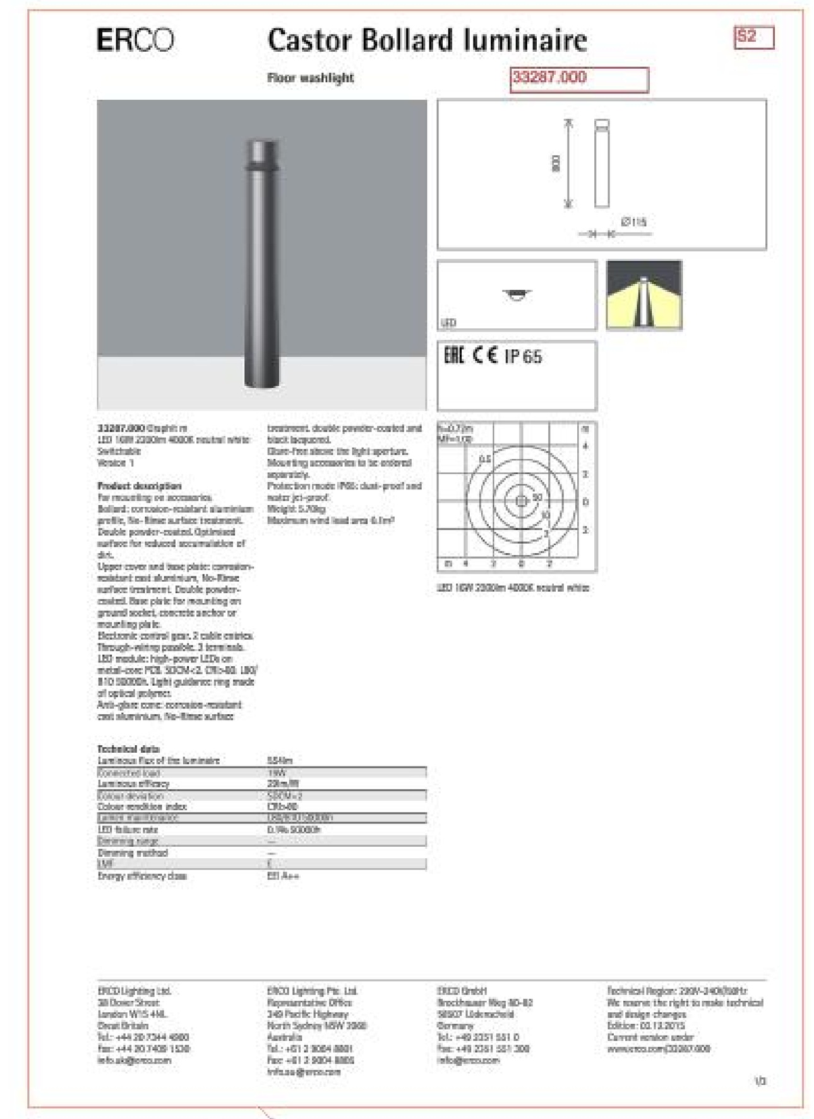


TYPE S6 INGROUND UPLIGHT

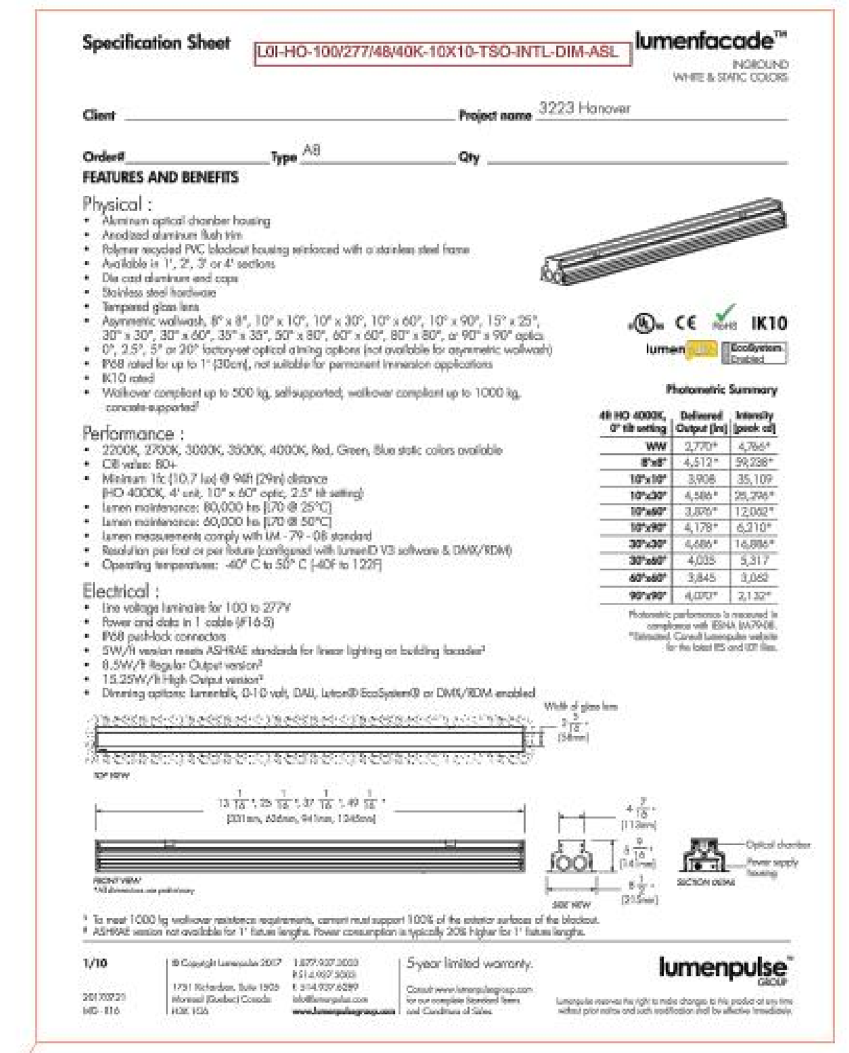
TYPE S6 INGROUND UPLIGHT @ 2nd LEVEL DECK



