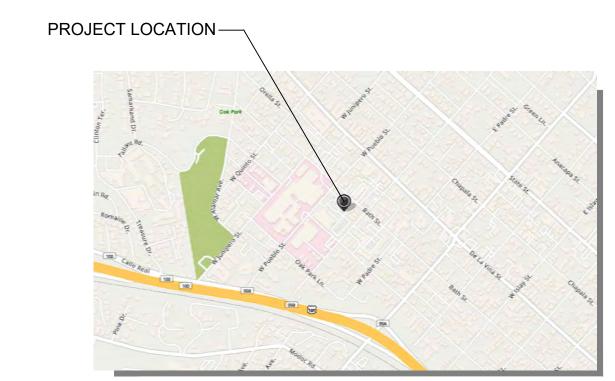


NOTE: OFF-SITE PARKING IS LOCATED AT 325 WEST LOS OLIVOS STREET

## SANSUM DIABETES RESEARCH INSTITUTE

2219 BATH STREET SANTA BARBARA, CALIFORNIA **VICINITY MAP** 



114 East De La Guerra Street No. 5A Santa Barbara, CA 93101 805.886.9484 kristin@onestoryarchitect.com

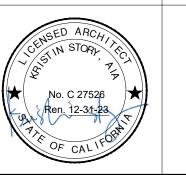
> se studio engineers inc. structural consultants 1108 De La Vina Street, Suite A Santa Barbara, Ca 93101 p: 805.962.2780 f: 805.962.2768 w: www.studioengineersinc.com



Santa Barbara, CA 9310 Tel (805) 957-4632

Alan Noelle Engineering 1616 Anacapa Street Santa Barbara, CA

phone: 805.563.5444 fax: 805.456.5901 alan@aneng.com Electrical Engineering Lighting Design



AGENCY APPROVAL: CITY OF SANTA BARBARA. PLANNING #: PLN2023-00327

MILESTONE DATES: 9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

REVISIONS:

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PROJECT TITLE:

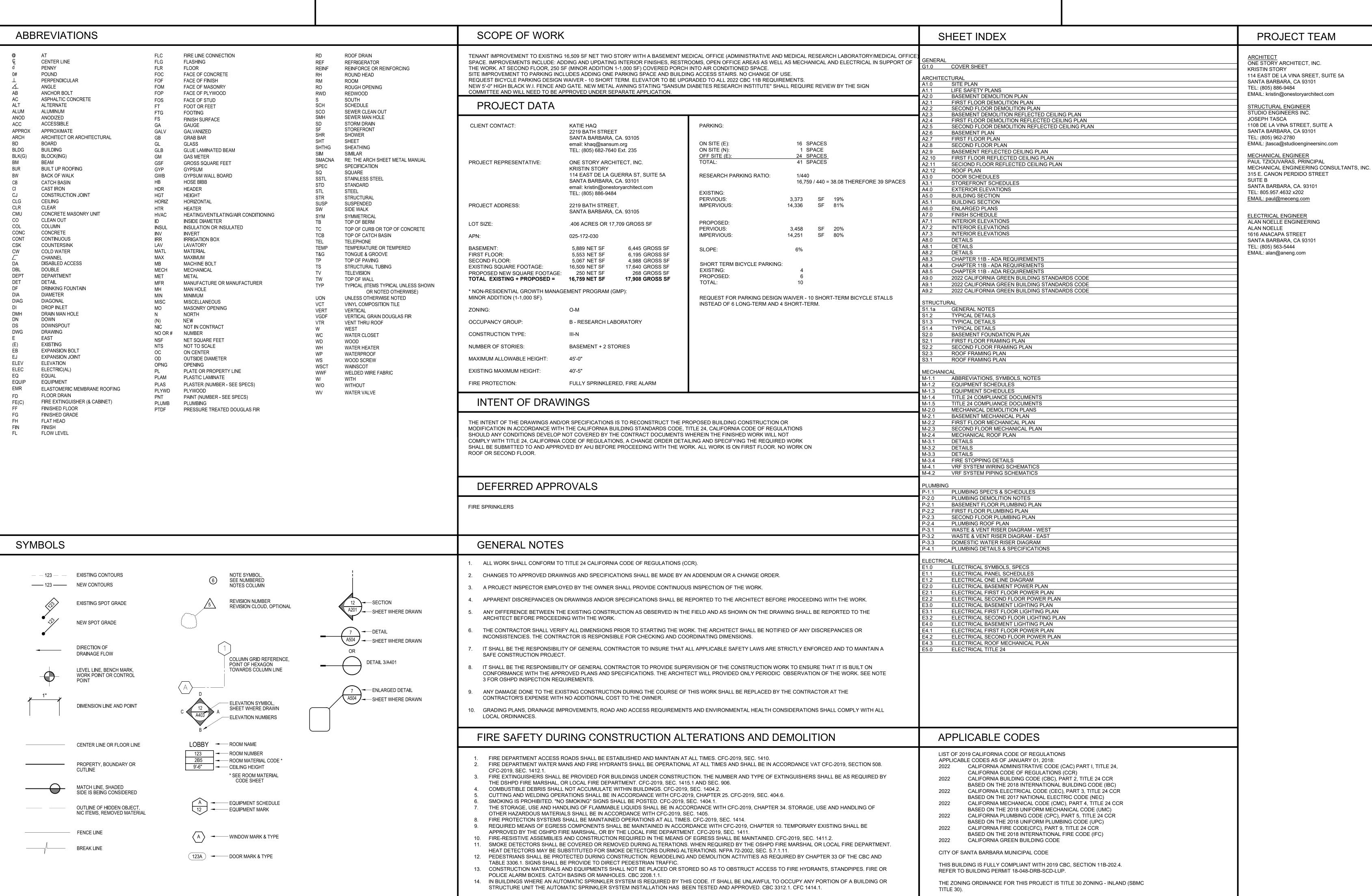
SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

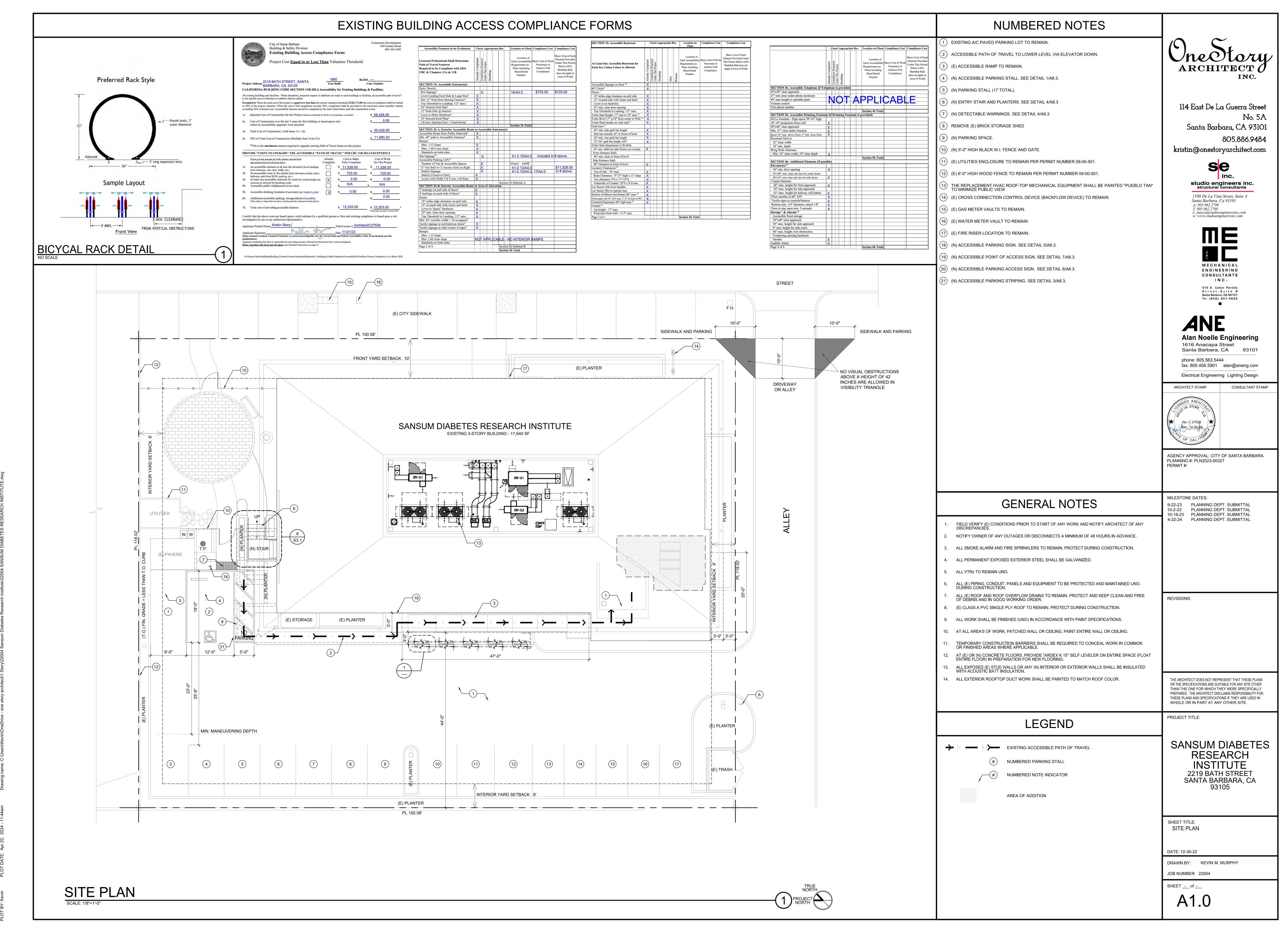
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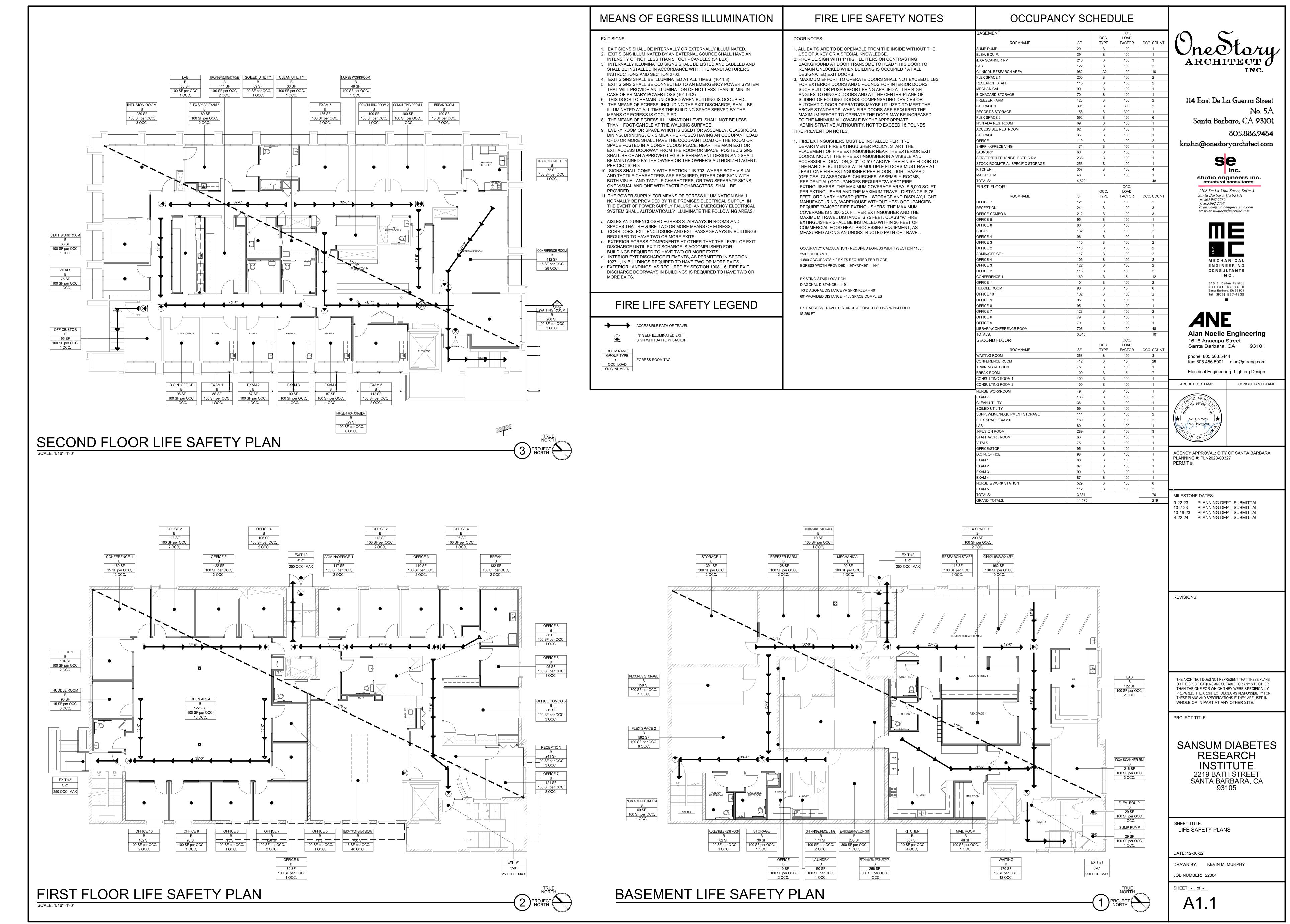
DATE: 12-30-22

DRAWN BY: KEVIN M. MURPHY JOB NUMBER: 22004

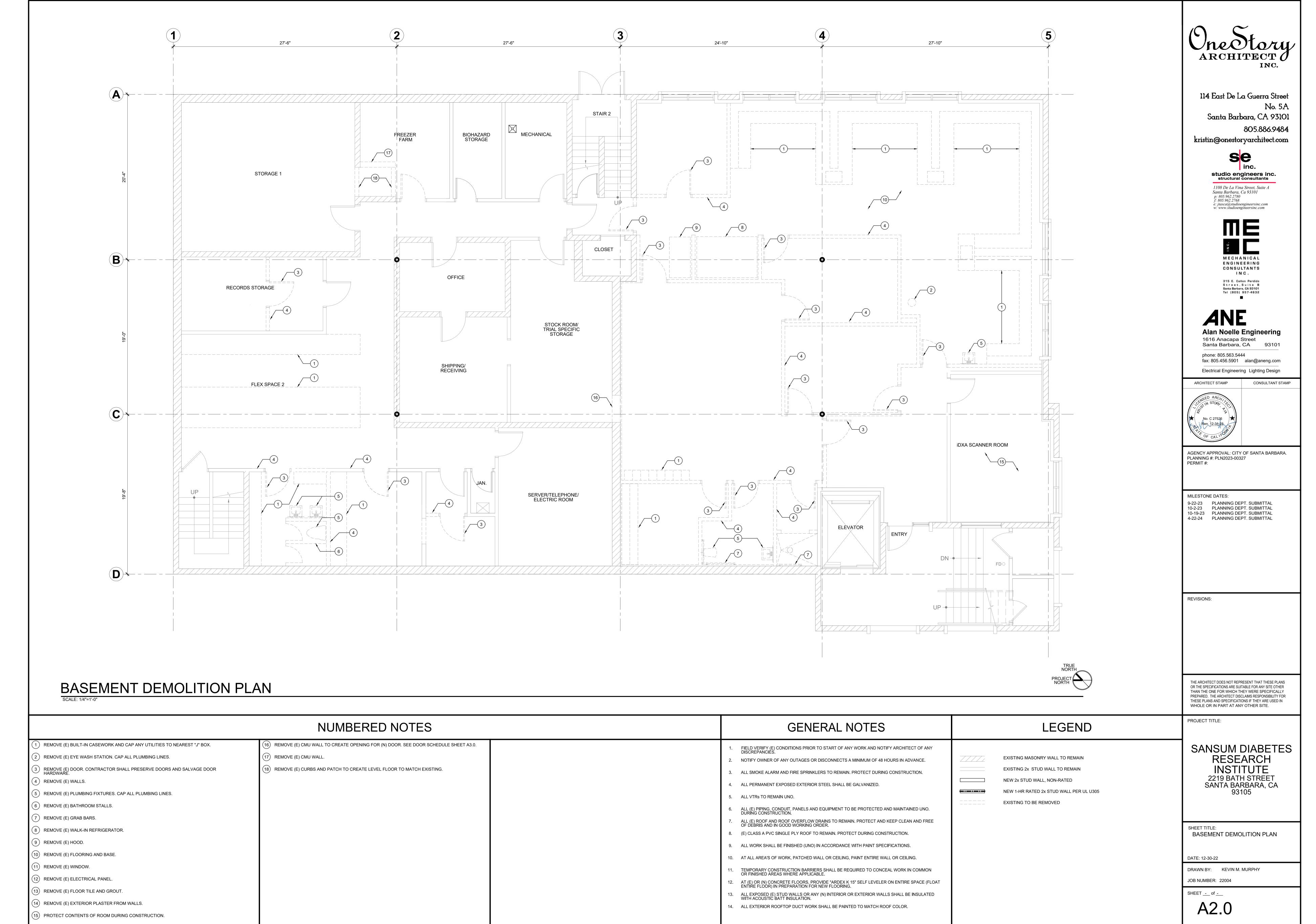
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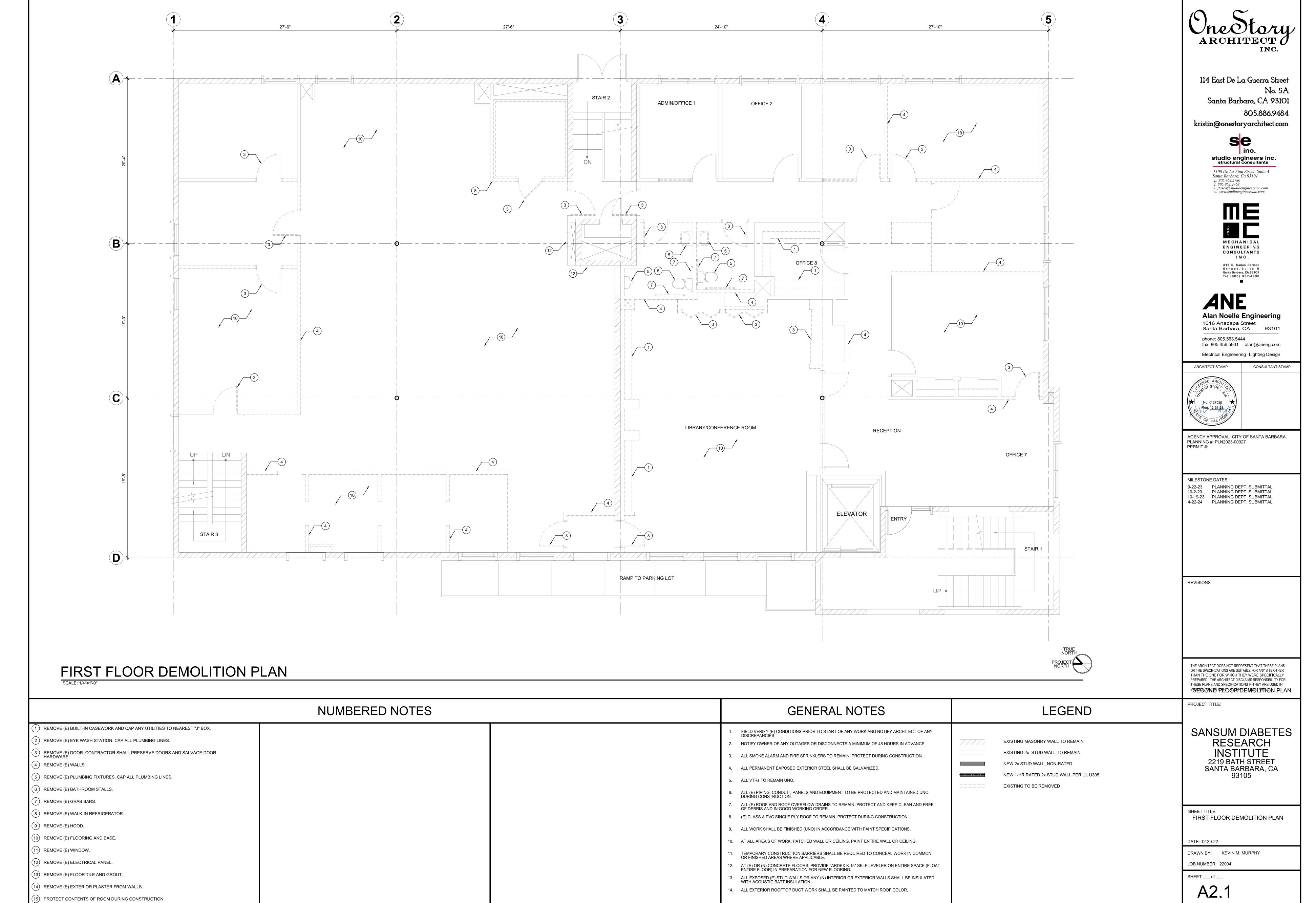




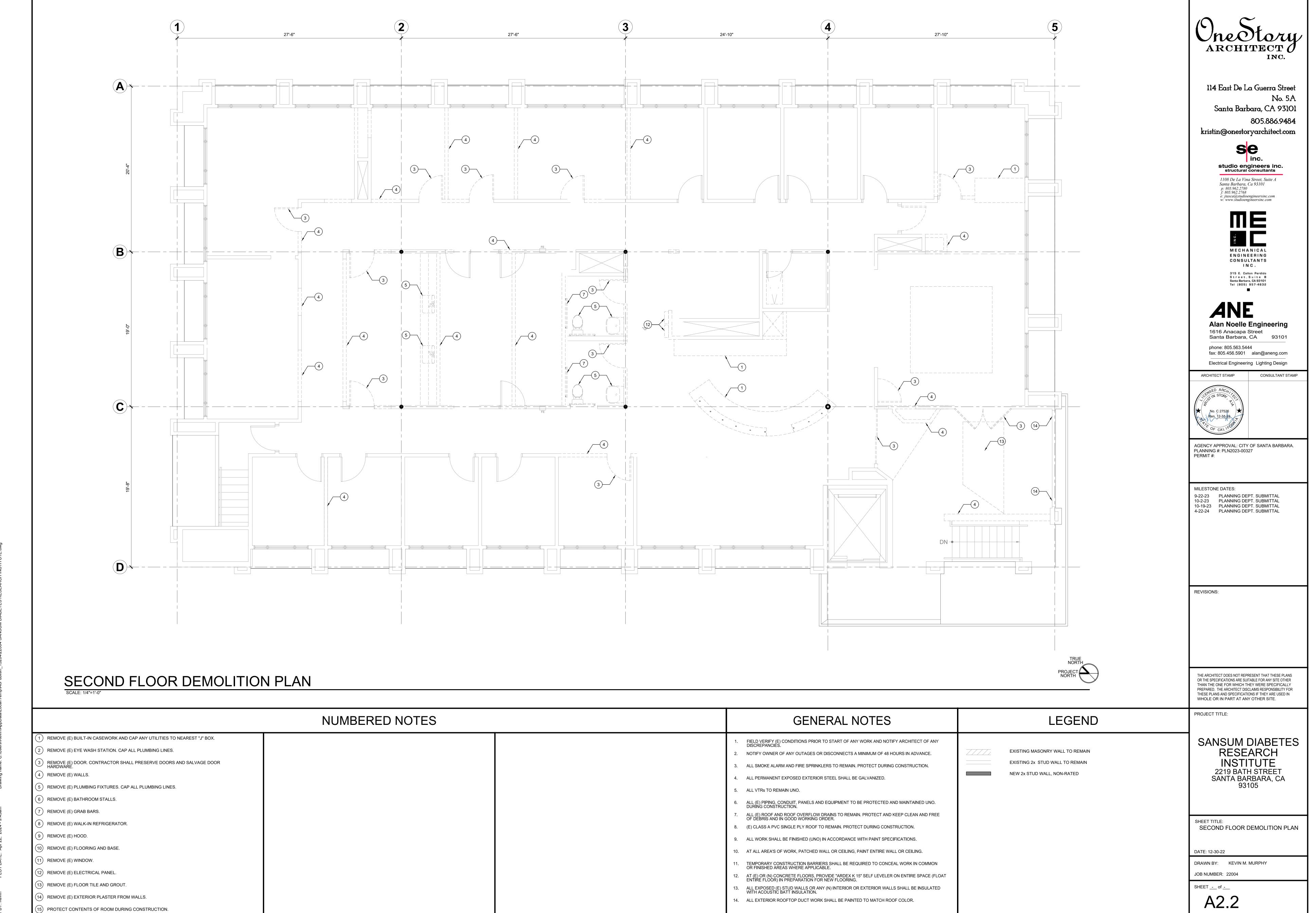
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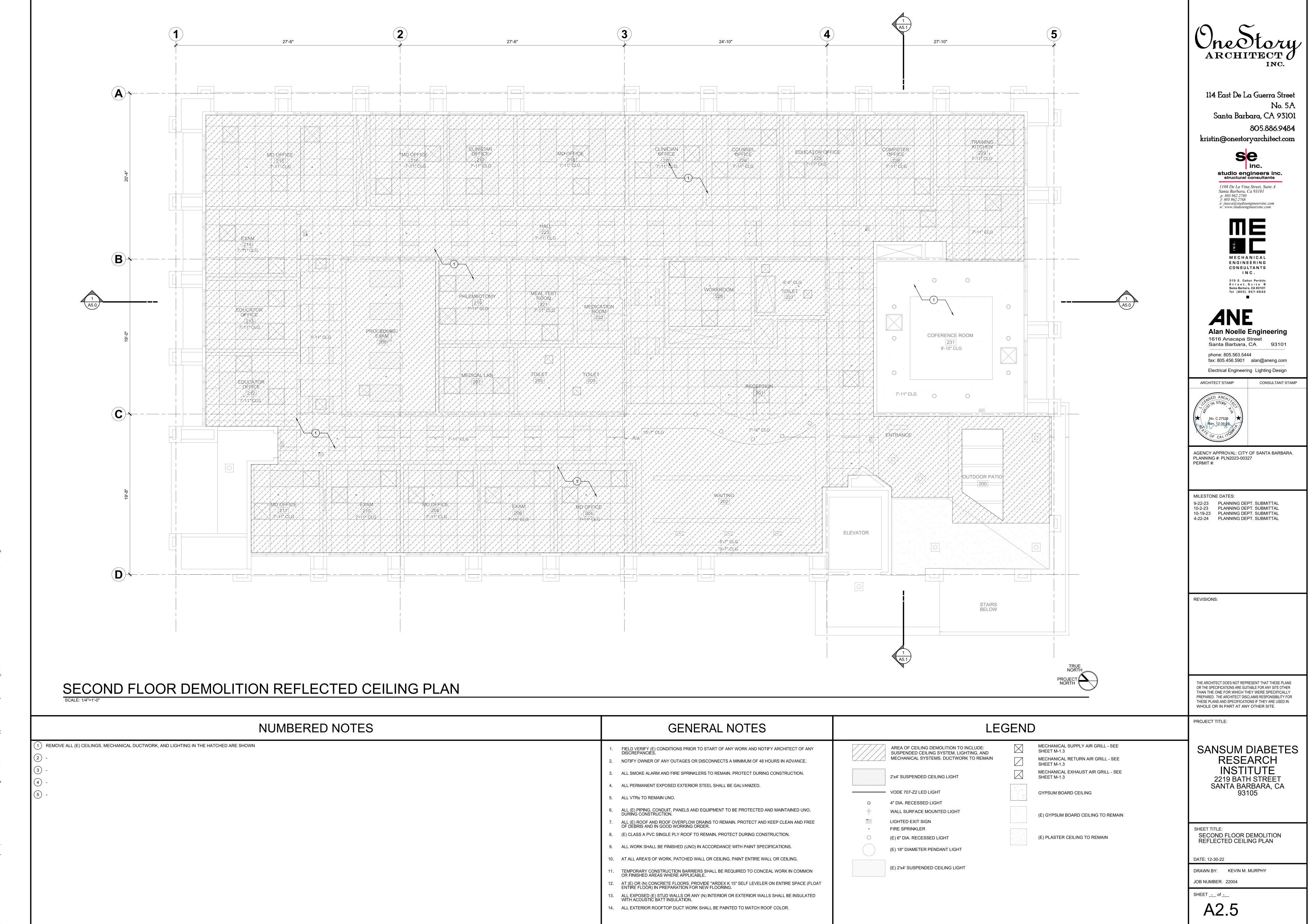


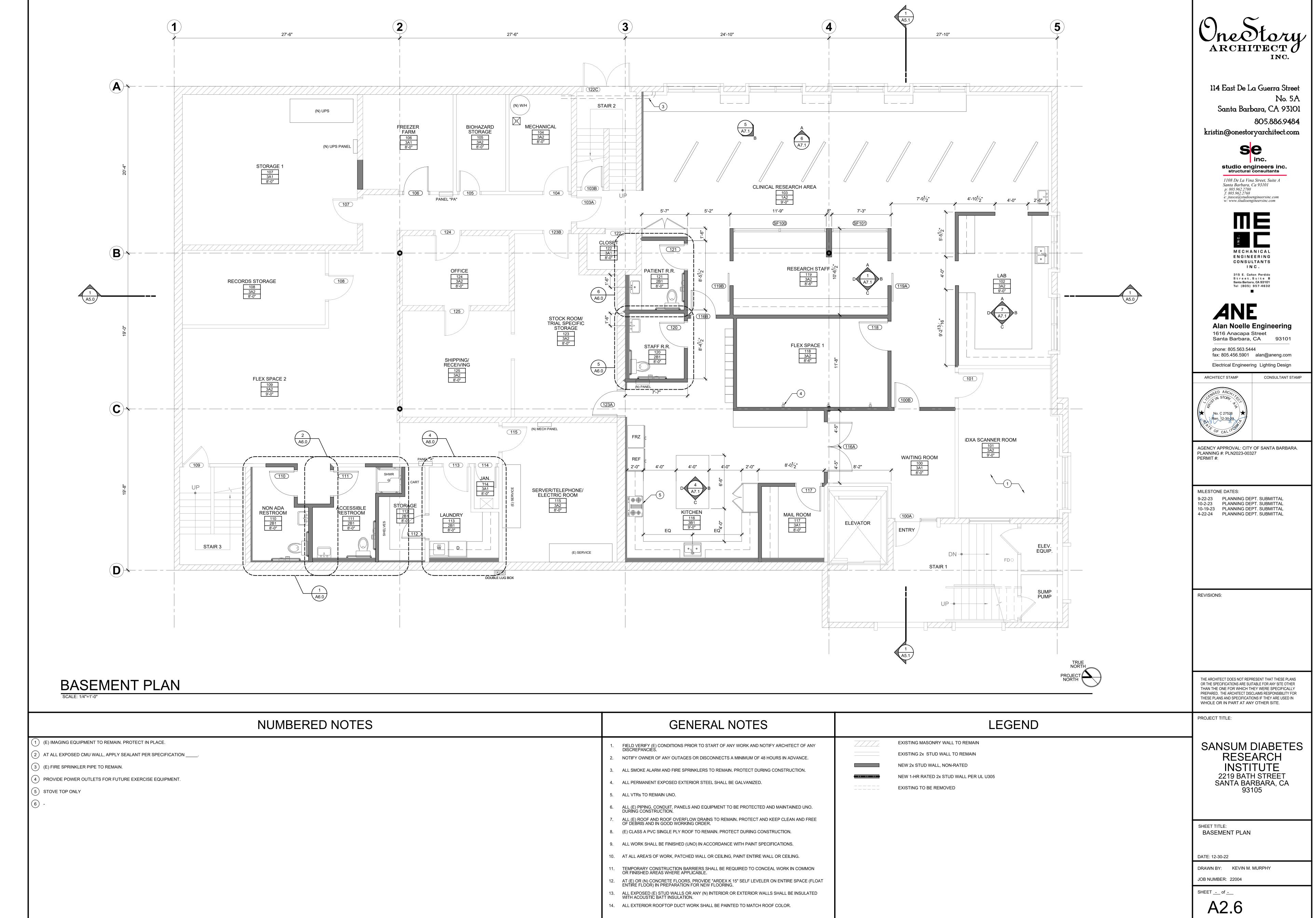
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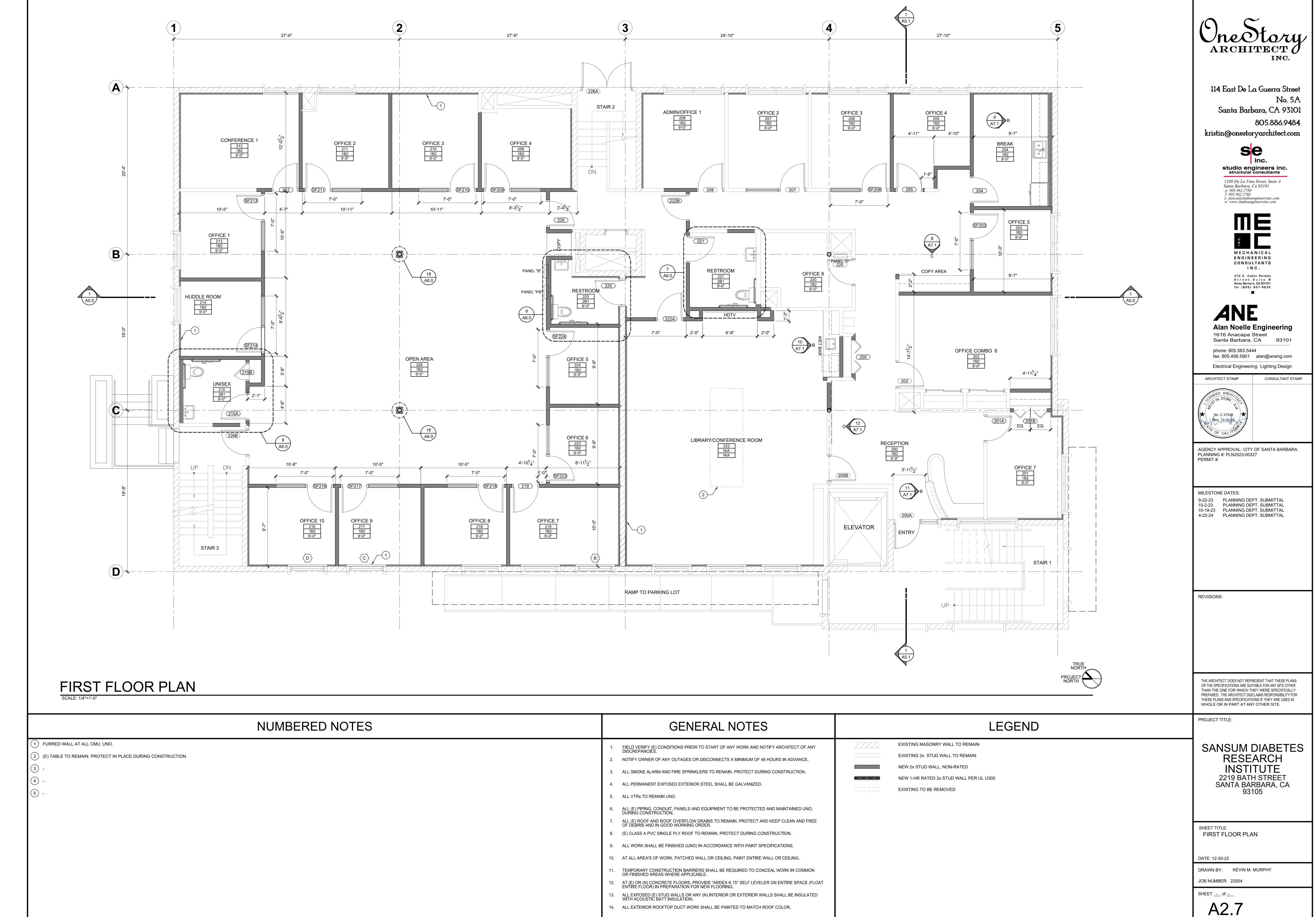
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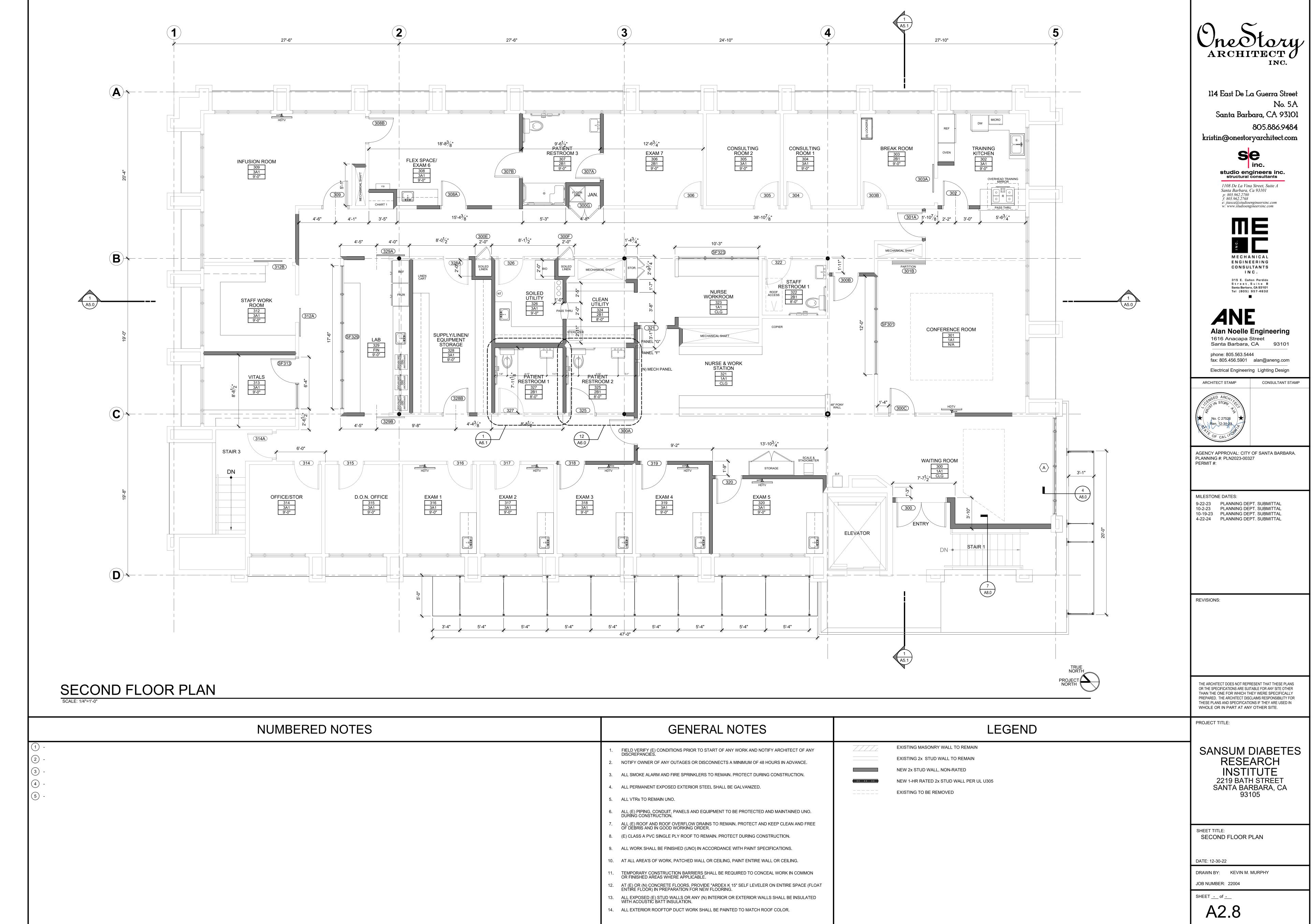


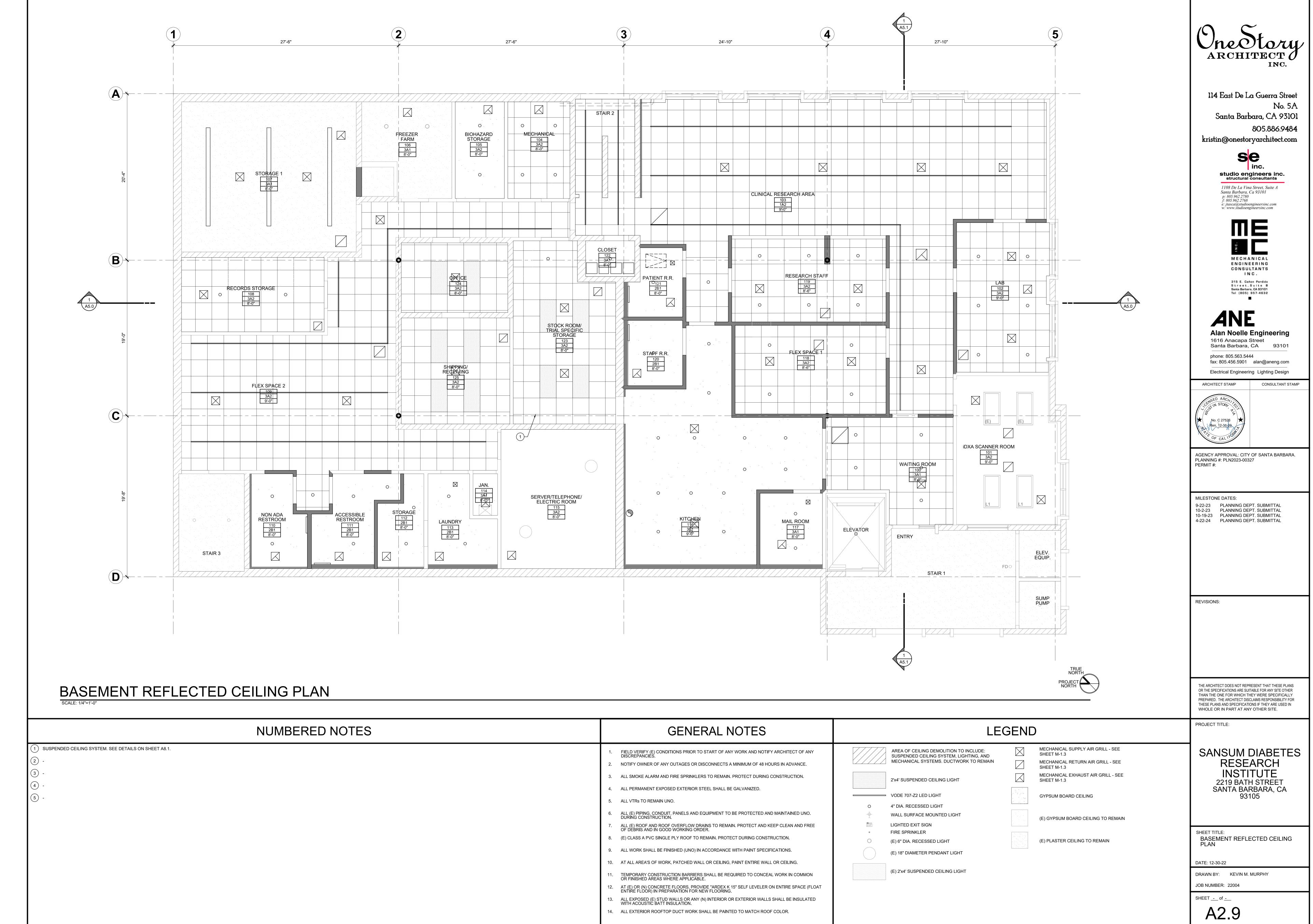


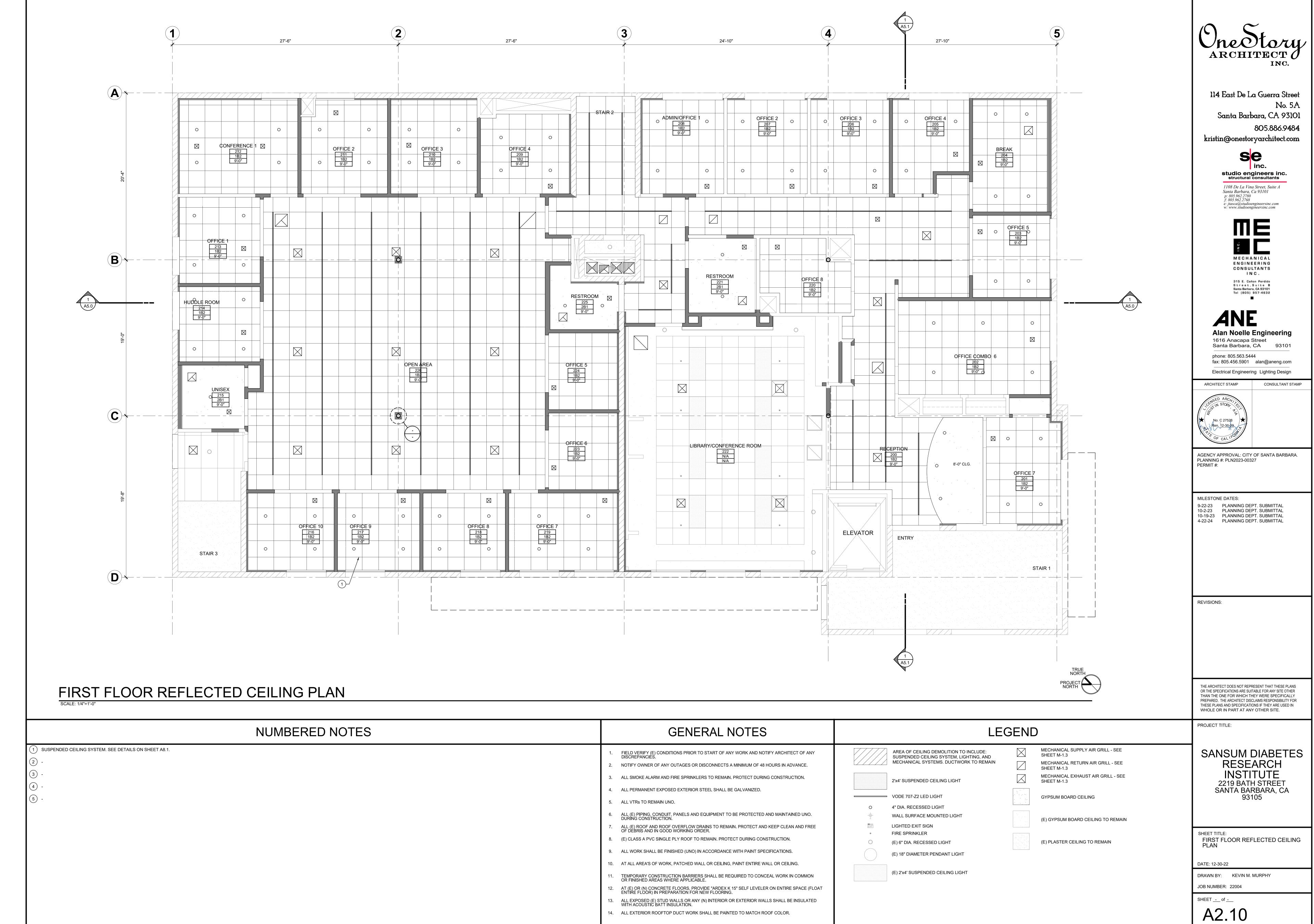
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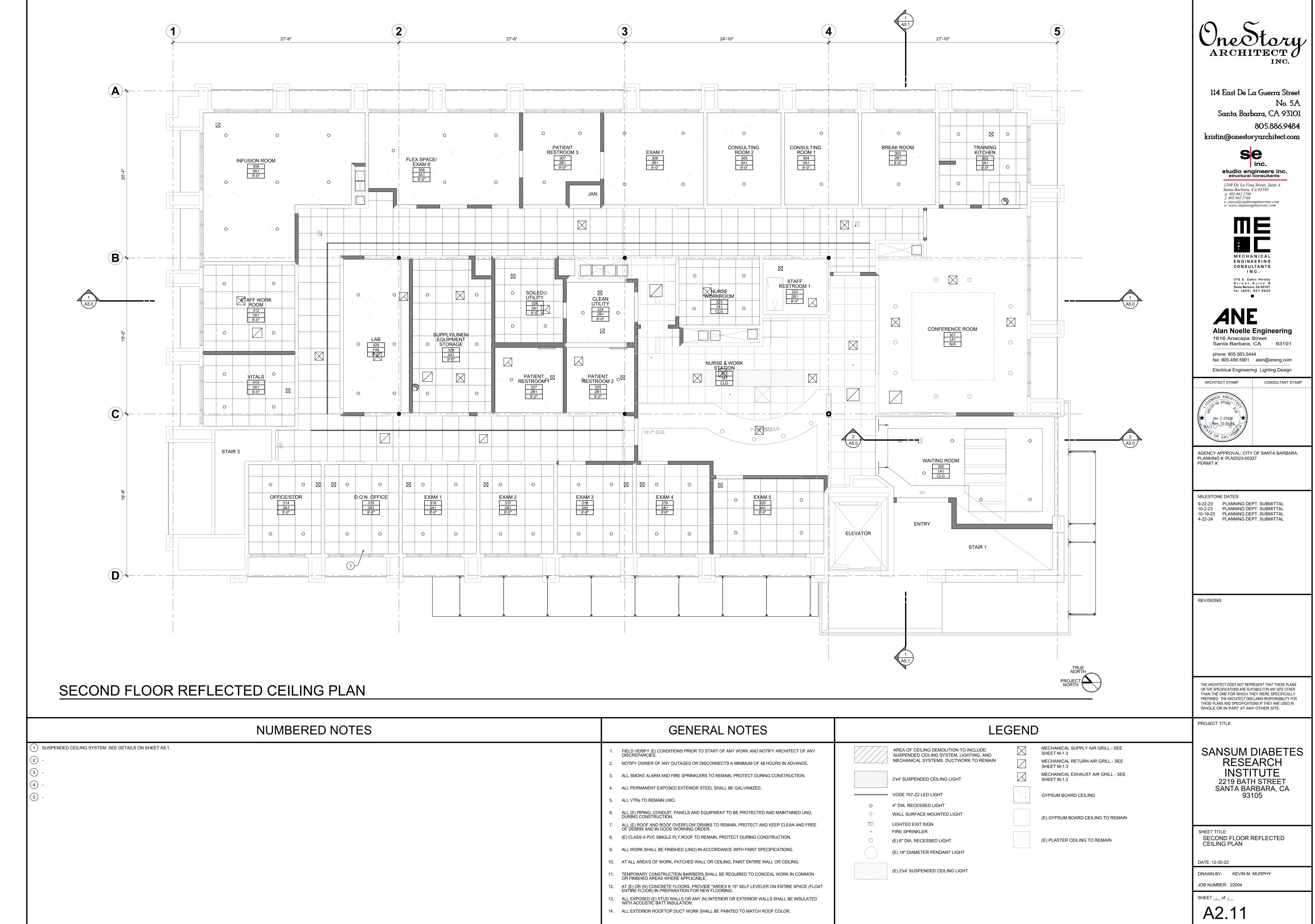
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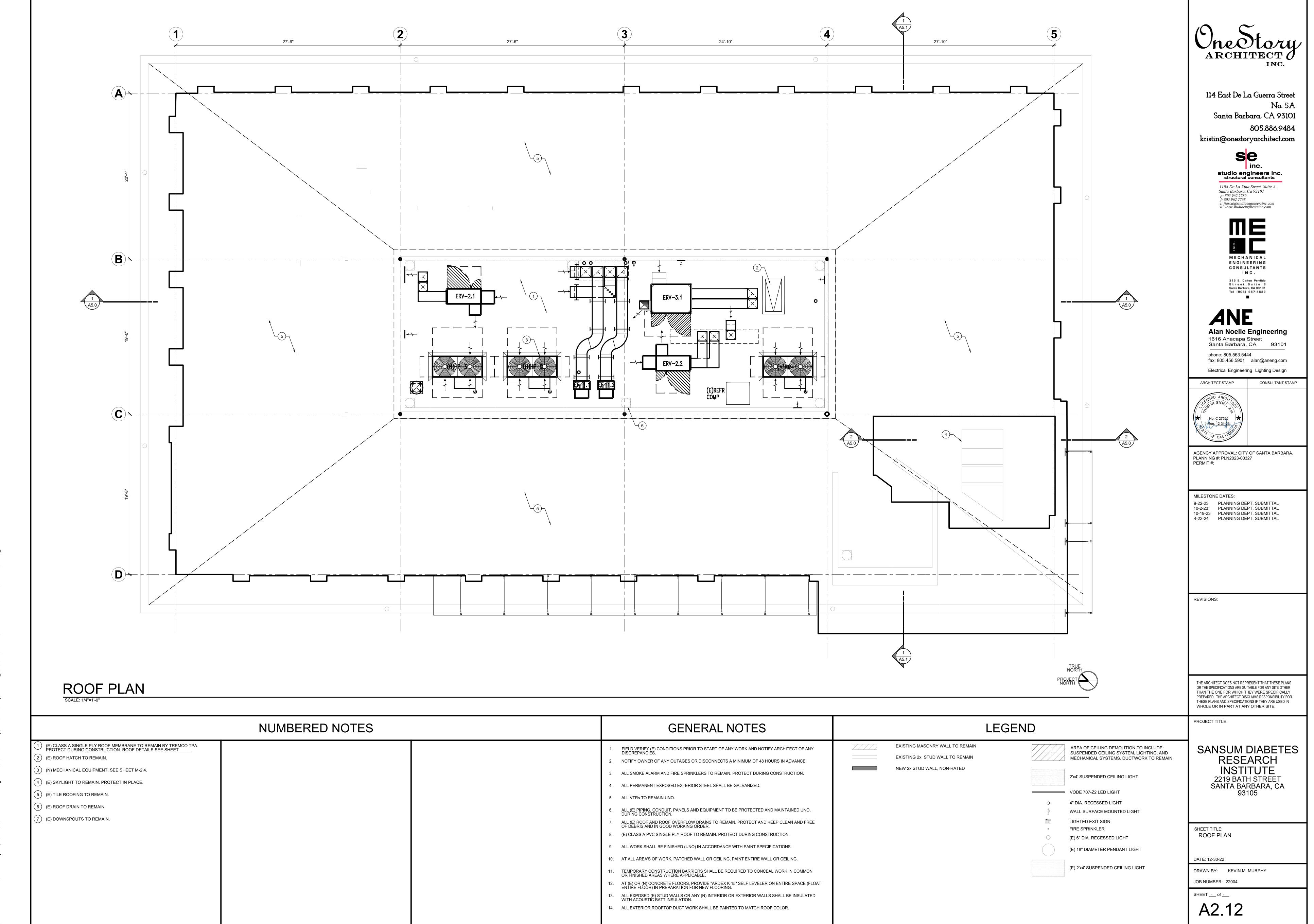


