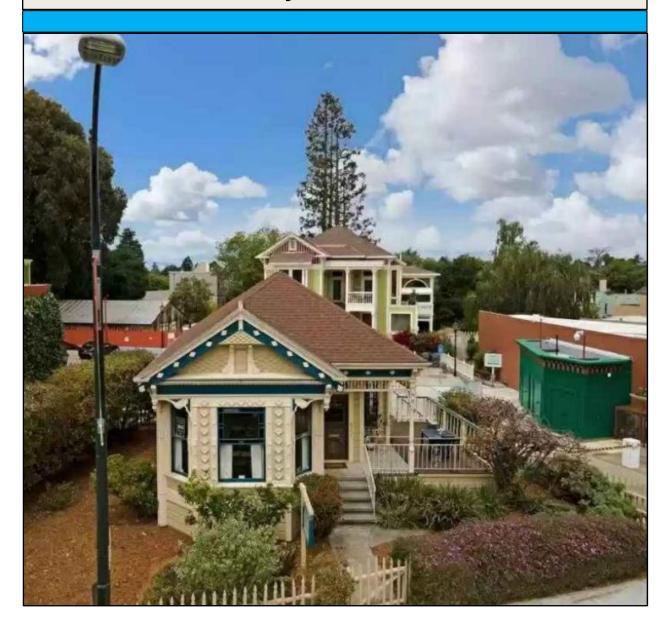
Proposed Daycare at 5315 College Avenue Traffic Impact Study

In the

City of Oakland



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1630 San Pablo Ave, Oakland CA 94612

Date: 11/20/2023

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1. Project Description

The existing site is a single parcel with identification as Alameda County Assessor Parcel Number (APN) 014-1249-011-03, with an approximate lot area of 3,734 sq. ft., an approximate Gross Floor Area (GFA) of 2429 sq. ft., and zoning type of Neighborhood Commercial as CN-1¹. The existing structure has two levels: a ground floor and a basement. The existing site was in service as a law office.

The new owner is proposing to convert the existing building from an office to a daycare facility. The proposed structure will maintain the basement, the first floor, and adds a second floor with a total area of 4,699 sq. ft. that includes Children Care Area of 1,029 sq. ft., and1,030 sq. ft. on the 1st and 2nd floors respectively. The proposed basement will mainly be used for storage and staff meeting space. The Gross Floor Area (GFA) for the proposed 1st and 2nd floors is 3050 sq. ft

There is no off-street parking in the existing site and proposed improvement and there are no net changes to the on-street parking. The proposed improvement will not alter the public right-of-way such as sidewalk width, direction, or channelization of travel lanes. The project plans in Appendix A provide all the information including site plan, quantities, dimensions, and access to the site.

This report follows the scope of work that was approved by the City of Oakland and the City's Transportation Impact Review Guidelines (TIRG). A copy of the scope of work is provided in Appendix B.

2. Study Area Description

The proposed daycare site is located at 5315 College Avenue, in Oakland, CA, 94618. As shown in Figure 1, the property is located adjacent to the unsignalized intersection of College Avenue and Bryant Avenue. The STOP sign on Bryant Avenue requires all vehicles to stop at the intersection before turning onto College Avenue. A pedestrian crosswalk is provided on the North and East side of the intersection.

College Avenue is a North-South road that runs from Broadway in Oakland through Rockridge and ends at the City of Berkeley. In the study area, College Avenue is a two-lane road with a posted speed of 25 miles per hour including dedicated bike lanes, sidewalks, and on-street paid parking in both directions. Adjacent to the road are mainly one- to three-story commercial buildings and restaurants, including residential units on the upper floors.

Bryant Avenue is a local residential two-lane road with an advisory speed of 15 miles per hour that connects College Avenue to a residential neighborhood. Sidewalks and on-street parking are provided in both directions on Bryant Avenue. Three speed bumps have been implemented along Bryant Avenue as traffic calming devices. The closest one is located within 200 ft of the intersection of College Avenue and Bryant Avenue.

A bike-share facility with 17 docking stations is located on the northeast side of the intersection on College Avenue, right across the project site. Rockridge Bay Area Rapid Transit (BART)

1 | Page

http://gisapps1.mapoakland.com/planmap/planmap.html?apn=014%20124901103

station is located at College Avenue and State Route 24 (SR-24), 0.42 miles north of the site. There are a few bus stops in the study area within a 600 feet distance.



Figure 1 - Site Location and Study Area (Source: Google Earth)

3. Transportation Analysis

This section includes a Trip Generation analysis that estimates the number of trips generated by the proposed daycare and provides a multi-modal trip distribution based on the existing transportation network.

Also, this section includes a proposed Pick-up and Drop-off plan to demonstrate the number of vehicles, pedestrians, and bicycles arriving and departing the daycare during peak hour time. If required, the plan will provide mitigation to minimize any adverse impact on the capacity of the existing traffic network circulation on College Avenue. This plan is different from the Trip Generation and is meant to provide more insight on how the parents will pick up and drop off their kids using different type of transportation modes.

3.1. Trip Generation

The Institute of Transportation Engineers (ITE) produces a document entitled Trip Generation (11th Edition), which is used to predict the number of trips associated with the proposed development. The ITE is an internationally recognized organization that has compiled numerous trip-generation studies to determine trip rates associated with various types of developments including retail, residential, recreational, institutional, industrial and office uses. ITE trip generation rates were utilized to estimate the number of peak-hour trips that would be

generated by each future project. Table 1 summarizes the trip generation by the proposed development. The total GFA for the proposed 1st and 2nd floors is 3,050 sq. ft.

It is noteworthy that ITE Trip Generation assumes that all travel occurs using personal vehicles.

Table 1 - ITE Trip Generation-Weekday Peak Hour of Generator - Proposed Land Use

l and llas	l luitat	AN	l Peak l	lour	P	M Peak F	lour
Land Use	Units*	In	Out	Total	In	Out	Total
Day Care Centre (ITE #565)	3.05*	19	17	36	17	19	36

^{*}Multiply by 1000 sq. ft. GFA.

Table 1 states that the proposed daycare will generate 36 vehicles before any adjustments during either of the peak hours. The ITE Trip Generation outputs are provided in Appendix C.

3.1.1. Modal Split and Internal Capture Adjustments

As stated in the City of Oakland's TIRG, ITE Trip Generation overestimates motor vehicle trips when applied to urban environments such as many Oakland neighborhoods that have dense setups. To adjust for the ITE overestimates, the City of Oakland has developed mode split adjustment factors for ITE trip generation rates. This adjustment accommodates other modes of trips and available facilities such as accessible public transit, existing bike lanes, and bike-sharing stations, as well as internal trips by walking. The criteria are based on distance from the subway station or/and density. Table 2 shows the default adjustment factors from TIRG.

Table 2 - Default City of Oakland Multimodal Trip Generation Adjustment Factors

Distance from BART/Amtrak	<0.5 miles	>0.5 miles,	> 1.0 mile		
Land Use Type (Density) ⁷		<1.0 mile	Urban (>10,000)	Dense Suburban (6,000 - 10,000)	Suburban (<6,000)
Motor Vehicle Trips ⁸	53.1%	63.3%	76.9%	79.5%	84.4%
Transit	29.7%	23.6%	17.9%	16.2%	11.3%
Bike	5.1%	4.9%	1.9%	1.6%	0.9%
Walk	10.5%	6.2%	2.0%	1.0%	2.6%

Table 3 provides the adjusted trips based on the default factors in Table 2, considering the fact that Rockridge BART station is within 0.5 miles distance from the proposed development.

Table 3 - Application of Mode Split Adjustment Factors

Distance from Bart/Amtrak	<0.5 miles	>0.5 miles, & <1.0 miles		> 1.0 miles	
Land Use Type (Density)	-	-	Urban (>10,000)	Dense Suburban (6,000 -10,000)	Suburban (<6,000)
Motor Vehicle Trips	36	-	-	-	-
Transit	-	-	-	-	-
Bike	•	-	•	-	•
Walk	-	-	ı	-	ı

3.1.2. Public Transit Accessibility

Public transit is one of the most frequently used modes of transportation in urbanized areas such as the City of Oakland. There are four stops within a 650 feet radius of the proposed daycare. Two of the bus stops are located on the north side of the site at the intersection of College Avenue and Manila Avenue. The other two bus stops are located on the south side of the proposed daycare at the intersection of College Avenue and Broadway. The bus stops in the northbound direction serve bus routes 51A, 605, and 851 while the bus stops in the southbound direction serve routes 51A and 851.

Rockridge BART station at College Avenue and SR-24 is the closest subway station with 0.42 miles distance from the site. Also, the public bike-sharing station across the site is very convenient and accessible to the proposed development. Figure 2 exhibits the connectivity between the proposed daycare and the existing transit system on College Avenue.



Figure 2 - Site Connectivity to Public Transit (Source: Google Earth)

3.1.3. Parking Availability

No off-street parking space is provided for the property. There are three on-street parking in front of the site including one disabled parking and two paid parking. In addition, there are paid parking spaces available on both sides of College Avenue.

Figure 3 exhibits the location of the existing on-street parking adjacent to the proposed daycare.



Figure 3 - On-Street Parking Spots Adjacent to the Site (Source: Google Earth)

3.2. Drop-off and Pick-up Plan

Reviewing a similar facility that is run by the owner of this development indicates that the proposed development's drop-offs and pick-ups occur during a two-hour period. It means that parents have the flexibility of dropping off or picking up their kids during a two-hour span. This flexibility makes the arriving or departing traffic to/from the daycare scattered into a two-hour window and generates less traffic during the peak hours. A data survey by the owner at a similar facility confirms that 75% percent of parents arrive between 8 AM to 9 AM while the rest arrive from 9 AM to 10 AM. Similarly, 35% of parents pick up their children between 4 PM to 5 PM while the rest pick up their children from 5 PM to 6 PM.

The availability of on-street parking spots on both sides of College Avenue and Bryant Avenue provides enough space for the parents to park and pick up or drop off their kids without blocking the road or impacting traffic circulation in the study area. A quick survey confirms more than 20 on-street parking are available in the immediate block area. To facilitate pick-ups and drop-offs, we are proposing the following options:

- converting the existing two parking spots in front of the daycare into short-term green curb parking zones with a 10-minute parking sign.
- establishing a carpool system service for the children's drop-offs/pick-ups and encouraging parents to use it.
- there will be staff to assist with drop-off/pick-up circulation during the morning and afternoon peak hours.

The proposed daycare is very accessible to public transit, a bike-sharing station, and a pedestrian crossing that facilitates trips to/from the proposed daycare safely without any degradation to the traffic network. Figure 4 exhibits the two green parking spots.



Figure 4 - Proposed Green Parking Spots

4. California Environmental Quality Act (CEQA) Analysis

The City of Oakland's TIRG requires an evaluation of potential impacts related to Vehicle Miles Travelled (VMT) criteria in CEQA transportation studies of proposed land use development projects. TIRG also ensures that potentially significant impacts are studied according to the City's recognized thresholds of significance. The following section includes the City's thresholds of significance, methodology, and results of the VMT screening assessment and project-specific analysis.

4.1. CEQA Significance Criteria

The following are CEQA significance criteria established by the City of Oakland as described in the TIRG. A land use project would have a significant effect on the environment if it would:

- Conflict with a plan, ordinance, or policy addressing the safety or performance of the circulation system, including transit, roadways, bicycle lanes, and pedestrian paths (except for automobile level of service or other measures of vehicle delay); or
- Cause substantial additional VMT per capita, per service population, or other appropriate efficiency measure; or
- Substantially induces additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow lanes) or by adding new roadways to the network.

4.2. Thresholds of Significance

As described in the TIRG, the following are thresholds of significance related to substantial additional VMT:

- For residential projects, a project will cause substantial additional VMT if it exceeds existing regional household VMT per capita minus 15 percent.
- For office projects, a project will cause substantial additional VMT if it exceeds the existing regional VMT per employee minus 15 percent.
- For retail projects, a project will cause substantial additional VMT if it exceeds the existing regional VMT per employee minus 15 percent.

4.3. Consistency with Plans

As mentioned in TIRG, the City of Oakland's adopted Plans and Policies shape the basis for transportation studies. These plans and policies are consulted as part of this report in order to evaluate applied principles and efforts to alleviate environmental effects if needed. This section also includes the justification behind the conclusion that the proposed improvement will not conflict with any plans and policies.

- City of Oakland General Plan Land Use and Transportation Element (1998): The proposed improvement utilizing the existing site and converting it to a daycare is consistent with the intent of the land use designation in the LUTE.
- City of Oakland General Plan Bicycle Master Plan (2019): The proposed improvement would be consistent with the Bicycle Master Plan (BMP) and would not conflict with any of the bike facilities in the BMP.
- City of Oakland General Plan Pedestrian Master Plan (2017): The proposed improvement would be consistent with the Pedestrian Master Plan as it would maintain the existing pedestrian facilitate to access the development.
- City of Oakland General Plan Transit First Policy (1996): The proposed improvement is consistent with the Transit First Policy because it is within a half-mile from Rockridge BART station and close to transit corridors on College Avenue.
- City of Oakland General Plan Scenic Highways (1974): The Scenic Highways Element requires the conservation and enhancement of attractive roadways and major streets going through the City. The proposed improvement is not adjacent to roads that are considered part of the existing or future scenic route network.
- Central and East Oakland Community-Based Transportation Plan (2007): The proposed improvement has no conflict with the plan.
- Oakland Department of Transportation Strategic Plan (2016): The Oakland Department of Transportation released a strategic plan in 2016 to emphasize project and operational ranking and strategy of the Oakland Department of Transportation. The improvement does not conflict with the strategies presented in the strategic plan.
- Americans with Disabilities Act Policy: The proposed daycare will provide access ramps following the ADA standards and will not conflict with the City's ADA policy.
- **Complete Streets Policy**: The City of Oakland's Complete Streets Policy requires that Oakland streets provide safe and convenient travel options for all users. There is no off-site improvement that conflicts with the City's Complete Streets Policy.

4.4. Vehicle Miles Travelled Analysis

The VMT screening criteria are provided in TIRG. If the project meets any of the three screening criteria, it will be "screened out" meaning VMT impacts for the project are less-than-significant, thus a detailed VMT analysis is not required.

The VMT screening assessment determined that the proposed improvement meets at least one of the criteria. Thus, the project is exempt from a detailed CEQA analysis because the proposed daycare is considered to cause a less-than-significant impact on the traffic network. Table 4 provides the VMT screening assessment.

 Screening Criteria
 Description
 Meet Criteria?

