

EXISTING PARTIALSITE PLAN

### SHEET INDEX

TITLE SHEET/ SITE PLAN/ PHOTOS **ENLARGED SITE PLAN/ SITE SECTIONS A-2 A-3 DETAILS** STORM DRAINAGE DETAILS **A-4** LANDSCAPE LAYOUT LC-1 LI-1 **IRRIGATION PLAN** LI-2 IRRIGATION DETAILS IRRIGATION SPECIFICATIONS PLANTING PLAN LP-2 PLANTING DETAILS LP-3 PLANTING SPECIFICATIONS G-1 **GREEN BUILDING STANDARDS** 

**GREEN BUILDING STANDARDS** 

### PROJECT DATA

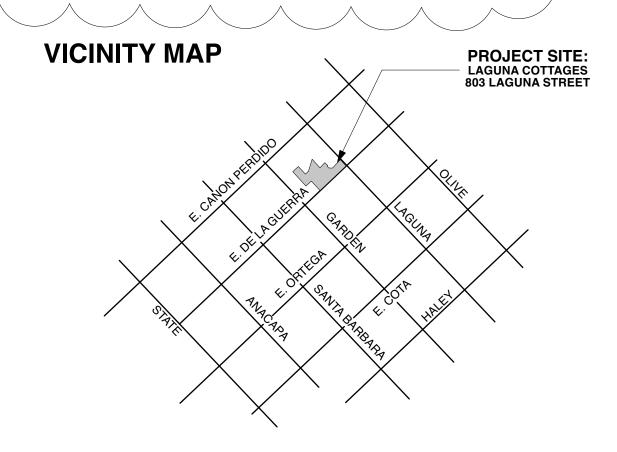
TOTAL AREÁ OF WORK

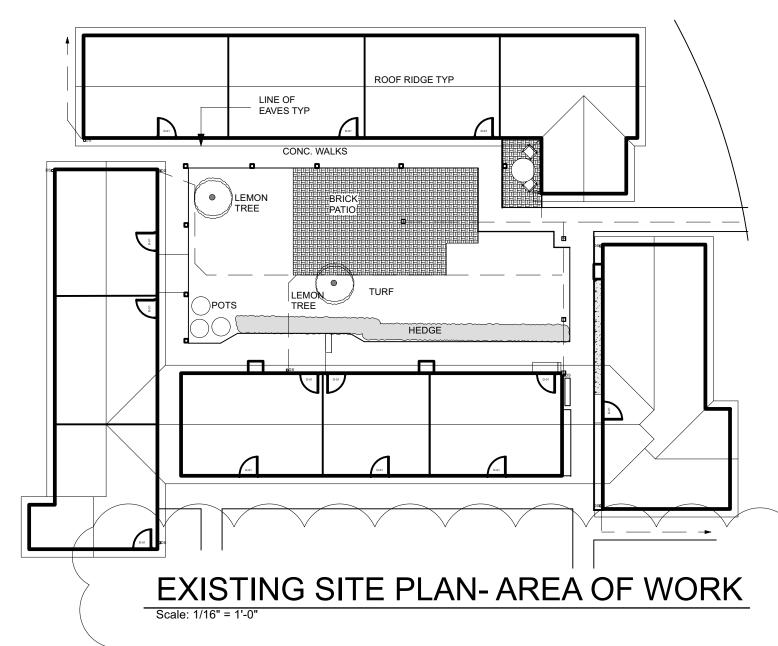
PROPERTY OWNER LAGUNA COTTAGES 803 LAGUNA STREET SANTA BARBARA, CA 93101 PROJECT ADDRESS 803 LAGUNA SANTA BARBARA, CA C-G ZONE: APN 031 021 010 LOT AREA .2 ACRES LOT SLOPE 16% FLOOD ZONE YES SITE USE: SENIOR HOUSING MEDIUM HIGH DENSITY RESIDENTIAL LAND USE DESIGNATION HISTORIC/LANDMARK DISTRICT EL PUEBLO VIEJO LANDMARK DISTRICT PART PROJECT STATISTICS: AREA OF WORK (COURTYARD) 2812 SF SLOPE OF COURTYARD 3.80% AREA OF (E) IMPERVIOUS WALKS TO BE REPLACED AREA OF (E) IMPERVIOUS BRICK PATIO TO BE REPLACED AREA OF (E) LANDSCAPING ∕1,306 SF 551 SE 1237 SF TOTAL ARÈÁ OF EXISTING 3094 SF AREA OF (N) NEW/REPLACED CONC. WALKS AREA OF (N) PERMEABLE PATIO PAVERS AREA OF (N) LANDSCAPING

1510 SF 600 SF SF 984 SF

3094 SF

SCOPE OF WORK: REMOVE (E) WALKS, LANDSCAPING AND PATIOS AT DESIGNATED COURTYARD REMOVE (E) TREES (2 LEMON TREES)
INSTALL (N) WALKS TO THRESHOLD HEIGHT AT UNIT ENTRIES INSTALL (N) RAMP, PATIO AND LANDSCAPING





**\Q** 

**ARCHITECT** THOMAS A MOORE

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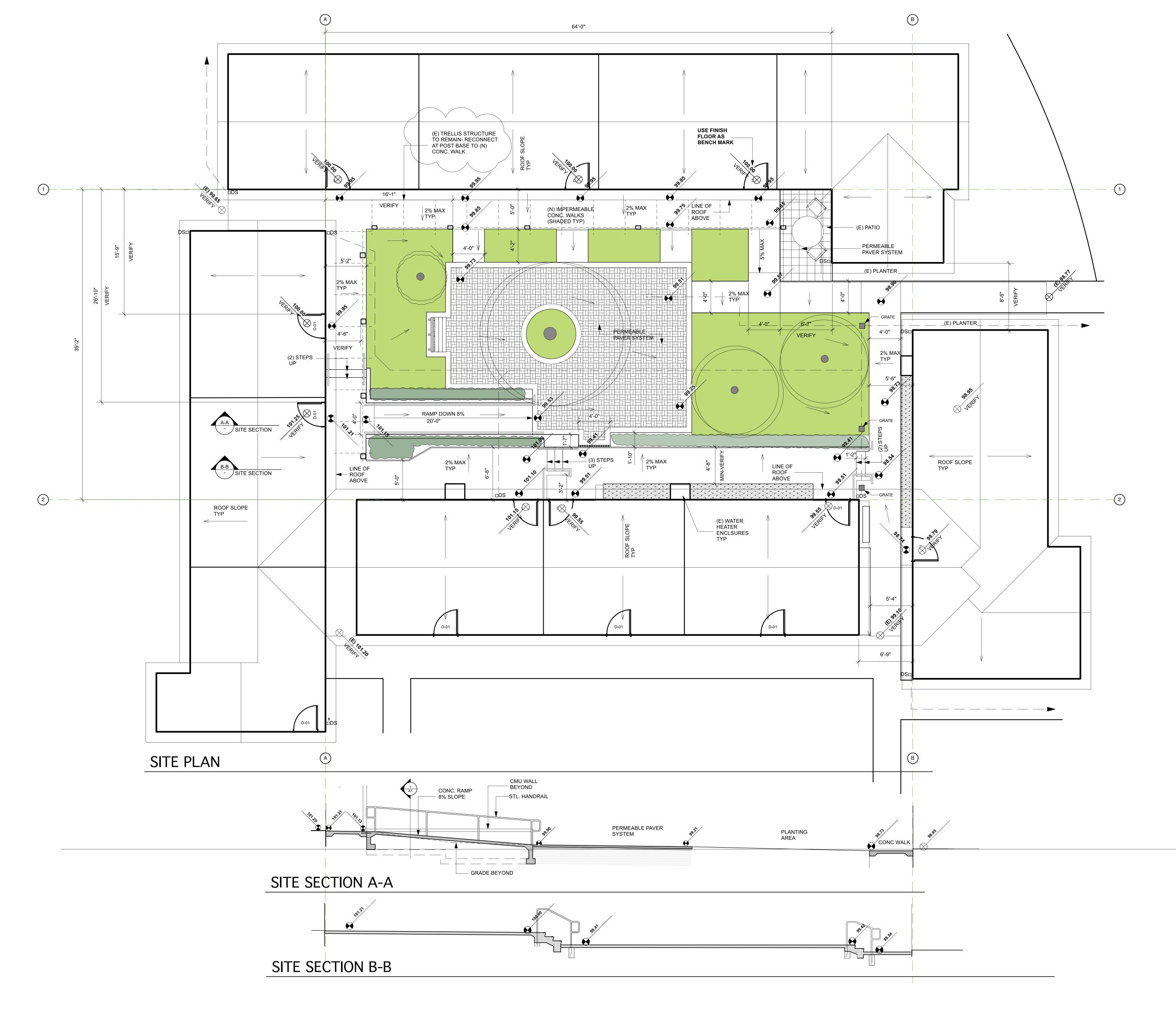
tmas Tom Moore Architect A.I.A. Thomas Moore Architectural Services 818 East Figueroa Street #A Santa Barbara, CA 93103 805 963 4399

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DATE DESCRIPTION 10/15/22 SUBMITTAL

A-1

OF SHEETS



ACCESSIBLE WALKWAYS AND PATIO
803 LAGUNA STREET, CA

ARCHITECT

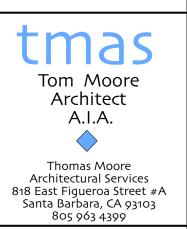
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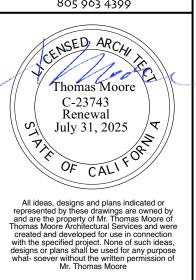
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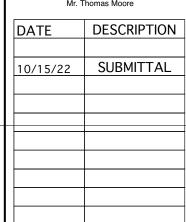
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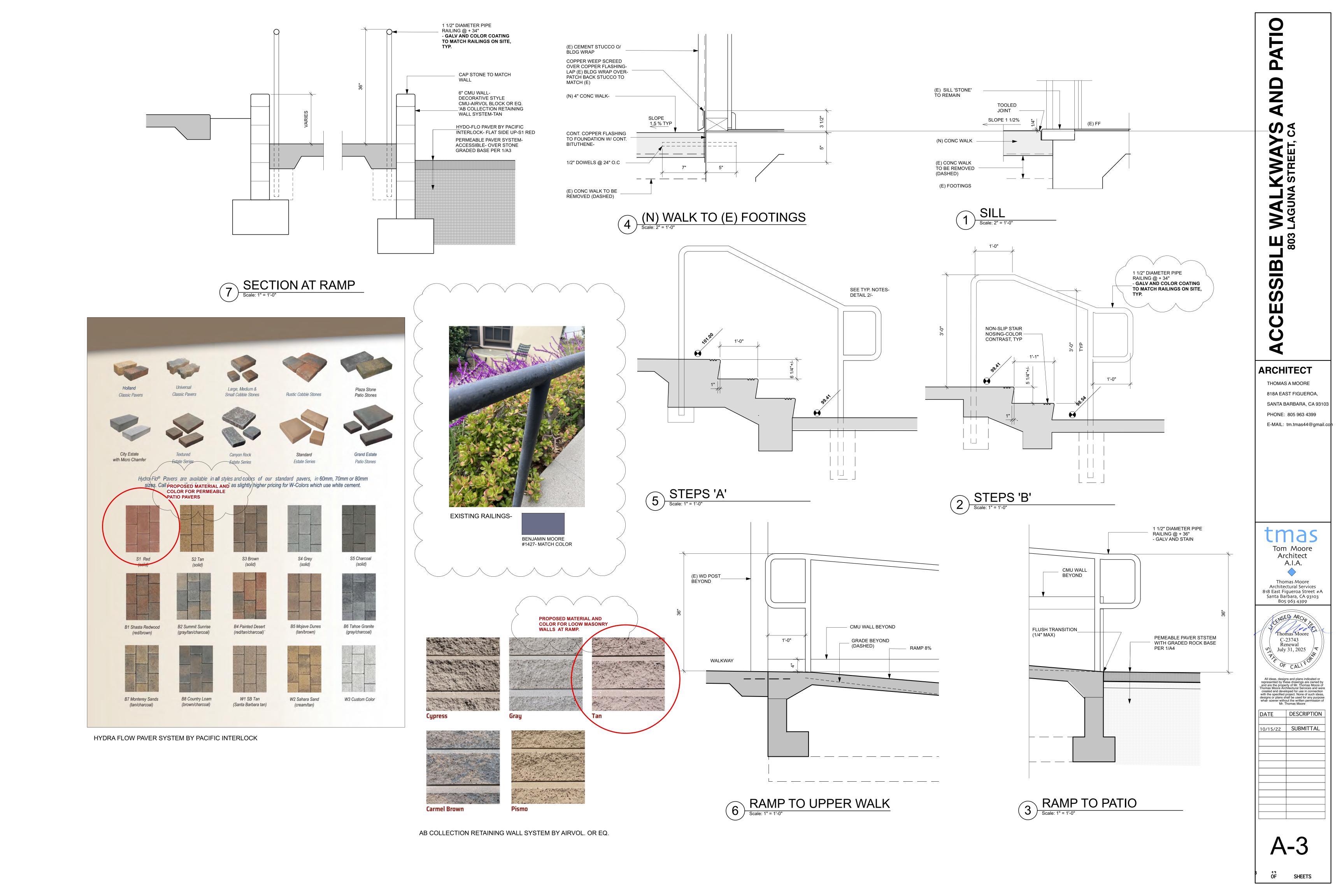