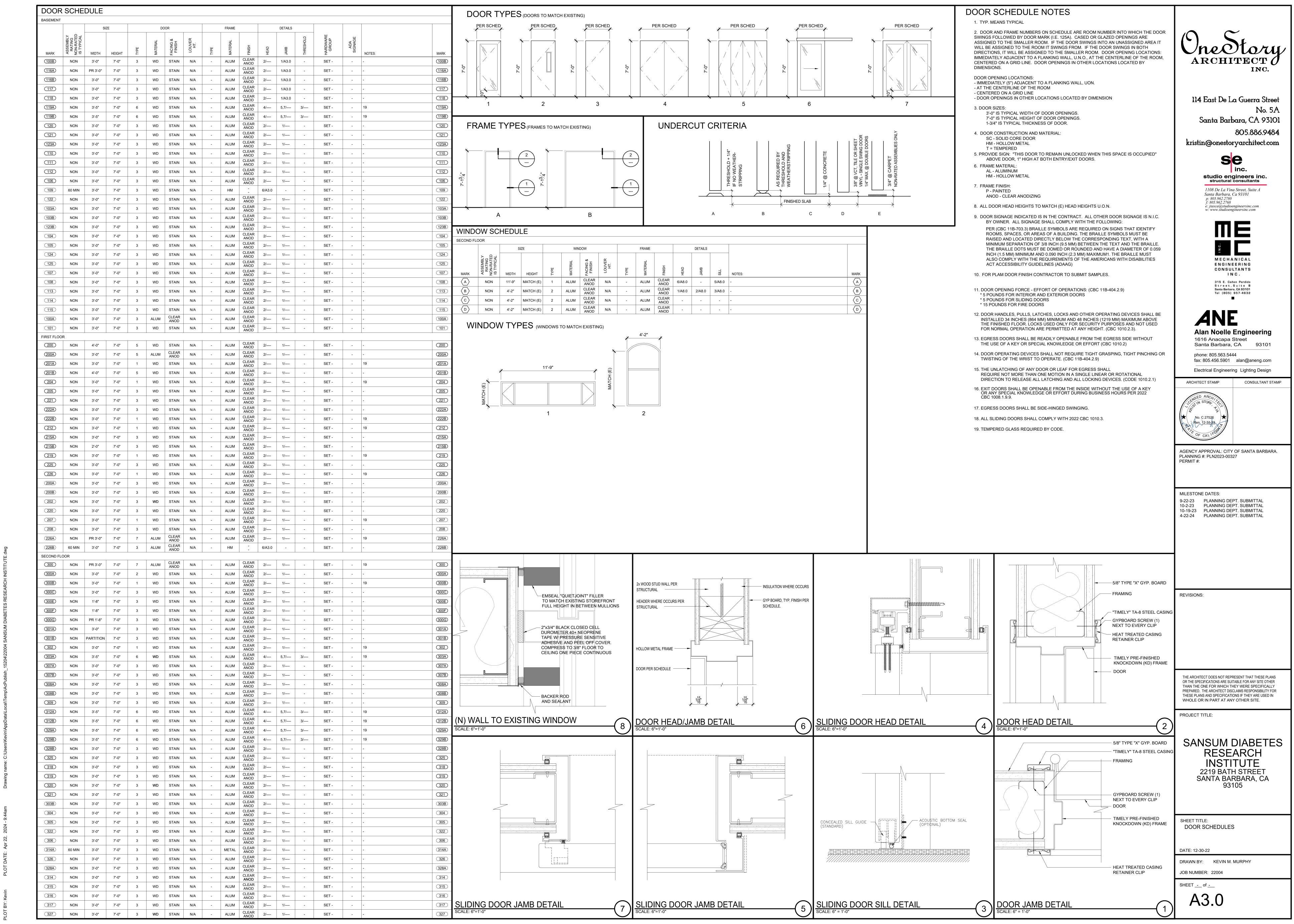


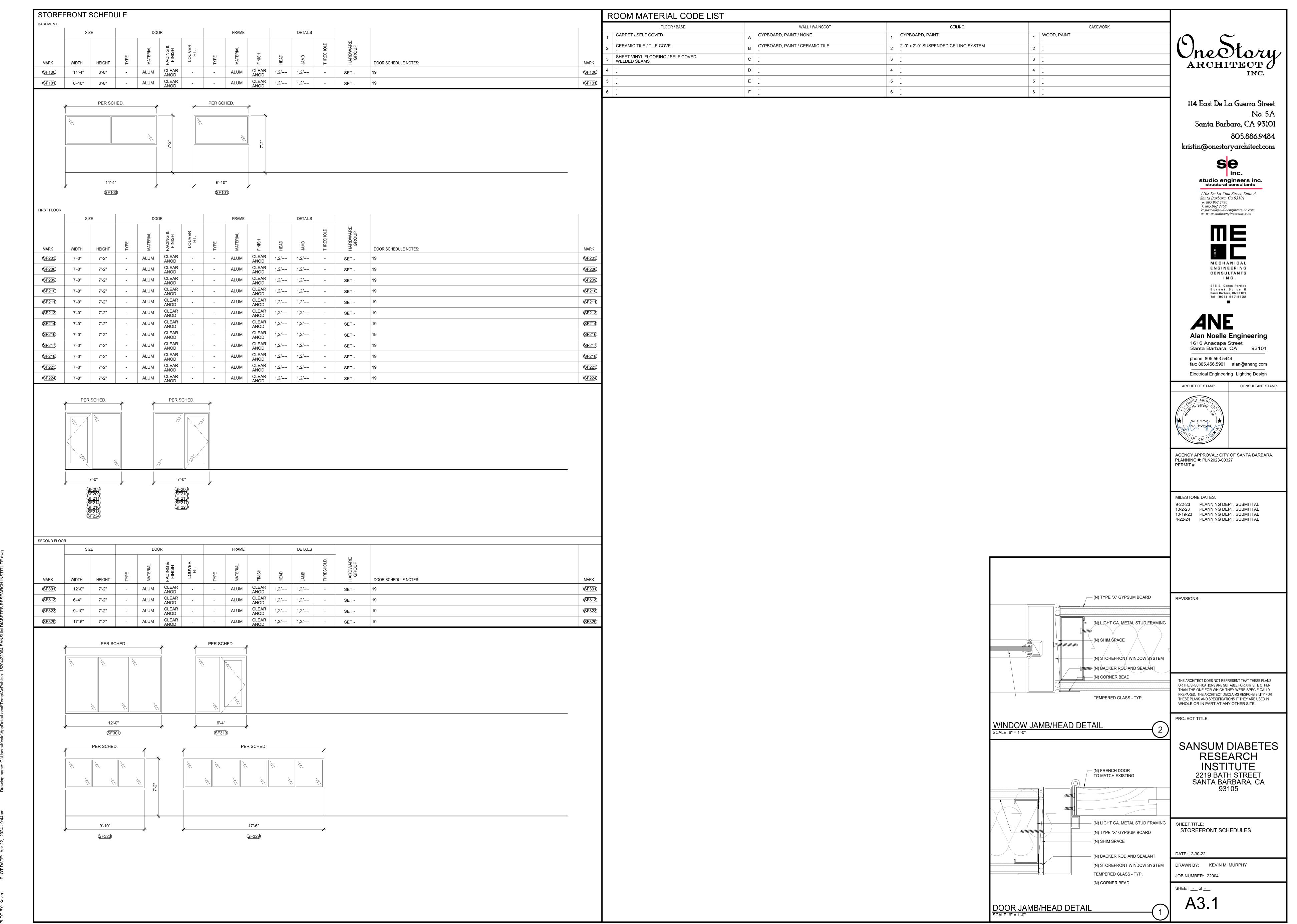


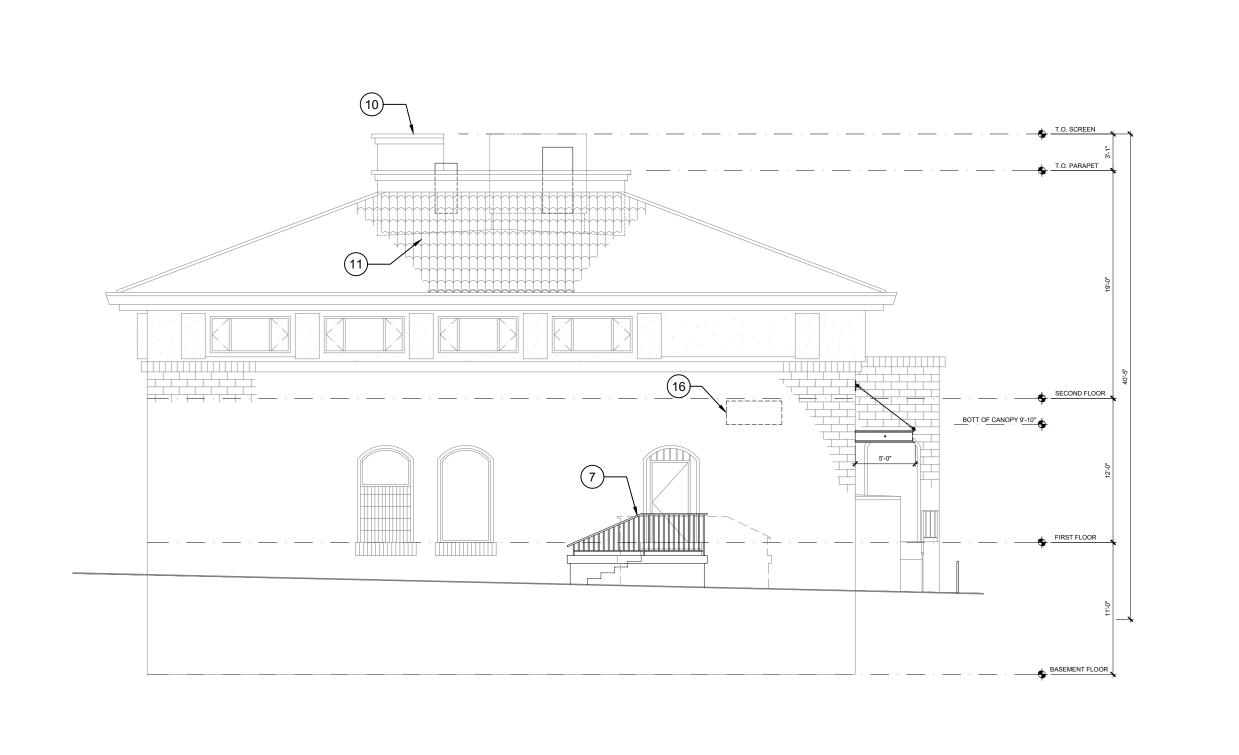
PLOT BY: Kevin PLOT DATE: Apr 22, 2024 - 9:43am Drawing name: C:\Users\Kevin\AppData\Local\Temp\AcPublish\_15204\22004 SANSUM DIABETES











SECOND FLOOR

WEST ELEVATION - REAR PARKING LOT

1616 Anacapa Street Santa Barbara, CA phone: 805.563.5444 fax: 805.456.5901 alan@aneng.com Electrical Engineering Lighting Design

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M E C H A N I C A L E N G I N E E R I N G C O N S U L T A N T S

Alan Noelle Engineering

No. 5A

805.886.9484

AGENCY APPROVAL: CITY OF SANTA BARBARA. PLANNING #: PLN2023-00327

MILESTONE DATES:

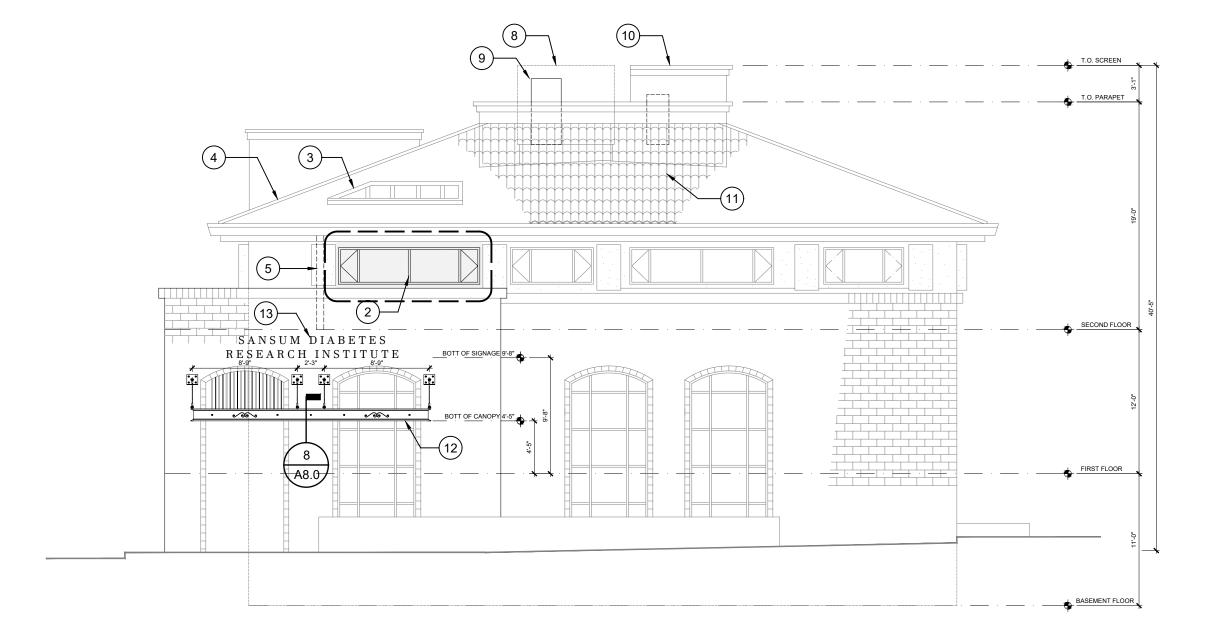
9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

REVISIONS:

PROJECT TITLE:

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NUMBERED NOTES

**EAST ELEVATION - BATH STREET** 

LEGEND

1) (N) PAIR DOOR AT THIRD FLOOR MAIN ENTRY. SEE SHEET A3.0. (N) BRONZE ANODIZED WINDOW TO MATCH EXISTING. SEE SHEET A3.0

(16) (E) SIGNAGE TO BE REMOVED.

**SOUTH ELEVATION - ALLEY** 

NORTH ELEVATION

B) (E) SKYLIGHT TO REMAIN. PROTECT IN PLACE.

(4) (E) BACKFLOW DEVISE TO REMAIN

5) (N) INFILL EXTERIOR WALL UNDER (E) ROOF. SEE DETAIL 7/A8.0.

(6) (N) STOREFRONT WINDOW BEHIND (E) GATES TO MATCH (E).

(N) ENTRY STAIR. SEE SHEET S3.1. RAILING COLOR: FLAT BLACK TO MATCH (E).

(8) OUTLINE (E) MECHANICAL EQUIPMENT TO BE REMOVED.

(9) (N) MECHANICAL EQUIPMENT. SEE SHEET M2.4. COLOR TO BLEND WITH EXISTING.

(10) (E) ROOF PARAPET TO REMAIN. PROTECT IN PLACE.

11) (E) TILE ROOF TO REMAIN. PROTECT IN PLACE.

(N) DECORATIVE METAL AWNING W/ SIGN STATING ABOVE "SANSUM DIABETES RESEARCH INSTITUTE" WILL REQUIRE REVIEW BY THE SIGN COMMITTEE AND SHALL BE APPROVED UNDER SEPARATE APPLICATION. COLOR: FLAT BLACK TO MATCH (E).

13) (N) SIGNAGE. COLOR: SKY BLUE TO MATCH (E). SEE DETAIL 19/A8.0.

(14) (3) SPLIT FACED BLOCK WALL TO REMAIN. COLOR: TIN LIZZIE SW 9163. (15) (N) W.I. DECORATIVE METAL GATES TO MATCH (E). COLOR: FLAT BLACK TO MATCH (E).

CONTRACTOR TO ADD PICKETS TO ONLY ALLOW 4" MIN CLR SPACE BETWEEN (E) PICKETS PER 2022 CBC 1015.4. SW 9163 (18) (E) ELEVATOR ENTRY DOORS TO REMAIN. PROTECT IN PLACE. Tin Lizzie Interior / Exterior (19) (N) BICYCLE STANDS. SEE DETAIL 1/A1.0. Location Number: 236-C4

236 Tin Lizzie

**BUILDING COLOR** 

**GENERAL NOTES** FIELD VERIFY (E) CONDITIONS PRIOR TO START OF ANY WORK AND NOTIFY ARCHITECT OF ANY DISCREPANCIES.

2. NOTIFY OWNER OF ANY OUTAGES OR DISCONNECTS A MINIMUM OF 48 HOURS IN ADVANCE.

3. ALL SMOKE ALARM AND FIRE SPRINKLERS TO REMAIN. PROTECT DURING CONSTRUCTION.

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4. ALL PERMANENT EXPOSED EXTERIOR STEEL SHALL BE GALVANIZED.

ALL VTRs TO REMAIN UNO.

6. ALL (E) PIPING, CONDUIT, PANELS AND EQUIPMENT TO BE PROTECTED AND MAINTAINED UNO. DURING CONSTRUCTION. ALL (E) ROOF AND ROOF OVERFLOW DRAINS TO REMAIN. PROTECT AND KEEP CLEAN AND FREE OF DEBRIS AND IN GOOD WORKING ORDER.

8. (E) CLASS A PVC SINGLE PLY ROOF TO REMAIN. PROTECT DURING CONSTRUCTION.

9. ALL WORK SHALL BE FINISHED (UNO) IN ACCORDANCE WITH PAINT SPECIFICATIONS.

10. AT ALL AREA'S OF WORK, PATCHED WALL OR CEILING, PAINT ENTIRE WALL OR CEILING.

11. TEMPORARY CONSTRUCTION BARRIERS SHALL BE REQUIRED TO CONCEAL WORK IN COMMON OR FINISHED AREAS WHERE APPLICABLE.

12. AT (E) OR (N) CONCRETE FLOORS, PROVIDE "ARDEX K 15" SELF LEVELER ON ENTIRE SPACE (FLOAT ENTIRE FLOOR) IN PREPARATION FOR NEW FLOORING.

13. ALL EXPOSED (E) STUD WALLS OR ANY (N) INTERIOR OR EXTERIOR WALLS SHALL BE INSULATED WITH ACOUSTIC BATT INSULATION. 14. ALL EXTERIOR ROOFTOP DUCT WORK SHALL BE PAINTED TO MATCH ROOF COLOR.

SANSUM DIABETES RESEARCH 2219 BATH STREET

SANTA BARBARA, CA

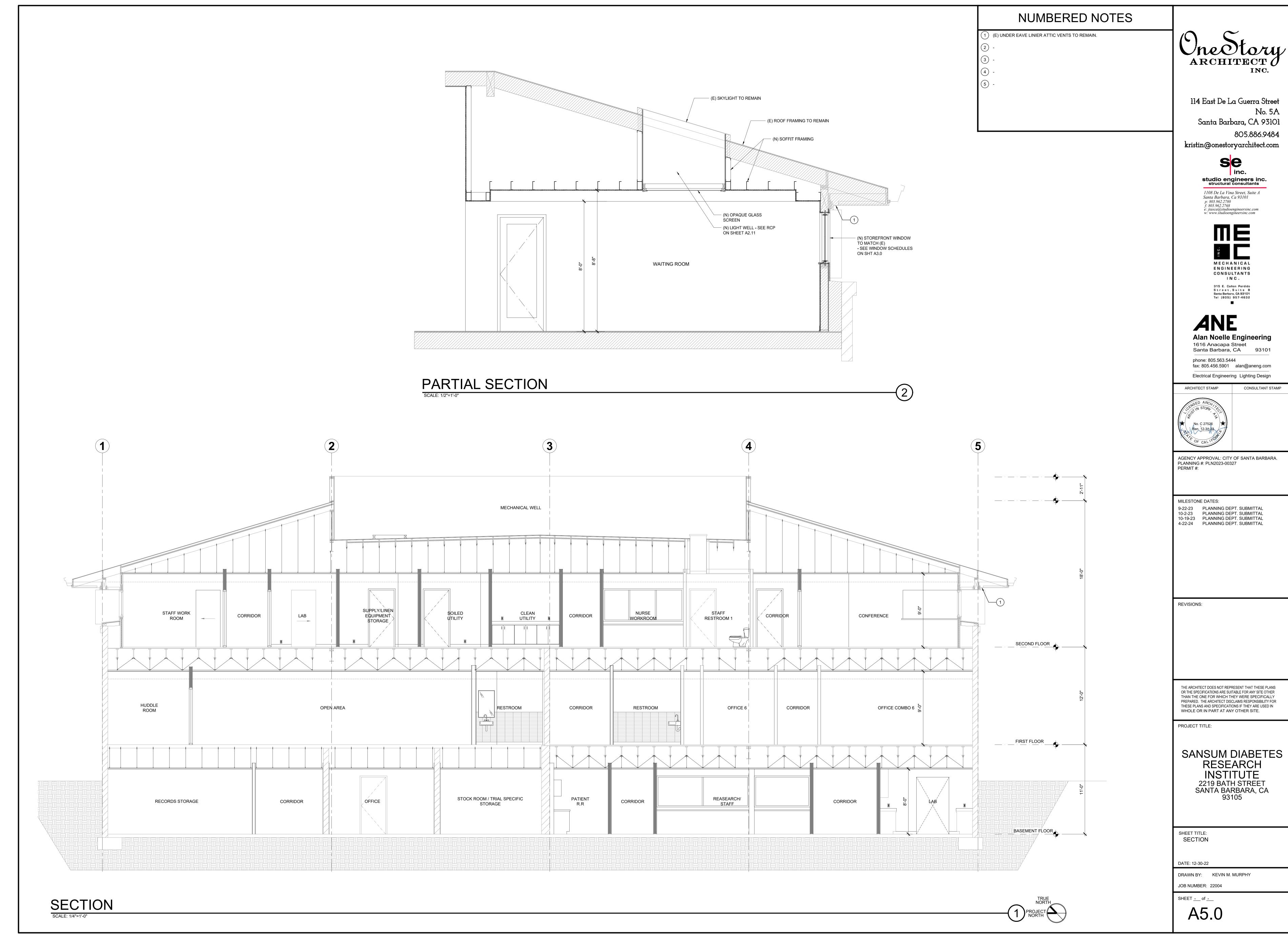
SECTION

SHEET TITLE:

DATE: 12-30-22

SHEET <u>-</u> of <u>-</u>

DRAWN BY: KEVIN M. MURPHY JOB NUMBER: 22004



NUMBERED NOTES

One Story ARCHITECT

> 114 East De La Guerra Street No. 5A Santa Barbara, CA 93101 805.886.9484

kristin@onestoryarchitect.com





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Electrical Engineering Lighting Design

ARCHITECT STAMP CONSULTANT STAMP



AGENCY APPROVAL: CITY OF SANTA BARBARA. PLANNING #: PLN2023-00327 PERMIT #:

MILESTONE DATES:

9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

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PROJECT TITLE:

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2219 BATH STREET
SANTA BARBARA, CA
93105

SHEET TITLE: SECTION

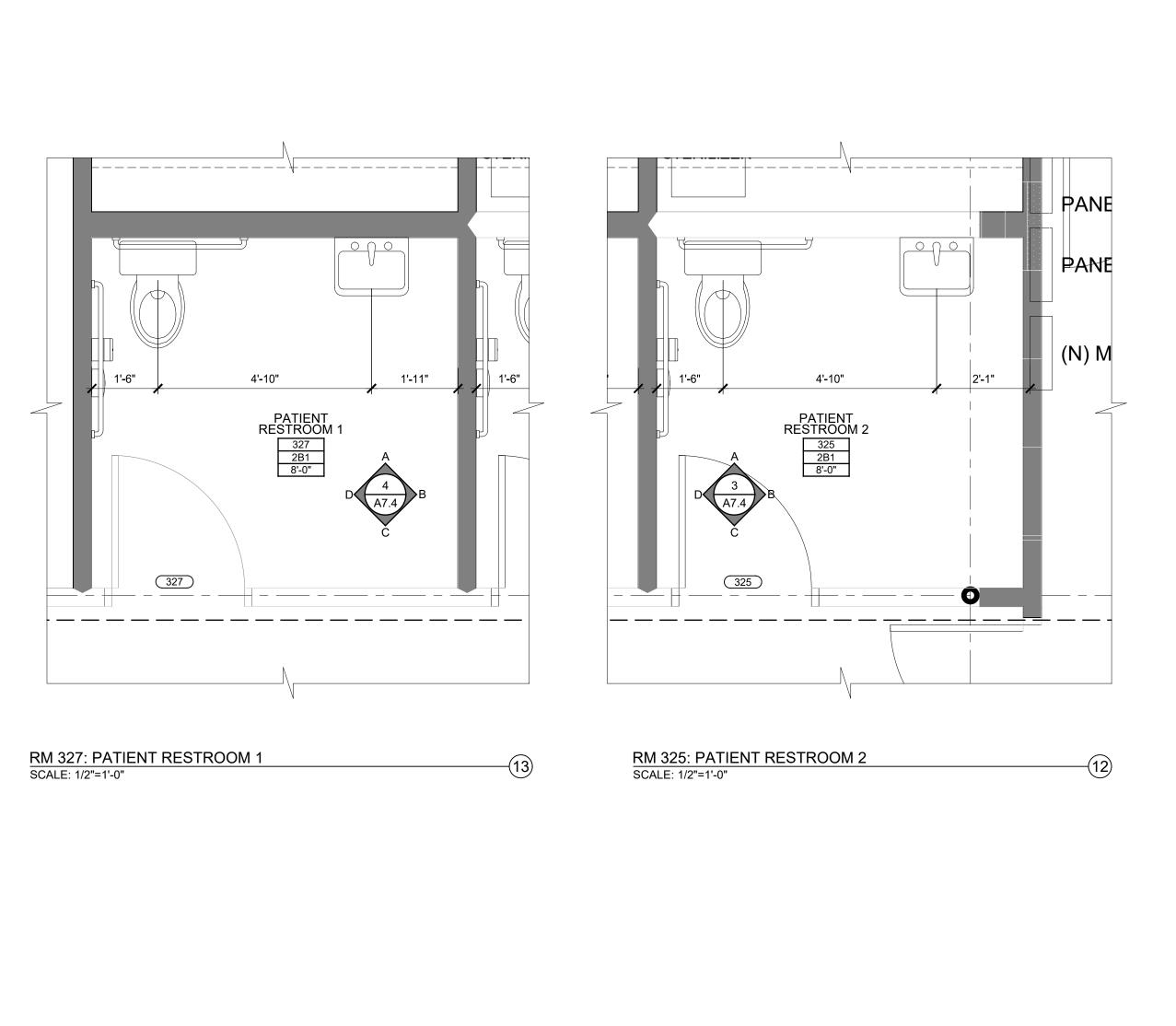
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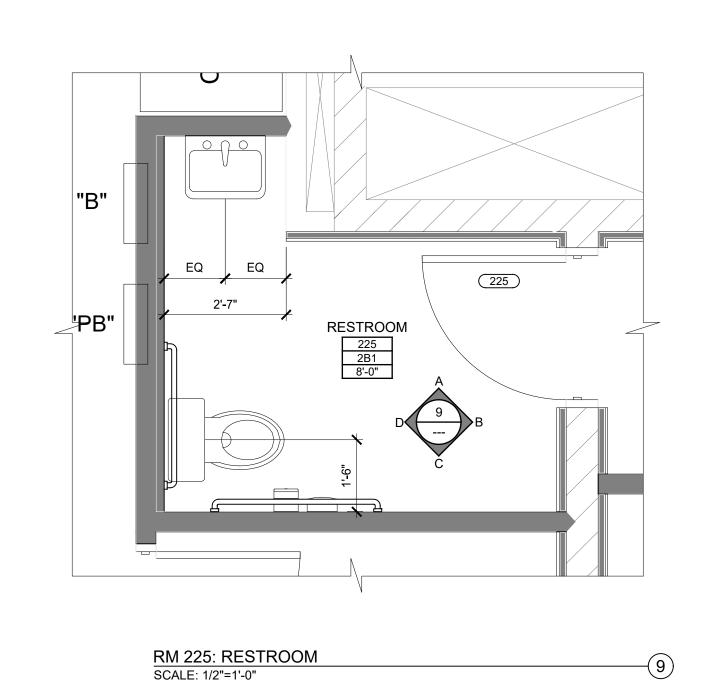
DRAWN BY: KEVIN M. MURPHY

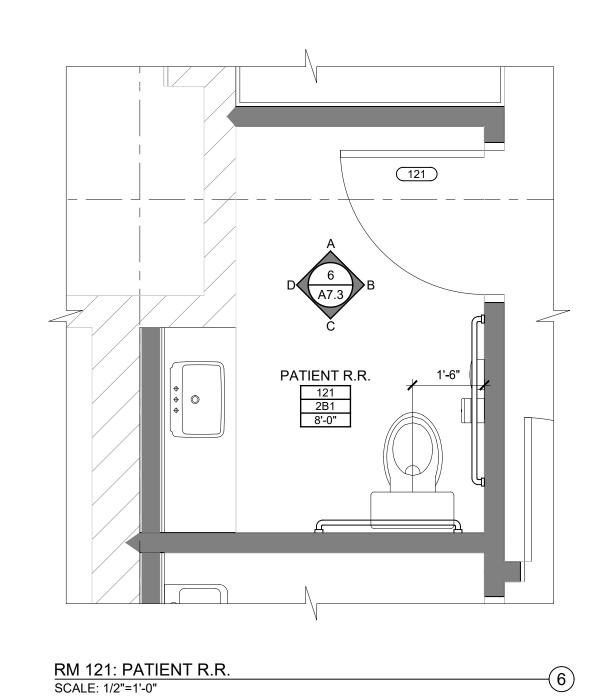
JOB NUMBER: 22004

SHEET <u>-</u> of <u>-</u>

A5.1







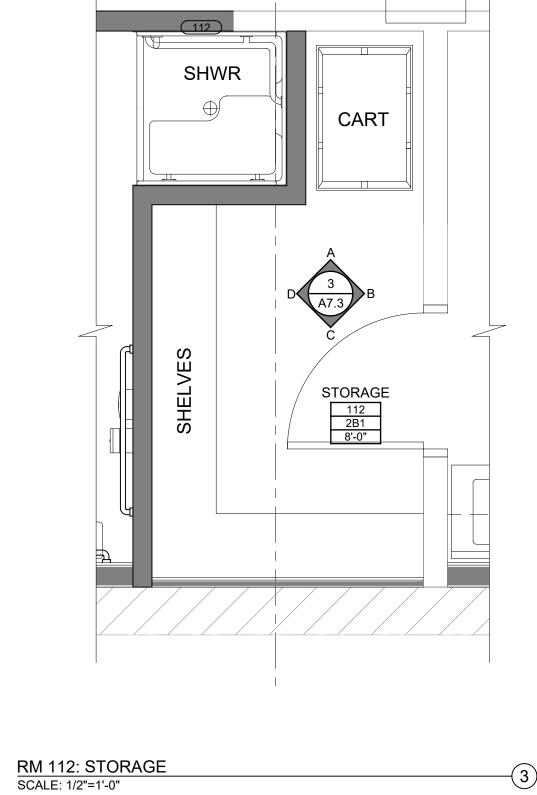
STAFF R.R.

120
2B1
8'-0"

(N) PANEL

RM 120: STAFF R.R. SCALE: 1/2"=1'-0"

ANEL "A"



PANEL "A"

ARCHITECT O

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MECHANICAL ENGINEERING CONSULTANTS

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93105

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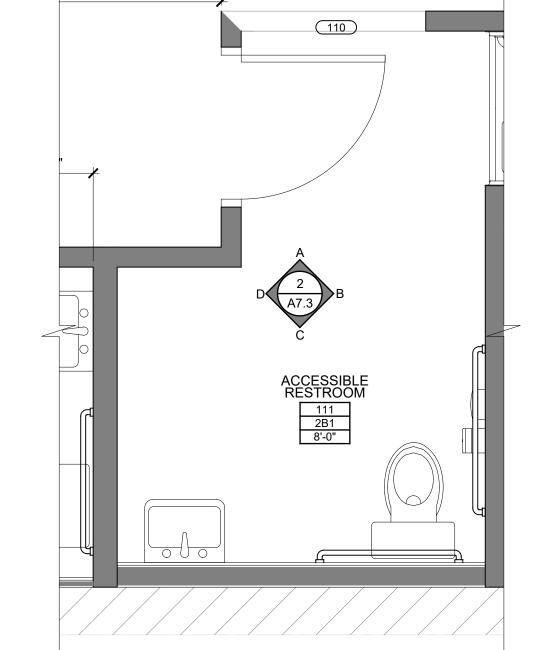
REVISIONS:

PROJECT TITLE:

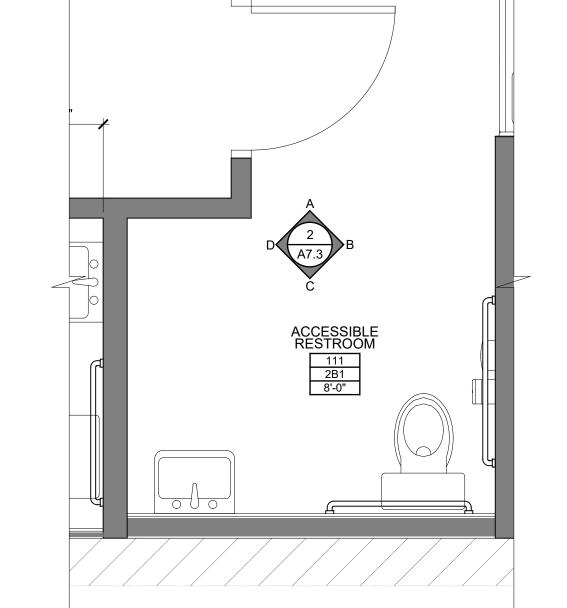
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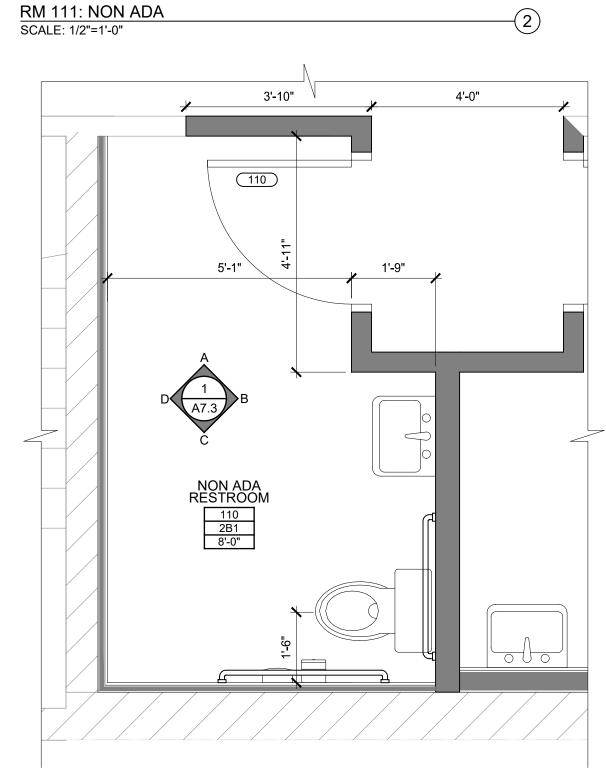
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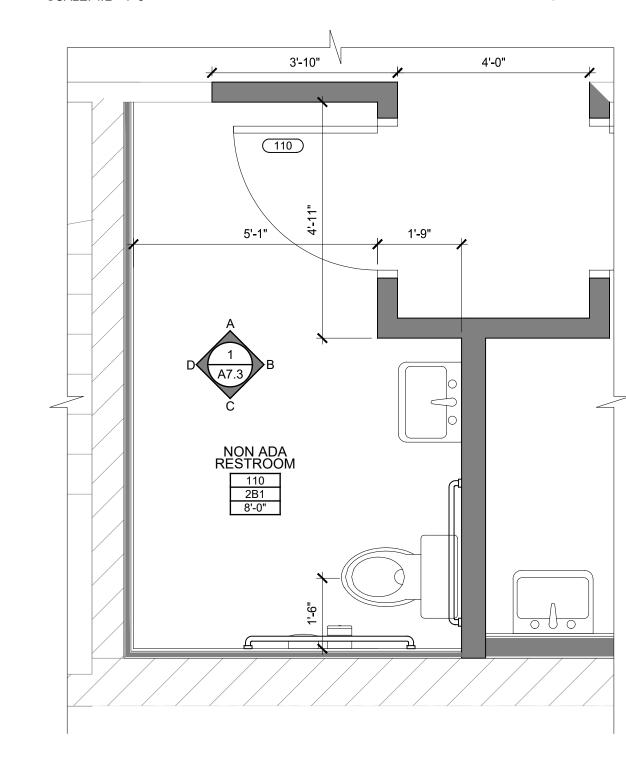
805.886.9484

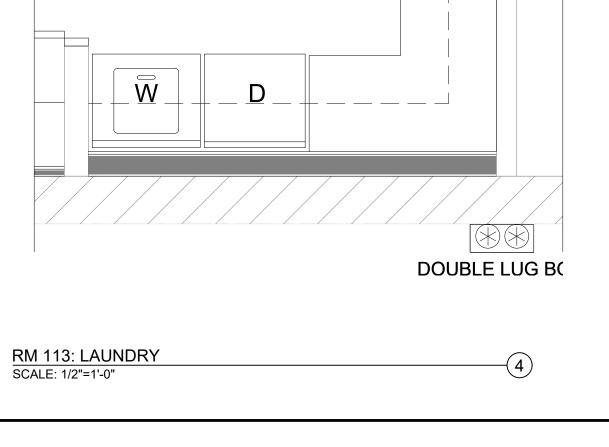


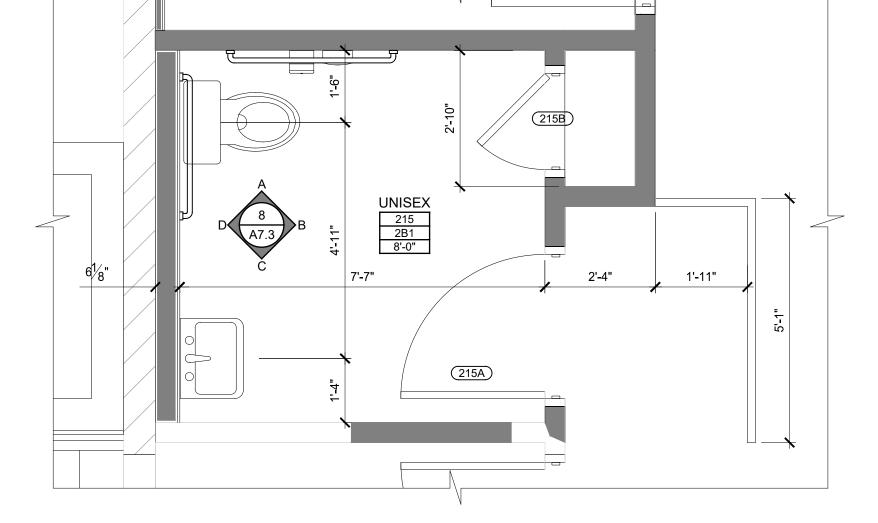
4'-0"



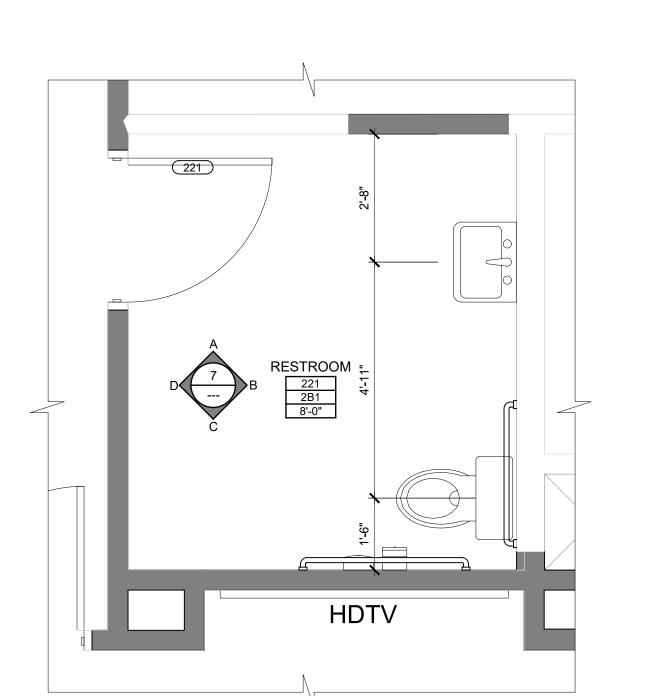








RM 215: UNISEX SCALE: 1/2"=1'-0"



RM 221: RESTROOM SCALE: 1/2"=1'-0"

RM 110: NON ADA RESTROOM SCALE: 1/2"=1'-0"

ENLARGED PLANS

SHEET <u>-</u> of <u>-</u> A6.0

DRAWN BY: KEVIN M. MURPHY

SHEET TITLE:
ENLARGED PLANS

DATE: 12-30-22

JOB NUMBER: 22004

FINISH SCHEDULE					
ROOM NAME	FLOORING MATERIAL	BASE	WALLS/MATERIAL/COLOR	CEILING MATERIAL/COLOR	CABINET MATERIAL/COLOR
EXAM ROOM (1, 2, 3)	Altro Lavencia 'LAV1077 Farmhouse Smoke'	BURKE: 6" Rubber (Color: 701 Black)	Wall: Sherwin Williams eggshell finish "Color TBD"	Sherwin Williams flat finish "Simple white 7021"	Plastic Laminate Counter: FORMICA 7197-58 'DOVER WHITE" Cabinet: WILSONART-7952K-18 "ASIAN SAND"
ACCESSIBLE RESTROOM	Altro Orchestra 'CH2818 Metal'	6" Integral Cove Base	Wall: Sherwin Williams eggshell finish "Color TBD"  Wainscot: American Olean Matte Ceramic Tile 4x4 "Matte Designer White 0061"  See Note on Key Plan and Interior Elevations A3.1 for wainscot ht.	Sherwin Williams flat finish "Simple white 7021"	N/A
STAFF RESTROOM	Altro Orchestra 'CH2818 Metal'	6" Integral Cove Base	Wall: Sherwin Williams eggshell finish "Color TBD" Plumbing Wall & Wainscot: American Olean Matte Ceramic Tile 4x4 "Matte Designer White 0061". See Note on Key Plan and Interior Elevations A3.1 for wainscot ht.	Sherwin Williams flat finish "Simple white 7021"	N/A
MD OFFICE 1 MD OFFICE 2 MD OFFICE 3 BILLING	Altro Lavencia 'LAV1077 Farmhouse Smoke'	BURKE: 6**Rubber (Color: 701 Black)	Wall: Sherwin Williams eggshell finish "Color TBD"	Lay-in 2x2 Sherwin Williams flat finish "Simple white 7021"	N/A
LOBBY/WAITING	Altro Lavencia 'LAV1077 Farmhouse Smoke'	BURKE: 6" Rubber (Color: 701 Black)	Wall: Sherwin Williams eggshell finish "Color TBD"	Lay-in 2x2	N/A
VEIN ROOM ULTRASOUND 1 ULTRASOUND 2	Altro Lavencia 'LAV1077 Farmhouse Smoke'	BURKE: 6" Rubber (Color: 701 Black)	Wall: Sherwin Williams eggshell-finish "Color TBD"	Lay-in 2x2	Plastic Laminate Counter: FORMICA 7197-58 'DOVER WHITE" Cabinet: WILSONART 7952K-18 "ASIAN SAND"
RECEPTION	Altro Lavencia 'LAV1077 Farmhouse Smoke'	BURKE: 6" Rubber (Color: 701 Black)	Wall: Sherwin Withams eggshell finish "Color TBD"	Lay-in 2x2	Lower - Formica "Storm 912-58" Upper - Caesar stone "2200P+H Desert Limestone"
RECOVERY PROCEDURE ROOM	Nora Systems Inc Rubber: Noraplan Sentica 3mm "Waterfall" Heatwelded Seams.	6" Integral Cove Base	Wall: Sherwin Williams eggshell finish "Color TBD"	Lay-in 2x2 Sherwin Williams flat finish "Simple white 7021"	N/A
HALLWAY 1 MA WORKROOM	Altro Lavencia 'LAV1077 Farmhouse Smoke'	BURKE: 6" Rubber-(Color: 701 Black)	Wall: Sherwin Williams eggshell finish "Color TBD"	Lay-in 2x2	Plastic Laminate Counter: FORMICA 7197-58 'DOVER WHITE" Cabinet: WILSONART 7952K-18 "ASIAN SAND"
CLEAN UTILITY SOILED UTILITY	Nora Systems Inc Rubber: Noraplan Sentica 3mm "Waterfall" Heatwelded Seams.	6" Integral Cove Base	Wall: Sherwin Williams eggshell finish "Color TBD"	Lay-in 2x2	Plastic Laminate Counter: FORMICA 7197-58 'DOVER WHITE" Cabinet: WILSONART 7952K-18 "ASIAN SAND"
CLINICAL STORAGE	Nora Systems Inc Rubber: Noraplan Sentica 3mm "Waterfall" Heatwelded Seams.	6" Integral Cove Base	Wall: Sherwin Williams eggshell finish "Color TBD"	Lay-in 2x2	N/A
BREAK ROOM	Altro Orchestra 'CH2818 Metal'	BURKE: 6" Rubber (Color: 701 Black)	Wall: Sherwin Williams eggshell finish "Color TBD"	Lsy-in 2x2	Plastic Laminate Counter: FORMICA 7197-58 'DOVER WHITE" Cabinet: WILSONART 7952K-18 "ASIAN SAND"
WH CLOSET JANITOR CLOSET	Altro Orchestra 'CH2818 Metal'	BURKE: 6" Rubber (Color: 701 Black)	Wall: Sherwin Williams eggshell finish "Color TBD"	Sherwin Williams flat finish "Simple white 7021"	



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ARCHITECT STAMP CONSULTANT STAMP



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INSTITUTE
2219 BATH STREET
SANTA BARBARA, CA
93105

SHEET TITLE:
FINISH SCHEDULE

DATE: 12-30-22

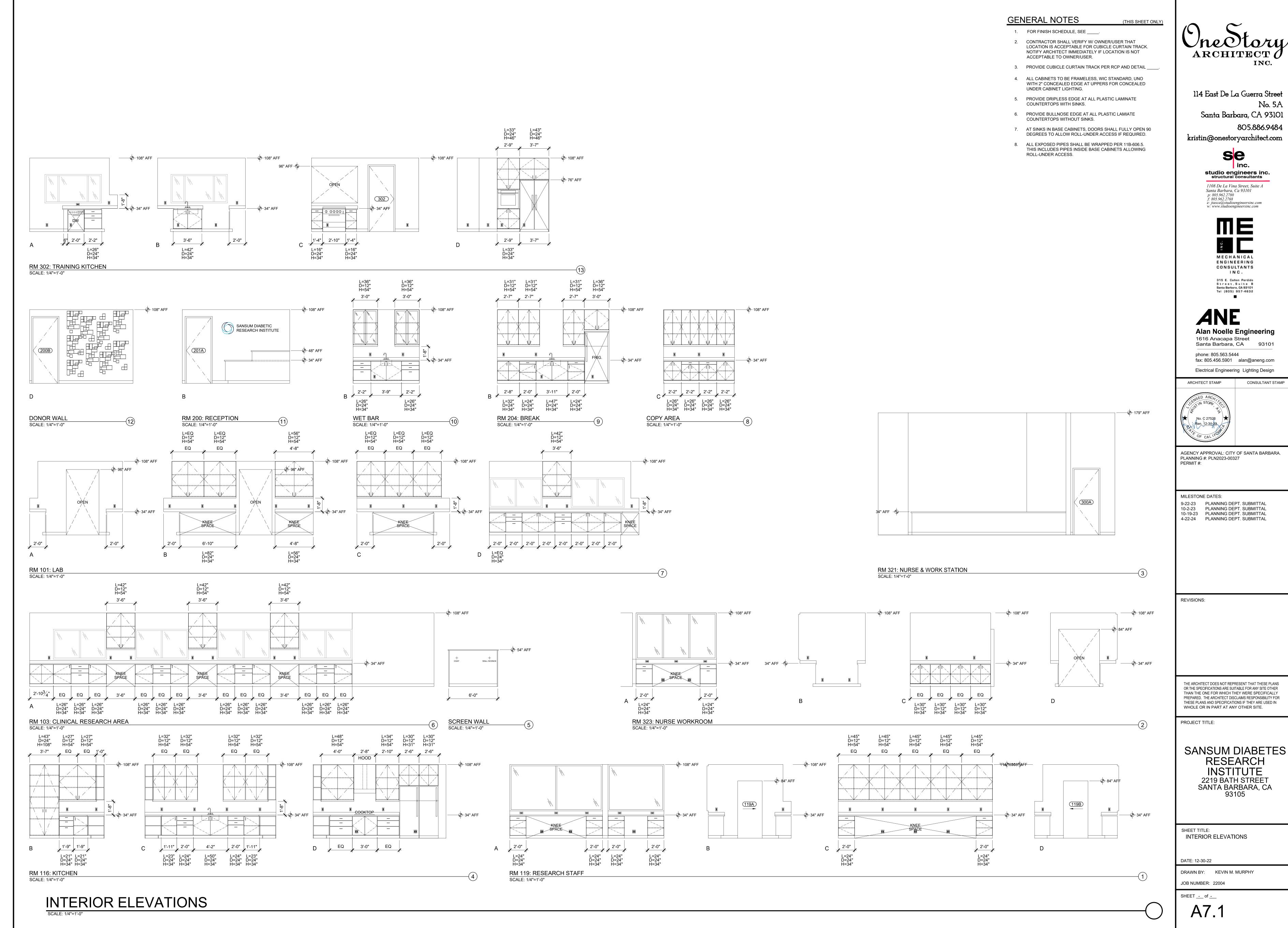
DRAWN BY: KEVIN M. MURPHY

JOB NUMBER: 22004

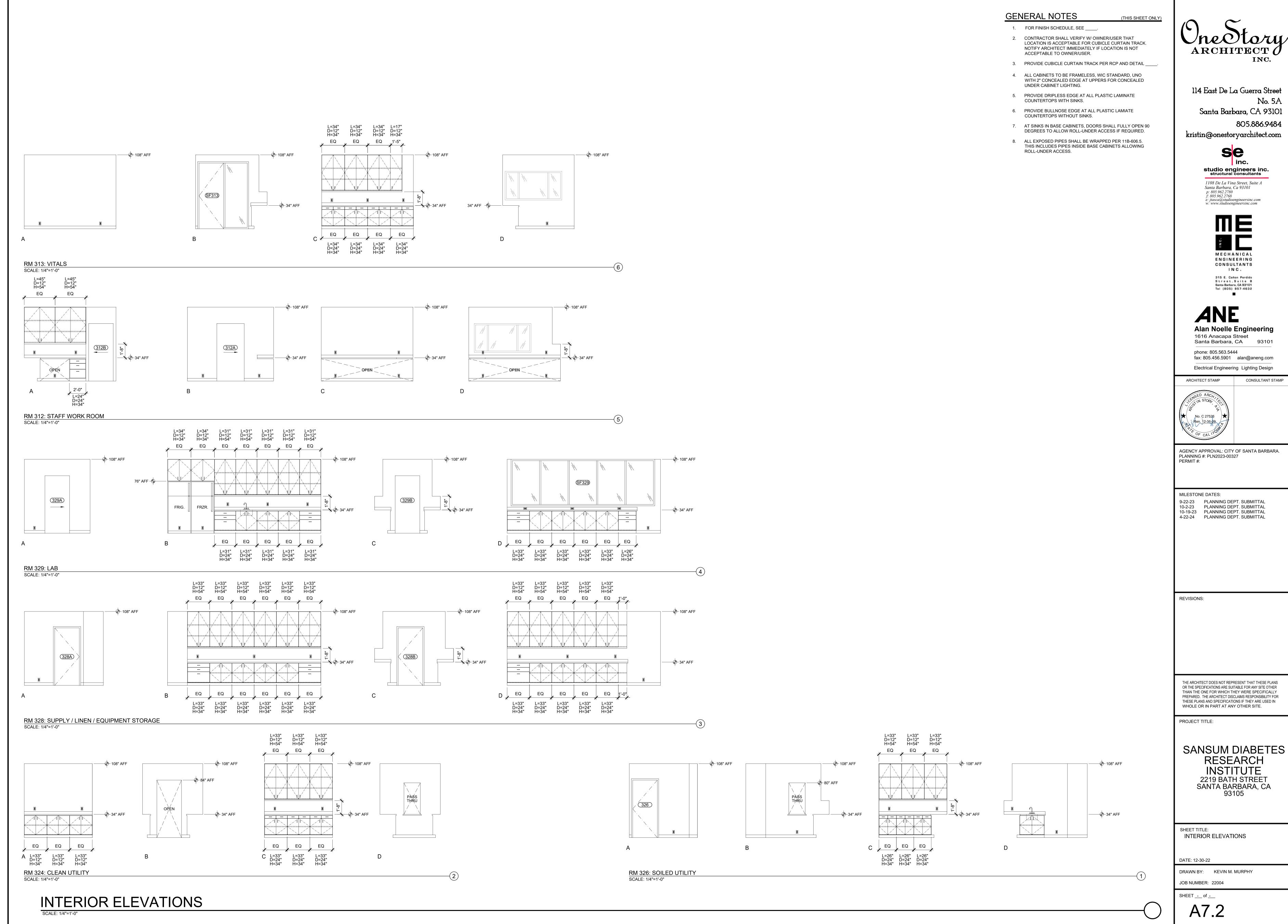
SHEET <u>-</u> of <u>-</u>

A7.0

FINISH SCHEDULE



No. 5A Santa Barbara, CA 93101



INC.

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RESEARCH INSTITUTE 2219 BATH STREET SANTA BARBARA, CA

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AGENCY APPROVAL: CITY OF SANTA BARBARA. PLANNING #: PLN2023-00327

9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR THESE PLANS AND SPECIFICATIONS IF THEY ARE USED IN WHOLE OR IN PART AT ANY OTHER SITE.

SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA 93105

INTERIOR ELEVATIONS

DRAWN BY: KEVIN M. MURPHY

OneStory ARCHITECT

(THIS SHEET ONLY)

GENERAL NOTES

1. FOR FINISH SCHEDULE, SEE \_\_\_\_\_.

ACCEPTABLE TO OWNER/USER.

COUNTERTOPS WITH SINKS.

ROLL-UNDER ACCESS.

COUNTERTOPS WITHOUT SINKS.

 CONTRACTOR SHALL VERIFY W/ OWNER/USER THAT LOCATION IS ACCEPTABLE FOR CUBICLE CURTAIN TRACK. NOTIFY ARCHITECT IMMEDIATELY IF LOCATION IS NOT

3. PROVIDE CUBICLE CURTAIN TRACK PER RCP AND DETAIL \_\_\_\_\_.

WITH 2" CONCEALED EDGE AT UPPERS FOR CONCEALED UNDER CABINET LIGHTING.

4. ALL CABINETS TO BE FRAMELESS, WIC STANDARD, UNO

5. PROVIDE DRIPLESS EDGE AT ALL PLASTIC LAMINATE

6. PROVIDE BULLNOSE EDGE AT ALL PLASTIC LAMIATE

7. AT SINKS IN BASE CABINETS, DOORS SHALL FULLY OPEN 90

8. ALL EXPOSED PIPES SHALL BE WRAPPED PER 11B-606.5.

DEGREES TO ALLOW ROLL-UNDER ACCESS IF REQUIRED.