 Near Transit Station
 Site is located within 0.5 miles of a major transit station
 YES

 Small project
 Site generates less than 100 daily vehicle trips

 Low-VMT Area
 Site is located within a low-VMT area

Table 4 - VMT Screening Analysis Results

5. Conclusion and Findings

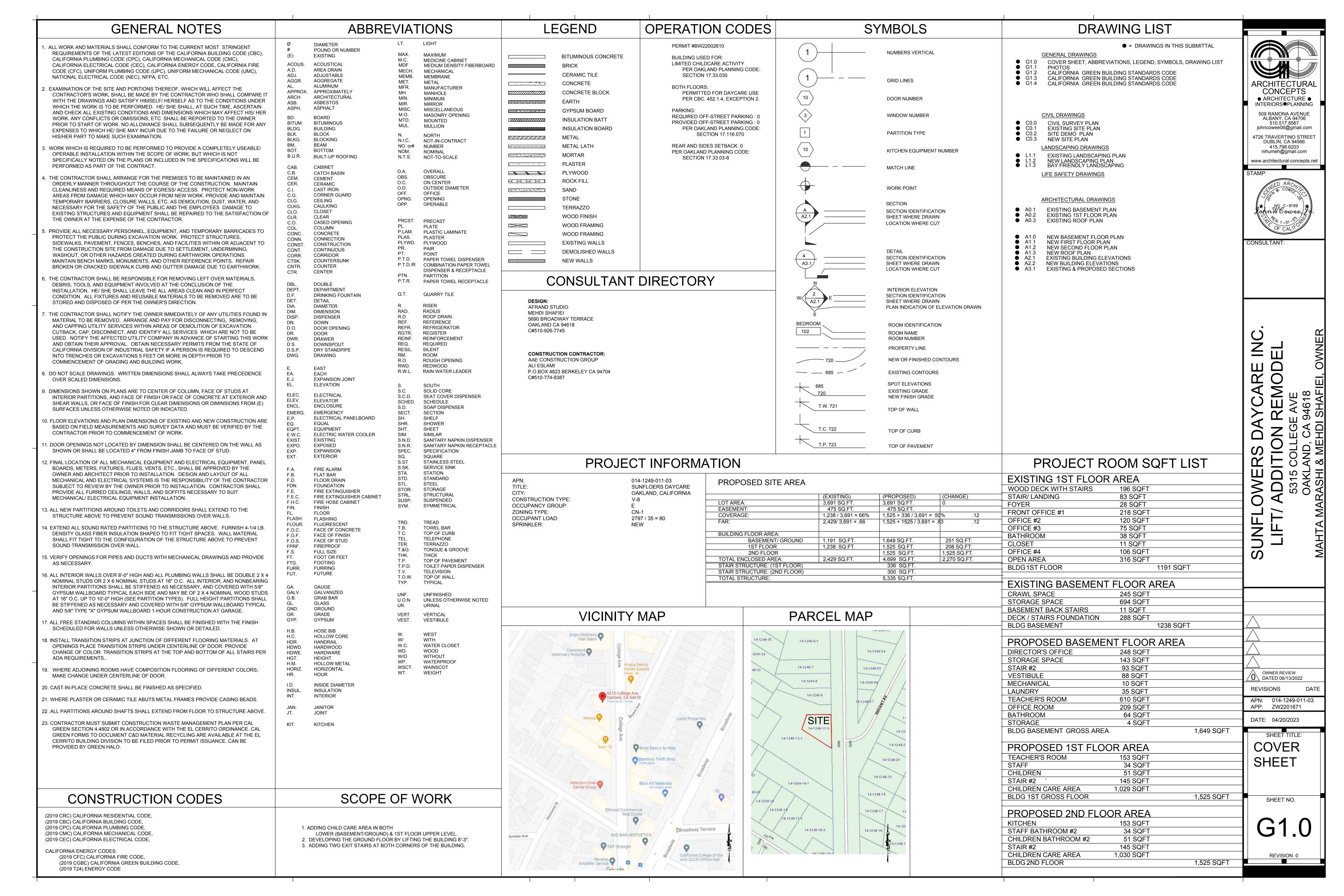
The following results are concluded from the Transportation Impact Study:

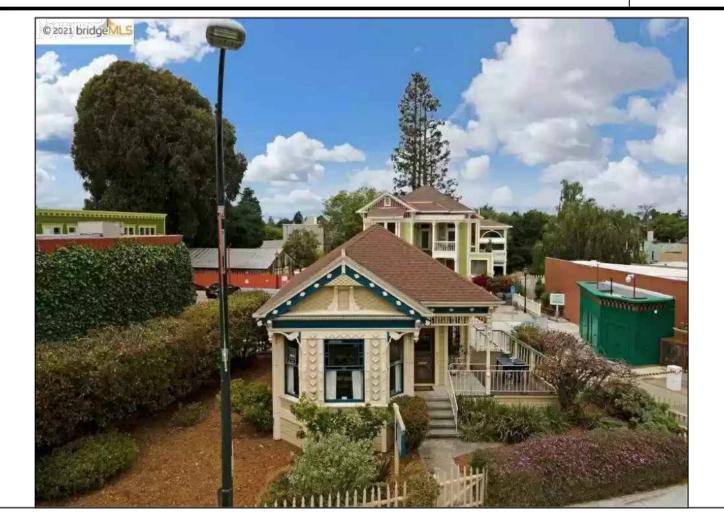
- The estimated number of trips were generated from ITE Trip Generation Manual, 11th
 Edition, and utilizing the City's TIRG mode share adjustment. The proposed daycare
 would generate 72 daily vehicle trips, including 36 trips during AM and PM peak hours.
- The proposed daycare is located within 0.5 miles of Rockridge BART station and close to bus stops.
- The proposed daycare would result in a less-than-significant CEQA transportation impact.

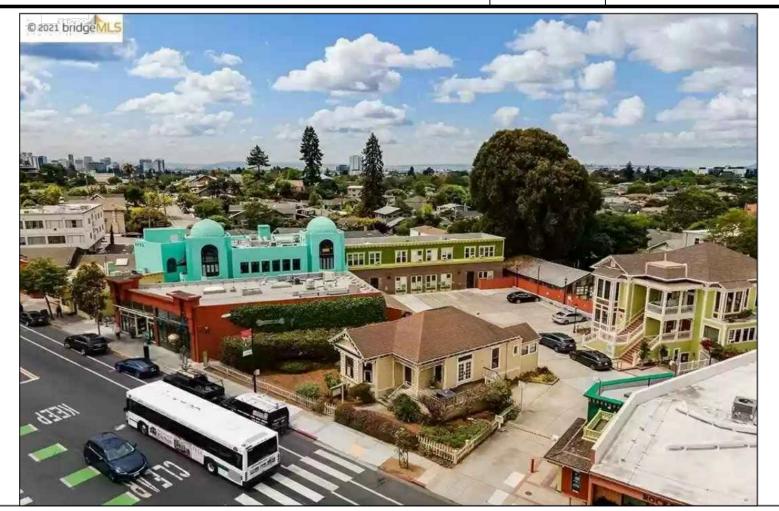
As a result, it concludes that the proposed daycare will not have any adverse impact on the existing traffic network.

APPENDIX A

Project Plans and Layouts











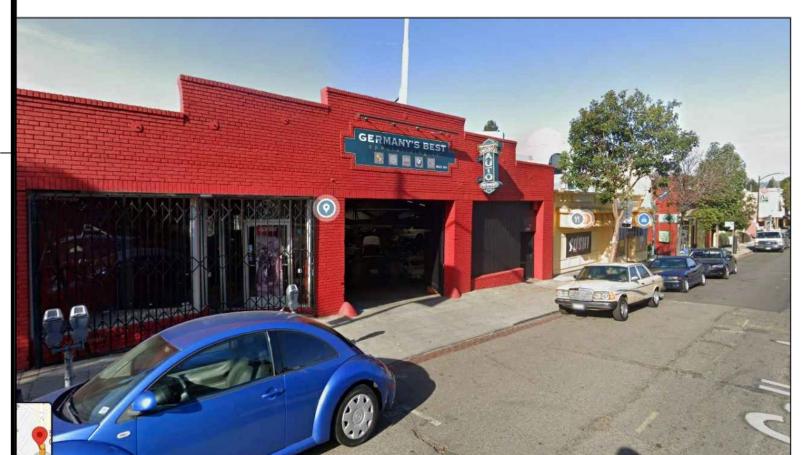


BIRD VIEW-EAST

BIRD VIEW-NORTH EAST

BIRD VIEW-NORTH WEST

VIEW-NORTH WEST





COLLEGE AVE. SOUTH-3

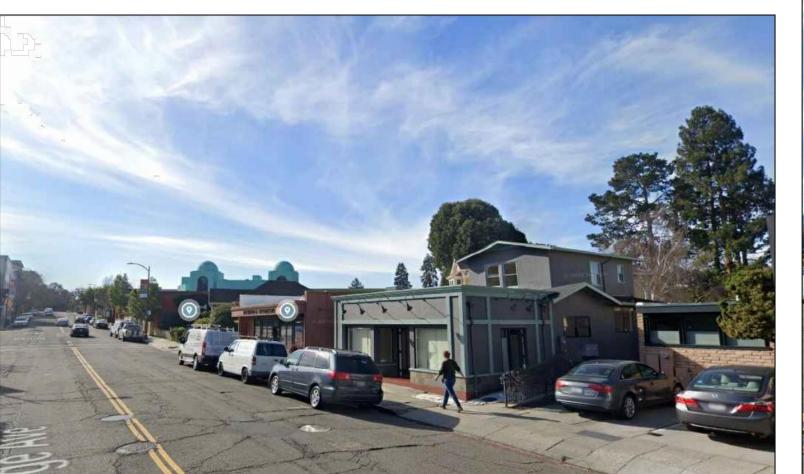
COLLEGE AVE. SOUTH-2

COLLEGE AVE. SOUTH-1

VIEW-SOUTH WEST









COLLEGE AVE. NORTH-1

COLLEGE AVE. NORTH-2

COLLEGE AVE. NORTH-3

COLLEGE AVE. NORTH-4









PHOTOS

OWNER REVIEW DATED 06/13/2022

SHEET NO.

G1.1

EAST SIDE SOUTH EAST CORNER

NOTH SIDE

NORTH EAST CORNER

Y N/A RESPON.

CHAPTER 3 **GREEN BUILDING SECTION 301 GENERAL**

301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

301.3 NONRESIDENTIAL ADDITIONS AND ALTERATIONS, [BSC-CG] The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of \$200,000 or above (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

A code section will be designated by a banner to indicate where the code section only applies to newly constructed buildings [N] or to additions and/or alterations [A]. When the code section applies to both, no banner will be used.

301.3.1 Nonresidential additions and alterations that cause updates to plumbing fixtures only:

Note: On and after January 1, 2014, certain commercial real property, as defined in Civil Code Section 1101.3, shall have its noncompliant plumbing fixtures replaced with appropriate water-conserving plumbing fixtures under specific circumstances. See Civil Code Section 1101.1 et seq. for definitions, types of commercial real property affected, effective dates, circumstances necessitating replacement of noncompliant plumbing fixtures, and duties and responsibilities for

301.3.2 Waste Diversion. The requirements of Section 5.408 shall be required for additions and alterations whenever a permit is required for work.

301.4 PUBLIC SCHOOLS AND COMMUNITY COLLEGES. (see GBSC)

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

SECTION 303 PHASED PROJECTS

301.5 HEALTH FACILITIES. (see GBSC)

303.1 PHASED PROJECTS. For shell buildings and others constructed for future tenant improvements, only those code measures relevant to the building components and systems considered to be new

303.1.1 Initial Tenant improvements. The provisions of this code shall apply only to the initial tenant improvements to a project. Subsequent tenant improvements shall comply with the scoping provisions in Section 301.3 non-residential additions and alterations.

ABBREVIATION DEFINITIONS:

Department of Housing and Community Development California Building Standards Commission Division of the State Architect, Structural Safety OSHPD Office of Statewide Health Planning and Development

construction (or newly constructed) shall apply.

Low Rise High Rise

Additions and Alterations

NONRESIDENTIAL MANDATORY MEASURES

DIVISION 5.1 PLANNING AND DESIGN

SECTION 5.101 GENERAL

The provisions of this chapter outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore and enhance the environmental quality of the site and respect the integrity of adjacent properties.

SECTION 5.102 DEFINITIONS

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

CUTOFF LUMINAIRES. Luminaires whose light distribution is such that the candela per 1000 lamp lumens does not numerically exceed 25 (2.5 percent) at an angle of 90 degrees above nadir, and 100 (10 percent) at a vertical angle of 80 degrees above nadir. This applies to all lateral angles around the luminaire.

LOW-EMITTING AND FUEL EFFICIENT VEHICLES. Eligible vehicles are limited to the following:

- 1. Zero emission vehicle (ZEV), including neighborhood electric vehicles (NEV), partial zero emission vehicle (PZEV), advanced technology PZEV (AT ZEV) or CNG fueled (original equipment manufacturer only) regulated under Health and Safety Code section 43800 and CCR, Title 13, Sections 1961 and 1962.
- 2. High-efficiency vehicles, regulated by U.S. EPA, bearing High-Occupancy Vehicle (HOV) car pool lane stickers issued by the Department of Motor Vehicles.

NEIGHBORHOOD ELECTRIC VEHICLE (NEV). A motor vehicle that meets the definition of "low-speed vehicle" either in Section 385.5 of the Vehicle Code or in 49CFR571.500 (as it existed on July 1, 2000), and is certified to zero-emission vehicle standards.

TENANT-OCCUPANTS. Building occupants who inhabit a building during its normal hours of operation as permanent

VANPOOL VEHICLE. Eligible vehicles are limited to any motor vehicle, other than a motortruck or truck tractor, designed for carrying more than 10 but not more than 15 persons including the driver, which is maintained and used primarily for the nonprofit work-related transportation of adults for the purpose of ridesharing.

occupants, such as employees, as distinguished from customers and other transient visitors.

Note: Source: Vehicle Code, Division 1, Section 668

ZEV. Any vehicle certified to zero-emission standards. SECTION 5.106 SITE DEVELOPMENT

5.106.1 STORM WATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB LESS THAN ONE ACRE **OF LAND.** Newly constructed projects and additions which disturb less than one acre of land, and are not part of a larger common plan of development or sale, shall prevent the pollution of storm water runoff from the construction activities through one or more of the following measures:

5.106.1.1 Local ordinance. Comply with a lawfully enacted storm water management and/or erosion control

5.106.1.2 Best Management Practices (BMPs). Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMPs.

- 1. Soil loss BMPs that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
- a. Scheduling construction activity during dry weather, when possible. b. Preservation of natural features, vegetation, soil, and buffers around surface waters.
- c. Drainage swales or lined ditches to control stormwater flow. d. Mulching or hydroseeding to stabilize disturbed soils. e. Erosion control to protect slopes.
- Protection of storm drain inlets (gravel bags or catch basin inserts).
- Perimeter sediment control (perimeter silt fence, fiber rolls).
- Sediment trap or sediment basin to retain sediment on site. Stabilized construction exits.
- Wind erosion control. Other soil loss BMPs acceptable to the enforcing agency.
- 2. Good housekeeping BMPs to manage construction equipment, materials, non-stormwater discharges and wastes that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
 - Dewatering activities.
 - b. Material handling and waste management. c. Building materials stockpile management.
 - d. Management of washout areas (concrete, paints, stucco, etc.).
- e. Control of vehicle/equipment fueling to contractor's staging area. Vehicle and equipment cleaning performed off site.
- Spill prevention and control. h. Other housekeeping BMPs acceptable to the enforcing agency.

5.106.2 STORMWATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB ONE OR MORE ACRES OF LAND. Comply with all lawfully enacted stormwater discharge regulations for projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of a larger common plan of development sale.

Note: Projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of the larger common plan of development or sale must comply with the post-construction requirements detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board or the Lahontan Regional Water Quality Control Board (for projects in the Lake Tahoe Hydrologic Unit).

The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff (pre-project hydrology) with the installation of postconstruction stormwater management measures. The NPDES permits emphasize runoff reduction through on-site stormwater use, interception, evapotranspiration, and infiltration through nonstructural controls, such as Low Impact Development (LID) practices, and conversation design measures. Stormwater volume that cannot be addressed using nonstructural practices is required to be captured in structural practices and be approved by the enforcing agency.

Refer to the current applicable permits on the State Water Resources Control Board website at: www.waterboards.ca.gov/constructionstormwater. Consideration to the stormwater runoff management measures should be given during the initial design process for appropriate integration into site development.

5.106.4 BICYCLE PARKING. For buildings within the authority of California Building Standards Commission as specified in Section 103, comply with Section 5.106.4.1. For buildings within the authority of the Division of the State

Architect pursuant to Section 105, comply with Section 5.106.4.2 5.106.4.1 Bicycle parking. [BSC-CG] Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet the

applicable local ordinance, whichever is stricter

5.106.4.1.1 Short-term bicycle parking. If the new project or an addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack

Exception: Additions or alterations which add nine or less visitor vehicular parking spaces.

5.106.4.1.2 Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.

5.106.4.1.3 For additions or alterations that add 10 or more tenant-occupant vehicular parking spaces, provide secure bicycle parking for 5 percent of the tenant vehicular parking spaces being added, with a minimum of one bicycle parking facility.

5.106.4.1.4 For new shell buildings in phased projects provide secure bicycle parking for 5 percent of the anticipated tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. **5.106.4.1.5** Acceptable bicycle parking facility for Sections 5.106.4.1.2, 5.106.4.1.3, and 5.106.4.1.4 shall

- be convenient from the street and shall meet one of the following: 1. Covered, lockable enclosures with permanently anchored racks for bicycles;
 - 2. Lockable bicycle rooms with permanently anchored racks; or

3. Lockable, permanently anchored bicycle lockers.

Note: Additional information on recommended bicycle accommodations may be obtained from Sacramento Area Bicycle Advocates.

5.106.4.2 Bicycle parking. [DSA-SS] For public schools and community colleges, comply with Sections 5.106.4.2.1 and 5.106.4.2.2

5.106.4.2.1 Student bicycle parking. Provide permanently anchored bicycle racks conveniently accessed with a minimum of four two-bike capacity racks per new building. 5.106.4.2.2 Staff bicycle parking. Provide permanent, secure bicycle parking conveniently accessed with a minimum of two staff bicycle parking spaces per new building. Acceptable bicycle parking facilities

- shall be convenient from the street or staff parking area and shall meet one of the following: Covered, lockable enclosures with permanently anchored racks for bicycles;
 - 2. Lockable bicycle rooms with permanently anchored racks; or 3. Lockable, permanently anchored bicycle lockers.