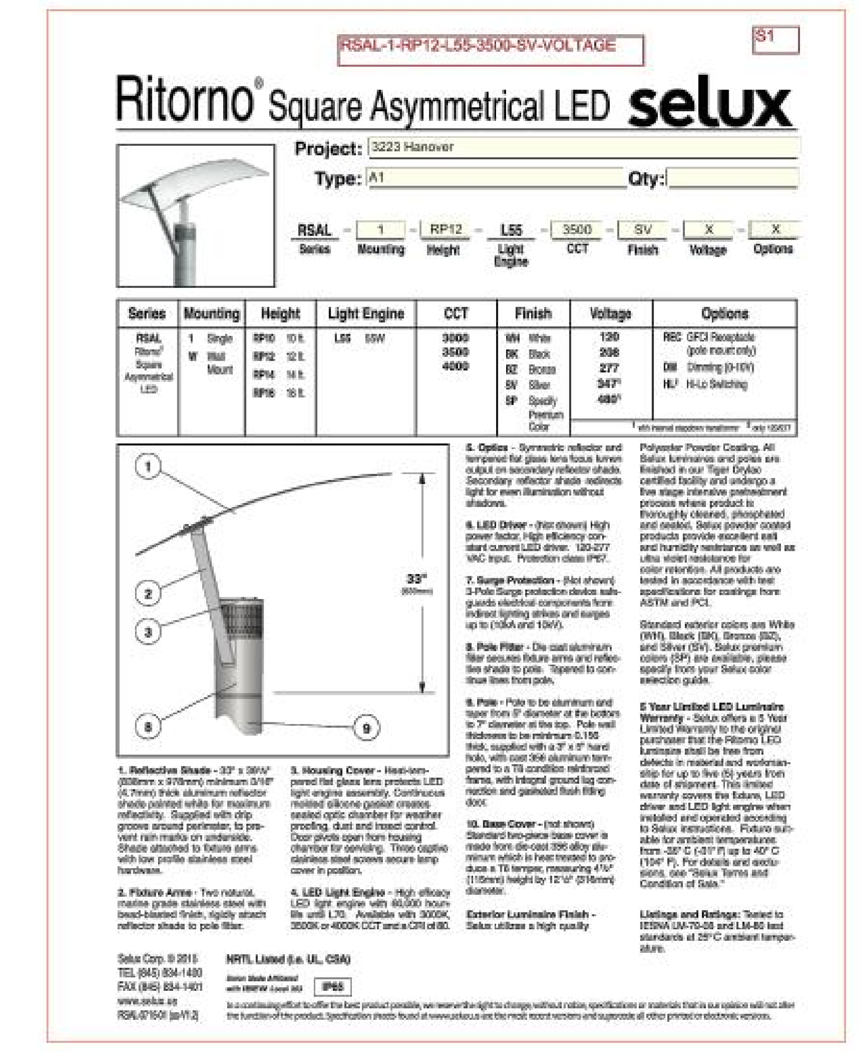
TYPE S2 BOLLARD



S8

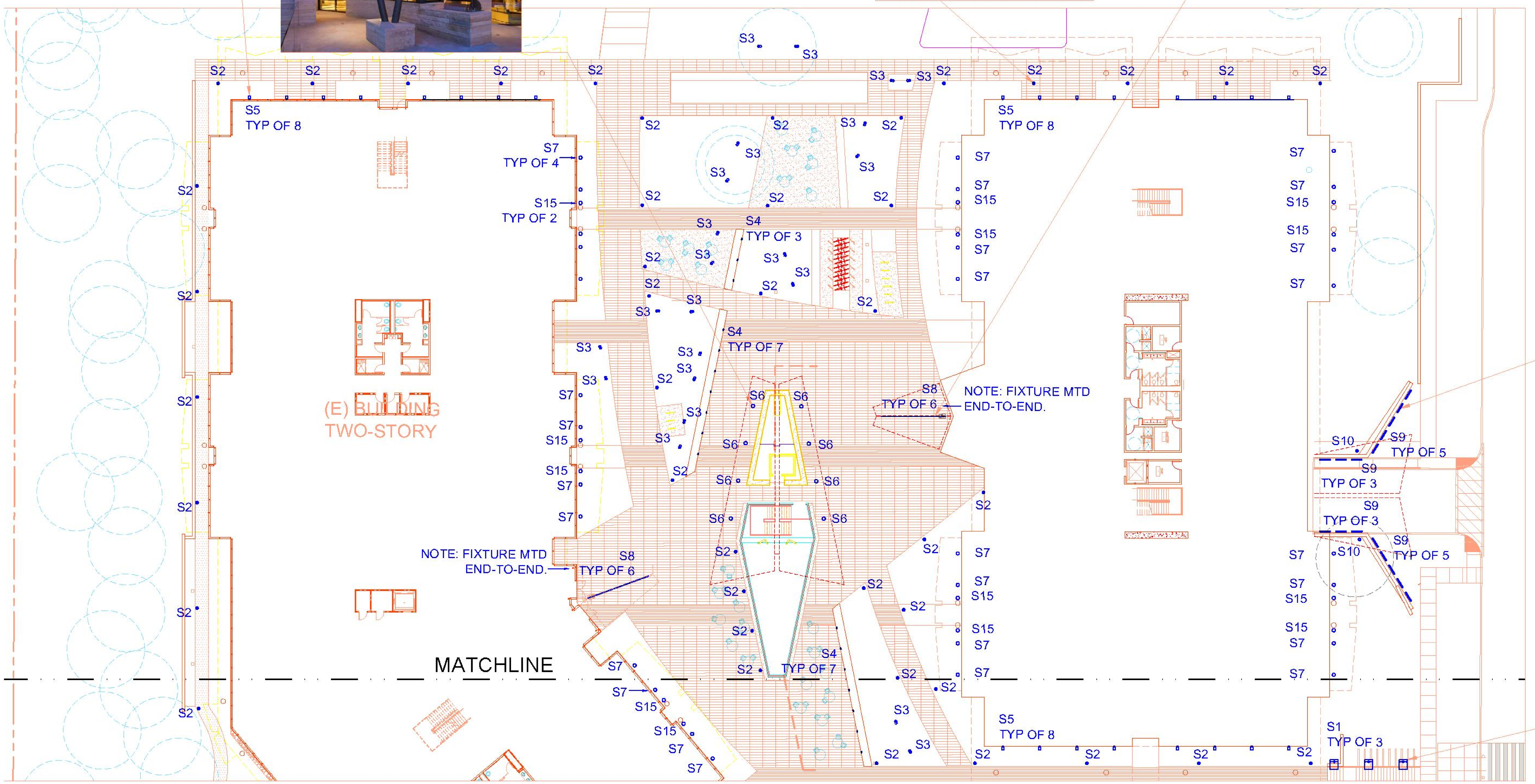


TYPE S1 POLE LIGHT



TYPE S9 LINEAR LOW LEVEL LED GRAZE LIGHT

TYPE S1 POLE LIGHT



FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

3223 Hanover Street Phase 2

Formal ARB Application

Sand Hill Properties Company

Site Lighting Plan A

LD 1.0

June 14, 2017

November 20, 2017

MATCHLINE

(E) BUILDING
TWO-STORY

S1 TYP OF 3

S2 TYP OF 7

S3

S4 TYP OF 7

S5 TYP OF 8

S7

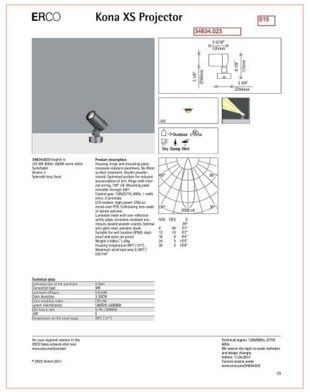
S9 TYP OF 4

S9 TYP OF 4