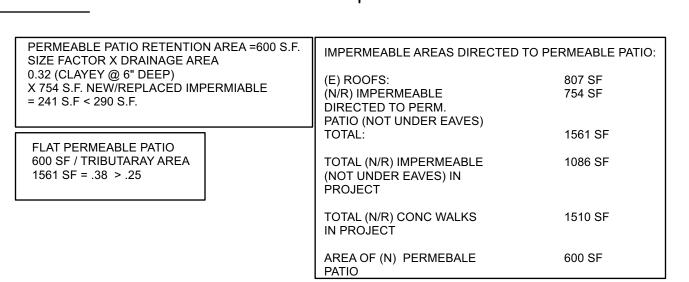


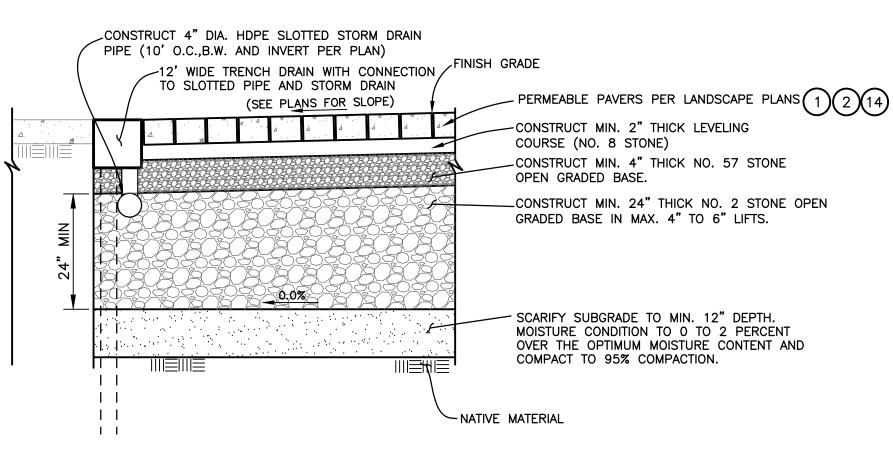


A-2

OF SHEETS







PERMEABLE PATIO SYSTEM (SIMILAR)

Щ 803 803 <u>m</u> S S

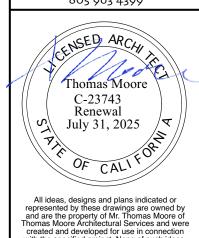
## **ARCHITECT**

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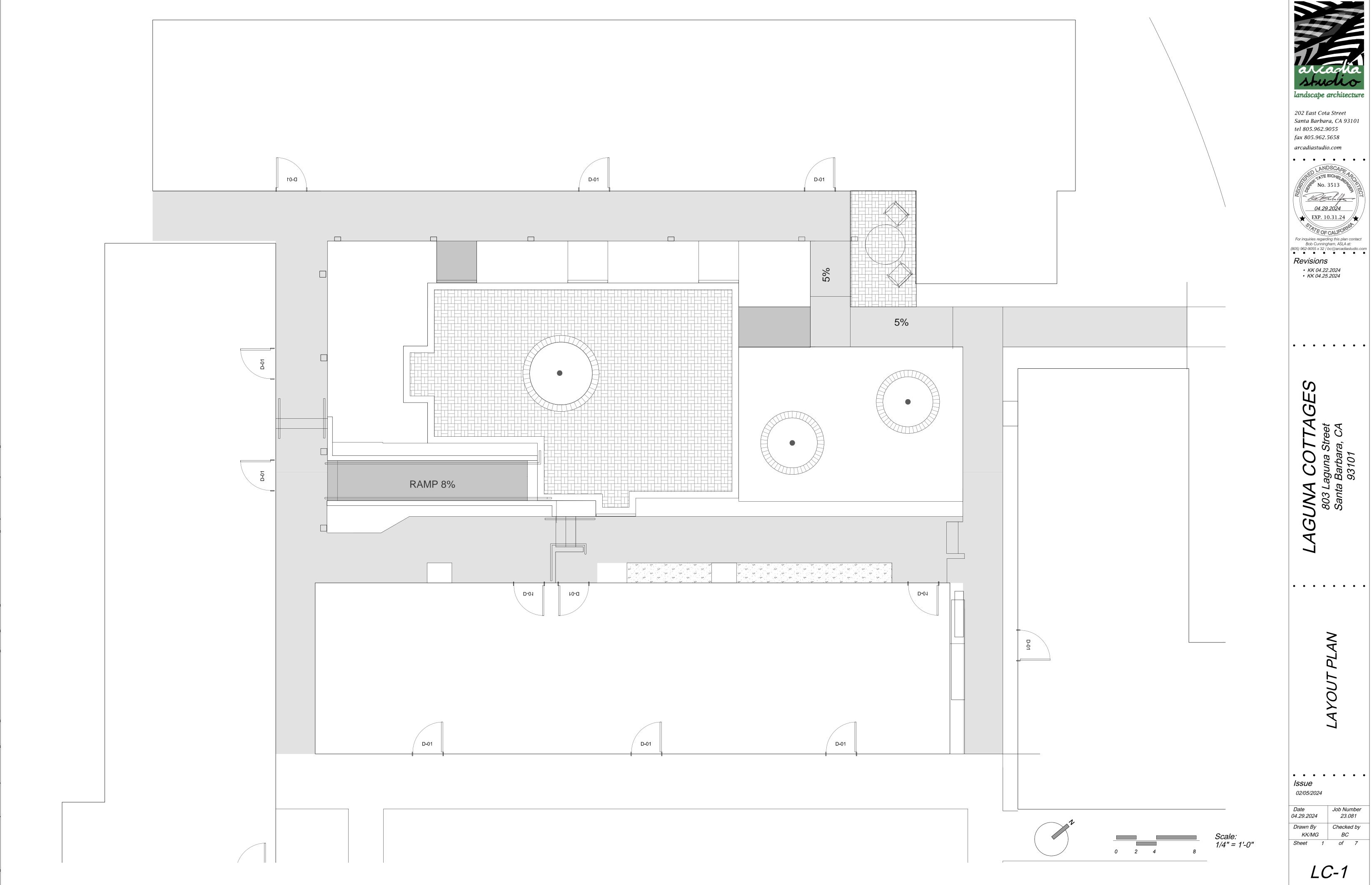
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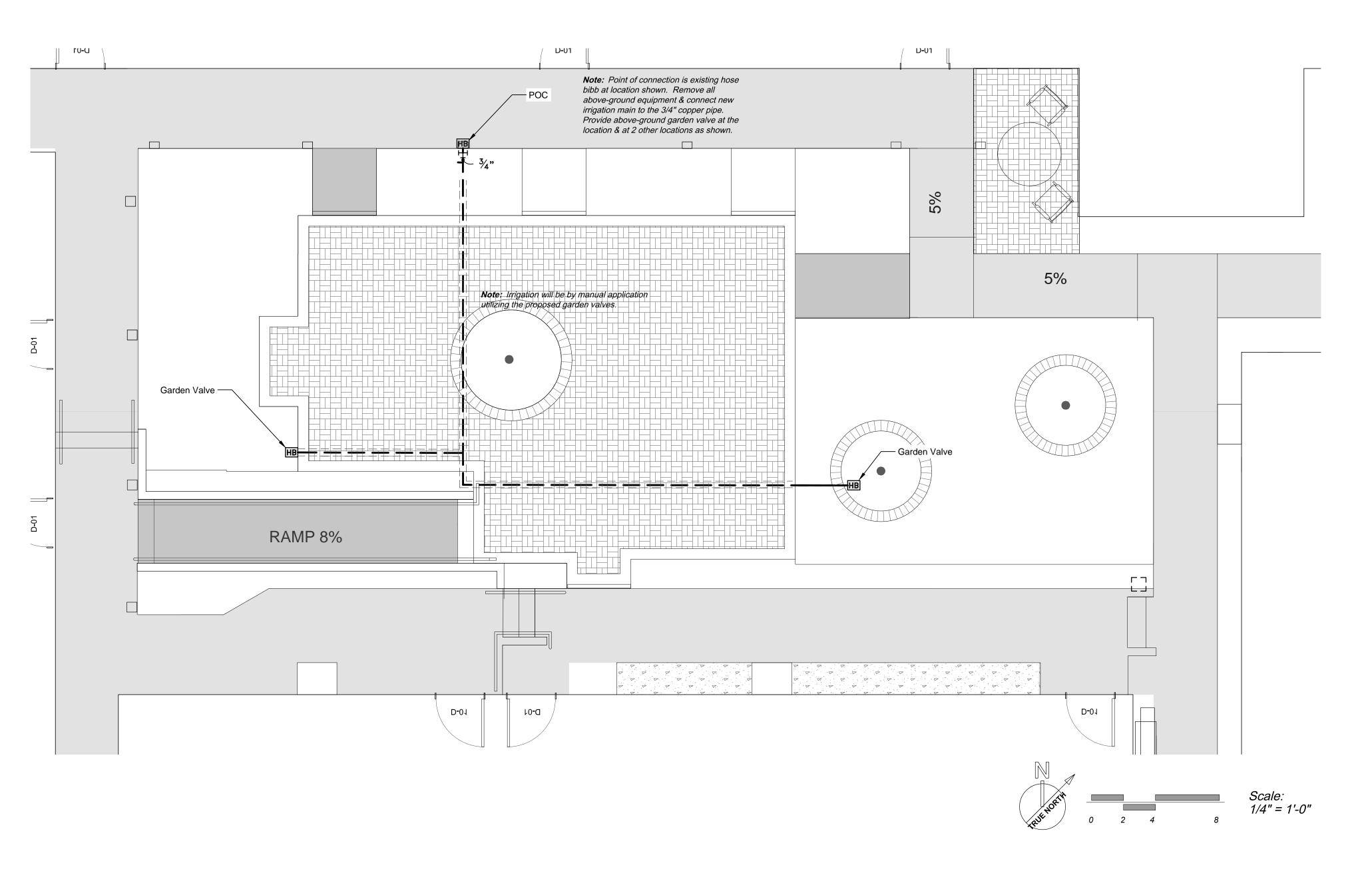


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10/15/22 SUBMITTAL

13 0F SHEETS





## Irrigation Notes:

- 1. See irrigation legend for complete descriptions of all symbols shown on irrigation plan.
- 2. Point of connection is at the approximate location shown on plan.
- 3. Indicated pipe locations are schematic. Coordinate pipe installation with other trades.
- 4. All piping installed under paving, through walls or footings must be placed inside Schedule 40 PVC sleeves of adequate size to allow free movement of the pipe in the sleeve. All pipe runs in sleeves must be straight, with no bends or angles.
- 5. Install irrigation lines at the following minimum depths:
- Schedule 40 and class 315 PVC mainline: 18" minimum cover
- Schedule 40 PVC lateral line: 12" minimum cover
- \*\*Install all rigid pipe as near to edges of planting areas, to avoid conflict with large plants.
- 6. In the event of discrepancies in irrigation equipment count, quantities indicated by symbols on the plan prevail.
- 13. Include in the contract price a sufficient amount to allow an additional 5% of the cost for supply and installation of additional irrigation equipment to be used. Provide the unit price for such irrigation equipment in the bid and credit the owner for each piece of equipment not installed.
- 14. Verify location of (E) backflow preventer, (E) master control valves, controller and point of connection with Landscape Architect prior to installation.
- 15. Landscape Contractor to coordinate with project plumber, and ensure all necessary stub-out locations for podium or raised planters are correct during construction.