5.106.5.2 DESIGNATED PARKING FOR CLEAN AIR VEHICLES. In new projects or additions or alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting fuel-efficient and carpool/van pool vehicles as follows:

TABLE 5.106.5.2 - PARKING	
TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0-9	0
10-25	1
25-50	3
51-75	6
76-100	8
101-150	11
151-200	16
201 AND OVER	AT LEAST 8% OF TOTAL

5.106.5.2.1 - Parking stall marking. Paint, in the paint used for stall striping, the following characters such that the lower edge of the last word aligns with the end of the stall striping and is visible beneath a parked vehicle: CLEAN AIR / VAN POOL / EV

Note: Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces.

5.106.5.3 Electric vehicle (EV) charging. [N] Construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE). When EVSE(s) is/are installed, it shall be in accordance with the California Building Code, the California Electrical Code and as follows:

5.106.5.3.1 Single charging space requirements. [N] When only a single charging space is required per Table 5.106.5.3.3, a raceway is required to be installed at the time of construction and shall be installed in accordance with the California Electrical Code. Construction plans and specifications shall include, but are not limited to, the following:

- The type and location of the EVSE.
- 2. A listed raceway capable of accommodating a 208/240 -volt dedicated branch circuit. 3. The raceway shall not be less than trade size 1".
- 4. The raceway shall originate at a service panel or a subpanel serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and listed suitable cabinet, box, enclosure or equivalent.
- 5. The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the future installation of the EVSE.

5.106.5.3.2 Multiple charging space requirements. [N] When multiple charging spaces are required per Table 5.106.5.3.3 raceway(s) is/are required to be installed at the time of construction and shall be installed in accordance with the California Electrical Code. Construction plans and specifications shall include, but are not limited to, the following:

- The type and location of the EVSE.
- 2. The raceway(s) shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and into listed suitable cabinet(s), box(es), enclosure(s) or equivalent.
- 3. Plan design shall be based upon 40-ampere minimum branch circuits. 4. Electrical calculations shall substantiate the design of the electrical system, to include the rating of equipment and any on-site distribution transformers and have sufficient capacity
- to simultaneously charge all required EVs at its full rated amperage. 5. The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE.

5.106.5.3.3 EV charging space calculations. [N] Table 5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE.

Exceptions: On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure is not feasible based upon one or more of the following conditions: Where there is insufficient electrical supply.

2. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3. may adversely impact the construction cost of the

NUMBER OF REQUIRED SPACES
0
1
2
4
5
7
10
6% of total ¹

1. Calculation for spaces shall be rounded up to the nearest whole number.

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

5.106.5.3.5 [N] Future charging spaces qualify as designated parking as described in Section 5.106.5.2 Designated parking for clean air vehicles.

5.106.8 LIGHT POLLUTION REDUCTION. [N].I Outdoor lighting systems shall be designed and installed to comply

- 1. The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 10-114 of the California Administrative Code; and
- 2. Backlight (B) ratings as defined in IES TM-15-11 (shown in Table A-1 in Chapter 8): 3. Uplight and Glare ratings as defined in California Energy Code (shown in Tables 130.2-A and 130.2-B in
- 4. Allowable BUG ratings not exceeding those shown in Table 5.106.8, [N] or Comply with a local ordinance
- lawfully enacted pursuant to Section 101.7, whichever is more stringent.

- Luminaires that qualify as exceptions in Section 140.7 of the California Energy Code.
- 3. Building facade meeting the requirements in Table 140.7-B of the California Energy Code, Part 6. 4. Custom lighting features as allowed by the local enforcing agency, as permitted by Section 101.8

- 1. See also California Building Code, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways.
- 2. Refer to Chapter 8 (Compliance Forms, Worksheets and Reference Material) for IES TM-15-11 Table

LIGHTING LIGHTING

LIGHTING

G1

A-1, California Energy Code Tables 130.2-A and 130.2-B. 3. Refer to the California Building Code for requirements for additions and alterations.

TABLE 5.106.8 [N] MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT
AND GLARE (BUG) RATINGS 1,2

Alternate materials, designs and methods of construction.

ALLOWADLE NATING	LZ0	ZONE LZ1	ZONE LZ2	ZONE LZ3	ZONE LZ4
MAXIMUM ALLOWABLE BACKLIGHT RATING 3					
Luminaire greater than 2 mounting heights (MH) from property line	N/A	No Limit	No Limit	No Limit	No Limit
Luminaire back hemisphere is 1-2 MH from property line	N/A	B2	В3	B4	B4
Luminaire back hemisphere is 0.5-1 MH from property line	N/A	B1	B2	B3	В3
Luminaire back hemisphere is less than 0.5 MH from property line	N/A	В0	В0	B1	B2
MAXIMUM ALLOWABLE UPLIGHT RATING (U)					
For area lighting 4	N/A	U0	U0	U0	U0
For all other outdoor lighting,including decorative luminaires	N/A	U1	U2	U3	UR
MAXIMUM ALLOWABLE GLARE RATING 5 (G)					
Luminaire greater than 2 MH from property line	N/A	G1	G2	G3	G4
Luminaire front hemisphere is 1-2 MH from property line	N/A	G0	G1	G1	G2
Luminaire front hemisphere is 0.5-1 MH from property line	N/A	G0	G0	G1	G1
Luminaira haak hamianhara ia					

less than 0.5 MH from property 1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the

- California Energy Code and Chapter 10 of the Callifornia Administrative Code. 2. For property lines that abut public walkways, bikeways, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public
- transit corridor for the purpose of determining compliance with this section. 3. If the nearest property line is less than or equal to two mounting heights from the back hemisphere of the luminaire distribution, the applicable reduced Backlight rating shall be met.

4. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet

- these reduced ratings. Decorative luminaires located in these areas shall meet *U*-value limits for "all other outdoor lighting". 5. If the nearest property line is less than or equal to two mounting heights from the front hemisphere of the luminaire distribution, the applicable reduced Glare rating shall be met.

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

Water collection and disposal systems.

Luminaire back hemisphere is

- 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.

5.106.12 SHADE TREES [DSA-SS]. Shade Trees shall be planted to comply with Sections 5.106.12.1, 5.106.12.2. and 5.106.12.3. Percentages shown shall be measured at noon on the summer solstice. Landscape irrigation necessary to establish and maintain tree health shall comply with Section 5.304.6.

5.106.12.1 Surface parking areas. Shade tree plantings, minimum #10 container size or equal, shall be installed to provide shade over 50 percent of the parking area within 15 years.

Exceptions: The surface parking area covered by solar photovoltaic shade structures, or shade structures, with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5, are not included in the total area calculations.

5.106.12.2 Landscape areas. Shade tress plantings, minimum #10 container size or equal shall be installed to provide shade of 20% of the landscape area within 15 years.

Exceptions: Playfields for organized sport activity are not included in the total area calculation.

5.106.12.3. Hardscape areas. Shade tree plantings, minimum #10 container size or equal shall be installed to provide shade over 20 percent of the hardscape area within 15 years.

Exceptions: Walks, hardscape areas covered by solar photovoltaic shade structures, and hardscape areas covered by shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5, are not included in the total area calculation.

DIVISION 5.2 ENERGY EFFICIENCY

SECTION 5.201 GENERAL

5.201.1 Scope [BSC-CG]. California Energy Code [DSA-SS]. For the purposes of mandatory energy efficiency

standards in this code, the California Energy Commission will continue to adopt mandatory building standards. DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION

5.301.1 Scope. The provisions of this chapter shall establish the means of conserving water use indoors, outdoors

and in wastewater conveyance.

SECTION 5.302 DEFINITIONS **5.302.1 Definitions.** The following terms are defined in Chapter 2 (and are included here for reference)

EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETAF) [DSA-SS]. An adjustment factor when applied to reference evapotranspiration that adjusts for plant factors and irrigation efficiency, which ae two major influences on the amount of water that needs to be applied to the landscape.

FOOTPRINT AREA [DSA-SS]. The total area of the furthest exterior wall of the structure projected to natural grade, not including exterior areas such as stairs, covered walkways, patios and decks.

METERING FAUCET. A self-closing faucet that dispenses a specific volume of water for each actuation cycle. The volume or cycle duration can be fixed or adjustable.

GRAYWATER. Pursuant to Health and Safety Code Section 17922.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines and laundry tubs, but does not include waste water from kitchen sinks or

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). The California ordinance regulating landscape design, installation and maintenance practices that will ensure commercial, multifamily and other developer installed landscapes greater than 2500 square feet meet an irrigation water budget developed based on landscaped area and climatological parameters.

(California Code of Regulations, Title 23, Division 2, Chapter 2.7), regulating landscape design, installation and maintenance practices. Local agencies are required to adopt the updated MWELO, or adopt a local ordinance at least as effective as the MWELO.

POTABLE WATER. Water that is drinkable and meets the U.S. Environmental Protection Agency (EPA) Drinking

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). [HCD] The California model ordinance

POTABLE WATER. [HCD] Water that is satisfactory for drinking, culinary, and domestic puroses, and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards and the requirements of the Health Authority

controlled use that would not otherwise occur [Water Code Section 13050 (n)]. Simply put, recycled water is water treated to remove waste matter attaining a quality that is suitable to use the water again.

SUBMETER. A meter installed subordinate to a site meter. Usually used to measure water intended for one purpose,

RECYCLED WATER. Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a

such as landscape irrigation. For the purposes of CALGreen, a dedicated meter may be considered a submeter. WATER BUDGET. Is the estimated total landscape irrigation water use which shall not exceed the maximum applied water allowance calculated in accordance with the Department of Water Resources Model Efficient Landscape

SECTION 5.303 INDOOR WATER USE

two reduced flushes and one full flush.

not exceed 0.5 gallons per flush.

WaterSense Specification for Showerheads.

Water Standards. See definition in the California Plumbing Code, Part 5.

5.303.1 METERS. Separate submeters or metering devices shall be installed for the uses described in Sections

5.303.1.1 Buildings in excess of 50,000 square feet. Separate submeters shall be installed as follows: For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day (380 L/day), including, but not limited to, spaces used for laundry or cleaners,

restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.

- 2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s).
- c. Steam and hot water boilers with energy input more than 500,000 Btu/h (147 kW). 5.303.1.2 Excess consumption. A separate submeter or metering device shall be provided for any tenant within a new building or within an addition that is projected to consume more than 1,000 gal/day.

Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s).

5.303.3 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:

flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of

5.303.3.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per

5.303.3.2.1 Wall-mounted Urinals. The effective flush volume of wall-mounted urinals shall not exceed

5.303.3.3 Showerheads. [BSC-CG] 5.303.3.3.1 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

5.303.3.2.2 Floor-mounted Urinals. The effective flush volume of floor-mounted or other urinals shall

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

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

CONCEPTS ARCHITECTURE

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INTERIORSPLANNING



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OWNER REVIEW

/ U \ DATED 06/13/2022

REVISIONS

APN: 014-1249-011-03 APP: ZW2201671

DATE: 04/20/2023

CALIFORNIA GREEN BUILDING

STANDARD

SHEET NO.

REVISION 0

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2019 CALIFORNIA GREEN BUILDING STANDARDS CODE NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2020, Includes August 2019 Supplement)

5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing

5.410.4.5 Operation and maintenance (O & M) manual. Provide the building owner or representative with

detailed operating and maintenance instructions and copies of guaranties/warranties for each system. O & M

5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required

instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related

5.501.1 SCOPE. The provisions of this chapter shall outline means of reducing the quantity of air contaminants that

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

are odorous, irritating, and/or harmful to the comfort and well-being of a building's installers, occupants and neighbors.

ARTERIAL HIGHWAY. A general term denoting a highway primarily for through traffic usually on a continuous route.

using the internationally standardized A-weighting filter or as computed from sound spectral data to which A-weighting

1 BTU/HOUR. British thermal units per hour, also referred to as Btu. The amount of heat required to raise one pound

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL). A metric similar to the day-night average sound level (Ldn),

of water one degree Fahrenheit per hour, a common measure of heat transfer rate. A ton of refrigeration is 12,000 Btu.

A-WEIGHTED SOUND LEVEL (dBA). The sound pressure level in decibels as measured on a sound level meter

signed by the individual responsible for performing these services.

DIVISION 5.5 ENVIRONMENTAL QUALITY

the amount of heat required to melt a ton (2,000 pounds) of ice at 320 Fahrenheit.

to 10pm) in addition to the 10 dB nighttime adjustment used in the Ldn.

by the enforcing agency.

SECTION 5.501 GENERAL

adjustments have been made.

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except that a 5 decibel adjustment is added to the equivalent continuous sound exposure level for evening hours (7pm

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, timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of Regulations (CCR), Title 17, Section 93120.1(a).

Note: See CCR, Title 17, Section 93120.1.

DAY-NIGHT AVERAGE SOUND LEVEL (Ldn). The A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 dB adjustment added to sound levels occurring during nighttime hours (10p.m. to 7 a.m.).

DECIBEL (db). A measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power, sound intensity) with respect to a reference quantity.

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For purposes of the California Electrical Code, off-road, self-propoelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.

ELECTRIC VEHICLE CHARGING STATION(S) (EVCSj). One or more spaces intended for charging electric vehicles.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). The conductors, including the ungrounded, grounded, and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

ENERGY EQUIVALENT (NOISE) LEVEL (Leq). The level of a steady noise which would have the same energy as the fluctuating noise level integrated over the time of period of interest.

EXPRESSWAY. An arterial highway for through traffic which may have partial control of access, but which may or may not be divided or have grade separations at intersections.

FREEWAY. A divided arterial highway with full control of access and with grade separations at intersections.

GLOBAL WARMING POTENTIAL (GWP). The radiative forcing impact of one mass-based unit of a given greenhouse

gas relative to an equivalent unit of carbon dioxide over a given period of time. Carbon dioxide is the reference compound with a GWP of one.

GLOBAL WARMING POTENTIAL VALUE (GWP VALUE). A 100-year GWP value published by the Intergovernmental Panel on Climate Change (IPCC) in either its Second Assessment Report (SAR) (IPCC, 1995); or its Fourth Assessment A-3 Report (AR4) (IPCC, 2007). The SAR GWP values are found in column "SAR (100-yr)" of Table 2.14., the AR4 GWP values are found in column "100 yr" of Table 2.14.

HIGH-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that is; (a) a chlorofluorocarbon, a hdrochlorofluorocarbon, a hydrofluorocarbon, a perfluorocarbon, or any compound or blend of compounds, with a GWP value equal to or greater than 150, or (B) any ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009).

LONG RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.5 times the pipe diameter

LOW-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that: (A) has a GWP value less than 150, and (B) is not an ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009).

MERV. Filter minimum efficiency reporting value, based on ASHRAE 52.2-1999.

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base REactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundreths of a gram (g O³/g ROC).

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).

PSIG. Pounds per square inch, guage.

REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.

SCHRADER ACCESS VALVES. Access fittings with a valve core installed

SHORT RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.0 times the pipe diameter.

SUPERMARKET. For the purposes of Section 5.508.2, a supermarket is any retail food facility with 8,000 square feet or more conditioned area, and that utilizes either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units.

VOC. A volatile organic compound broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a)

Note: Where specific regulations are cited from different agencies such as SCAQMD, ARB, etc., the VOC definition

included in that specific regulation is the one that prevails for the specific measure in question.

SECTION 5.503 FIREPLACES

5.503.1 FIREPLACES. Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves, pellet stoves and fireplaces shall comply with applicable local ordinances.

5.503.1.1 Woodstoves. Woodstoves and pellet stoves shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified

SECTION 5.504 POLLUTANT CONTROL

5.504.1 TEMPORARY VENTILATION. The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992 Replace all filters immediately prior to occupancy, or, if the building is occupied during alteration, at the conclusion of construction.

5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site until final startup of the heating, cooling and ventilation

5.303.3.4.1 Nonresidential Lavatory faucets. Lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi. 5.407.2 MOISTURE CONTROL. Employ moisture control measures by the following methods.

5.407.2.2 Entries and openings. Design exterior entries and/or openings subject to foot traffic or wind-driven per minute at 60 psi. 5.303.3.4.3 Wash fountains. Wash fountains shall have a maximum flow rate of not more than 1.8

5.303.3.4.4 Metering faucets. Metering faucets shall not deliver more than 0.20 gallons per cycle.

5.303.3.4.2 Kitchen faucets. Kitchen faucets shall have a maximum flow rate of not more than 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

5.303.3.4.5 Metering faucets for wash fountains. Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per minute/20 [rim space (inches) at 60 psi].

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

5.303.4 COMMERCIAL KITCHEN EQUIPMENT.

gallons per minute/20 [rim space (inches) at 60 psi].

5.303.3.4 Faucets and fountains

5.303.4.1 Food Waste Disposers. Disposers shall either modulate the use of water to no more than 1 gpm when the disposer is not in use (not actively grinding food waste/no-load) or shall automatically shut off after no more than 10 minutes of inactivity. Disposers shall use no more than 8 gpm of water. Note: This code section does not affect local jurisdiction authority to prohibit or require disposer

5.303.5 AREAS OF ADDITION OR ALTERATION. For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 5.303.3 and 5.303.4 shall apply to new fixtures in additions or areas of alteration to the building.