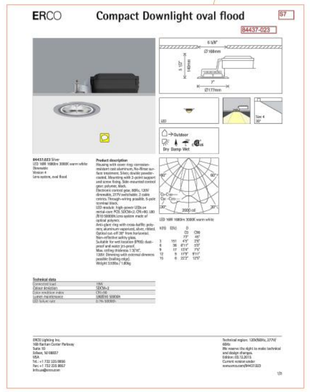
S15

LOADING ZONE - NO PARKING

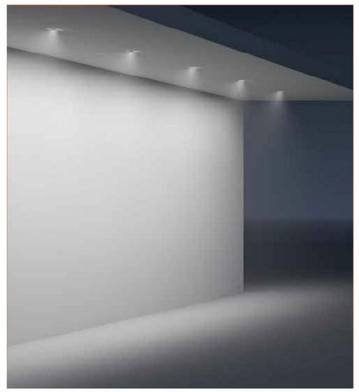
VAN



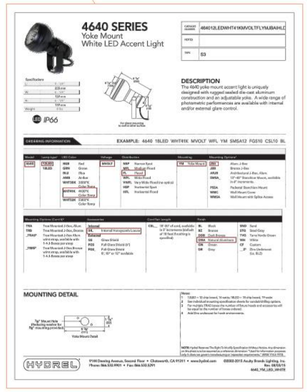
TYPE S15 SHIELDED CANOPY UPLIGHT



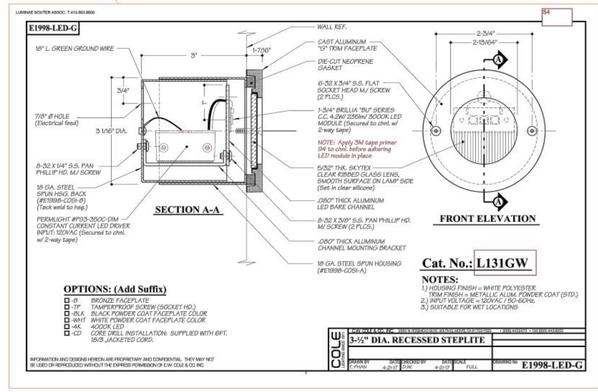
TYPE S7 RECESSED DOWNLIGHT



TYPE S7 RECESSED DOWNLIGHT



TYPE S3 TREE UPLIGHT



TYPE S4 STEP LIGHT

FORM4 ARCHITECTURE • STUDIO FIVE • BKF CIVIL ENGINEERS • ME ENGINEERS • DCI STRUCTURAL • LUMINAE SOUTER • INTERFACE

3223 Hanover Street Phase 2

Formal ARB Application

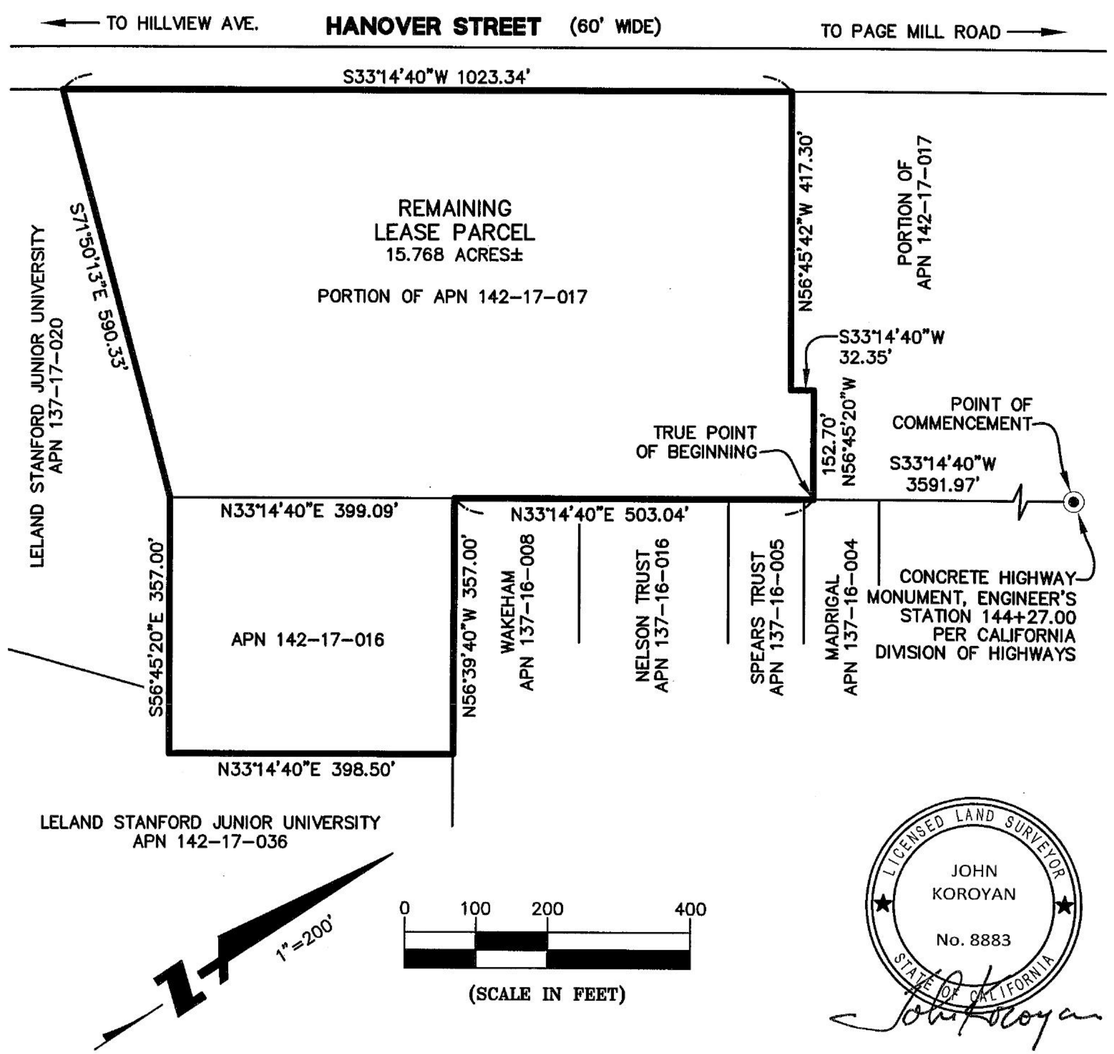
Sand Hill Properties Company