### CRITICAL ANALYSIS

Generated:	2024-01-11 10:45
P.O.C. NUMBER: 01	
Water Source Information:	Existing 3/4" hose bibb at location shown on plan.
FLOW AVAILABLE	
Point of Connection Size:	3/4"
Flow Available	12.48 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	60 PSI
Pressure Available:	60 PSI
DESIGN ANALYSIS	
Maximum Station Flow:	5.37 GPM
Flow Available at POC:	12.48 GPM
Residual Flow Available:	7.11 GPM

Total Landscaped Area = 403 SF MWELO Exempt (Projects under 500SF)

## IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	<u>QTY</u>
НВ	Superior I401 Inverted Nose Garden Valve. 3/4in. x 3/4in. Female NPT Hose Bibb, Red Brass.	3
ХХ	Point of Connection 3/4" Existing 3/4" hose bibb at location shown on plan.	1
	Irrigation Mainline: PVC Schedule 40	60.3 l.f.
=======	Pipe Sleeve: CPVC Schedule 40	49.8 l.f.

Contractor shall install all irrigation equipment within planting areas. Shown within hardscape for graphic clarification only.

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A. Handling of PVC pipe and fittings: Exercise care in handling, and storing of PVC pipe and fittings. Transport all PVC so as not to subject it to undue bending or

A. The guarantee for the irrigation system shall be made in accordance with the following form. The General conditions and Supplementary conditions of these

specifications shall be filed with Owner or his representative prior to acceptance of the irrigation system.

C. The guarantee form shall be re-typed onto the Contractor's letterhead and contain the following information:

B. A copy of the guarantee form shall be included in the operations and maintenance manual.

concentrated external load at any point. Any section of pipe that has been dented or damaged will be discarded and, if installed, shall be replaced with new piping.

0.5 PRODUCT DELIVERY, STORAGE AND HANDLING

0.6 GUARANTEE

0.7 GUARANTEE FOR IRRIGATION SYSTEM A. We hereby guarantee that the irrigation system we furnished and installed is free from defects in materials and workmanship, and work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse or neglect excepted. We agree to repair or replace any defects in material or workmanship which may develop during the period of one year from the date of acceptance and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the Owner. We shall make such repairs or replacements within a reasonable time, as determined by the Owner, after receipt of written notification. In the event of our failure to make such repairs or replacement within a reasonable time after receipt of written notice from the Owner, we authorize the Owner to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand. B. Include following information: PROJECT: 2. CONTRACTOR: ADDRESS: 4. PHONE NUMBER: 5. BY: 6. DATE OF ACCEPTANCE: PART 2 - PRODUCTS 0.1 MATERIALS A. General: Use only new materials of brands and types noted on Drawings, specified herein, or approved equals. B. Copper: ASTM B88, Type L, hard-drawn copper tube and wrought solder type, paint per detail. C. PVC Pressure Main Line Pipe and Fittings: 1. Pressure main line piping for sizes 2" and larger shall be Pacific Western (or approved equal) PVC Class 315 pipe. Pipe shall be made from an NSF approved Type I, Grade I PVC compound conforming to ASTM resin specification D1784. All pipes must meet requirements as set forth in Federal Specification PS-22-70, with an appropriate standard dimension (S.D.R.) (Solvent-weld pipe). 2. Pressure main line piping for sizes 1-1/2" and smaller shall be Pacific Western (or approved equal) PVC Schedule 40 pipe. Pipe shall be made from NSF approved Type I, Grade I PVC compound conforming to ASTM resin specification 1785. All pipes must meet requirements as set forth in Federal Specification 3. PVC solvent-weld fittings shall be Schedule 40, 1-2, II-I NSF approved conforming to ASTM test procedure D2466. 4. Solvent cement and primer for solvent-weld and fittings shall be of type and installation methods prescribed by the manufacturer. 5. All PVC pipe must bear the following markings: a. Manufacturer's name b. Nominal pipe size c. Schedule or class d. Pressure rating in P.S.I. e. NSF (National Sanitation Foundation) approval f. Date of extrusion. 6. All fittings shall bear the manufacturer's name or trademark, material designation, size, applicable I.P.S. schedule and NSF seal of approval. E. PVC Pipe Sleeves: All piping installed under paving, through walls or footings shall be placed inside Schedule 40 PVC pipe sleeves of adequate size to allow free movement of the pipe in the sleeve. F. Copper Pipe and Fittings: Type "L" copper pipe with wrought copper fittings. G. Ball Valves: 1. PVC Ball valves. 2. Install per installation detail. H. Garden valves: size and type as indicated on Drawings. M. Control Valve Boxes 1. Heavy duty rectangular box, Carson, Ametek, Roby, with lockable lid. Install as detailed. Burn the valve number on the lid of the valve box with a branding iron manufactured for that purpose. Install a plastic pre-printed valve tag with a number corresponding to the valve number on each valve. a. Use 10" x 10-1/4" round box for all gate valves. Extension sleeve, where required, shall match box. b. Use 12" x 17" measured top rectangular box for all remote control valves. Extension sleeve, where required, shall match box PART 3 - EXECUTION 0.1 INSPECTION A. Site Conditions: 1. All scaled dimensions are approximate. The Contractor shall check and verify all size dimensions and report any discrepancies to the Landscape Architect prior to proceeding with Work in this Section. 2. Exercise extreme care in excavating and Working near existing utilities. Contractor shall be responsible for damages to utilities that are caused by the Contractor's operations or neglect. Check existing utilities Drawings for existing utility locations. 3. Coordinate installation of irrigation materials including pipe, so they do not interfere with utilities or other construction or cause difficulty in planting trees, shrubs and groundcovers. 4. Carefully check grades before starting Work on the Irrigation System. 0.2 PREPARATION A. Physical Layout: 1. Prior to installation, stake out all pressure supply lines, routing and location of sprinkler heads. 2. Pipe layout must be approved by Landscape Architect prior to installation. B. Water Supply: 1. Connect the irrigation system to water supply point of connection indicated. 2. Make connections at approximate locations shown. Contractor is responsible for minor changes caused by actual site conditions. 0.3 INSTALLATION A. Trenching: 1. Dig trenches straight and support pipe continuously on bottom of trench. Lay pipe to an even grade. Trenching excavation shall follow layout indicated on Drawings and as noted. 2. Provide for a minimum of eighteen (18) inches cover for all pressure supply lines. 3. Provide for a minimum of twelve (12) inches cover for all non-pressure lines. 4. Provide for a minimum of six (6) inches cover for all drip irrigation lines unless otherwise specified in the Drawing Details.

1. Do not backfill trenches until all required tests are performed. Carefully backfill trenches with the excavated materials approved for backfilling, consisting of earth,

loam, sandy clay, sand, or other approved materials, free from large clods of earth or stones. Mechanically compact backfill in landscaped areas to a dry density equal to adjacent undisturbed soil in planting area. Backfill will conform to adjacent grades without dips, sunken areas, humps or other surface

2. Place a fine granular material backfill to a depth of 6" immediately above all lines. No foreign matter larger than one-half (1/2) inch in size will be permitted in

4. If settlement occurs and subsequent adjustments in pipe, valves, sprinkler heads, lawn or planting, or other construction are necessary, make all required

5. Provide for a minimum of eighteen (18) inches cover for all control wiring.

adjustments without cost to the Owner.

3. Flooding of trenches will be permitted only with the approval of the Landscape Architect.

B. Backfilling:

C. Trenching and Backfill Under Paving: 1. Backfill trenches located under areas where paving, asphaltic concrete or concrete will be installed with sand (a layer six [6] inches below the pipe and three [3] inches above the pipe) and compact in layers to 95% compaction, using manual or mechanical tamping devices. Compact trenches for piping to equal the compaction of the existing adjacent undisturbed soil and leave in a firm unyielding grade. Set in place, cap and pressure test, all piping under paving prior to the paving Work. 2. Piping under existing walks is generally done by jacking, boring or hydraulic driving, but where any cutting or breaking of sidewalks and/or concrete is necessary, it shall be done and replaced by the Contractor as a part of the Contract cost. Obtain permission to cut or break sidewalks and/or concrete from the Landscape Architect. No hydraulic driving will be permitted under concrete paving. 3. Provide for a minimum cover of eighteen (18) inches between the top of the pipe and the bottom of the aggregate base for all pressure and on-pressure piping installed under asphaltic concrete paving. D. Assemblies: 1. Routing of irrigation lines as indicated on the Drawings is diagrammatic. Install lines (and various assemblies) in such a manner as to conform with the details. 2. Install no multiple assemblies in plastic lines. Provide each assembly with its own outlet. 3. Install all assemblies specified herein in accordance with respective details. In absence of detail Drawings or Specifications pertaining to specific items required to complete the Work, perform such Work in accordance with best standard practice with prior approval of the Landscape Architect. 4. Clean all PVC pipe and fittings before installation. Installation and solvent welding methods shall be as recommended by the pipe and fitting manufacturer. 5. On PVC to metal connections, work the metal connections first. Use teflon tape, or approved equal, on all threaded PVC, and on all threaded PVC to metal joints. Where threaded PVC connections are required, use threaded PVC adapters into which the pipe may be welded. E. Line Clearance: All lines shall have a minimum clearance of six (6) inches from each other and from lines of other trades. Parallel lines shall not be installed directly over one another. 0.4 TEMPORARY REPAIRS A. The Owner reserves the right to make temporary repairs as necessary to keep the irrigation system equipment in operating condition. The exercise of this right by the Owner shall not relieve the Contractor of responsibility under the Contract Documents. 0.5 EXISTING TREES AND SHRUBS A. Where it is necessary to excavate adjacent to existing trees and shrubs, use all possible care to avoid injury to trees, tree roots and shrubs. Excavate by hand only in areas where two (2) inch and larger roots occur. Tunnel under all roots two (2) inches and larger in diameter. Wrap roots in heavy burlap to prevent scarring or excessive drying. Where a ditching machine is run close to trees having roots smaller than two (2) inches in diameter, hand trim the wall of the trench adjacent to the tree, making clean cuts through. Paint roots one (1) inch and larger in diameter with two (2) coats of tree paint. Close trenches adjacent to tree within twenty-four (24) hours, and where this is not possible, shade the side of the trench adjacent to the tree with burlap or canvas. Excavations within the driplines of existing Oak trees shall be performed under the supervision of the project Arborist. 0.6 FIELD QUALITY CONTROL A. Adjustment of the System: 1. If it is determined that adjustments in the irrigation equipment will provide proper and more effective coverage, make adjustments prior to planting. Adjustments may also include changes in emitter sizes as required. B. Testing of Irrigation System: 1. Request the presence of the Landscape Architect in writing at least forty-eight (48) hours in advance of testing. 2. Test all pressure lines under hydrostatic pressure of 150 pounds per square inch and prove watertight. a. Testing of pressure mainlines shall occur prior to installation of electrical control valves. 3. Test all piping under paved areas under hydrostatic pressure of 150 pounds per square inch and prove watertight prior to paving. 4. Sustain pressure in lines for not less than two (2) hours. If leaks develop, replace joints and repeat test until entire system is proven watertight. 5. Make all hydrostatic tests only in the presence of the Landscape Architect or other duly-authorized representative of the Owner. Do not backfill pipe until it has been duly inspected, tested, and approved. 6. Furnish force pump and all other necessary test equipment. 7. When the irrigation system is completed, perform a coverage test in the presence of the Landscape Architect to determine if the water coverage for planting areas is complete and adequate. Furnish all materials and perform all Work required to correct any inadequacies of coverage due to deviations from Drawing or after bringing this to the attention of the Landscape Architect. This test shall be accomplished before any groundcover is planted. 8. Upon completion of each phase of Work, test and adjust the entire system to meet site requirements. 0.7 MAINTENANCE A. The entire irrigation system will consist of 3 garden valves, requiring manual application. 0.8 CLEAN-UP A. Clean-up as each portion of Work progresses. Remove refuse and excess dirt from the site, sweep all walks and paving clean, and repair any damage done to the Work of others to original conditions. 0.9 FINAL OBSERVATION PRIOR TO ACCEPTANCE A. Operate each system in its entirety for the Landscape Architect at time of final observation. Rework any items deemed not acceptable by the Landscape Architect to the complete satisfaction of the Landscape Architec B. Show evidence to the Landscape Architect that the Owner has received all accessories, charts, record drawings, and equipment as required before final observation 0.10 OBSERVATION SCHEDULE A. Notify the Landscape Architect in advance for the following observation meetings, according to the time indicated: 1. Pre-Job conference: 7 days 2. Pressure supply line installation and testing: 48 hours 3. Final inspection: 7 days.