5.303.6 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 and in Chapter 6 of this code.

SECTION 5.304 OUTDOOR WATER USE 5.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Nonresidential 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 of Regulations, Title 23, Chapter 2.7, Division 2.

2. MWELO and supporting documents, including a water budget calculator, are available at: https://www.water.ca.gov/. 5.304.6 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. For public schools and community colleges, landscape projects as described in Sections 5.304.6.1 and 5.304.6.2 shall comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter

2.7, Division 2, Title 23, California Code of Regulations, except that the evapotranspiration adjustment factor (ETAF)

shall be 0.65 with an additional water allowance for special landscape areas (SLA) of 0.35. Exception: Any project with an aggregate landscape area of 2,500 square feet or less may comply with the

prescriptive measures contained in Appendix D of the MWELO. **5.304.6.1 Newly constructed landscapes.** New construction projects with an aggregate landscape

5.304.6.2 Rehabilitated landscapes. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 1,200 square feet.

area equal to or greater than 500 square feet.

DIVISION 5.4 MATERIAL CONSERVATION AND RESOURCE **EFFICIENCY**

SECTION 5.401 GENERAL

5.401.1 SCOPE. The provisions of this chapter shall outline means of achieving material conservation and resource efficiency through protection of buildings from exterior moisture, construction waste diversion, employment of techniques to reduce pollution through recycling of materials, and building commissioning or testing and adjusting.

SECTION 5.402 DEFINITIONS

5.402.1 DEFINITIONS. The following terms are defined in Chapter 2 (and are included here for reference) ADJUST. To regulate fluid flow rate and air patterns at the terminal equipment, such as to reduce fan speed or adjust

BALANCE. To proportion flows within the distribution system, including sub-mains, branches and terminals,

according to design quantities. BUILDING COMMISSIONING. A systematic quality assurance process that spans the entire design and construction process, including verifying and documenting that building systems and components are planned, designed, installed,

tested, operated and maintained to meet the owner's project requirements. ORGANIC WASTE. Food waste, green waste, landscape and pruning wste, nonhazardous wood waste, and food soiled paper waste that is mixed in with food waste.

TEST. A procedure to determine quantitative performance of a system or equipment

SECTION 5.407 WATER RESISTANCE AND MOISTURE MANAGEMENT

5.407.1 WEATHER PROTECTION. Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1402.2 (Weather Protection), manufacturer's installation instructions or local

5.407.2.1 Sprinklers. Design and maintain landscape irrigation systems to prevent spray on structures

rain to prevent water intrusion into buildings as follows: **5.407.2.2.1 Exterior door protection.** Primary exterior entries shall be covered to prevent water

intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following:

1. An installed awning at least 4 feet in depth. 2. The door is protected by a roof overhang at least 4 feet in depth. . The door is recessed at least 4 feet.

4. Other methods which provide equivalent protection.

SECTION 5.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND

5.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65% of the non-hazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or

5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan that:

Identifies the construction and demolition waste materials to be diverted from disposal by efficient

usage, recycling, reuse on the project or salvage for future use or sale. 2. Determines if construction and demolition waste materials will be sorted on-site (source-separated) or

. Identifies diversion facilities where construction and demolition waste material collected will be taken.

5.408.1.2 Waste Management Company. Utilize a waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill

will be diverted by a waste management company.

facilities capable of compliance with this item do not exist.

3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities

not exceed two pounds per square foot of building area may be deemed to meet the 65% minimum requirement as approved by the enforcing agency.

compliance with Sections 5.408.1.1, through 5.408.1.3. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

5.408.2 UNIVERSAL WASTE. [A] Additions and alterations to a building or tenant space that meet the scoping provisions in Section 301.3 for nonresidential additions and alterations, shall require verification that Universal Waste items such as fluorescent lamps and ballast and mercury containing thermostats as well as other California prohibited

Note: Refer to the Universal Waste Rule link at:

materials shall be included in the construction documents.

Exception: Reuse, either on or off-site, of vegetation or soil contaminated by disease or pest infestation.

1. If contamination by disease or pest infestation is suspected, contact the County Agricultural Commissioner and follow its direction for recycling or disposal of the material.

2. For a map of know pest and/or disease quarantine zones, consult with the California Department of Food and Agriculture. (www.cdfa.ca.gov)

SECTION 5.410 BUILDING MAINTENANCE AND OPERATIONS

ordinance, if more restrictive. Code 42649.82 (a)(2)(A) et seq. shall also be exempt from the organic waste portion of this section.

5.410.1.1 Additions. All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30% or more in floor area, shall provide recycling areas on site.

Exception: Additions within a tenant space resulting in less than a 30% increase in the tenant space

Note: A sample ordinance for use by local agencies may be found in Appendix A of the document at the CalRecycle's web site.

5.407.2.2.2 Flashing. Install flashings integrated with a drainage plane.

meet a local construction and demolition waste management ordinance, whichever is more stringent.

bulk mixed (single stream).

Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

Note: The owner or contractor shall make the determination if the construction and demolition waste material

Exceptions to Sections 5.408.1.1 and 5.408.1.2:

. Excavated soil and land-clearing debris.

2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle

5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does

5.408.1.4 Documentation. Documentation shall be provided to the enforcing agency which demonstrates

1. Sample forms found in "A Guide to the California Green Building Standards Code (Nonresidential)" located at www.bsc.ca.gov/Home/CALGreen.aspx may be used to assist in documenting compliance

with the waste management plan. Resources Recycling and Recovery (CalRecycle).

Universal Waste materials are disposed of properly and are diverted from landfills. A list of prohibited Universal Waste

http://www.dtsc.ca.gov/LawsRegsPolicies/Regs/upload/OEAR-A_REGS_UWR_FinalText.pdf

5.408.3 EXCAVATED SOIL AND LAND CLEARING DEBRIS. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed.

5.410.1 RECYCLING BY OCCUPANTS. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources

5.410.1.2 Sample ordinance. Space allocation for recycling areas shall comply with Chapter 18, Part 3, Division 30 of the Public Resources Code. Chapter 18 is known as the California Solid Waste Reuse and Recycling Access Act of 1991 (Act).

completed within the systems manual and delivered to the building owner or representative. The systems manual shall include the following: Site information, including facility description, history and current requirements.

5.410.2.5.1 Systems manual. [N] Documentation of the operational aspects of the building shall be

Site contact information. 3. Basic operations and maintenance, including general site operating procedures, basic

5.410.2 COMMISSIONING. [N] New buildings 10,000 square feet and over. For new buildings 10,000 square feet

verify that the building systems and components meet the owner's or owner representative's project

requirements in Sections 5.410.2 through 5.410.2.6 shall apply.

Owner's or Owner representative's project requirements.

performance tests or to adjust and balance systems.

project begins. This documentation shall include the following:

Indoor environmental quality requirements.

Environmental and sustainability goals.

Equipment and systems expectations.

Renewable energy systems.

Landscape irrigation systems.

General project information.

Functions to be tested

commissioning shall be included.

Title 8, Section 5142, and other related regulations.

4. Commissioning team information.

Water reuse system.

Building sustainable goals.

cover the following systems:

must be performed in compliance with the California Energy Code.

Commissioning measures shown in the construction documents.

Commissioning requirements shall include:

Basis of design.

4. Commissioning plan.

Commissioning report.

Functional performance testing.

Unconditioned warehouses of any size.

provide heating and or air conditioning.

Documentation and training.

on projects of comparable size and complexity. For I-occupancies that are not regulated by OSHPD or for

I-occupancies and L-occupancies that are not regulated y the California Energy Code Section 100.0 Scope, all

Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating,

ventilation, air conditioning (HVAC) systems and controls, indoor lighting systems and controls, as well as water

2. Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within

4. Open parking garages of any size, or open parking garage areas, of any size, within a structure.

1. IAS AC 476 is an accreditation criteria for organizations providing training and/or certification of

Note: For the purposes of this section, unconditioned shall mean a building, area, or room which does not

commissioning personnel. AC 476 is available to the Authority Having Jurisdiction as a reference for

qualifications of commissioning personnel. AC 476 des not certify individuals to conduct functional

2. Functional performance testing for heating, ventilation, air conditioning systems and lighting controls

5.410.2.1 Owner's or Owner Representative's Project Requirements (OPR). [N] The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the

4. Project program, including facility functions and hours of operation, and need for after hours

5.410.2.2 Basis of Design (BOD). [N] A written explanation of how the design of the building systems meets

the OPR shall be completed at the design phase of the building project. The Basis of Design document shall

5.410.2.3 Commissioning plan. [N] Prior to permit issuance a commissioning plan shall be completed to

5. Commissioning process activities, schedules and responsibilities. Plans for the completion of

5.410.2.4 Functional performance testing. [N] Functional performance tests shall demonstrate the correct

installation and operation of each component, system and system-to-system interface in accordance with the

approved plans and specifications. Functional performance testing reports shall contain information addressing

each of the building components tested, the testing methods utilized, and include any readings and adjustments

5.410.2.5 Documentation and training. [N] A Systems Manual and Systems Operations Training are required,

including Occupational Safety and Health Act (OSHA) requirements in California Code of Regulations (CCR),

document how the project will be commissioned. The commissioning plan shall include the following:

3. Systems to be commissioned. Plans to test systems and components shall include:

Equipment and systems to be tested, including the extent of tests.

a. An explanation of the original design intent.

d. Conditions under which the test shall be performed.

Measurable criteria for acceptable performance.

6. Building occupant and operation and maintenance (O&M) personnel expectations.

3. Tenant improvements less than 10,000 square feet as described in Section 303.1.1.

heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements

and over, building commissioning shall be included in the design and construction processes of the building project to

requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience

troubleshooting, recommended maintenance requirements, site events log. Maior systems. Site equipment inventory and maintenance notes.

2. Review and demonstration of servicing/preventive maintenance.

Review of the information in the Systems Manual.

A copy of verifications required by the enforcing agency or this code. 7. Other resources and documentation, if applicable. **5.410.2.5.2 Systems operations training. [N]** A program for training of the appropriate maintenance

staff for each equipment type and/or system shall be developed and documented in the commissioning report and shall include the following: 1. System/equipment overview (what it is, what it does and with what other systems and/or equipment it interfaces).

Review of the record drawings on the system/equipment. 5.410.2.6 Commissioning report. [N] A report of commissioning process activities undertaken through the

design and construction phases of the building project shall be completed and provided to the owner or

5.410.4 TESTING AND ADJUSTING. New buildings less than 10,000 square feet. Testing and adjusting of systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or alteration subject to Section 303.1.

5.410.4.2 (Reserved)

Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting system and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements and Sections 120.5, 120.6, 130.4, and 140.9(b)3 for additional testing requirements of specific

5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be

Renewable energy systems.

Landscape irrigation systems.

Water reuse systems.

5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with manufacturer's specifications and applicable standards on each system.

included for testing and adjusting shall include at a minimum, as applicable to the project:

5.410.4.3.1 HVAC balancing. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, the system shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards; the National Environmental Balancing Bureau Procedural Standards; Associated Air Balance Council National Standards or as approved by the enforcing agency.

equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system. DISCLAIMER: THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED ON AN INDIVIDUAL NEEDS. THE END USER TO MEET THOSE INDIVIDUAL PROJECT BASIS AND MAY BE MODIFIED BY THE END USER ASSUMES ALL RESPONSIBILITY ASSOCIATED WITH THE LOSE OF THIS DOCUMENT, INCLUDING VERIFICATION WITH THE FULL CODE.

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OWNER REVIEW **/ Û** \ DATED 06/13/2022

APN: 014-1249-011-03 APP: ZW2201671

DATE: 04/20/2023

CALIFORNIA GREEN BUILDING STANDARD

SHEET NO.

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2020, Includes August 2019 Supplement)

RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER.

5.504.4 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with Sections 5.504.4.1 through

5.504.4.1 Adhesives, sealants and caulks. Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards: . Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in subsection 2, below.

2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing

Less Water and Less Exempt Compounds in Grams p	er Liter
ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVES	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT SPECIFICALLY LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168, www.arb.ca.gov/DRDB/SC/CURHTML/R1168.PDF

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

MEASURE THE VOC CONTENT SPECIFIED IN THESE TABLES, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36 and 4.37 of the 2007 California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

5.504.4.3.1 Aerosol Paints and coatings. Aerosol paints and coatings shall meet the PWMIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(c)(2) and (d)(2) of California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.

GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT	1
COATING CATEGORY	CURRENT VOC LIMIT
FLAT COATINGS	50
NONFLAT 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

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 AVAILABLE FROM THE AIR RESOURCES BOARD.

2. Field verification of on-site product containers

5.504.4.3.2 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following: . Manufacturer's product specification

5.504.4.4 Carpet Systems. All carpet installed in the building interior shall meet at least one of the testing and product requirements:

1. Carpet and Rug Institute's Green Label Plus Program. 2. Compliant with the VOC-emission limits and testing requirements specified in 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, February

2010 (also known as CDPH Standard Method V1.1 or Specification 01350). NSF/ANSI 140 at the Gold level or higher; 4. Scientific Certifications Systems Sustainable Choice; or 5. Compliant with the Collaborative for High Performance Schools California (2014 CA-CHPS) Criteria

listed in the CHPS High Performance Product Database. 5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the

requirements of the Carpet and Rug Institute Green Label program.

5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.

5.504.4.5 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 (ATCM) for Composite Wood (17 CCR 93120 et seq.). Those materials not exempted under the ATCM must meet the specified emission limits, as shown in

> 5.504.4.5.3 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:

Product certifications and specifications.

Table 5.504.4.5.

Chain of custody certifications. 3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).

4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S

Other methods acceptable to the enforcing agency.

TABLE 5.504.4.5 - FORMALDEHYDE LIMITS MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION **CURRENT LIMIT** 0.05 HARDWOOD PLYWOOD VENEER CORE HARDWOOD PLYWOOD COMPOSITE CORE 0.05 0.09 PARTICLE BOARD 0.11 MEDIUM DENSITY FIBERBOARD 0.13 THIN MEDIUM DENSITY FIBERBOARD2

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIFORNIA CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH

2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16 INCHES (8 MM).

5.504.4.6 Resilient flooring systems. For 80 percent of floor area receiving resilient flooring, installed resilient flooring shall meet at least one of the following:

1. Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program; 2. Compliant with the VOC-emission limits and testing requirements specified in the California

Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers, Version 1.1. February 2010: 3. Compliant with the Collaborative for High Performance Schools California (2014 CA-CHPS) Criteria

and listed in the CHPS High Performance Product Database; or 4. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools

5.504.4.6.1 Verification of compliance. Documentation shall be provided verifying that resilient flooring

materials meet the pollutant emission limits. 5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a Minimum Efficiency Reporting Value (MERV) of

13. MERV 13 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of

Exceptions: Existing mechanical equipment

5.504.5.3.1 Labeling. Installed filters shall be clearly labeled by the manufacturer indicating the MERV

the same value shall be included in the operation and maintenance manual.

5.504.7 ENVIRONMENTAL TOBACCO SMOKE (ETS) CONTROL. Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations or policies are not in place, post signage to inform building occupants of the prohibitions.

SECTION 5.505 INDOOR MOISTURE CONTROL

5.505.1 INDOOR MOISTURE CONTROL. Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1202 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures, see Section 5.407.2 of this code.

SECTION 5.506 INDOOR AIR QUALITY

5.506.1 OUTSIDE AIR DELIVERY. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements For Ventilation) of the California Energy Code, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8.

5.506.2 CARBON DIOXIDE (CO2) MONITORING. For buildings or additions equipped with demand control ventilation, CO2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, Section 120(c)(4).

SECTION 5.507 ENVIRONMENTAL COMFORT

5.507.4 ACOUSTICAL CONTROL. Employ building assemblies and components with Sound Transmission Class (STC) values determined in accordance with ASTM E 90 and ASTM E 413, or Outdoor-Indoor Sound Transmission Class (OITC) determined in accordance with ASTM E 1332, using either the prescriptive or performance method in Section 5.507.4.1 or 5.507.4.2.

Exception: Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.

Exception: [DSA-SS] For public schools and community colleges, the requirements of this section and all

5.507.4.1 Exterior noise transmission, prescriptive method. Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

Within the 65 CNEL noise contour of an airport.

spaces and public places shall have an STC of at least 40.

- 1. Ldn or CNEL for military airports shall be determined by the facility Air Installation Compatible
- 2. Ldn or CNEL for other airports and heliports for which a land use plan has not been developed
- shall be determined by the local general plan noise element.
- 2. Within the 65 CNEL or Ldn noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway source as determined by the Noise Element of the General Plan.