Site Lighting Plan B

LD 1.1

June 14, 2017

November 20, 2017



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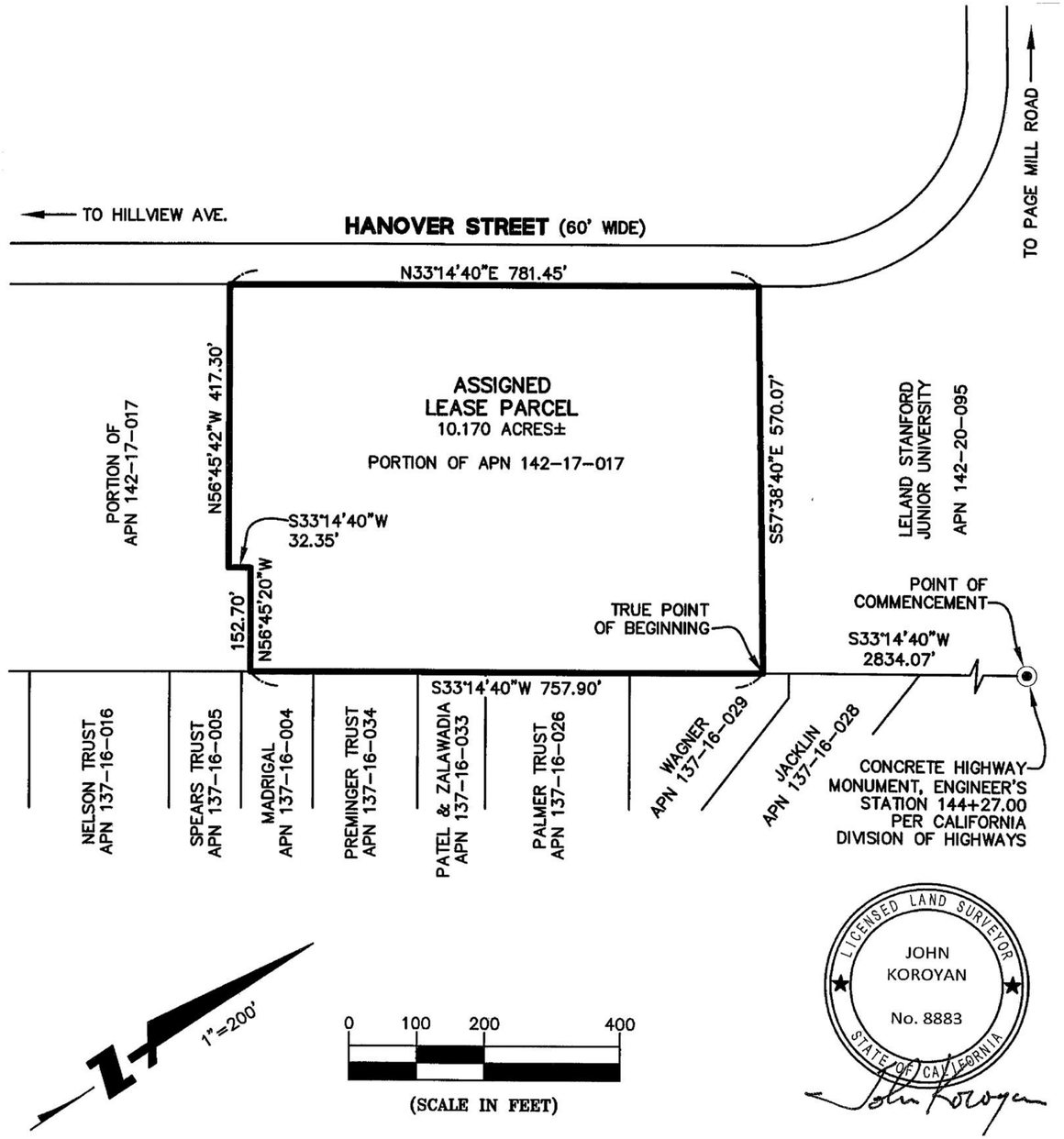
PLAT TO ACCOMPANY
LEGAL DESCRIPTION

BkF
ENGINEERS | SURVEYORS | PLANNERS

1650 TECHNOLOGY DRIVE
SUITE 650
SAN JOSE, CA 95110
408-467-9100
408-467-9199 (FAX)

Subject REMAINING LEASE PARCEL
3251 HANOVER STREET, PALO ALTO, CA
Job No. 20146178
By DS Date 05-28-15 Chkd. JVK
SHEET 1 OF 1



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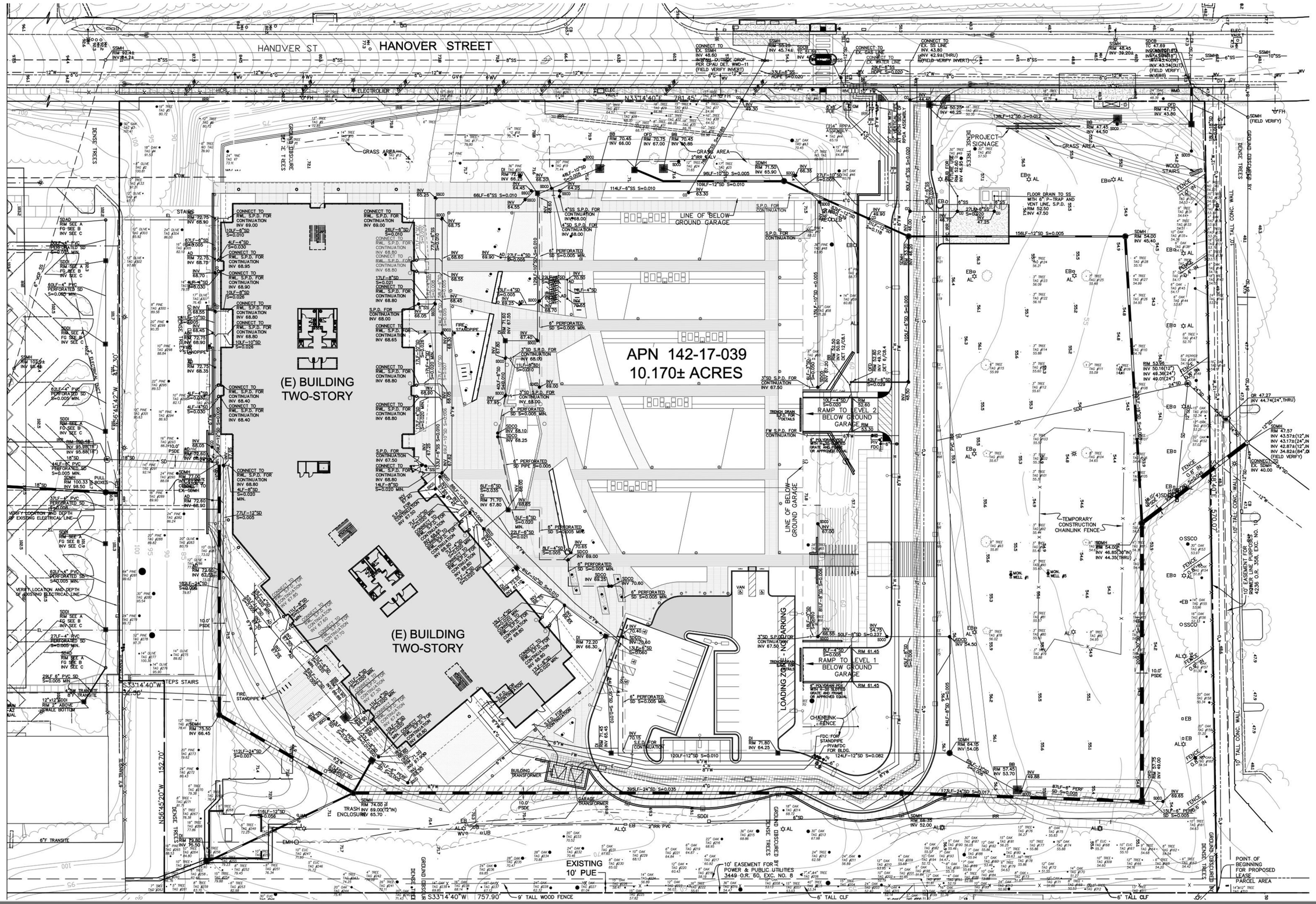
PLAT TO ACCOMPANY
LEGAL DESCRIPTION