B. When observations have been conducted by other than the Landscape Architect, show evidence in writing of when and by whom these observations were made.

previously noted corrections, or without preparing the system for said visit, he shall be responsible for reimbursing the Owner for the Landscape Architect's time for

the site visit at his current billing rates per hour portal to portal (plus transportation costs) for inconvenience. No further site visits will be scheduled until this charge

C. No site observations will commence without record drawings. In the event that the Contractor calls for a site visit without record drawings, without completing

has been paid and received.

END OF SECTION 028100

. . . . . . . . (1) . . . . . . . . . . . . . . . . 02/05/2024 Job Number 04.29.2024 23.081 Drawn Bv Checked by KK/MG

andscape architecture

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ANDSCAR

**EXP.** 10.31.24

PEOF CALIFOR

For inquiries regarding this plan contact

(805) 962-9055 x 32 / bc@arcadiastudio.com

KK 04.22.2024

KK 04.25.2024

Revisions

202 East Cota Street Santa Barbara, CA 93101

tel 805.962.9055 fax 805.962.5658 arcadiastudio.com

Issue

### PLANT SCHEDULE

CODE	BOTANICAL NAME	COMMON NAME	SIZE	WUCOLS		<u>QTY</u>
TREES						
CC	Cercis canadensis	Eastern Redbud - Standard Form	24"box	Medium		1
CA	Citrus x aurantiifolia 'Bearss Lime'	Bearss Lime	24"box	Medium		1
CL	Citrus x limon	Lemon	24"box	Medium		1
_C	Lyonothamnus floribundus	Catalina Ironwood	24"box	Low		2
SHRUBS						
<del>l</del> a	Helleborus argutifolius	Corsican Hellebore	5 gal	Low		6
lm	Heuchera maxima	Island Alum Root	1 gal	Low		40
ls	Heuchera maxima 'Santa Ana Cardinal'	Island Alum Root	1 gal	Low		28
Ng	Nandina domestica 'Gulf Stream'	Gulf Stream Heavenly Bamboo	5 gal	Low		30
Pp	Polygala fruticosa 'Petite Butterfly'	Sweet Pea Shrub	5 gal	L - SB Addendum		9
ROSES						
Rc	Rosa x 'Cecile Brunner'	Cecile Brunner Climbing Rose - Staked	15 gal	Low		3
VINE/ESPA	AI IFR					
<del></del>	Hardenbergia violacea	Lilac Vine - Staked	15 gal	Low		2
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	WUCOLS	SPACING	
GROUND (	COVERS					
	Ajuga reptans	Carpet Bugle	1 gal	Medium	12" o.c.	
	Bergenia cordifolia	Heartleaf Bergenia	1 gal	Low	18" o.c.	
	Liriope muscari	Lilyturf	1 gal	Medium	24" o.c.	
* * * * * *	Synthetic Turf	-	roll	N/A		
	ı					

Total Landscaped Area = 403 SF MWELO Exempt (Projects under 500SF)

### Planting Notes:

- 1. All plants are identified by typical symbols. Plant quantities are approximate and provided for the contractor's convenience. In the event of discrepancies in plant count, quantities indicated by plant symbols on the plan
- 2. Specification Section 02950 or 032 93 00, Landscape Planting & Section 028100 Irrigation. Do not bid planting plan without reference to applicable specification section.
- 3. Contractor is responsible for finish grades and for fine grading required for surface drainage and uniformity to the satisfaction of the Landscape Architect. Advise Landscape Architect of drainage problems and make recommendations for solution. Final grades to within a tenth of a foot must be established prior to commencing planting operations.
- 4. Grades and flow lines must be maintained during irrigation and planting operations. Contractor may not alter established grade and flow lines without the knowledge and permission of the Landscape Architect.
- 5. The Landscape Architect reserves the right to review all plant material at the nursery prior to delivery to job site. In lieu of nursery review the Landscape Architect may request photos and/or specifications of plant material to be provided prior to delivery.
- 6. Landscape Architect reserves the right to refuse plants delivered to site that are substandard. Replacement plants are to be supplied by contractor at no additional cost to owner.

- 7. Plant materials and installation to meet highest quality industry standard. Locate and secure all specified plants within two weeks of award of contract and show proof of to Landscape Architect in writing that plants have been secured. Notify Landscape Architect immediately of any plant sourcing difficulty.
- 8. Guaranty plant material 5 gallon or smaller except transplants for a period of 90 days from date of final review. Replace dead plants and plants not in vigorous condition, without cost to owner, as determined by Landscape Architect at the end of warranty period. Guaranty 15 gallon plants and larger, for 1 year from
- 9. Notify Landscape Architect of intended planting schedule a minimum of two weeks prior to planting.
- 10. Set out all plant materials as shown on plan. Final locations must be approved by the Landscape Architect
- 11. Plant crown to be 2" above adjacent grade for 15 gallon and larger plants; 1" above adjacent grade or plants smaller than 15 gallon.
- 12. Install all plants per details.
- 13. Stake trees according to industry standards per details. Review with Landscape Architect prior to work.
- 14. Contact Landscape Architect for decision regarding proposed plant substitutions 4 weeks prior to installation.
- 15. All plants delivered to the site must have legible identification tags.

- 16. Plant groundcovers adjacent to shrubs and/ or trees 1.5 times the distance of their specified spacing away from the stems of the adjacent shrubs and trees. Groundcovers adjacent to curbs and pavement shall be spaced at specified spacing away from paved areas.
- 17. Plant backfill: See Specifications
- 18. Completely eradicate all bermuda, kikuyu grass, and other weed growth or other visible or alleged invasive weeds from areas within project limits prior to installing planting.
- 19. Provide and install bark mulch over all shrub and groundcover areas. Use walk-on bark mulch. Walk on Bark mulch shall be a virgin forest product consisting of shredded fir bark and bark nuggets. Source from Agromin (800) 247-6646 or as listed in the specifications. Spread mulch evenly over all shrub and groundcover areas to a depth of 3" (three inches). Keep mulch away from plant stems. Submit mulch samples to Landscape Architect for approval prior to purchase and delivery.
- 20. Preserve and protect all existing trees unless otherwise noted.
- 21. Pottery planting mix by volume: 1/3 medium ground peat moss 1/3 #16 sand 1/3 medium vermiculite

1/2 pound per cubic yard urea nitriform 1 pound per cubic yard single superphosphate Thoroughly mix and moisten planter soil in pots prior to placement. After installation, supplement planter soil as required to compensate for settling. Install gravel in bottoms of all pots to a depth of 2" and place a layer of filter fabric between the gravel and potting soil. Place a 1/8" mesh copper screen over the planter drain hole. Provide and install bark mulch in all pots. Bark mulch shall be walk on bark, spread evenly to a minimum depth of 1". Top of bark mulch layer should be approximately 2" below rim of pot.

Set out all pots and plant materials as shown on plan. Final locations must be approved by the landscape architect prior to placement and planting.

- 22. Any tree or plant containing pathogens, bacteria or viruses harmful to plant health shall be replaced at the Contractor's expense.
- 23. In areas with significant gopher populations that can not be controlled through traps or other conventional methods, all plant material is to be placed in an appropriately sized gopher basket.

landscape architecture

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For inquiries regarding this plan contact Bob Cunningham, ASLA at: (805) 962-9055 x 32 / bc@arcadiastudio.com Revisions

KK 04.22.2024KK 04.25.2024

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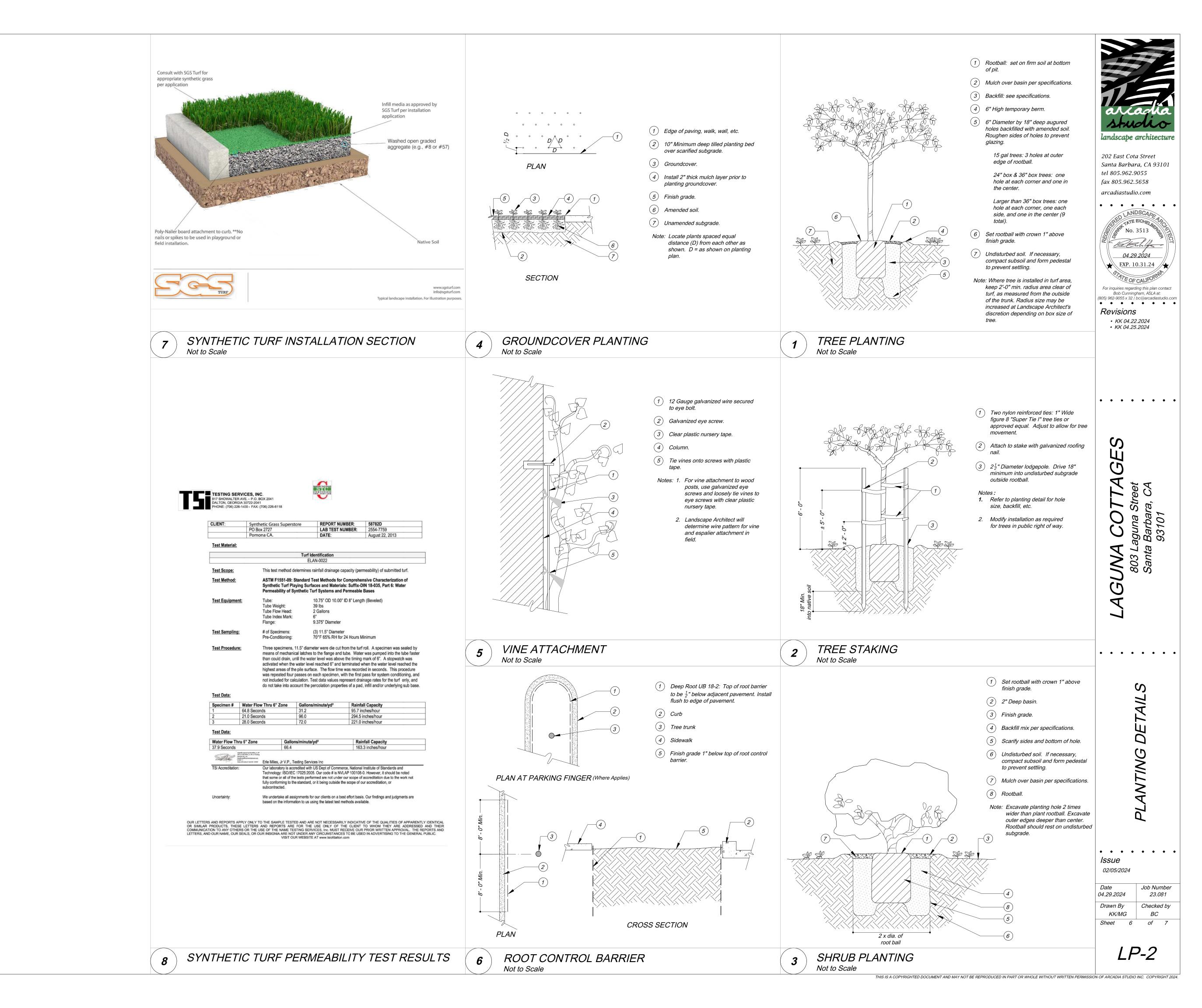
**TAGES** 