5.507.4.1.1. Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB L_{eq} - 1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).

5.507.4.2 Performance Method. For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas during any hour of operation.

5.507.4.2.1 Site Features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the building, addition or alteration project to mitigate sound migration to the interior.

5.507.4.2.2 Documentation of Compliance. An acoustical analysis documenting complying interior

sound levels shall be prepared by personnel approved by the architect or engineer of record. 5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant

Note: Examples of assemblies and their various STC ratings may be found at the California Office of Noise Control: www.toolbase.org/PDF/CaseStudies/stc_icc_ratings.pdf.

SECTION 5.508 OUTDOOR AIR QUALITY 5.508.1 Ozone depletion and greenhouse gas reductions. Installations of HVAC, refrigeration and fire suppression

equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.

5.508.1.1 Chlorofluorocarbons (CFCs). Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.

5.508.1.2 Halons. Install HVAC, refrigeration and fire suppression equipment that do not contain Halons.

5.508.2 Supermarket refrigerant leak reduction. New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 square feet or more conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming potential (high-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities.

Exception: Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO₂), and potentially other refrigerants.

5.508.2.1 Refrigerant piping. Piping compliant with the California Mechanical Code shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than 1/4 inch, flared tubing connections and short radius elbows shall not be used in refrigerant systems except as noted below.

keep vibration levels below 8 mils.

5.508.2.1.1 Threaded pipe. Threaded connections are permitted at the compressor rack. **5.508.2.1.2 Copper pipe.** Copper tubing with an OD less than 1/4 inch may be used in systems with a

refrigerant charge of 5 pounds or less. 5.508.2.1.2.1 Anchorage. One-fouth-inch OD tubing shall be securely clamped to a rigid base to

5.508.2.1.3 Flared tubing connections. Double-flared tubing connections may be used for pressure

controls, valve pilot lines and oil.

Exception: Single-flared tubing connections may be used with a multiring seal coated with industrial sealant suitable for use with refrigerants and tightened in accordance with manufacturer's

5.508.2.1.4 Elbows. Short radius elbows are only permitted where space limitations prohibit use of long radius elbows.

5.508.2.2 Valves. Valves Valves and fittings shall comply with the California Mechanical Code and as 5.508.2.2.1 Pressure relief valves. For vessels containing high-GWP refrigerant, a rupture disc shall

be installed between the outlet of the vessel and the inlet of the pressure relief valve. **5.508.2.2.1.1 Pressure detection.** A pressure gauge, pressure transducer or other device shall

be installed in the space between the rupture disc and the relief valve inlet to indicate a disc

rupture or discharge of the relief valve. 5.508.2.2.2 Access valves. Only Schrader access valves with a brass or steel body are

5.508.2.2.2.1 Valve caps. For systems with a refrigerant charge of 5 pounds or more, valve caps shall be brass or steel and not plastic

5.508.2.2.2 Seal caps. If designed for it, the cap shall have a neoprene O-ring in place. 5.508.2.2.2.1 Chain tethers. Chain tethers to fit ovr the stem are required for valves designed to have seal caps.

Exception: Valves with seal caps that are not removed from the valve during stem

5.508.2.3 Refrigerated service cases. Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils of corrosion-resistant material, such as stainless steel; or be coated to prevent

5.508.2.3.1 Coil coating. Consideration shall be given to the heat transfer efficiency of coil coating to maximize energy efficiency.

5.508.2.4 Refrigerant receivers. Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device tha indicates the level of refrigerant in the receiver.

5.508.2.5 Pressure testing. The system shall be pressure tested during installation prior to evacuation and

5.508.2.5.1 Minimum pressure. The system shall be charged with regulated dry nitrogen and appropriate tracer gas to bring system pressure up to 300 psig minimum.

5.508.2.5.2 Leaks. Check the system for leaks, repair any leaks, and retest for pressure using the same

5.508.2.5.3 Allowable pressure change. The system shall stand, unaltered, for 24 hours with no more

than a +/- one pound pressure change from 300 psig, measured with the same gauge.

5.508.2.6 Evacuation. The system shall be evacuated after pressure testing and prior to charging. 5.508.2.6.1 First vacuum. Pull a system vacuum down to at least 1000 microns (+/- 50 microns), and

5.508.2.6.2 Second vacuum. Pull a second system vacuum to a minimum of 500 microns and hold for 30

5.508.2.6.3 Third vacuum. Pull a third vacuum down to a minimum of 300 microns, and hold for 24 hours with a maximum drift of 100 microns over a 24-hour period.

INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS

702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

- . State certified apprenticeship programs.
- Public utility training programs. 3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.
- 4. Programs sponsored by manufacturing organizations. Other programs acceptable to the enforcing agency.

702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

- Certification by a national or regional green building program or standard publisher. 2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors.
- 3. Successful completion of a third party apprentice training program in the appropriate trade. Other programs acceptable to the enforcing agency.

1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code. 2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).

[BSC-CG] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification 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 materials or the project they are inspecting for compliance with this code.

703 VERIFICATIONS

703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

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OWNER REVIEW **O**\ DATED 06/13/2022

APN: 014-1249-011-03 APP: ZW2201671

REVISIONS

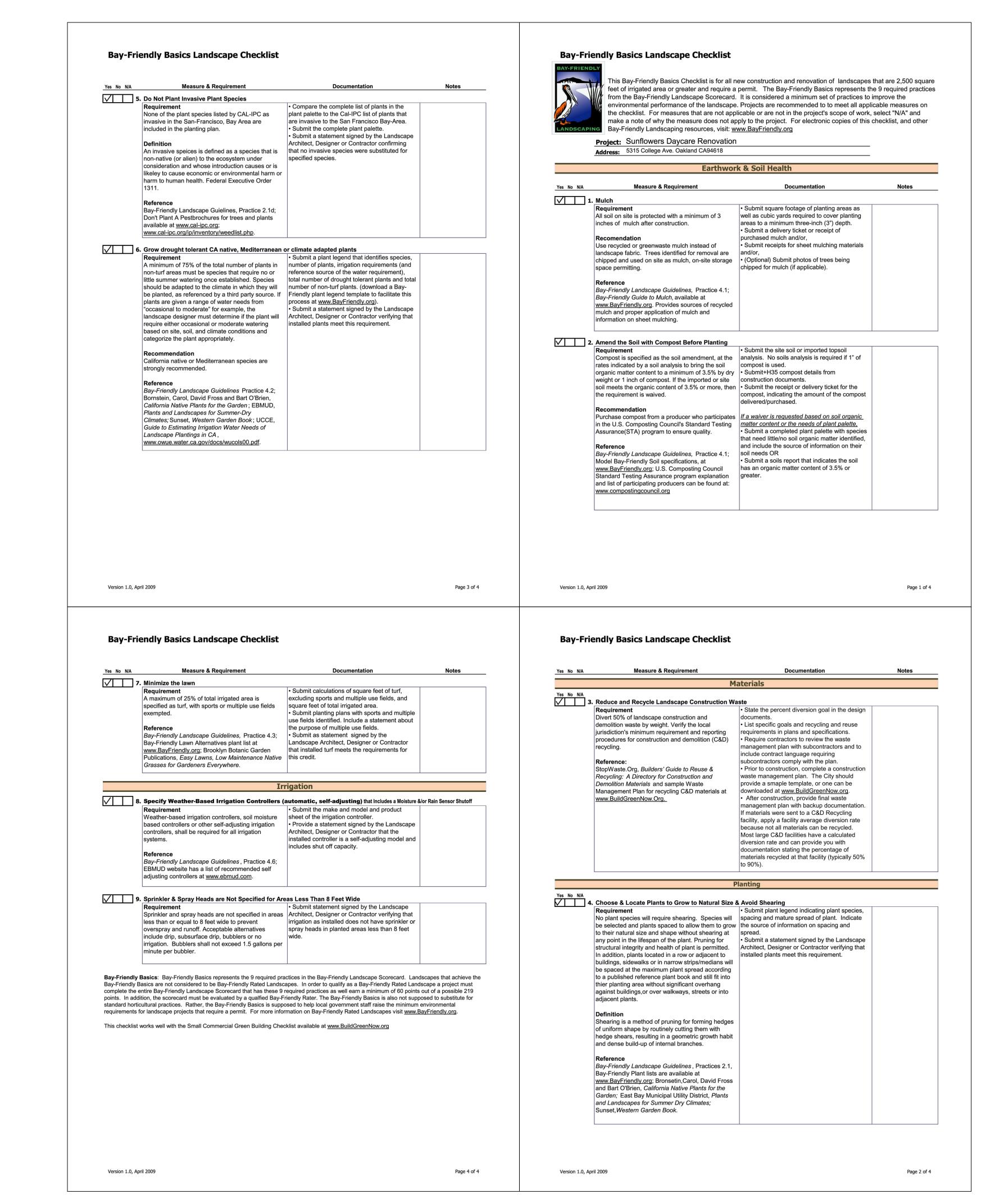
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CALIFORNIA BUILDING STANDARD

SHEET NO.

REVISION 0

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CONSULTANT

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OWNER REVIEW

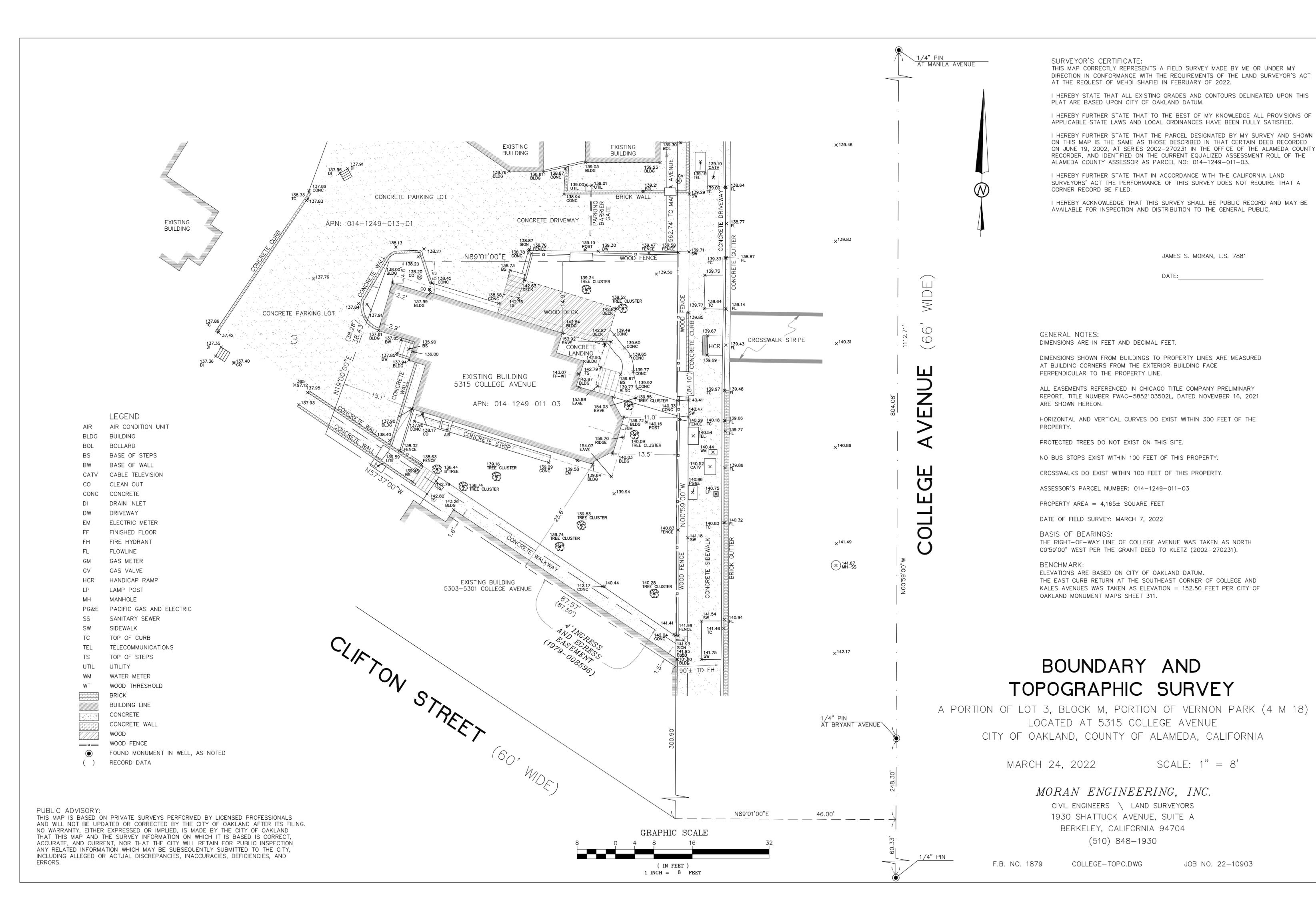
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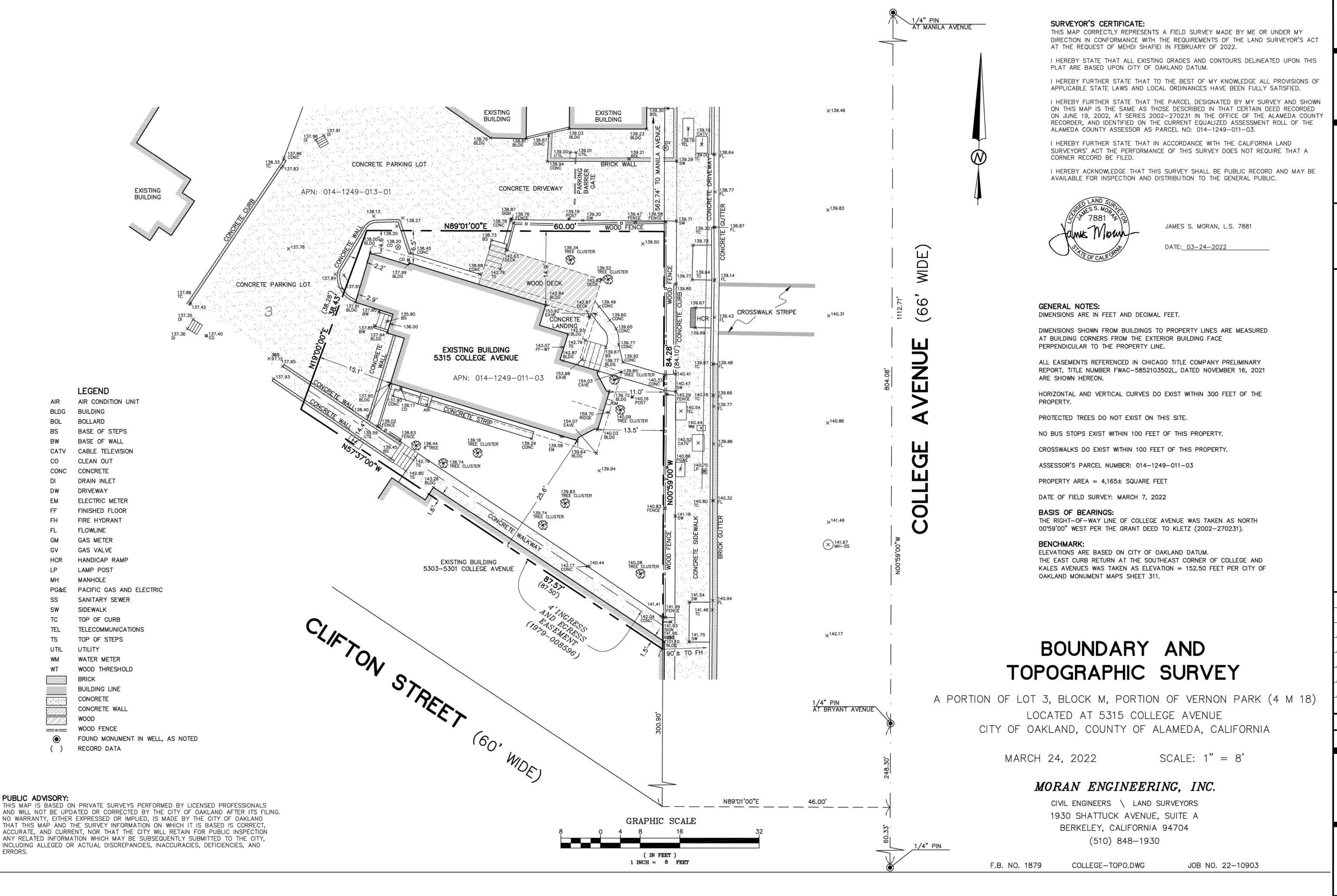
APP: ZW2201671

DATE: 04/20/2023

CALIFORNIA GREEN BUILDING **STANDARD** CODES SHEET NO.