BkF
ENGINEERS | SURVEYORS | PLANNERS

1650 TECHNOLOGY DRIVE
SUITE 650
SAN JOSE, CA 95110
408-467-9100
408-467-9199 (FAX)

Subject ASSIGNED LEASE PARCEL
3251 HANOVER STREET, PALO ALTO, CA
Job No. 20146178-51
By DS Date 05-28-15 Chkd. JVK
SHEET 1 OF 1



LEGEND

- BOUNDARY LINE
- ADJACENT LOT LINE
- EASEMENT LINE
- G — GAS LINE
- W — WATER LINE
- SS — SANITARY SEWER LINE
- SD — STORM DRAIN LINE
- TEL — TELEPHONE LINE
- E — ELECTRICAL LINE
- X — FENCE LINE

ABBREVIATION

BLDG	BUILDING
BNDY	BOUNDARY
CB	CATCH BASIN
CONC	CONCRETE
COR	CORNER
CLF	CHAIN LINK FENCE
EB	ELECTRICAL BOX
ESMT	EASEMENT
EV	ELECTRICAL VAULT
FC	FACE OF CURB
INV	INVERT
MW	MONITORING WELL
TC	TOP OF CURB
TB	TELEPHONE BOX
UB	UTILITY BOX

3223 Hanover Street Phase 2

Formal ARB Application

Sand Hill Properties Company

EXISTING CONDITIONS

C1.0

June 14, 2017
November 20, 2017
January 12, 2018

HANOVER STREET

HANOVER STREET

(E) BUILDING
TWO-STORY

(N) BUILDING
TWO-STORY

(N) BUILDING
TWO-STORY

(E) BUILDING
TWO-STORY

LOADING ZONE - NO PARKING

SEE LANDSCAPE DRAWINGS FOR DETAIL

N56°45'42"W 417.30'

S33°14'40"W 32.35'

N56°45'42"W 152.70'

S33°14'40"W 757.90'

S57°38'40"E 570.07'

10' EASEMENT FOR POWER & PUBLIC UTILITIES 3449 O.R. 60, EXC. NO. 8

10' EASEMENT FOR POWER & PUBLIC UTILITIES 4236 O.R. 358, EXC. NO. 10

POINT OF BEGINNING FOR PROPOSED LEASE PARCEL AREA

LEGEND

- BOUNDARY LINE
- ADJACENT LOT LINE
- EASEMENT LINE
- BIO-RETENTION AREA
- AC PAVEMENT

KEY NOTES

1. CONCRETE VERTICAL CURB
2. CONCRETE CURB AND GUTTER PER CPA STANDARD DWG. NO. 133
3. CONCRETE ROLLED CURB
4. EXISTING TRASH ENCLOSURE
5. EXISTING PARKING LOT AND DRIVE AISLE
6. PRIVATE WALK
7. TRASH ENCLOSURE
8. EXISTING BIO-RETENTION AREA
9. AC PAVEMENT
10. NOT USED
11. SITE LIGHT FIXTURE
12. NOT USED
13. NOT USED
14. CONCRETE VALLEY GUTTER
15. CONCRETE CURB OPENING
16. TRUNCATED DOMES
17. CHEVRON STRIPING