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Issue 02/05/2024

Job Number 04.29.2024 23.081 Checked by Drawn By KK/MG Sheet 5 of 7

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#### SECTION 029000 - LANDSCAPE PLANTING

#### PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including the Project Conditions of Approval, General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

A. Furnish all labor, materials and equipment necessary to provide and install all trees, plants and groundcovers as shown on the Drawings. The Contractor's work shall include:

- 1. Prepare soil for planting and furnish all soil amendments.
- 2. Furnish and install all plant materials per the planting plan.
- 3. Prune plants as required.
- 4. Stake, tie and guy plant materials as specified.
- 5. Dispose of trash, debris and surplus materials
- 6. Maintain the planting until such time as the project has been accepted.
- 7. Guarantee plant material smaller than 15 gallon for a period of 90 days to commence at final acceptance of project. Guarantee plant material 15 gallon or larger for a period of one year to commence at final acceptance of project.
- B. Related Sections include the following:
- 1. Division 2 Section "Irrigation System".
- 2. Division 2 Section "Landscape Maintenance".
- C. Definition: The words Landscape Architect as used herein refer to the Owner's authorized representative.

#### 1.3 QUALITY ASSURANCE

#### A. Source Quality Control

- 1. Submit documentation to Landscape Architect within fifteen (15) days after award of Contract that all plant material is secured for the project. Contractor is responsible for all material listed on the plant list. Any and all substitutions due to unavailability must be requested in writing prior to confirmation of ordering.
- 2. Plants are subject to approval of Landscape Architect at place of growth or upon delivery for conformity to Specifications. Such approval will not impair the right of review and rejection during progress of the work. Submit written request for review of plants at place of growth to Landscape Architect. State the place of growth and quantity of plants to be reviewed. Landscape Architect reserves the right to refuse review at this time, if in his judgment, a sufficient quantity of the plants is not available.

#### 1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

#### A. Delivery:

- 1. Deliver fertilizer to site in original unopened containers bearing manufacturer's guaranteed chemical analysis, name, trademark, and conformance to State Law.
- 2. Furnish Landscape Architect with copies of receipts for all amendments Specified in Section 2.01 Materials
- 3. Deliver all plants with legible identification labels. Use durable waterproof labels with water-resistant ink which will remain legible for at least sixty (60) days.
- 4. Protect plant material during delivery to prevent damage to root ball or desiccation of leaves.
- 5. Notify the Landscape Architect seven (7) days in advance of delivery of all plant materials and submit an itemized list of the plants in each delivery.

#### B. Storage:

#### 1. Store plant material in shade and protect from weather.

- 2. Maintain and protect plant material in a healthy, vigorous condition at all times.
- C. Handling: Exercise care in handling, loading, unloading and storing of plant materials. Plant materials that have been damaged in any way will be discarded. If installed, such plants will be replaced with undamaged materials at the Contractor's expense.

### 1.5 JOB CONDITIONS

- A. Site Conditions
- 1. Verify the locations of underground utilities prior to excavation. Repair damage to any such utilities resulting from the Contractor's work at Contractor's expense.
- 2. Investigate the site for any subsurface drainage or unusual soil conditions which might prove detrimental to the success ot the design. Should any such condition exist, notity the Landscape Architect and submit a proposal for correctiv measures and their cost. Should the contractor fail to provide such notification, he will be held solely responsible for any corrections deemed necessary by the Owner and the Landscape Architect should damage occur.

### B. Field Conditions

1. The planting plan is diagrammatic. Scaled dimensions are approximate. Prior to proceeding with installation work, verify all dimensions with field conditions and notify the Landscape Architect of any deviation on the plan. Landscape Architect is the final authority in interpretation of the plan and in accommodation of unforeseen field conditions.

### PART 2 - PRODUCTS

- 2.1 MATERIALS
- A. The following soil amendments and fertilizers are to be used for bid price basis.
- B. All materials shall be of standard, approved and first-grade quality and in prime condition when installed and accepted. Deliver any commercially processed or packaged material to the site in the original unopened container bearing the manufacturer's guaranteed analysis. Supply the Landscape Architect with samples of all supplied materials accompanied by analytical data from an approved laboratory source illustrating compliance or bearing the manufacturer's guaranteed
- C. "All Around Compost" from All Around Irrigation (805-684-3115), "Compost" from Agromin Horticultural Products (1-800-AGROMIN) "Valley Compost" through Santa Barbara Stone: 963-5891
- 1. Compost derived from processed organic materials consisting of chipped, shredded, or ground recycled wood products, greenwaste, and biosolids mixed and composted according to US EPA, 40 CFR, part 503.
- 2. 0.56% to 0.84% N based on dry weight.
- 3. Particle Size:
- a. 95% 100% passing 6.35 mm standard sieve b. 80% - 100% passing 2.33 mm standard sieve
- 4. Salinity: The saturation extract conductivity shall not exceed 3.0 millimhos/centimeter at 25 degrees centigrade as determined by saturation extract method.
- 5. Iron content: Minimum 0.08% dilute acid soluble Fe on dry weight basis.
- 6. Organic Content: Minimum 92% based on dry weight and determined by ash method.
- 7. Dark brown to black in color, not malodorus.
- 8. Shall contain no paint, petroleum products, herbicides, fungicides, or other chemical residues that would be harmful to plant or animal life. Inert contaminants such as class, plastic, wood, metal dirt, or rocks shall not exceed 0.1 %

## D. Soil Amendments

- 1. Soil sulfur: Agricultural grade sulfur containing a minimum of 99% sulfur (expressed as elemental).
- 2. Iron sulfate: 20% Iron (expressed as metallic iron), derived from ferric and ferrous sulfate, 10% sulfur (expressed as
- 3. Calcium Carbonate: 95% lime as derived from oyster shells.
- 4. Gypsum: Agricultural grade product containing 98% minimum calcium sulfate. 5. Zinc: Agricultural grade zinc sulfate (36% elemental zinc).
- 6. Complete Green PAM 'Soil Drain' (365 Coral Circle, El Segundo, CA 90245, 310-615-0116): soil aggregating polymer. E. Fertilizer

- 1. Planting fertilizer: Tri-C 6-2-4 w/5% S (Tri-C Enterprises: 1-800-927-3311 tric@earthlink.net).
- 2. Tri-C Myco Paks (Tri-C Enterprises: 1-800-927-3311 tric@earthlink.net).
- 3. Superthrive vitamin hormone supplement
- F. Imported Topsoil: Fertile, friable, natural topsoil of character and texture similar to the project site soil; without admixture of subsoil material, obtained from a well-drained arable site, reasonably free from clay, lumps, coarse sands, stones, plants, roots, sticks, and other foreign materials, with an acidity range of between pH 5.8 and 8.2. The sodium absorption ratio (SAR) shall not exceed 6 and the electrical conductivity (Ece) of the saturation extract of this soil shall not exceed 3.0 millimhos per centimeter at 25 degrees centigrade. The boron content shall be no greater than 1 part per million as measured on the saturation extract. In order to insure conformance, samples of the imported soil shall be submitted to an approved laboratory for analysis prior to, and following, backfilling.

#### G. Plant Material

- 1. In accordance with the California State Department of Agriculture's regulation for nursery inspections, rules and rating. All plants shall have a normal habit of growth and shall be sound, healthy, vigorous and free of insect infestations, plant diseases, sunscalds, fresh abrasions of the bark, excessive abrasions, or other objectionable disfigurements. Trees shall have sturdy trunks shall have well hardened and vigorous, fibrous root systems which are not root- or pot-bound. In case the sample plants are found to be defective, the Landscape Architect reserves the right to reject the entire lot or lots of plants represented by the defective samples. The Landscape Architect is the sole judge of acceptability. Any defective plants unsuitable for planting will be considered as samples provided at the expense of the Contractor.
- 2. The size of the plants will correspond with that normally expected for species and variety of commercially available nursery stock or as specified on Drawings. The minimum acceptable size of all plants measured before pruning with the branches in normal position, shall conform with the measurements, if any, specified on the Drawings in the list of plants to be furnished. Plants larger in size than Specified may be used with the approval of the Landscape Architect, but the use of larger plants will make no change in the Contract price.
- 3. All plants not conforming to the requirements herein Specified shall be considered defective. Such plants, whether in place or not, shall be marked as rejected and immediately removed from the site of work and replaced with new plants at the Contractor's expense. The plants shall be of the species, variety, size and condition Specified herein or as shown on the Drawings. Under no condition will there be any substitutions of plants or sizes listed on the accompanying plans, except with the expressed consent of the Landscape Architect.
- 4. Pruning: At no time shall trees or plant materials be pruned, trimmed or topped prior to delivery. Any alteration of their
- 5. Plant material shall be true to botanical and common name and variety as Specified in the latest edition of "Annotated Checklist of Woody Ornamental Plants in California, Oregon and Washington", published by the University of California School of Agriculture.
- 6. Nursery Grown and Collected Stock
  - a. Grown under climatic conditions similar to those in locality of project.
  - b. Container-grown stock in vigorous, healthy condition, not root-bound or with root system hardened off.
  - c. Use only flatted or liner stock plant material which is well established in removable containers or formed homogeneous soil sections.
- 7. Substitute plant material will not be permitted unless specifically approved in writing by the Landscape Architect.

shape shall be conducted only with the approval and when in the presence of the Landscape Architect

#### H. Backfill Mix 1. Backfill all planting holes except palms with the following mix (rates are per cubic yard of amended soil):

- a. Tri-C 6-2-4 w/5% Sulfur 7 pounds per cubic yard of amended soil. b. Agricultural gypsum - 4 pounds or as recommended by soil testing laboratory.
- c. Organic amendment/ Compost: 15% by volume.

### 3. Tri - C Myco Pak at the following rates:

Plant size Rate of application in ounces per plant 1-2 ml (pinch)of granular ENDO 120 Flatted

1 gallon 2 gallon 5 gallon 2-3 packs 15 gallon 7 packs 24" box 11 packs 36" box 17 packs 42", 48" box 21 packs

60" box

72" box

gradation.