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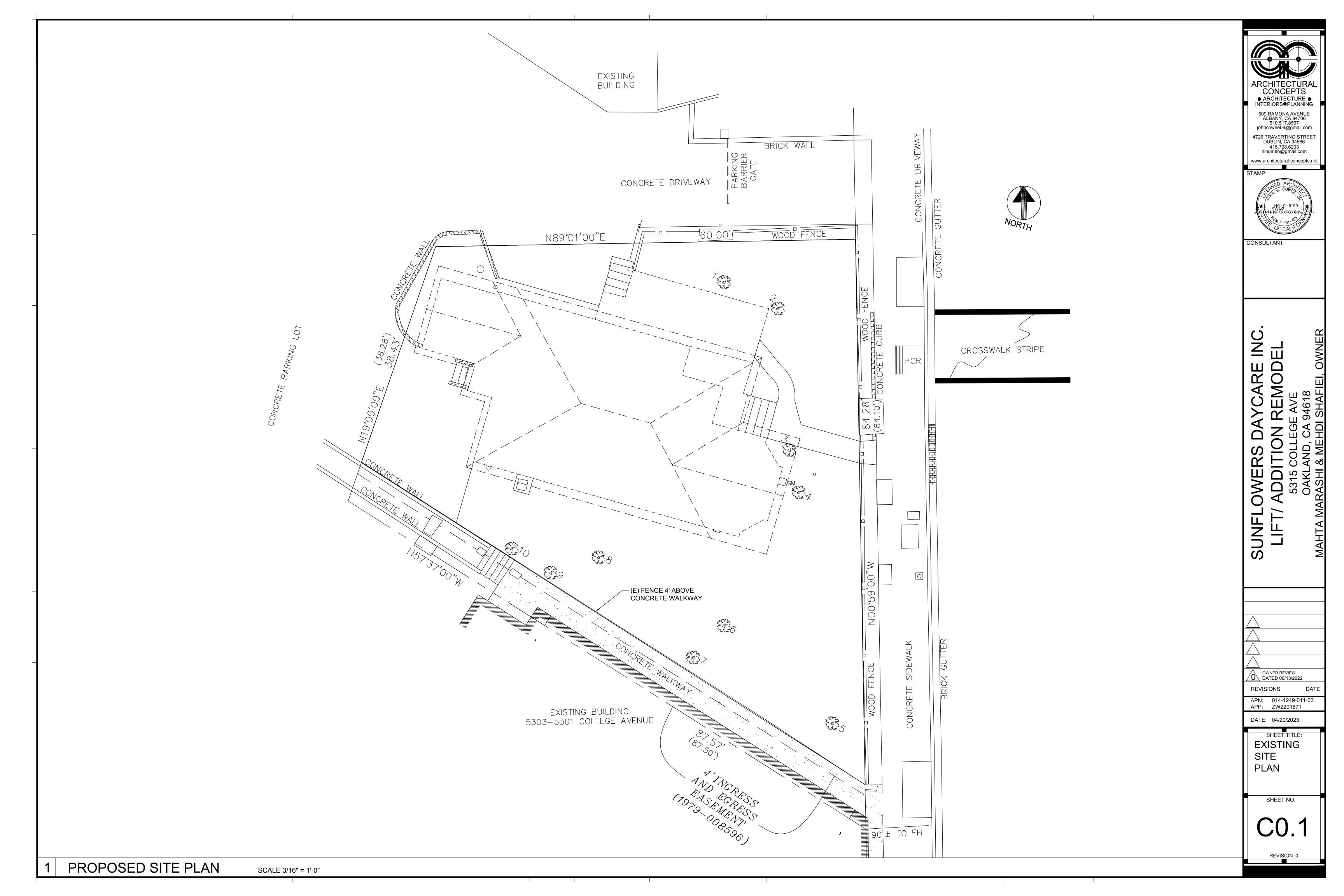
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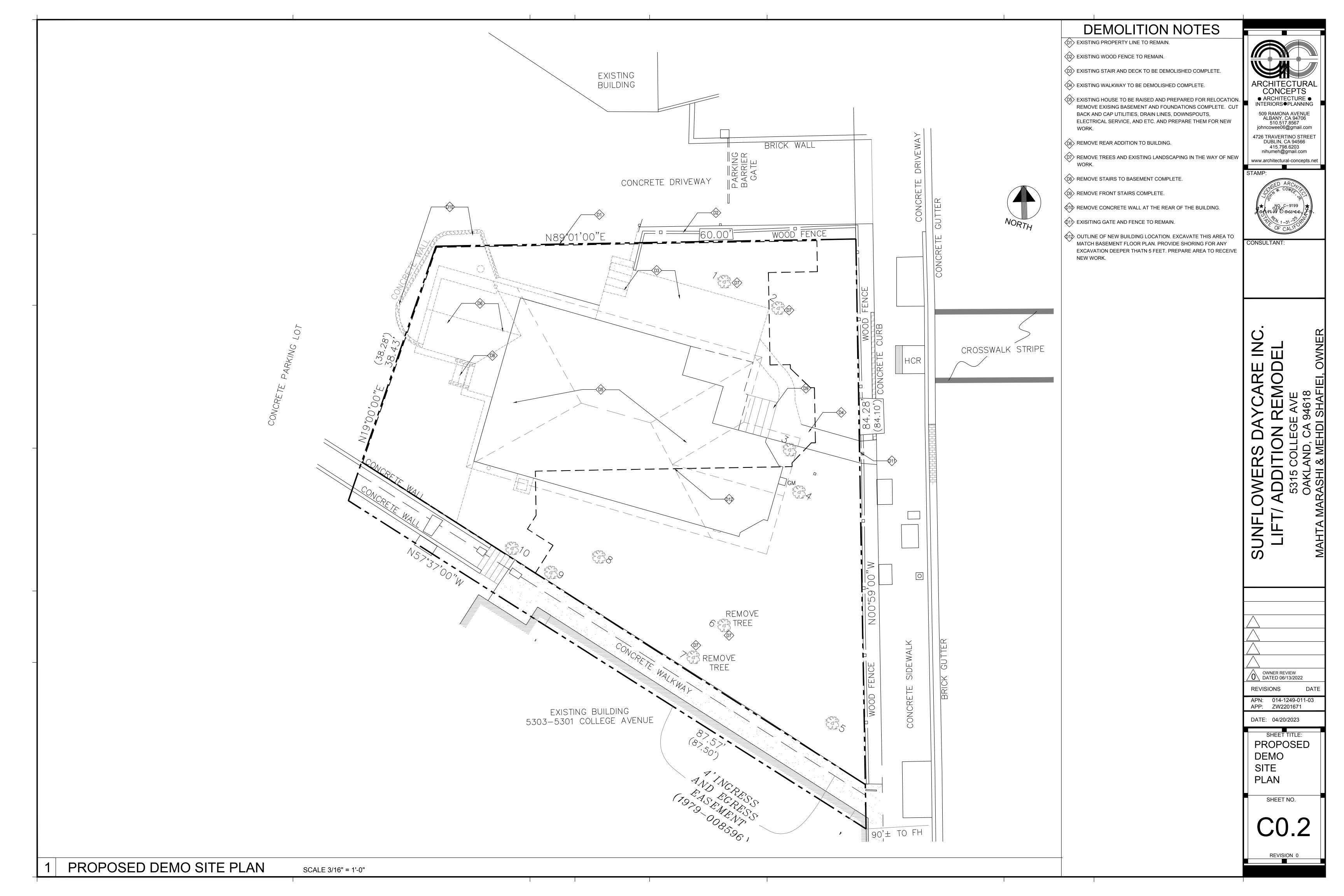
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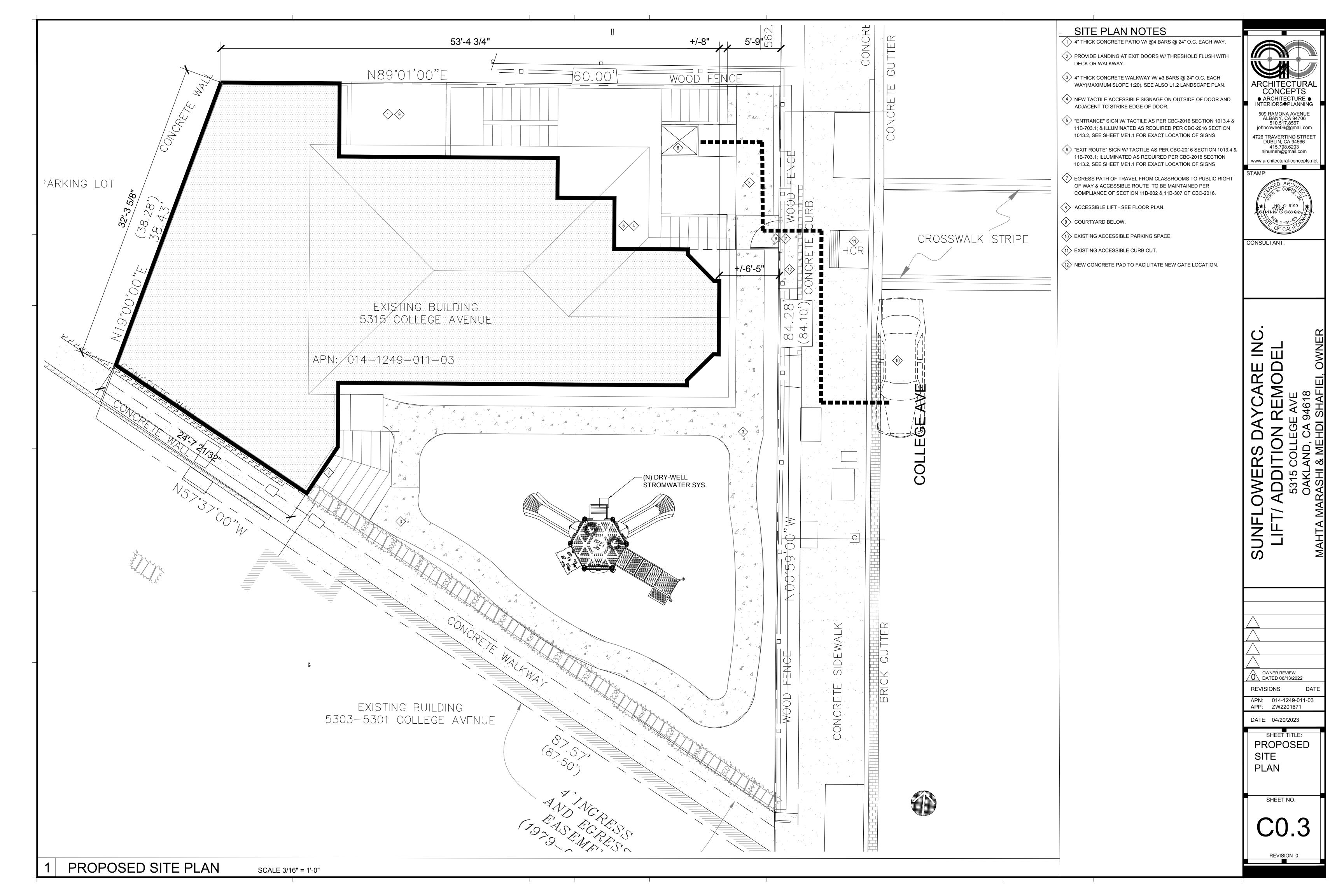
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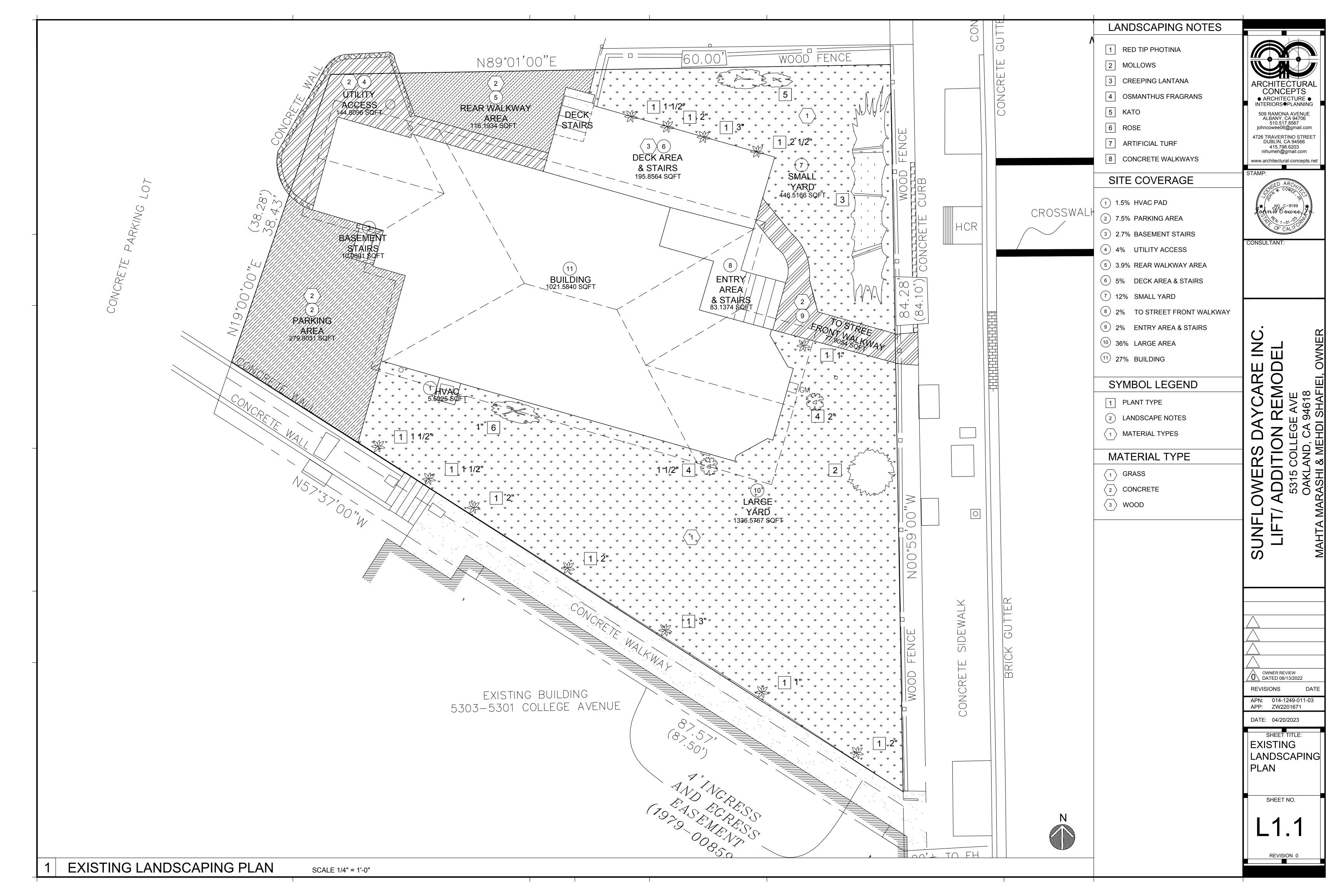
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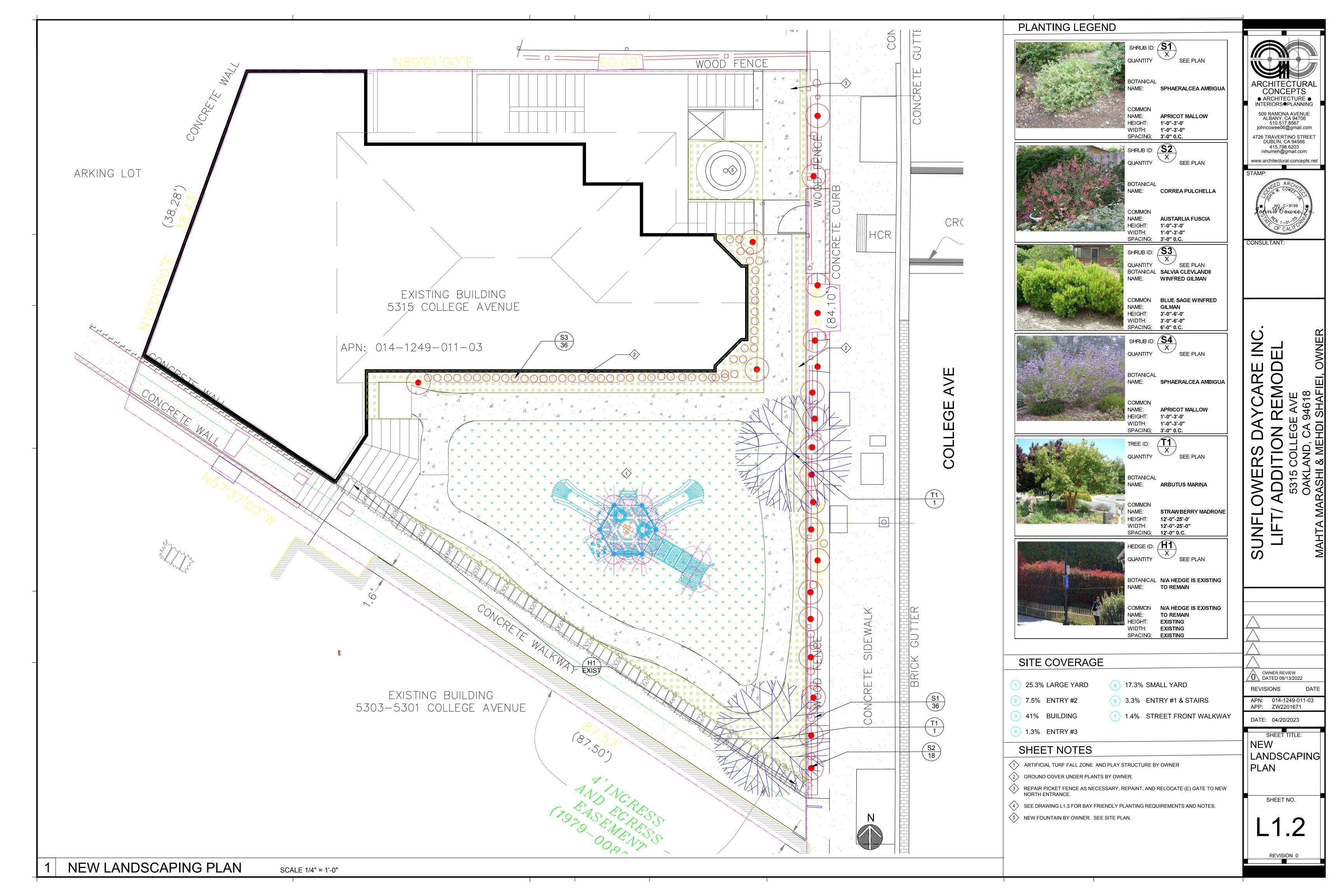
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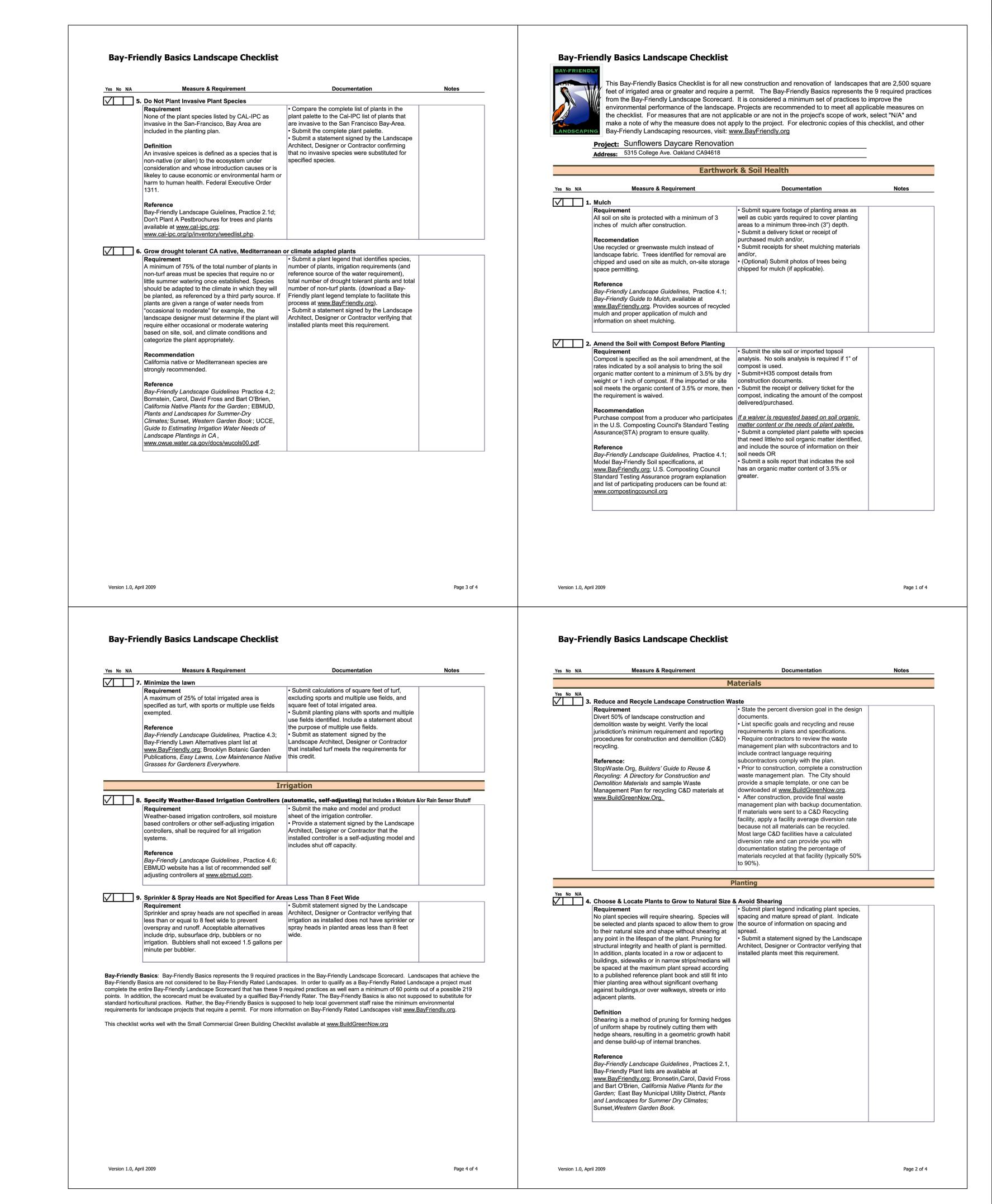