GRAPHIC SCALE
30 0 30 60

3223 Hanover Street Phase 2

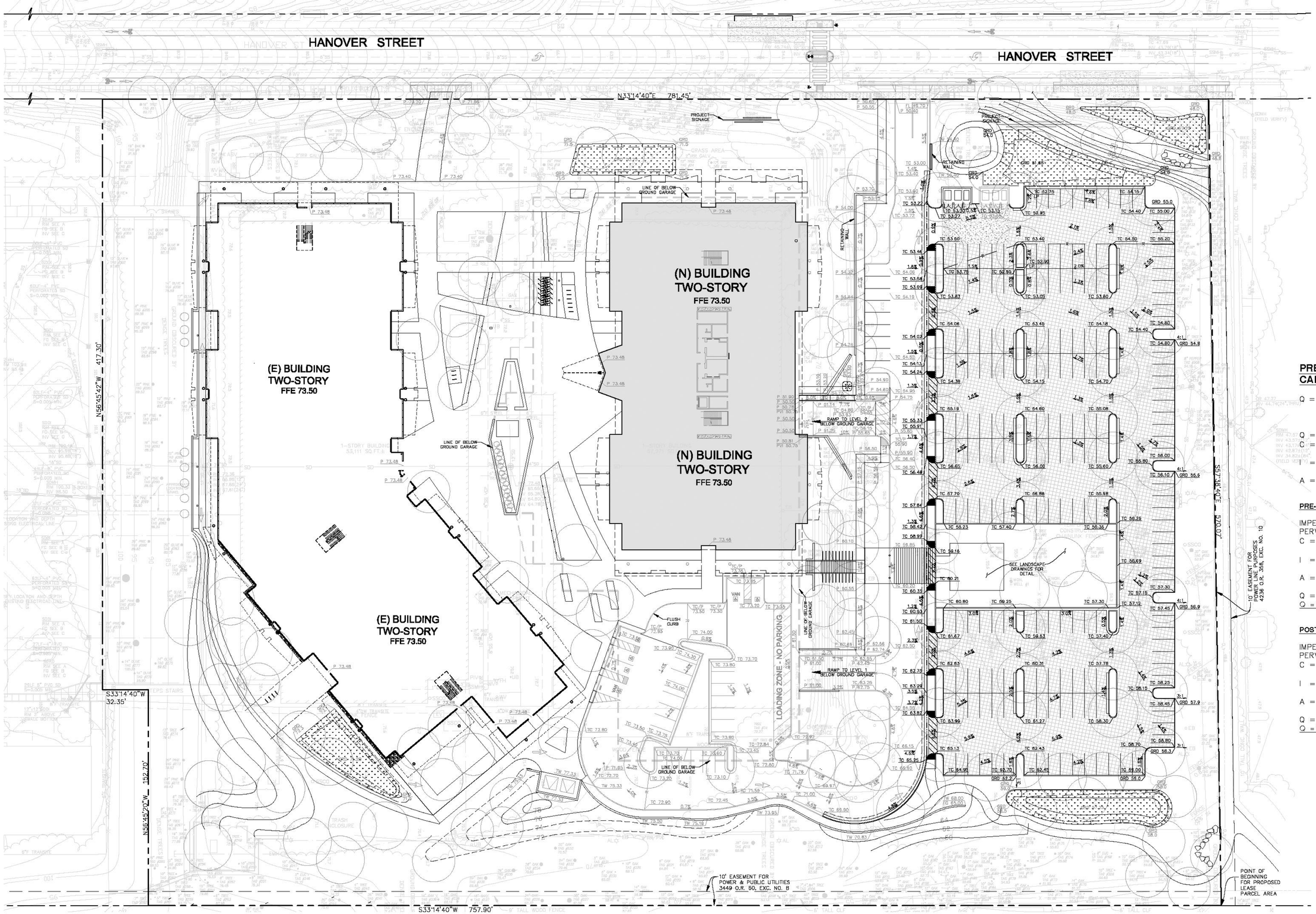
Formal ARB Application

Sand Hill Properties Company

CONCEPTUAL SITE PLAN

C2.0

June 14, 2017
November 20, 2017
January 12, 2018
April 2, 2018



LEGEND

- BOUNDARY LINE
- ADJACENT LOT LINE
- EASEMENT LINE
- BIO-RETENTION AREA
- OVERLAND RELEASE PATH
- AC PAVEMENT

ABBREVIATION

BW	BOTTOM OF WALL
CC	CURB CUT
FFE	FINISHED FLOOR ELEVATION
FL	FLOW LINE
GB	GRADE BREAK
GRD	GROUND
LP	LOW POINT
P	PAVEMENT
R	RIDGE
TC	TOP OF CURB
TW	TOP OF WALL

PRE VS. POST-CONSTRUCTION FLOW CALCULATIONS

Q = CIA (RATIONAL METHOD, DRAINAGE MANUAL 2007, COUNTY OF SANTA CLARA, CALIFORNIA)

Q = FLOW IN CUBIC FEET PER SECOND (CFS)
C = RUNOFF COEFFICIENT (0.9 FOR IMPERVIOUS AND 0.3 FOR PERVIOUS)
I = DESIGN STORM INTENSITY IN INCHES PER HOUR (IN/HR)
A = DRAINAGE AREA IN ACRES

PRE-CONSTRUCTION FLOW

IMPERVIOUS AREA = 271,945 SF
PERVIOUS AREA = 171,044 SF
C = 0.67 (WEIGHTED FOR OVERALL DRAINAGE AREA)
I = 2.2 IN/HR (10-YR DESIGN STORM, 10 MIN. DURATION PER FIGURE B-5)
A = 10.17 ACRES

Q = (0.67) (2.2) (10.17)
Q = 14.99 CFS

POST-CONSTRUCTION FLOW

IMPERVIOUS AREA = 169,068 SF
PERVIOUS AREA = 273,922 SF
C = 0.53 (WEIGHTED FOR OVERALL DRAINAGE AREA)
I = 2.2 IN/HR (10-YR DESIGN STORM, 10 MIN. DURATION PER FIGURE B-5)
A = 10.17 ACRES