4. Backfill field-grown palms with washed plaster sand tamped firm. Over excavate hole as required to stabilize palms.

#### I. Stormwater BMP Planter Box and Bioretention Areas Planter Mix

26 packs

- 1. Backfill the planter box and bioretention planters with a planter mix consisting of 60 to 70% sand, 15 to 25% compost, and 10 to 20% clean topsoil. The organic content of the soil mixture shall be 8% to 12%; the pH range shall be 5.5
- 2. The planting media placed in the cell shall be highly permeable and high in organic matter (e.g., loamy sand mixed thoroughly with compost amendment) and a surface mulch layer.
- 3. Sand shall be free of stones, stumps, roots or other similar objects larger than 5 millimeters, and have the following

Particle size (ASTM D422)	% Passir
#4	100
#6	88 - 100
#8	79 - 97

- 05 15
- 4. Compost shall be free of stones, stumps, roots, or other similar objects larger than 3/4". It shall have a particle size of 98% passing through a ¾" screen or smaller, and meet the following characteristics

11 - 35

- a. Soluble Salt Concentration <10mmhos/cm (dS/m)
- b. pH: 5.0 -8.5 c. Moisture: 30-60% dry weight basis
- d. Stability (Carbon Dioxide evolution rate): >80% relative to positive control
- e. Maturity (seed emergence and seedling vigor): >80% relative to positive control f. Physical contaminants: <1% dry weight basis
- 5. Topsoil shall be free of stones, stumps, roots, or other similar objects larger than 2 inches and have the following characteristics:
- a. Soluble salts:< 4.0 mmhos/cm (dS/m)
- b. pH range: 5.5 to 7.0

Silt(0.002 - 0.05 mm)

c. Organic matter:>5% d. Carbon to nitrogen ration<20:1 e. Moisture content: 25-55%

#### Particle size % Passing (ASTM D422, D1140) Sand (0.05-2.0 mm) *50-75*

- 6. The planter box shall be covered with mulch when constructed and annually replace to maintain adequate mulch depth. Mulch shall be:
- a. Well-aged, shredded or chipped woody debris or plant material. Well-aged mulch is defined as mulch that has been stockpiled or stored for at least twelve (12) months. Compost meeting the requirements above may also be
- b. Free of weed seeds, soil, roots, and other material that is not bole or branch wood and bark.
- c. Mulch depth shall be 2 to 3 inches thick
- d. Planter box or bioretention area soil mix shall be tested and meet the following criteria. Test Method Corrected pH 5.5 - 7.5 ASTM D4972

*15 - 40* 

Minimum 32ppm Magnesium Phosporus Not to exceed 69 ppm \* (Phosphate

- P2 O5) Potassium (K20) Minumum 78 ppm Soluble Salts Not to exceed
- e. Should the pH fall outside of the acceptable range, it may be modified with lime (to raise) or iron sulfate plus sulfur (to lower). The lime or iron sulfate must be mixed uniformly into the soil mix prior to use in the planter boxes or bioretention mix. Should the soil mix not meet the minium requirement for potassium, it may be modified with potash. Magnesium sulfate and potash must be mixed uniformly into the soil mix prior to use in
- planter boxes or bioretention mix. f. Limestone shall contain not less than 85% calcium and magnesium carbonates. Dolomitic (magnesium) limestone shall contain at least 10 percent magnesium as magnesium oxide and 85 percent calcium and magnesium carbonates. Limestone shall conform to the following gradation.

Sieve Size Minimum Percent Passing by Weight No. 10

- No. 20 No. 100
- g. Iron sulfate shall be a constituent of an approved horticultural product produced as a fertilizer for supplying iron
- h. Magnesium sulfate shall be a constituent of an approved horticultural product produced as a fertilizer.

- 12. Raise all plants which settle deeper than the surrounding grade to the correct level.
- 13. Fill the remainder of the hole with backfill mix and tamp firm.
- 14. After backfilling, construct an earthen basin around each plant. Each basin shall be of a depth sufficient to hold at least two (2) inches of water. The basins shall be constructed of amended backfill materials. Remove basin in all turf areas after initial watering. Add 10 drops Superthrive to each 1 gallon of water at the following rates
- a. 1 quart per each plant from flats
- b. 1 gallon per 1 gallon plant
- c. 3 gallons per 5 gallon plant
- d. 5 gallons per 15 gallon plant
- e. 10 gallons per 24" box
- f. 20 gallons per 30" box
- g. 30 gallons per 36" box h. Potash shall be a constituent of an approved horticultural product produced as a fertilizer.
- J. Guying and Staking Materials: Install per plant list.
- 1. Wood tree stakes: Lodge pole pine, fully treated with Coppernapthanate Wood Preservative in strict accordance with Federal Spec. TT-W-572 Type 1 Composition B, 2" (min. nominal size) diameter x 10 ft. long (12 ft. long for 24" box size trees); no split stakes.
- 2. Ties: Cinch-Tie
- 3. Duckbill Professional Tree Guying Systems: Foresight Products 1-800-325-5360
- K. Headers: 2" x 4" Trex brand Saddle Brown color
- L. Tree Paint: Morrison Tree Seal. Cabot Tree Paint, or equal.
- M. Water: Furnished by Owner; transport as required
- N. Mulch: Shredded bark, 0-1" ('Walk-On-Bark') sources per plan.
- O. Deep Root Barrier: As manufactured by Deep Root Corp. (800-458-7668). Install per manufacturer's specifications.

### PART 3 - EXECUTION

- 3.1 INSPECTION
- A. Obtain certification that final grades to within .10' have been established prior to commencing planting operations. Provide for inclusion of all amendments, settling, etc. Contractor shall be responsible for shaping all planting areas as indicated on plans or as directed by the Landscape Architect.
- B. Inspect trees, shrubs and liner stock for injury, insect infestation and trees and shrubs for improper pruning.
- C. Do not begin planting until deficiencies are corrected or unacceptable plants replaced

#### 3.2 PREPARATION

- A. Soil preparation
- 1. After approximate finished grades have been established, rip the soil to a depth of 12 inches. Incorporate the following amendments (per 1,000 square feet)into the top 6 inches (Application Rates are for base bid, modify per soils
- a. TRI-C Humate Plus 75 pounds per 1,000 square feet
- b. Agricultural gypsum 50 lbs.
- c. 4 cubic yards organic amendment (compost) d. PAM from Complete Green (310-615-0116) - 12 lbs.
- 2. Wet soil to activate PAM. 3. Dry soils to cure PAM until no stringiness is noted.
- 4. Retill soils if any crusting is noted.
- 5. Leach soil as necessary to bring SAR to below 3.0. 6. At the time of planting, the top two inches of all areas to be planted shall be free of stones, stumps, or other deleterious matter 1" in diameter or larger, and shall be free from all wire, plaster or similar objects that would hinder to planting or maintenance.

#### B. Final Grades

- 1. Minor modifications to grade may be required to establish the final grade.
- 2. Finish grading shall insure proper drainage of the site as depicted on the Civil Engineer's Grading Plan. 3. All areas shall be graded so that the final grades will be 1" below adjacent paved areas, sidewalks, valve boxes,
- headers, clean-outs, drains, manholes, etc., or as indicated on plans. 4. Surface drainage shall be away from all building foundations.
- 5. Eliminate erosion scars prior to commencing maintenance period.
- C. Pre-Planting Weed Control
- After irrigation system is operational, apply water for five (5) to ten (10) consecutive days as needed, to achieve weed germination. If live perennial weeds are present, spray with a non-selective systemic contact herbicide, recommended and applied by an approved licensed landscape pest control advisor and applicator. Leave sprayed plants intact for at
- least fifteen (15) days to allow systemic kill. Repeat as needed to eliminate perennial weeds.
- 2. Clear and remove dead weeds least 1/4" below the surface of the soil over the entire area to be planted. 3. Maintain site weed-free utilizing mechanical and chemical treatment until final acceptance by Owner.
- 4. After irrigation system is operational, apply water for five (5) to ten (10) consecutive days as needed, to achieve weed germination. Apply contact herbicides and wait, as needed, before planting. Repeat as required.
- D. Installation of Imported Topsoil: Provide and install imported topsoil mix in all raised planters to a finish grade of 2" below the top of the planter. Allow for settling. Refer to drawings for depth of planters.
- E. Disposal of Excess Soil: Dispose of any unacceptable or excess soil at an offsite location approved by Owner. 3.3 PLANTING INSTALLATION:
- A. General
- 1. Plant when weather and soil conditions are suitable and in accordance with locally accepted practice.
- 2. Place only as many plants as can be installed and watered on that same day. 3. Open containers and remove plants to maintain the integrity of the ball of earth surrounding the roots. Plant and water immediately after removal from the containers. Do not open containers prior to placing the plants in the planting area.

any plant pits are dug. If any underground construction or utility lines are encountered in the excavation of planting areas,

- other locations for planting may be selected by the Landscape Architect. It is the Contractor's responsibility to confirm the location and depth of all underground utilities and obstructions. Refer to Engineer's plans.
- C. Planting of Trees and Shrubs 1. Excavation for planting shall include the stripping and stacking of all acceptable topsoil encountered within the areas to

B. Lay-out of Major Plantings: Landscape Architect must approve layout of all containerized plants in their containers before

- be excavated for trenches, tree holes, plant pits, and planting beds. 2. All excavated holes shall have vertical sides with roughened surfaces and shall be of a size that is twice the diameter and equal to the depth of the root ball for all trees and shrubs. Install plant with top of rootball 1" above adjacent
- 3. Protect all planting areas from excessive compaction when trucking plants or other material to the planting site.

5. Can Removal: after removing plant, superficially cut edge roots with knife on three (3) sides and bottom.

- 4. Remove excess soil generated from the planting holes and not used as backfill or in establishing the final grades.
- Box Removal: a. Remove bottom of plant boxes before planting.

15 gallon

24" box

b. Remove sides of box without damage to root ball after positioning plant and partly backfilling. 7. Center plant in pit or trench.

unit price, and credit Owner for all trees not staked.

- 8. Face plants with fullest growth into prevailing wind.
- 9. Set plant plumb and hold rigidly in position until soil has been tamped firmly around ball or roots. 10. After the plant has been placed, add backfill to the hole to cover approximately one-half (1/2) of the height of the root ball. Water to thoroughly saturate the root ball and adjacent soil.

a. After the water has completely drained, place Tri-C Myco Paks at the following rates: Rate of application in ounces per plant Flatted 1-2 ml (pinch)of granular ENDO 120 1 pack 1 pack 2 gallon 5 gallon 2-3 packs

7 packs

11 packs

required number of tablets to be used in each hole can be easily verified by the Landscape Architect 15. Pruning: Limit pruning to the minimum necessary to remove injured twigs and branches, and the shape the plant

b. Set planting tablets with each plant on the top of the root ball while the plants are still in their containers so the

material as directed by the Landscape Architect. Pruning may not be done prior to delivery of plants. Cuts over 3/4"

in diameter shall be painted with tree paint. 16. Staking and Guying: Stake trees only if directed to do so by the Landscape Architect. Complete staking of all trees immediately after planting. Install all stakes plumb and as indicated in details. Allow for staking of all trees, providing

- D. Planting of Groundcovers:
- 1. Groundcover plants shall be grown in flats as indicated on the plans. Leave flat-grown plants in those flats until
- transplanting. Keep the flat's soil moist so that it will not fall apart when lifting the plants. 2. Plant groundcover in straight rows and evenly spaced, unless otherwise noted, and at intervals called out in the
- Drawings. Use triangular spacing unless otherwise noted on the Drawings.
- 3. Sprinkle plants after planting until the entire hole is soaked to its full depth
- 4. Exercise care at all times to protect the plants after planting. Repair any damage to plants immediately.

#### 3.4 CLEAN-UP

- A. After all planting operations have been completed, remove all trash, excess soil, empty plant containers, and rubbish from the property. Repair all scars, ruts or other marks in the ground caused by this work and leave the ground in a neat and orderly condition throughout the site. Pick up all trash resulting from this work no less frequently than each Friday before
- leaving the site, once a week, and/or the last working day of each week. Remove all trash from the site. B. Leave the site area broom-clean and wash down all paved areas within the Contract area, leaving the premises in a clean

#### 3.5 OBSERVATION SCHEDULE

- A. Notify the Landscape Architect in advance for the following site visits, according to the time indicated
- 1. Plant material review: 48 hours

by whom these reviews were made.

2. Plant layout review: 48 hours

condition. Leave all walks in a clean and safe condition.

- 3. Soil preparation and planting operations: 48 hours 4. Pre-maintenance: 7 days
- 5. Final walk-through: 7 days. B. When observations are conducted by someone other than the Landscape Architect, show evidence in writing of when and
- C. No site visits will commence without all items noted in previous Observation Reports either completed or remedied unless such compliance has been waived by the Owner. Failure to accomplish punch list tasks or prepare adequately for desired inspections shall make the Contractor responsible for reimbursing the Owner for the Landscape Architect's time at his current billing rates per hour (plus transportation costs). No further inspections shall be scheduled until this charge has been paid and received.