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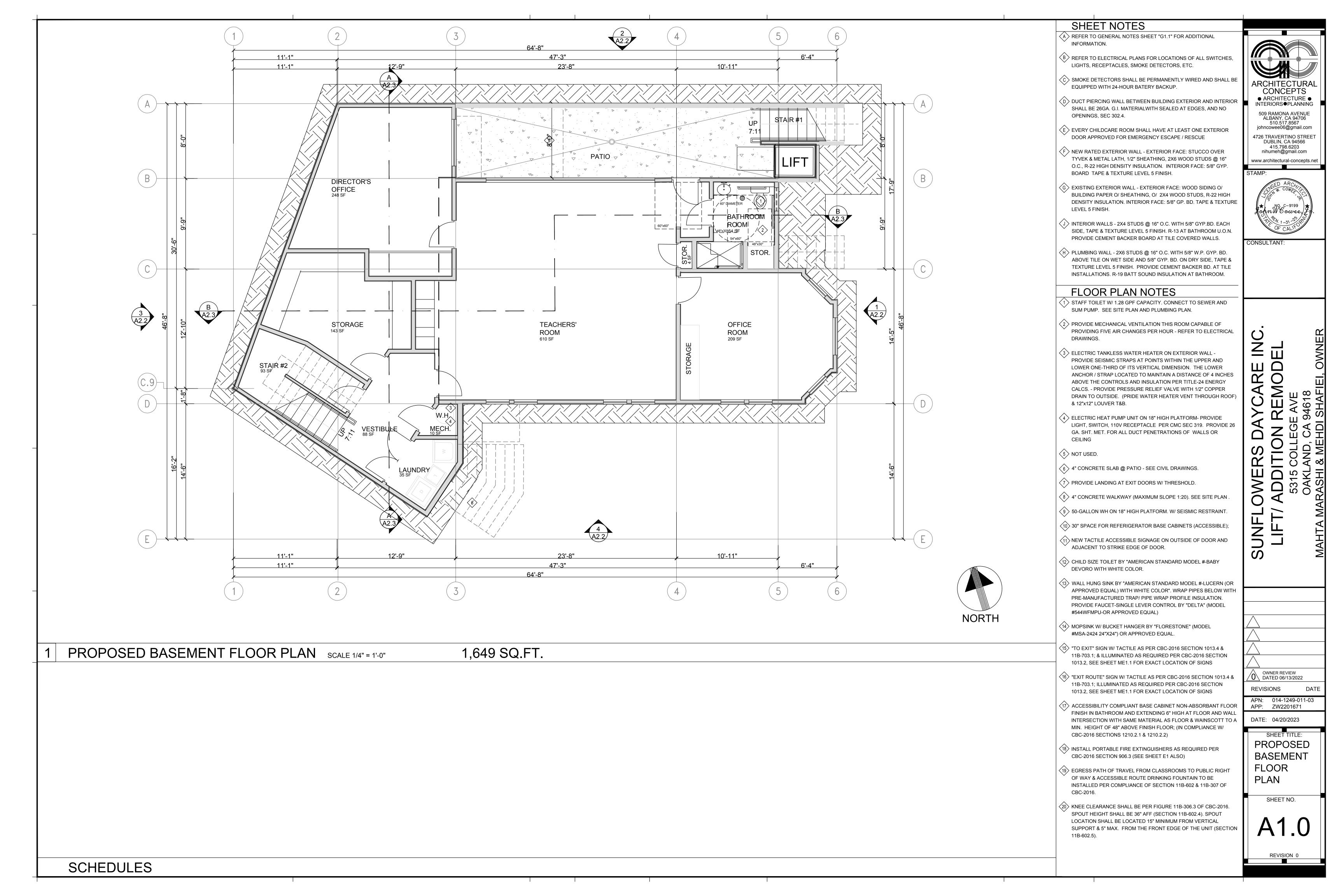
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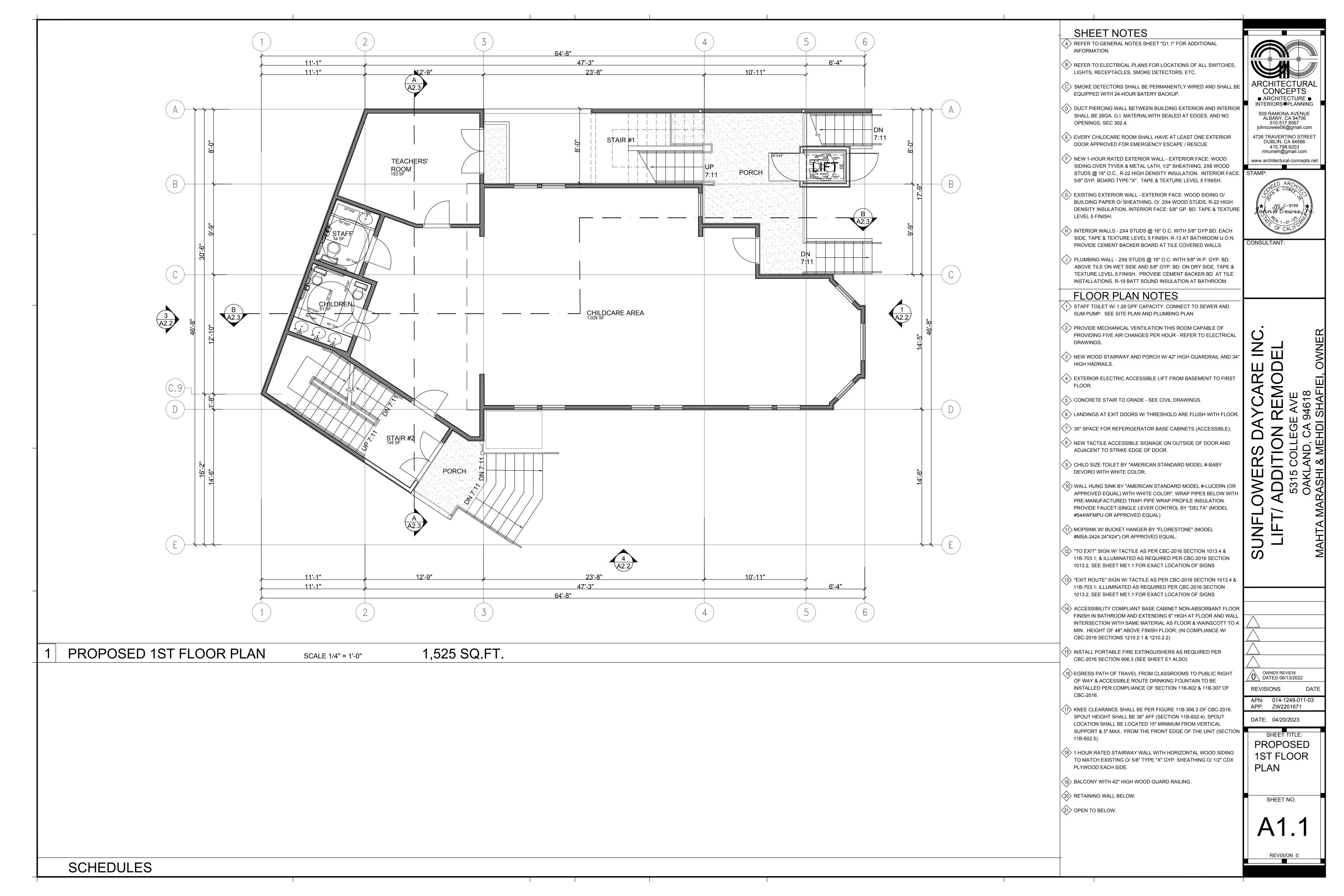
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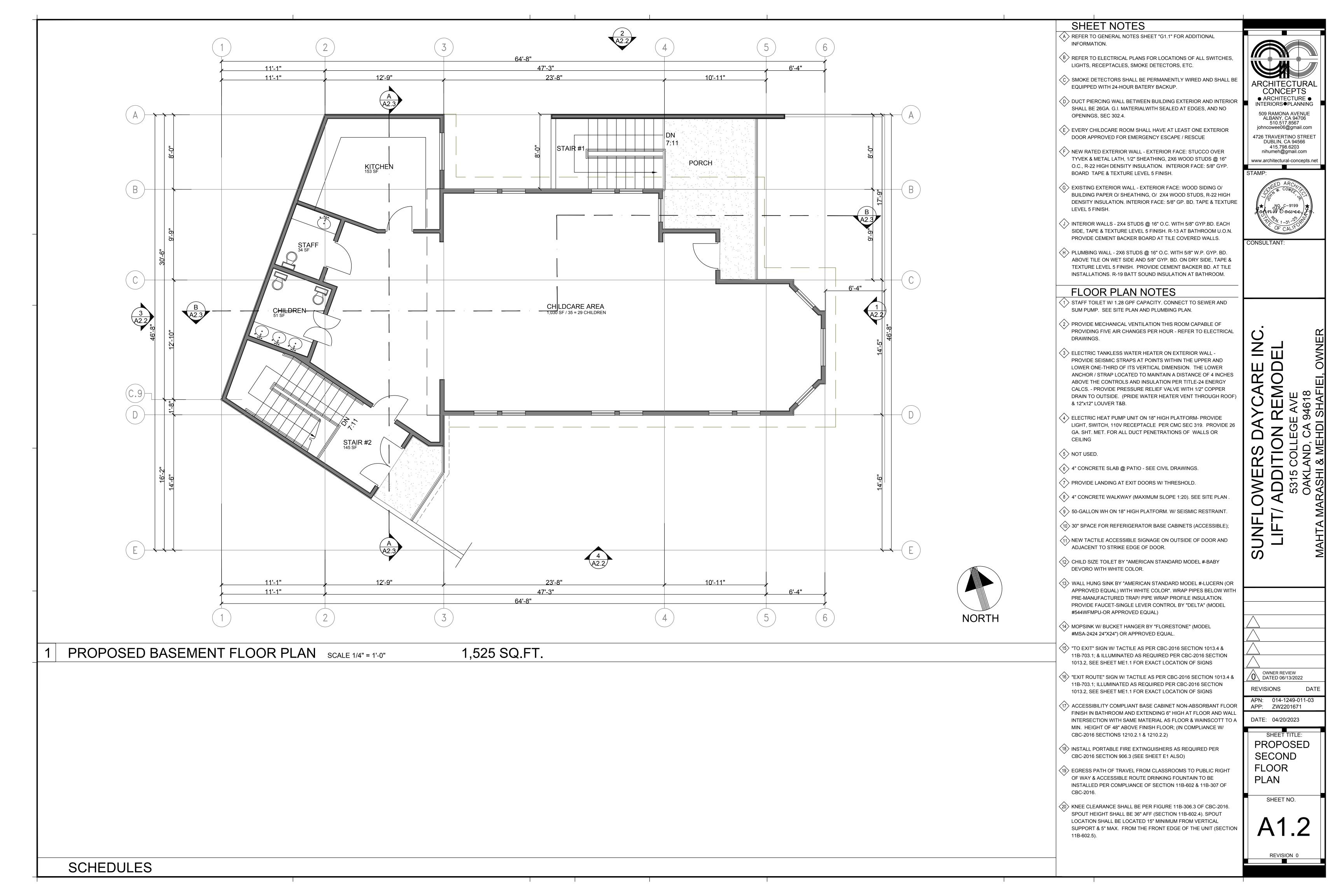
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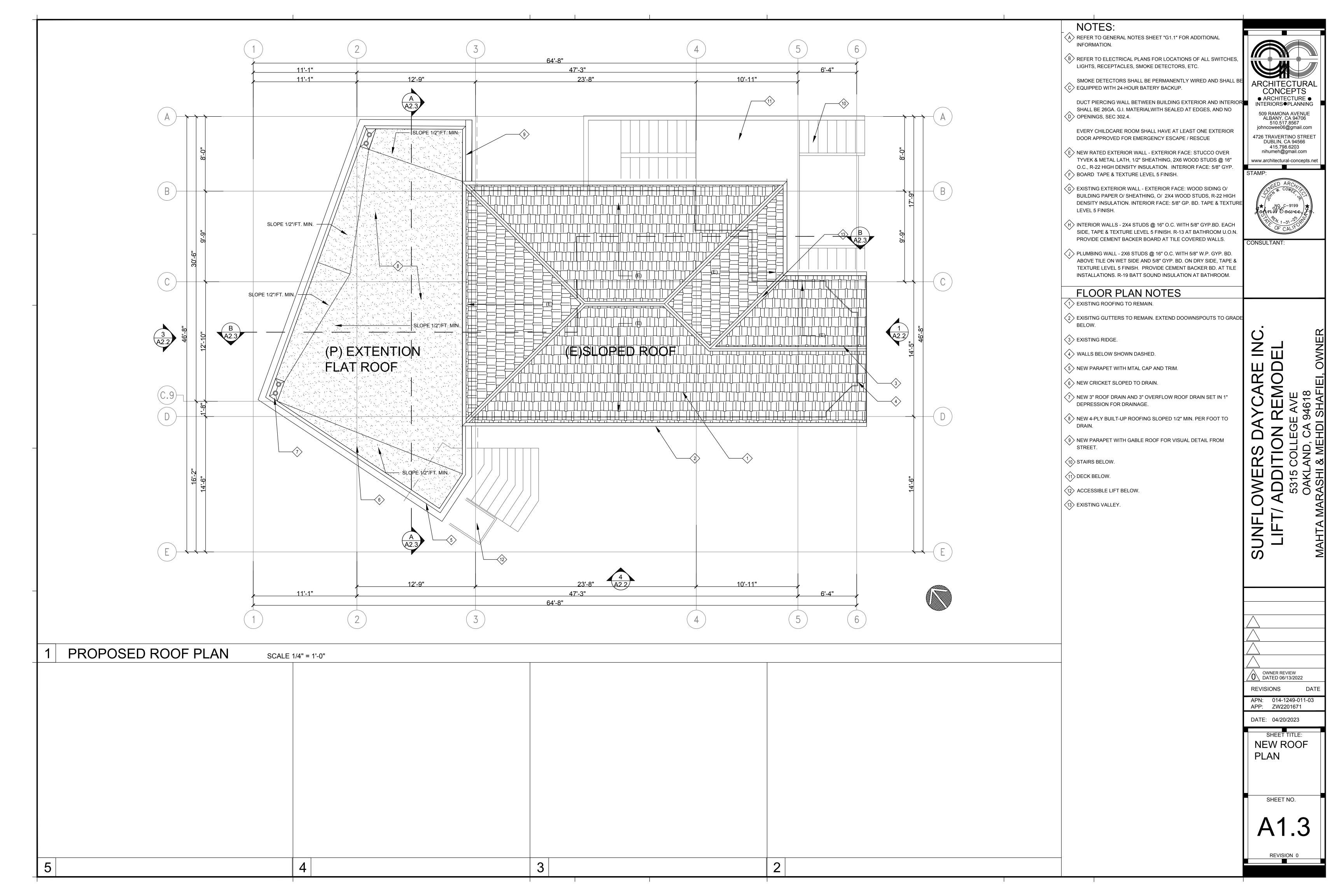
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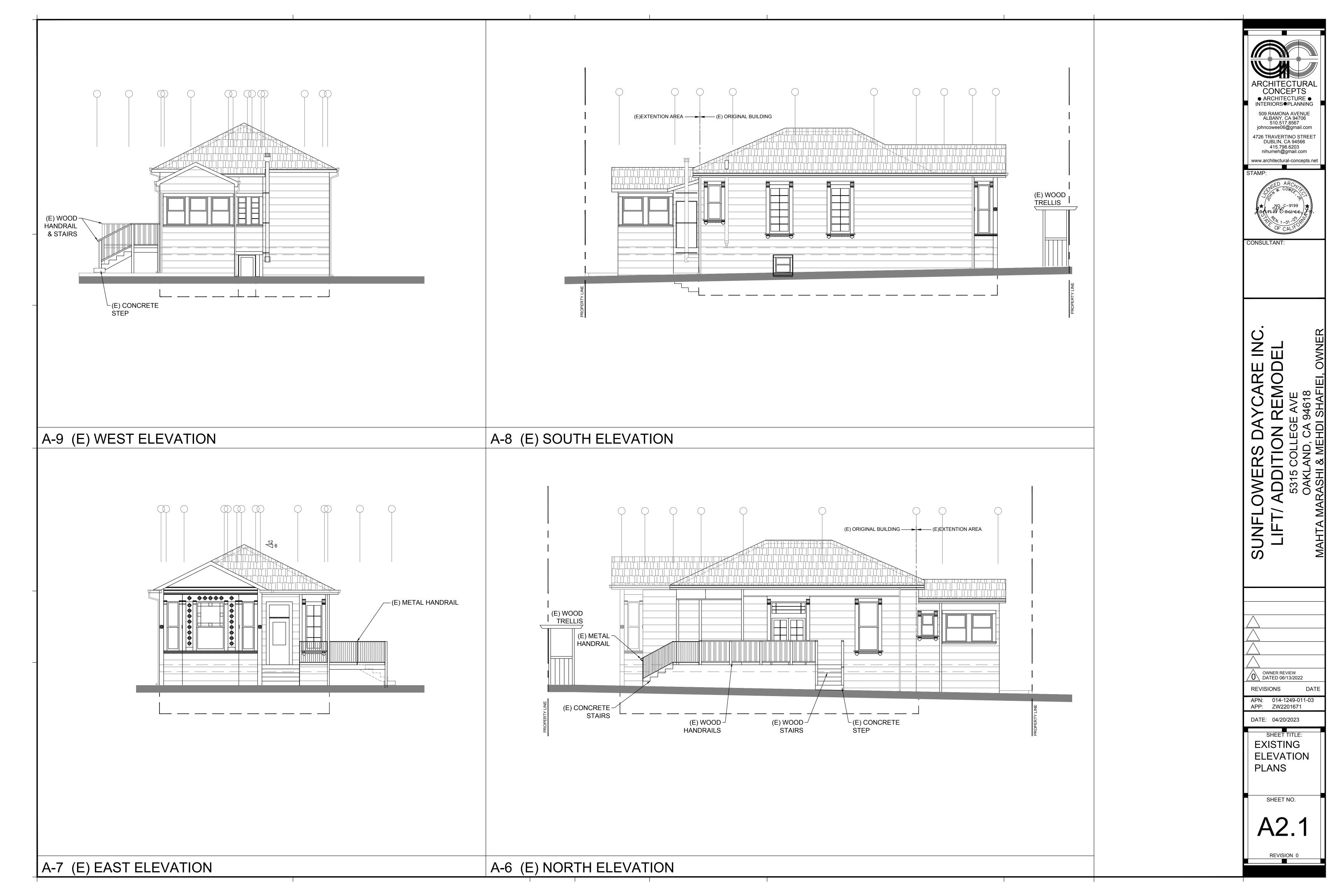
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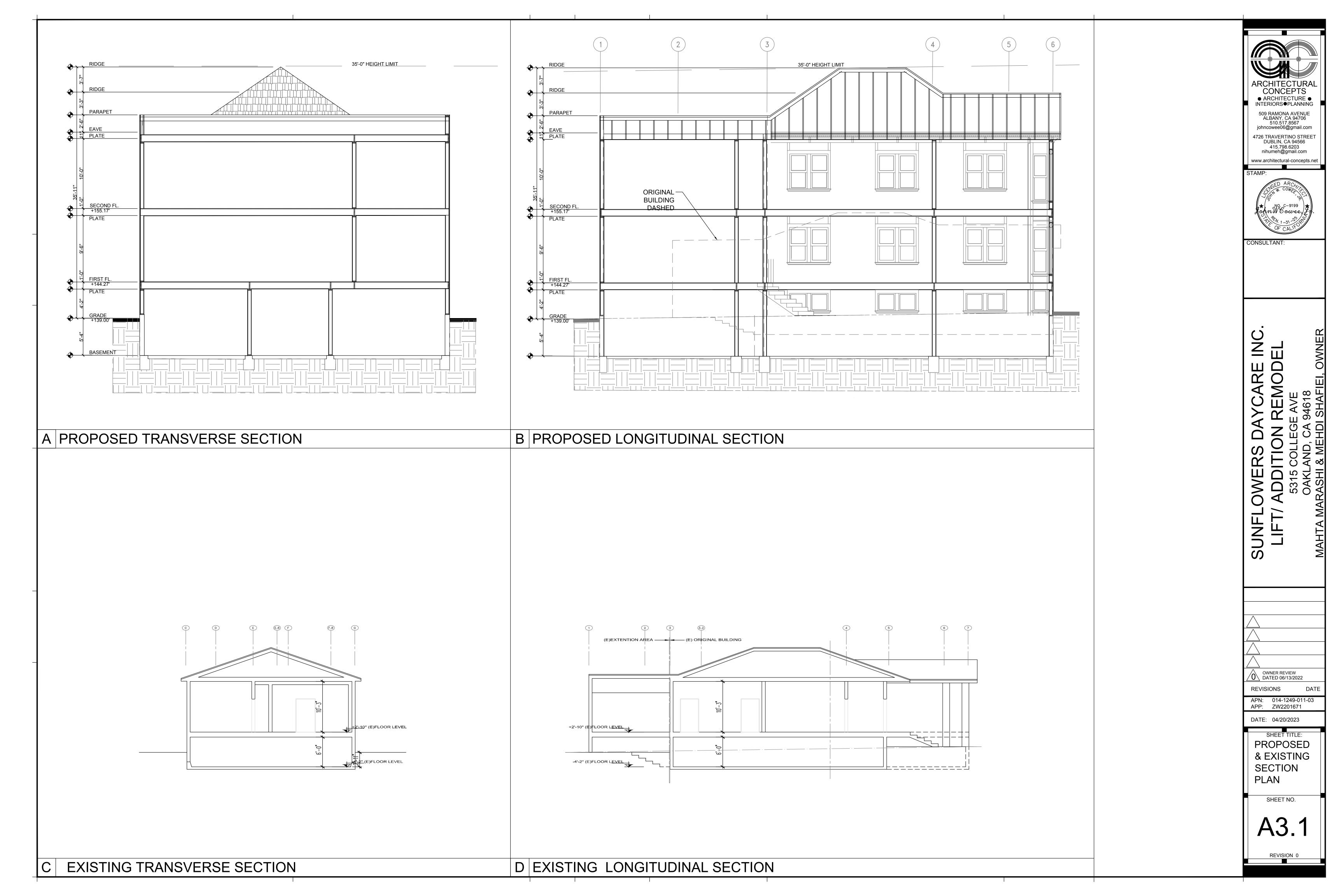