Q = (0.53) (2.2) (10.17)
Q = 11.86 CFS

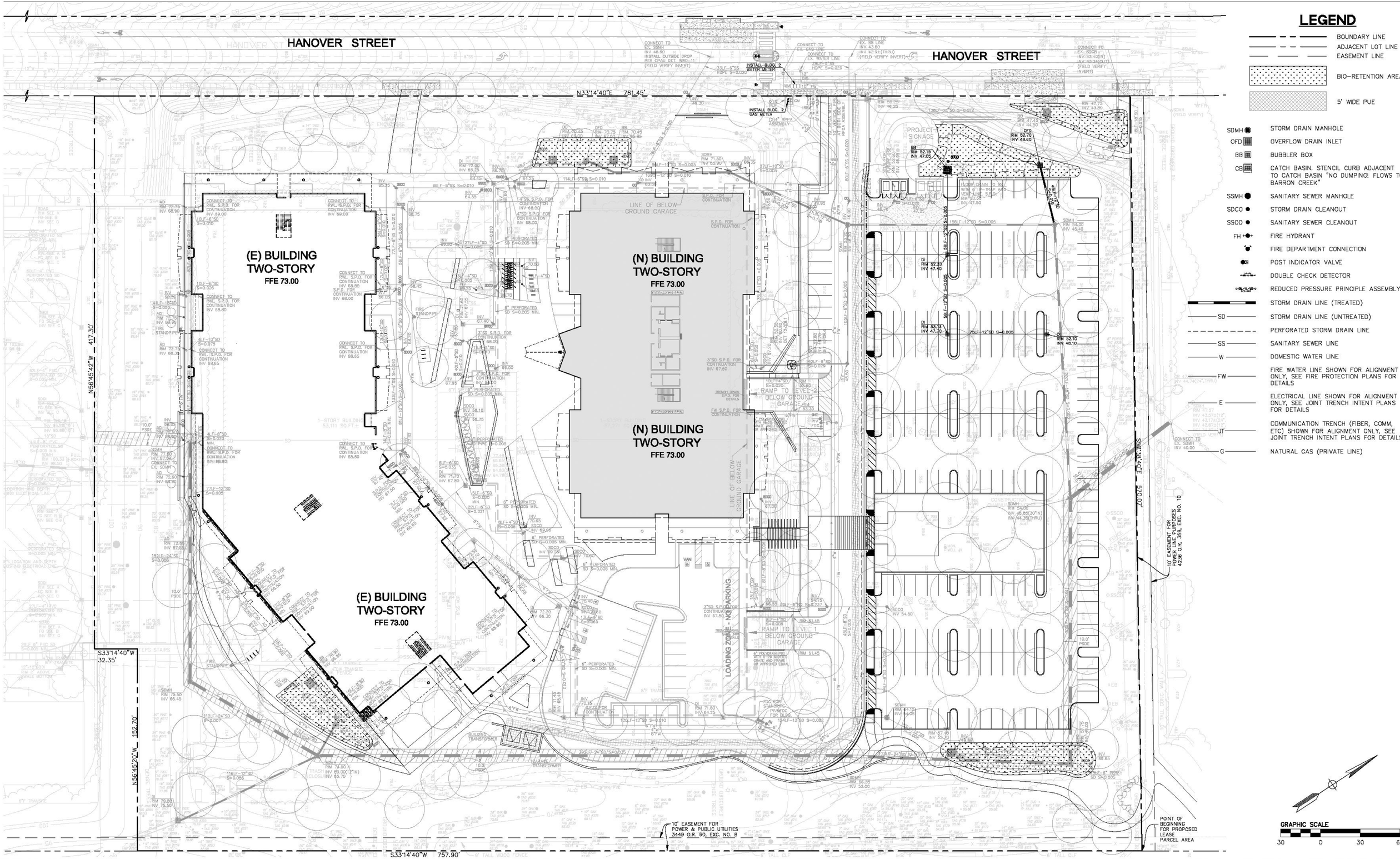
GRAPHIC SCALE
30 0 30 60

3223 Hanover Street Phase 2

Formal ARB Application
Sand Hill Properties Company

CONCEPTUAL GRADING PLAN

C3.0
June 14, 2017
November 20, 2017
January 12, 2018
April 2, 2018



LEGEND

- BOUNDARY LINE
- ADJACENT LOT LINE
- EASEMENT LINE
- BIO-RETENTION AREA
- 5' WIDE PUE
- SDMH — STORM DRAIN MANHOLE
- OFD — OVERFLOW DRAIN INLET
- BB — BUBBLER BOX
- CB — CATCH BASIN. STENCIL CURB ADJACENT TO CATCH BASIN "NO DUMPING! FLOWS TO BARRON CREEK"
- SSMH — SANITARY SEWER MANHOLE
- SDCO — STORM DRAIN CLEANOUT
- SSCO — SANITARY SEWER CLEANOUT
- FH — FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- POST INDICATOR VALVE
- DOUBLE CHECK DETECTOR
- REDUCED PRESSURE PRINCIPLE ASSEMBLY
- STORM DRAIN LINE (TREATED)
- SD — STORM DRAIN LINE (UNTREATED)
- PERFORATED STORM DRAIN LINE
- SS — SANITARY SEWER LINE
- W — DOMESTIC WATER LINE
- FW — FIRE WATER LINE SHOWN FOR ALIGNMENT ONLY, SEE FIRE PROTECTION PLANS FOR DETAILS
- E — ELECTRICAL LINE SHOWN FOR ALIGNMENT ONLY, SEE JOINT TRENCH INTENT PLANS FOR DETAILS
- JT — COMMUNICATION TRENCH (FIBER, COMM, ETC) SHOWN FOR ALIGNMENT ONLY, SEE JOINT TRENCH INTENT PLANS FOR DETAILS
- G — NATURAL GAS (PRIVATE LINE)

3223 Hanover Street Phase 2

Formal ARB Application

Sand Hill Properties Company

CONCEPTUAL UTILITY PLAN

C4.0

June 14, 2017
November 20, 2017
January 12, 2018
April 2, 2018

HANOVER STREET

HANOVER STREET

A-5
TOTAL: 4,776 SF
SELF-TREATMENT

A-2
TOTAL: 63,983 SF
REQ'D: 1,522 SF
PROV'D: 1,595 SF

A-4
TOTAL: 62,928 SF
REQ'D: 1,260 SF
PROV'D: 1,381 SF

A-7
TOTAL: 975 SF
REQ'D: 31 SF
PROV'D: 40 SF

A-3
TOTAL: 87,077 SF
REQ'D: 2,421 SF
PROV'D: 2,488 SF

A-8
TOTAL: 77,882 SF
REQ'D: 1,907 SF
PROV'D: 2,794 SF

A-1
TOTAL: 89,316 SF
REQ'D: 1,572 SF
PROV'D: 1,849 SF

A-6
TOTAL: 56,051 SF
SELF-TREATMENT

(E) BUILDING
TWO-STORY

(E) BUILDING
TWO-STORY

LOADING ZONE - NO PARKING

LEGEND

- BOUNDARY LINE
- ADJACENT LOT LINE
- EASEMENT LINE
- BIO-RETENTION AREA
- A-X DRAINAGE AREA BOUNDARY
- POINT OF TREATMENT OF DRAINAGE AREA

LIST OF POTENTIAL POLLUTANTS:

1. LITTER
2. MOTOR OIL
3. GASOLINE
4. HYDROCARBONS
5. HEAVY METALS
6. PESTICIDES

GRAPHIC SCALE
30 0 30 60

3223 Hanover Street Phase 2

Formal ARB Application

Sand Hill Properties Company

CONCEPTUAL STORMWATER TREATMENT PLAN

C5.0

June 14, 2017
November 20, 2017
January 12, 2018
April 2, 2018

TREATMENT CONTROL MEASURE SUMMARY												
DRAINAGE AREAS	DRAINAGE AREA SIZE (SQ. FT.)	PERVIOUS AREA (SQ. FT.)	TYPE OF PERVIOUS SURFACE	IMPERVIOUS AREA (SQ. FT.)	TYPE OF IMPERVIOUS SURFACE	IMPERVIOUS AREA (SQ. FT.)	TYPE OF IMPERVIOUS SURFACE	WATER QUANTITY (FLOW/ VOLUME GENERATED)		PROPOSED TREATMENT CONTROLS	CONFORMS TO SIZE STANDARD?	HYDRAULIC SIZING METHOD
								REQUIRED (SF)	PROVIDED (SF)			
A–1	89,316	50,460	LANDSCAPE	7,086	AC/CONCRETE PAVEMENT	31,770	ROOF	1,572	1,849	BIORETENTION BASIN	YES	FLOW–UNIFORM INTENSITY
A–2	63,983	22,278	LANDSCAPE	17,046	AC/CONCRETE PAVEMENT	24,659	ROOF	1,522	1,595	BIORETENTION BASIN	YES	FLOW–UNIFORM INTENSITY
A–3	87,077	17,001	LANDSCAPE	28,035	AC/CONCRETE PAVEMENT	42,041	ROOF	2,421	2,488	BIORETENTION BASIN	YES	FLOW–UNIFORM INTENSITY
A–4	62,928	24,560	LANDSCAPE	30,404	AC/CONCRETE PAVEMENT	7,964	ROOF	1,260	1,381	BIORETENTION BASIN	YES	FLOW–UNIFORM INTENSITY
A–5	4,776	4,737	LANDSCAPE	39	AC/CONCRETE PAVEMENT	0	ROOF	0	0	SELF–TREATMENT	N/A	N/A
A–6	56,051	54,931	LANDSCAPE	1,120	AC/CONCRETE PAVEMENT	0	ROOF	0	0	SELF–TREATMENT	N/A	N/A
A–7	975	0	LANDSCAPE	975	AC/CONCRETE PAVEMENT	0	ROOF	31	40	BIORETENTION BASIN	YES	FLOW–UNIFORM INTENSITY
A–8	77,882	12,090	LANDSCAPE	65,793	AC/CONCRETE PAVEMENT	0	ROOF	1,907	2,794	BIORETENTION BASIN	YES	FLOW–UNIFORM INTENSITY
	442,989	186,057		150,498		106,434		8,714	10,147			