THIS INCLUDES PIPES INSIDE BASE CABINETS ALLOWING

114 East De La Guerra Street No. 5A Santa Barbara, CA 93101 805.886.9484

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\_\_\_\_\_\_
Electrical Engineering Lighting Design

AGENCY APPROVAL: CITY OF SANTA BARBARA. PLANNING #: PLN2023-00327 PERMIT #:

MILESTONE DATES:

9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

REVISIONS:

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PROJECT TITLE:

SANSUM DIABETES
RESEARCH
INSTITUTE
2219 BATH STREET
SANTA BARBARA, CA
93105

SHEET TITLE:
INTERIOR ELEVATIONS

DATE: 12-30-22

DRAWN BY: KEVIN M. MURPHY

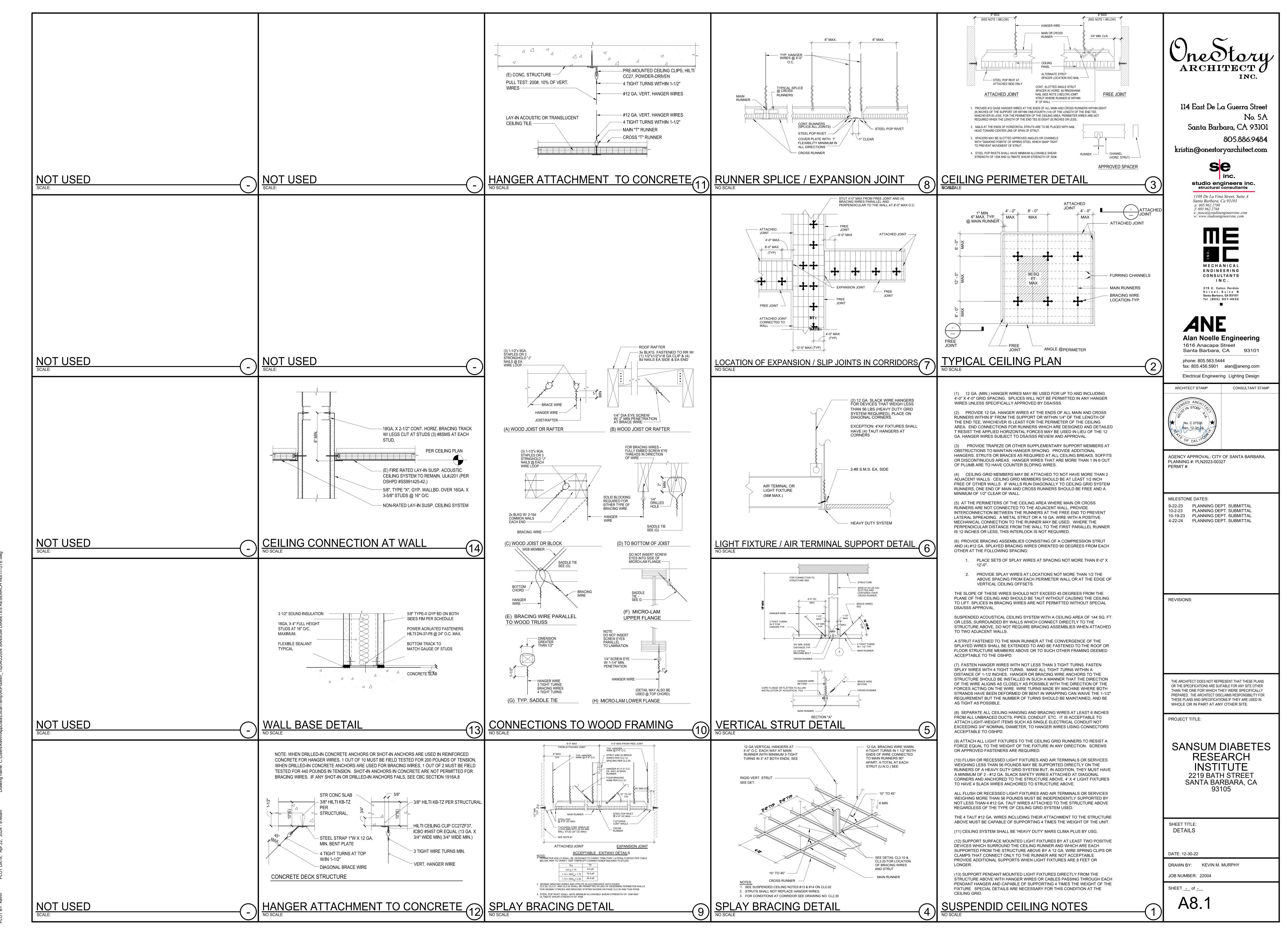
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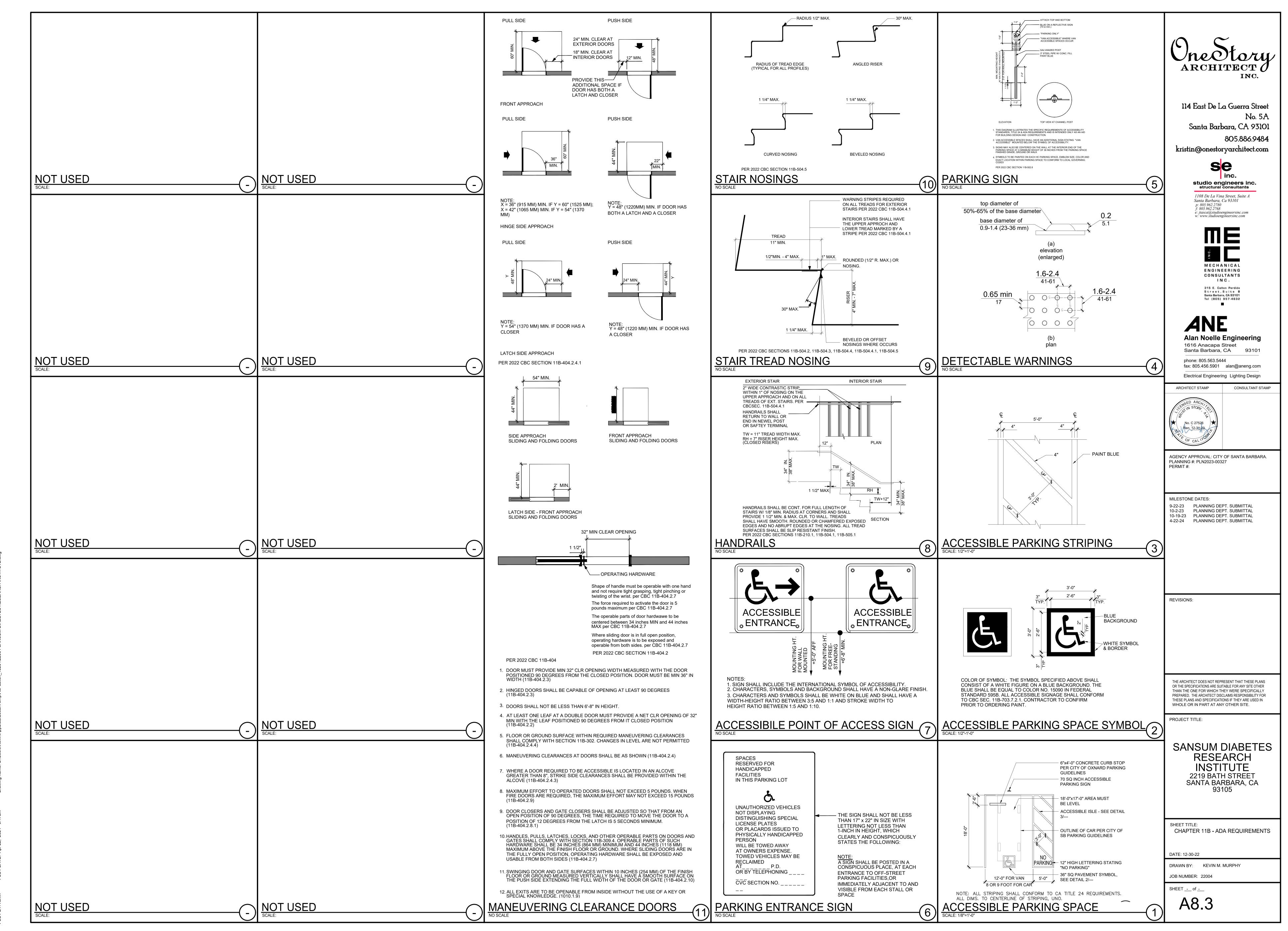
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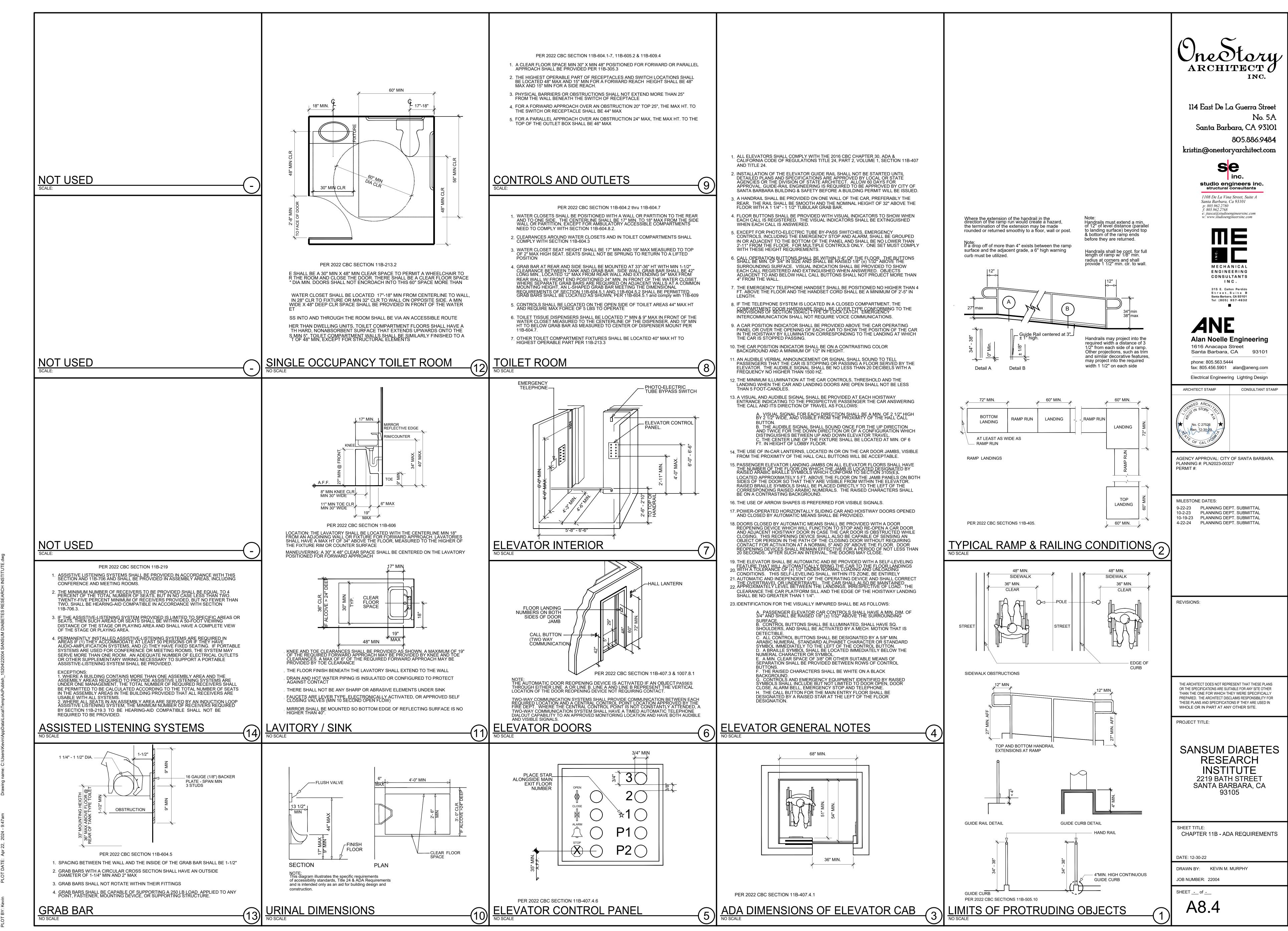
INTERIOR ELEVATIONS

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## California 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2023) **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 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 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) 301.5 HEALTH FACILITIES. (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 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 construction (or newly constructed) shall apply. **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 Office of Statewide Health Planning and Development 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 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 30 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: [N] EV capable spaces shall be provided in accordance with Table 5.106.5.3.1 and the following 1. Zero emission vehicle (ZEV), enhanced advanced technology PZEV (enhanced AT ZEV) or transitional zero emission vehicles (TZEV) regulated under CCR, Title 13, Section 1962. 2. High-efficiency vehicles, regulated by U.S. EPA, bearing a fuel economy and greenhouse gas rating od 9 oe 10 as regulated under 40 CFR Section 600 Subpart D. 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 TENANT-OCCUPANTS. Building occupants who inhabit a building during its normal hours of operation as permanent occupants, such as employees, as distinguished from customers and other transient visitors. 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. 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 arger 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, a. Scheduling construction activity during dry weather, when possible. b. Preservation of natural features, vegetation, soil, and buffers around surface waters.

Mulching or hydroseeding to stabilize disturbed soils.

g. Perimeter sediment control (perimeter silt fence, fiber rolls).

k. Other soil loss BMPs acceptable to the enforcing agency.

Sediment trap or sediment basin to retain sediment on site.

d. Management of washout areas (concrete, paints, stucco, etc.).

h. Other housekeeping BMPs acceptable to the enforcing agency.

Vehicle and equipment cleaning performed off site.

e. Control of vehicle/equipment fueling to contractor's staging area.

Protection of storm drain inlets (gravel bags or catch basin inserts).

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

e. Erosion control to protect slopes.

Stabilized construction exits.

Spill prevention and control.

b. Material handling and waste management.

Building materials stockpile management.

Wind erosion control.

a. Dewatering activities.

.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 nore 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). he 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 ermits emphasize runoff reduction through on-site stormwater use, interception, evapotranspiration, and infiltration prough 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 **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 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: 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. **5.106.5.3 Electric vehicle (EV) charging.** [N] Construction to provide electric vehicle infrastructure and facilitate electric vehicle charging shall comply with Section 5.106.5.3.1 and shall be provided in accordance with regulations in the California Building Code and the California Electrical Code.

1. On a case-by-case basis where the local enforcing agency has determined compliance with

this section is not feasible based upon one of the following conditions: a. Where there is no local utility power supply b. Where the local utility is unable to supply adequate power. c. Where there is evidence suitable to the local enforcement agency substantiating the local utility infrastructure design requirements, directly related to the implementation of

Section 5.106.5.3, may adversely impact the construction cost of the project. 2. Parking spaces accessible only by automated mechanical car parking systems are not required to comply with this code section

1. Raceways complying with the California Electrical Code and no less that 1-inch (25 mm) diameter shall be provided and 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 EV capable and into a suitable listed cabinet, box,enclosure or equivalent. A common raceway may be used to serve multiple EV charging spaces. 2. A service panel or subpanel (s) shall be provided with panel space and electrical load capacity for a dedicated 208/240 volt, 40-ampere minimum branch circuit for each EV capable space, with delivery of 30-ampere minimum to an installed EVSE at each EVCS.

3. The electrical system and any on-site distribution transformers shall have sufficient capacity to supply full rated amperage at each EV capable space. 4. The service panel or subpanel circuit directory shall identify the reserved overcurrent protective devices space(s) as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE."

Note: A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by an enforcement agency. See vehicle Code Section 22511.2 for further details.

TABLE 5.106.5.3.1		
TOTAL NUMBER OF ACTUAL PARKING SPACES	NUMBER OF REQUIRED EV CAPABLE SPACES	NUMBER OF EVCS (EV CAPABLE SPACES PROVIDED WITH EVSE)^2
0-9	0	0
10-25	2	0
26-50	8	2
51-75	13	3
76-100	17	4
101-150	25	6
151-200	35	9
201 AND OVER	20% of total <sup>1</sup>	25% of EV capable spaces <sup>1</sup>

1. Where there is insufficient electrical supply. 2. The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count towards the total number of required EV capable spaces shown in column 2.

5.106.5.3.2 Electric vehicle charging stations (EVCS) EV capable spaces shall be provided with EVSE to create EVCS in the number indicated in Table 5.106.5.3.1. The EVCS required by Table 5.106.5.3.1 may be provided with EVSE in any combination of Level 2 and Direct Current Fast Charging (DCFC), except that at least one Level 2 EVSE shall be

One EV charger with multiple connectors capable of charging multiple EVs simultaneously shall be permitted if the electrical load capacity required by Section 5.106.5.3.1 for each EV capable space is accumulatively supplied to the EV charger. The installation of each DCFC EVSE shall be permitted to reduce the minimum number of required EV

capable spaces without EVSE by five and reduce proportionally the required electrical load capacity to the

DISCLAIMER: THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING VERIFICATION WITH THE FULL CODE.

service panel or subpanel.

5.106.5.3.3 Use of automatic load management systems (ALMS). ALMS shall be permitted for EVCS. When ALMS is installed, the required electrical load capacity 5.106.5.3.1 for each EVCS may be reduced when serviced by an EVSE controlled by an ALMS. Each EVSE controlled by an ALMS shall deliver a minimum 30 amperes to an EV when charging one vehicle and shall deliver a minimum 3.3 kW while simultaneously charging multiple EVs. 5.106.5.3.4 Accessible EVCS. When EVSE is installed, accessible EVSC shall be provided in accordance with the California Building Code, Chapter 11B, Section 11B-228.3. Note: For EVCS signs, refer to Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle

5.106.5.4 Electric Vehicle (EV) charging: medium-duty and heavy-duty. [N] Construction shall comply with section 5.106.5.4.1 to facilitate future installation of electric vehicle supply equipment (EVSE). Construction for warehouses, grocery stores and retail stores with planned off-street loading spaces shall also comply with Section 5.106.5.4.1 for future installation of medium- and heavy-duty EVSE. 1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:

Signs and Pavement Markings) or its successor(s).

a. Where there is no local utility power supply. b. Where the local utility is unable to supply adequate power. c. 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 project. When EVSE(s) is/are installed, it shall be in accordance with the California Building Code, the California

5.106.5.4.1 Electric vehicle charging readiness requirements for warehouse, grocery stores and retail store with planned off-street loading spaces. [N] In order to avoid future demolition when adding EV charging supply and distribution equipment, spare raceways(s) or busway(s) and adequate capacity for transformers(s), service panels(s) or subpanel(s) shall be installed at the time of construction in accordance with the California Electrical Code. Construction plans and specifications shall include but are not limited to, the following:

1. The transformer, main service equipment and subpanel shall meet the minimum power requirement in Table 5.106.5.4.1 to accommodate the dedicated branch circuits for the future 2. The construction documents shall indicate on or more location(s) convenient to the planned offstreet loading space(s) reserved for medium-and heavy-duty ZEV charging cabinets and charging dispensers, and a pathway reserved for routing of conduit from the termination of the

raceway(s) or busway(s) to the charging cabinet(s) and dispenser(s) as shown in Table 3. Raceway(s) or busway(s) originating at a main service panel or a subpanel(s) serving the area where potential future medium-and heavy-duty EVSE will be located and shall terminate in close

proximity to the potential future location of the charging equipments for medium- and heavy-duty 4. The raceway(s) or busway(s) shall be sufficient size to carry the minimum additional system load to the future location of the charging for medium- and heavy-duty ZEVs as shown in Table

TABLE 5.106.5.4.1 RACEWAY CONDUIT AND PANEL POWER REQUIREMENTS FOR MEDIUM- AND HEAVY-DUTY EVSE [N]

BUILDING TYPE	BUILDING SIZE (SQ. FT.)	NUMBER OF OFF-STREET LOADING SPACES	ADDITIONAL CAPACITY REQUIRED (KVA) FOR RACEWAY & BUSWAY AND TRANSFORMER & PANEL
Grocery	10,000 to 90,000	1 or 2	200
	10,000 to 90,000	3 or Greater	400
	Greater than 90,000	1 or Greater	400
Retail	10 000 to 135 000	1 or 2	200
	10,000 to 135,000	3 or Greater	400
Greater than 135,000		1 or Greater	400
Warehouse		1 or 2	200
	20,000 to 256,000	3 or Greater	400
<u> </u>	Greater than 256,000	1 or Greater	400

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

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. Exceptions: [N]

1. Luminaires that qualify as exceptions in Sections 130.2 (b) and 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 Alternate materials, designs and methods of construction.

5. Luminaires with less than 6.200 initial luminaire lumens.

TABLE 5.106.8 [N] MA UPLIGHT AND GLARE			BACKLIGH <sup>*</sup>	Γ,	
ALLOWABLE RATING	LIGHTING ZONE LZ0	LIGHTING ZONE LZ1	LIGHTING ZONE LZ2	LIGHTING ZONE LZ3	LIGHTING 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	В3	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 3	N/A	U0	U0	U0	U0
For all other outdoor lighting,including decorative luminaires	N/A	U1	U2	U3	UR

NOT APPLICABLE
RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC. MAXIMUM ALLOWABLE GLARE RATING 5 (G) **MAXIMUM ALLOWABLE** N/A GLARE RATING 5 (G) MAXIMUM ALLOWABLE GLARE RATING 5 (G) MAXIMUM ALLOWABLE N/A GLARE RATING 5 (G) MAXIMUM ALLOWABLE GLARE RATING 5 (G)

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

. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the California Energy

3. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaries located in these areas shall meet *U*-value limits for "all other outdoor lighting"

Luminaries within 2MH of a property line shall be oriented so that the nearest property line is behind the fixture, and shall comply with the backlight rating specified in Table 5.106.8 based on the lighting zone and distance to the nearest point of that property line. **Exception: Corners.** If two property lines (or two segments of the same property line) have equidistant point to the luminaire, then the luminaire may be oriented so that the intersection of the two lines (the corner) is directly behind the luminaire. The luminaire shall still use the distance to the nearest points(s) on the property lines to determine the required backlight rating.

For luminaires covered by 5.106.8.1, if a property line also exists within or extends into the front hemisphere within 2MH of the luminaire then the luminaire shall comply with the more stringent glare rating specified in Table 5.106.8 based on the lighting zone and distance to the nearest point on the nearest property line within the front

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

.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.

French drains. Water retention gardens

volume or cycle duration can be fixed or adjustable.

Other water measures which keep surface water away from buildings and aid in groundwater recharge. **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:** Surface parking area covered by solar photovoltaic shade structures with roofing

materials that comply with Table A5.106.11.2.2 in Appendix A5 shall be permitted in whole or in part in **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.

Walks, hardscape areas covered by solar photovoltaic shade structures or shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5 shall be permitted in whole or in part in lieu 2. Designated and marked play areas of organized sport activity are not included in the total area calculation. **DIVISION 5.2 ENERGY EFFICIENCY** 

**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 SECTION 5.301 GENERAL **5.301.1 Scope.** The provisions of this chapter shall establish the means of conserving water use indoors, outdoors

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

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

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). [HCD] The California model ordinance (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 Water Standards. See definition in the California Plumbing Code, Part 5. POTABLE WATER, [HCD] Water that is satisfactory for drinking, culinary, and domestic purposes, and meets the

Having Jurisdiction. **RECYCLED WATER.** Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur [Water Code Section 13050 (n)]. Simply put, recycled water is water

U.S. Environmental Protection Agency (EPA) Drinking Water Standards and the requirements of the Health Authority

treated to remove waste matter attaining a quality that is suitable to use the water again. SUBMETER. [HCD 1] A secondary device beyond a meter that measures water consumption of an individual rental unit within a multiunit residential structure or mixed-use residential and commercial structure. (See Civic Code Section

1954.202 (g) and Water code Section 517 for additional details.) 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 Ordinance (MWELO).

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ARCHITECT STAMP



AGENCY APPROVAL: CITY OF SANTA BARBARA. PLANNING #: PLN2023-00327

MILESTONE DATES: 9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

**REVISIONS:** 

THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR THESE PLANS AND SPECIFICATIONS IF THEY ARE USED IN WHOLE OR IN PART AT ANY OTHER SITE.

PROJECT TITLE:

SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

2022 CALIFORNIA GREEN BUILDING

DATE: 12-30-22

STANDARDS CODE

JOB NUMBER: 22004 SHEET \_\_ of \_\_

DRAWN BY: KEVIN M. MURPHY



## California 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

NONRESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2023)

5.410.2 COMMISSIONING. [N] New buildings 10,000 square feet and over. For new buildings 10,000 square feet SECTION 5.303 INDOOR WATER USE **5.410.4.4 Reporting.** After completion of testing, adjusting and balancing, provide a final report of testing and over, building commissioning shall be included in the design and construction processes of the building project to **5.303.1 METERS.** Separate submeters or metering devices shall be installed for the uses described in Sections signed by the individual responsible for performing these services. verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of **5.410.4.5 Operation and maintenance (O & M) manual.** Provide the building owner or representative with **SECTION 5.402 DEFINITIONS** comparable size and complexity. For I-occupancies that are not regulated by OSHPD or for I-occupancies and **5.303.1.1 Buildings in excess of 50,000 square feet.** Separate submeters shall be installed as follows: detailed operating and maintenance instructions and copies of guaranties/warranties for each system. O & M L-occupancies that are not regulated y the California Energy Code Section 100.0 Scope, all requirements in Sections **5.402.1 DEFINITIONS.** The following terms are defined in Chapter 2 (and are included here for reference) instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related 5.410.2 through 5.410.2.6 shall apply. 1. For each individual leased, rented or other tenant space within the building projected to consume **ADJUST.** To regulate fluid flow rate and air patterns at the terminal equipment, such as to reduce fan speed or adjust more than 100 gal/day (380 L/day), including, but not limited to, spaces used for laundry or cleaners, Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop. **5.410.4.5.1 Inspections and reports.** Include a copy of all inspection verifications and reports required ventilation, air conditioning (HVAC) systems and controls, indoor lighting systems and controls, as well as water by the enforcing agency. 2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements BALANCE. To proportion flows within the distribution system, including sub-mains, branches and terminals, according to design quantities. a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s). Commissioning requirements shall include: DIVISION 5.5 ENVIRONMENTAL QUALITY b. Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s). BUILDING COMMISSIONING. A systematic quality assurance process that spans the entire design and construction c. Steam and hot water boilers with energy input more than 500,000 Btu/h (147 kW). 1. Owner's or Owner representative's project requirements. process, including verifying and documenting that building systems and components are planned, designed, installed, **SECTION 5.501 GENERAL** ested, operated and maintained to meet the owner's project requirements. 2. Basis of design. 5.501.1 SCOPE. The provisions of this chapter shall outline means of reducing the quantity of air contaminants that **5.303.1.2 Excess consumption.** A separate submeter or metering device shall be provided for any tenant 3. Commissioning measures shown in the construction documents. are odorous, irritating, and/or harmful to the comfort and well-being of a building's installers, occupants and neighbors. within a new building or within an addition that is projected to consume more than 1,000 gal/day. DRGANIC WASTE. Food waste, green waste, landscape and pruning wste, nonhazardous wood waste, and food 4. Commissioning plan. Functional performance testing soiled paper waste that is mixed in with food waste. Documentation and training. 5.303.3 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and **5.502.1 DEFINITIONS.** The following terms are defined in Chapter 2 (and are included here for reference) **TEST.** A procedure to determine quantitative performance of a system or equipment Commissioning report. rinals) and fittings (faucets and showerheads) shall comply with the following: SECTION 5.407 WATER RESISTANCE AND MOISTURE MANAGEMEN<sup>-</sup> **ARTERIAL HIGHWAY.** A general term denoting a highway primarily for through traffic usually on a continuous route. **5.303.3.1 Water Closets.** The effective flush volume of all water closets shall not exceed 1.28 gallons per 5.407.1 WEATHER PROTECTION. Provide a weather-resistant exterior wall and foundation envelope as required by flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense A-WEIGHTED SOUND LEVEL (dBA). The sound pressure level in decibels as measured on a sound level meter California Building Code Section 1402.2 (Weather Protection), manufacturer's installation instructions or local Unconditioned warehouses of any size. Specification for Tank-Type toilets. using the internationally standardized A-weighting filter or as computed from sound spectral data to which A-weighting ordinance, whichever is more stringent. 2. Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within adjustments have been made. Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of 5.407.2 MOISTURE CONTROL. Employ moisture control measures by the following methods. 3. Tenant improvements less than 10,000 square feet as described in Section 303.1.1. two reduced flushes and one full flush. 1 BTU/HOUR. British thermal units per hour, also referred to as Btu. The amount of heat required to raise one pound 4. Open parking garages of any size, or open parking garage areas, of any size, within a structure. of water one degree Fahrenheit per hour, a common measure of heat transfer rate. A ton of refrigeration is 12,000 Btu, 5.407.2.1 Sprinklers. Design and maintain landscape irrigation systems to prevent spray on structures. the amount of heat required to melt a ton (2,000 pounds) of ice at 32<sup>0</sup> Fahrenheit. Note: For the purposes of this section, unconditioned shall mean a building, area, or room which does not 5.303.3.2.1 Wall-mounted Urinals. The effective flush volume of wall-mounted urinals shall not exceed **5.407.2.2 Entries and openings**. Design exterior entries and/or openings subject to foot traffic or wind-driven provide heating and or air conditioning. COMMUNITY NOISE EQUIVALENT LEVEL (CNEL). A metric similar to the day-night average sound level (Ldn), rain to prevent water intrusion into buildings as follows: except that a 5 decibel adjustment is added to the equivalent continuous sound exposure level for evening hours (7pm Informational Notes: 5.303.3.2.2 Floor-mounted Urinals. The effective flush volume of floor-mounted or other urinals shall to 10pm) in addition to the 10 dB nighttime adjustment used in the Ldn. 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 . IAS AC 476 is an accreditation criteria for organizations providing training and/or certification of COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium such openings plus at least one of the following: commissioning personnel. AC 476 is available to the Authority Having Jurisdiction as a reference for 5.303.3.3 Showerheads, [BSC-CG] density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, qualifications of commissioning personnel. AC 476 des not certify individuals to conduct functional 5.303.3.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 structural composite lumber, oriented strand board, glued laminated timber, timber, prefabricated wood I-joists or An installed awning at least 4 feet in depth. performance tests or to adjust and balance systems. gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA finger-jointed lumber, all as specified in California Code of Regulations (CCR), Title 17, Section 93120.1(a). 2. The door is protected by a roof overhang at least 4 feet in depth. WaterSense Specification for Showerheads 3. The door is recessed at least 4 feet. 2. Functional performance testing for heating, ventilation, air conditioning systems and lighting controls Note: See CCR, Title 17, Section 93120.1. 4. Other methods which provide equivalent protection. must be performed in compliance with the California Energy Code. **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 DAY-NIGHT AVERAGE SOUND LEVEL (Ldn). The A-weighted equivalent continuous sound exposure level for a **5.407.2.2.2 Flashing.** Install flashings integrated with a drainage plane. single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to 24-hour period with a 10 dB adjustment added to sound levels occurring during nighttime hours (10p.m. to 7 a.m.). 5.410.2.1 Owner's or Owner Representative's Project Requirements (OPR). [N] The expectations and allow only one shower outlet to be in operation at a time. requirements of the building appropriate to its phase shall be documented before the design phase of the **Note:** A hand-held shower shall be considered a showerhead. **DECIBEL (db).** A measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, project begins. This documentation shall include the following: SECTION 5.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND sound power, sound intensity) with respect to a reference quantity. Environmental and sustainability goals. 2. Building sustainable goals. ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses. 5.303.3.4 Faucets and fountains. 3. Indoor environmental quality requirements. 5.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65% of the trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor 4. Project program, including facility functions and hours of operation, and need for after hours non-hazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. 5.303.3.4.1 Nonresidential Lavatory faucets. Lavatory faucets shall have a maximum flow rate of not neet a local construction and demolition waste management ordinance, whichever is more stringent. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For purposes of the California Electrical Code, Equipment and systems expectations. off-road, self-propoelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground 6. Building occupant and operation and maintenance (O&M) personnel expectations. **5.408.1.1 Construction waste management plan.** Where a local jurisdiction does not have a construction and support equipment, tractors, boats, and the like, are not included. **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. demolition waste management ordinance, submit a construction waste management plan that: **5.410.2.2 Basis of Design (BOD). [N]** A written explanation of how the design of the building systems meets ELECTRIC VEHICLE CHARGING STATION(S) (EVCSj). One or more spaces intended for charging electric vehicles. but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons the OPR shall be completed at the design phase of the building project. The Basis of Design document shall 1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient cover the following systems: usage, recycling, reuse on the project or salvage for future use or sale. ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). The conductors, including the ungrounded, grounded, and 2. Determines if construction and demolition waste materials will be sorted on-site (source-separated) or 5.303.3.4.3 Wash fountains. Wash fountains shall have a maximum flow rate of not more than 1.8 equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, Renewable energy systems. power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring gallons per minute/20 [rim space (inches) at 60 psi]. Landscape irrigation systems. 3. Identifies diversion facilities where construction and demolition waste material collected will be taken. Water reuse system 4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated 5.303.3.4.4 Metering faucets. Metering faucets shall not deliver more than 0.20 gallons per cycle. by weight or volume, but not by both. **ENERGY EQUIVALENT (NOISE) LEVEL (Leq).** The level of a steady noise which would have the same energy as 5.410.2.3 Commissioning plan. [N] Prior to permit issuance a commissioning plan shall be completed to the fluctuating noise level integrated over the time of period of interest. **5.303.3.4.5 Metering faucets for wash fountains.** Metering faucets for wash fountains shall have a document how the project will be commissioned. The commissioning plan shall include the following: **5.408.1.2 Waste Management Company.** Utilize a waste management company that can provide verifiable maximum flow rate of not more than 0.20 gallons per minute/20 [rim space (inches) at 60 psi]. General project information. documentation that the percentage of construction and demolition waste material diverted from the landfill EXPRESSWAY. An arterial highway for through traffic which may have partial control of access, but which may or may Commissioning goals. not be divided or have grade separations at intersections. Note: Where complying faucets are unavailable, aerators or other means may be used to achieve 3. Systems to be commissioned. Plans to test systems and components shall include: a. An explanation of the original design intent. Note: The owner or contractor shall make the determination if the construction and demolition waste material FREEWAY. A divided arterial highway with full control of access and with grade separations at intersections. b. Equipment and systems to be tested, including the extent of tests. will be diverted by a waste management company. 5.303.3.4.6 Pre-rinse spray value c. Functions to be tested. GLOBAL WARMING POTENTIAL (GWP). The radiative forcing impact of one mass-based unit of a given greenhouse When installed, shall meet the requirements in the California Code of Regulations, Title 20 (Appliance d. Conditions under which the test shall be performed. **Exceptions to Sections 5.408.1.1 and 5.408.1.2:** Efficiency Regulations), Section 1605.1 (h)(4) Table H-2, Section 1605.3 (h)(4)(A), and Section 1607 gas relative to an equivalent unit of carbon dioxide over a given period of time. Carbon dioxide is the reference e. Measurable criteria for acceptable performance. (d)(7), and shall be equipped with an integral automatic shutoff. Commissioning team information. 1. Excavated soil and land-clearing debris. 5. Commissioning process activities, schedules and responsibilities. Plans for the completion of 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle GLOBAL WARMING POTENTIAL VALUE (GWP VALUE). A 100-year GWP value published by the FOR REFERENCE ONLY: The following table and code section have been reprinted from the California commissioning shall be included. Intergovernmental Panel on Climate Change (IPCC) in either its Second Assessment Report (SAR) (IPCC, 1995): or facilities capable of compliance with this item do not exist. Code of Regulations, Title 20 (Appliance Efficiency Regulations), Section 1605.1 (h)(4) and Section 3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities its Fourth Assessment A-3 Report (AR4) (IPCC, 2007). The SAR GWP values are found in column "SAR (100-yr)" of 1605.3 (h)(4)(A). **5.410.2.4 Functional performance testing. [N]** Functional performance tests shall demonstrate the correct Table 2.14.; the AR4 GWP values are found in column "100 yr" of Table 2.14. 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 TABLE H-2 5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does HIGH-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that is: (a) a chlorofluorocarbon, a each of the building components tested, the testing methods utilized, and include any readings and adjustments not exceed two pounds per square foot of building area may be deemed to meet the 65% minimum requirement 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 STANDARDS FOR COMMERCIAL PRE-RINSE SPRAY Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009). 5.408.1.4 Documentation. Documentation shall be provided to the enforcing agency which demonstrates 5.410.2.5 Documentation and training. [N] A Systems Manual and Systems Operations Training are required, VALUES MANUFACTURED ON OR AFTER JANUARY 28, 201 compliance with Sections 5.408.1.1, through 5.408.1.3. The waste management plan shall be updated as including Occupational Safety and Health Act (OSHA) requirements in California Code of Regulations (CCR), LONG RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, necessary and shall be accessible during construction for examination by the enforcing agency. Title 8, Section 5142, and other related regulations. with a radius 1.5 times the pipe diameter. MAXIMUM FLOW RATE (gpm) [spray force in ounce force (ozf)] LOW-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that: (A) has a GWP value less than **5.410.2.5.1 Systems manual. [N]** Documentation of the operational aspects of the building shall be Product Class 1 (≤ 5.0 ozf) 1.00 150, and (B) is not an ozone depleting substance as defined in Title 40 of the Code of Federal Regulations. Part 82, completed within the systems manual and delivered to the building owner or representative. The Sample forms found in "A Guide to the California Green Building Standards Code (Nonresidential)" sec.82.3 (as amended March 10, 2009). Product Class 2 (> 5.0 ozf and  $\leq$  8.0 ozf) 1.20 systems manual shall include the following: located www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-1. Site information, including facility description, history and current requirements. Product Class 3 (> 8.0 ozf) Resources-List-Folder/CALGreen may be used to assist in documenting compliance with the waste MERV. Filter minimum efficiency reporting value, based on ASHRAE 52.2-1999. 1.28 Site contact information. 3. Basic operations and maintenance, including general site operating procedures, basic 2. Mixed construction and demolition debris processors can be located at the California Department of MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a 5.303.4 COMMERCIAL KITCHEN EQUIPMENT. troubleshooting, recommended maintenance requirements, site events log. Resources Recycling and Recovery (CalRecycle). compound to the "Base REactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to Major systems. hundreths of a gram (g O³/g ROC). **5.303.4.1 Food Waste Disposers.** Disposers shall either modulate the use of water to no more than 1 gpm 5.408.2 UNIVERSAL WASTE. [A] Additions and alterations to a building or tenant space that meet the scoping 5. Site equipment inventory and maintenance notes. when the disposer is not in use (not actively grinding food waste/no-load) or shall automatically shut off after no provisions in Section 301.3 for nonresidential additions and alterations, shall require verification that Universal Waste 6. A copy of verifications required by the enforcing agency or this code. PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this more than 10 minutes of inactivity. Disposers shall use no more than 8 gpm of water. 7. Other resources and documentation, if applicable tems such as fluorescent lamps and ballast and mercury containing thermostats as well as other California prohibited article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of Note: This code section does not affect local jurisdiction authority to prohibit or require disposer Universal Waste materials are disposed of properly and are diverted from landfills. A list of prohibited Universal Waste product (excluding container and packaging). naterials shall be included in the construction documents. **5.410.2.5.2 Systems operations training. [N]** A program for training of the appropriate maintenance PSIG. Pounds per square inch, guage. 5.303.5 AREAS OF ADDITION OR ALTERATION. For those occupancies within the authority of the California staff for each equipment type and/or system shall be developed and documented in the commissioning Note: Refer to the Universal Waste Rule link at: http://www.dtsc.ca.gov/universalwaste/ Building Standards Commission as specified in Section 103, the provisions of Section 5.303.3 and 5.303.4 shall apply report and shall include the following: REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to to new fixtures in additions or areas of alteration to the building. 1. System/equipment overview (what it is, what it does and with what other systems and/or 5.408.3 EXCAVATED SOIL AND LAND CLEARING DEBRIS. 100 percent of trees, stumps, rocks and associated ozone formation in the troposphere. equipment it interfaces). recetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such 5.303.6 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures and fittings shall be installed 2. Review and demonstration of servicing/preventive maintenance. naterial may be stockpiled on site until the storage site is developed. SCHRADER ACCESS VALVES. Access fittings with a valve core installed. in accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 1701.1 3. Review of the information in the Systems Manual. of the California Plumbing Code and in Chapter 6 of this code. **Exception:** Reuse, either on or off-site, of vegetation or soil contaminated by disease or pest infestation. Review of the record drawings on the system/equipment. 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. SECTION 5.304 OUTDOOR WATER USE 5.410.2.6 Commissioning report. [N] A report of commissioning process activities undertaken through the 5.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Nonresidential developments shall comply SUPERMARKET. For the purposes of Section 5.508.2, a supermarket is any retail food facility with 8,000 square feet design and construction phases of the building project shall be completed and provided to the owner or with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water 1. If contamination by disease or pest infestation is suspected, contact the County Agricultural or more conditioned area, and that utilizes either refrigerated display cases, or walk-in coolers or freezers connected Efficient Landscape Ordinance (MWELO), whichever is more stringent. Commissioner and follow its direction for recycling or disposal of the material. to remote compressor units or condensing units. 2. For a map of know pest and/or disease quarantine zones, consult with the California Department of VOC. A volatile organic compound broadly defined as a chemical compound based on carbon chains or rings with 5.410.4 TESTING AND ADJUSTING. New buildings less than 10,000 square feet. Testing and adjusting of Food and Agriculture. (www.cdfa.ca.gov) vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain 1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code of Regulations, systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a) alteration subject to Section 303.1. 2. MWELO and supporting documents, including a water budget calculator, are available at: Note: Where specific regulations are cited from different agencies such as SCAQMD, ARB, etc., the VOC definition https://www.water.ca.gov/. 5.410.4.2 (Reserved) included in that specific regulation is the one that prevails for the specific measure in question. 5.304.6 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. For public schools and community colleges, Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including SECTION 5.503 FIREPLACES andscape projects as described in Sections 5.304.6.1 and 5.304.6.2 shall comply with the California Department of SECTION 5.410 BUILDING MAINTENANCE AND OPERATIONS heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting system and controls, as well 5.503.1 FIREPLACES. Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed Water Resources Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter **5.410.1 RECYCLING BY OCCUPANTS.** Provide readily accessible areas that serve the entire building and are as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning woodstove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, 2.7, Division 2, Title 23, California Code of Regulations, except that the evapotranspiration adjustment factor (ETAF) dentified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) requirements and Sections 120.5, 120.6, 130.4, and 140.9(b)3 for additional testing requirements of specific shall be 0.65 with an additional water allowance for special landscape areas (SLA) of 0.35. Subchapter 7, Section 150. Woodstoves, pellet stoves and fireplaces shall comply with applicable local ordinances. paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive. 5.503.1.1 Woodstoves. Woodstoves and pellet stoves shall comply with U.S. EPA New Source Performance **Exception**: Any project with an aggregate landscape area of 2,500 square feet or less may comply with the Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified **5.410.4.2 Systems.** Develop a written plan of procedures for testing and adjusting systems. Systems to be prescriptive measures contained in Appendix D of the MWELO. **Exception**: Rural jurisdictions that meet and apply for the exemption in Public Resources included for testing and adjusting shall include at a minimum, as applicable to the project: to meet the emission limits. Code 42649.82 (a)(2)(A) et seq. shall also be exempt from the organic waste portion of this section. **5.304.6.1 Newly constructed landscapes.** New construction projects with an aggregate landscape area equal to or greater than 500 square feet. **5.410.1.1 Additions.** All additions conducted within a 12-month period under single or multiple permits, Renewable energy systems. SECTION 5.504 POLLUTANT CONTROL 2. Landscape irrigation systems. resulting in an increase of 30% or more in floor area, shall provide recycling areas on site. 5.504.1 TEMPORARY VENTILATION. The permanent HVAC system shall only be used during construction if **5.304.6.2 Rehabilitated landscapes.** Rehabilitated landscape projects with an aggregate Water reuse systems. necessary to condition the building or areas of addition or alteration within the required temperature range for landscape area equal to or greater than 1,200 square feet. **Exception**: Additions within a tenant space resulting in less than a 30% increase in the tenant space material and equipment installation. If the HVAC system is used during construction, use return air filters with a **5.410.4.3 Procedures.** Perform testing and adjusting procedures in accordance with manufacturer's Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of DIVISION 5.4 MATERIAL CONSERVATION AND RESOURCE specifications and applicable standards on each system. 30% based on ASHRAE 52.1-1992 Replace all filters immediately prior to occupancy, or, if the building is 5.410.1.2 Sample ordinance. Space allocation for recycling areas shall comply with Chapter 18, Part 3, occupied during alteration, at the conclusion of construction.

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w: www.studioengineersinc.com

NOT APPLICABLE

RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER,



Santa Barbara, CA 93101

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Electrical Engineering Lighting Design

1616 Anacapa Street

ARCHITECT STAMP



AGENCY APPROVAL: CITY OF SANTA BARBARA. PLANNING #: PLN2023-00327

MILESTONE DATES: 9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL

4-22-24 PLANNING DEPT. SUBMITTAL

**REVISIONS:** 

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PROJECT TITLE:

RESEARCH SANTA BARBARA, CA

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

DATE: 12-30-22

DRAWN BY: KEVIN M. MURPHY JOB NUMBER: 22004

SHEET \_-\_ of \_-\_

5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of

sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which

rough installation and during storage on the construction site until final startup of the heating, cooling and ventilation

equipment, all duct and other related air distribution component openings shall be covered with tape, plastic,

may enter the system.

**EFFICIENCY** Division 30 of the Public Resources Code. Chapter 18 is known as the California Solid Waste Reuse and Recycling Access Act of 1991 (Act). SECTION 5.401 GENERAL

**5.401.1 SCOPE.** The provisions of this chapter shall outline means of achieving material conservation and resource

echniques to reduce pollution through recycling of materials, and building commissioning or testing and adjusting.

efficiency through protection of buildings from exterior moisture, construction waste diversion, employment of

Note: A sample ordinance for use by local agencies may be found in Appendix A of the document at the

**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.

114 East De La Guerra Street

RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER

5.508.2 Supermarket refrigerant leak reduction. New commercial refrigeration systems shall comply with the

**5.508.2.1 Refrigerant piping.** Piping compliant with the California Mechanical Code shall be installed to be

**5.508.2.1.2 Copper pipe.** Copper tubing with an OD less than 1/4 inch may be used in systems with a

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

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

**5.508.2.2.1 Pressure relief valves.** For vessels containing high-GWP refrigerant, a rupture disc shall

**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

**5.508.2.2.2.1 Valve caps.** For systems with a refrigerant charge of 5 pounds or more, valve caps

**5.508.2.2.2.1 Chain tethers.** Chain tethers to fit ovr the stem are required for valves

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

**5.508.2.2.2.2 Seal caps.** If designed for it, the cap shall have a neoprene O-ring in place.

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

5.508.2.4 Refrigerant receivers. Refrigerant receivers with capacities greater than 200 pounds shall be fitted

**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

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.

**5.508.2.5.2 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

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

appropriate tracer gas to bring system pressure up to 300 psig minimum.

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

5.508.2.2 Valves. Valves Valves and fittings shall comply with the California Mechanical Code and as

be installed between the outlet of the vessel and the inlet of the pressure relief valve.

**5.508.2.2.2 Access valves.** Only Schrader access valves with a brass or steel body are

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

**5.508.2.1.2.1 Anchorage.** One-fouth-inch OD tubing shall be securely clamped to a rigid base to

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

**5.508.2.1.1 Threaded pipe.** Threaded connections are permitted at the compressor rack.

refrigerant systems except as noted below.

refrigerant charge of 5 pounds or less.

controls, valve pilot lines and oil.

recommendations.

maximize energy efficiency

Public utility training programs.

Programs sponsored by manufacturing organizations.

performance contractors, and home energy auditors.

project they are inspecting for compliance with this code.

Other programs acceptable to the enforcing agency.

project they are inspecting for compliance with this code.

703 VERIFICATIONS

section or identified applicable checklist.

Other programs acceptable to the enforcing agency.

keep vibration levels below 8 mils.

rupture or discharge of the relief valve.

with a device tha indicates the level of refrigerant in the receiver.

with a maximum drift of 100 microns over a 24-hour period.

**INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS** 

**702.1 INSTALLER TRAINING.** HVAC system installers shall be trained and certified in the proper

Examples of acceptable HVAC training and certification programs include but are not limited to the following:

installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or

**702.2 SPECIAL INSPECTION [HCD].** When required by the enforcing agency, the owner or the

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.

homes in California according to the Home Energy Rating System (HERS).

Successful completion of a third party apprentice training program in the appropriate trade.

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

2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building

1. Special inspectors shall be independent entities with no financial interest in the materials or the

2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate

[BSC-CG] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent

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

Note: Special inspectors shall be independent entities with no financial interest in the materials or the

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

shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate

area of certification shall be closely related to the primary job function, as determined by the local agency.

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.

Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.



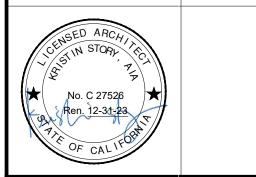
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PROJECT TITLE:

SANSUM DIABETES SANTA BARBARA, CA

2022 CALIFORNIA GREEN BUILDING

DATE: 12-30-22

DRAWN BY: KEVIN M. MURPHY

STANDARDS CODE

JOB NUMBER: 22004

SHEET \_-\_ of \_-\_

California 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE NONRESIDENTIAL MANDATORY MEASURES, SHEET 3 (January 2023)

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: 1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall

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

TABLE 5.504.4.1 - ADHESIVE VOC LIMIT <sub>1,2</sub>	
Less Water and Less Exempt Compounds in Grams per Lite	er
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
EIDEDOLACO	80

WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

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

NOTE: FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THESE TABLES, SEE SOUTH COAST AIR QUALITY MANAGEMENT

the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat or

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

TABLE 5.504.4.3 - CONT. GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS COATING CATEGORY **CURRENT VOC LIMIT** SPECIALTY COATINGS ALUMINUM ROOF COATINGS 400 BASEMENT SPECIALTY COATINGS 400 **BITUMINOUS ROOF COATINGS** 50 BITUMINOUS ROOF PRIMERS 350 350 BOND BREAKERS 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 MASTIC TEXTURE COATINGS METALLIC PIGMENTED COATINGS 500 MULTICOLOR COATINGS 250 PRETREATMENT WASH PRIMERS 420 PRIMERS, SEALERS, & UNDERCOATERS 100 REACTIVE PENETRATING SEALERS 350 250 RECYCLED COATINGS ROOF COATINGS 50 250 **RUST PREVENTATIVE COATINGS** 730 550 OPAQUE SPECIALTY PRIMERS, SEALERS & UNDERCOATERS 100 250 450 STONE CONSOLIDANTS SWIMMING POOL COATINGS 340 TRAFFIC MARKING COATINGS 100 TUB & TILE REFINISH COATINGS WATERPROOFING MEMBRANES 250 WOOD COATINGS 275 WOOD PRESERVATIVES 350 ZINC-RICH PRIMERS 1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS 2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN 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 **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: 1. Manufacturer's product specification 2. Field verification of on-site product containers All carpet installed in the building interior shall meet the requirements of 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 1.2, January 2017 (Emission testing method for California See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material **5.504.4.4.1 Carpet cushion.** All carpet cushion installed in the building interior shall meet the requirements of 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 1.2, January 2017 (Emission testing method for California Specifications See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material 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:

3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, AIR

ADDITIONAL INFORMATION, SEE CALIFORNIA CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.

TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR

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

Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S

4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the

Product certifications and specifications.

CCR, Title 17, Section 93120, et seg.).

TABLE 5.504.4.5 - FORMALDEHYDE LIMITS

HARDWOOD PLYWOOD VENEER CORE

MEDIUM DENSITY FIBERBOARD

THIN MEDIUM DENSITY FIBERBOARD2

HARDWOOD PLYWOOD COMPOSITE CORE

PRODUCT

PARTICLE BOARD

5. Other methods acceptable to the enforcing agency.

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

Chain of custody certifications.

**5.504.4.6 Resilient flooring systems.** Where resilient flooring is installed, at least 80 percent of floor area receiving resilient flooring shall meet the requirements of 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 1.2, January 2017 (Emission testing method for California Specifications See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material **5.504.4.6.1 Verification of compliance.** Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits. 5.504.4.7 Thermal insulation Comply with the requirements of the California Department of Public Health, "Standard Method of the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, "Version 1.2, January 1.2, January 2017 (Emission testing method for California Specification 01350). See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

5.504.4.7.1 Verification of compliance. Documentation shall be provided verifying that thermal insulation materials meet the pollutant emission 5.504.4.8 Acoustical ceiling and wall panels. Comply with the requirements of the California Department of Public Health, "Standard Method for the Testing

See California Department of Public Health's website for certification programs and testing labs 5.504.4.8.1 Verification of compliance. Documentation shall be provided verifying that acoustical finish 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 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

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 5.506 INDOOR AIR QUALITY** 

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, CO<sub>2</sub> sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, Section 120(c)(4).

5.506.3 Carbon dioxide (CO2) monitoring in classrooms. (DSA-SS) Each public K-12 school classroom, as listed in Table 120.1-A of the California Energy Code, shall be equipped with a carbon dioxide monitor or sensor that meets the following requirements: The monitor or sensor shall be permanently affixed in a tamper-proof manner in each classroom between 3 and 6 feet (914 mm and 1829 mm) above the floor and at least 5 feet (1524 mm) away from door and operable

When the monitor or sensor is not integral to an Energy Management Control System (EMCS), the monitor or sensor shall display the carbon dioxide readings on the device. When the sensor is integral to an EMCS, the carbon dioxide readings shall be available to and regularly monitored by facility personnel. A monitor shall provide notification though a visual indicator on the monitor when the carbon dioxide levels in the classroom have exceeded 1,100ppm. A sensor integral to an EMCS shall provide notification to facility personnel through a visual and/or audible indicator when the carbon dioxide levels in the classroom have

The monitor or sensor shall measure carbon dioxide levels at minimum 15- minute intervals and shall maintain a record of previous carbon dioxide measurements of not less than 30 days duration. The monitor or sensor used to measure carbon dioxide levels shall have the capacity to measure carbon dioxide levels with a range of 400ppm to 2000ppm or greater. The monitor or sensor shall be certified by the manufacturer to be accurate within 75ppm at 1,000ppm carbon

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

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

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

1. Ldn or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan. 2. Ldn or CNEL for other airports and heliports for which a land use plan has not been developed

5.507.4.1.1. Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB L<sub>eq</sub> - 1-hr during any hour of operation shall have building, addition or alteration

2. Within the 65 CNEL or Lan noise contour of a freeway or expressway, railroad, industrial source or

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

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.

5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.

Noise Control: www.toolbase.org/PDF/CaseStudies/stc\_icc\_ratings.pdf.

**5.508.1 Ozone depletion and greenhouse gas reductions.** Installations of HVAC, refrigeration and fire suppression 5.508.1.1 Chlorofluorocarbons (CFCs). Install HVAC, refrigeration and fire suppression equipment that do not

SECTION 5.508 OUTDOOR AIR QUALITY equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.

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**CURRENT LIMIT** 

0.05

0.05

0.09

0.11

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 fo aerosol products as specified in subsection 2, below.

TABLE 5.504.4.1 - ADHESIVE VOC LIMIT <sub>1,2</sub>	
Less Water and Less Exempt Compounds in Grams per 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

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE

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
TABLE 5 504 4 0 OF ALANT VOOLINIT

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

DISTRICT RULE 1168.

**5.504.4.3 Paints and coatings.** Architectural paints and coatings shall comply with VOC limits in Table 1 of 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 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 Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product

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 (CO<sub>2</sub>), and potentially other refrigerants.

and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.2, January 2017 (Emission testing method for California Specification 01350).

**Exceptions:** Existing mechanical equipment.

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

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

**5.506.1 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

exceeded 1.100ppm

dioxide concentration and shall be certified by the manufacturer to require calibration no more frequently than

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:

1. Within the 65 CNEL noise contour of an airport.

shall be determined by the local general plan noise element.

fixed-guideway source as determined by the Noise Element of the General Plan.

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.

**5.507.4.2.2 Documentation of Compliance.** An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.

Note: Examples of assemblies and their various STC ratings may be found at the California Office of

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

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MISCELLANEOUS

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VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF

AND VERIFY THAT SITE HAD BEEN PREPARED PROPERLY

ADHESIVE OR GROUTED ANCHORS AND DOWELS

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C: INDICATES CONTINUOUS INSPECTION P: INDICATES PERIODIC INSPECTION INDICATES REQUIRED INSPECTION

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## INSPECTION / TESTING

- 1. AN INDEPENDENT TESTING AGENCY AND SPECIAL INSPECTORS SHALL BE RETAINED BY THE OWNER TO PERFORM THE TESTS AND INSPECTION AS REQUIRED BY SECTION 1704 OF THE CALIFORNIA BUILDING CODE. THE CONTRACTOR SHALL PROVIDE ACCESS TO THE SPECIAL INSPECTOR TO THE SITE OR FABRICATION SHOPS AND SHALL FURNISH SAMPLES OF MATERIALS FOR TESTING AS REQUESTED BY THE TESTING AGENCY AND THE GOVERNING CODE.
- 2. IF INITIAL TESTS OR INSPECTIONS MADE BY THE OWNER'S TESTING AGENCY REVEAL THAT ANY PORTION OF THE WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, ADDITIONAL TESTS, INSPECTIONS, AND NECESSARY REPAIRS WILL BE MADE AT THE CONTRACTOR'S
- 3. PROVIDE CONTINUOUS OR PERIODIC SPECIAL INSPECTION FOR ITEMS NOTED IN "TEST AND INSPECTION LIST", AS REQUIRED PER THE CHAPTER 17 OF THE CALIFORNIA BUILDING CODE AND ALL APPLICABLE AMENDMENTS, UNLESS NOTED OTHERWISE IN SPECIFICATIONS.
- 4. SPECIAL INSPECTIONS MAY NOT BE REQUIRED WHEN THE WORK IS DONE MECHANICAL ANCHORS ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED BY THE BUILDING OFFICIAL OR GOVERNING AGENCY HAVING JURISDICTION OVER THE PROJECT TO PERFORM SUCH WORK WITHOUT SPECIAL
- 5. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND TO THE OWNER'S REPRESENTATIVE, PRIOR TO THE COMMENCEMENT OF THE WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING
- A. ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.

C. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S

- B. ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
- ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND DISTRIBUTION OF THE REPORTS.
- D. IDENTIFICATION AND QUALIFICATIONS OF THE PERSONS EXERCISING SUCH CONTROL AND THEIR POSITIONS IN THE ORGANIZATION.
- 6. APPROVAL BY THE INSPECTOR OF MATTERS NOT SPECIFICALLY CONSTRUCTED PER THE APPROVED DRAWINGS DOES NOT MEAN THE FAILURE TO COMPLY WITH THE CONSTRUCTION DOCUMENTS HAS BEEN ACCEPTED. ANY DETAIL THAT FAILS TO BE CLEAR OR IS AMBIGUOUS MUST BE REFERRED TO THE STRUCTURAL ENGINEER FOR INTERPRETATION OR CLARIFICATION.
- 7 INSPECTION AND TESTING REPORTS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER WITHIN SEVEN DAYS OF WHEN THE INSPECTION WAS MADE OR WHEN THE TESTING WAS PERFORMED.
- 8. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY INSPECTION OR TESTING WHICH DOES NOT COMPLY WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- 9. CONTRACTOR SHALL SUBMIT CERTIFICATE OF COMPLIANCE FOR FABRICATION OF STRUCTURAL COMPONENTS OR ASSEMBLIES ON THE PREMISES OF A REGISTERED AND APPROVED FABRICATOR TO THE AUTHORITY HAVING JURISDICTION
- 10. CONTRACTOR SHALL SUBMIT CERTIFICATE OF COMPLIANCE FOR THE SEISMIC QUALIFICATION OF NON-STRUCTURAL COMPONENTS, SUPPORTS AND ATTACHMENTS IN ACCORDANCE WITH SECTION 1705.13.2 TO THE AUTHORITY HAVING JURISDICTION.
- 11. CONTRACTOR SHALL SUBMIT REPORTS OF PRE-CONSTRUCTION TESTS FOR SHOTCRETE IN ACCORDANCE WITH SECTION 1908.5 TO THE AUTHORITY HAVING JURISDICTION
- 12. CONTRACTOR SHALL SUBMIT REPORTS OF MATERIAL PROPERTIES VERIFYING COMPLIANCE WITH THE REQUIREMENTS OF AWS DI.4 FOR WELDABILITY OF REINFORCING BARS IN CONCRETE AS SPECIFIED IN SECTION 26.5.4 OF ACI 318 COMPLYING WITH A STANDARD OTHER THAN ASTM A706 TO THE AUTHORITY HAVING JURISDICTION. CONTRACTOR SHALL SUBMIT REPORTS OF MILL TESTS FOR REINFORCING BARS COMPLYING WITH ASTM A615 IN ACCORDANCE WITH SECTION 20.2.2.5 OF ACI 318 TO THE AUTHORITY HAVING JURISDICTION
- 13. CONTRACTOR SHALL SUBMIT REPORTS OF MILL TESTS FOR REINFORCING BARS COMPLYING WITH ASTM A615 IN ACCORDANCE WITH SECTION 20.2.2.5 OF ACI 318 TO THE AUTHORITY HAVING JURISDICTION

#### POWER ACTUATED FASTENERS (SHOT PINS)

- 1. POWDER ACTUATED FASTENERS INTO STEEL SHALL BE HILTI X-U FASTENERS (ESR-2269), DEWALT POWDER ACTUATED FASTENERS (ESR-2024), OR RAMSET SP FASTENERS (ESR-1799). INSTALL ANCHORS IN ACCORDANCE WITH ICC REPORT AND MANUFACTURER'S RECOMMENDATIONS. FASTENERS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE POINT OF THE PIN PENETRATES THROUGH THE STEEL BASE MATERIAL WHEN CONNECTING TO STEEL LESS THAN 3/4 IN THICKNESS. FASTENERS LENGTH SHALL PROVIDE MINIMUM POINT PENETRATION OF 1/2" WHEN CONNECTING TO STEEL 3/4" OR THICKER IN THICKNESS U.N.O.
- 2. POWDER ACTUATED FASTENERS INTO CONCRETE SHALL BE HILTI X-U FASTENERS (ESR-2269), DEWALT POWDER ACTUATED FASTENERS (ESR-2024), OR RAMSET SP STEPPED SHANK FASTENERS (ESR-1799). INSTALL ANCHORS IN ACCORDANCE WITH ICC REPORT AND MANUFACTURER'S RECOMMENDATIONS. PROVIDE FASTENERS WITH SUFFICIENT LENGTH TO PROVIDE 1-1/2" MINIMUM PENETRATION INTO CONCRETE U.N.O.
- 3. FASTENERS SHALL NOT BE INSTALLED UNTIL THE CONCRETE HAS REACHED ITS DESIGNATED STRENGTH.
- 4. FASTENERS SHALL NOT BE INSTALLED IN CONCRETE WITH THICKNESS LESS THAN THREE TIMES THE PENETRATION REQUIRED, EXCEPT 1-1/2" PENETRATION IN 3-1/4" THICK CONCRETE FILL OVER METAL DECK IS ACCEPTABLE.
- 5. PROVIDE A MINIMUM OF 3" BETWEEN THE EDGE OF CONCRETE TO CENTER OF
- 6. FASTENERS IN THE UNDERSIDE OF CONCRETE FILL OVER METAL DECK SHALL BE 14. PLACE CONCRETE SLABS TO A LEVEL FINISH UNLESS NOTED OTHERWISE. THE PLACED IN THE LOW FLUTES ONLY.
- . FASTENERS SHALL BE INSTALLED, BY A PRE-QUALIFIED OPERATOR, ACCORDING TO THE APPLICABLE ICC RESEARCH REPORT AND TESTED AS FOLLOWS: INSPECTOR SHALL OBSERVE THE TESTING OF THE FIRST 10 FASTENERS INSTALLATION. A TEST PULL-OUT LOAD OF NOT LESS THAN TWICE THE APPLICABLE ALLOWABLE LOAD PER ICC TABLES SHALL BE APPLIED TO THE PIN IN SUCH A MANNER AS NOT TO RESIST THE SPALLING TENDENCY OF THE CONCRETE SURROUNDING THE PIN (NOT APPLICABLE TO PINS INSTALLED INTO STEEL) RANDOM TESTS UNDER THE PROJECT INSPECTOR'S SUPERVISION SHALL BE MADE OF APPROXIMATELY I IN 20 PINS. SHOULD FAILURE OCCUR ON ANY PIN TESTED, ALL OF THE INSTALLATIONS MUST BE TESTED AND FAILED PINS REPLACED AT CONTRACTOR'S EXPENSE.
- 8. WHEN INSTALLING POWDER DRIVEN PINS IN EXISTING REINFORCED CONCRETE, USE A. CONCRETE CAST AGAINST AND PERMANENTLY CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING

#### ADHESIVE ANCHORS AND DOWELS

- ANCHORS AND DOWELS INSTALLED INTO CONCRETE SHALL BE INSTALLED USING HILTI HIT HY200 ( ICC ESR-3187 )I HILTI RE500-V3 ( ICC ESR-3814), DENALI PUREIIO+ ( ICC ESR-3298), OR SIMPSON SET-XP ( IAMPO-281). INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH ICC REPORT AND MANUFACTURER'S
- MANUFACTURER'S FIELD REPRESENTATIVE SHALL PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED PRIOR TO COMMENCEMENT OF WORK; ONLY PROPERLY TRAINED INSTALLERS SHALL PERFORM POST INSTALLED ANCHOR INSTALLATION.
- 3. INSTALLATION OF ADHESIVE ANCHORS IN HORIZONTAL TO VERTICAL ORIENTATION SHALL BE DONE BY A CERTIFIED ADHESIVE INSTALLER (AA!) AS CERT I FED THROUGH ACI AND IN ACCORDANCE WITH THE CURRENT EDITION OF ACI 318.
- 4. EMBEDMENT DEPTH FOR ANCHORS AND DOWELS IS AS SHOWN ON PLAN. THE TESTING LABORATORY WILL PERFORM TENSION TESTS ON 10% OF SILL ANCHORS AND DOWELS, 100% OF ALL OTHER STRUCTURAL ANCHORS, AND 50% OF NON-STRUCTURAL ANCHORS PER ON OF THE FOLLOWING METHODS AND IN ACCORDANCE WITH THE VALUES SPECIFIED BELOW:
- NUT. IF IT IS NOT POSSIBLE TO TEST WITH THE NUT INSTALLED, REPLACE THE NUT WITH A THREADED COUPLER TO THE SAME TORQUE MEASURED WITH A TORQUE WRENCH, AND THEN APPLY THE LOAD, MOVEMENT MAY BE DETERMINED WHEN THE WASHER UNDER THE NUT BECOMES LOOSE 4.2 TORQUE WRENCH METHOD: TEST ANCHORS TO THE CALCULATED TORQUE LOAD WITHIN ONE-HALF TURN OF THE NUT.
- 4.3 TEST LOAD FOR ANCHORS TO BE TWO TIMES THE ALLOWABLE TENSION VALUE OR 1 1/4 TIMES THE MAXIMUM DESIGN STRENGTH GIVEN IN THE ICC APPROVAL, BUT NEED NOT EXCEED 0.8Ase fya, WHERE Ase IS THE CROSS SECTIONAL AREA OF THE ANCHOR AND Fya IS THE YIELD STRESS
- . ANCHORS SHALL CONFORM WITH ASTM A193 GRADE B7 THREADED RODS USING ASTM A 563 GRADE DH HEAVY HEX NUTS AND ASTM F436 WASHERS U.N.O. 6. DOWELS SHALL CONFORM WITH ASTM A615 OR ASTM A706 GRADE 60 REINFORCING STEEL U.N.O.
- REPLACE ANCHORS AND DOWELS THAT FAIL DURING TESTING AND RETEST. I MORE THAN 10% OF THE TESTED DOWELS AND ANCHORS FAIL TO ACHIEVE THE SPECIFIED TEST LOAD, TEST 100% OF THE DOWELS AND ANCHORS INSTALLED IN THE LAST 2 DAYS OF ANCHOR INSTALLATION.
- . CENTER BAR IN THE HOLE AND WEDGE TIGHT WITH WOODEN WEDGES TO HOLD IT IN PLACE UNTIL THE ADHESIVE SETS.
- 9. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR I INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED ABOVE, THE ENGINEER WILL DETERMINE A NEW LOCATION.
- D. LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH ADHESIVE ANCHORS.

- EXPANSION OR WEDGE ANCHORS INTO CONCRETE: HILTI KB TZ ( LARR #25701, ICC 3. MECHANICAL COUPLERS: LENTON THREADED COUPLERS BY ERICO, ICC ESR- 1917), OR DEWALT POWER-STUD +SD2 ( LARR #25831, ICC ESR-2502) TO BE INSTALLED IN ACCORDANCE WITH ICC REPORT AND MANUFACTURER'S RECOMMENDATIONS.
- WIND OR SEISMIC FORCE RESISTING SYSTEM ELEMENT SHALL SUBMIT A 2. SCREW ANCHORS INTO CONCRETE: HILTI HUB- EZ (LARR #256617, ICC ESR-3027) SIMPSON STRONG TIE TITEN HD (LARR 425741, ICC ESR-2713), OR DEWALT SCREW -BOLT+ ( ICC ESR-38861) TO BE INSTALLED IN ACCORDANCE WITH ICC REPORT AND MANUFACTURER'S RECOMMENDATIONS.
  - 3. FASTENERS SHALL BE STAINLESS STEEL FOR EXTERIOR USE OR WHEN EXPOSED TO WEATHER. PROVIDE GALVANIZED CARBON STEEL ANCHORS AT OTHER LOCATIONS, UNLESS OTHERWISE NOTED.
  - 4. IF REINFORCEMENT 15 ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR I INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. 1 F THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED ABOVE, THE STRUCTURAL ENGINEER WILL DETERMINE A NEW LOCATION.
  - 5. LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH 6. ALL REINFORCING BAR BENDS SHALL BE MADE COLD. MECHANICAL ANCHORS.
  - ANCHORS SHALL BE PROOF-TESTED BY OWNER'S TESTING AND INSPECTION
  - 7. TEST ANCHORS NO SOONER THAN 24 HOURS AFTER INSTALLATION. 8. APPLY TEST LOAD BY ANY METHOD THAT WILL EFFECTIVELY MEASURE THE
  - TORQUE WRENCH, OR CALIBRATED SPRING-LOADING DEVICES, ETC. . REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY A BASE PLATE OR OTHER FIXTURE. IF RESTRAINT 15 FOUND, LOOSEN AND

TENSION ON THE ANCHOR SUCH AS DIRECT PULL WITH A HYDRAULIC JACK,

- SHIM OR REMOVE THE FIXTURE PRIOR TO TESTING.
- 10. PROVIDE MINI MUM EMBEDMENT OF ANCHORS AS SHOWN IN DRAWINGS.
- WHERE INSTALLATION TORQUE IS PROVIDED BY MANUFACTURER AND OBSERVED BY A DEPUTY INSPECTOR, NO FURTHER TESTING IS REQUIRED. IF NO INSTALLATION TORQUE IS PROVIDED, TEST 50% OF ANCHORS PER ONE OF THE FOLLOWING METHODS AND IN ACCORDANCE WITH THE VALUES CALCULATED BELOW:
- A. HYDRAULIC RAM METHOD: APPLY PROOF TEST LOAD WITHOUT REMOVING THE NUT. IF IT IS NOT POSSIBLE TO TEST WITH THE NUT INSTALLED, REPLACE THE NUT WITH A THREADED COUPLER TO THE SAME TORQUE MEASURED WITH A TORQUE WRENCH, AND THEN APPLY THE LOAD. ANCHOR IS ACCEPTABLE IF NO MOVEMENT IS OBSERVED AT THE TEST LOAD, MOVEMENT MAY BE DETERMINED WHEN THE WASHER UNDER THE NUT BECOMES LOOSE.
- B. TORQUE WRENCH METHOD: TEST ANCHORS TO THE CALCULATED TORQUE LOAD WITHIN ONE-HALF TURN OF THE NUT.
- C. TEST LOAD FOR ANCHORS TO BE TWO TIMES THE ALLOWABLE TENSION VALUE OR I 1/4 TIMES THE MAXIMUM DESIGN STRENGTH GIVEN IN THE ICC APPROVAL, BUT NEED NOT EXCEED 0.8 Ase Fya, WHERE Ase IS THE CROSS SECTIONAL AREA OF THE ANCHOR AND Fya IS THE YIELD STRESS OF THE
- 12. IF ANY ANCHOR FAILS TESTING, REPLACE ANCHOR AND TEST ADDITIONAL ANCHORS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE TESTS PASS, THEN RESUME INITIAL TESTING FREQUENCY.

#### CONCRETE

- 8. CONCRETE MIXES SHALL BE DESIGNED BY AN APPROVED LABORATORY. THE DESIGN SHALL BE STAMPED BY A CIVIL OR STRUCTURAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA AND SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL. ADMIXTURES CONTAINING CALCIUM CHLORIDE ARE
- 9. NORMAL WEIGHT CONCRETE AGGREGATES SHALL CONFORM TO ASTM C-33. LIGHT WEIGHT CONCRETE AGGREGATES SHALL CONFORM TO ASTM C-330. DRY WEIGHT

OF LIGHTWEIGHT CONCRETE NOT TO EXCEED 115 PCF

- 10. NON-SHRINK CEMENT GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 6000 PSI. USE "SIKA GROUT 212" OR "MASTERFLOW 928".
- 11. FORMS FOR CONCRETE SHALL BE LAID OUT AND CONSTRUCTED TO PROVIDE THE SPECIFIED CAMBERS SHOWN ON THE DRAWINGS.
- AS REQUIRED TO PREVENT AIR POCKETS AND OR "HONEYCOMB" UNDER OR AROUND THE EXISTING MEMBERS. CONCRETE CAST WITH AIR POCKETS AND OR "HONEYCOMB" UNDER OR AROUND THE MEMBERS 15 NOT ACCEPTABLE.
- THE CONTRACTOR SHALL MAINTAIN A LOG OF STRUCTURAL SLAB ELEVATIONS BASED ON THE ARCHITECTURAL !DRAWINGS PLUS THE ADDITION OF ANY CAMBERS INDICATED ON THE CONSTRUCTION DOCUMENTS. THIS LOG SHALL INDICATE SCREED ELEVATIONS PRIOR TO THE CONCRETE POUR, AND TOP OF CONCRETE SLAB PRIOR TO REMOVAL OF FORMS.

12. PROVIDE POUR POCKETS IN FORMS AND UNDER EXISTING STRUCTURAL MEMBERS

- MINIMUM CONCRETE SLAB THICKNESS SHALL BE AS SHOWN ON PLANS. OVERPOUR MAY BE REQUIRED DUE TO FORMING AND STRUCTURE DEFLECTION.
- 15. THOROUGHLY CLEAN AND ROUGHEN ALL EXISTING CONCRETE, CONCRETE PREVIOUSLY POURED AND HARDENED AND MASONRY SURFACES TO RECEIVE NEW CONCRETE. INTERFACE SHALL BE ROUGHENED TO A FULL AMPLITUDE OF 1/4" UNLESS NOTED OTHERWISE.
- 16. IF COLUMNS AND WALLS ARE PLACED WITH FLOOR, TWO HOURS MUST ELAPSE BETWEEN END OF COLUMN OR WALL POUR AND BEGINNING OF FLOOR POUR.
- 17. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT PLACED IN CAST-IN-PLACE CONCRETE:
- EXPOSED TO EARTH
- B. FORMED CONCRETE EXPOSED TO EARTH OR WEATHER: #6 THROUGH # 18 BARS #5 BAR, W31 OR D31 WIRE, AND SMALLER
- 1 1/2" C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: SLAB, WALLS AND JOISTS #14 AND #18 BARS
  - #11 BAR AND SMALLER BEAMS, COLUMNS AND WALL JAMBS: PRIMARY REINFORCEMENT, TIES, STIRRUPS, AND SPIRALS: #3 THROUGH #11 2 1/2" #14 AND #18 BARS
- 18. ALL REINFORCING BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
- 19. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCING WHICH MAY CONFLICT. CORING IN CONCRETE IS NOT PERMITTED EXCEPT AS SHOWN. NOTIFY THE STRUCTURAL ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE DRAWINGS.
- 4.1 HYDRAULIC RAM METHOD: APPLY PROOF TEST LOAD WITHOUT REMOVING THE 20. CONDUIT OR PIPE SIZE (O.D.) SHALL NOT EXCEED ONE THIRD OF SLAB THICKNESS AND SHALL BE PLACED BETWEEN THE TOP AND BOTTON REINFORCING, UNLESS SPECIFICALLY DETAILED OTHERWISE. CONCENTRATIONS OF CONDUITS OR PIPES SHALL BE AVOIDED EXCEPT WHERE DETAILED OPENINGS ARE
  - PROJECTING CORNERS OF BEAMS, WALLS, COLUMNS, ETC., SHALL BE FORMED WITH A 3/4 IN. CHAMFER, UNLESS OTHERWISE NOTED ON ARCHITECTURAL
  - 22. CURING COMPOUNDS USED ON CONCRETE TO RECEIVE A FINISH SHALL BE APPROVED BY THE FINISH APPLICATOR BEFORE USE.

#### REINFORCING STEEL

- 1. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH THE 'BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE' (ACI 316), AND THE 'MANUAL OF STANDARD PRACTICE FOR REINFORCED CONCRETE CONSTRUCTION' BY THE C .R .S.I. AND THE W.C.R.S.I., OR AS MODIFIED BY THE CONSTRUCTION DOCUMENTS.
- REINFORCING BARS SHALL CONFORM TO THE FOLLOWING, UNLESS NOTED OTHERWISE <u>CLASSIFICATION</u>

REINFORCING ST EEL IN GRAVITY BEAMS, GRAVITY COLUMNS, STIRRUPS, TIES, FOUNDATIONS, PI LECAPS, AND GRADE

BEAMS (VW): REINFORCING STEEL TO BE WELDED AND LONGITUDINAL REINFORCING STEEL IN

CONCRETE MOMENT FRAME MEMBERS AND IN CONCRETE SHEAR WALL ELEMENTS: ASTM A706, 60 KSI

ASTM A706 GR 60 MAY BE CONSIDERED EQUIVALENT TO ASTM A615, BUT ASTM A615 IS NOT EQUIVALENT

- #3967, XTENDER BY HEADED REINFORCEMENT CORPORATION, ICC #2794 OR BAR-LOCK BY DAYTON SUPERIOR CORP, ICC 112495. COUPLERS FOR BEAM AND SLAB BARS AT FORMED CONSTRUCTION JOINTS MAY BE LENTON FORM SAVERS
- 4. WELDING OF REINFORCEMENT SHALL BE WITH LOW HYDROGEN E90XX ELECTRODES FOR WELDING ASTM A615 BARS AND F80XX ELECTRODES FOR WELDING ASTM A706 BARS TO OTHER A706 BARS. WELDING OF A706 BARS TO A36 AND A572 STEEL SHALL BE E70XX ELECTRODES. ALL WELDING SHALL BE IN CONFORMANCE WITH AMERICAN WELDING SOCIETY, AWS-DI.4. ONLY WELDERS SPECIFICALLY CERTIFIED FOR REINFORCING STEEL AND IN ACCORDANCE WITH AWS DI.4 SHALL PERFORM WELDING OF REINFORCING STEEL.
- 5. DRAWINGS SHOW TYPICAL REINFORCING CONDITIONS. CONTRACTOR SHALL PREPARI DETAILED PLACEMENT DRAWINGS OF ALL CONDITIONS SHOWING QUANTITY SPACING, SIZE, CLEARANCES, LAPS, INTERSECTIONS AND COVERAGE REQUIRED BY STRUCTURAL DETAILS, APPLICABLE CODE AND TRADE STANDARDS. CONTRACTOR SHALL NOTIFY REINFORCING DEPUTY INSPECTOR OF ANY ADJUSTMENTS FROM TYPICAL CONDITIONS THAT ARE PROPOSED IN PLACEMENT DRAWINGS TO FACILITATE FIELD PLACEMENT OF REINFORCING STEEL AND CONCRETE.
- 7. MINIMUM LAP OF WELDED WIRE FABRIC SHALL BE 12 INCHES, OR ONE FULL MESH PLUS TWO INCHES, WHICHEVER IS GREATER.
- 8. REINFORCING SPLICES SHALL ONLY BE MADE AS INDICATED ON THE DRAWINGS. 9. DOWELS BETWEEN SLABS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE AND SPACING AS THE VERTICAL REINFORCING, RESPECTIVELY, UNLESS
- 10. DOWELS BETWEEN SLABS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE. SIZE AND SPACING AS THE VERTICAL REINFORCING, RESPECTIVELY, UNLESS NOTED OTHERWISE.
- 11. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN-PLACE INSPECTION IS MADE.
- 12. CONTRACTOR SHALL PROVIDE FOR AN ALLOWABLE OF 5 TONS OF REINFORCING TO BE FABRICATED AND PLACED DURING PROGRESS OF WORK AS MAY BE DIRECTED BY THE STRUCTURAL ENGINEER. THE UNUSED PORTION SHALL BE CREDITED TO THE OWNER AT THE COMPLETION OF THE CONCRETE WORK.

#### GENERAL CONT'D

- 28. DESIGN LOADS DEAD LOADS: CONSIST OF BUILDING SELF-WEIGHT PLUS SUPERIMPOSED DEAD LOADS. REFER TO COMPLETE SET OF DRAWINGS FOR DETERMINING DEAD LOADS. B. LIVE LOADS:
- <u>DESIGN LIVE LOAD</u> <u>REMARK</u> REDUCIBLE STAIRS, LOBBIES UNREDUCED REDUCIBLE SEISMIC DESIGN LOADS: SEISMIC IMPORTANCE FACTOR le RISK CATEGORY
  - SITE CLASS = NULL SEISMIC DESIGN CATEGORY = E = INTERMEDIATE REINFORCED LATERAL LOAD RESISTING SYSTEM MASONERY SHEAR WALLS
  - = 3.5 = 2.5 = 2.25 = 0.355 (ASD)=  $0.355 \times BLDG DEAD$ SEISMIC DESIGN BASE SHEAR LOAD

= 11

= 0.18 FOR

ENCLOSED

STRUCTURE

= 25 PSF (LRFD)

- ANALYSIS PROCEDURE USED = EQUIVALENT LATERAL FORCE PROCEDURE WIND DESIGN LOADS: BASIC WIND SPEED (3 SEC. GUDT) = 110 MPH
- INTERNAL PRESSURE COEFFICIENT COMPONENTS \$

CLADDING WIND PRESSURE

OCCUPANCY CATEGORY

WIND EXPOSURE

- FOUNDATION AND SITE WORK 1. THE DESIGN OF THE FOUNDATION SYSTEM IS BASED UPON THE CRITERIA AND RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL INVESTIGATION REPORT ENTITLED "PRELIMINARY GEOTECHNICAL INVESTIGATION" BY "PACIFIC MATERIALS LABORATORY", DATED DECEMBER 28TH, 2015, FILE NO. 15-14245-2 AND ALL SUBSEQUENT ADDENDA. COPIES ARE AVAILABLE FOR REVIEW AT THE ARCHITECT'S OFFICE.
- FOOTING DESIGN BASED ON ALLOWABLE SOIL PRESSURE OF 1,500 TO 7,000 PSI: DEPENDING ON FOOTING WIDTH AND EMBEDMENT. BOTTOM OF FOOTINGS TO BE A MINIMUM OF 0-0" BELOW LOWEST ADJACENT FINISHED FLOOR OR GRADE, AND 0-3" FEET INTO UNDISTURBED NATURAL SOIL.
- THE GEOTECHNICAL INVESTIGATION REPORT AND ITS RECOMMENDATIONS SHALL BE FOLLOWED AND SHALL BE CONSIDERED MINIMUM REQUIREMENTS UNLESS MORE STRINGENT REQUIREMENTS ARE PRESENTED IN THE CONSTRUCTION DOCUMENTS.
- 4. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING, UNDERPINNING AND PROTECTION OF EXISTING CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE DE-WATERING OF EXCAVATIONS FROM SURFACE WATER, GROUND WATER OR SEEPAGE. REMOVE LOOSE SOIL AND STANDING WATER FROM FOUNDATION EXCAVATIONS PRIOR TO PLACING CONCRETE.
- EXCAVATION AND COMPACTING IF REQUIRED SHALL BE APPROVED BY TH GOVERNING AGENCY AND THE GEOTECHNICAL ENGINEER PRIOR TO PLACING THE CONCRETE AND REINFORCING. THE GEOTECHNICAL ENGINEER SHALL SUBMIT LETTER OF COMPLIANCE TO THE OWNER'S REPRESENTATIVE.
- ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE WALLS HAVE ATTAINED FULL DESIGN STRENGTH. CONTRACTOR SHALL BRACE OR PROTECT ALL BUILDING AND PIT WALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHED FLOORS ARE COMPLETELY IN PLACE AND HAVE ATTAINED FULL STRENGTH. CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS AND INSTALLATION OF SUCH BRACING.
- 8. FOOTINGS SHALL BE PLACED AND ESTIMATED ACCORDING TO DEPTHS SHOWN ON DRAWINGS. SHOULD SOIL ENCOUNTERED AT THESE DEPTHS NOT BE APPROVED BY THE FOUNDATION ENGINEER, FOOTING ELEVATIONS SHALL BE ALTERED AS REQUIRED.
- FOOTING BACKFILL AND UTILITY TRENCH BACKFILL WITHIN BUILDING AREA SHALL BE MECHANICALLY COMPACTED IN LAYERS IN ACCORDANCE WITH SOIL REPORT. FLOODING IS NOT BE PERMITTED.
- 10. LOCATE AND PROTECT EXISTING, UTILITIES TO REMAIN DURING AND/OR AFTER CONSTRUCTION.
- 11. ALL ABANDONED FOOTINGS, UTILITIES, ETC., THAT INTERFERE WITH
- 12. ALL EARTHWORK SHALL BE DONE IN ACCORDANCE WITH SOILS REPORT RECOMMENDATIONS.

## STRUCTURAL OBSERVATION

THE CONTRACTOR/BUILDER.

NEW CONSTRUCTION SHALL BE REMOVED.

- 1. PERIODIC STRUCTURAL OBSERVATION WILL BE PROVIDED BY STUDIO ENGINEERS INC., STRUCTURAL ENGINEERS OR BY STUDIO ENGINEERS INC., PER SECTION 1710 OF THE CALIFORNIA BUILDING CODE AND ALL APPLICABLE AMENDMENTS, FOR THE WORK INDICATED BELOW, CONTRACTOR SHALL NOTIFY ENGINEER 48 HOURS BEFORE REQUIRED OBSERVATIONS. DELINQUENT NOTIFICATION MAY REQUIRE DEMOLITION OF COVERING MATERIAL TO
  - FACILITATE OBSERVATION. INITIAL PLACING OF REINFORCING INITIAL PLACING OF STRUCTURAL STEEL INITIAL PLACING OF PLYWOOD SHEAR WALLS

INITIAL PLACING OF WOOD DIAPHRAGMS

- INITIAL PLACING OF ANCHOR BOLTS INITIAL PLACING OF MECHANICAL AND ADHESIVE ANCHORS STRUCTURAL OBSERVATIONS PERFORMED BY THE STRUCTURAL ENGINEER OF RECORD CONSIST OF THE VISUAL OBSERVATION OF THE MAJOR ELEMENTS AND CONNECTIONS OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND THE COMPLETED STRUCTURE FOR GENERAL
- OBSERVATION DOES NOT WAIVE THE REQUIREMENT/RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE BUILDING INSPECTOR OR THE SPECIAL 3. THE ENGINEER OF RECORD SHALL DEVELOP ALL CHANGES RELATING TO THE STRUCTURAL SYSTEMS. THE BUILDING DEPARTMENT SHALL REVIEW AND

CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS, STRUCTURAL

- APPROVE ALL CHANGES TO THE APPROVED PLANS AND SPECIFICATIONS. 4. THE STRUCTURAL OBSERVATIONS SHALL BE PERFORMED BY THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR THE STRUCTURAL DESIGN. THE STRUCTURAL OBSERVER SHALL BE REGISTERED/LICENSED TO PRACTICE BY THE STATE OF CALIFORNIA. THE STRUCTURAL OBSERVER SHALL BE
- THE STRUCTURAL OBSERVER SHALL SUBMIT A WRITTEN STATEMENT TO THE AUTHORITY HAVING JURISDICTION THAT SITE VISITS HAVE BEEN MADE AND IDENTIFYING ANY REPORTED DEFICIENCIES THAT TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE HAVE NOT BEEN RESOLVED. THE STRUCTURE WILL NOT BE IN COMPLIANCE UNTIL THE REGISTERED PROFESSIONAL HAS NOT NOTIFIED THE AUTHORITY HAVING JURISDICTION. IN WRITING, THAT ALL DEFICIENCIES ARE RESOLVED. THIS REPORT MUST BE STAMPED, SIGNED AND DATED BY THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR THE STRUCTURAL DESIGN.

EMPLOYED BY THE OWNER OR THE OWNER'S AUTHORIZED AGANET AND NOT

<u>CONCRETE</u> I. ALL CONCRETE IS REINFORCED AND CAST\_IN\_PLACE UNLESS OTHERWISE NOTED 2. ALL PHASES OF WORK PERTAINING TO THE CONCRETE CONSTRUCTION SHALL

CONFORM TO THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE,

- ACI 318, WITH MODIFICATIONS AS NOTED IN THE CONTRACT DOCUMENTS. 3. CONCRETE MIXING OPERATION, ETC., SHALL CONFORM TO C-94. 4. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 304 AND CONTRACT
- DOCUMENTS. 5. ALL STRUCTURAL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS FOLLOWS:

$\sim$ 1	20 DATS AS TOLLONS:		
	LOCATION	STRENGTH	TYPE OF CONCRET
	FOUNDATIONS	3000 PSI	NORMAL WEIGHT
	SLAB ON GRADE	3000 PSI	NORMAL WEIGHT
	COLUMNS	5000 PSI	NORMAL WEIGHT
	WALLS	5000 PSI	NORMAL WEIGHT
	FORMED SLAB/BEAMS	5000 PSI	NORMAL WEIGHT
	ALL OTHER CONCRETE	4000 PSI	NORMAL WEIGHT

6. NO MORE THAN ONE GRADE OF CONCRETE SHALL BE ON THE JOB SITE AT ANY ONE TIME. 7. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE I OR TYPE II, LOW

1. THE PROJECT SPECIFICATIONS FORM A PART OF THESE GENERAL NOTES. 2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED OF ANY DISCREPANCIES

<u>GENERAL</u>

OR INCONSISTENCIES.

- 3. INFORMATION SHOWN ON THE DRAWINGS RELATED TO EXISTING CONDITIONS REPRESENTS THE PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. REPORT CONDITIONS THAT CONFLICT WITH THE CONTRACT DOCUMENTS TO THE OWNER'S REPRESENTATIVE. DO NOT DEVIATE FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN DIRECT ION FROM THE
- OWNER'S REPRESENTATIVE. 4. DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DRAWINGS. DRAWINGS SHALL NOT BE SCALED.
- 5. DETAILS IN SHEETS TITLED 'TYPICAL DETAILS', TYPICAL DETAILS AND GENERAL NOTES APPLY TO ALL PARTS OF THE WORK, EXCEPT WHERE SPECIFICALLY DETAILED OR UNLESS NOTED OTHERWISE. THESE DETAILS ARE NOT SPECIFICALLY REFERENCED WHERE THEY OCCUR.
- 6. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NOTES AND DETAILS ON AND THESE GENERAL NOTES AND TYPICAL DETAILS ARE THE PROJECT SPECIFICATIONS THE MOST STRINGENT SHALL APPLY. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED AS SHOWN FOR SIMILAR WORK
- 7. ALL WORK SHALL CONFORM TO THE STANDARDS OF THE FOLLOWING: CALIFORNIA BUILDING CODE. 2016 EDITION AND ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORT ION OF THE WORK, INCLUDING BUT NOT LIMITED TO CAL/OSHA, DIVISION OF OCCUPATIONAL SAFETY AND HEALTH, AND THOSE CODES AND STANDARDS LISTED IN THE CONTRACT DOCUMENTS.
- 8. SPECIFICATIONS, CODES, AND STANDARDS NOTED IN THE CONTRACT DOCUMENTS SHALL BE OF THE LATEST APPROVED ISSUE, INCLUDING SUPPLEMENTS, UNLESS OTHERWISE NOTED. MATERIAL SPECIFICATIONS SHALL COMPLY WITH ASTM REFERENCED STANDARDS LATEST EDITION.
- MANUFACTURED MATERIALS SHALL BE APPROVED BY THE CHECKING AGENCY PRIOR TO THEIR USE. ALL REQUIREMENTS OF THOSE APPROVALS SHALL BE
- 10. SEE ARCHITECTURAL DRAWINGS FOR THE FOLLOWING: SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS SIZE AND LOCATION OF ALL NON-BEARING PARTITIONS. SIZE AND LOCATION OF ALL CONCRETE CURBS, FLOOR DRAINS SLOPES, DEPRESSED AREAS, CHANGES IN LEVEL, CHAMFERS GROOVES, INSERTS, ETC.
- EXTERIOR WALL SYSTEM E. SIZE AND LOCATION OF ALL FLOOR AND ROOF OPENINGS. F. STAIR FRAMING AND DETAILS. G. DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
- 11. SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR THE FOLLOWING: PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL, ROOF AND FLOOR OPENINGS, ETC., NOT SHOWN OR NOTED.
- ANCHORAGE AND BRACING FOR ELECTRICAL, MECHANICAL OR PLUMBING EQUIPMENT TO THE STRUCTURE. ANCHOR BOLTS FOR EQUIPMENT MOUNTS. SIZE, WEIGHT, AND LOCATION OF MACHINE AND EQUIPMENT BASES

ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS AND SLABS.

- 12. OPENINGS, POCKETS, ETC. SHALL NOT BE PLACED IN STRUCTURAL MEMBERS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS. NOTIFY THE STRUCTURAL ENGINEER OF RECORD WHEN DRAWINGS BY OTHERS SHOW OPENINGS, POCKETS, ETC., NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT WHICH ARE LOCATED IN STRUCTURAL MEMBERS.
- 13. STAIR FRAMING, HANDRAILS, CLADDING SYSTEMS, METAL STUD FRAMING, MEP EQUIPMENT AND PIPING, ANCHORAGE/BRACING AND ANY OTHER DESIGN-BUILD ELEMENTS. WHEN NOT SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS, SHALL BE THE DESIGN RESPONSIBILITY OF THE CONTRACTOR AND MAY BE SUPPORTED BY THE PRIMARY STRUCTURE. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ANCILLARY MEMBERS INCLUDING BUT NOT LIMITED TO BEAMS, COLUMNS, POSTS, FOOTINGS, STIFFENERS, GUSSETS, KICKERS, BRACES, ETC., AND THE ATTENDANT CONNECTIONS. AS REQUIRED BY THE STRUCTURAL ENGINEER OF RECORD, TO SUPPORT LOADS IMPOSED BY THE STAIR FRAMING AND DESIGN-BUILD ELEMENTS ON THE PRIMARY STRUCTURE. DESIGN AND DETAILING OF THESE ELEMENTS SHALL BE DEVELOPED AND STAMPED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE OF CALIFORNIA. CONTRACTOR SHALL SUBMIT THE CALCULATIONS, DRAWINGS AND DESIGN TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW AND TO THE GOVERNING AGENCY FOR PERMITTING AND APPROVAL PRIOR TO STARTING FABRICATION. CONTRACTOR SHALL OBTAIN ALL PERTINENT PERMITS PRIOR TO STARTING FABRICATION. STAIR FRAMING AND DESIGN-BUILD ELEMENTS SHALL BE DESIGNED TO AVOID TORSIONAL LOADS INTO THE PRIMARY STRUCTURE. ENGINEER RESPONSIBLE FOR THE DESIGN OF STAIRS 15 ALSO RESPONSIBLE FOR PROVIDING STRUCTURAL
- OBSERVATIONS FOR THE DESIGN-BUILD ITEMS. 14. CONTRACTOR SHALL CAREFULLY REVIEW THE DRAWINGS TO IDENTIFY THE EXTENT OF THE SCOPE OF WORK. VISIT THE SITE TO RELATE THE SCOPE OF WORK TO EXISTING CONDITIONS AND DETERMINE THE EXTENT TO WHICH
- 15. THE CONTRACTOR SHALL RESOLVE ANY CONFLICTS ON THE CONSTRUCTION DOCUMENTS WITH THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH

16. UNLESS NOTED OTHERWISE, COLUMNS, WALLS, BEAMS, FOOTINGS, ETC, ARE

THOSE CONDITIONS AND PHYSICAL SURROUNDINGS WILL IMPACT THE WORK

- CENTERED AT GRIDLINES. WHERE BEAM TO BEAM SPACING 15 NOT SHOWN, BEAM SHALL BE EQUALLY SPACED BETWEEN GRIDLINES. 17.. ANY DEVIATION FROM THE APPROVED SET OF STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR REVIEW/APPROVAL BEFORE PROCEEDING WITH THE WORK. SUBSTITUTIONS OF PRODUCTS OR
- WITHOUT OWNER'S REPRESENTATIVE'S APPROVAL 18. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE MEANS, METHOD, TECHNIQUES, SEQUENCE AND PROCEDURE OF CONSTRUCTION AS REQUIRED. SITE VISITS PERFORMED BY THE OWNER'S REPRESENTATIVE DO NOT INCLUDE INSPECTIONS OF MEANS AND METHODS OF

MATERIALS SPECIFIED ON THE CONSTRUCTION DOCUMENTS ARE NOT ALLOWED

- CONSTRUCTION PERFORMED BY CONTRACTOR. 19. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORES, BRACES AND GUYS REQUIRED TO SUPPORT ALL LOADS TO WHICH THE BUILDING STRUCTURE AND COMPONENTS, SOILS, OTHER STRUCTURES AND UTILITIES MAY BE SUBJECTED DURING CONSTRUCTION. SHORING SYSTEMS SHALL BE DESIGNED AND STAMPED BY A CIVIL OR STRUCTURAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA. VISITS TO THE SITE BY THE OWNER'S
- 20. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOFS. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT SPECIFIED ON THIS SET OF DRAWINGS. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN

REPRESENTATIVE WILL NOT INCLUDE OBSERVATION OF THE ABOVE NOTED

- STRENGTH OR WHERE OVERLOAD IS ANTICIPATED. 21. STRUCTURAL OBSERVATIONS PERFORMED BY THE STRUCTURAL ENGINEER DURING CONSTRUCTION ARE NOT THE REQUIRED CONTINUOUS AND SPECIAL INSPECTION SERVICES AND DO NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE BUILDING INSPECTOR OR THE DEPUTY INSPECTOR. OBSERVATIONS ALSO DO NOT GUARANTEE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSIDERED AS SUPERVISION OF
- 22. CONTRACTOR SHALL REVIEW SHOP DRAWINGS FOR COMPLETENESS AND COMPLIANCE WITH CONTRACT DOCUMENTS AND SHALL STAMP SHOP DRAWINGS PRIOR TO SUBMISSION TO THE OWNER'S REPRESENTATIVE.

CONSTRUCTION.

PROCEEDING WITH THE WORK.

- 23. ARCHITECT'S / ENGINEER'S REVIEW OF THE SHOP DRAWINGS SHALL NOT BE CONSTRUED AS AN AUTHORIZATION TO DEVIATE FROM CONTRACT DOCUMENTS. 24. SHOP DRAWINGS WILL NOT BE PROCESSED DUE TO INCOMPLETENESS, LACK OF COORDINATION WITH RELEVANT PORTION OF CONTRACT DOCUMENTS, LACK
- OF CALCULATIONS IF REQUIRED AND WHERE DEVIATIONS, MODIFICATIONS AND SUBSTITUTIONS ARE INDICATED WITHOUT PRIOR WRITTEN APPROVAL FROM 25. ALLOW SEVEN WORKING DAYS FOR PROCESSING SHOP DRAWINGS OTHER THAN STRUCTURAL STEEL It DESIGN-BUILD ITEMS AFTER RECEIPT BY THE

STRUCTURAL ENGINEER. ALLOW FOURTEEN WORKING DAYS FOR PROCESSING

STRUCTURAL STEEL . DESIGN-BUILD ITEMS SHOP DRAWINGS. SHOP DRAWINGS

- AND SUBMITTALS WILL BE REVIEWED A MAXIMUM OF TWO TIMES. 26. THE LATERAL SYSTEM OF THE STRUCTURE 15 DESIGNED WITH LATERAL RESTRAINT AT THE GROUND FLOOR. STRUCTURAL WALLS ARE NOT LATERALLY SELF SUPPORTING UNTIL THE ENTIRE DESIGN LATERAL
- RESTRAINT FLOOR AND STRUCTURAL WALLS BELOW ARE IN PLACE. 27. DO NOT SPLICE STRUCTURAL MEMBERS UNLESS SPECIFICALLY DETAILED AND INDICATED IN THIS SET OF DRAWINGS, DO NOT PLACE OPENINGS, POCKETS, ETC. IN STRUCTURAL MEMBERS UNLESS SPECIFICALLY DETAILED AND INDICATED IN THIS SET OF STRUCTURAL DRAWINGS. NOTIFY THE STRUCTURAL ENGINEER IF DRAWINGS BY OTHERS REQUIRE MODIFICATIONS TO STRUCTURAL MEMBERS AS SHOWN IN THIS SET OF STRUCTURAL DRAWINGS PRIOR TO



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Electrical Engineering Lighting Design ARCHITECT STAM C 83131 No. C 27526

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AGENCY APPROVAL: CITY OF SANTA BARBARA. PLANNING #: PLN2023-00327

MILESTONE DATES: 9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

**REVISIONS:** 

THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY

PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR

THESE PLANS AND SPECIFICATIONS IF THEY ARE USED IN

WHOLE OR IN PART AT ANY OTHER SITE.

PROJECT TITLE:

SANSUM DIABETES RESEARCH 2219 BATH STREE SANTA BARBARA, CA

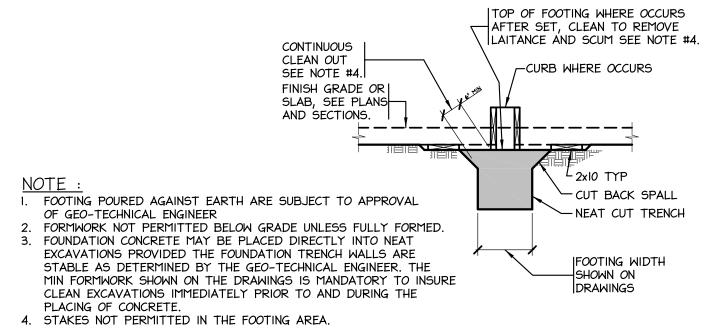
SHEET TITLE:

JOB NUMBER: 23-071

NOTES DATE: 04-22-24 DRAWN BY: KEVIN M. MURPHY

**GENERAL** 

SHEET \_\_\_ of \_\_



FOOTING POURED AGAINST EARTH

SLAB PER PLAN

D, USE CRUSHED OR
RAVEL, QUARRY

OF RECORD PRIOR TO PLACING STEEL
WATER / CEMENT RATIO = 0.40

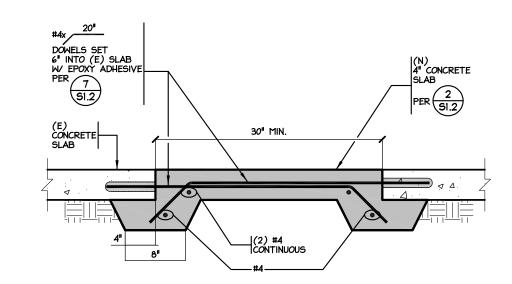
CONTRACTOR TO PROVIDE

IMIN 3"sq. PRECAST CONC
BAR SUPPORTS @ 36"OC
EA WAY

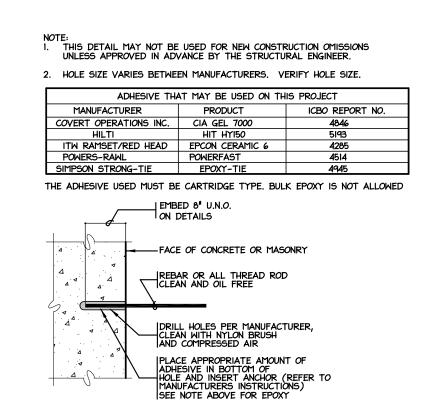
IS MIL VAPOR STEGO WRAP BARRIER
BY STEGO INDUSTRIES, LLC.
WITH SEALANTS @ JOINTS PER MFR.

SUBGRADE COMPACTION MIN. 90% RELATIVE COMPACTION
SEE SOILS REPORT FOR ALL GRADING \$ SUB-GRADE
PREPARATION. BRING TO AT LEAST 2% OVER OPTIMUM

SLAB ON GRADE



TYPICAL CONCRETE SLAB PATCH



ADHESIVE ANCHOR



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PARCHITECT STAMP

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CONSULTANT STAMP

ROFESSIONAL

RNTHON

EXP. 03/31/2025

CIVIL

AGENCY APPROVAL: CITY OF SANTA BARBARA.
PLANNING #: PLN2023-00327
PERMIT #:

MILESTONE DATES:

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PROJECT TITLE:

SANSUM DIABETES RESEARCH INSTITUTE 2219 BATH STREET SANTA BARBARA, CA

SHEET TITLE:

TYPICAL DETAILS
DATE: 04-22-24

DRAWN BY: KEVIN M. MURPHY

JOB NUMBER: 23-071

SHEET \_\_\_ of <u>-</u>\_

31.2

#10 SCREWS

SECTION B

@ 8" TO EA

HEADER STUD

-#10 SCREWS

ËA FLANGE

EA STUD

PER SCHED

@ 8"EA

TOP OF STUD

REINFORCING OF HOLE: REINFORCING PLATE SAME GA AS STUD

BOTT OF STUD

(54MIL MIN)

ALL EDGES

9"xSTUD DEPTH

w/#8 SMS @ 1"

#10 SCREWS

FLANGE, EA

HEADER STUD

	HEAD	ER JAMB AN	ID SILL SCHE	EDULE		
	HE/	ADER	JA	MB	SIL	L
OPENING WIDTH	EXTERIOR WALL & BEARING WALL	INTERIOR NON-BEARING WALL	INTERIOR WALL & BEARING WALL	INTERIOR NON-BEARING WALL	EXTERIOR WALL & BEARING WALL	INTERIOR NON-BEARING WALL
'W' \le 4'-0"	2-600S162-43 & 2-600T150-43	2-600S162-43 & 2-XXXT150-43	600S162-54	XXXS162-54	600T150-43	XXXT150-43
4'-0" <'W' ≤10'-0"	2-1200S162-54 & 2-600T150-54	2-600S162-43 & 2-XXXT150-43	600\$200-97	XXXS162-68	600T150-68	XXXT150-54

1. HEADER AND JAMB THICKNESS SHALL BE IN ACCORDANCE WITH THE SCHEDULE OR TYPICAL WALL STUD THICKNESS WHICHEVER IS GREATER

2. XXX = WALL STUD WIDTH

STUD WALL FRAMING SCHEDULE

CONT TRACK (A)

TRACK DESIGNATION

250TXXX-XX

400TXXX-XX

600TXXX-XX

800TXXX-XX

AT INTERIOR WALL

'W' | 1/2 'W' | 1/4 'W'

MIN

PENETRATION > 1/2 'W'
PENETRATION W/REINFORCEMENT REQ'D

PLAN B

-CONN TYP

DETAILS

PLAN C

PLAN VIEW-PENETRATION < 1/2 'W'
PENETRATION NO REINFORCEMENT REQ'D

PENETRATION W/REVISED ATTACHMENT

PENETRATION > 1/2 'W'

TO BLDG

<u>(TOP OR BOTTOM)</u>

TRACK -

--- L1  $\frac{1}{2}$ x1  $\frac{1}{2}$ x5MlLx LENGTH AS REQ'D EA SIDE OF TRACK

---- 4-#8 EA SIDE OF PENETRATION

DETAILS

ATTACHMENT ALLOWED

JAMB PER SCHEDULE, TYP SCHEDULE, TYP -BRIDGING WHEN WALL IS NOT SHEATHED ON BOTH SIDE. SEE 'BRIDGING' DETAIL \_SEE 'HEADER' DETAIL, TYP SEE "JAMB BASE' — DETAIL, TYP SEE 'WALL BASE' SEE "JAMB BASE'— DETAIL, TYP. DETAIL, TYP SILL PER SCHEDULE SEE 'SILL' DETAIL TYP

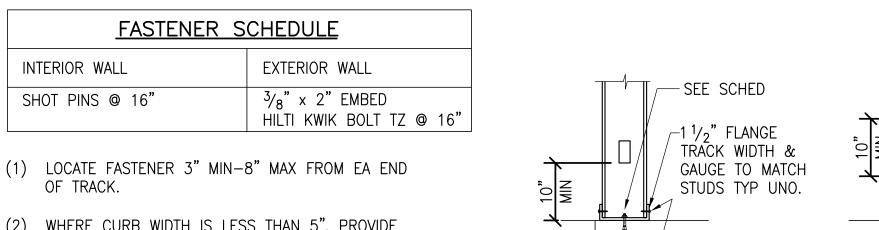
STUD WALL FRAMING

HEADER PER

BENT PL 97MILx9"x2"

AT EXTERIOR WALL

END OF TRACK (D)



(2) WHERE CURB WIDTH IS LESS THAN 5", PROVIDE  $\frac{3}{8}$ " x 8" EMBED CAST-IN-PLACE HEADED ANCHOR BOLTS @ 32". LOCATE BOLTS AT CENTER OF CURB. CURB WIDTH SHALL BE 4" MINIMUM. STUDS LESS THAN 4" WIDE SHALL NOT BE SUPPORTED ON CURB UNLESS CURB IS 4" WIDE (MIN) AND BOLTS

ARE CENTERED ON CURB.

SLAB OR — DECK EDGE WHERE

SCHED -#10 SMS EA SIDE EA STUD, TYP.

WALL ON SLAB (A)

(LLH) w/4-#12 SMS -#8 SMS EA SIDE -#8 SMS ËA SIDE TRACK - BOTT TRACK -PER SCHEDULE TRACK AT FACE OF DOOR JAMB TOP OF SLAB OR CURB EDGE OF CURB WHERE OCCURS TRACK  $\frac{1}{3}$ /8 $^{9}$  x 2 $^{9}$  MIN  $\frac{1}{2}$ — STUD WIDTH −1" └─2 SHOT PINS -2 SHOT PINS OR CURB EXPANSION ANCHOR

CONT TRACK (C)

END OF TRACK (B)

<u>HEADER</u>

BENT PL97MILx1  $1/2x1\frac{1}{2}$ 

 $\times$  (STUD WIDTH -1") LONG

97MIL x 2" FLANGE TRACK

4"ø MAX HOLE @ 8" STUDS 3"ø MAX HOLE @ 6" STUDS 2"ø MAX HOLE @ 4" STUDS

STUD PUNCHOUT/HOLES

OF 4-#12 SCREWS

(8-TOTAL) TO JAMB

SAME DEPTH AS WALL STUDS

w/4-#12 SCREWS EA FLANGE
TO HEADER & TWO ROWS

w/3-#10 SMS EA LEG

TOP & BOTT

TOP & BOTT

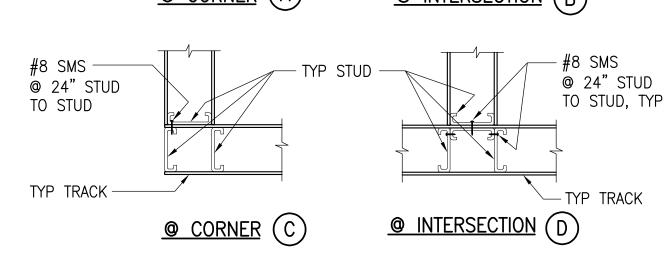
PER SCHED

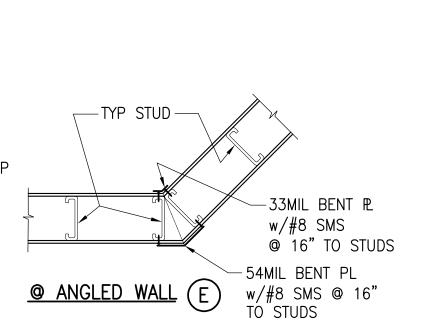
TRACK -

JAMB BASE

WALL BASE

#8 SMS -WHERE OCCURS @ 24" STUD TO STUD TO STUD, TYP TYP STUD -TYP TRACK -TYP TRACK © CORNER (A) @ INTERSECTION B 





# WALL INTERSECTIONS

2-#8 SMS EA SIDE OF SPLICE--SPLICE STRAP AT \_54MIL x 1½" CRC w/2-#8 SMS EA STUD @ MID HEIGHT OF WALL EA FACE OF BLKG BLKG IF REQ'D 4-#8 SS EA FACE OF BLKG II OR 8'-0" MAX VERT STRAP IS NOT SPLICED -CUT FLANGE & TURN AND WHERE NOTED w/1-#8 SMS EA PL -STRAP 2"x 33MIL CONT -54MIL x 1 $\frac{1}{2}$ " CRC HORIZ @ MID-HEIGHT PER STUD w/2-#8 SMS EA L @ OF WALL OR 8'-6" MAX MÍD HÉIGHT OF WALL VERT AND WHERE NOTED OR 8'-0" MAX VERT AND WHERE NOTED ALTERNATE (D) ALTERNATE C BLOCKING (43MIL) TRACK @ 8'-0"-MAX HORIZ AND AT WALL ENDS AND AT MID-HEIGHT OF WALL OR

1. PLACE STRAP AND/OR CRC ON SIDE(S)
WHERE SHEATHING DOES NOT OCCUR.
2. FOR CRC SPLICE SEE (E)

— 12" PIECE OF CRC TO MATCH ON BACK SIDE SPLICED-CRC 2-#10 SMS — EACH SIDE ─12" PIECE OF CRC OF SPLICE PLAN-VIEW (E) 4-#10 SMS -@ LAP **A** <u>ALTERNATE</u>

MAX PENETRATION THRU TRACKS

BRIDGING

8'-6"MAX VERT.

PLAN B

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PROJECT TITLE:

**REVISIONS:** 

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9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

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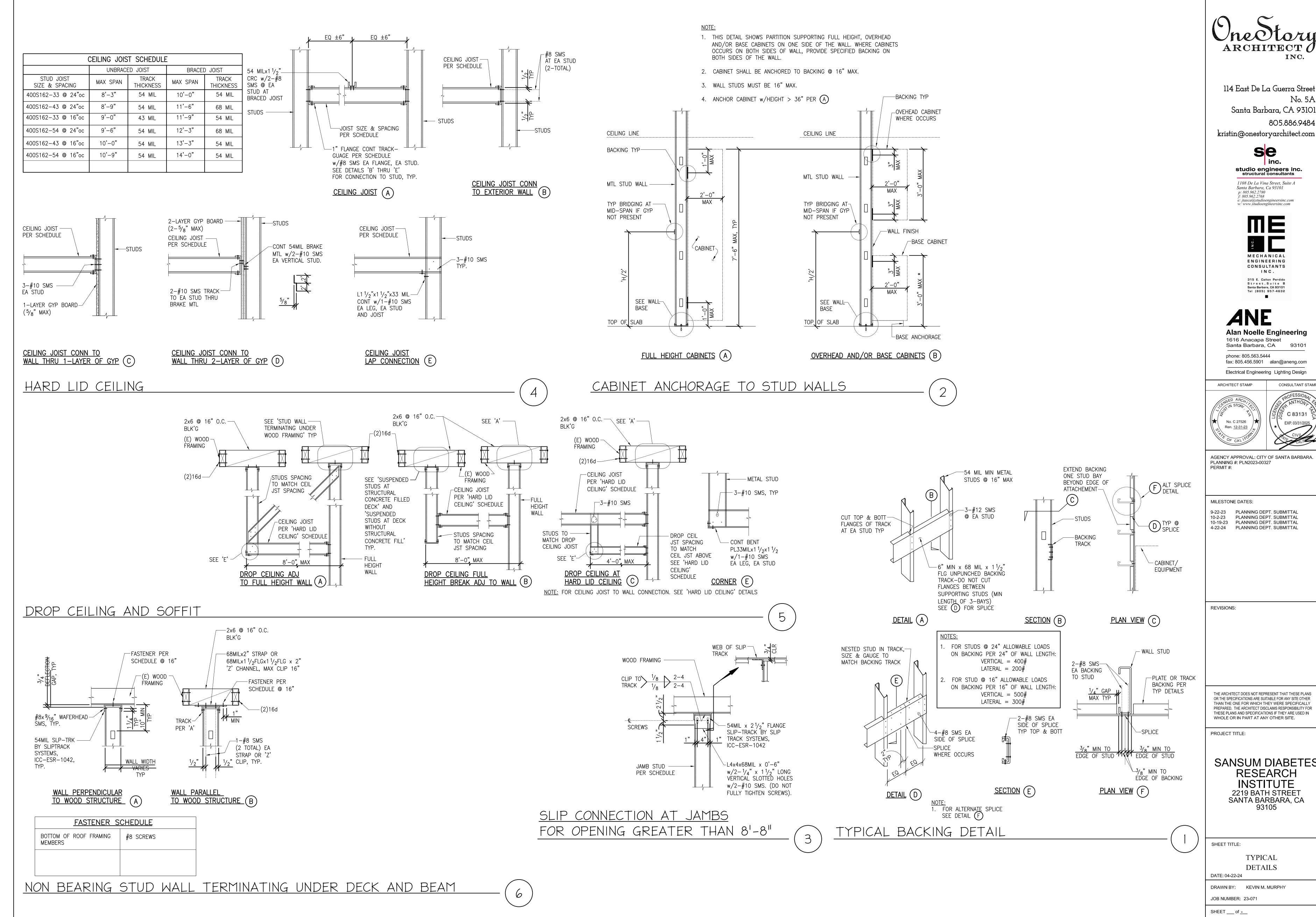
SHEET TITLE:

**TYPICAL DETAILS** DATE: 04-22-24

DRAWN BY: KEVIN M. MURPHY JOB NUMBER: 23-071

SHEET \_\_\_ of \_\_

S1.3



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> **TYPICAL DETAILS**

DRAWN BY: KEVIN M. MURPHY JOB NUMBER: 23-071

S1.4



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Ren. 12-31-23

EXP. 03/31/2025

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PROJECT TITLE:

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SHEET TITLE:

BASEMENT FOUNDATION PLAN DATE: 04-22-24

DRAWN BY: KEVIN M. MURPHY

JOB NUMBER: 23-071

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SHEET TITLE:

FIRST FLOOR FRAMING PLAN DATE: 04-22-24

DRAWN BY: KEVIN M. MURPHY

JOB NUMBER: 23-071

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SHEET TITLE:

SECOND FLOOR FRAMING PLAN DATE: 04-22-24

DRAWN BY: KEVIN M. MURPHY

JOB NUMBER: 23-071

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SHEET TITLE:

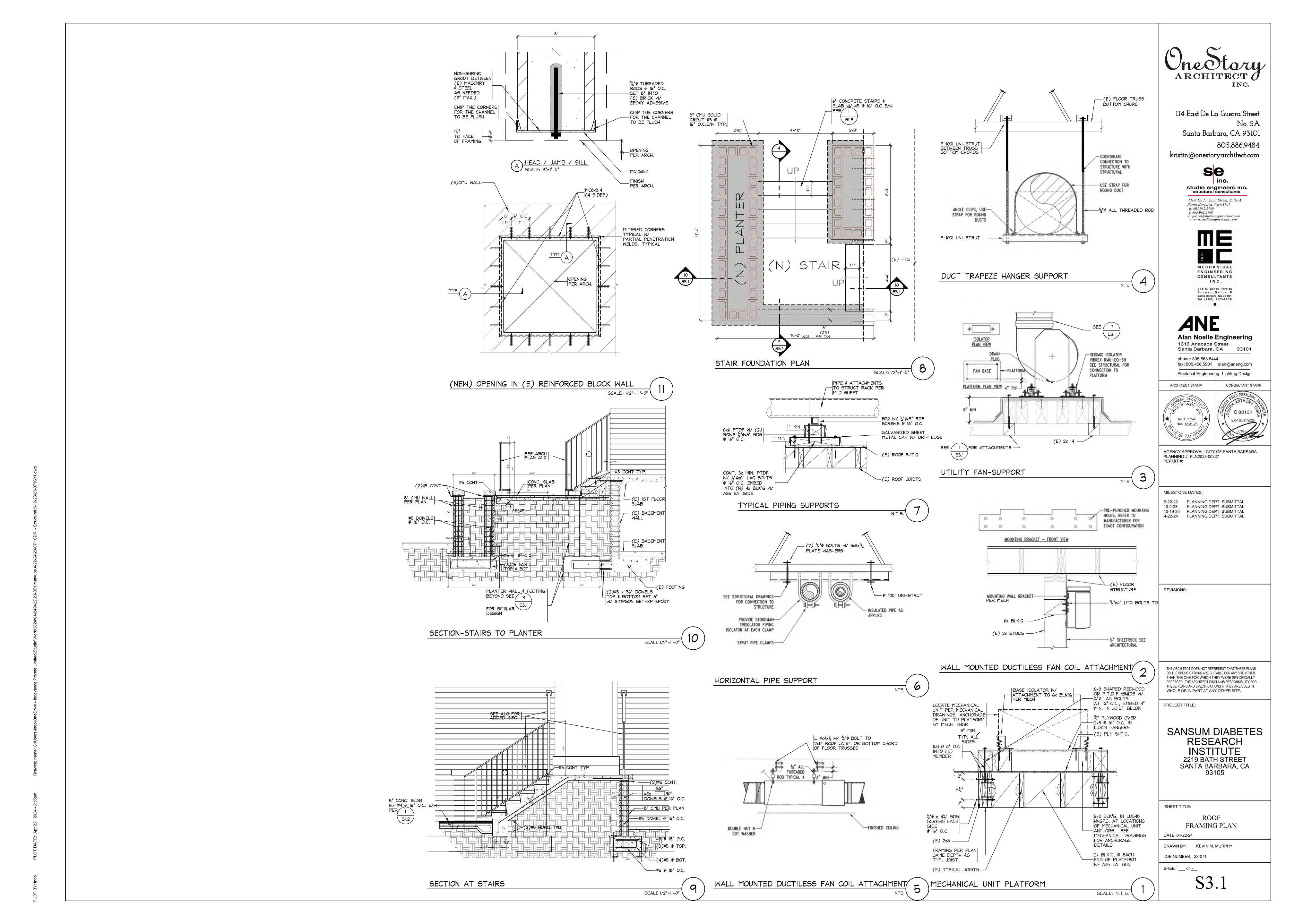
ROOF FRAMING PLAN

DRAWN BY: KEVIN M. MURPHY

JOB NUMBER: 23-071

SHEET \_\_\_ of \_\_\_

DATE: 04-22-24



ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, INCLUDING, BUT NOT LIMITED TO:

CODE COMPLIANCE

- 2022 CA MECHANICAL CODE (CMC) 2022 CA PLUMBING CODE (CPC)
- 2022 CA ELECTRICAL CODE (CEC 2022 CA BUILDING CODE (CBC)
- 2022 CA GREEN CODE (CGBSC) 2022 TITLE 24 ENERGY EFFICIENCY STANDARDS (CEnC)

## TITLE 24 CERTIFICATES

THE INSTALLING CONTRACTOR SHALL COORDINATE AND PROVIDE ALL REQUIRED TITLE 24 ACCEPTANCE TEST CERTIFICATES BY A CERTIFIED ACCEPTANCE TEST TECHNICIAN, AND HERS RATINGS AS REQUIRED IN THE TITLE 24 COMPLIANCE DOCUMENTS. THESE INCLUDE ALL NRCA, NRCI AND NRCV FORMS LISTED ON THE NRCC DOCUMENTS: NRCA-MCH-02-A. NRCA-MCH-05-A, NRCA-MCH-06-A, NRCA-MCH-07-A, NRCA-MCH-11-A, NRCA-MCH-12-A, NRCA-MCH-12-A.