END OF SECTION 029000



landscape architecture

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Job Number *04.29.2024* 23.081 Drawn Bv Checked by KK/MG of 7 Sheet

301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration

Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates

OW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of vidual sections of CALGreen may apply to either low-rise residential buildings high-rise residential dings, or both. Individual sections will be designated by banners to indicate where the section applies cifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and 1-rise buildings, no banner will be used.

#### **)N 302 MIXED OCCUPANCY BUILDINGS**

**IIXED OCCUPANCY BUILDINGS.** In mixed occupancy buildings, each portion of a building Il comply with the specific green building measures applicable to each specific occupancy.

### **EVIATION DEFINITIONS:**

Department of Housing and Community Development California Building Standards Commission Division of the State Architect, Structural Safety

Office of Statewide Health Planning and Development

#### High Rise Additions and Alterations

### PTER 4 **DENTIAL MANDATORY MEASURES**

## ON 4.1 PLANNING AND DESIGN

**)N 4.102 DEFINITIONS** 

ing terms are defined in Chapter 2 (and are included here for reference)

DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar naterial used to collect or channel drainage or runoff water

Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials. ly, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also erimeter and inlet controls.

### ITE DEVELOPMENT

**ENERAL.** Preservation and use of available natural resources shall be accomplished through evaluation careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, agement of storm water drainage and erosion controls shall comply with this section.

FORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less n one acre of soil and are not part of a larger common plan of development which in total disturbs one acre nore, shall manage storm water drainage during construction. In order to manage storm water drainage ng construction, one or more of the following measures shall be implemented to prevent flooding of adjacent perty, prevent erosion and retain soil runoff on the site.

Retention basins of sufficient size shall be utilized to retain storm water on the site.

- 2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved
- by the enforcing agency. 3. Compliance with a lawfully enacted storm water management ordinance.

e: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or part of a larger common plan of development which in total disturbs one acre or more of soil.

bsite: https://www.waterboards.ca.gov/water\_issues/programs/stormwater/construction.html)

RADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will age all surface water flows to keep water from entering buildings. Examples of methods to manage surface er include, but are not limited to, the following:

- 2. Water collection and disposal systems
- French drains 4 Water retention gardens
- 5. Other water measures which keep surface water away from buildings and aid in groundwater

**Exception**: Additions and alterations not altering the drainage path.

ectric vehicle (EV) charging for new construction. New construction shall comply with Sections 16.4.1, 4.106.4.2, or 4.106.4.3 to facilitate future installation and use of EV chargers. Electric vehicle supply ipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.

- 1. On a case-by-case basis, where the local enforcing agency has determined EV charging and
- infrastructure are not feasible based upon one or more of the following conditions: 1.1 Where there is no commercial power supply. 1.2 Where there is evidence substantiating that meeting the requirements will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the homeowner or the developer by more than \$400.00 per
- 2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional

)6.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each Illing unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway I not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main rice or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the posed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or cealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere mum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent

**4.106.4.1.1 Identification.** The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

**4.2 New multifamily dwellings.** If residential parking is available, ten (10) percent of the total number of g spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging s (EV spaces) capable of supporting future EVSE. Calculations for the required number of EV spaces shall inded up to the nearest whole number.

### 1. Construction documents are intended to demonstrate the project's capability and capacity for

facilitating future EV charging.

2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed

.106.4.2.1 Electric vehicle charging space (EV space) locations. Construction documents shall dicate the location of proposed EV spaces. Where common use parking is provided at least one EV space nall be located in the common use parking area and shall be available for use by all residents.

2. The EV space shall be located on an accessible route, as defined in the California Building Code, Chapter 2, to the building.

**Exception:** Electric vehicle charging stations designed and constructed in compliance with the California Building Code, Chapter 11B, are not required to comply with Section 4.106.4.2.1.1 and Section 4.106.4.2.2, Item 3.

Note: Electric Vehicle charging stations serving public housing are required to comply with the California Building Code, Chapter 11B.

4.106.4.2.2 Electric vehicle charging space (EV space) dimensions. The EV space shall be designed to comply with the following

- 1. The minimum length of each EV space shall be 18 feet (5486 mm). The minimum width of each EV space shall be 9 feet (2743 mm).
- 3. One in every 25 EV spaces, but not less than one EV space, shall have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).
- a. Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.

4.106.4.2.3 Single EV space required. Install a listed raceway capable of accommodating a 208/240volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV space. Construction documents shall identify the raceway termination point. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

**4.106.4.2.4 Multiple EV spaces required.** Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also provide information on amperage of future EVSE, raceway method(s), wiring schematics and electrical load calculations to verify that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.

**4.106.4.2.5 Identification.** The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLÉ" in accordance with the California Electrical Code.

**4.106.4.3 New hotels and motels.** All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE. The construction documents shall identify the location

- 1. Construction documents are intended to demonstrate the project's capability and capacity
- or facilitating future EV charging. 2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

**4.106.4.3.1 Number of required EV spaces.** The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1. Calculations for the required number of EV spaces shall be rounded up to the

TABLE 4.106.4.3.1		
TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED EV SPACES	
0-9	0	
10-25	1	
26-50	2	
51-75	4	
76-100	5	
101-150	7	
151-200	10	
201 and over	6 percent of total	

4.106.4.3.2 Electric vehicle charging space (EV space) dimensions. The EV spaces shall be designed to comply with the following:

1. The minimum length of each EV space shall be 18 feet (5486mm). 2. The minimum width of each EV space shall be 9 feet (2743mm)

4.106.4.3.3 Single EV space required. When a single EV space is required, the EV space shall be designed in accordance with Section 4.106.4.2.3. **4.106.4.3.4 Multiple EV spaces required.** When multiple EV spaces are required, the EV spaces shall be

designed in accordance with Section 4.106.4.2.4. **4.106.4.3.5 Identification.** The service panels or sub-panels shall be identified in accordance with Section

**4.106.4.3.6 Accessible EV spaces.** In addition to the requirements in Section 4.106.4.3, EV spaces for hotels/motels and all EVSE, when installed, shall comply with the accessibility provisions for the EV charging stations in the California Building Code, Chapter 11B.

### **DIVISION 4.2 ENERGY EFFICIENCY**

4.201 GENERAL

4.201.1 SCOPE. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential uildings affected and other important enactment dates.

4.303.1.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

4.303.1.2 Urinals. The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.

**4.303.1.3.1 Single Showerhead.** Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA NaterSense Specification for Showerheads.

**4.303.1.3.2 Multiple showerheads serving one shower**. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to only

Note: A hand-held shower shall be considered a showerhead.

allow one shower outlet to be in operation at a time.

#### 4.303.1.4 Faucets.

4.303.1.3 Showerheads

**4.303.1.4.1 Residential Lavatory Faucets.** The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.

4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi.

4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.

**4.303.1.4.4 Kitchen Faucets.** The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve

4.303.2 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 1701.1 of the California Plumbing Code.

> THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE USER.

FIXTURE TYPE	FLOW RATE
SHOWER HEADS (RESIDENTIAL)	1.8 GMP @ 80 PSI
LAVATORY FAUCETS (RESIDENTIAL)	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI
LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI
KITCHEN FAUCETS	1.8 GPM @ 60 PSI
METERING FAUCETS	0.2 GAL/CYCLE
WATER CLOSET	1.28 GAL/FLUSH
URINALS	0.125 GAL/FLUSH

4.304 OUTDOOR WATER USE 4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water

Efficient Landscape Ordinance (MWELO), whichever is more stringent.

1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code Regulations, Title 23, Chapter 2.7, Division 2. MWELO and supporting documents, including water budget calculator, are available at: https://www.water.ca.gov/

openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing

4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING 4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste

management ordinance.

- Excavated soil and land-clearing debris.
   Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably
- 3. The enforcing agency may make exceptions to the requirements of this section when isolated iobsites are located in areas beyond the haul boundaries of the diversion facility.
- **4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN**. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.
- 1. Identify the construction and demolition waste materials to be diverted from disposal by recycling,
- reuse on the project or salvage for future use or sale. 2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).
- 3. Identify diversion facilities where the construction and demolition waste material collected will be
- 4. Identify construction methods employed to reduce the amount of construction and demolition waste . Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.
- **4.408.3 WASTE MANAGEMENT COMPANY.** Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and

demolition waste material diverted from the landfill complies with Section 4.408.1. Note: The owner or contractor may make the determination if the construction and demolition waste

4.408.4 WASTE STREAM REDUCTION ALTERNATIVE ILRI. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in

4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1

**4.408.5 DOCUMENTATION**. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, items 1 through 5, Section 4.408.3 or Section 4.408.4...

- 1. Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in
- documenting compliance with this section. 2. Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

#### 4.410 BUILDING MAINTENANCE AND OPERATION

materials will be diverted by a waste management company.

**4.410.1 OPERATION AND MAINTENANCE MANUAL.** At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:

1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure. 2. Operation and maintenance instructions for the following:

- a. Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major
- appliances and equipment b. Roof and yard drainage, including gutters and downspouts.
- c. Space conditioning systems, including condensers and air filters.
- d. Landscape irrigation systems. e. Water reuse systems.
- 3. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
- 4. Public transportation and/or carpool options available in the area. 5. Educational material on the positive impacts of an interior relative humidity between 30-60 percent
- and what methods an occupant may use to maintain the relative humidity level in that range. 6. Information about water-conserving landscape and irrigation design and controllers which conserve
- 7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5
- feet away from the foundation. 8. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
- 9. Information about state solar energy and incentive programs available. 10. A copy of all special inspections verifications required by the enforcing agency or this code.

**4.410.2 RECYCLING BY OCCUPANTS.** Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, orrugated cardboard, glass, plastics, organic waster, and metals, or meet a lawfully enacted local recycling

**Exception:** Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. are note required to comply with the organic waste portion of

### **DIVISION 4.5 ENVIRONMENTAL QUALITY**

**SECTION 4.501 GENERAL** 

4.501.1 Scope The provisions of this chapter shall outline means of reducing the quality of air contaminants that are odorous, irritating and/or harmful to the comfort and well being of a building's installers, occupants and neighbors.

### **SECTION 4.502 DEFINITIONS**

5.102.1 DEFINITIONS The following terms are defined in Chapter 2 (and are included here for reference)

AGRIFIBER PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements.

**COMPOSITE WOOD PRODUCTS.** Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section

**DIRECT-VENT APPLIANCE.** A fuel-burning appliance with a sealed combustion system that draws all air for

combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

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CENSED ARCH

10/15/22 | SUBMITTAL

DESCRIPTION

G-1

12 OF 13 SHEETS

This checklist is to be used on an individual project basis and may be modified by the applicant to meet the needs of their specific project. The applicant shall strike out those sections that are not applicable to their project and indicate the location of where this information is located. The applicant and property owner assume all responsibility associated with the use of this document.