APPENDIX B

Scope of Work

SCOPE OF WORK FOR THE PROPOSED DAYCARE DEVELOPMENT at 5315 COLLEGE AVENUE, OAKLAND, CALIFORNIA

Project Understanding

The existing site is a single parcel with identification as Alameda County Assessor Parcel Number (APN) 014-1249-011-03, with an approximate lot area of 3,734 sq. ft., an approximate building area of 987 sq. ft., and zoning type of Neighborhood Commercial as CN-1¹. The existing structure has two levels: a ground floor and a basement.

The owner is proposing to expand the existing building at 5315 College Avenue and convert its use from office to a daycare facility. The proposed structure will expand the basement and the first floors and add a second floor with a total area of 4,699 sq. ft. that includes Children Care Area of 1,029 sq. ft. and 1,030 sq. ft. on the 1st and 2nd floors respectively. There will be no off-street parking provided.

The scope of work statement provides the steps that consulting team will take to satisfy all the City's requirements for the daycare development including a drop-off and pickup plan to propose mitigations (if needed) to prevent any negative impacts on the traffic flow at College Avenue. The scope of work is based on the City's Transportation Impact Review Guidelines (TIRG).

California Environmental Quality Act (CEQA) Approach

The CEQA Guidelines on Evaluating Transportation Impacts direct lead agencies to evaluate projects' transportation impacts based on Vehicle Miles Traveled (VMT).

The City of Oakland's TIRG requires an evaluation of potential impacts related to VMT criteria in CEQA transportation studies of the proposed development. The purpose of this evaluation is to ensure that the potential impacts of the proposed development are captured in the transportation network.

A CEQA evaluation section will be provided that includes the City's thresholds of significance, describes the methodology and results of the VMT screening assessment, and project-specific evaluation.

Trip Generation

The Institute of Transportation Engineers [ITE] produces a document entitled Trip Generation report (10th Edition), which will be used to predict the number of trips associated with the new development.

ITE trip generation land use code number 565, Day Care Center rates will be utilized to estimate the number of peak-hour trips that would be generated by the proposed

¹ http://gisapps1.mapoakland.com/planmap/planmap.html?apn=014%20124901103

development.

Pick-up & Drop-off Plan

The drop-off time will be between 8 a.m. and 10 a.m. and the pickup time will be between 4 p.m. and 6 p.m.

The traffic study will examine vehicular and pedestrian circulation around the site and parking options for drop-off/pick-up plans. The plans will present drop-off and pick-up options to improve overall traffic flow and reduce congestion if needed.

Proposed tasks

The traffic study will include the project description, study area description, and a trip generation letter that addresses all the TIRG requirements. The proposed study will document the following:

Task 1: Start-up

- Kick-off Meeting: To discuss the project requirements and the anticipated CEQA process and provide a schedule for the completion of the report.
- Project Description: The project description will include all elements identified in the TIRG.
- Study Area Description: The report will provide a brief but complete description of existing transportation infrastructure and conditions in the vicinity of the project.

Task 2: VMT Screening Criteria

 There are three key screening criteria for land use development projects: small size, project location in a low-VMT area, and project location near transit stations.
 We will evaluate screening criteria relevant to the site and conclude our understanding.

Task 3: CEQA Requirements Evaluation

 This task will describe the evaluation criteria for the CEQA requirements and present our understanding and assumptions.

Task 4: Trip Generation

- Trip Generation: The report will analyze the multi-modal trips generated by the
 project and calculate how many auto trips will be distributed through the
 transportation network and require parking to drop off and pick up children
 attending the daycare.
- Pickup and Drop-off Plan: The plan will be provided to demonstrate the number of vehicles, pedestrians, and bicycles arriving and departing the daycare during peak times. The plan will provide mitigation to minimize any adverse impact on

the capacity of the existing traffic network circulation on College Avenue.

Task 5: Parking and Transit Availability

- Parking availability: Study the number of available parking spaces and the demand for those spaces during peak hours.
- Public transit routes: Evaluate the routes taken by public transit to drop off and pick up to/from the daycare.

The CITY OF OAKLAND, APPLICANT, and CONSULTANT have agreed to and accepted the above Scope of Work.

CITY OF OAKLAND PLANNING AND BUILDING DEPARTMENT	

APPENDIX C

ITE Trip Generation Output

Trip Generation Summary

Alternative: Alternative 1

Phase: Open Date: 7/20/2023

Project: New Project Analysis Date: 7/20/2023

ITE Land Use	Weekday AM Peak Hour of Generator				Weekday PM Peak Hour of Generator				Weekday			
	*	Enter	Exit	Total	*	Enter	Exit	Total	*	Enter	Exit	Total
565 DAYCARE 1		19	17	36		17	19	36		73	72	145
3.05 1000 Sq. Ft. GFA												
Unadjusted Volume		19	17	36		17	19	36		73	72	145
Internal Capture Trips		0	0	0		0	0	0		0	0	0
Pass-By Trips		0	0	0		0	0	0		0	0	0
Volume Added to Adjacent Streets		19	17	36		17	19	36		73	72	145

Total Weekday AM Peak Hour of Generator Internal Capture = 0 Percent

Total Weekday PM Peak Hour of Generator Internal Capture = 0 Percent

Total Weekday Internal Capture = 0 Percent

^{* -} Custom rate used for selected time period.