#### COORDINATION

COORDINATION WITH OTHER TRADES SHALL BE A PART OF THIS PROJECT AND SHALL BE INCLUDED IN THE CONTRACTOR'S COST COORDINATE ROUTING AND ELEVATIONS OF ALL DUCTWORK AND EQUIPMENT BEFORE FABRICATION AND INSTALLATION. REPORT TO THE ARCHITECT ANY CONFLICTS THAT CAN NOT BE RESOLVED IN FIELD PRIOR TO FABRICATION AND INSTALLATION. NO ADDITIONAL CHARGES WILL BE ALLOWED FOR WORK PERFORMED RESULTING FROM A LACK OF COORDINATION.

#### **CONTROLS**

CONTROLS FOR THIS PROJECT SHALL TURN-KEY AND INCLUDE ALL HARDWARE AND SOFTWARE FOR A COMPLETE WORKING BMS SYSTEM. CONTROLS SHALL INCLUDE A CENTRALIZED CONTROLLER, CONTROL INTEGRATION FOR AIR HANDLERS AND CONDENSERS, MORNING WARM UP CYCLE, AND VRF SYSTEM CONTROLS. COORDINATE WITH OWNER'S REP REGARDING LOCATION OF THERMOSTATS, CONTROLLER AND/OR REMOTE ROOM SENSORS. INCLUDE PROGRAMMING AND TRAINING IN BASE BID.

ALL CONTROL WIRING INSIDE THE MECHANICAL ROOMS AND CONCEALED IN WALLS SHALL BE IN CONDUIT, INSTALLED BY CONTROLS CONTRACTOR. REMAINING WIRING SHALL BE PLENUM RATED.

# ASHRAE 15/34 COMPLIANCE

THIS PROJECT SHALL BE FULLY COMPLIANT WITH THE ASHRAE 15 SAFETY STANDARD FOR REFRIGERATION SYSTEMS, BASED ON THE ASHRAE 34 CLASSIFICATION OR R-410A REFRIGERANT. A COMBINATION OF ROOM TRANSFERS, INDEPENDENT CIRCUITS, EXHAUST FANS, AND REFRIGERANT MONITORS WITH CONTACTS FOR RUNNING EXHAUST FANS ARE USED FOR COMPLIANCE. THE INSTALLING CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF ASHRAE 15.

#### **GENERAL NOTES:**

- ALL WORK SHALL COMPLY WITH APPLICABLE CODES, LOCAL ORDINANCES, & LOCAL REQUIREMENTS, AS A MINIMUM. ADDITIONAL. MORE STRINGENT REQUIREMENTS SHALL GOVERN.
- CONTRACT DOCUMENTS ARE SCHEMATICS, NOT SHOP DRAWINGS. SHOP DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED TO CLARIFY DETAILS OF INSTALLATION.
- ALL SUBSTITUTIONS SHALL BE PRE-APPROVED.
- 4. PAY FOR ALL PERMITS & FEES RELATED TO THE EXECUTION OF THIS
- INSPECT & REPORT ON DEFECTIVE EXISTING CONDITIONS PRIOR TO BID OR START OF WORK.
- 6. DO NOT CUT OR MODIFY STRUCTURAL MEMBERS WITHOUT PRIOR WRITTEN APPROVAL BY ARCHITECT.
- COORDINATE WITH OTHER TRADES & ARCHITECT FOR THE PROPER & COMPLETE INSTALLATION OF THE WORK.
- MAKE ALL NECESSARY PROVISIONS TO CREATE A SAFE WORK ENVIRONMENT.
- 9. PROVIDE SUBMITTALS FOR ALL WORK
- 10. IDENTIFY ALL MECHANICAL EQUIPMENT WITH PLASTIC ENGRAVED TAGS.
- 11. ISOLATE MOTORIZED OR MOVING EQUIPMENT FROM STRUCTURE WITH APPROVED METHODS.
- 12. INSULATE INDIRECT WASTE PIPING TO PREVENT CONDENSATION.
- 13. COORDINATE AIR TERMINALS WITH ARCHITECTURAL CEILING TYPES AND SURFACE FINISHES, AS APPROPRIATE. PROVIDE COLOR SAMPLES TO **ARCHITECT**
- 14. PROVIDE A 1 YEAR WARRANTY FOR ALL WORK.
- 15. PRODUCT INSTALLATION METHODS SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S DETAILED INSTRUCTIONS.
- 16. DUCT SIZES ARE INSIDE CLEAR DIMENSIONS. FOR LINED DUCTS, MAINTAIN SIZES INSIDE LINING.

#### **ELECTRICAL COORDINATION:**

**DUCT SMOKE DETECTORS:** 

- MOTOR STARTERS, LINE VOLTAGE WIRING & ALL CONDUIT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. LOW VOLTAGE WIRING & LOW VOLTAGE CONTROL DEVICES SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
- 2. ALL PRODUCTS REQUIRING ELECTRICAL CONNECTION SHALL BE LISTED & CLASSIFIED BY UL OR APPROVED TESTING FIRM.
- WHERE A FIRE ALARM SYSTEM IS REQUIRED OR PROVIDED, THE FIRE ALARM CONTRACTOR SHALL PROVIDE & INSTALL THE DUCT DETECTOR & MAKE ALL NECESSARY CONNECTIONS TO THE FIRE ALARM SYSTEM. MECHANICAL CONTRACTOR SHALL PREPARE DUCTWORK, INCLUDING ANY REQUIRED ACCESS FOR INSTALLATION OF DETECTORS BY THE FIRE ALARM CONTRACTOR, MECHANICAL CONTRACTOR SHALL INSTALL THE WIRING & CONTROLS FOR THE FAN SHUTDOWN.
- WHERE A FIRE ALARM SYSTEM IS NOT REQUIRED OR PROVIDED. THE MECHANICAL CONTRACTOR SHALL PROVIDE & INSTALL THE DUCT SMOKE DETECTOR & ALL ASSOCIATED CONTROLS & DEVICES FOR ITS PROPER OPERATION. MECHANICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH THE ELECTRICAL CONTRACTOR FOR CONDUIT, WIRING. & POWER REQUIREMENTS.

#### TITLE 24 REQUIREMENTS:

- PROVIDE ACCEPTANCE TESTING AND CERTIFICATES FOR ALL APPLICABLE SYSTEMS PER REQUIREMENTS OF 2022 TITLE 24 NON-RESIDENTIAL ENERGY STANDARDS.
- WHERE APPLICABLE, PROVIDE DUCT LEAKAGE TESTING BY A CERTIFIED HERS RATER PER 2022 TITLE 24 REQUIREMENTS, SECTION 120.4(g). THIS SHALL BE PART OF THE BASE CONTRACT WORK.
- PER SECTION 110.1: ANY APPLIANCE REGULATED BY THE APPLIANCE EFFICIENCY REGULATIONS, TITLE 20 CALIFORNIA CODE OF REGULATIONS, SECTION 1601 ET SEQ., MAY BE INSTALLED ONLY IF THE APPLIANCE FULLY COMPLIES WITH SECTION 1608(a) OF THOSE REGULATIONS.
- ANY SPACE-CONDITIONING EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED TO THE CA ENERGY COMMISSION THAT THE EQUIPMENT COMPLIES WITH THE APPLICABLE REQUIREMENTS OF TITLE 24, SECTION 110.2.
- ANY SERVICE WATER HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE SYSTEM OR EQUIPMENT COMPLIES WITH ALL OF THE REQUIREMENTS OF TITLE 24, SECTION 110.3 FOR THAT SYSTEM OR EQUIPMENT.
- INSTALLING CONTRACTOR SHALL PROVIDE APPLICABLE CERTIFICATES OF INSTALLATION (NRCI) AND ACCEPTANCE (NRCA) AT TIME OF INSPECTION PER 2022 TITLE 24 REQUIREMENTS.

#### <u>CA GREEN BUILDING CODE (CGBC):</u>

- COMPLY WITH ALL MANDATORY REQUIREMENTS OF CHAPTER 5 OF THE 2022 CGBC.
- COMPLY WITH ALL ENVIRONMENTAL QUALITY REQUIREMENTS OF CHAPTER 5 OF THE 2022 CGBC INCLUDING PRE- AND POST-OCCUPANCY FILTERS AND VOC LIMITS. PROVIDE DOCUMENTATION OF COMPLIANCE AS REQUIRED.

#### **PRODUCTS**:

GENERAL NOTES

- ALL PRODUCTS SHALL BE NEW, IN PERFECT CONDITION, & SHALL BEAR THE MANUFACTURER'S LABEL.
- DUCTWORK SHALL CONFORM TO THE CMC & TO SMACNA STANDARDS FOR GAGES & INSTALLATION, UNLESS OTHERWISE NOTED TO BE MORE STRINGENT. INSULATE ALL HEATING, COOLING & RETURN DUCTS PER TITLE 24 REQUIREMENTS. DUCT LINER SHALL BE FIBER-FREE ARMAFLEX FS SA. DUCT LINER SHALL BE ALLOWED ONLY WHERE PERMITTED BY THE CMC AND LOCAL JURISDICTIONS. DUCTWRAP SHALL BE JM "MICROLITE" XG.
- CMC COMPLIANCE: ALL AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS, INCLUDING, BUT NOT LIMITED TO, BUILDING CAVITIES. MECHANICAL CLOSETS, AIR-HANDLER BOXES AND SUPPORT PLATFORMS USED AS DUCTS OR PLENUMS, SHALL MEET THE REQUIREMENTS OF THE CMC SECTIONS 601.0, 602.0, 603.0, 604.0, 605.0, AND ANSI/SMACNA-006-2006 HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE 3RD EDITION. CONNECTIONS OF METAL DUCTS AND THE INNER CORE OF FLEXIBLE DUCTS SHALL BE MECHANICALLY FASTENED. OPENINGS SHALL BE SEALED WITH MASTIC, TAPE, AEROSOL SEALANT, OR OTHER DUCT-CLOSURE SYSTEM THAT MEETS THE APPLICABLE REQUIREMENTS OF UL 181, UL 181A, OR UL 181B. IF MASTIC OR TAPE IS USED TO SEAL OPENINGS GREATER THAN 1/4 INCH. THE COMBINATION OF MASTIC AND EITHER MESH OF TAPE SHALL BE USED. PORTIONS OF SUPPLY-AIR AND RETURN-AIR DUCTS CONVEYING HEATED OR COOLED AIR LOCATED IN ONE OR MORE OF THE FOLLOWING SPACES SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-8: OUTDOORS: OR IN A SPACI BETWEEN THE ROOF AND AN INSULATED CEILING; OR IN A SPACE DIRECTLY UNDER A ROOF WITH FIXED VENTS OR OPENINGS TO THE OUTSIDE OR UNCONDITIONED SPACES; OR IN AN UNCONDITIONED CRAWLSPACE; OR IN OTHER UNCONDITIONED SPACES. PORTIONS OF SUPPLY-AIR DUCTS THAT ARE NOT IN ONE OF THESE SPACES. INCLUDING DUCTS BURIED IN CONCRETE SLAB, SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-4.2 OR BE ENCLOSED IN DIRECTLY CONDITIONED SPACE.
- DUCTS EXPOSED TO WEATHER TRANSPORTING CONDITIONED AIR: 2" RIGID DUCTLINER, OR 2" RIGID DUCTBOARD ON OUTSIDE OF DUCTWORK WITH ALUMINUM CLADDING. EXTERNAL DUCTBOARD AND CLADDING ARE REQUIRED FOR ALL EXPOSED DUCTS DOWNSTREAM OF HIGH EFFICIENCY FILTERS (80% OR GREATER). DUCTWORK SEALANT: NON-HARDENING, WATER/FIRE RESISTIVE. HYDRO-STOP INC. "PREMIUMCOAT" SYSTEM ON ALL JOINTS AND ALL SURFACES OF DUCTWORK.
- ALL REFRIGERANT PIPING, AND OTHER PIPING CONVEYING FLUIDS ABOVE AND/OR BELOW AMBIENT TEMPERATURE, THAT IS EXPOSED TO WEATHER SHALL BE INSULATED PER CURRENT TITLE 24 REQUIREMENTS AND SHALL BE INSTALLED WITH ALUMINUM JACKETING.
- DUCTWORK SHALL BE ASTM RATED, GALVANIZED WITH G90 ZINC COATING. SEALANT: NON-HARDENING, WATER/FIRE RESISTIVE. FLEXIBLE DUCT ALLOWED LAST 5 FEET OF BRANCH UNO. PROVIDE MVD AT EACH BRANCH.
- 7. FLEXIBLE DUCT LENGTH LIMITATION: FACTORY-MADE FLEXIBLE AIR DUCTS AND CONNECTORS SHALL NOT BE MORE THAN 5 FEET IN LENGTH, AND SHALL NOT BE USED IN LIEU OF RIGID ELBOWS OR FITTINGS. FLEXIBLE AIR DUCTS SHALL BE PERMITTED TO BE USED AS AN ELBOW AT A TERMINAL DEVICE (CMC 603.4.1). EXCEPTION: RESIDENTIAL OCCUPANCIES.
- AND SHALL BE UL 181 LISTED. R-VALUES FOR DUCT INSULATION SHALL BE PER THE CURRENT CA TITLE 24 REQUIREMENTS.
- OR EQUAL.
- 10. ACOUSTICAL FLEX DUCT SHALL BE CASCO SILENT FLEX II OR EQUAL, EXCEPT WHERE PROHIBITED BY TITLE 24 REQUIREMENTS FOR NON-POROUS INNER CORES
- 11. ALL FACTORY & FIELD FABRICATED DUCT SYSTEMS & PRESSURE SENSITIVE TAPES, MASTICS OR OTHER CLOSURE SYSTEMS SHALL COMPLY WITH UL 181.
- 12. JOINTS & SEAMS OF CONCEALED DUCT SYSTEMS & THEIR COMPONENTS SHALL BE SEALED WITH NON-HARDENING, WATER RESISTANT, FIRE RESISTIVE SEALANT, COMPATIBLE WITH MATING MATERIALS; DUCT TAPE SHALL NOT BE ALLOWED AS DUCT SEALER. EXPOSED DUCTWORK SHALL BE NEATLY JOINED AND FASTENED WITH SHEET METAL SCREWS.
- 13. DUCT SYSTEMS USED WITH BLOWER TYPE EQUIPMENT WHICH ARE PORTIONS OF A HEATING, COOLING, ABSORPTION, EVAPORATIVE COOLING OR OUTDOOR AIR VENTILATION SYSTEM SHALL BE SIZED IN ACCORDANCE WITH CHAPTER 17 OF THE CALIFORNIA MECHANICAL
- 14. DUCT LEAKAGE TESTS (CMC SECTION 603.9.2): DUCTWORK SHALL BE LEAK-TESTED IN ACCORDANCE WITH THE SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL. REPRESENTATIVE SECTIONS TOTALING NOT LESS THAN 10 PERCENT OF THE TOTAL INSTALLED DUCT AREA SHALL BE TESTED. WHERE THE TESTED 10 PERCENT FAIL TO COMPLY WITH THE REQUIREMENTS OF THIS SECTION, THEN 40 PERCENT OF THE TOTAL INSTALLED DUCT AREA SHALL BE TESTED. WHERE THE TESTED 40 PERCENT FAIL TO COMPLY WITH THE REQUIREMENTS OF THIS SECTION, THEN 100 PERCENT OF THE TOTAL INSTALLED DUCT AREA SHALL BE TESTED. SECTIONS SHALL BE SELECTED BY THE BUILDING OWNER OR DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER. POSITIVE PRESSURE LEAKAGE TESTING SHALL BE PERMITTED FOR NEGATIVE PRESSURE DUCTWORK.
- ENVIRONMENTAL AIR DUCT EXHAUST SHALL TERMINATE NOT LESS THAN 3 FEET FROM A PROPERTY LINE. 10 FEET FROM A FORCED AIR INLET, 3 FEET FROM OPENINGS INTO THE BUILDING, AND SHALL NOT DISCHARGE ONTO A PUBLIC WALKWAY. SEE CMC 502.2.2 FOR DISCHARGE REQUIREMENTS FOR PRODUCT CONVEYING DUCTS. PROVIDE BACK-DRAFT DAMPERS ON EXHAUST SYSTEMS PER CMC 504.1.1.
- 17. PROVIDE MINIMUM 26 GAGE SHEET METAL AND UL LISTED PENETRATION FIRE STOPPING FOR ALL DUCTS PENETRATING RATED ASSEMBLIES. ALL VERTICAL AND HORIZONTAL PENETRATIONS OF RATED ASSEMBLIES SHALL COMPLY WITH CHAPTER 7 OF THE CBC. INCLUDING FIRE DAMPERS AND RATED SHAFT ENCLOSURES WHERE REQUIRED. COORDINATE WITH THE ARCHITECT AND GC PRIOR TO

- 1. ALL SYSTEMS SHALL BE TESTED BY A CERTIFIED INDEPENDENT AGENCY, TO NEBB OR AABC STANDARDS, PROVIDE CERTIFIED AIR BALANCE REPORT FOR REVIEW PRIOR TO FINAL INSPECTION.
- 2. BALANCE SYSTEM IN AT LEAST TWO PHASES: 2.1. PRELIMINARY/ROUGH 2.2. FINAL FOR REVIEW BY ARCHITECT. AN ADDITIONAL REBALANCE MAY BE REQUIRED FOR FINAL APPROVAL.

**ABBREVIATIONS** COMPRESSED AIR MD MANUAL DAMPER AIR CONDITIONER MFR MANUFACTURER AFF ABOVE FINISHED FLOOR MANHOLE AFS AUTOMATIC FIRE SPRINKLER SYSTEM MINIMUM MIN AH AIR HANDLER MS MOTOR STARTER AHJ AUTHORITY HAVING JURISDICTION MTD MOUNTED MTL METAL ANALOG INPUT AO ANALOG OUTPUT MVD MANUAL VOLUME DAMPER AP ACCESS PANEL NEW N/A NOT APPLICABLE NORMALLY CLOSED NOT IN CONTRACT NTS NOT TO SCALE OBD OPPOSED BLADE DAMPER OUTSIDE DIAMETER OFD OVERFLOW DRAIN OVERFLOW RAINWATER LEADER OSA OUTSIDE AIR OSY OUTSIDE STEM & YOKE OW OILY WASTE PRESSURE & TEMPERATURE RELIEF CHR PROCESS CHILLED WATER RETURN PCHS PROCESS CHILLED WATER SUPPLY PHASE PIV POST INDICATOR VALVE PLCS PLACES POC POINT OF CONNECTION POT CHEMICAL POT FEEDER PPM PARTS PER MILLION PRESS PRESSURE PRV PRESSURE REDUCING VALVE PSI POUNDS PER SQUARE INCH REMOVE CONDENSATE OR EQUIPMENT DRAIN (R) RETURN AIR RA RD ROOF DRAIN REFRIG REFRIGERATION REQD REQUIRED

CRC CALIFORNIA RESIDENTIAL CODE CW COLD WATER DOMESTIC DDC DIRECT DIGITAL CONTROL DB DRY BULB TEMPERATURE DEGREES F DCW DOMESTIC COLD WATER DHW DOMESTIC HOT WATER DIGITAL INPUT DIAMETER DOOR LOUVER DOWN DO DIGITAL OUTPUT DPS DIFFERENTIAL PRESSURE SWITCH DPT DIFFERENTIAL PRESSURE TRANSMITTER RZ RADIANT ZONE RZR

DSP DRY STANDPIPE DTR DUCT THROUGH ROOF DWGS DRAWINGS DX DIRECT EXPANSION EXISTING

EA EXHAUST AIR EXHAUST FAN EFF EFFICIENCY

ALL FLEXIBLE DUCTWORK SHALL HAVE NON-POROUS INNER CORES

FLEXIBLE DUCTWORK SHALL BE THERMAFLEX MKC, FLEXMASTER 3B,

- 15. PROTECT ALL EQUIPMENT AND DUCT OPENINGS DURING CONSTRUCTION. AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.
- INSTALLATION.

#### TEST AND BALANCE:

ARCH ARCHITECTURAL DRAWINGS AW ACID WASTE BDD BACK DRAFT DAMPER BHP BRAKE HORSEPOWER BLDG BUILDING BS BIRD SCREEN BTU BRITISH THERMAL UNIT CA COMBUSTION AIR CBC CALIFORNIA BUILDING CODE CD CEILING DIFFUSER CFH CUBIC FEET PER HOUR CFM CUBIC FEET PER MINUTE CGC CALIFORNIA GREEN CODE CHS CHILLED WATER SUPPLY CHR CHILLED WATER RETURN CLG CEILING CMC CA MECHANICAL CODE CO CLEANOUT CONT CONTINUATION COTG CLEAN OUT TO GRADE CR CONTROL RELAY REFRIGERANT HOT GAS LINE REFRIGERANT LIQUID LINE RATED LOAD AMPS RPM REVOLUTIONS PER MINUTE REFRIGERANT SUCTION LINE RAIN WATER LEADER RADIANT ZONE RETURN RZS RADIANT ZONE SUPPLY SUPPLY AIR STORM DRAIN / SMOKE DETECTOR SEASONAL EFFICIENCY SEER SEASONAL ENERGY EFFICIENCY RATING EER ENERGY EFFICIENCY RATING SQUARE FEET SFD SMOKE & FIRE DAMPER SOUNDLINER ELEC ELECTRICAL DRAWINGS SEWER MAN HOLE ELEV ELEVATION SOV SHUT OFF VALVE ER EXHAUST REGISTER STATIC PRESSURE ESP EXTERNAL STATIC PRESSURE SPEC SPECIFICATIONS EWH ELECTRIC WATER HEATER SS STAINLESS STEEL SSC SOLID STATE SPEED CONTROL (F) FUTURE FC FAN COIL STD STANDARD FA FREE AREA STL STEEL FACP FIRE ALARM CONTROL PANEL STRUCTSTRUCTURAL DRAWINGS FCO FLOOR CLEAN OUT SW SOFTENED WATER / SWITCH FD FIRE DAMPER SWD SIDE WALL DIFFUSER FINISHED FLOOR ELEVATION SWE SIDE WALL EXHAUST SWR SIDE WALL RETURN FLOW LINE T24 CALIFORNIA ENERGY CODE FLA FULL LOAD AMPS FLD FLOOR DRAIN TEMPERATURE CONTROL PANEL FLR FLOOR TRANSFER GRILLE FPM FEET PER MINUTE THERMOSTAT FLOOR SINK TEMPERATURE SENSOR FEET TSTAT THERMOSTAT TW TEMPERED WATER GAS LINE (FUEL GAS) TXV THERMOSTATIC EXPANSION VALVE GAUGE TYP GAL GALLONS TYPICAL GALV GALVANIZED GC GENERAL CONTRACTOR UNDERCUT UC GALVANIZED IRON UNIT HEATER GPM GALLONS PER MINUTE UNDERWRITERS' LABORATORIES, INC. HUMIDITY UNO UNLESS NOTED OTHERWISE HB HOSE BIBB UTR UP THROUGH ROOF HORSEPOWER ULTRAVIOLET SUBTYPE C SANITARY VENT HEATING WATER RETURN VOLT AMPS HS HEATING WATER SUPPLY VA HSPF HEATING SEASONAL PERFORMANCE FACTOR VAC HOUSE VACUUM / VOLTS AC HW HOT WATER VACUUM BREAKER HWR HOT WATER RETURN DOMESTIC VANDAL RESISTANT VTR VENT THROUGH ROOF HERTZ INDIRECT WASTE SANITARY WASTE W.C. WATER COLUMN IWG INCHES WATER GAUGE WC WATER CLOSET KW KILOWATT WCO WALL CLEAN OUT LAT LEAVING AIR TEMP WF WALL FURNACE LWT LEAVING WATER TEMP WH WATER HEATER M MOTOR / MOTORIZED WHA WATER HAMMER ARRESTOR MBH THOUSAND BTU PER HOUR WM WATER METER MCA MINIMUM CIRCUIT AMPACITY WT WEIGHT MECHANICAL SHEET INDEX M1.1 ABBREVIATIONS, SYMBOLS & SCHEDULES M1.2 MECHANICAL EQUIPMENT SCHEDULES

M1.3 MECHANICAL EQUIPMENT SCHEDULES AND DETAILS

M1.4 TITLE 24 COMPLIANCE DOCUMENTS

M1.5 TITLE 24 COMPLIANCE DOCUMENTS

M2.0 MECHANICAL DEMOLITION PLANS

M2.1 BASEMENT MECHANICAL PLAN

M2.4 ROOF MECHANICAL PLAN

M3.3 FIRESTOPPING DETAILS

M3.4 FIRESTOPPING DETAILS

M3.1 DETAILS

M3.2 DETAILS

M2.2 FIRST FLOOR MECHANICAL PLAN

M2.3 SECOND FLOOR MECHANICAL PLAN

M4.1 VRF SYSTEM WIRING SCHEMATICS

M4.2 VRF SYSTEM PIPING SCHEMATICS

#### SYMBOLS RETURN DUCT DROP SUPPLY DUCT DROP EXHAUST DUCT DROP SUPPLY DUCT RISER ARCHITECT () RETURN DUCT RISER EXHAUST DUCT RISER CEILING DIFFUSER RETURN REGISTER 114 East De La Guerra Street EXHAUST REGISTER No. 5A ROUND DUCT RISER ROUND DUCT DROP Santa Barbara, CA 93101 SIDEWALL SUPPLY DIFFUSER (SWD) 805.886.9484 SIDEWALL RETURN/ EXHAUST DIFFUSER (SWR/SWE)

kristin@onestoryarchitect.com se studio engineers inc.

MANUAL VOLUME DAMPER WITH LOCKING QUADRANT

DOOR LOUVER

SOUND LINED DUCT

DUCT DROP

—●— FD FIRE DAMPER (FD)

SD SMOKE DETECTOR

PIPE/DUCT BREAK

WALL CLEAN OUT

————— PIPE DROP

O PIPE RISER

— — WASTE

\_\_\_\_ VENT

FLOOR DRAIN

——— CHECK VALVE

——||—— UNION

REDUCER

STRAINER

THERMOMETER

AQUASTAT

(E)

2 WAY CONTROL VALVE

SOV IN RISER

---- PRESSURE GAUGE

BY ELECTRICAL

BY MECHANICAL

BYPASS TIMER

THERMOSTAT

RELAY

SENSOR

— — — — LOW VOLTAGE

----- LINE VOLTAGE

→ H NO CONTACT

→ H NC CONTACT

MOTOR

---- MANUAL SWITCH

OVERLOAD CONTACT

TIME SWITCH

DIFFERENTIAL PRESSURE SWITCH

MOTOR STARTER

FLOW SWITCH

TEST PORT

----- COLD WATER

------ HOT WATER

//////// DEMOLITION WORK

——**F**—— FIRE

**\_\_\_\_G**\_\_\_\_ GAS

TEMPERATURE SENSOR

FLEXIBLE PIPE CONNECTOR

AUTOMATIC AIR VENT

——⊸ BALL VALVE

FLOOR SINK

— — — — MOTORIZED DAMPER OR DUCT SMOKE DETECTOR

**────** WATER HAMMER ARRESTOR

POINT OF CONNECTION

POINT OF DISCONNECTION

PRESSURE & TEMPERATURE

——⊸ BALL VALVE/MEMORY STOP

PRESSURE REDUCING VALVE

AUTOMATIC BALANCING VALVE

MANUAL SERVICE/BALANCING VALVE

DOOR UNDERCUT

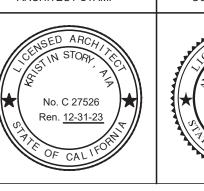
—— SFD SMOKE & FIRE DAMPER (SFD)

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AGENCY APPROVAL: CITY OF SANTA BARBARA.

M-25658

MILESTONE DATES: 9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 04-22-24 PLANNING DEPT. SUBMITTAL

**REVISIONS:** 

THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR THESE PLANS AND SPECIFICATIONS IF THEY ARE USED IN WHOLE OR IN PART AT ANY OTHER SITE.

PROJECT TITLE:

SANSUM DIABETES RESEARCH INSTITUTE 2219 BATH STREET SANTA BARBARA, CA

## SHEET TITLE: Abbreviations, Symbols, Notes

DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201

DATE: 04-22-24

M-1.1

							MODE	CONTROL UNITS								٧	RF MU	ILTIZONE S	SPLIT	SYSTEM	FAN C	OILS			
TAG MANUI	FACTURER	MODEL	PORTS	VOLT-PH-Hz	МОСР	MCA	APPROX WEIGHT (LBS)		NOTES		TAG	MANUFACTURER	MODEL (INDOOR UNIT)	ARI COOLING (MBH)	ARI HEATING (MBH)	CFM (LO-MED-HI)	OSA	VOLT-PH-Hz	ECTRICAL MCA	МОСР	dB(A) (L/H)	APPROX WEIGHT (LBS)	NOTES	MCU	SERVES
MCU 1.1 SAI	MSUNG	MCU S6NEK2N	6	208/230-1-6	0 15	2		12			FC 100	SAMSUNG	AM015 ANMDCH	15	17	353-388-494	125	208/230-1-60	1.29	15	25/31		123456	1.3	Lab 101, Dexa Scaner 100
ALCIN	MSUNG	MCU S6NEK2N	6	208/230-1-6	0 15	2	63	12			FC 103	SAMSUNG	AM036 ANHDCH	36	40	706-918-1095	300	208/230-1-60	3.11	15	30/37	98.1	123456	1.3	Infusion 103, Exercise 102, N Stairs
AICIN	MSUNG	MCU S6NEK2N	6	208/230-1-6	0 15	2	63	12			FC 106	SAMSUNG	AM018 TNVDCH	18	20	424-487-555	_	208/230-1-60	0.44	15	34/40	36.5	123457	2.3	Freezer Farm 106
											FC 107	SAMSUNG	AM015 ANMDCH	15	17	353-388-494	100	208/230-1-60	1.29	15	25/31	60.6	123456	2.3	Storage 107
SAI SAI	MSUNG	MCU S8NEK1UN	8	208/230-1-6	0 15	2	89	12			FC 109	SAMSUNG	AM036 ANHDCH	36	40	706-918-1095	450	208/230-1-60	3.11	15	30/37	98.1	123456	2.3	Flex Space 109, Bio Hazard 105, cont
SAI SAI	MSUNG	MCU S8NEK1UN	8	208/230-1-6	0 15	2	89	12			FC 115	SAMSUNG	AM012 TNVDCH	12	13.5	293-321-364	_	208/230-1-60	0.31	15	34/40	20.9	123457	2.3	Server Room 115
SAI SAI	MSUNG	MCU S8NEK1UN	8	208/230-1-6	0 15	2	89	12			FC 116	SAMSUNG	AM036 ANHDCH	36	40	706-918-1095	500	208/230-1-60	3.11	15	30/37	98.1	123456	1.3	Kitchen 116, Laundry 117, cont
											FC 119	SAMSUNG	AM015 ANMDCH	15	17	353-388-494	100	208/230-1-60	1.29	15	25/31	60.6	123456	1.3	Research Staff 119, Flex Space #1
SAI SAI	MSUNG	MCU S8NEK1UN	8	208/230-1-6	0 15	2	89	12			FC 123	SAMSUNG	AM036 ANHDCH	36	40	706-918-1095	400	208/230-1-60	3.11	15	30/37	98.1	123456	2.3	Storage 123/125, Facilities Office 123
SAI SAI	MSUNG	MCU S8NEK1UN	8	208/230-1-6	0 15	2	89	12			FC 200	SAMSUNG	AM015 ANMDCH	15	17	353-388-494	200	208/230-1-60	1.29	15	25/31	60.6	123456	1.2	Reception 200, Break Room 204, cont
\3.3/	MSUNG	MCU S8NEK1UN		208/230-1-6		2		12			FC 201	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.2	208/230-1-60	0.2	15	30/34	19.8	123457	1.2	Office 7 201
<b>-</b>		_						RANCH FITTING, USED OR UNUSED. TY REQUIRED PIPING LENGTHS PRIOR TO EQUIPMEN	ENT INSTALLATION.		FC 202	SAMSUNG	AM009 TNVDCH	9.5	10.5	244-272-300	ERV-2.2	208/230-1-60	0.25	15	32/34	20.9	123457	1.2	Office Combo 6 202
			VRI	F MULTI	ZONE	SPLIT	SYST	EM HEAT PUMPS WITH H	HEAT REC	OVERY	FC 203	SAMSUNG	AM005 TNVDCH	5	5.8	145-159-173	ERV-2.2	208/230-1-60	0.16	15	27/31	19.8	123457	1.1	Office 5 203
TAG	MANUFACTUI	RER	MODEL NUMBER	ARI COOLING (MBH)	ARI HEATING (MBH)	EER/IEER	СОР	REFRIGERANT VOLT-PH-Hz MCA	MOCP dBA	APPROX   WEIGHT   NOTES	FC 205	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.2	208/230-1-60	0.2	15	30/34	19.8	123457	1.1	Office 4 205
(HP)	SAMSUNG		AM240 BXVGFR/AA	(MBH) 240		10.60/22.95	3 30	R-410A 208/230-3-60 68.0	80 66	916 12345678	FC 206	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.2	208/230-1-60	0.2	15	30/34	19.8	123457	1.1	Office 3 206
HP 2	SAMSUNG		BXVGFR/AA AM216 BXVGFR/AA	216	243	11.05/25.15		R-410A 208/230-3-60 64.0	80 64	858 12345678	FC 207	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.2	208/230-1-60	0.2	15	30/34	19.8	123457	1.1	Office 2 207
HP T	SAMSUNG		AM216	216	243	11.05/25.15		R-410A 208/230-3-60 64.0	80 64	858 12345678	FC 208	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.2	208/230-1-60	0.2	15	30/34	19.8	123457	1.1	Admin/Office 1 208
3/	3AM30110	<u> </u>	BXVGFR/AA	210	240	11.00/ 20.10		10 410A 200/230 3 00 04.0	00 04		FC 209	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.1	208/230-1-60	0.2	15	30/34	19.8	123457	2.1	Office 4 209
1) PROVIDE SE	ACOAST OPI	ERATION SALT	PROTECTION	OPTION. (2)	PROVIDE FA	ACTORY AUTH	IORIZED S	TARTUP AND TESTING. (3) FACTORY CERTIFIED INS	NSTALLATION.		FC 210	SAMSUNG	AM009 TNVDCH	9.5	10.5	244-272-300	ERV-2.1	208/230-1-60	0.25	15	32/34	20.9	123457	2.1	Office 3 210
4 INSTALL PER 6 PROVIDE MC								JPPLY. EB-INTERFACE. SEE CONTROLS DRAWINGS.			FC 211	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.1	208/230-1-60	0.2	15	30/34	19.8	123456	2.1	Office 2 211
7 NITROGEN P 8 PROVIDE DR					COLLECT CO	<u>ONDENSATIO</u> N	AND ROL	ITE TO LANDSCAPE.			FC 212	SAMSUNG	AM018 TNVDCH	18	20	424-487-555	ERV-2.1	208/230-1-60	0.44	15	34/40	36.5	123456	2.1	Conference 1 212
											FC 213	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.1	208/230-1-60	0.2	15	30/34	19.8	123456	2.1	Office 1 213
											FC 214	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.1	208/230-1-60	0.2	15	30/34	19.8	123456	2.1	Huddle Room 214
1											FC	SAMSUNG	AM007	7.5	8.5	159-177-201	ERV-2.1	208/230-1-60	0.2	15	30/34	19.8	1)(2)(3)(4)(5)(6)	2.2	Office 10 216

# VRF SYSTEM INSULATION SPECIFICATION

**INSULATION SPECIFICATION:** 

MATERIAL: LOW-DENSITY EPDM CLOSED-CELL ELASTOMERIC FOAM, CFC AND HCFC GAS FREE WITH OVERLAP SEAL.

THERMAL CONDUCTIVITY: 0.235 (BTU\*in/hr\*ft<sup>2</sup>\*°F) AT 75°F.

WATER VAPOR PERMEABILITY: <0.03 PERM  $(4.38 \times 10^{11} \text{ g/Pa*s*m})$  PER ASTM E96.

WATER ABSORPTION: <0.2% BY VOLUME PER ASTM C 209.

WORKING TEMPERATURE: -70°F TO 257°F (-57°C TO 125°C) CONTINUOUS PER ASTM C

SURFACE BURNING CHARACTERISTICS: MEETS 25/50 FLAME-SPREAD/ SMOKE-GENERATED PER UL723 AND ASTM'E84. ADDITIONALLY MEETS UL-945 V-A, V-O AND IS SELF-EXTINGUISHING PER ASTM D 635.

UV RESISTANT: EPDM PROVIDES UV RESISTANCE IN ACCORDANCE WITH ASTM G7/G90. OZONE RESISTANT: MEETS ASTM D 1171.

TITLE 24 INSULATION WALL THICKNESS SPECIFICATION:

HOT GAS PIPES: ABOVE 200°F (3-PIPE HEAT RECOVERY SYSTEM) USE 2½" WALL

THICKNESS; BELOW 200°F (2-PIPE HEAT RECOVERY SYSTEMS) USE 1½" WALL THICKNESS;

(HEAT PUMPS AND LINE SETS FOLLOW THE SAME ABOVE REQUIREMENTS BASED ON PIPE TEMPERATURES). NOTE: 2½" THICKNESS REQUIRES DOUBLE LAYÉRS TO MEET 25/50 FIRE/SMOKE CODES.

LIQUID PIPES: 1" WALL THICKNESS

SUCTION GAS PIPES: 1" WALL THICKNESS FOR LESS THAN 1" PIPE; 1½" WALL THICKNESS FOR GREATER THAN 1" PIPE

# REFRIGERANT PIPING NOTES

- PROVIDE BRAZED IN ISOLATION VALVES ON ALL BRANCHES FROM THE BC CONTROLLER, USED OR UNUSED.
- 2. REFRIGERANT PIPING SHALL BE ACR COPPER WITH BRAZED FITTINGS. NITROGEN PURGE ALL BRAZING OPERATIONS.
- 3. FOLLOW ALL OF THE MANUFACTURER'S SPECIFIC PIPING INSTALLATION RULES FOR FITTINGS, PIPE LENGTH LIMITS, ELEVATION LIMITS AND INSULATION.
- 4. EVACUATE AND LEAK TEST ALL PIPING PRIOR TO CHARGING WITH REFRIGERANT.
- 5. MAINTAIN REQUIRED SERVICE AND AIR FLOW CLEARANCE AROUND ALL MECHANICAL EQUIPMENT.
- 6. ALL REFRIGERANT PIPING INSULATION EXPOSED TO WEATHER SHALL BE CLAD WITH ALUMINUM.

		111070													No. 5A
FC 109	SAMSUNG	AM036 ANHDCH	36	40	706-918-1095	450	208/230-1-60	3.11	15	30/37	98.1	123456	2.3	Flex Space 109, Bio Hazard 105, cont	Santa Barbara, CA 93101
FC 115	SAMSUNG	AM012 TNVDCH	12	13.5	293-321-364	-	208/230-1-60	0.31	15	34/40	20.9	123457	2.3	Server Room 115	805.886.9484 kristin@onestoryarchitect.com
FC 116	SAMSUNG	AM036 ANHDCH	36	40	706-918-1095	500	208/230-1-60	3.11	15	30/37	98.1	123456	1.3	Kitchen 116, Laundry 117, cont	se
19 19	SAMSUNG	AM015 ANMDCH	15	17	353-388-494	100	208/230-1-60	1.29	15	25/31	60.6	123456	1.3	Research Staff 119, Flex Space #1	inc.
<u>C</u> 23	SAMSUNG	AM036 ANHDCH	36	40	706-918-1095	400	208/230-1-60	3.11	15	30/37	98.1	123456	2.3	Storage 123/125, Facilities Office 123	studio engineers inc. structural consultants  1108 De La Vina Street, Suite A
00)	SAMSUNG	AM015 ANMDCH	15	17	353-388-494	200	208/230-1-60	1.29	15	25/31	60.6	123456	1.2	Reception 200, Break Room 204, cont	Santa Barbara, Ca 93101 p: 805.962.2780 f: 805.962.2768 e: jtasca@studioengineersinc.com w: www.studioengineersinc.com
<u>C</u>	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.2	208/230-1-60	0.2	15	30/34	19.8	123457	1.2	Office 7 201	
<u>C</u> )2	SAMSUNG	AM009 TNVDCH	9.5	10.5	244-272-300	ERV-2.2	208/230-1-60	0.25	15	32/34	20.9	123457	1.2	Office Combo 6 202	ANE North Engineering
C )3	SAMSUNG	AM005 TNVDCH	5	5.8	145-159-173	ERV-2.2	208/230-1-60	0.16	15	27/31	19.8	123457	1.1	Office 5 203	Alan Noelle Engineering 1616 Anacapa Street Santa Barbara, CA 93101
C )5	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.2	208/230-1-60	0.2	15	30/34	19.8	123457	1.1	Office 4 205	 phone: 805.563.5444 fax: 805.456.5901 alan@aneng.com
6	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.2	208/230-1-60	0.2	15	30/34	19.8	123457	1.1	Office 3 206	Electrical Engineering Lighting Design
7	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.2	208/230-1-60	0.2	15	30/34	19.8	123457	1.1	Office 2 207	ME
C )8	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.2	208/230-1-60	0.2	15	30/34	19.8	123457	1.1	Admin/Office 1 208	
C 09	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.1	208/230-1-60	0.2	15	30/34	19.8	123457	2.1	Office 4 209	MECHANICAL
<u>C</u> 10	SAMSUNG	AM009 TNVDCH	9.5	10.5	244-272-300	ERV-2.1	208/230-1-60	0.25	15	32/34	20.9	123457	2.1	Office 3 210	ENGINEERING CONSULTANTS INC.
<u>C</u>	SAMSUNG	AM007	7.5	8.5	159-177-201	ERV-2.1	208/230-1-60	0.2	15	30/34	19.8	123456	2.1	Office 2 211	315 E. Cañon Perdido Street, Suite B Santa Barbara, CA 93101 Tel (805) 957-4632
C	SAMSUNG	TNVDCH AM018	18	20	424-487-555	ERV-2.1	208/230-1-60	0.44	15	34/40	36.5	123456	2.1	Conference 1 212	Ter (605) 957-4632
12/ 13/	SAMSUNG	TNVDCH AM007	7.5	8.5	159-177-201	ERV-2.1	208/230-1-60	0.2	15	30/34	19.8	123456	2.1	Office 1 213	ARCHITECT STAMP CONSULTANT STAM
13/ C 14/	SAMSUNG	TNVDCH AM007	7.5			ERV-2.1	208/230-1-60		15	•		123456			CHISED ARCHITICAL CHISED ENGINEER COLUMN STORY
		TNVDCH AM007		8.5	159-177-201			0.2		30/34	19.8		2.1	Huddle Room 214	No. C 27526 ★ M-25658
16 16	SAMSUNG	TNVDCH AM007	7.5	8.5	159-177-201	ERV-2.1	208/230-1-60	0.2	15	30/34	19.8	123456	2.2	Office 10 216	Ren. 12-31-23  P  OF CAL IFORM  OF CAL IFORM
17 17	SAMSUNG	TNVDCH AM007	7.5	8.5	159-177-201	ERV-2.1	208/230-1-60	0.2	15	30/34	19.8	123456	2.2	Office 9 217	AGENCY APPROVAL: CITY OF SANTA BARBARA.
18 18	SAMSUNG	TNVDCH	7.5	8.5	159-177-201	ERV-2.1	208/230-1-60	0.2	15	30/34	19.8	123456	2.2	Office 8 218	PERMIT #:
19 19	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-2.1	208/230-1-60	0.2	15	30/34	19.8	123456	2.2	Office 7 219	
C 20	SAMSUNG	AM005 TNVDCH	5	5.8	145-159-173	ERV-2.1	208/230-1-60	0.16	15	27/31	19.8	123456	1.2	Office 8 220	MILESTONE DATES:
22 22	SAMSUNG	AM036 ANHDCH	36	40	706-918-1095	400	208/230-1-60	3.11	15	30/37	98.1	123456	1.2	Library/Conference 222	9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL
<u>C</u> 23	SAMSUNG	AM005 TNVDCH	5	5.8	145-159-173	ERV-2.1	208/230-1-60	0.16	15	27/31	19.8	123456	2.2	Office 6 223	04-22-24 PLANNING DEPT. SUBMITTAL
<u>C</u> 24	SAMSUNG	AM005 TNVDCH	5	5.8	145-159-173	ERV-2.1	208/230-1-60	0.16	15	27/31	19.8	123456	2.2	Office 5 224	
26	SAMSUNG	AM048 ANHDCH	48	54	883-1271-1519	400	208/230-1-60	3.4	15	34/42	98.1	123456	2.2	Open Area 226, Unisex Restroom 226, cont	
00 00	SAMSUNG	AM015 ANMDCH	15	17	353-388-494	150	208/230-1-60	1.29	15	25/31	60.6	123456	3.3	Waiting Room 300, E Hallway 1	
01	SAMSUNG	AM024 ANHDCH	24	27	494-671-812	300	208/230-1-60	2.41	15	28/36	77.2	123456	3.3	Conference Room 301, Kitchen 302	
02 02	SAMSUNG	AM012 TNVDCH	12	13.5	293-321-364	ERV-3.1	208/230-1-60	0.31	15	34/40	20.9	123456	3.1	Training Kitchen 302	REVISIONS:
- <u>C</u>	SAMSUNG	AM009 TNVDCH	9.5	10.5	244-272-300	ERV-3.1	208/230-1-60	0.25	15	32/34	20.9	123456	3.1	Consulting Room 304	
C 05	SAMSUNG	AM009 TNVDCH	9.5	10.5	244-272-300	ERV-3.1	208/230-1-60	0.25	15	32/34	20.9	123456	3.1	Consulting Room 305	
C 06	SAMSUNG	AM009	9.5	10.5	244-272-300	ERV-3.1	208/230-1-60	0.25	15	32/34	20.9	123456	3.1	Exam Room 306	
00/ C 08/	SAMSUNG	TNVDCH AM012	12	13.5	293-321-364		208/230-1-60	0.31	15	34/40	20.9	123456	3.1	Flex Space 308	
08/ 09/	SAMSUNG	TNVDCH AM012	12	13.5	293-321-364		208/230-1-60	0.31	15	34/40	20.9	123456	3.1	Infusion Room 309	THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS
09/ C 13/	SAMSUNG	TNVDCH AM007	7.5	8.5	159-177-201		208/230-1-60	0.2	15	30/34	19.8	123456	3.2	Vitals 313	OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR
		TNVDCH AM007										123456			THESE PLANS AND SPECIFICATIONS IF THEY ARE USED IN WHOLE OR IN PART AT ANY OTHER SITE.
C 4	SAMSUNG	TNVDCH AM007	7.5	8.5	159-177-201		208/230-1-60	0.2	15	30/34	19.8		3.2	Breakroom 314	PROJECT TITLE:
15 15	SAMSUNG	TNVDCH AM007	7.5	8.5	159-177-201		208/230-1-60	0.2	15	30/34	19.8	123456	3.2	D.O.N. Office 315	
16 16	SAMSUNG	TNVDCH	7.5	8.5	159-177-201	ERV-3.1	208/230-1-60	0.2	15	30/34	19.8	123456	3.2	Exam/Infusion 1 316	SANSUM DIABETES RESEARCH
17 17 C	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-3.1	208/230-1-60	0.2	15	30/34	19.8	123456	3.2	Exam/Infusion 2 317	INSTITUTE
C 18	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-3.1	208/230-1-60	0.2	15	30/34	19.8	123456	3.2	Exam/Infusion 3 318	2219 BATH STREET SANTA BARBARA, CA 93105
<u>C</u> 19	SAMSUNG	AM007 TNVDCH	7.5	8.5	159-177-201	ERV-3.1	208/230-1-60	0.2	15	30/34	19.8	123456	3.2	Exam/Infusion 4 319	90 IUO
<u>C</u> 20	SAMSUNG	AM009 TNVDCH	9.5	10.5	244-272-300	ERV-3.1	208/230-1-60	0.25	15	32/34	20.9	123456	3.3	Exam/Infusion 5 320	
23 23	SAMSUNG	AM036 ANHDCH	36	40	706-918-1095	300	208/230-1-60	3.11	15	30/37	98.1	123456	3.3	Nurse Workroom 323, Station 321, cont	SHEET TITLE: Equipment
29 29	SAMSUNG	AM036 ANHDCH	36	40	706-918-1095	450	208/230-1-60	3.11	15	30/37	98.1	123456	3.1	Lab 329, Supply Room 328, cont	Schedules DATE: 04-22-24
		1	I	1		1									DRAWN BY: TDH, LLA

M-1.2

114 East De La Guerra Street

EXHAUST FANS FACTORY CURB APPROX WEIGHT (LBS) ESP | ELECTRICAL | BACKDRAFT | CIWG) | VOLT-PH-Hz | MCA | MOCP | BHP | DAMPER | NOTES GREENHECK USF-12 950 165 12 208-3-60 6.2 | 10 | 0.32 | YES YES 11.3 GREENHECK USF-12 1000 165 12 208-3-60 6.2 | 10 | 0.34 | YES YES 11.3 (1) VARI-GREEN EC MOTOR WITH FACTORY VFD AND BUILDING CONTROL SYSTEM INTERFACE FACTORY NEMA CONTROL ENCLOSURE. 2)PROVIDE FACTORY BACKDRAFT DAMPER AND ROOF CURB.

					ENI	ERGY R	RECO/	/ERY	VENTILATORS
TAG	MANUFACTURER	MODEL	СҒМ	ESP (IWG)	VOLT-PH-Hz	ECTRICAL MCA	МОСР	APPROX WEIGHT (LBS)	NOTES
ERV 2.1	RENEWAIRE	HE 1XRTC	600	.75	208-1-60	10.8	15	358	12 456
ERV 2.2	RENEWAIRE	HE 1XRTC	500	.75	208-1-60	10.8	15	358	12 456
ERV 3.1	RENEWAIRE	HE 2XRTC	1050	1.0	208-3-60	16.3	20	711	123456

1) INSTALL PER MANUFACTURER'S INSTRUCTIONS. (2) PROVIDE MERV-13 OUTDOOR AIR FILTER AND EXHAUST FILTERS. (3)(2) 2 HP BELT DRIVE FANS WITH OPTIONAL VFD'S.

4) PROVIDE PLASMA AIR BIPOLAR IONIZER AND STERIL-AIRE UVC LIGHTS. (5) DRAIN PER MFR'S INSTRUCTIONS.

6) PROVIDE FACTORY WALL CONTROLLER AND INTERFACE WITH BUILDING CONTROL SYSTEM.

6 PROVIDE OPTIONAL HORIZONTAL RTU TRANSITION KIT, DIGITAL TIME CLOCK, IAQ SENSOR, AND SMOKE DETECTOR.

# AIR TERMINAL SCHEDULE

TAG	MANUFACTURER	MODEL	APPLICATION	NOTES
SIZE A CFM	METALAIRE	5000 SERIES	CEILING SUPPLY	12345
SIZE B   CFM	METALAIRE	VHD SERIES	SIDEWALL SUPPLY	12345
SIZE C CFM SIZE D CFM	METALAIRE	RHD SERIES	RETURN	12345
SIZE D CFM	METALAIRE	CC5 SERIES	EXHAUST	12345
•		·		

1) FRAME TYPES & COLORS TO MATCH SURFACE FINISH. COORDINATE WITH ARCHITECT. (2) AIR PATTERN AS SHOWN ON PLANS.

3) FILLER PANEL FOR T-BAR APPLICATIONS. (4) PROVIDE OBD FOR EACH AIR TERMINAL.

5) ALL ALUMINUM CONSTRUCTION EXCEPT FOR FIRE RATED ASSEMBLIES THAT REQUIRE STEEL CONSTRUCTION.



114 East De La Guerra Street No. 5A Santa Barbara, CA 93101

805.886.9484

kristin@onestoryarchitect.com

se

studio engineers inc. structural consultants

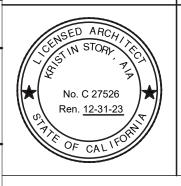
1108 De La Vina Street, Suite A Santa Barbara, Ca 93101 p: 805.962.2780 f: 805.962.2768 e: jtasca@studioengineersinc.com w: www.studioengineersinc.com ANE

Alan Noelle Engineering 1616 Anacapa Street Santa Barbara, CA 93101

phone: 805.563.5444 fax: 805.456.5901 alan@aneng.com Electrical Engineering Lighting Design



ARCHITECT STAMP CONSULTANT STAMP



AGENCY APPROVAL: CITY OF SANTA BARBARA.

MILESTONE DATES:

9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 04-22-24 PLANNING DEPT. SUBMITTAL

REVISIONS:

THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR THESE PLANS AND SPECIFICATIONS IF THEY ARE USED IN WHOLE OR IN PART AT ANY OTHER SITE.