# 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

# RESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2020, Includes August 2019 Supplement)

owner ass	ume all responsibility associated with the use of this d	ocument. <b>RESID</b>	L
N/A RESPON. PARTY		Y	Y N/A
	<b>MAXIMUM INCREMENTAL REACTIVITY (MIR).</b> The maximum char compound to the "Base Reactive Organic Gas (ROG) Mixture" per whundredths of a gram (g O³/g ROC).  Note: MIR values for individual compounds and hydrocarbon solvent and 94701.	reight of compound added, expressed to	
	MOISTURE CONTENT. The weight of the water in wood expressed	in percentage of the weight of the oven-dry wood.	
	<b>PRODUCT-WEIGHTED MIR (PWMIR).</b> The sum of all weighted-MIF article. The PWMIR is the total product reactivity expressed to hundroduct (excluding container and packaging). Note: PWMIR is calculated according to equations found in CCR, Tit	redths of a gram of ozone formed per gram of	
	<b>REACTIVE ORGANIC COMPOUND (ROC).</b> Any compound that has ozone formation in the troposphere.	s the potential, once emitted, to contribute to	
	<b>VOC.</b> A volatile organic compound (VOC) broadly defined as a chen with vapor pressures greater than 0.1 millimeters of mercury at room hydrogen and may contain oxygen, nitrogen and other elements. Se	n temperature. These compounds typically contain	
1 🗆	4.503 FIREPLACES 4.503.1 GENERAL. Any installed gas fireplace shall be a direct-ven woodstove or pellet stove shall comply with U.S. EPA New Source Fapplicable, and shall have a permanent label indicating they are cert pellet stoves and fireplaces shall also comply with applicable local or	Performance Standards (NSPS) emission limits as ifficient to meet the emission limits. Woodstoves,	
1 🗆	4.504 POLLUTANT CONTROL 4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MICONSTRUCTION. At the time of rough installation, during storage of startup of the heating, cooling and ventilating equipment, all duct and openings shall be covered with tape, plastic, sheet metal or other me reduce the amount of water, dust or debris which may enter the syst	on the construction site and until final d other related air distribution component ethods acceptable to the enforcing agency to	
	4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish mater	rials shall comply with this section.	
	4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sea requirements of the following standards unless more stringent management district rules apply:		
	<ol> <li>Adhesives, adhesive bonding primers, adhesive prin shall comply with local or regional air pollution contral applicable or SCAQMD Rule 1168 VOC limits, as some such products also shall comply with the Rule 1168 compounds (chloroform, ethylene dichloride, methylene), except for aerosol products, as spending the such shall comply the shall comply t</li></ol>	rol or air quality management district rules where hown in Table 4.504.1 or 4.504.2, as applicable. By prohibition on the use of certain toxic release chloride, perchloroethylene and	
	<ol> <li>Aerosol adhesives, and smaller unit sizes of adhesi units of product, less packaging, which do not weigi than 16 fluid ounces) shall comply with statewide V prohibitions on use of certain toxic compounds, of C commencing with section 94507.</li> </ol>	ves, and sealant or caulking compounds (in h more than 1 pound and do not consist of more OC standards and other requirements, including	
	<b>4.504.2.2 Paints and Coatings.</b> Architectural paints and coat the ARB Architectural Suggested Control Measure, as shown apply. The VOC content limit for coatings that do not meet the listed in Table 4.504.3 shall be determined by classifying the coating, based on its gloss, as defined in subsections 4.21, 4. Board, Suggested Control Measure, and the corresponding Floration of the content of the content of the content of the corresponding Floration of the content of	in Table 4.504.3, unless more stringent local limits e definitions for the specialty coatings categories coating as a Flat, Nonflat or Nonflat-High Gloss 36, and 4.37 of the 2007 California Air Resources	
	Table 4.504.3 shall apply.  4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and Limits for ROC in Section 94522(a)(2) and other requirements compounds and ozone depleting substances, in Sections 945 Regulations, Title 17, commencing with Section 94520; and in Quality Management District additionally comply with the perc 8, Rule 49.	s, including prohibitions on use of certain toxic 22(e)(1) and (f)(1) of <i>California Code of</i> a areas under the jurisdiction of the Bay Area Air	
	4.504.2.4 Verification. Verification of compliance with this se		
	enforcing agency. Documentation may include, but is not limi  1. Manufacturer's product specification.	ted to, the following:	
	2. Field verification of on-site product containers.		
	TABLE 4 504 4 ABUEON/5 VOOLIN		
	TABLE 4.504.1 - ADHESIVE VOC LIM  (Less Water and Less Exempt Compounds in Gran	· .	
	ARCHITECTURAL APPLICATIONS	VOC LIMIT	
	INDOOR CARPET ADHESIVES	50	
	CARPET PAD ADHESIVES	50	
	OUTDOOR CARPET ADHESIVES	150	
	WOOD FLOORING ADHESIVES	100	
	RUBBER FLOOR ADHESIVES	50	
	SUBFLOOR ADHESIVES  CERAMIC TILE ADHESIVES	65	
	VCT & ASPHALT TILE ADHESIVES	50	
	DRYWALL & PANEL ADHESIVES	50	
	COVE BASE ADHESIVES	50	
	MULTIPURPOSE CONSTRUCTION ADHESIVE	70	
	STRUCTURAL GLAZING ADHESIVES	100	
	SINGLE-PLY ROOF MEMBRANE ADHESIVES	250	
	OTHER ADHESIVES NOT LISTED	50	
	SPECIALTY APPLICATIONS	510	
	PVC WELDING	510	
	CPVC WELDING  ABS WELDING	490 325	
	PLASTIC CEMENT WELDING	250	
	ADHESIVE PRIMER FOR PLASTIC	550	
	CONTACT ADHESIVE	80	
	SPECIAL PURPOSE CONTACT ADHESIVE	250	
	STRUCTURAL WOOD MEMBER ADHESIVE	140	

250

30

50

TOP & TRIM ADHESIVE

METAL TO METAL

PLASTIC FOAMS

WOOD

SUBSTRATE SPECIFIC APPLICATIONS

POROUS MATERIAL (EXCEPT WOOD)

TABLE 4.504.2 - SEALANT VOC LIM	MIT	
(Less Water and Less Exempt Compounds in Grams per Liter)		
SEALANTS	VOC LIMIT	
ARCHITECTURAL	250	
MARINE DECK	760	
NONMEMBRANE ROOF	300	
ROADWAY	250	
SINGLE-PLY ROOF MEMBRANE	450	
OTHER	420	
SEALANT PRIMERS		
ARCHITECTURAL		
NON-POROUS	250	
POROUS	775	
MODIFIED BITUMINOUS	500	
MARINE DECK	760	
OTHER	750	

TABLE 4.504.3 - VOC CONTENT LIMITS FOR

GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT

ARCHITECTURAL COATINGS<sub>2,3</sub>

COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS1	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY

THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS

SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS

ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

AVAILABLE FROM THE AIR RESOURCES BOARD.

Y N/A RESPON	<u> </u>	Υ	N/A RESPOI	
	TABLE 4.504.5 - FORMALDEHYDE LIMITS <sub>1</sub>			CHAPTER 7   INSTALLER & SPECIAL INSPECTOR QUALIFICATION
	MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION			702 QUALIFICATIONS
	PRODUCT CURRENT LIMIT  HARDWOOD PLYWOOD VENEER CORE 0.05			702.1 INSTALLER TRAINING. HVAC system installers shall be trained and cert installation of HVAC systems including ducts and equipment by a nationally or regionally rec
	HARDWOOD PLYWOOD COMPOSITE CORE 0.05			certification program. Uncertified persons may perform HVAC installations when under the cresponsibility of a person trained and certified to install HVAC systems or contractor licensed
	PARTICLE BOARD 0.09			Examples of acceptable HVAC training and certification programs include but are not limited
	MEDIUM DENSITY FIBERBOARD 0.11  THIN MEDIUM DENSITY FIBERBOARD2 0.13  1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED			<ol> <li>State certified apprenticeship programs.</li> <li>Public utility training programs.</li> <li>Training programs sponsored by trade, labor or statewide energy consulting or ver</li> <li>Programs sponsored by manufacturing organizations.</li> </ol>
	BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH			<ul> <li>Other programs acceptable to the enforcing agency.</li> <li>702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency responsible entity acting as the owner's agent shall employ one or more special inspectors to other duties necessary to substantiate compliance with this code. Special inspectors shall december 1.</li> </ul>
	93120.12.  2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16" (8 MM).			to the satisfaction of the enforcing agency for the particular type of inspection or task to be prother certifications or qualifications acceptable to the enforcing agency, the following certifications described by the enforcing agency when evaluating the qualifications of a special inspector.
	DIVIDION 4.5. ENVIDONMENTAL QUALITY (continued)			<ol> <li>Certification by a national or regional green building program or standard publisher</li> <li>Certification by a statewide energy consulting or verification organization, such as performance contractors, and home energy auditors.</li> <li>Successful completion of a third party apprentice training program in the appropria</li> <li>Other programs acceptable to the enforcing agency.</li> </ol>
	DIVISION 4.5 ENVIRONMENTAL QUALITY (continued) 4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the testing and product requirements of at least one of the following:  1. Carpet and Rug Institute's Green Label Plus Program.			Notes:  1. Special inspectors shall be independent entities with no financial interest in a project they are inspecting for compliance with this code.  2. HERS raters are special inspectors certified by the California Energy Comm
	<ol> <li>California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers" Version 1.1, February 2010 (also known as Specification 01350).</li> <li>NSF/ANSI 140 at the Gold level.</li> </ol>			homes in California according to the Home Energy Rating System (HERS).  [BSC] When required by the enforcing agency, the owner or the responsible entity acting as employ one or more special inspectors to provide inspection or other duties necessary to substitute this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcement.
	<ul> <li>4. Scientific Certifications Systems Indoor Advantage™ Gold.</li> <li>4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the</li> </ul>			particular type of inspection or task to be performed. In addition, the special inspector shall recognized state, national or international association, as determined by the local agency.
	requirements of the Carpet and Rug Institute's Green Label program.  4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.			shall be closely related to the primary job function, as determined by the local agency.  Note: Special inspectors shall be independent entities with no financial interest in the
	4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed, at least 80% of floor area receiving			project they are inspecting for compliance with this code.
	resilient flooring shall comply with one or more of the following:  1. Products compliant with the California Department of Public Health, "Standard Method for the Testing and			703 VERIFICATIONS
	<ul> <li>Evaluation of Volatile Organic Chemical Émissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350), certified as a CHPS Low-Emitting Material in the Collaborative for High Performance Schools (CHPS) High Performance Products Database.</li> <li>2. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children &amp; Schools program).</li> <li>3. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program.</li> <li>4. Meet the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers", Version 1.1,</li> </ul>			703.1 DOCUMENTATION. Documentation used to show compliance with this cod limited to, construction documents, plans, specifications, builder or installer certification, insp methods acceptable to the enforcing agency which demonstrate substantial conformance. W documentation or special inspection is necessary to verify compliance, that method of compl the appropriate section or identified applicable checklist.
	February 2010 (also known as Specification 01350).  4.504.5 COMPOSITE WOOD PRODUCTS. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5			
	4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested			
	<ol> <li>by the enforcing agency. Documentation shall include at least one of the following:</li> <li>Product certifications and specifications.</li> <li>Chain of custody certifications.</li> <li>Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).</li> <li>Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European 636 3S standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0325 standards.</li> </ol>			
	5. Other methods acceptable to the enforcing agency.  4.505 INTERIOR MOISTURE CONTROL			
	<ul> <li>4.505.1 General. Buildings shall meet or exceed the provisions of the California Building Standards Code.</li> <li>4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 19, or concrete slab-on-ground floors required to have a vapor retarder by the</li> </ul>			
	California Residential Code, Chapter 5, shall also comply with this section.  4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:			
	<ol> <li>A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.</li> <li>Other equivalent methods approved by the enforcing agency.</li> <li>A slab design specified by a licensed design professional.</li> </ol>			
	4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following:			
	<ol> <li>Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code.</li> <li>Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece verified.</li> <li>At least three random moisture readings shall be performed on wall and floor framing with documentation</li> </ol>	d		
	acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.  Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.			
	4.506 INDOOR AIR QUALITY AND EXHAUST 4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following:			
	<ol> <li>Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.</li> <li>Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.</li> </ol>			
	<ul> <li>a. Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of adjustment.</li> <li>b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in)</li> </ul>			
	Notes:			
	<ol> <li>For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination.</li> <li>Lighting integral to bathroom exhaust fans shall comply with the <i>California Energy Code</i>.</li> </ol>			
	4.507 ENVIRONMENTAL COMFORT 4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:			

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certified in the proper recognized training or ne direct supervision and sed to install HVAC systems. ited to the following:

verification organizations.

ency, the owner or the s to provide inspection or Il demonstrate competence e performed. In addition to fications or education may be

as HERS raters, building

in the materials or the

nmission (CEC) to rate

as the owner's agent shall substantiate compliance with orcing agency for the all have a certification from . The area of certification

the materials or the

code shall include but is not nspection reports, or other . When specific mpliance will be specified in

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DATE DESCRIPTION 10/15/22 SUBMITTAL

12 OF 13 SHEETS

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G-2