NOTES:

1. STENCIL "NO DUMPING! FLOWS TO BARRON CREEK" LOGO IN BLUE COLOR ON A WHITE BACKGROUND, ADJACENT TO STORM DRAIN INLET. CONTACT THE CITY AT 650.329.2598 FOR STENCILS OF THE LOGO.
2. BIOTREATMENT SOIL MIX
   A. BIOTREATMENT SOIL MIX SHALL CONFORM TO THE SPECIFICATIONS PROVIDED IN ATTACHMENT L OF THE MUNICIPAL REGIONAL STORMWATER PERMIT (WHICH ARE ALSO INCLUDED IN APPENDIX C OF SANTA CLARA VALLEY URBAN RUNOFF POLLUTION PREVENTION PROGRAM'S C.3 HANDBOOK).
   B. ACHIEVE A LONG–TERM, IN–PLACE INFILTRATION RATE OF AT LEAST 5 INCHES PER HOUR.
   C. SUPPORT VIGOROUS PLANT GROWTH.
   D. CONSIST OF THE FOLLOWING MIXTURE OF FINE SAND AND COMPOST, MEASURED ON A VOLUME BASIS:
      60%–70% SAND
      30%–40% COMPOST
3. COMPACTION OF THE UNDERLYING SOILS BELOW THE BIORETENTION AREA SHOULD BE AVOIDED.
4. PLANTING FOR BIORETENTION AREAS SHALL BE DROUGHT TOLERANT PLANTS AND CONFORM TO THE PLANT LIST PROVIDED IN APPENDIX D OF SANTA CLARA VALLEY URBAN RUNOFF POLLUTION PREVENTION PROGRAM'S C.3 HANDBOOK.
5. A 3RD PARTY INSPECTION OF THE BIORETENTION PONDS WILL BE REQUIRED DURING INSTALLATION AND PRIOR TO OCCUPANCY. CONTACT 3RD PARTY INSPECTOR PRIOR TO THE PLACEMENT OF BIORETENTION SOIL.

LIST OF POTENTIAL POLLUTANTS:

1. LITTER
2. MOTOR OIL
3. GASOLINE
4. HYDROCARBONS
5. HEAVY METALS
6. PESTICIDES

PRE VS. POST-CONSTRUCTION FLOW CALCULATIONS:

Q = CIA (RATIONAL METHOD, DRAINAGE MANUAL 2007, COUNTY OF SANTA CLARA, CALIFORNIA)

Q = FLOW IN CUBIC FEET PER SECOND (CFS)
C = RUNOFF COEFFICIENT (0.9 FOR IMPERVIOUS AND 0.3 FOR PERVIOUS)
I = DESIGN STORM INTENSITY IN INCHES PER HOUR (IN/HR)
A = DRAINAGE AREA IN ACRES

PRE-CONSTRUCTION FLOW

IMPERVIOUS AREA = 271,945 SF
PERVIOUS AREA = 171,044 SF
C = 0.67 (WEIGHTED FOR OVERALL DRAINAGE AREA)
I = 2.2 IN/HR (10–YR DESIGN STORM, 10 MIN. DURATION PER FIGURE B–5)
A = 10.17 ACRES

Q = (0.67) (2.2) (10.17)
Q = 14.99 CFS

POST-CONSTRUCTION FLOW (PHASE 1)

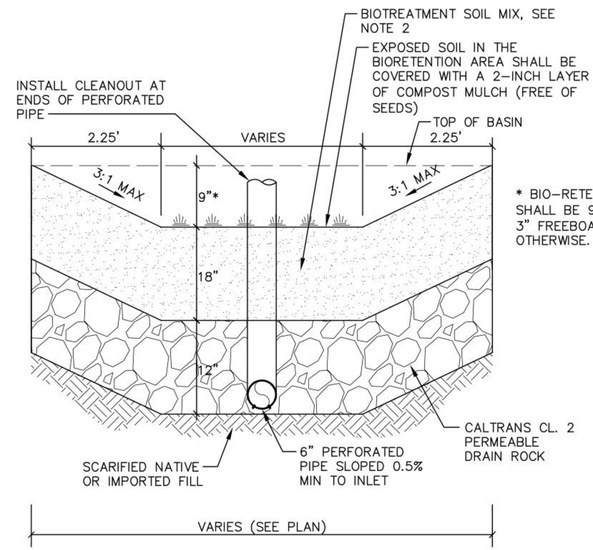
IMPERVIOUS AREA = 160,101 SF
PERVIOUS AREA = 282,888 SF
C = 0.52 (WEIGHTED FOR OVERALL DRAINAGE AREA)
I = 2.2 IN/HR (10–YR DESIGN STORM, 10 MIN. DURATION PER FIGURE B–5)
A = 10.17 ACRES

Q = (0.52) (2.2) (10.17)
Q = 11.63 CFS

POST-CONSTRUCTION FLOW (PHASE 2)

IMPERVIOUS AREA = 256,932 SF
PERVIOUS AREA = 186,057 SF
C = 0.65 (WEIGHTED FOR OVERALL DRAINAGE AREA)
I = 2.2 IN/HR (10–YR DESIGN STORM, 10 MIN. DURATION PER FIGURE B–5)
A = 10.17 ACRES

Q = (0.65) (2.2) (10.17)
Q = 14.49 CFS



BACKFILL BIORETENTION ONLY WITH PERMEABLE PLANTING MATERIAL AND DRAIN ROCK AS SPECIFIED IN THIS DETAIL. ABSOLUTELY NO NATIVE MATERIAL SHALL BE USED FOR BACKFILL.

BIO-RETENTION BASIN DETAIL

NOT TO SCALE