PROJECT TITLE:

SANSUM DIABETES
RESEARCH
INSTITUTE
2219 BATH STREET SANTA BARBARA, CA

Equipment Schedules
DATE: 04-22-24

DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201

M-1.3

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E Nonresidential Performance Compliance Method (Page 1 of 33) Project Name: Sansum Diabetes Research Institute Date Prepared: 2023-08-14 A. General Information 1 Project Name Sansum Diabetes Research Institute 2 Run Title Title 24 Analysis 3 Project Location 2219 Bath Street 6 Zip code 7 Compliance Software (version) EnergyPro 9.1 8 Climate Zone 9 Building Orientation (deg) 10 Building Type(s) 11 Weather File SANTA-BARBARA\_STYP20.epw Nonresidential 13 Number of Dwelling Units 15 Total # of hotel/motel rooms 17 Fuel Type Above Grade) CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-08-14 14:33:37 CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E **Nonresidential Performance Compliance Method** 

COMPLIES<sup>2</sup>

Standard Design (SOURCE)

15.86

Schema Version: rev 20220601

G5. OPAQUE SURFACE ASSEMBLY SUMMARY

01 02 03 04 05 06 07 08 09 10

Surface Name Construction Type Area (ft²) Framing Type R-Value Interior Exterior Units Value Description of Assembly Layers Status¹

9 CMILI Wall w/I

Slab On Grade13 Floor 5,512 N/A 0 N/A N/A F-factor 0.73 Insulation Orientation =None

Grade13 Floor Insulation R-Value = none

S.CMI Wall w/ Underground Concrete - Part Grouted and Empty - 125

8 CMU Wall35 | Exterior Wall | 1,808 | N/A | 0 | N/A | N/A | U-factor | 0.2812 | lb/ft3 - 8 in. | Air - Cavity - Wall Roof Ceiling - 4 in. or

R-O Wall45 Interior Wall 1,700 N/A 0 N/A N/A U-factor 0.3367 Air - Cavity - Wall Roof Ceiling - 4 in. or

R-13 Wall39 Interior Wall 1,800 Wood 13 N/A N/A U-factor 0.0952 Vapor permeable felt - 1/8 in. Composite-2

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

8 CMU Wall w/ R-119 Exterior Wall 320 Wood 11 N/A N/A U-factor 0.096 lb/ft3 - 8 in.

Proposed Design (SOURCE)

6.72

3.37

17.3

Compliance Margin (SOURCE)<sup>1</sup>

9.14

8.58 (33.2%)

8.58 (33.2%)

Compliance ID: EnergyPro-4717-0823-0065

Report Generated: 2023-08-14 14:33:37

NRCC-PRF-E (Page 16 of 33)

(Page 11 of 33)

C4. SOURCE ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual SOURCE Energy Use, kBtu/ft²/yr)

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Nonresidential Performance Compliance Method

<sup>1</sup> Status: N - New, A - Altered, E - Existing

Nonresidential Performance Compliance Method

**Energy Component** 

Space Heating

Space Cooling

Indoor Fans

Heat Rejection

Pumps & Misc.

Domestic Hot Water

Indoor Lighting

TOTAL COMPLIANCE

EFFICIENCY COMPLIANCE TOTAL

CERTIFICATE OF COMPLIANCE	E - NONRESID	DENTIAL PERFOR	MANCE COMPLIANCE METI	HOD	k)i		NRCC-PRF-
Nonresidential Performance	Compliance I	Method					(Page 2 of 3
B. PROJECT SUMMARY							_
Table B shows which building of permit application.	components a	re included in the	e performance calculation. !	f ind	licated as not inc	cluded, the project must show compliance prescr	iptively if within th
В	uilding Comp	onents Complyi	ng via Performance			Building Components Complying Pre	scriptively
Envelope (See Table G)	Nonres MultiFam	Performance Not Included	Solar Thermal Water Heating (See Table I3)		Performance Not Included	The following building components are ONLY eligible for and should be documented on the NRCC form listed if permit application (i.e. compliance will not be shown	vithin the scope of the
Machanian /Sa. Tabian	Nonres	Performance	Covered Process:		Performance	Indoor Lighting (Unconditioned) 140.6 & 170.2(e)	NRCC-LTI-E is required
Mechanical (See Table H)	MultiFam	Not Included	- Commercial Kitchens (see Table J)	×	Not Included	Outdoor Lighting 140.7 & 170.2(e)	NRCC-LTO-E is required
Domestic Hot Water (See Table I)	Nonres	Performance	Covered Process: Laboratory Exhaust (see		Performance	Sign Lighting 140.8 & 170.2(e)	NRCC-LTS-E is required
lablely	MultiFam	Not Included	Table J)	$\boxtimes$	Not Included	Building Components Complying with Man	datory Measures
Lighting (Indoor Conditioned,	Nonres	Not Included	Photovoltaics (see Table F)		Performance	Electrical power systems, commissioning, solar escalator requirements are mandatory and sht on the NRCC form listed if applicable (i.e. con shown on the NRCC-PRF-E.	ould be documente opliance will not be
	MultiFam	Not Included		×	Not Included	Electrical Power Distribution 110.11	NRCC-ELC-E is required
-			Battery (see Table F)		Performance	Commissioning 120.8	NRCC-CXR-E is required
			buttery (see Tuble 1)	×	Not Included	Solar and Battery 110.10	NRCC-SAB-E is required
CA Building Energy Efficiency	Standards 2	022 Nagrasidaski	ial Compliance Penert	Var	sion: 2022.0.000	Report Generated: 2	012 09 14 14 22 :

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERI	FORMANCE COMPLIAN	NCE METHOD		NRCC-PRF-
Nonresidential Performance Compliance Method				(Page 3 of 33
C1. COMPLIANCE SUMMARY	-			
		COMPLIES <sup>3</sup>		
		Time Dependent	Valuaton (TDV)	Source Energy Use
	Eff	ficiency <sup>1</sup> (kBtu/ft <sup>2</sup> - yr)	Total <sup>2</sup> (kBtu/ft <sup>2</sup> - yr)	Total <sup>2</sup> (kBtu/ft <sup>2</sup> - yr)
Standard Design		281.3	281.3	25.88
Proposed Design		189.34	189.34	17.3
Compliance Margins		91.96	91.96	8.58
Compliance Totals include efficiency, photovoltaics and	batteries		Pass met load hour limits are not exc	Pass eeded
<sup>1</sup> Efficiency measures include improvements like a better <sup>2</sup> Compliance Totals include efficiency, photovoltaics and <sup>3</sup> Building complies when efficiency and total compliance	batteries	I more efficient equipment		-

languaridantial Burfannana Canadiana Adata d			(0 4-622)
Ionresidential Performance Compliance Method			(Page 4 of 33)
2. TDV ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COM	MPONENTS (Annual TDV Energy Use, kBtu/ft <sup>2</sup> - y	r)	
	COMPLIES <sup>2</sup>		30
Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) <sup>1</sup>
pace Heating	11.55	24.99	-13.44
pace Cooling	54.92	43.06	11.86
ndoor Fans	162.51	73.44	89.07
eat Rejection	0	0	0
umps & Misc.	0	0	0
omestic Hot Water	9	4.53	4.47
ndoor Lighting	43.32	43.32	0
lexibility			
FFICIENCY COMPLIANCE TOTAL	281.3	189.34	91.96 (32.7%)
hotovoltaics			
atteries		***	***
OTAL COMPLIANCE	281.3	189.34	91.96 (32.7%)
Notes: This number in parenthesis following the Complianc	e Margin in column 4, represents the Percent	Better than Standard.	

Standard Design (kBtu/ft² / yr) Proposed Design (kBtu/ft² / yr) Margin (kBtu/ft² / yr)

39.94

39.94

Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls

• The user model includes space(s) that are designed to be served by mechanical cooling systems, but the cooling systems were not included in the simulation model. A cooling

11.68

11.68

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

51.62

51.62

Notes: Gross EUI is Energy Use Total (not including PV)/Total Building Area. Net EUI is Energy Use Total (including PV)/Total Building Area

Nonresidential Performance Compliance Method

system has been modeled for both the proposed and standard cases.

C8. ENERGY USE INTENSITY (EUI)

Nonresidential Performance Compliance Method			(Page 5
C3. TDV ENERGY RESULTS FOR NON-REGULATED COMPONENTS <sup>1</sup>	- X-	~	.,,
Non-Regulated Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TD
Receptacle	101.77	101.77	
Process	5.12	5.12	
Other Ltg	0.13	0.13	
Process Motors			
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	388.32	296.36	91.96 (23.7%)
Notes: This table is not used for Energy Code Compliance.	-		

Schema Version: rev 20220601

Total Fenestration Area (ft<sup>2</sup>)

Air Barrier

No air barrier

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

Total Gross Surface Area (ft<sup>2</sup>)

North-Facing is oriented to within 45 degrees of true north, including 45 00'00" east of north (NE), but excluding 45 00'00" west of north (NW),

3 South-Facing is oriented to within 45 degrees of true south, including 45 00'00" west of south (SW), but excluding 45 00'00" east of south (SE),

<sup>2</sup>East-Facing is oriented to within 45 degrees of true east, including 45 00'00" south of east (SE), but excluding 45 00'00" north of east (NE),

4West-Facing is criented to within 45 degrees of true west, including 45 00'00" north of west (NW), but excluding 45 00'00" south of west (S

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

**Building Story Name** 

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

H1. DRY SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS ETC.)

Nonresidential Performance Compliance Method

**Nonresidential Performance Compliance Method** 

Opaque Surfaces & Orientatio

G4. NONRESIDENTIAL AIR BARRIER

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

NRCC-PRF-E

(Page 9 of 33)

Margin Percentage

22.63

22.63

1108 De La Vina Street, Suite A Santa Barbara, Ca 93101 p: 805.962.2780 f: 805.962.2768 e: jtasca@studioengineersinc.com w: www.studioengineersinc.com
ANE Alan Noelle Engineerin

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Compliance ID: EnergyPro-4717-0823-0065

Window to Wall Ratio (%)

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Compliance ID: EnergyPro-4717-0823-0065

1616 Anacapa Street Santa Barbara, CA 93101 phone: 805.563.5444 fax: 805.456.5901 alan@aneng.com Electrical Engineering Lighting Design

114 East De La Guerra Street

Santa Barbara, CA 93101

kristin@onestoryarchitect.com

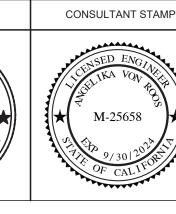
studio engineers inc.

structural consultants

805.886.9484



No. C 27526



AGENCY APPROVAL: CITY OF SANTA BARBARA. PERMIT #:

MILESTONE DATES: 9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL

04-22-24 PLANNING DEPT. SUBMITTAL

**REVISIONS:** 

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Compliance ID: EnergyPro-4717-0823-0065

THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR THESE PLANS AND SPECIFICATIONS IF THEY ARE USED IN WHOLE OR IN PART AT ANY OTHER SITE.

SANSUM DIABETES 2219 BATH STREET SANTA BARBARA, CA

Title 24 Compliance
Documents

DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201

DATE: 04-22-24

Nonresidential Performance Compliance Method			
			(Page 7 of
C5. SOURCE ENERGY RESULTS FOR NON-REGULATED COMPONENTS <sup>1</sup>			
Non-Regulated Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURC
Receptacle	8.19	8.19	
Process	0.56	0.56	
Other Ltg	0.01	0.01	
Process Motors			
TOTAL ( TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	34.64	26.06	8.58 (24.8%)
C6. 'ABOVE CODE' QUALIFICATIONS  This project is pursuing CalGreen Tier 1	☐ This project	is pursuing CalGreen Tier 2	

 01
 02
 03
 04
 05
 06
 07
 08
 09
 10

 Surface Name
 Construction Type
 Framing Type
 Cavity R-Value
 Units
 Value
 Description of Assembly Layers
 Status¹

Roof 671 Wood 11 N/A N/A U-factor 0.0754 Air - Cavity - Wall Roof Ceiling - 4 in. or

8 CMU Wall351 Underground Wall 196 N/A 0 N/A N/A C-factor 0.37 bl/ft3 - 8 in. Air - Cavity - Wall Roof Ceiling - 4 in. or

R-19 Floor No Crawlspace125 Interior Floor 9,126 Wood 19 N/A N/A U-factor 0.0482 Plywood - 1/2 in. Carpet - 3/4 in. Stucco - 7/8 in. Vapor permeable fe

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

H1. DRY SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS ETC.)

 (N) R-11 Wall257
 Exterior Wall
 370
 Wood
 11
 N/A
 N/A
 U-factor
 0.1098
 Stucco - 7/8 in.
 Vapor permeable felt - 1/8 in.
 Composite-6

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AsphaltShingles0\_25In Vapor permeable felt - 1/8 in.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Floor Roof116

<sup>1</sup> Status: N - New, A - Altered, E - Existing

Nonresidential Performance	Compliance Method					(Page 8 of 3
C7. ENERGY USE SUMMARY						
Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	3.8	12.7	-8.9	21.4		
Space Cooling	32.3	25.9	6.4	1,5346		
Indoor Fans	91.2	41.3	49.9		***	
Heat Rejection	1 mm	/5===	-			
Pumps & Misc.	9443		***	5441	22.2	
Domestic Hot Water	3.9		***	16.9	28	-11.1
Indoor Lighting	27	27	0	2.7772	777	
Flexibility			148	1,220	-	
EFFICIENCY TOTAL	158.2	106.9	51.3	38.3	28	10.3
Photovoltaics	1995					
Batteries						
ENERGY USE SUBTOTAL	158.2	106.9	51.3	38.3	28	10.3
Receptacle	63.3	63.3	0	15	15	0
Process	2.9	2.9	0		1110	
Other Ltg	0.1	0.1	0	33440		
Process Motors	1				***	
ENERGY USE TOTAL	224.5	173.2	51.3	53.3	43	10.3
CA Building Energy Efficiency S	Standards - 2022 Nonresident		Version: 2022.0 Version: rev 20		Report Generated: 2023 Compliance ID: EnergyPro-4	

G1. ENVELOPE GENE	RAL INFORMATION (conditioned spaces o							
	01	02		03			04	
Opaque Surfa	ces & Orientation Total	Gross Surface Area (ft <sup>2</sup> )	Total Fenest	tration Area (	ft²)	Window	to Wall Ratio (%	)
North	n-Facing <sup>1</sup>	2230		687			30.81	
East	-Facing <sup>2</sup>	969	2	73.75			28.25	
South	n-Facing <sup>3</sup>	2087		529			25.35	
West	-Facing <sup>4</sup>	1113		188			16.89	
1	otal	6399	16	577.75			26.22	
CERTIFICATE OF CO	OMPLIANCE - NONRESIDENTIAL PERFO	DRMANCE COMPLIANCE ME	тнор				NR	CC-PRF
	OMPLIANCE - NONRESIDENTIAL PERFO formance Compliance Method	DRMANCE COMPLIANCE ME	THOD				3/44-2000	CC-PRF
Nonresidential Per			THOD				3/44-2000	
Nonresidential Per	formance Compliance Method		THOD 04	05	06	07	3/44-2000	14 of 3
Nonresidential Per	formance Compliance Method  ASSEMBLY SUMMARY (NONRESIDENTIAL	03		05   Area (tt²)	06 Overall U-factor	07 Overall SHGC	(Page	
Nonresidential Per G7A. FENESTRATION 01 Fenestration	formance Compliance Method  ASSEMBLY SUMMARY (NONRESIDENTIAL  02	.) 03 Certification	04	Area	Overall		(Page	14 of 3
O1 Fenestration Assembly Name	ASSEMBLY SUMMARY (NONRESIDENTIAL  02  Fenestration Type/ Product Type / France Vertical fenestration Fixed window	.)  03  Certification  Method <sup>1</sup>	04 Assembly Method	Area (ft²)	Overall U-factor	Overall SHGC	(Page 08 Overall VT	14 of 3

values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix

Nonresidential Performance Comp	liance Method			(Page 15 o
G9. FIN DETAILS				
01	02	03	04	05
		Left Fin		Right Fin
Fenestration Tag/ID	Depth (ft)	Distance Left from Window (ft)	Depth (ft)	Distance Right from Window
Window266	2	0.1		
Window267	4	0.5	4	0.5
Window272	4	0.5	4	0.5
Window274	4	0.5	4	0.5
Window279	4	0.5	4	0.5
Window280	4	0.5	4	0.5
Window284	4	0.5	4	0.5
Window289	4	0.5	4	0.5
Window290	4	0.5	4	0.5
Window294	4	0.5	4	0.5
Window299	4	0.5	4	0.5
Window300	4	0.5	4	0.5
Window304	4	0.5	4	0.5
Window309	4	0.5	4	0.5
Window310	4	0.5	4	0.5
Window312	4	0.5	4	0.5
Window316	4	0.5	4	0.5
Window321	4	0.5	4	0.5
Window326	4	0.5	4	0.5
Window331	4	0.5	4	0.5
Window336	4	0.5	4	0.5
Window341	4	0.5	4	0.5
Window346	4	0.5	4	0.5
Window351	4	0.5	4	0.5

| Equipment Name | Equipment Type | Qty | Total | Heating Output (kBtu/h) | Supp Heat Output (kBtu/h) | Efficiency Unit (kBtu/h)

 FC 319
 MiniSplit HP
 1
 8.85
 0
 N/A
 NA
 7.2
 EER SEER
 12.2 SEER
 14
 N/A
 N

 FC 320
 MiniSplit HP
 1
 10.94
 0
 N/A
 NA
 9.12
 EER SEER
 12.2 SEER
 N/A
 N

 I Status: N - New, A - Altered, E - Existing
 SEER
 14
 N/A
 N

Schema Version: rev 20220601

FC 308 | MiniSplit HP | 1 | 10.94 | 0 | N/A | NA | 9.12 | SEER

FC 314 MiniSplit HP 1 8.85 0 N/A NA 7.2 EER SEER

FC 315 MiniSplit HP 1 8.85 0 N/A NA 7.2 SEER

FC 316 MiniSplit HP 1 8.85 0 N/A NA 7.2 EER SEER

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 FC 317
 MiniSplit HP
 1
 8.85
 0
 N/A
 NA
 7.2
 EER SEER

 FC 318
 MiniSplit HP
 1
 8.85
 0
 N/A
 NA
 7.2
 EER SEER

 FFR
 FFR
 FFR
 FFR
 FFR

 FC 309
 MiniSplit HP
 1
 14.06
 0
 N/A
 NA
 11.52
 EER SEER

 FC 313
 MiniSplit HP
 1
 8.85
 0
 N/A
 NA
 7.2
 EER SEER

 SEER
 SEER
 SEER
 SEER
 SEER
 SEER

Schema Version: rev 20220601

O1		FACE ASSEMBLY S	UMMARY								
Surface Name Type Area (ft²) Type R-Value Interior Exterior Units Value Description of Assembly Layers Status    (N) R-19 Roof Attic263 Roof Attic269 Roof Attic260 Roof Roof Attic260 Roof Roof Roof Roof Roof Roof Roof Roo	01	02	03	04	05		06	07	08	09	10
No   No   No   No   No   No   No   No	Surface Name		A = 0.0 (6+2)			Continuo	us R-Value	Unite	Value	Description of Assembly Lawers	Chatus
No.   No.	Surface (Valifie	Туре	Area (IL')	Type	R-Value	Interior	Exterior	Omits	value	Description of Assembly Layers	Status
R-19 Roof Attic269 Roof 4,580 Wood 19 N/A N/A U-factor U-factor 0.0521 Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Composite-8 Gypsum Board - 1/2 in.	(N) R-19 Roof Attic263	Roof	250	Wood	19	N/A	N/A	U-factor	0.0521	Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Composite-7	N
Status: N - New, A - Altered, E - Existing	STATE OF STATE OF	Roof	4,580	Wood	19	N/A	N/A	U-factor	0.0521	Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Composite-8	E
	tatus: N - Nev	v, A - Altered, E -	Existing							Gypsum Board - 1/2 in.	

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	ge 18 of 33)
(Pap	ge 18 of 33)
(Pa	ge 18 of 33)
(Pa	12 Status <sup>1</sup> N
(Pa	see 18 of 33)  12  Status <sup>1</sup> N
(Pa	status <sup>1</sup> N  N
	see 18 of 33)  12  Status <sup>1</sup> N

Nonresidential P	erformance Compli	ance Metho	d							(Pa	ge 19 of 33)
H1. DRY SYSTEM E	QUIPMENT (FURNACE	S, AIR HANDI	LING UNITS, HEA	T PUMPS, VRF,	ECONOMIZERS	ETC.)		250	10		
01	02	03	04	05	06	07	08	09	10	11	12
Equipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status <sup>1</sup>
FC 210	MiniSplit HP	1	10.94	0	N/A	NA	9.12	EER SEER	12.2 14	N/A	N
FC 211	MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
FC 212	MiniSplit HP	1	20.83	0	N/A	NA	17.28	EER SEER	12.2 14	N/A	N
FC 213	MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
FC 214	MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
FC 216	MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
FC 217	MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
FC 218	MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
FC 219	MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
FC 220	MiniSplit HP	1	6.04	0	N/A	NA	4.8	EER SEER	12.2 14	N/A	N
FC 223	MiniSplit HP	1	6.04	0	N/A	NA	4.8	EER SEER	12.2 14	N/A	N
FC 224	MiniSplit HP	1	6.04	0	N/A	NA	4.8	EER SEER	12.2 14	N/A	N
Status: N - New,	A - Altered, E - Existi	ing									

	S, AIR HAND	LING UNITS, HEA	T PUMPS, VRF, I	CONOMIZERS	ETC.)					
02	03	04	05	06	07	08	09	10	11	12
			Hea	ting			Cooling			
Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status <sup>1</sup>
Single Zone Heat Pump (SZHP) Air System	1	28.12	0	N/A	NA	23.04	EER SEER	12.2 14	No Economizer	N
MiniSplit HP	1	20.83	0	N/A	NA	17.28	EER SEER	12.2 14	N/A	N
MiniSplit HP	1	14.06	0	N/A	NA	11.52	EER SEER	12.2 14	N/A	N
MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
MiniSplit IIP	1	10.94	0	N/A	NA	9.12	EER SEER	12.2 14	N/A	N
MiniSplit HP	1	6.04	0	N/A	NA	4.8	EER SEER	12.2 14	N/A	N
MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N

DKT STSTEWIE	QUIPMENT (FURNACES	, AIR HANDI	LING UNITS, HEA	T PUMPS, VRF,	ECONOMIZERS	ETC.)					
01	02	03	04	05	06	07	08	09	10	11	12
				Hea	ting			Cooling			
ipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status <sup>1</sup>
FC 329	Single Zone Heat Pump (SZHP) Air System	1	28.12	0	N/A	NA	23.04	EER SEER	12.2 14	No Economizer	N
FC 106	MiniSplit HP	1	20.83	0	N/A	NA	17.28	EER SEER	12.2 14	N/A	N
FC 115	MiniSplit HP	1	14.06	0	N/A	NA	11.52	EER SEER	12.2 14	N/A	N
FC 201	MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
FC 202	MiniSplit IIP	1	10.94	0	N/A	NA	9.12	EER SEER	12.2 14	N/A	N
FC 203	MiniSplit HP	1	6.04	0	N/A	NA	4.8	EER SEER	12.2 14	N/A	N
FC 205	MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
FC 206	MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
FC 207	MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
FC 208	MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
FC 209	MiniSplit HP	1	8.85	0	N/A	NA	7.2	EER SEER	12.2 14	N/A	N
ntus: N - New	A - Altered, E - Existir	na									

G9. FIN DETAILS Fenestration Tag/ID Window380 H1. DRY SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS ETC.) Equipment Name

Equipment Type

Qty

Total Heating Output (kBtu/h)

Single Zone Heat

Single Zone Heat

Status Total Cooling Output (kBtu/h)

Efficiency Unit Efficiency Unit (kBtu/h)

Efficiency Unit Efficiency Unit (kBtu/h)

Efficiency Unit Fficiency Unit (kBtu/h)

Single Zone Heat System SEER 14 Economizer
Single Zone Heat SEER 12 No. | See <sup>1</sup> Status: N - New, A - Altered, E - Existing

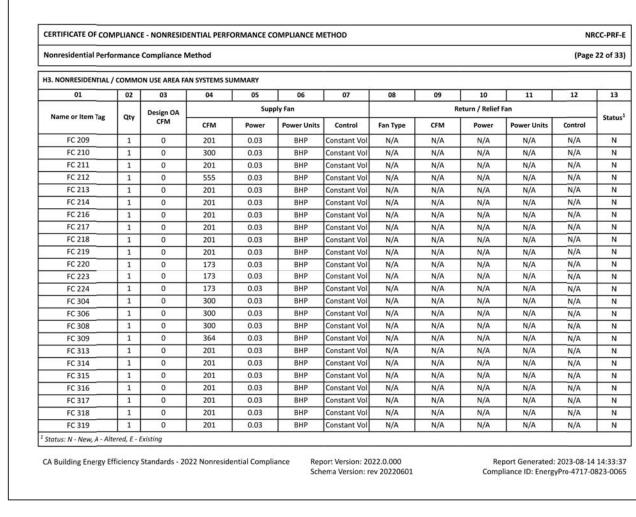
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-08-14 14:33:37 Compliance ID: EnergyPro-4717-0823-0065 Schema Version: rev 20220601

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-08-14 14:33:37 Schema Version: rev 20220601 Compliance ID: EnergyPro-4717-0823-0065

M-1.4

Yes = interlocks are provided, No = interlocks are not provided, NA means no operable openings.

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000



CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

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Compliance ID: EnergyPro-4717-0823-0065

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Nonresidential Performance Compliance Method

H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

	IPLIANC	E - NONRESIDE	NTIAL PERF	ORMANCE CO	MPLIANCE M	ETHOD					NF	CC-PRF-
Nonresidential Perfo	rmance	Compliance M	lethod								(Page	23 of 33
H3. NONRESIDENTIAL	соммо	ON USE AREA FA	N SYSTEMS SI	JMMARY								
01	02	03	04	05	06	07	08	09	10	11	12	13
Name or them To-	0.	Design OA		Suppl	y Fan			Re	eturn / Relief F	an		2,000
Name or Item Tag	Qty	CFM	CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control	Status
FC 320	1	0	300	0.03	ВНР	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
1 Status: N - New, A - Alt	ered, E - I	Existing						and the state of t				

Nonresidential Perf	ormance Compliance Met	hod					(Page 24 of 33
H5. GENERAL EXHAUS	T FAN SUMMARY						
01	02	03	04	05	06	07	08
System ID	Zone Name	Qty	СҒМ	Power	Power Units	Continuous Operation?	Status <sup>1</sup>
Open Office3	1-Open Office	1	100	0.03	ВНР	No	E
Freezer Room40	3-Freezer Room	1	100	0.09	ВНР	No	E
Storage48	4-Storage	1	100	0.03	ВНР	No	E
Flex Space52	5-Flex Space	1	650	0.19	ВНР	No	E
Server Room81	7-Server Room	1	100	0.03	BHP	No	E
Kitchen/Laundry/RR 85	8- Kitchen/Laundry/RR	1	900	0.26	ВНР	No	E
Reception/Break110	11-Reception/Break	1	575	0.65	BHP	No	E
Office 7 (East)134	12-Office 7 (East)	1	30	0.05	ВНР	No	E
Office 6 (East)142	13-Office 6 (East)	1	60	0.1	ВНР	No	E
Office 5 (East)148	14-Office 5 (East)	1	30	0.05	BHP	No	E
Office 4 (East)154	15-Office 4 (East)	1	30	0.05	BHP	No	E
Office 3 (East)160	16-Office 3 (East)	1	30	0.05	BHP	No	E
Office 2 (East)166	17-Office 2 (East)	1	30	0.05	ВНР	No	E
Office 1 (East)172	18-Office 1 (East)	1	30	0.05	ВНР	No	E
Office 4178	19-Office 4	1	30	0.04	ВНР	No	E
Office 3182	20-Office 3	1	30	0.04	BHP	No	E
Office 2186	21-Office 2	1	30	0.04	ВНР	No	E
Conference191	22-Conference	1	100	0.14	ВНР	No	E
Office 1199	23-Office 1	1	30	0.04	ВНР	No	E
Conference204	24-Conference	1	50	0.07	ВНР	No	E
Office 10209	25-Office 10	1	30	0.04	ВНР	No	E
Office 9213	26-Office 9	1	30	0.04	BHP	No	E
Office 8217	27-Office 8	1	30	0.04	ВНР	No	E
Status: N - New, A - Al	tered, E - Existing		377	7).	30	3	

	ormance Compliance Met						(Page 2
H5. GENERAL EXHAUS	T FAN SUMMARY						
01	02	03	04	05	06	07	08
System ID	Zone Name	Qty	CFM	Power	Power Units	Continuous Operation?	Status
Office 7222	28-Office 7	1	50	0.07	ВНР	No	E
Office 8 (East)227	29-Office 8 (East)	1	30	0.05	BHP	No	E
Office 6237	31-Office 6	1	30	0.04	ВНР	No	E
Offices 5241	32-Offices 5	1	30	0.05	ВНР	No	E
Open Office245	33-Open Office	1	75	0.16	BHP	No	E
Patient Room 1277	36-Patient Room 1	1	125	0.22	ВНР	No	E
Patient Room 2287	37-Patient Room 2	1	125	0.22	BHP	No	E
Patient Room 3297	38-Patient Room 3	1	125	0.22	BHP	No	E
Patient Room 4307	39-Patient Room 4	1	125	0.22	ВНР	No	E
Exam Rooms319	40-Exam Rooms	1	30	0.06	ВНР	No	E
Breakroom324	41-Breakroom	1	50	0.1	BHP	No	E
Office329	42-Office	1	25	0.05	ВНР	No	E
Exam Room 1334	43-Exam Room 1	1	25	0.05	ВНР	No	E
Exam Room 2339	44-Exam Room 2	1	25	0.05	ВНР	No	E
Exam Room 3344	45-Exam Room 3	1	25	0.05	BHP	No	E
Exam Room 4349	46-Exam Room 4	1	30	0.06	ВНР	No	E
Exam Room 5354	47-Exam Room 5	1	30	0.06	ВНР	No	E
Nurses Station359	48-Nurses Station	1	150	0.21	ВНР	No	E
Lab/Med Storage/Corridor376	49-Lab/Med Storage/Corridor	1	275	0.5	ВНР	No	E
1	tered, E - Existing						
Lab/Med Storage/Corridor376	49-Lab/Med Storage/Corridor						

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

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805.886.9484

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ARCHITECT STAMP	CONSULTANT STA
No. C 27526 Ren. 12-31-23	M-25658  M-25658



AGENCY APPROVAL: CITY OF SANTA BARBARA. PERMIT #:

MILESTONE DATES: 9-22-23 PLANNING DEPT. SUBMITTAL

10-2-23 PLANNING DEPT. SUBMITTAL

10-19-23 PLANNING DEPT. SUBMITTAL

04-22-24 PLANNING DEPT. SUBMITTAL

**REVISIONS:** 

THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR THESE PLANS AND SPECIFICATIONS IF THEY ARE USED IN WHOLE OR IN PART AT ANY OTHER SITE.

PROJECT TITLE:

SANSUM DIABETES 2219 BATH STREET SANTA BARBARA, CA

Title 24 Compliance Documents
DATE: 04-22-24

DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201

M-1.5

RTIFICATE OF COM	IPLIANC	E - NONRESID	ENTIAL PERF	DRMANCE CO	MPLIANCE N	IETHOD					NR	CC-PRF-E	CERTIFICATE OF COM	PLIANC	E - NONRESID	ENTIAL PERF	ORMANCE CO	MPLIANCE M	ETHOD				
onresidential Perfo	rmance	Compliance N	<b>Method</b>								(Page	21 of 33)	Nonresidential Perfo	mance	Compliance N	Method							
					3-								H3. NONRESIDENTIAL /	соммо	ON USE AREA FA	N SYSTEMS SU	UMMARY		1-				
NONRESIDENTIAL /	02		04	05	06	07	08	09	10	11	12	13	01	02	03	04	05	06	07	08	09	10	
01	02	03	04		ly Fan	0/	08		eturn / Relief F		12	15	Name or Item Tag	Qty	Design OA		Supp	ly Fan			R	eturn / Relief	Fan
ame or Item Tag	Qty	Design OA CFM		000000				-				Status <sup>1</sup>	Name of item (ag	Quy	CFM	CFM	Power	Power Units	Control	Fan Type	CFM	Power	Pow
12		2	CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control		FC 209	1	0	201	0.03	ВНР	Constant Vol	N/A	N/A	N/A	1
FC 100	1	63.3	494	0.18	BHP	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 210	1	0	300	0.03	ВНР	Constant Vol	N/A	N/A	N/A	1
FC 103	1	135.3	1,095	0.4	BHP	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 211	1	0	201	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 107	1	60.15	494	0.18	BHP	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 212	1	0	555	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 109	1	177.9	1,095	0.4	BHP	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 213	1	0	201	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 116	1	147.45	1,095	0.4	BHP	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 214	1	0	201	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 119	1	67.05	494	0.18	BHP	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 216	1	0	201	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 123	1	106.95	1,095	0.4	BHP	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 217	1	0	201	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 200	1	520.03	494	0.18	BHP	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 218	1	0	201	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 222	1	377.5	1,095	0.4	BHP	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 219	1	0	201	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 226	1	217.8	1,519	0.4	ВНР	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 220	1	0	173	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 300	1	125.01	494	0.18	ВНР	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 223	1	0	173	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 301	1	270	812	0.18	ВНР	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 224	1	0	173	0.03	BHP	Constant Vol	N/A	N/A	N/A	
FC 323	1	145.65	494	0.18	ВНР	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 304	1	0	300	0.03	BHP	Constant Vol	N/A	N/A	N/A	
FC 329	1	195.3	812	0.18	ВНР	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 306	1	0	300	0.03	BHP	Constant Vol	N/A	N/A	N/A	
FC 106	1	0	555	0.03	BHP	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 308	1	0	300	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 115	1	0	364	0.03	BHP	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 309	1	0	364	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 201	1	0	201	0.03	ВНР	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 313	1	0	201	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 202	1	0	300	0.03	BHP	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 314	1	0	201	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 203	1	0	173	0.03	ВНР	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 315	1	0	201	0.03	BHP	Constant Vol	N/A	N/A	N/A	
FC 205	1	0	201	0.03	ВНР	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 316	1	0	201	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 206	1	0	201	0.03	BHP	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 317	1	0	201	0.03	BHP	Constant Vol	N/A	N/A	N/A	
FC 207	1	0	201	0.03	ВНР	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 318	1	0	201	0.03	ВНР	Constant Vol	N/A	N/A	N/A	
FC 208	1	0	201	0.03	ВНР	Constant Vo	N/A	N/A	N/A	N/A	N/A	N	FC 319	1	0	201	0.03	BHP	Constant Vol	N/A	N/A	N/A	
Building Energy Eff		150 10 10 100	022 Nonreside	ential Complia		port Version: 2 nema Version:				oort Generated liance ID: Energ			<sup>1</sup> Status: N - New, A - Alte		64 0 0 646	22 Nonreside	ential Complia	-	oort Version: 2 ema Version:				eport G

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Compliance ID: EnergyPro-4717-0823-0065

		_			03		0,	00	09	10			13
ı	Name or Item Tag	Qty	Design OA		Supp	ly Fan			R	eturn / Relief F	an		Statu
	tame of item (ag	Q.y	CFM	CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control	State
	FC 320	1	0	300	0.03	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
<sup>1</sup> S	tatus: N - New, A - Altı	ered, E -	Existing										
				222320 050			oort Version: 20				ort Generated	2022 00 4	
											ort Generated	· 2023-08-14	
	CA Building Energy Ef	ficiency	Standards - 2	022 Nonreside	ential Complia								
	CA Building Energy Ef	ficiency	Standards - 2	022 Nonreside	ential Complia		ema Version: r				iance ID: Energ		

CERTIFICATE OF CONFE	IANCE - NONRESIDENTIAL P	ERFORMANC	E COMPLIAN	NCE METHOD						NRC	C-PRF-I
Nonresidential Perform	ance Compliance Method									(Page 2	8 of 33
H9. NONRESIDENTIAL / CO	MMON USE AREA & HOTEL/M	OTEL VENTILAT	ION	04		05		06		07	
	02		1 1 11			05		06			
Zone Name	Ventilation Function	# of Peopl	echanical Ver	Supply OA C	ENA	Exhaust C	C C	onditioned Ar	ea (sf)	DCV or Occupant Senso Controls, or Both	
38-Patient Room 3	Misc - All others	1.12	e	33.6	FIVE	125	riwi	224	-	N/A	
39-Patient Room 4	Misc - All others	1.12	_	38.7	-	125	_	258	_	N/A	
40-Exam Rooms	Misc - All others	0.48		14.55		30		97		N/A N/A	
41-Breakroom	Office - Breakrooms	3.33	-	50		50		100		N/A	
42-Office	Office - Office space	0.47		13.95		25	_	93	_	N/A N/A	
43-Exam Room 1	Misc - All others	0.47	_	14.7	_	25	_	98	-	N/A	
44-Exam Room 2	Misc - All others	0.49	_	14.7	- 0	25	_	98		N/A	
45-Exam Room 3	Misc - All others	0.43	_	15	_	25		100	_	N/A	
46-Exam Room 4	Misc - All others	0.49		14.7		30		98		N/A	
47-Exam Room 5	Misc - All others	0.61		18.45	-	30		123		N/A	
48-Nurses Station	Misc - All others	4.86	_	145.65		150	_	971	_	N/A	
49-Lab/Med Storage/Corridor	Misc - All others	6.51		195.3		275		1302		N/A	
	TERMINAL UNIT SUMMARY										
01	02	03	04	05	06	07	08	09	10	11	12
System ID	System Type	Qty	Rated Cap	acity (kBtuh)	Design	Airflow (cfm	Min. Ratio	Power	Fan Power	Cycles	VSD
			ricuting	Cooming	Design		Willia Katio	rower	Units	Cycles	
1-Open Office-Trm	Uncontrolled	1	N/A	N/A	494	N/A	0	N/A	N/A	N/A	
2-Medical Exam/Treatment-Trm	Uncontrolled	1	N/A	N/A	1,095	N/A	0	N/A	N/A	N/A	
4-Storage-Trm	Uncontrolled	1	N/A	N/A	494	N/A	0	N/A	N/A	N/A	
5-Flex Space-Trm	Uncontrolled	1	N/A	N/A	1,095	N/A	0	N/A	N/A	N/A	
8-Kitchen/Laundry/RR-Tr	rm Uncontrolled	1	N/A	N/A	1,095	N/A	0	N/A	N/A	N/A	

										(Page 2	9 0
H11. ZONAL SYSTEM AND TERMIN	AL UNIT SUMMARY										
01	02	03	04	05	06	07	08	09	10	11	
			Rated Capa	city (kBtuh)	-	Airflow (cfm	)		Fan		
System ID	System Type	Qty	Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	
9-Open Office-Trm	Uncontrolled	1	N/A	N/A	494	N/A	0	N/A	N/A	N/A	T
10-Office-Trm	Uncontrolled	1	N/A	N/A	1,095	N/A	0	N/A	N/A	N/A	T
11-Reception/Break-Trm	Uncontrolled	1	N/A	N/A	494	N/A	0	N/A	N/A	N/A	T
30-Conference-Trm	Uncontrolled	1	N/A	N/A	1,095	N/A	0	N/A	N/A	N/A	
33-Open Office-Trm	Uncontrolled	1	N/A	N/A	1,519	N/A	0	N/A	N/A	N/A	Т
34-Waiting Room-Trm	Uncontrolled	1	N/A	N/A	494	N/A	0	N/A	N/A	N/A	
35-Conference/Break-Trm	Uncontrolled	1	N/A	N/A	812	N/A	0	N/A	N/A	N/A	Т
48-Nurses Station-Trm	Uncontrolled	1	N/A	N/A	494	N/A	0	N/A	N/A	N/A	
49-Lab/Med Storage/Corridor-Trm	Uncontrolled	1	N/A	N/A	812	N/A	0	N/A	N/A	N/A	
FC 106	MiniSplit HP	1	20.83	17.28	555	N/A	N/A	0.03	BHP	Cycling	Τ
FC 115	MiniSplit HP	1	14.06	11.52	364	N/A	N/A	0.03	BHP	Cycling	
FC 201	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	ВНР	Cycling	Τ
FC 202	MiniSplit HP	1	10.94	9.12	300	N/A	N/A	0.03	BHP	Cycling	0
FC 203	MiniSplit HP	1	6.04	4.8	173	N/A	N/A	0.03	BHP	Cycling	Т
FC 205	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	Т
FC 206	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	
FC 207	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	
FC 208	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	
FC 209	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	
FC 210	MiniSplit HP	1	10.94	9.12	300	N/A	N/A	0.03	BHP	Cycling	
FC 211	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	ВНР	Cycling	
FC 212	MiniSplit HP	1	20.83	17.28	555	N/A	N/A	0.03	BHP	Cycling	
FC 213	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	
FC 214	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	Т

ERTIFICATE OF COMPLIAN	NCE - NONRESIDENTIAL PER	FORMANC	E COMPLIAN	CE METHOD						NRC	C-PRF-
onresidential Performan	ce Compliance Method									(Page 30	) of 33
11. ZONAL SYSTEM AND TER	RMINAL UNIT SUMMARY										
01	02	03	04	05	06	07	08	09	10	11	12
			Rated Capa	city (kBtuh)		Airflow (cfm	)		Fan		
System ID	System Type	Qty	Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	vst
FC 216	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	ВНР	Cycling	
FC 217	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	ВНР	Cycling	
FC 218	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	ВНР	Cycling	
FC 219	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	
FC 220	MiniSplit HP	1	6.04	4.8	173	N/A	N/A	0.03	BHP	Cycling	
FC 223	MiniSplit HP	1	6.04	4.8	173	N/A	N/A	0.03	BHP	Cycling	
FC 224	MiniSplit HP	1	6.04	4.8	173	N/A	N/A	0.03	BHP	Cycling	
FC 304	MiniSplit HP	1	10.94	9.12	300	N/A	N/A	0.03	ВНР	Cycling	
FC 306	MiniSplit HP	1	10.94	9.12	300	N/A	N/A	0.03	BHP	Cycling	
FC 308	MiniSplit HP	1	10.94	9.12	300	N/A	N/A	0.03	BHP	Cycling	
FC 309	MiniSplit HP	1	14.06	11.52	364	N/A	N/A	0.03	ВНР	Cycling	
FC 313	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	
FC 314	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	
FC 315	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	
FC 316	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	
FC 317	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	
FC 318	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	ВНР	Cycling	
FC 319	MiniSplit HP	1	8.85	7.2	201	N/A	N/A	0.03	BHP	Cycling	
FC 320	MiniSplit HP	1	10.94	9.12	300	N/A	N/A	0.03	BHP	Cycling	

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	COMPLIANCE - N	IONRESIDENTIAL P	PERFOR	MANCE	COMPLIA	NCE MET	HOD						NRCC-PRF-E
Nonresidential	Performance Con	pliance Method											(Page 31 of 33)
I1. WATER HEATE	R EQUIPMENT SUM	MARY											
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Efficiency Unit	Tank Insulation R-value Int/Ext	Standby Loss Fraction	1st Hr. Rating or Flow Rate (gal)	Heat Pump Type	Tank Location or Ambient Condition
Bradford White EF-100T-192	Natural Gas	Storage	1	100	199	kBtu/Hr	0.97	TE	N/A	0.01	N/A	N/A	N/A
Mech Mech	elope nanical nanical	NRCI-MCH-01-E - NRCI-MCH-E - For	CONTROL CONTRO										
	-	NRCI-MCH-01-E - Must be submitted for all buildings NRCI-MCH-E - For all buildings with Mechanical Systems											
	nbing	NRCI-PLB-01-E - N											
	OF REQUIRED CER	TIFICATES OF ACCEPT	TANCE										
M. DECLARATION		uthor indicate which ruction and must be									liance. These	documents	must be provided
Selections made b								Form/Title	1				
Selections made b to the building ins	omponent		NRFC I										
Selections made b to the building ins Building C	Component elope	NRCA-ENV-02-F -		At	ust be su					te: MCH-02	-A can be per	formed in	conjunction with
Selections made b to the building ins Building C		NRCA-ENV-02-F - NRCA-MCH-02-A MCH-07-A Supply			tance (if	аррисавие							
Selections made b to the building ins Building C Enve Mech	elope	NRCA-MCH-02-A	Fan Vf	D Accept		A 1000	AC						
Selections made b to the building ins Building C Enve Mech	elope	NRCA-MCH-02-A MCH-07-A Supply	Fan VF - Const	D Accept ant Volur	ne Single	Zone HV		cation requi	red				

 3-Freezer Room
 General - Unoccupied
 0.2
 0
 100
 130
 N/A

 Office - Occupiable storage rooms for dry
 0.4
 60.15
 100
 401
 N/A

 4-Storage
 storage rooms for dry materials
 0.4
 60.15
 100
 401
 N/A

 5-Flex Space
 Office - Office space
 5.93
 177.9
 650
 1186
 N/A

 7-Server Room
 General - Unoccupied
 0.36
 0
 100
 238
 N/A

 8-Kitchen/Laundry/RR
 General - Corridors
 4.92
 147.45
 900
 983
 N/A

 9-Open Office
 Office - Office space
 2.23
 67.05
 0
 447
 N/A

 10-Office
 Office - Office space
 3.56
 106.95
 0
 713
 N/A

 11-Reception/Break
 Office - Reception areas
 34.67
 520.03
 575
 1040
 N/A

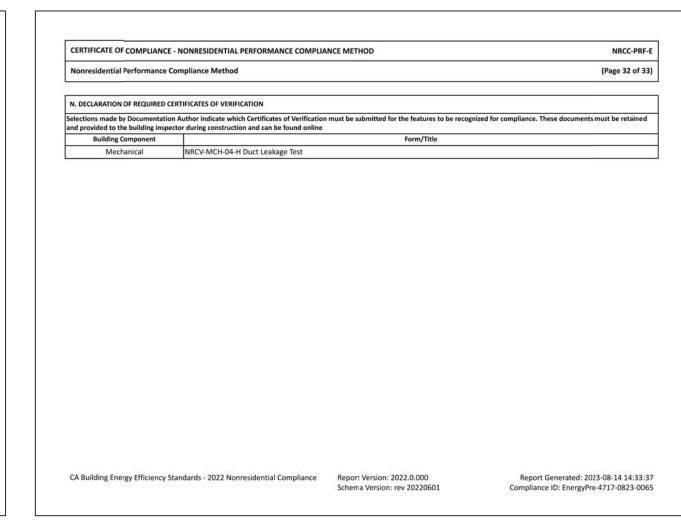
 12-Office 7 (East)
 Office - Office space
 0.6
 18.15
 30
 121
 N/A

 13-Office 6 (East)
 Office - Office space
 1.22
 36.6
 60
 244
 N/A

 14-Office 5 (East)
 Office - Office space
 0.48
 14.4
 30
 96
 N/A

 15-Office 4 (East)
 <td

Schema Version: rev 20220601





DEMO DRAWINGS ARE SCHEMATIC, BASED ON CURSORY FIELD OBSERVATION. REPORT ALL DISCREPANCIES TO ARCHITECT BEFORE DISTURBING EXISTING WORK.

SEE DIVISION 1 SPECIFICATIONS FOR CONTRACTOR'S CONDITIONS OF ACCEPTANCE OF EXISTING CONDITIONS.

COORDINATE UTILITY OUTAGES WITH ALL AFFECTED PARTIES, INCLUDING THE UTILITY COMPANIES, OWNER AND OCCUPANTS OF BUILDINGS. VERIFY CONSTRUCTION PHASING WITH ARCHITECT.

REMOVE, RELOCATE AND EXTEND EXISTING WORK TO ACCOMMODATE NEW CONSTRUCTION.

ISOLATE FIXTURES AND EQUIPMENT TO BE REMOVED BY SHUTTING OFF MAINS OR PROVIDING NEW ISOLATION VALVES AS REQUIRED. DRAIN ALL WATER PIPING BEFORE REMOVING PIPING. REMOVE ALL UNUSED WATER PIPING AND CAP AT NEAREST ACTIVE BRANCH TEE. DO NOT LEAVE DEAD END RUNS. DISINFECT AND FLUSH ENTIRE POTABLE WATER SYSTEM OF ANY DOMESTIC SYSTEM WHERE CROSS CONNECTION IS SUSPECTED TO HAVE

REMOVE ANY ABANDONED ABOVE GRADE WORK FROM THIS AND PRIOR WORK.

PIPING BELOW GRADE MAY BE ABANDONED IN PLACE, PROVIDED IT DOES NOT INTERFERE WITH NEW WORK. CAP WASTE BELOW FLOOR AND REMOVE UNUSED VENT PIPING TO ROOF OR CAP AT NEAREST ACTIVE BRANCH TEE. PATCH AND REPAIR DEMOLISHED AREAS.

PROTECT EXISTING STRUCTURE AND WORK FROM DAMAGE DURING DEMOLITION.

CLEAN AND REPAIR EXISTING MATERIALS AND EQUIPMENT TO BE RELOCATED OR REUSED.

IF HAZARDOUS MATERIALS ARE A PART OF THIS PROJECT, COORDINATE REMOVAL OF WORK WITH HAZARDOUS MATERIALS DEMOLITION CONTRACTOR.

CAREFULLY REMOVE FIXTURES AND EQUIPMENT. PROVIDE OWNER THE OPTION OF SALVAGING ANY EQUIPMENT OR MATERIALS BEING REMOVED.

(E) 20 TON ROOFTOP MULTI-ZONE PACKAGED UNITS AC-1 AND AC-2 TO BE DEMOLISHED AND REMOVED INCLUDING ROOF CURBS, DUCTWORK, AND ASSOCIATED

PIPING AND CONTROLS. 2 (E) SINGLE ZONE ROOFTOP PACKAGED UNITS AC-3, AC-4, AC-5 TO BE DEMOLISHED AND REMOVED. INCLUDING ROOF CURBS, DUCTWORK, AND ASSOCIATED

**KEYNOTES** 

3 (E) EXHAUST FANS TO BE DEMOLISHED AND REMOVED. INCLUDING ROOF CURBS, AND ASSOCIATED DUCTWORK AND CONTROLS.

PIPING AND CONTROLS.

PIPING, AND SUPPORTS.

1/8" = 1'-0"

1/8" = 1'-0"

4 DEMOLISH AND REMOVE ALL EXISTING DUCTWORK, REGISTERS, CONTROLS AND ASSOCIATED INSULATION,

5 DEMOLISH AND REMOVE EXISTING DUCTWORK IN SHAFTS.

ARCHITECT (

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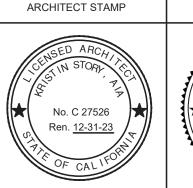
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Electrical Engineering Lighting Design

MECHANICAL ENGINEERING CONSULTANTS INC.

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AGENCY APPROVAL: CITY OF SANTA BARBARA.

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**REVISIONS:** 

OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER

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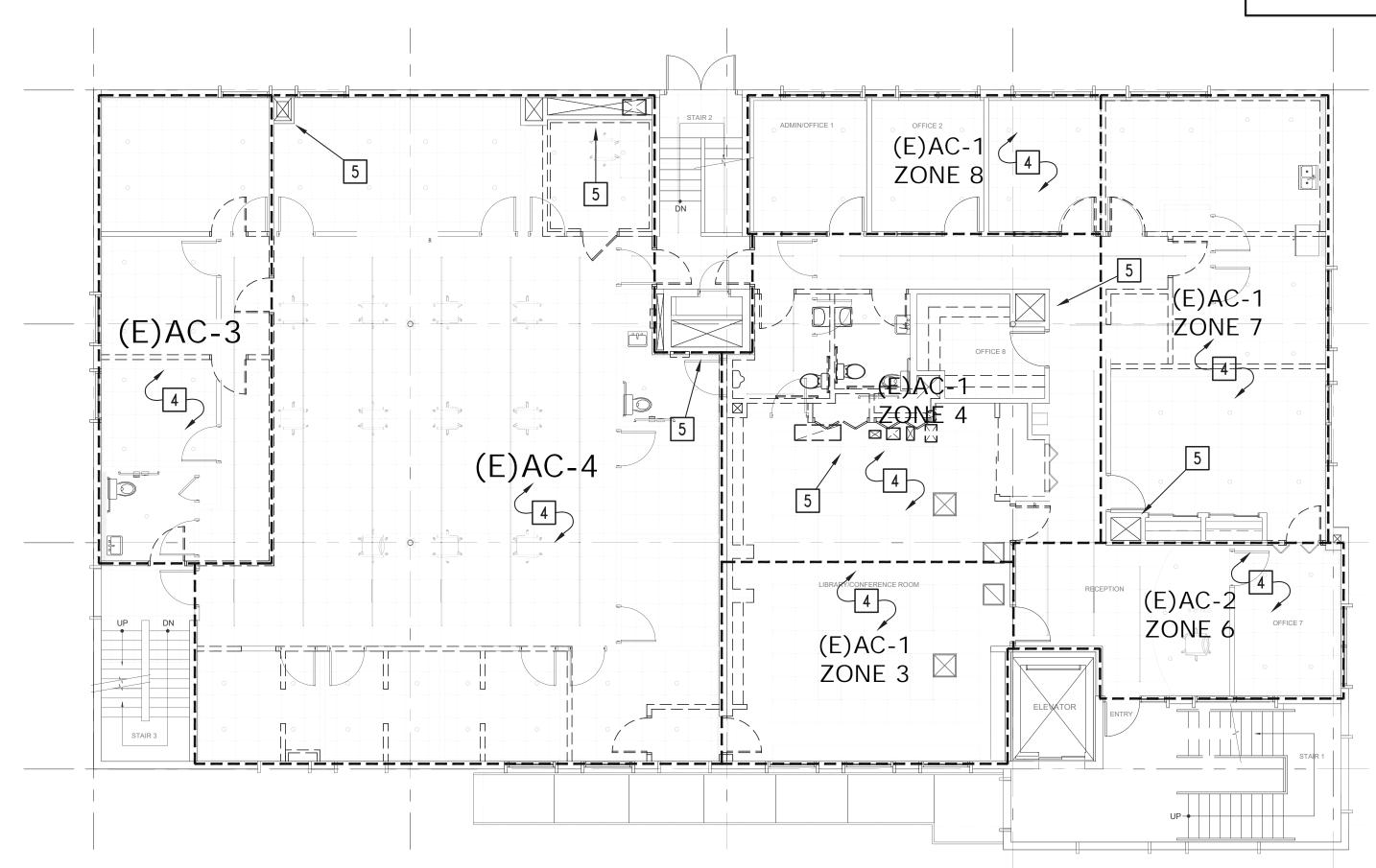
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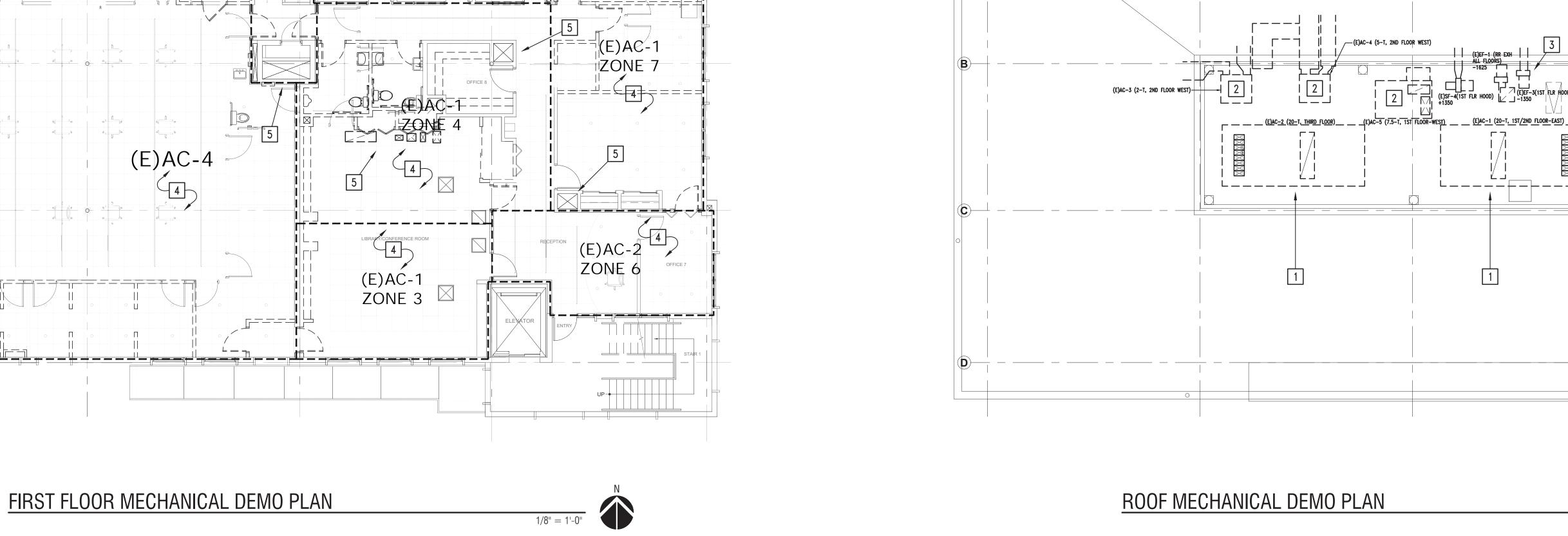
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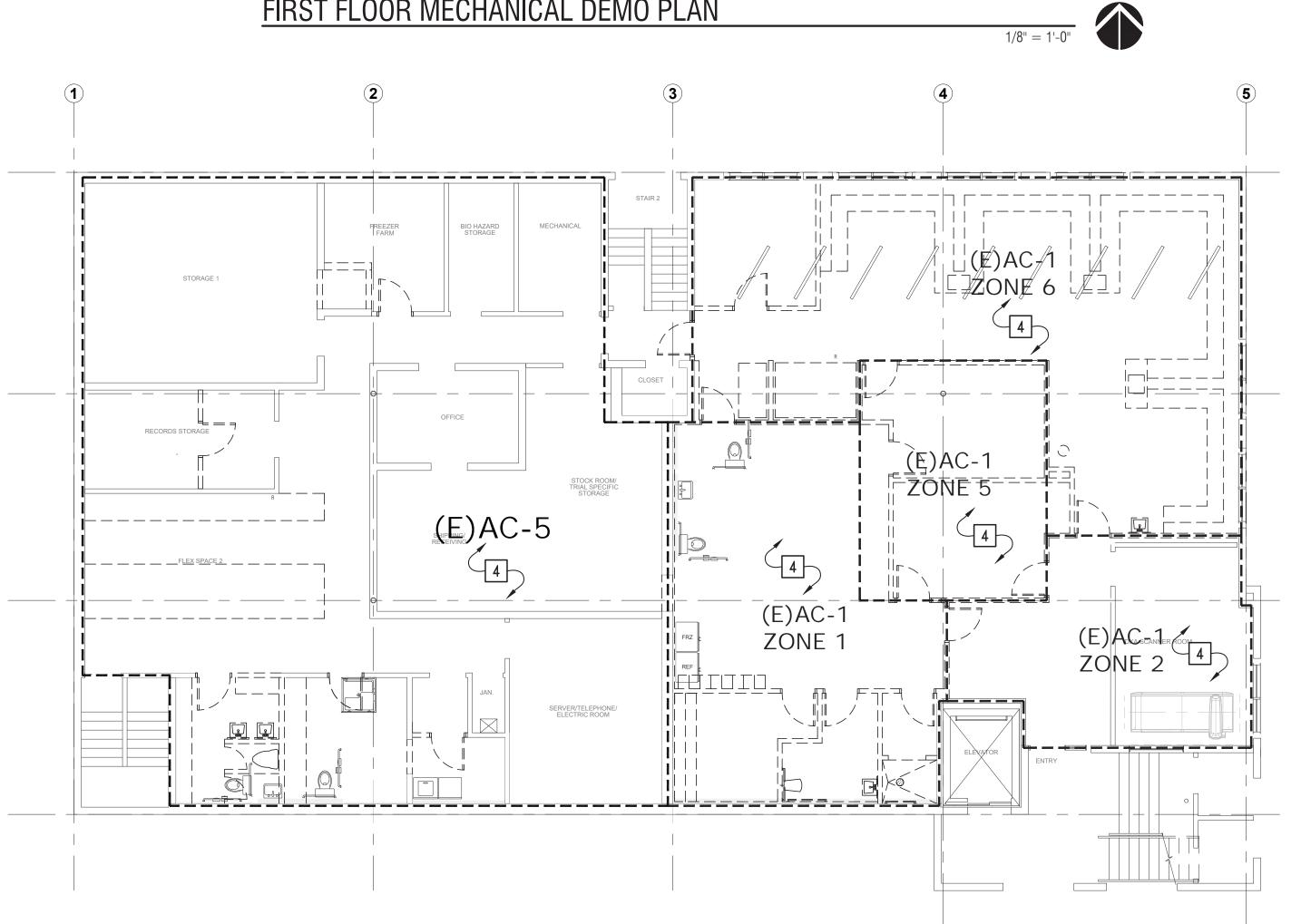
Mechanical DemolitionPlans

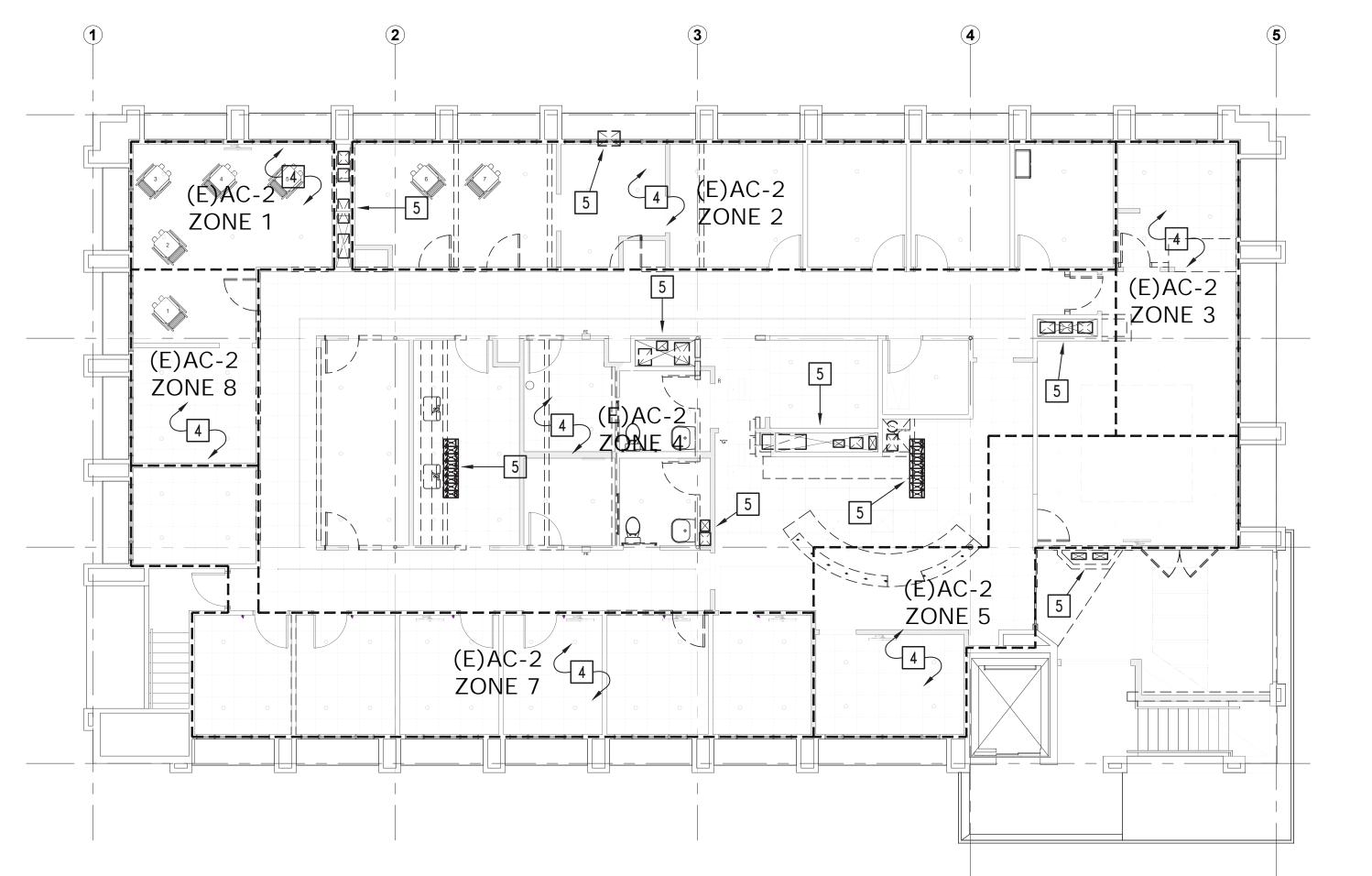
JOB NUMBER: SAN-2201

M-2.0







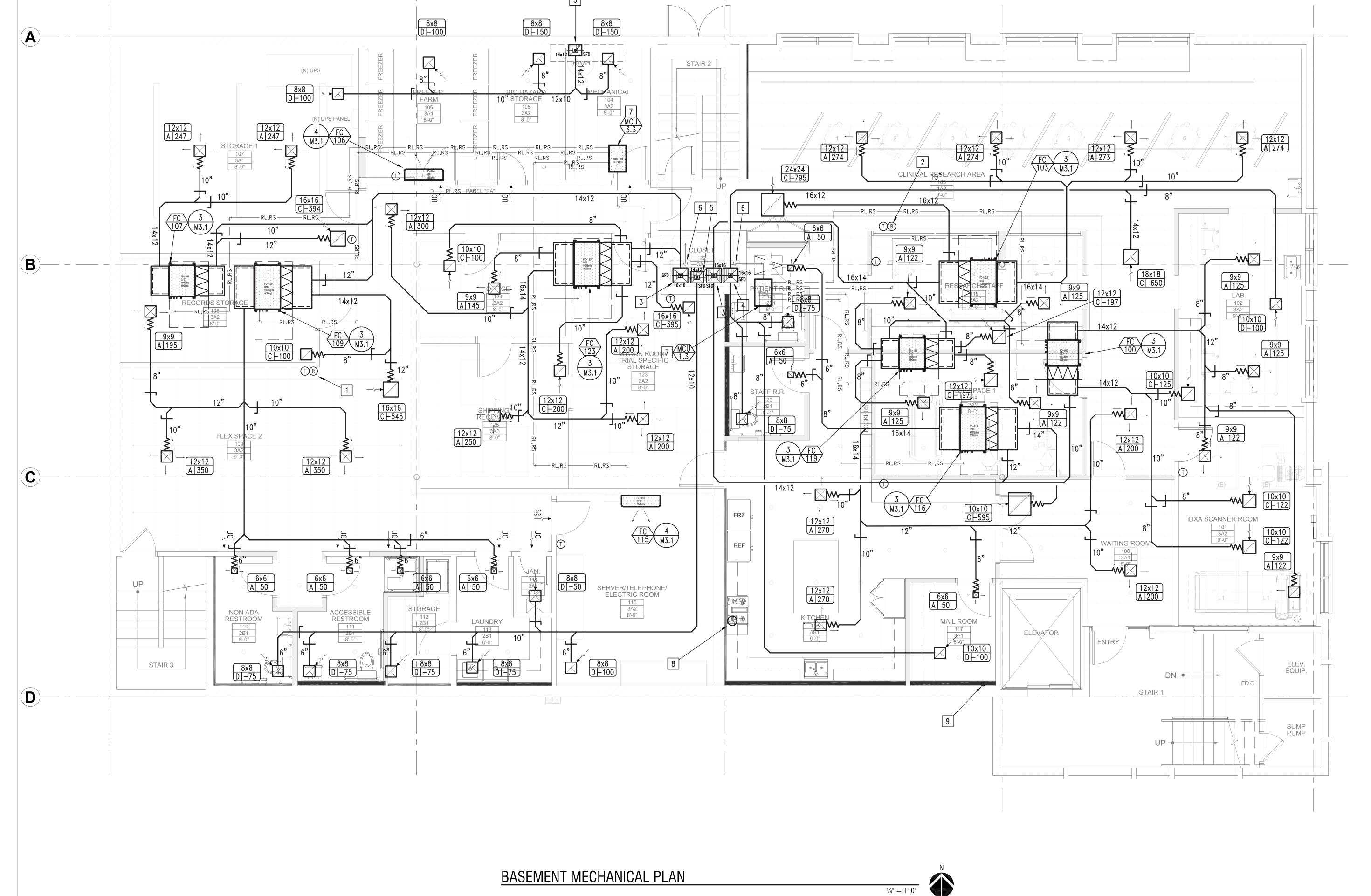


BASEMENT MECHANICAL DEMO PLAN



SECOND FLOOR MECHANICAL DEMO PLAN





# **KEYNOTES**

- 1 REFRIGERANT MONITOR WITH CONTACTS FOR EXHAUST FAN CONTROL. INTERLOCK WITH EF-1.1. SEE DETAIL 1, SHEET M3.1.
- 2 REFRIGERANT MONITOR WITH CONTACTS FOR EXHAUST FAN CONTROL. INTERLOCK WITH EF-1.2. SEE DETAIL 1, SHEET M3.1.
- 3 16x16 OUTSIDE AIR DUCT WITH SFD, UP EXISTING SHAFT TO ROOF.
- 4 16x16 EXHAUST DUCT WITH SFD, UP EXISTING SHAFT TO
- 5 14x12 EXHAUST DUCT WITH SFD, UP EXISTING SHAFT TO ROOF.
- 6 REFRIGERANT LINES UP EXISTING SHAFT TO HP ON ROOF. SEE M4.2. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
- 7 ROUTE LINE SETS FROM MCU TO FAN COILS. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
- 8 KITCHEN RANGE HOOD EXHAUST DUCT THROUGH ROOF. SIZE & INSTALLATION SHALL BE PER HOOD MANUFACTURER'S INSTRUCTIONS. MINIMUM AIRFLOW OR CAPTURE EFFICIENCY SHALL BE PER TITLE 24 TABLE

150.0-E AND TABLE 150.0-G.

4" DRYER VENT. TERMINATE TO EXTERIOR WITH BACKDRAFT DAMPER. EXHAUST DUCT FOR DOMESTIC DRYERS SHALL BE 4 INCHES MINIMUM AND SHALL NOT EXCEED A TOTAL LENGTH OF 14 FEET INCLUDING TWO 90 DEGREE ELBOWS. TWO FEET SHALL BE DEDUCTED FOR EACH 90 DEGREE ELBOW IN EXCESS OF TWO. IF MAXIMUM LENGTH IS EXCEEDED, PROVIDE DRYER BOOSTER FAN BY FANTECH, OR EQUAL. TERMINATE MIN 3 FEET FROM PROPERTY LINE AND OPENINGS INTO BUILDING. DRYER VENT SHALL BE METAL AND HAVE A SMOOTH INTERIOR SURFACE.

> PROVIDE RATED PENETRATION FIRE STOPPING FOR ALL PIPING PENETRATING RATED ASSEMBLIES. PROVIDE U.L. LISTING FOR SYSTEM USED FOR EACH APPLICATION. SEE MECHANICAL DETAILS ON SHEET M3.3/M3.4.



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PROJECT TITLE:

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2219 BATH STREET
SANTA BARBARA, CA

Basement Mechanical Plan

DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201

FIRST FLOOR MECHANICAL PLAN

# KEYNOTES

- 1 REFRIGERANT MONITOR WITH CONTACTS FOR EXHAUST FAN CONTROL. INTERLOCK WITH ERV-2.1. SEE DETAIL 1, SHEET M3.1.
- 2 REFRIGERANT MONITOR WITH CONTACTS FOR EXHAUST FAN CONTROL. INTERLOCK WITH ERV-2.2. SEE DETAIL 1, SHEET M3.1.
- 3 14x14 OUTSIDE AIR DUCT WITH SFD, UP EXISTING SHAFT TO ROOF.
- 4 14x14 EXHAUST DUCT WITH SFD, UP EXISTING SHAFT TO ROOF.
- 5 12x12 OUTSIDE AIR DUCT WITH SFD, UP EXISTING SHAFT TO ROOF.
- 6 REFRIGERANT LINES UP EXISTING SHAFT TO HP ON ROOF. SEE M4.2. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
- 7 ROUTE LINE SETS FROM MCU TO FAN COILS. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

PROVIDE RATED PENETRATION FIRE STOPPING
FOR ALL PIPING PENETRATING RATED
ASSEMBLIES. PROVIDE U.L. LISTING FOR SYSTEM
USED FOR EACH APPLICATION. SEE MECHANICAL DETAILS ON SHEET M3.3/M3.4.



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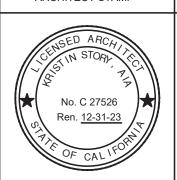
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PROJECT TITLE:

SANSUM DIABETES RESEARCH INSTITUTE 2219 BATH STREET SANTA BARBARA, CA

First Floor Mechanical Plan

DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201

SECOND FLOOR MECHANICAL PLAN

# **KEYNOTES**

- REFRIGERANT MONITOR WITH CONTACTS FOR EXHAUST FAN CONTROL. INTERLOCK WITH ERV-2.1. SEE DETAIL 1, SHEET M3.1.
- 2 REFRIGERANT MONITOR WITH CONTACTS FOR EXHAUST FAN CONTROL. INTERLOCK WITH ERV-2.2. SEE DETAIL 1, SHEET M3.1.
- 3 14x14 OUTSIDE AIR DUCT WITH SFD, UP EXISTING SHAFT TO ROOF.
- 4 14x14 EXHAUST DUCT WITH SFD, UP EXISTING SHAFT TO ROOF.
- 5 KITCHEN RANGE HOOD EXHAUST DUCT TO ROOF.
- REFRIGERANT LINES UP EXISTING SHAFT TO HP ON ROOF. SEE M4.2. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
- 7 ROUTE LINE SETS FROM MCU TO FAN COILS. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
- 8 OUTSIDE AIR DUCT THROUGH MECHANICAL WELL WALL TO OUTSIDE AIR INTAKE LOUVER. SEE M2.4 FOR CONTINUATION.
- 9 LAB HOOD. SEE ARCHITECT FOR SPECIFICATION AND VENTILATION REQUIREMENTS.

PROVIDE RATED PENETRATION FIRE STOPPING FOR ALL PIPING PENETRATING RATED ASSEMBLIES. PROVIDE U.L. LISTING FOR SYSTEM USED FOR EACH APPLICATION. SEE MECHANICAL DETAILS ON SHEET M3.3/M3.4.



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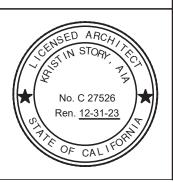
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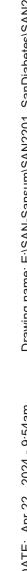
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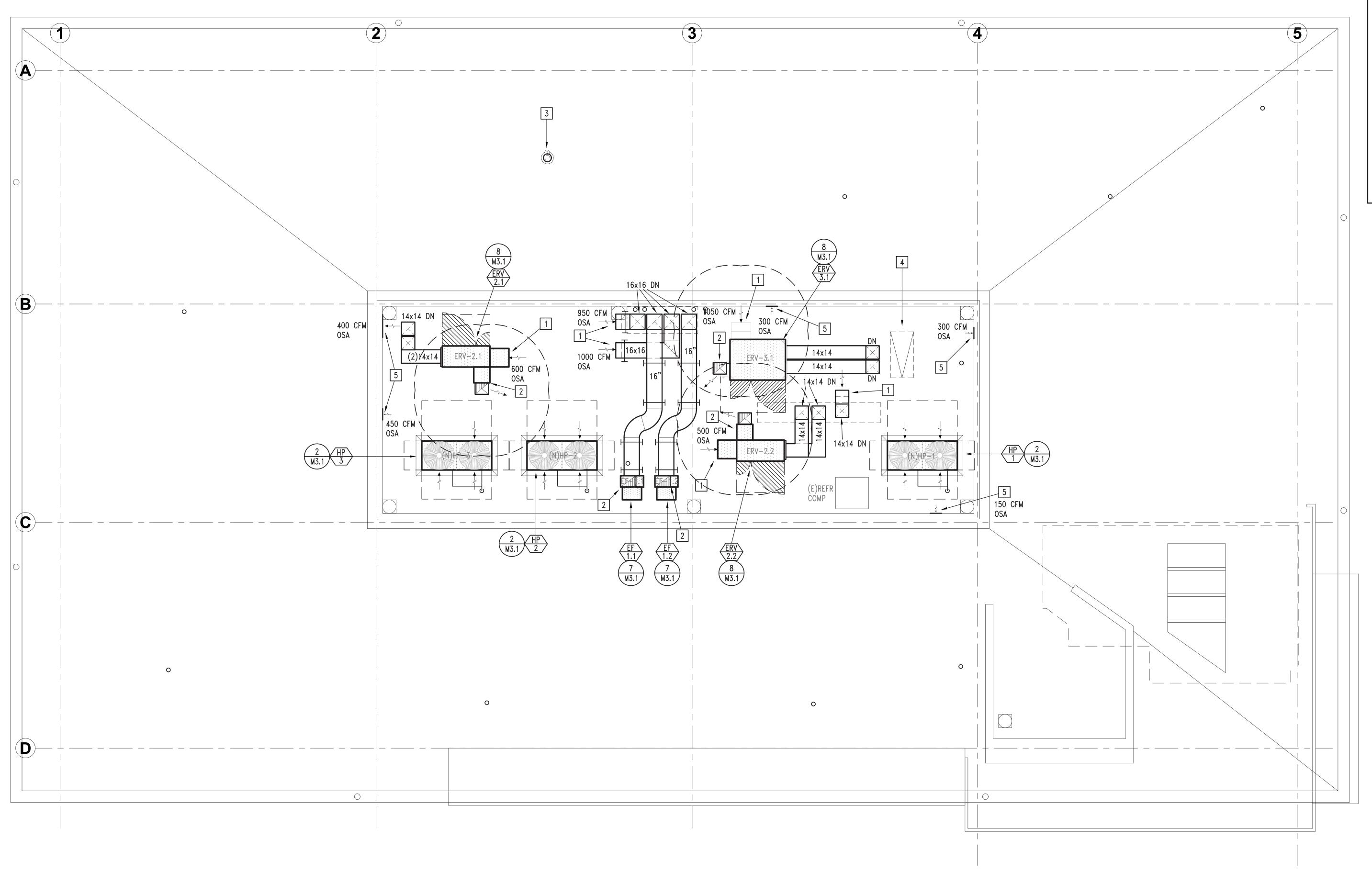
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INSTITUTE
2219 BATH STREET
SANTA BARBARA, CA

Second Floor Mechanical Plan

DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201





MECHANICAL ROOF PLAN

# **KEYNOTES**

- 1 OUTSIDE AIR INTAKE WITH BIRDSCREEN. MAINTAIN 10 FOOT HORIZONTAL OR 3 FOOT VERTICAL SEPARATION FROM EXHAUST AND PLUMBING OUTLETS PER CMC 311.3.
- 2 EXHAUST OUTLET. EXTEND DISCHARGE TO TOP OF MECHANICAL WELL.
- 3 CONCENTRIC VENT FOR WATER HEATER IN FIRST FLOOR MECHANICAL ROOM. SIZE AND INSTALLATION SHALL BE PER MANUFACTURER'S INSTRUCTIONS AND PER NFGC, NFPA, AND CMC REQUIREMENTS.
- 4 EXISTING MECHANICAL WELL ACCESS.
- 5 OUTSIDE AIR INTAKE LOUVER. METALAIRE OAL2F OR EQUAL. 400 FPM FACE VELOCITY.

PROVIDE RATED PENETRATION FIRE STOPPING FOR ALL PIPING PENETRATING RATED ASSEMBLIES. PROVIDE U.L. LISTING FOR SYSTEM USED FOR EACH APPLICATION. SEE MECHANICAL DETAILS ON SHEET M3.3/M3.4.



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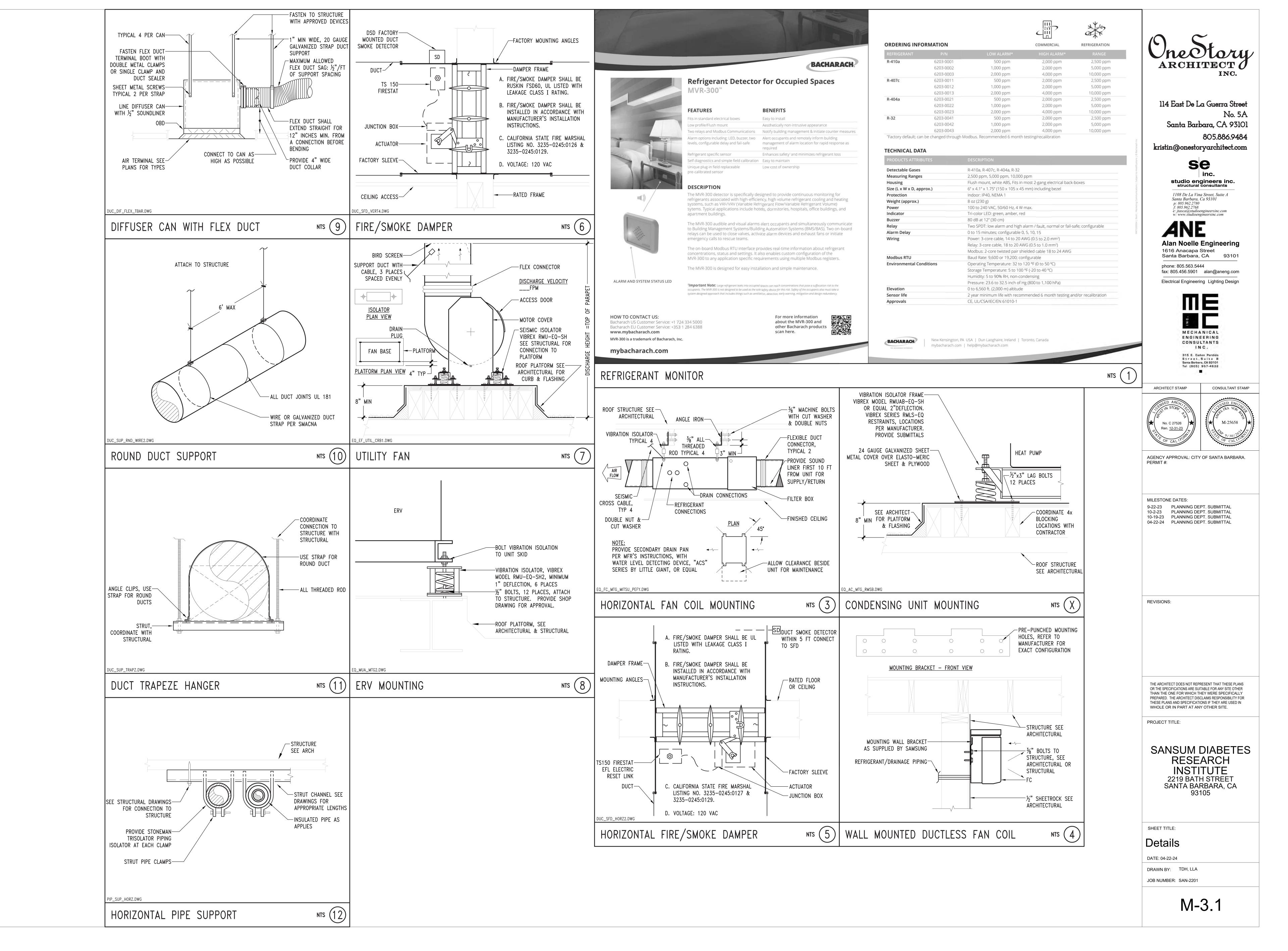
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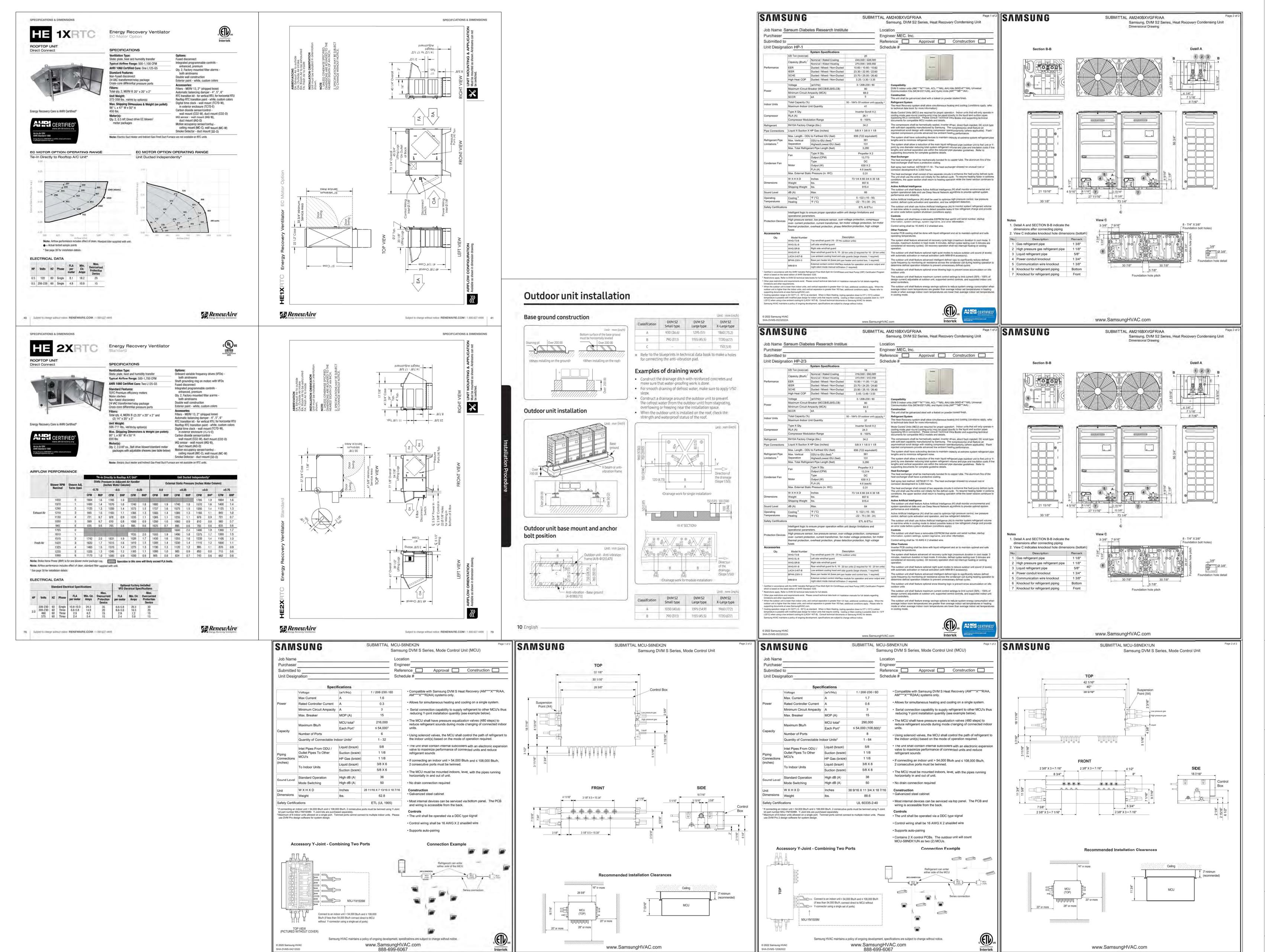
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SHEET TITLE:

Mechanical Roof Plan

DATE: 04-22-24 DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201





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ARCHITECT

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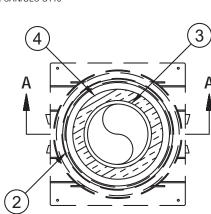
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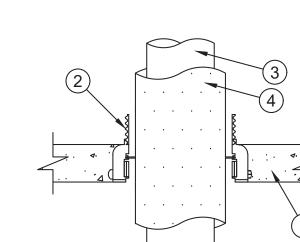
DATE: 04-22-24

DRAWN BY: TDH, LLA

JOB NUMBER: SAN-2201

M-3.2





#### **SECTION A-A** 1. Floor Assembly — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or

1600-2400 kg/m3) concrete 1A. Floor Assembly - (Optional - Not Shown) — The fire rated unprotected concrete and steel floor assembly shall be constructed of the materials and in the manner specified in the individual D900 Series Designs in the

Fire Resistance Directory and as summarized below: A. Steel Floor and Form Units\* — Composite or non-composite max 3 in. (76 mm) deep galv steel fluted units as specified in the individual Floor-Ceiling Design.

B. Concrete — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 . Firestop Device\* — Cast in place firestop device permanently embedded during concrete placement or grouted

in concrete floor assembly in accordance with accompanying installation instructions with a max 2 in. (51 mm) projection above the top surface of the concrete. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 680-75/2.5"N, CP 680-110/4"N, CP 680-160/6"N. CP 682-75/2.5". CP 682-110/4". CP 680-M 2".

CP 680-M 3", CP 680-M 4", CP 680-P 2", CP 680-P 3", CP 680-P 4", CP 680-P 6" s. Through Penetrants — One metallic pipe, conduit or tubing to be installed within the firestop device. Pipe, conduit or tubing to be rigidly supported on both sides of floor assembly. The following types of pipe, conduit or

A. Steel Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing. C. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe. The firestop device and metallic penetrant shall be sized as follows:

Nom Thick. Of Pipe Insul., in. (mm)	Firestop Device	T-Rating, Hr
1 (25)	CP 680-75/2.5"N, CP 682-72/2.5"CP 680-M 2", CP 680-P 2"	3/4
3/4 (19)	CP 680-75/2.5"N CP 680-P 3"	1/2
1 (25)	CP 680-M 3", CP 680-P 3"	1/2
1 (25)	CP 682-110/4"CP 680-M 4"	1/2
1 (25)	CP 680 110/4"N, CP682 110/4"CP 680-M 4", CP 680-P 4"	1/2
3/4 (19)	CP 680-100/4"NCP 680-P 4"	1/2
3/4 (19)	CP 680-160/6"NCP 680-P 6	1/2
	(mm)  1 (25)  3/4 (19)  1 (25)  1 (25)  1 (25)  3/4 (19)	(mm)  1 (25)  CP 680-75/2.5"N, CP 682-72/2.5"CP 680-M 2", CP 680-P 2"  3/4 (19)  CP 680-75/2.5"N CP 680-P 3"  1 (25)  CP 680-M 3", CP 680-P 3"  1 (25)  CP 682-110/4"CP 680-M 4"  1 (25)  CP 680 110/4"N, CP682 110/4"CP 680-P 4"  3/4 (19)  CP 680-100/4"NCP 680-P 4"

Tube Insulation - Plastics+ — Nom  $\frac{3}{4}$  or 1 in. (19 or 25 mm) thick acryonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. See Plastics+ (QMFZ2) Category in the Plastics Recognized Component Directory for names of

manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL94 Flammability Classification of 94-5VA may be used. 5. Packing Material — (Not Shown) - When using a 1 in. (25 mm) diam pipe with 1 in. (25 mm) thick AB/PVC pipe insulation in a 4 in. (102 mm) device, and a min 2 in. (51 mm) thickness of min 4 pcf (64 kg/m3) mineral wool

batt insulation shall be firmly packed into top of devices, flush with the top of the device.



Hilti Firestop Systems

Classified by

nderwriters Laboratories, Ir

to UL 1479 and CAN/ULC-S115

opening is 6 in. (152 mm).

roduced by HILTI, Inc. Courtesy of Inderwriters Laboratories, Inc. December 14, 2006

System No. C-AJ-1421

F Rating - 2 and 3 Hr (See Item 4B)

1. Floor or Wall Assembly - Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or

See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

wall assembly. The following types and sizes of metallic pipes or conduits may be used:

B. Iron Pipe - Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.

A. Steel Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

C. Copper Pipe - Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

F. Conduit - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT).

both surfaces of wall as required to accommodate the required thickness of fill material.

D. Copper Tubing - Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.

grouted into floor or wall assembly, flush with floor or wall surfaces.

E. Conduit - Nom 4 in. (102 mm) diam (or smaller) steel conduit.

4. Firestop System - The firestop system shall consist of the following:

on the top surface of floor and on both surfaces of wall.

\*Bearing the UL Classification Mark

Hilti Firestop Systems

1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks\*. Max diam of

2. Metallic Sleeve - (Optional) Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or

3. Through-Penetrant - One metallic pipe or conduit to be installed either concentrically or eccentrically within the

firestop system. The annular space between pipe, tube or conduit and periphery of opening shall be min 0 in. (0

mm) (point contact) to max 5-3/8 in. (137 mm). Pipe or conduit to be rigidly supported on both sides of floor or

A. Packing Material - Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly

B. Fill, Void or Cavity Material\* - Sealant - Min 1/4 in. (6 mm) thickness of fill material applied within the

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - FS-ONE Sealant or CP604 Self-Leveling

packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from

annulus, flush with top surface of floor or with both surfaces of wall. For 3 Hr rated assemblies, a min 1/4 in.

(6 mm) diam bead of fill material shall be applied at the concrete/pipe interface at the point contact location

Firestop Sealant. CP604 shall be used in floor applications only. When CP604 is used, F Rating is 2 Hr.

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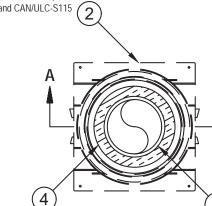
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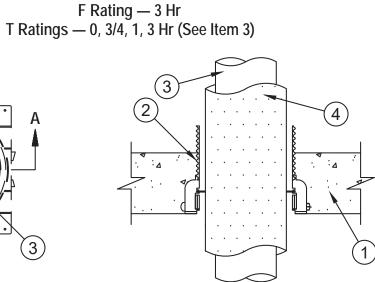
April 26, 2004

T Rating = 0 Hr

**SECTION A-A** 







**SECTION A-A** 

. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete.

1A. Floor Assembly - (Optional - Not Shown) — The fire rated unprotected concrete and steel floor assembly shall be constructed of the materials and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below:

System No. F-A-5016

A. Concrete — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. B. Steel Floor and Form Units\* — Composite or non-composite max 3 in. (76 mm) deep galv steel fluted units

as specified in the individual Floor-Ceiling Design. Firestop Device\* — Cast in place firestop device permanently embedded during concrete placement or grouted in concrete floor assembly in accordance with accompanying installation instructions with a max 2 in. (51 mm) projection above the top surface of the concrete.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 680-110/4" N, CP 680-160/6" N, CP 682-75/2.5", CP 682-110/4", CP 680-M 2", CP 680-M 3", CP 680-M 4", CP 680-P 2", CP 680-P 3", CP 680-P 4", CP 680-P

3. Through Penetrants — One metallic pipe or tubing to be installed within the firestop device. Pipe or tubing to be rigidly supported on both sides of floor assembly. The following types of pipe or tubing may be used: Steel Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

The firestop device and metallic penetrant shall be sized as follows:

Nom Pipe Diameter*	Nom Pipe Cover-in. (mm)	Firestop	T Rating-Hr
1/2 in. (13 mm)	1 (25)	CP 680-75/2.5"N, CP 682-75/2.5"	3
		CP 680-M 2", CP 680-P 2"	
1 in. (25 mm)	1 (25)	CP 680-110/4"N, CP 682-110/4"	3/4
		CP 680-M 3", CP 680-P 3", CP 680-M 4", CP 680-P 4"	
2 in. (51 mm)	3/4 (19)	CP 680-110/4"N	1
		CP 680-P 4"	
4 in. (102 mm)	3/4 (19)	CP 680-160/6"N	3/4
		CP 680-P 6"	

- When pipe diameter smaller than shown in above table is used, the insulated pipe shall be installed in conjunction with Item 5 and the T Ratings are 0 hr. 4. Tube Insulation - Plastic+ — Nom 3/4 or 1 in. (19 or 25 mm) thick acryonitrile butadiene/polyvinyl chloride

(AB/PVC) flexible foam furnished in the form of tubing. See Plastics+ (QMFZ2) Category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL94

Flammability Classification of 94-5VA may be used. Packing Material — (Not Shown) When pipe sizes are less than those shown in the table in Item 3, min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool insulation shall be firmly packed to the fullest extent possible within the device flush with top surface of device.



Hilti Firestop Systems

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to UL 1479 and CAN/ULC-S115

beyond both surfaces of wall.

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System No. C-AJ-1226

F Rating — 3 Hr

T Rating — 0 Hr

L Rating At 400 F — 4 CFM/Sq Ft

**SECTION A-A** 

L Rating At Ambient — Less Than 1 CFM/Sq Ft

. Floor or Wall Assembly — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete.

grouted into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. above floor or

square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized

to be a min of 2 in. larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in.

square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized

to be a min of 2 in. larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in.

Wall may also be constructed of any UL Classified Concrete Blocks\*. Max diam of opening is 32 in.

below the bottom of the deck and a max of 1 in. above the top surface of the concrete floor.

below the bottom of the deck and a max of 1 in. above the top surface of the concrete floor.

A. Steel Pipe — Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

C. Copper Pipe — Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.

F. Conduit — Nom 4 in. diam (or smaller) steel electrical metallic tubing (EMT).

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant

D. Copper Tubing — Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.

B. Iron Pipe — Nom 30 in. diam (or smaller) cast or ductile iron pipe.

4. Firestop System — The firestop system shall consist of the following:

E. Conduit — Nom 6 in. diam (or smaller) steel conduit.

Bearing the UL Classification Mark

Hilti Firestop Systems

2. Metallic Sleeve — (Optional) Nom 32 in. diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or

2A. Sheet Metal Sleeve — (Optional) Max 6 in. diam, min 26 ga galv steel provided with a 26 ga galv steel

2B. Sheet Metal Sleeve — (Optional) - Max 12 in. diam, min 24 ga galv steel provided with a 24 ga galv steel

3. Through-Penetrant — One metallic pipe, tube or conduit to be installed either concentrically or eccentrically

within the firestop system. The annular space between penetrant and periphery of opening shall be min 0 in.

(point contact) to max 1-7/8 in. Penetrant may be installed with continuous point contact. Penetrant to be rigidly

supported on both sides of floor or wall assembly. The following types and sizes of metallic penetrants may be

A. Packing Material — Min 4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening

as a permanent form. Packing material to be recessed from top surface of floor or sleeve or from both

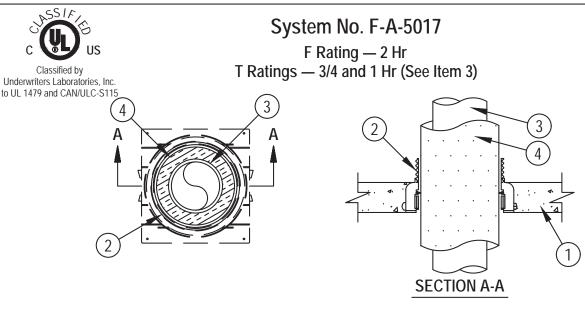
B. Fill, Void or Cavity Material\* — Sealant — Min 1/4 in. thickness of fill material applied within the annulus, flush with top surface of floor or sleeve or with both surfaces of wall or sleeve. At the point or continuous

contact locations between penetrant and concrete or sleeve, a min 1/4 in. diam bead of fill material shall be

applied at the concrete or sleeve/ pipe penetrant interface on the top surface of floor and on both surfaces of

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surfaces of wall or sleeve as required to accommodate the required thickness of fill material.



I. Floor Assembly — Min 2-1/2 in. (38 mm) thick reinforced lightweight or normal weight (100-150 pcf or

1A. Floor Assembly - (Optional - Not Shown) — The fire rated unprotected concrete and steel floor assembly shall be constructed of the materials and in the manner specified in the individual D900 Series Designs in the Fire Resistance Directory and as summarized below: A. Concrete — Min 2-1/2 in. (38 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400

B. Steel Floor and Form Units\* — Composite or non-composite max 3 in. (76 mm) deep galv steel fluted units as specified in the individual Floor-Ceiling Design. . Firestop Device\* — Cast in place firestop device permanently embedded during concrete placement or grouted

in concrete floor assembly in accordance with accompanying installation instructions with a max 2 in. (51 mm) projection above the top surface of the concrete. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 680-75/2.5"N, CP 680-110/4"N, CP 680-160/6"N, CP 682-75/2.5", CP 682-110/4", CP 680-M 2", CP 680-M 3", CP 680-M 4", CP 680-P 2", CP 680-P 3", CP 680-P 4", CP 680-P 6"

. Through Penetrants — One metallic pipe or tubing to be installed within the firestop device. Pipe or tubing to be rigidly supported on both sides of floor assembly. The following types of pipe or tubing may be used: A. Steel Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe. B. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing. C. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

The firestop device, metallic penetrant and pipe covering shall be sized as follows:

Nom Pipe Diam, in. (mm)	Nom Pipe Covering Thickness, in. (mm)	Firestop Device	T Rating, Hr
1/2 (13)	1 (25)	CP 680-75/2.5"N, CP 682-75/2.5"	3/4
1/2 (13)	1 (23)	CP 680-M 2", CP 680-P 2"	3/4
1 (25)	1 (25)	CP 680-M 3", CP 680-P 3"	3/4
1 (25) (See Item 5)	1-1/2 (38)	CP 682-110/4"	3/4
1 (23) (See itelii 3)	1-1/2 (30)	CP 680-M 4", CP 680-P 4"	3/4
2 (51)	1 (25)	CP 680-110/4"N, CP 682-110/4"	1
2 (31)	1 (23)	CP 680-M 4", CP 680-P 4"	'

CP 680-160/6"N

CP 680-160/6"N

CP 680-P 6"

CP 680-P 6"

4. Pipe Covering\* — Nom 1, 1-1/2 and 2 in. (25, 38 and 51 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m3) glass fiber units, jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied SSL tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product.

See Pipe and Equipment Covering-Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL

5. Packing Material — When using a 1 in. (25 mm) diam pipe with 1-1/2 in. (38 mm) thick glass fiber pipe insulation in a 4 in. (102 mm) device, a min 2 in. (51 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation shall be firmly packed into top of device, flush with the top of the device. \*Bearing the UL Classification Mark

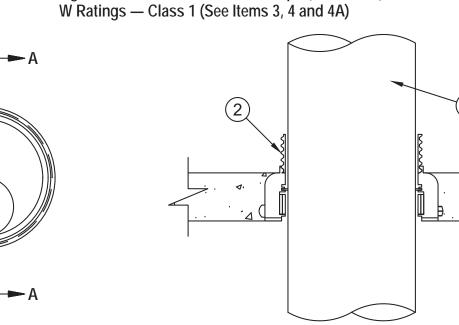


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System No. F-A-2053 F Rating — 2 Hr T Rating — 0 Hr L Rating At Ambient — Less Than 1 CFM/sq ft (See Item 3)

L Rating At 400 F — Less Than 1 CFM/sq ft (See Item 3)



SECTION A-A . Floor Assembly — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or

1A. Floor Assembly - (Optional - Not Shown) — The fire rated unprotected concrete and steel floor assembly shall be constructed of the materials and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below: A. Concrete — Min 2-1/2 in (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400

B. Steel Floor and Form Units\* — Composite or non-composite max 3 in. (76 mm) deep galv steel fluted units as specified in the individual Floor-Ceiling Design. . Firestop Device\* — Cast in place firestop device permanently embedded during concrete placement or grouted

in concrete assembly in accordance with accompanying installation instructions. The 3, 4 and 6 in. devices may extend a max 2 in. (51 mm) above the top surface of the concrete. The max extension above the slab for the 2 and 2.5 in. devices is not restricted. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 680-75/2.5"N, CP 680-110/4"N, CP

680-160/6"N, CP 680-P 2", CP 680-P 3", CP 680-P 4", CP 680-P 6" 3. Through Penetrants — One nonmetallic pipe or conduit to be installed within the firestop system. Pipe or conduit to be rigidly supported on both sides of floor assembly. For W Rating with Water Barrier Module, pipe shall be installed from bottom of device. The following types and sizes of nonmetallic pipes or conduits may be

A. Polyvinyl Chloride (PVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) SDR11 or SDR13.5

CPVC pipe for use in closed (process or supply) piping systems. C. Rigid Nonmetallic Conduit+ — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70). The firestop devices and nonmetallic penetrants shall be sized as follows:

'	
Nom Pipe Diameter	Firestop Device
1/2 in. to 2 in. (19 mm to 51 mm)	CP 680-75/2.5"N
1/2 111. 10 2 111. (19 11111 10 31 111111)	CP 680-P 2"
3 in. (76 mm)	CP 680-P 3"
3 in. to 4 in. (76 mm to 102 mm)	CP 680-110/4"N
3 111. 10 4 111. (70 11111 10 102 11111)	CP 680-P 4"
6 in. (152 mm)	CP 680-160/6"N
0 III. (132 IIIIII)	CP 680-P 6'

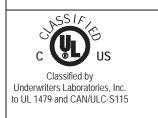
++ L Rating applies only to CP 680-P devices and only when the nom diam of pipe equals size of device (2 in. diam pipe in 2" device etc.) L Rating does not apply to CP 680N devices. l. Firestop Device\* — (Not shown) -Top seal plug for use with CP 680-75/2.5"N devices and nom pipe or conduit sizes 3/4 in. (19 mm) to 2 in. (51 mm), installed in accordance with the manufacturer's instructions. The top seal plug is optional for nom 1-1/2 in. (38 mm) pipes and conduits. Top seal plugs are required for all pipes and conduits less than nom 1-1/2 in. (38 mm). W Rating applies only when the CPS or IPS Top Seal Plugs are

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CPS and IPS Top Seal Plugs 4A. Firestop Device\* - Water Barrier Module — (Optional, Not Shown) - Applies to nom 2", 3" and 4" water barrier modules used in combination with the CP 680-P 2", CP 680-P 3" and CP 680-P 4" devices, respectively, and supplied by device manufacturer. Module is threaded onto top of device. W Rating applies only when water

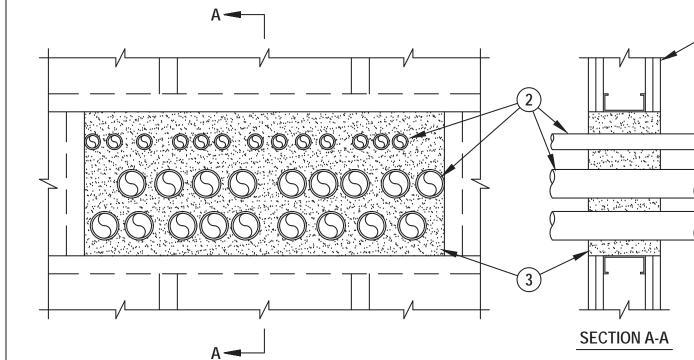
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Water Barrier Module \*Bearing the UL Classification Mark



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System No. W-L-1249 F Ratings - 1 and 2 Hr (See Items 1 and 3) T Rating - 1/2 Hr



. Wall Assembly The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features. A. Studs Steel studs 3-1/2 in. deep, fabricated from 25 MSG galv steel, spaced max 24 in. OC.

B. Gypsum Boards\* The gypsum board type, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max area of opening is 360 sq in. with max dimension The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is

. Through Penetrants One or more nom 2 in. diam (or smaller) rigid steel conduit or electrical metallic tubing (EMT) to be installed within the opening. The annular space between conduits or tubing shall be min 0 in. (point contact) to max 3-3/8 in. The annular space between conduits or tubing and periphery of opening shall be min 0 in. (point contact) to max 3 in. Conduit or tubing to be rigidly supported on both sides of wall assembly. 3. Fill Void or Cavity Material - Foam\* Fill material applied within annulus flush with both surfaces of the wall. Min fill material thickness for 1 Hr F Rating is 4-3/4 in. Min fill material thickness for 2 Hr F Rating is 6 in. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP 620 Fire Foam



\*Bearing the UL Classification Mark

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studio engineers inc. 1108 De La Vina Street, Suite A Santa Barbara, Ca 93101 p: 805.962.2780

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Electrical Engineering Lighting Design

MECHANICAL

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INC.

f: 805.962.2768 e: jtasca@studioengineersinc.com w: www.studioengineersinc.com 2. IF ALTERNATE DETAILS MATCHING THE FIELD CONDITIONS ANE ARE NOT AVAILABLE, MANUFACTURER'S ENGINEERING JUDGMENT DRAWINGS ARE ACCEPTABLE. DRAWINGS SHALL **Alan Noelle Engineering** FOLLOW THE INTERNATIONAL FIRESTOP COUNCIL (IFC) 1616 Anacapa Street GUIDELINES FOR EVALUATING FIRESTOP SYSTEMS Santa Barbara, CA ENGINEERING JUDGMENTS. phone: 805.563.5444

3. REFERENCES:

NOTES:

\* 2012 UNDERWRITER'S LABORATORIES FIRE RESISTANCE DIRECTORY, VOLUME 2

1. DETAILS SHOWN ARE TYPICAL DETAILS. IF FIELD

BUT NOT LIMITED TO THE FOLLOWING:

DETAILS, APPROVED ALTERNATE DETAILS SHALL BE

\* MINIMUM AND MAXIMUM WIDTH OF JOINTS

CONDITIONS DO NOT MATCH REQUIREMENTS OF TYPICAL

UTILIZED. FIELD CONDITIONS AND DIMENSIONS NEED TO BE

VERIFIED FOR COMPLIANCE WITH THE DETAILS, INCLUDING

\* TYPE AND THICKNESS OF FIRE-RATED CONSTRUCTION

THE MINIMUM ASSEMBLY RATING OF THE FIRESTOP

ASSEMBLY SHALL MEET OR EXCEED THE HIGHEST

RATING OF THE ADJACENT CONSTRUCTION.

\* NFPA 101 LIFE SAFETY CODE

\* ALL GOVERNING LOCAL AND REGIONAL BUILDING CODES 4. FIRESTOP SYSTEM INSTALLATION MUST MEET REQUIREMENTS OF ASTM E-814 (UL 1479) TESTED ASSEMBLIES THAT PROVIDE A FIRE RATING EQUAL TO THAT

5. ALL RATED THROUGH-PENETRATIONS SHALL BE PROMINENTLY LABELED WITH THE FOLLOWING INFORMATION:

OF CONSTRUCTION BEING PENETRATED

\* ATTENTION: FIRE RATED ASSEMBLY \* UL SYSTEM #

\* PRODUCT(S) USED

\* HOURLY RATING (F-RATING) \* INSTALLATION DATE

ARCHITECT STAMP

MILESTONE DATES:

9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 04-22-24 PLANNING DEPT. SUBMITTAL

AGENCY APPROVAL: CITY OF SANTA BARBARA.

**REVISIONS:** 

THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR

THESE PLANS AND SPECIFICATIONS IF THEY ARE USED IN

WHOLE OR IN PART AT ANY OTHER SITE.

PROJECT TITLE:

SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

SHEET TITLE:

Details

DATE: 04-22-24

DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201

M - 3.3

**SECTION A-A** 

1. Wall Assembly — The fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL fire Resistance Directory and shall include the construction features noted below: A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced max 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in.

B. Gypsum Board\* — Nom 5/8 in. thick gypsum board, as specified in the individual Wall and Partition Design. Max diam of opening is 11-1/2 in. The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is

2. Through-Penetrants — One nonmetallic pipe, conduit or tubing to be installed within the firestop system. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 1/2 in. Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:

A. Polyvinyl Chloride (PVC) Pipe — Nom 10 in. diam (or smaller) Schedule 40 solid-core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system. B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 10 in. diam (or smaller) SDR13.5 CPVC pipe for use in

closed (process or supply) piping systems. C. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 6 in. diam (or smaller) Schedule 40 solid-core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems D. Flame Retardant Polypropylene (FRPP) Pipe — Nom 6 in. diam (or smaller) Schedule 40 FRPP pipe for

use in closed (process or supply) or vented (drain, waste or vent) piping system. E. Polyvinylidene Fluoride (PVDF) Pipe — Nom 4 in. diam (or smaller) PVDF pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system. When max 6 in. diam pipe is used, T Rating is equal to the hourly fire rating of the wall. When nom 8 in. or 10

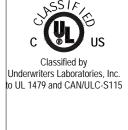
in. diam pipe is used, T Rating is 0 hr. 3. Firestop Device\* — Firestop Collar — Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to both sides of the wall using the anchor hooks provided with the collar. (Minimum two anchor hooks for 1-1/2 and 2 in. diam pipes, three anchor hooks for 3 and 4 in. diam pipes, four anchor hooks for 6 in. diam pipes, ten anchor hooks for 8 in. diam pipes and twelve anchor hooks for 10 in. diam pipes). The anchor hooks are to be secured to the surface of wall with 3/16 in. diam by 2-1/2 in. long steel toggle bolts along with washers. As an alternate for pipe sizes of nom 4 in. diam or less, min No. 10 by 1-1/2 in. long drywall or laminate screws with min 3/4 in. steel washers may be used. When the drywall or laminate screw is used, T Rating shall not exceed 1 hr. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 643 50/1.5"N, CP 643 63/2"N, CP 643 90/3"N,

CP 643 110/4"N, CP 643 160/6"N, CP 644 200/8" and CP 644 250/10" Firestop Collars 4. Fill, Void or Cavity Material\* — Sealant - (Not Shown) — Min 1/2 in. thickness of sealant applied within the annular space for nom 8 in. and 10 in. diam pipes, flush with each side of wall. Sealant in annular space is optional for max 6 in. diam pipes. A min 1/4 in. thickness of sealant is required within the annular space, flush

with each side of wall, to attain the L Ratings for max 6 in. diam pipes. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant \*Bearing the UL Classification Mark

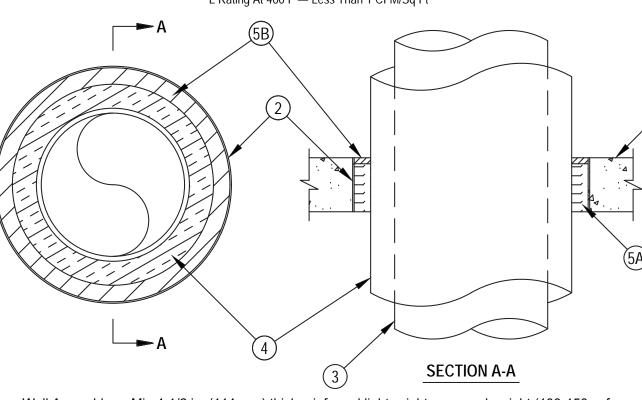


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#### System No. C-AJ-5091 F Rating — 2 Hr

T Ratings — 0 and 1 Hr (See Items 2 and 4) L Rating At Ambient — 4 CFM/Sq Ft L Rating At 400 F — Less Than 1 CFM/Sq Ft



1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrete Blocks\*. Max diam of

opening is 29 in. (737 mm). See Concrete Blocks (CAZT) category in the Fire Resistance directory for names of manufacturers. 2. Metallic Sleeve — (Optional) — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. (76 mm) above floor or beyond both surfaces of wall. If the steel sleeve extends beyond the top surface of the floor or both surfaces of the wall, the T Rating of the firestop system is 0 hr.

2A. Sheet Metal Sleeve — (Optional) - Max 6 in. (152 mm) diam, min 26 ga galv steel provided with a 26 ga galv steel square flange spot welded to the sleeve at approximately mid- height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place flush with bottom surface of floor and may extend a max of 1 in. (25 mm) above the top surface of the floor. 2B. Sheet Metal Sleeve — (Optional) - Max 12 in. (305 mm) diam, min 24 ga galv steel provided with a 24 ga galv steel square flange spot welded to the sleeve at approximately mid- height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place flush with bottom surface of floor and may extend a max of 1 in. (25 mm) above the top surface of the floor. 3. Through Penetrants — One metallic pipe or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor or wall assembly. The following

types and sizes of metallic pipes or tubing may be used: A. Steel Pipe — Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe — Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe. C. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe. D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.

4. Pipe Covering — Min 1/2 in. (13 mm) to max 2 in. (51 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m³) glass fiber units jacketed on the outside with an all-service jacket. Longitudinal joints sealed with metal fasteners or factory-applied, self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between the insulated pipe and the edge of the periphery of the opening shall be min 1/2 in. (13 mm) to max 12 in. (305 mm). When thickness of pipe

covering is less than 2 in. (51 mm), the T Rating for the firestop system is 0 hr. See Pipe Equipment Covering — Materials — (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used. 4A. Pipe Covering — (Not Shown) — As an alternate to Item 4, max 2 in. (51 mm) thick cylindrical calcium silicate (min 14 pcf or 224

AWG stainless steel wire spaced max 12 in. (305 mm) OC. The annular space shall be min 1/2 in. (13 mm) to max 12 in. (305 mm). 5. Firestop System — The firestop system shall consist of the following: A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to

kg/m³) units sized to the outside diam of the pipe or tube may be used. Pipe insulation secured with stainless steel bands or min 18

accommodate the required thickness of fill material. B. Fill, Void or Cavity Material\* — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top

surface of floor or with both surfaces of wall. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant \*Bearing the UL Classification Mark



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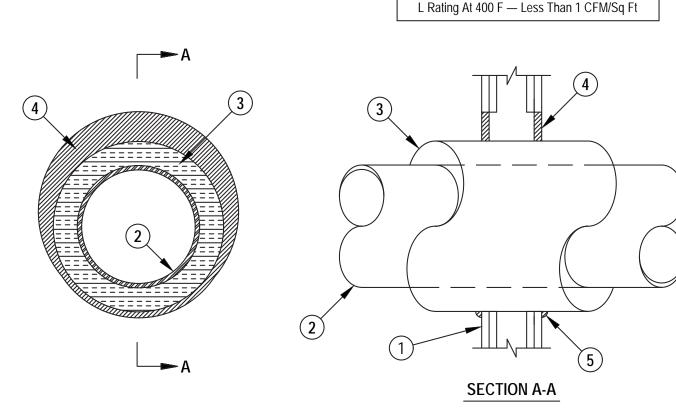


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Inderwriters Laboratories, Inc

to UL 1479 and CAN/ULC-S115

System No. W-L-5029 ANSI/UL1479 (ASTM E814) CAN/ULC S115 F Ratings — 1, 2 and 3 Hr (See Items 1, 3 and 4) | F Ratings — 1, 2 and 3 Hr (See Items 1, 3 and 4) T Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3) | FT Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3) FH Ratings — 1, 2 and 3 Hr (See Items 1, 2 and 4) L Rating At Ambient — 4 CFM/Sq Ft FTH Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3) L Rating At 400 F — Less Than 1 CFM/Sq Ft L Rating At Ambient — 4 CFM/Sq Ft



1. Wall Assembly — The 1, 2 or 3 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features: A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm)

wide for 1 and 2 hr F and FH rating and 3-1/2 in. (89 mm) wide for 3 hr F and FH rating and spaced max 24 in. (610 mm) OC. B. Gypsum Board\* — Min 5/8 in. (16 mm) thick with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 18-5/8 in. (473 mm).

The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed. 2. Through Penetrants — One metallic pipe or tubing to be installed within the firestop system. Pipe or tubing to

be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing A. Steel Pipe — Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe. B. Iron Pipe — Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.

C. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing. When the

hourly F or FH Rating of the firestop system is 3 hr, the nom diam of copper tube shall not exceed 4 in. (102 D. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe. When the hourly F or FH Rating of the firestop system is 3 hr, the nom diam of copper pipe shall not exceed 4 in. (102 mm). 3. Pipe Covering\* — Nom 1, 1-1/2 or 2 in. (25, 38 or 51 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with

butt tape supplied with the product. For 1 and 2 hr F and FH Ratings, the annular space between insulated penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. (48 mm). For 3 hr F and FH Ratings, the annular space shall be min 0 in. (point contact) to max 1-1/4 in. (32 mm). See Pipe and Equipment Covering — Materials (BRGU) category in the Building Material Directory for the names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less

The hourly T, FT, FTH Ratings of the firestop system are 1/2 hr for 1 hr rated walls and 1 hr for 2 hr rated walls. For 3 hr rated walls, the hourly T, FT and FTH Ratings when steel and iron pipes are used are 1 hr. For 3 hr rated walls, the hourly T, FT and FTH Ratings when copper penetrants are used are 1-1/4 hr for 2 in. (51 mm) thick pipe covering and 0 hr for pipe covering thickness less than 2 in. (51 mm). 3A. Pipe Covering\* — (Not Shown) — As an alternate to Item 3, max 2 in. (51 mm) thick cylindrical calcium

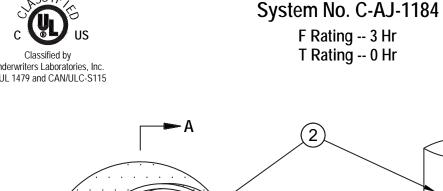
silicate (min 14 pcf) units sized to the outside diam of the pipe or tube may be used. Pipe insulation secured with stainless steel bands or min 18 AWG stainless steel wire spaced max 12 in. (305 mm) OC. When the alternate pipe covering is used, the T and FT Rating shall be as specified in item 3 above. See Pipe and Equipment Covering — Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less

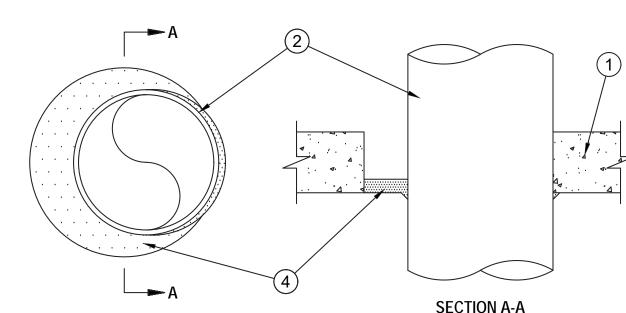
4. Fill, Void or Cavity Material\* — Sealant — For 1 and 2 hr F and FH Rating, min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. For 3 hr F and FH Rating, min 1 in. (25 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point contact location between pipe covering and gypsum board, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe covering/gypsum board interface on both surfaces of wall. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant

\*Bearing the UL Classification Mark



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1. Floor or Wall Assembly -- Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks\*. Floor may also be constructed of any min 7-1/2 in. thick UL Classified hollow core Precast Concrete Units\*. Max diam of opening is 14 in. when concrete floor or wall is used and max 7 in. when precast concrete units are used.

See Concrete Blocks (CAZT) and Precast Concrete Units (CFTV) categories in the Fire Resistance Directory for names of manufacturers. 2. Through-Penetrants -- One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min 0 in. (point contact) to max 3-1/4 in. Pipe, conduit or tubing to be rigidly supported on both sides of floor or

wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used: A. Steel Pipe -- Nom 10 in. diam (or smaller) Schedule 10 (or heavier) steel pipe. B. Iron Pipe -- Nom 10 in. diam (or smaller) cast or ductile iron pipe.

C. Conduit -- Nom 4 in. diam (or smaller) steel electrical metallic tubing or steel conduit. D. Copper Tubing -- Nom 4 in. diam (or smaller) Type L (or heavier) copper tubing.

E. Copper Pipe -- Nom 4 in. diam (or smaller) regular (or heavier) copper pipe. 3. Forms -- (Not Shown, Optional) -- Used as a form to prevent leakage of fill material during installation. Forms to be rigid sheet material, cut to fit the contour of the penetrating item and positioned as required to accommodate the required thickness of fill material. Forms to be removed after fill material has cured. Additional forming material may be used concrete block wall is penetrated. A min 1/2 in. thickness of min 4 pcf mineral wool batt insulation is firmly packed into the annulus as a permanent form and recessed from both surfaces of the wall as required to accommodate the required thickness of fill material.

4. Fill, Void or Cavity Material\* -- Sealant -- Min 1 in. thickness of fill material applied within the annulus. At the point contact location between through penetrant and concrete, a min 1/2 in. diam bead of fill material shall be applied at the concrete through penetrant interface. When precast concrete units are used, the fill material shall be installed within annular space, flush with lower surface of floor. When concrete block wall is penetrated, a min 1 in. thickness of fill material shall be applied within the annulus flush with both surfaces of wall. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- FS605 or FS-ONE Sealant \*Bearing the UL Classification Mark

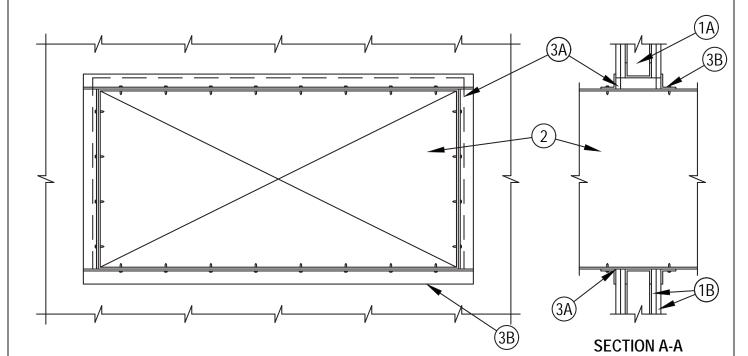


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#### F Ratings — 1 and 2 Hrs (See Items 1 and 3) T Rating — 0 Hr L Rating at Ambient — Less Than 1 CFM/sq ft

L Rating at 400 F — Less Than 1 CFM/sq ft



1. Wall Assembly — The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the Fire

Resistance Directory and shall include the following construction features: A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in.

Additional framing members shall be used to completely frame around opening. B. Gypsum Board\* — Nom 5/8 in. thick with square or tapered edges. The gypsum wallboard type, number of layers and sheet orientation shall be as specified in the individual Wall and Partition Design Number. Max area of opening is 1300 in, with the dimension of 50 in. The hourly F rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Steel Duct — Nom 24 in. by 48 in. (or smaller) No. 24 gauge (or heavier) galv steel duct to be installed within the firestop system. The annular space shall be min 0 (point contact) in, to a max 2 in. Duct to be rigidly supported on both sides of the wall assembly.

3. Firestop System — The firestop system shall consist of the following: A. Fill, Void or Cavity Material\*—Sealant — Min 5/8 in. thickness of fill material applied within annulus flush with both surfaces of wall. At point contact location, a min 1/2 in. diam bead of fill material shall be applied to the wall/duct interface on both surfaces of wall.

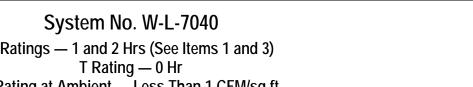
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant, CP601S Elastomeric Firestop Sealant or CP606 Flexible Sealant. B. Steel Retaining Angle — No. 18 MSG (0.048 in.) galv steel angles cut to fit contour of duct with a 2 in. overlap on the duct and a min 1 in. overlap on the gypsum board assembly on both sufaces of wall. 2 in. leg of angle secured to duct with min No. 8 by 3/4 in. long sheet metal screws, spaced a max of 6 in. OC. When bead of fill material is used at joint contact locations, angles shall be installed prior to full material curing.

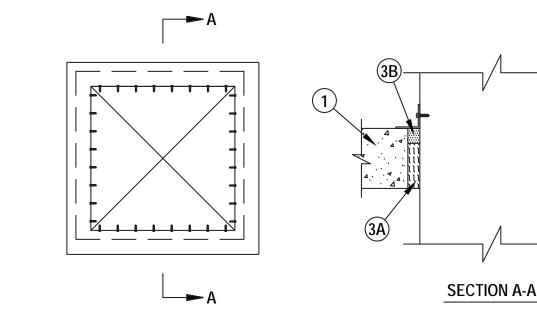
Hilti Firestop Systems

Classified by

\*Bearing the UL Classification Mark

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1. Floor or Wall Assembly - Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any Underwriters Laboratories Inc. Classified Concrete Blocks\*. Max area of opening is 1024 in. sq. with a max dimension of 32 in.

System No. C-AJ-7051

F Rating - 3 Hr

T Rating = 1 Hr

See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers. . Steel Duct - Nom 30 by 30 in. (or smaller) No. 24 gauge (or heavier) galv steel duct. One steel duct to be positioned within the firestop system. The annular space shall be min 1/4 in. to a max 1-3/4 in. Duct to be rigidly supported on both sides of floor or wall assembly. 3. Firestop System - The firestop system shall consist of the following:

A. Packing Materials - Min 3-1/2 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form between the bare steel duct and the periphery of the opening . Packing material to be recessed from top surface of floor or both surfaces of wall as required to accommodate the required thickness of fill material. B. Fill, Void or Cavity Material\* - Sealant - Min 1 in. thickness of fill material applied within annulus, flush with

top surface of floor or both surfaces of wall. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI, INC. - CP606 Flexible Firestop Sealant or FS-ONE . Steel Retaining Angle - Nom 2 in. by 2 in. by No. 16 gauge (or heavier) steel angles attached to all four sides

of the steel duct on the top surface or both surfaces of the wall. The angles shall be attached with No. 8 (or larger) steel sheet metal screws spaced max of 1 in. from each end and a max of 3 in. OC. \*Bearing the UL Classification Marking



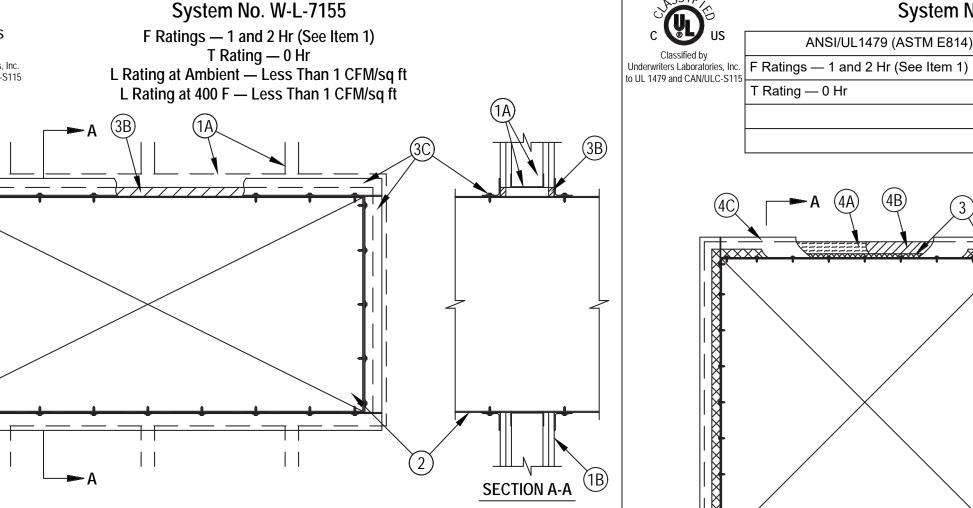
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nderwriters Laboratories, Inc

to UL 1479 and CAN/ULC-S115

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CAN/ULC S115



. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 or V400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs — Wall framing shall consist of min 3-1/2 in. (89 mm) wide steel channel studs spaced max 24 in. (610 mm) OC. Additional steel studs shall be used to completely frame the opening. B. Gypsum Board\* — 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory. Max area of opening is 73.7 sq ft (6.85 m<sup>2</sup>) with a max dimension of 104 in. (2.64 m).

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is . Steel Duct — Max 100 in. by 100 in. (2.5 by 2.5 m) galv steel duct to be installed either concentrically or

eccentrically within the firestop system. The duct shall be constructed and reinforced in accordance with SMACNA construction standards. The space between the steel duct and periphery of opening shall be min 0 in. (point contact) to max 2 in. (51 mm). Steel duct to be rigidly supported on both sides of the wall assembly. Firestop System — The firestop system shall consist of the following: A. Packing Material — (Optional, Not Shown) — Polyethylene backer rod, mineral wool batt insulation or

fiberglass batt insulation friction fitted into annular space. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material. A1. Packing Material — Required as specified in Table below. Min 3-3/4 in. (95 mm) or 5 in. (127 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form for 1 and 2 hr rated assemblies, respectively. Packing material to be recessed from both surfaces of

wall to accommodate the required thickness of fill material. B. Fill, Void or Cavity Material\* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of fill material shall be applied at the point contact location between the steel duct and the gypsum board. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or CP606 Flexible Firestop

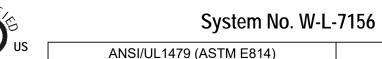
C. Steel Retaining Angles — Min No. 16 gauge galv steel angles sized to lap steel duct a min of 2 in. (51 mm) and to lap wall surfaces a min of 1 in. (25 mm). When max duct dimension does not exceed 48 in. (122 cm) and duct area does not exceed 1300 in<sup>2</sup> (8387 cm<sup>2</sup>), angles may be min No. 18 gauge galv steel. Angles attached to steel duct on both sides of wall with min No. 10 by 1/2 in. (13 mm) long steel sheet metal screws located a max of 1 in. (25 mm) from each end of steel duct and spaced a max of 6 in. (152 mm) OC. Steel angles are optional for those sides of duct that do not exceed the dimension specified in Table below, dependent on packing material and annular space as specified.

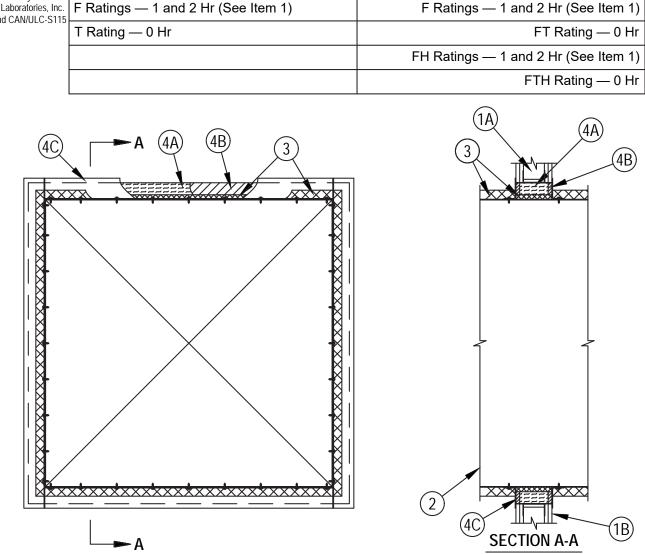
Max Duct Dimension	Duct Thickness	Annular Space	Packing Material	Angle (Item 3C) Required
24 in.	24 ga or heavier	1/2 in. min to 1 in. max	Item 3A1	No
(610 mm)		(13 to 25 mm)		

\*Bearing the UL Classification Mark

Hilti Firestop Systems

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. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features A. Studs — Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC. Additional framing members shall be used to completely

frame around opening. B. Gypsum Board\* — Min 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers and orientation shall be as specified in the individual U300, U400 or V400 Wall and Partition Design. Max size of opening is 210 sq in. (1355 cm²) with a max width of 14-1/2 in. (368 mm) for wood studs. Max size of opening is 76.2 sq ft. (7 m<sup>2</sup>) with a max width of 105-1/2 in. (2.7 m) for

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall in which it is installed. Steel Duct — Max 100 by 100 in. (2.5 by 2.5 m) steel duct to be installed within the framed opening. The duct shall be constructed and reinforced in accordance with SMACNA construction standards. Steel duct to be rigidly supported on both sides of wall assembly.

3. Batts and Blankets\* — Nom 1-1/2 or 2 in. (38 or 51 mm) thick glass fiber batt or blanket (min 3/4 pcf or 12 kg/m³) jacketed on the outside with a foil-scrim-kraft facing. Longitudinal and transverse joints sealed with aluminum foil tape. During the installation of the fill material, the batt or blanket shall be compressed minimum 50% such that the annular space within the firestop system shall be min 1/2 in. (13 mm) to max 2 in. (51 mm). See Batts and Blankets (BKNV) category in the Building Materials Directory for names of manufacturers. Any batt or blanket meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index 50 or less may be used. . Firestop System — The firestop system shall consist of the following:

A. Packing Material — Min 3-5/8 (92 mm) or 4-7/8 in. (124 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form for 1 or 2 hr fire-rated walls, respectively. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill

B. Fill, Void or Cavity Material\* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant

C. Steel Retaining Angles — Min No. 16 gauge (0.059 in. or 1.5 mm) galv steel angles sized to lap steel duct a min of 2 in, 51 mm) and lap wall surfaces a min of 1 in, (25 mm), Angles attached to steel duct on both sides of wall with min No. 10 steel sheet metal screws spaced a max of 1 in. (25 mm) from each end of steel duct and spaced a max of 6 in. (152 mm) OC. When max duct dimension does not exceed 48 in. (122 cm) and duct area does not exceed 1300 in<sup>2</sup> (8387 cm<sup>2</sup>), angles may be min No. 18 gauge galv steel. Angles attached to steel duct on both sides of wall with min No. 10 by 1/2 in. (13 mm) long steel sheet metal screws located a max of 1 in. (25 mm) from each end of steel duct and spaced a max of 6 in. (152 mm) OC. When max 1-1/2 in. (38 mm) thick insulation is used, steel angles are optional for those sides of duct that do not

exceed the dimension specified in Table below, dependent on packing material and annular space as

Max Duct Dimension	Duct Thickness	Annular Space	Packing Material	Angle (Item 3C) Required
24 in	24 ga or heavier	1/2 in. min to 1 in.	Item 3A1	No
24 in.	Heavier	(13 to 25 mm)		
(610 mm)		(13 to 25 mm)		

\*Bearing the UL Classification Mark



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studio engineers inc. Santa Barbara, Ca 93101 p: 805.962.2780

2. IF ALTERNATE DETAILS MATCHING THE FIELD CONDITIONS ANE ARE NOT AVAILABLE, MANUFACTURER'S ENGINEERING JUDGMENT DRAWINGS ARE ACCEPTABLE. DRAWINGS SHALL FOLLOW THE INTERNATIONAL FIRESTOP COUNCIL (IFC) GUIDELINES FOR EVALUATING FIRESTOP SYSTEMS ENGINEERING JUDGMENTS. phone: 805.563.5444

3. REFERENCES:

NOTES:

\* 2012 UNDERWRITER'S LABORATORIES FIRE RESISTANCE DIRECTORY, VOLUME 2

1. DETAILS SHOWN ARE TYPICAL DETAILS. IF FIELD

BUT NOT LIMITED TO THE FOLLOWING:

DETAILS, APPROVED ALTERNATE DETAILS SHALL BE

\* MINIMUM AND MAXIMUM WIDTH OF JOINTS

CONDITIONS DO NOT MATCH REQUIREMENTS OF TYPICAL

UTILIZED. FIELD CONDITIONS AND DIMENSIONS NEED TO BE

VERIFIED FOR COMPLIANCE WITH THE DETAILS, INCLUDING

\* TYPE AND THICKNESS OF FIRE-RATED CONSTRUCTION

THE MINIMUM ASSEMBLY RATING OF THE FIRESTOP

ASSEMBLY SHALL MEET OR EXCEED THE HIGHEST

RATING OF THE ADJACENT CONSTRUCTION.

\* NFPA 101 LIFE SAFETY CODE

\* ALL GOVERNING LOCAL AND REGIONAL BUILDING CODES 4. FIRESTOP SYSTEM INSTALLATION MUST MEET REQUIREMENTS OF ASTM E-814 (UL 1479) TESTED ASSEMBLIES THAT PROVIDE A FIRE RATING EQUAL TO THAT OF CONSTRUCTION BEING PENETRATED

5. ALL RATED THROUGH-PENETRATIONS SHALL BE PROMINENTLY LABELED WITH THE FOLLOWING INFORMATION:

\* ATTENTION: FIRE RATED ASSEMBLY \* UL SYSTEM # \* PRODUCT(S) USED

\* HOURLY RATING (F-RATING)

\* INSTALLATION DATE

kristin@onestoryarchitect.com

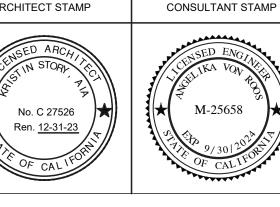
1108 De La Vina Street, Suite A f: 805.962.2768 e: jtasca@studioengineersinc.com

**Alan Noelle Engineering** 1616 Anacapa Street Santa Barbara, CA

fax: 805.456.5901 alan@aneng.com Electrical Engineering Lighting Design



315 E. Cañon Perdido Street, Suite B Santa Barbara, CA 9310 Tel (805) 957-4632 ARCHITECT STAMP



AGENCY APPROVAL: CITY OF SANTA BARBARA.

MILESTONE DATES:

9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 04-22-24 PLANNING DEPT. SUBMITTAL

**REVISIONS:** 

THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR THESE PLANS AND SPECIFICATIONS IF THEY ARE USED IN

WHOLE OR IN PART AT ANY OTHER SITE.

PROJECT TITLE:

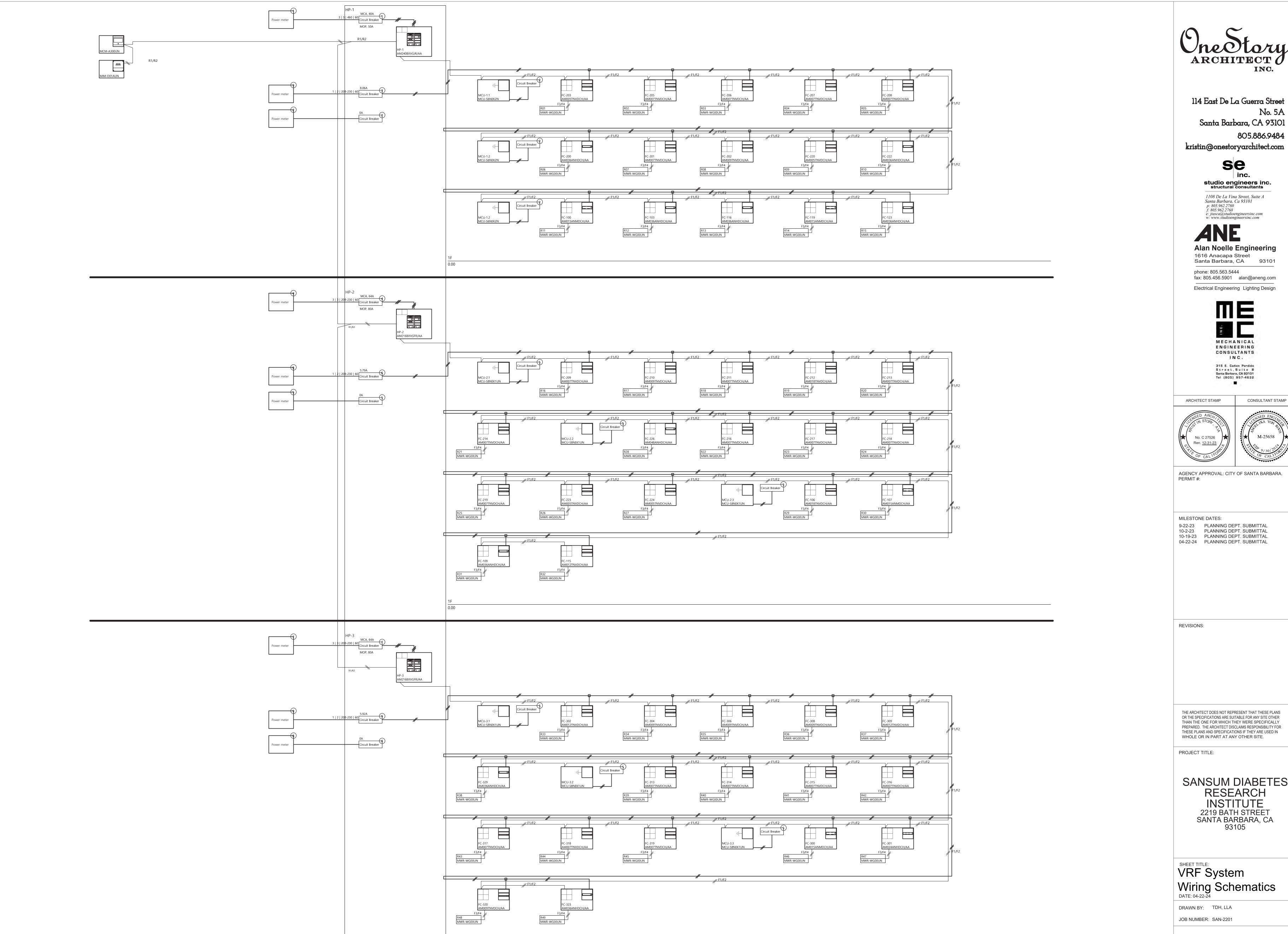
SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

Firestopping Details

DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201

DATE: 04-22-24

M - 3.4



114 East De La Guerra Street No. 5A Santa Barbara, CA 93101 805.886.9484

studio engineers inc. structural consultants

1108 De La Vina Street, Suite A Santa Barbara, Ca 93101 p: 805.962.2780 f: 805.962.2768 e: jtasca@studioengineersinc.com w: www.studioengineersinc.com

Alan Noelle Engineering
1616 Anacapa Street
Santa Barbara, CA 93101

phone: 805.563.5444 fax: 805.456.5901 alan@aneng.com Electrical Engineering Lighting Design



CONSULTANT STAMP

AGENCY APPROVAL: CITY OF SANTA BARBARA.

9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 04-22-24 PLANNING DEPT. SUBMITTAL

THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR THESE PLANS AND SPECIFICATIONS IF THEY ARE USED IN WHOLE OR IN PART AT ANY OTHER SITE.

SANSUM DIABETES RESEARCH INSTITUTE 2219 BATH STREET SANTA BARBARA, CA

M-4.1



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se

inc. studio engineers inc. structural consultants 1108 De La Vina Street, Suite A

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Alan Noelle Engineering 1616 Anacapa Street Santa Barbara, CA 93101

phone: 805.563.5444 fax: 805.456.5901 alan@aneng.com Electrical Engineering Lighting Design

9.84ft|0EA ##

AM012TNVDCH/AA | FC-302
12000Btu/h |8000Btu/h |13500Btu/h

MECHANICAL ENGINEERING CONSULTANTS INC. 315 E. Cañon Perdido Street, Suite B Santa Barbara, CA 93101 Tel (805) 957-4632 

ARCHITECT STAMP CONSULTANT STAMP No. C 27526

AGENCY APPROVAL: CITY OF SANTA BARBARA. PERMIT #:

MILESTONE DATES:

9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 04-22-24 PLANNING DEPT. SUBMITTAL

REVISIONS:

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WHOLE OR IN PART AT ANY OTHER SITE.

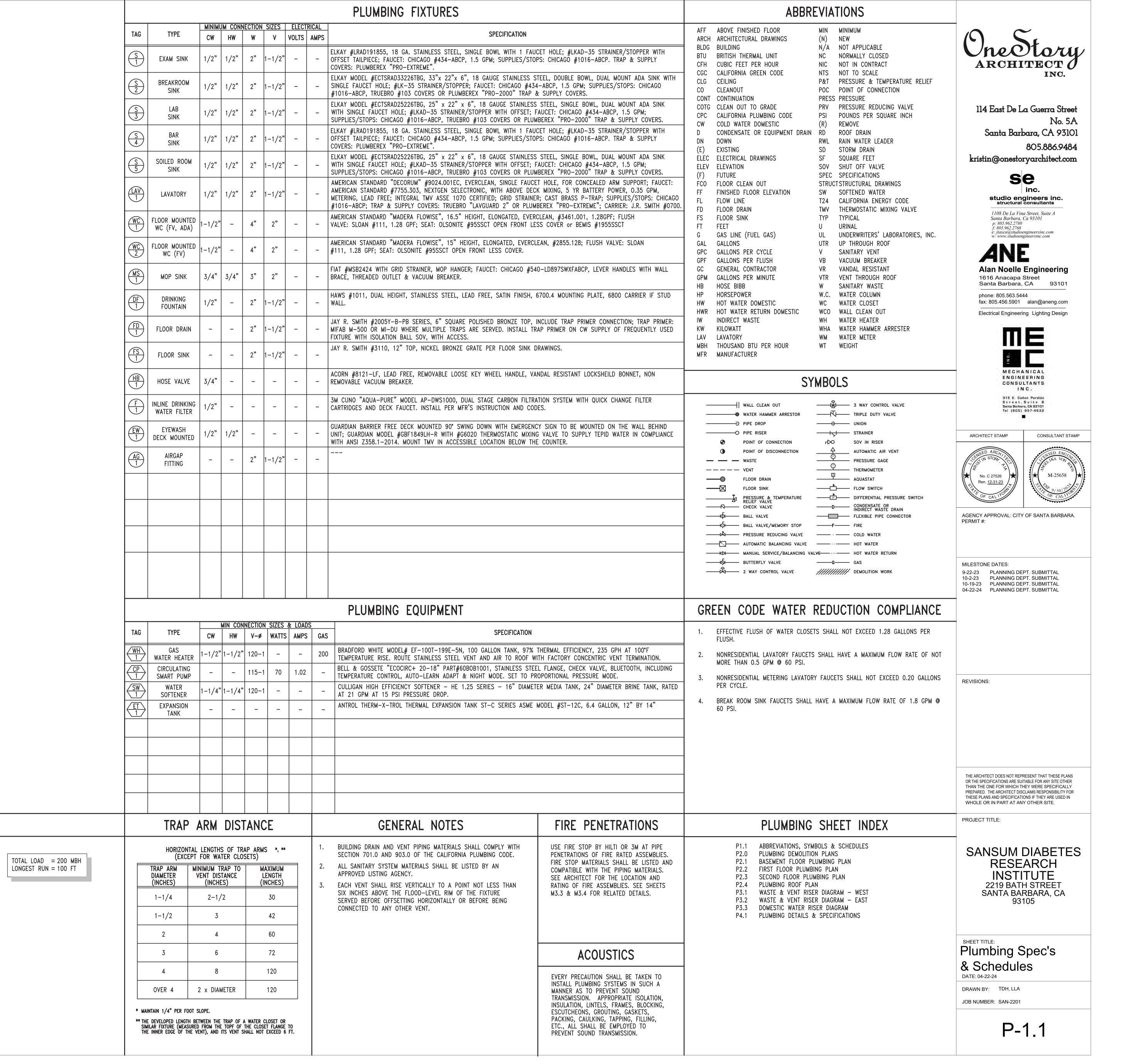
PROJECT TITLE:

SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

VRF System
Piping Schematics
DATE: 04-22-24

DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201

M-4.2



SIZES FOR PIPING ABOVE GRADE

AND WITHIN THE BUILDING ARE

PER 2019 CPC TABLE 1215.2(1).

NATURAL GAS PIPING SCHEMATIC

1-1/2"(70FT)

WH-1

200 MBH

(E) GAS METER

 $\otimes$ 

11. IF HAZARDOUS MATERIALS ARE A PART OF THIS PROJECT,

COORDINATE REMOVAL OF WORK WITH HAZARDOUS

AND ASSOCIATED PIPING INCLUDING EMERGENCY SHOWERS, EYEWASH STATIONS.

2 REMOVE WATER HEATERS & PUMPS

3 REMOVE ACID NEUTRALIZER AND FLOOR SINKS

4 REMOVE VALVE ASSEMBLIES AND ALL PIPING FROM THIS AND PRIOR WORK.

KEYNOTES

REMOVE ALL EXISTING PLUMBING FIXTURES, EQUIPMENT

ARCHITECT O

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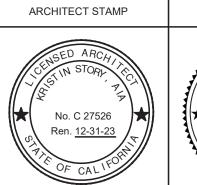
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AGENCY APPROVAL: CITY OF SANTA BARBARA.

MILESTONE DATES: 9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 04-22-24 PLANNING DEPT. SUBMITTAL

REVISIONS:

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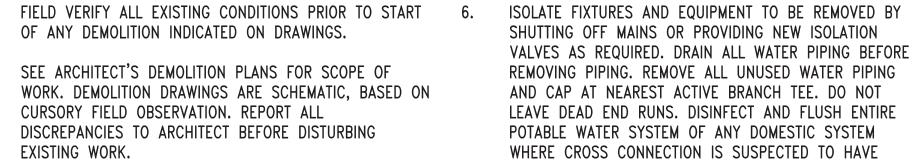
PROJECT TITLE:

SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

Plumbing DemolitionPlans

JOB NUMBER: SAN-2201

P-2.0



SEE DIVISION 1 SPECIFICATIONS FOR CONTRACTOR'S CONDITIONS OF ACCEPTANCE OF EXISTING CONDITIONS.

COORDINATE UTILITY OUTAGES WITH ALL AFFECTED PARTIES, INCLUDING THE UTILITY COMPANIES, OWNER AND 8. OCCUPANTS OF BUILDINGS. VERIFY CONSTRUCTION PHASING WITH ARCHITECT.

REMOVE, RELOCATE AND EXTEND EXISTING WORK TO ACCOMMODATE NEW CONSTRUCTION.

REMOVE ANY ABANDONED ABOVE GRADE WORK FROM THIS AND PRIOR WORK.

PIPING BELOW GRADE MAY BE ABANDONED IN PLACE, PROVIDED IT DOES NOT INTERFERE WITH NEW WORK. CAP WASTE BELOW FLOOR AND REMOVE UNUSED VENT PIPING TO ROOF OR CAP AT NEAREST ACTIVE BRANCH TEE. PATCH AND REPAIR DEMOLISHED AREAS.

CAREFULLY REMOVE FIXTURES AND EQUIPMENT. PROVIDE OWNER THE OPTION OF SALVAGING ANY EQUIPMENT OR MATERIALS BEING REMOVED.

MATERIALS DEMOLITION CONTRACTOR.

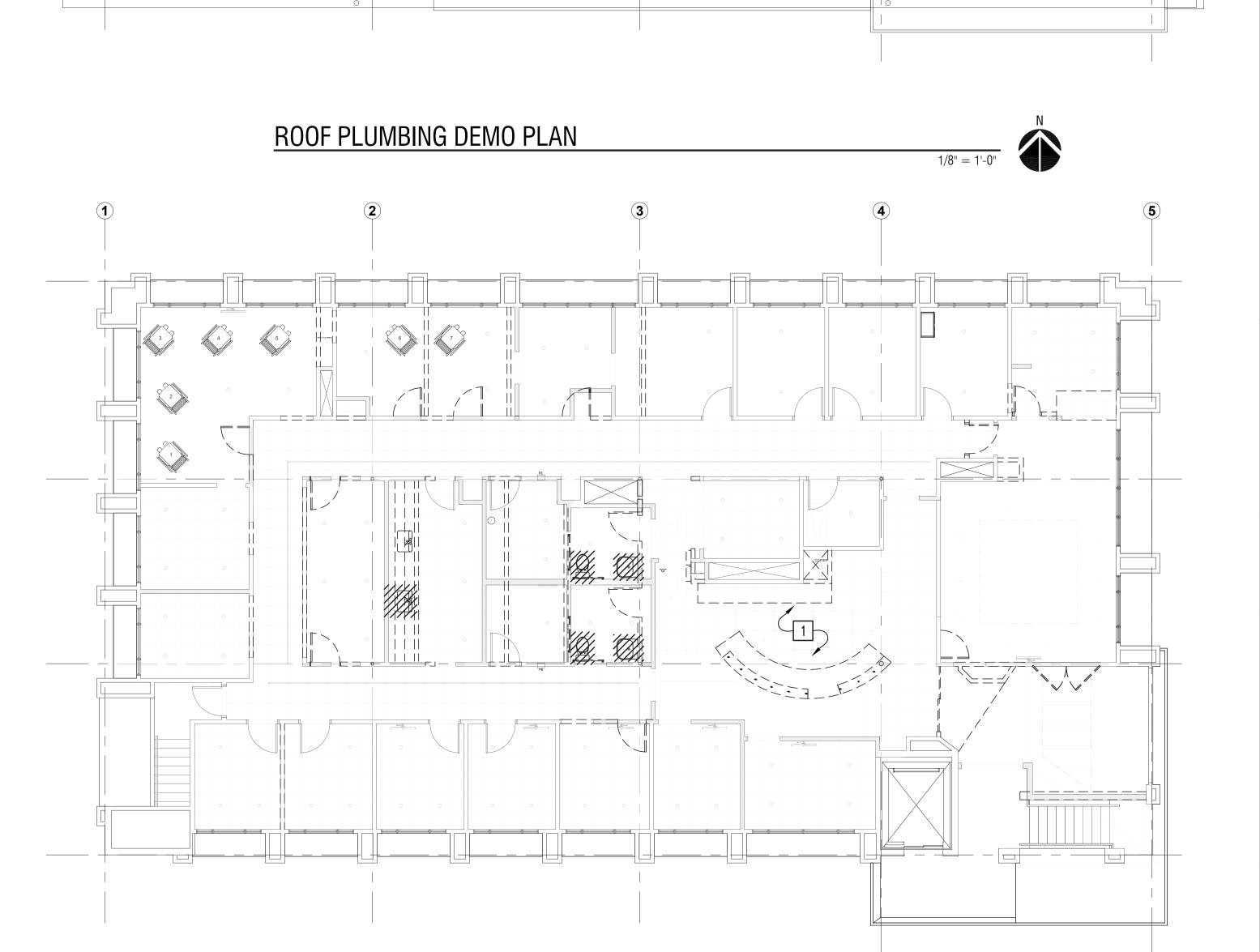
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FIRST FLOOR PLUMBING DEMO PLAN 

F=++----\_\_\_\_\_\_\_\_FLEX SPACE 2 \_\_\_\_\_\_\_ \_\_\_\_\_\_ IDXA SCANNER ROOM

BASEMENT PLUMBING DEMO PLAN





SECOND FLOOR PLUMBING DEMO PLAN



# **KEYNOTES**

- 1 NEW WATER HEATER AND RECIRCULATION PUMP.
- 2 PROPOSED LOCATION OF RELOCATED FIRE RISER ASSEMBLY WITH DRAIN TO FS.
- ROUTE INDIRECT WASTE FROM SW, WH AND VALVE ASSEMBLIES ALONG WALL TO FS WITH 1" MINIMUM AIR
- 4 MAIN GAS SUPPLY.
- 5 POC TO EXISTING FIRE WATER SUPPLY.
- 6 FOR CONTINUATION SEE SHEET P2.2.
- 7 NEW BACKWATER VALVE.
- 8 SANITARY SEWER LATERAL SERVING THE FIRST FLOOR.
- 9 SANITARY SEWER LATERAL SERVING THE SECOND AND THIRD FLOORS.
- 10 ROUTE ONLY THE FIRST FLOOR WASTE THRU BACKWATER VALVE. ALL OTHER WASTE MUST BYPASS THE VALVE.
- POINT OF CONNECTION TO EXISTING SANITARY SEWER LATERAL. REPAIR OR REPLACE AS REQUIRED.
- ROUTE CONDENSATE DRAIN FROM FAN COIL PUMP DISCHARGE TO SINK TAIL PIECE.
- SEE WASTE AND VENT RISER DIAGRAMS ON SHEETS P3.1 AND P3.2 FOR PIPE SIZES.
- SEE DOMESTIC WATER RISER DIAGRAM ON SHEET P3.3 FOR ADDITIONAL PIPE SIZES.
- 15 FOR CONTINUATION SEE SHEET P2.2.
- 16 PRV ASSEMBLY.
- 17 LINE SIZE BALL VALVE BYPASS VALVE AT SW.
- 18 REQUIRED WH SERVICE CLEARANCE.
- 19 "CIRCUIT SOLVER" BY THERM-OMEGA-TECH.
- ROUTE CONDENSATE DRAIN FROM FAN COIL TO TOP OF COLLECTOR DRAIN.
- ROUTE 1-1/2" CONDENSATE COLLECTOR INDIRECT DRAIN TO FLOOR SINK.
- ROUTE 1-1/4" CONDENSATE COLLECTOR INDIRECT DRAIN TO AIR GAP FITTING IN ACCESSIBLE LOCATION BELOW THE COUNTER.



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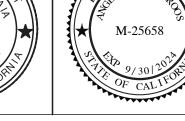
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PROJECT TITLE:

SANSUM DIABETES RESEARCH INSTITUTE 2219 BATH STREET SANTA BARBARA, CA 93105

Basement Floor
Plumbing Plan
DATE: 04-22-24

DRAWN BY: TDH, LLA

JOB NUMBER: SAN-2201

P-2.1

FIRST FLOOR PLUMBING PLAN

**3** 

# **KEYNOTES**

- MAIN NATURAL GAS SEISMIC SHUT OFF VALVE SECURED TO THE STRUCTURE WITH ISOLATION VALVES.
- 2 EXISTING MAIN DOMESTIC BACKFLOW PREVENTER. TEST, REPAIR OR REPLACE AS REQUIRED.
- 3 EXISTING IRRIGATION BACKFLOW PREVENTER.
- ROUTE CONDENSATE DRAIN FROM FAN COIL PUMP TO SINK TAILPIECE.
- 5 FOR CONTINUATION SEE SHEET P2.1.
- 6 SANITARY SEWER LATERAL SERVING THE FIRST FLOOR.
- 7 EXISTING WATER METER IN SIDEWALK VAULT. FIELD VERIFY EXACT LOCATION.
- 8 EXISTING GAS METER IN SIDEWALK VAULT. FIELD VERIFY EXACT LOCATION.
- 9 EXISTING SANITARY SEWER LATERAL SERVING THE WEST SECTION OF THE BUILDING.
- 10 FOR CONTINUATION SEE SHEET P2.3.
- 11 OUTLINE OF PLUMBING FIXTURE ABOVE.
- 12 WH VENT AND INTAKE TO ROOF.

BREAK

1-1/2"HW OFFICE 5 203 1B2 9'-0"

○ \ /3/4"HW

1-1/2"HW

- 13 SEE WASTE AND VENT RISER DIAGRAMS ON SHEETS P3.1 AND P3.2 FOR PIPE SIZES.
- 14 SEE DOMESTIC WATER RISER DIAGRAM ON SHEET P3.3 FOR ADDITIONAL PIPE SIZES.
- 15 POC TO EXISTING. FIELD VERIFY EXACT LOCATION.
- ROUTE CONDENSATE DRAIN FROM FAN COIL TO SINK TAIL PIECE. PROVIDE PUMP IF REQUIRED AND NOT INTEGRAL TO THE UNIT.
- ROUTE CONDENSATE DRAIN FROM FAN COIL DOWN TO COLLECTOR PIPE ON LOWER FLOOR.

ARCHITECT O

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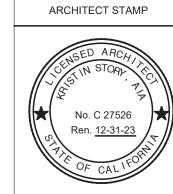
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PROJECT TITLE:

SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

First Floor Plumbing Plan
DATE: 04-22-24

DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201

P-2.2

ROUTE VTR. OFFSET AS REQUIRED TO MAINTAIN A MINIMUM 10FT SEPARATION FROM INTAKES.

5 SEE DOMESTIC WATER RISER DIAGRAM ON SHEET P3.3 FOR PIPE SIZES.

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MILESTONE DATES:

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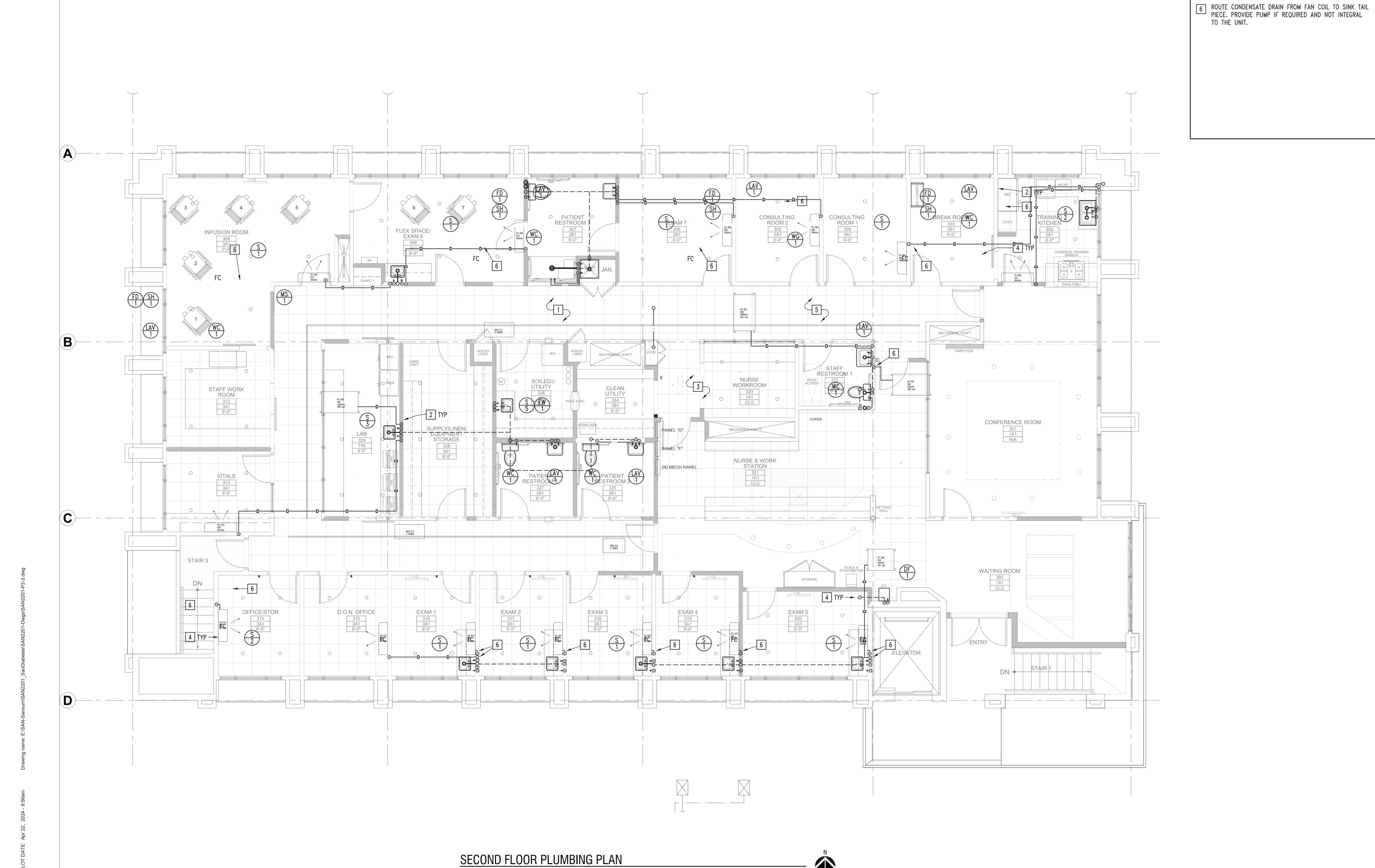
SANSUM DIABETES
RESEARCH
INSTITUTE
2219 BATH STREET
SANTA BARBARA, CA
93105

SHEET TITLE:
Second Floor
Plumbing Plan
DATE: 04-22-24

DRAWN BY: TDH, LLA

JOB NUMBER: SAN-2201

P-2.3



- 1 VENT THRU ROOF. SEE WASTE & VENT RISER DIAGRAMS ON SHEET P3.1 AND P3.2.
- 2 OUTSIDE AIR INTAKE.
- 3 BOUNDARY OF VENT EXCLUSION ZONE.



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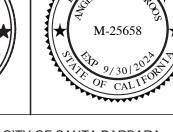
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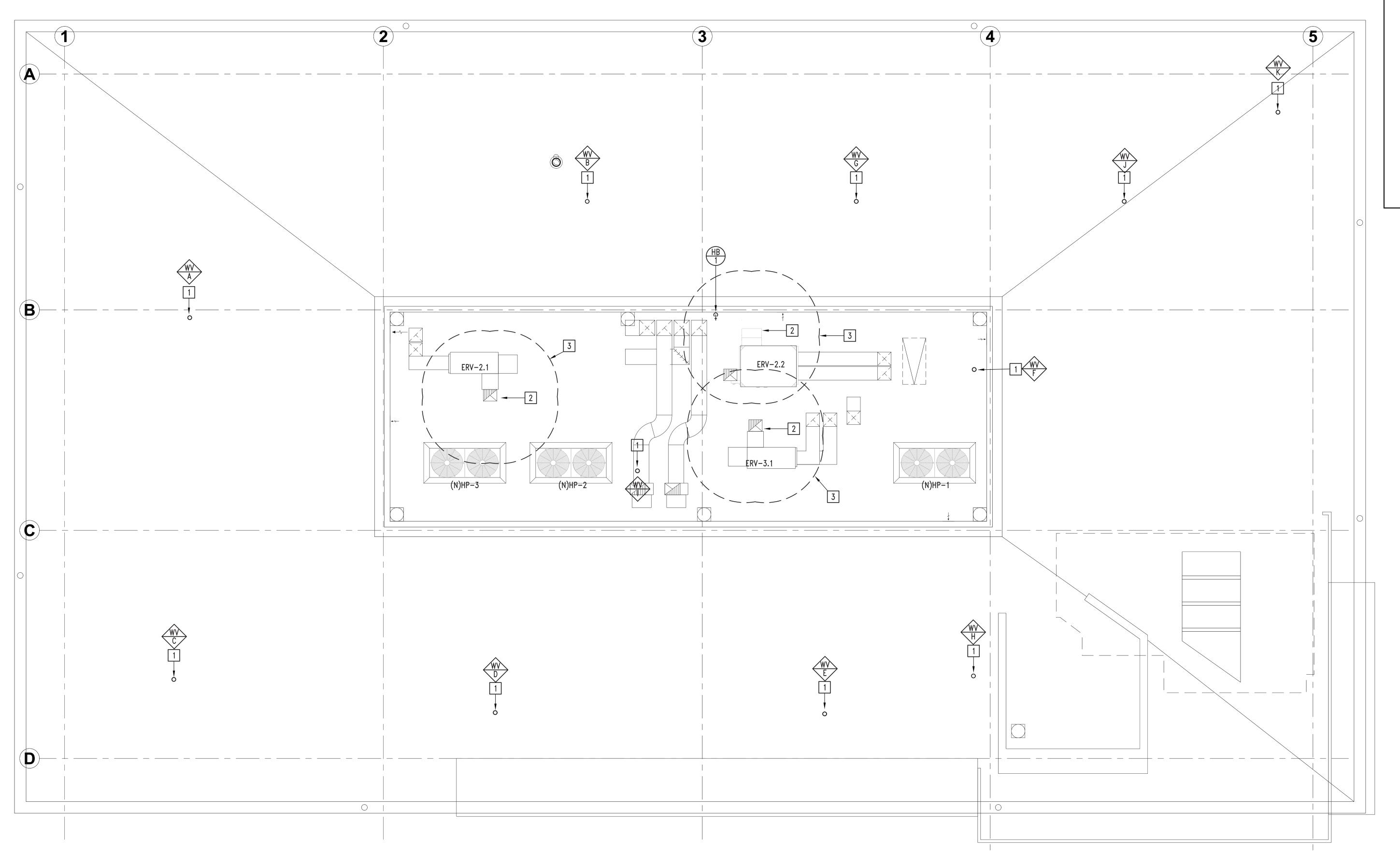
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SHEET TITLE:

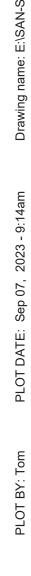
Plumbing Roof Plan

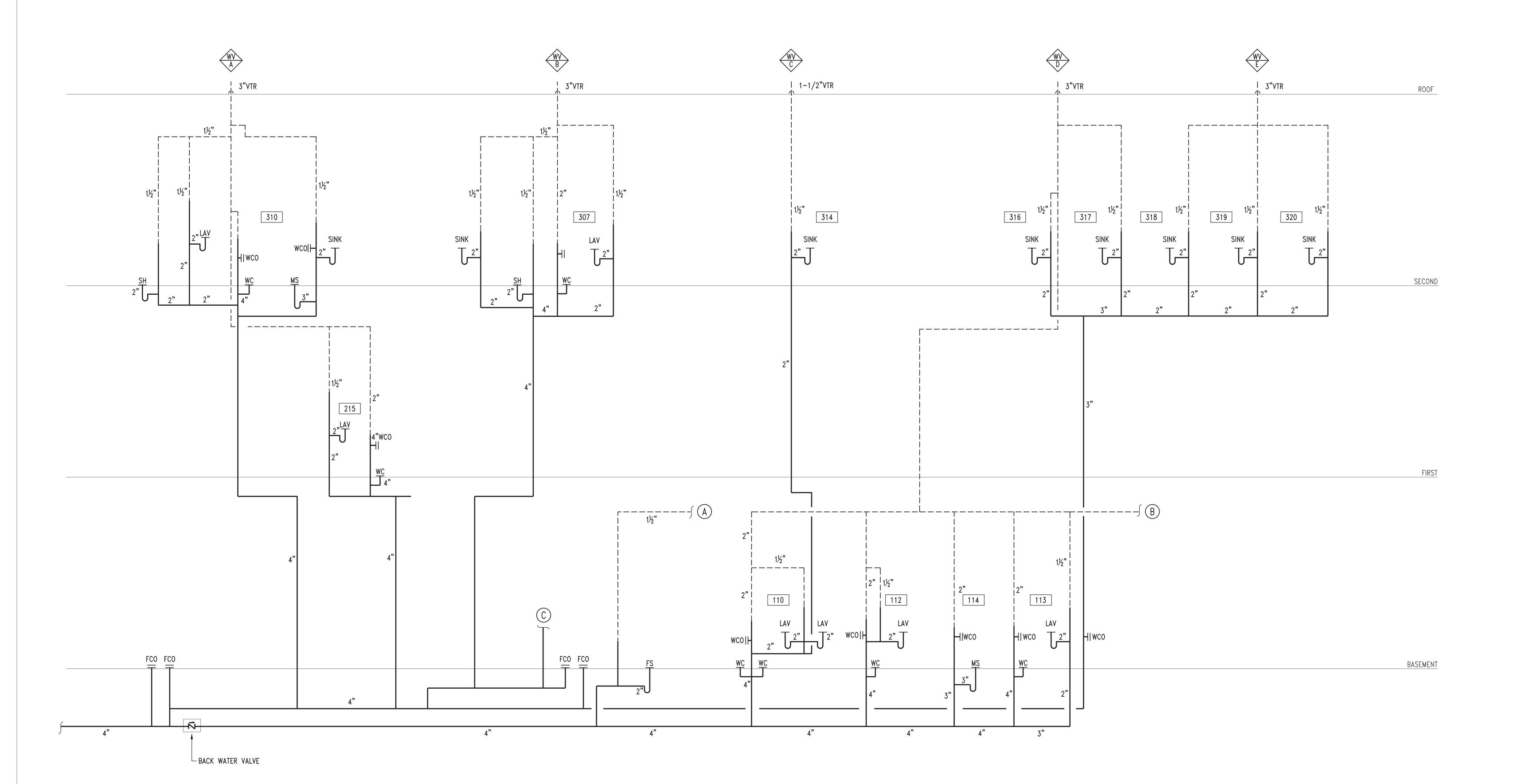
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P-2.4



PLUMBING ROOF PLAN





WASTE & VENT RISER DIAGRAM - WEST



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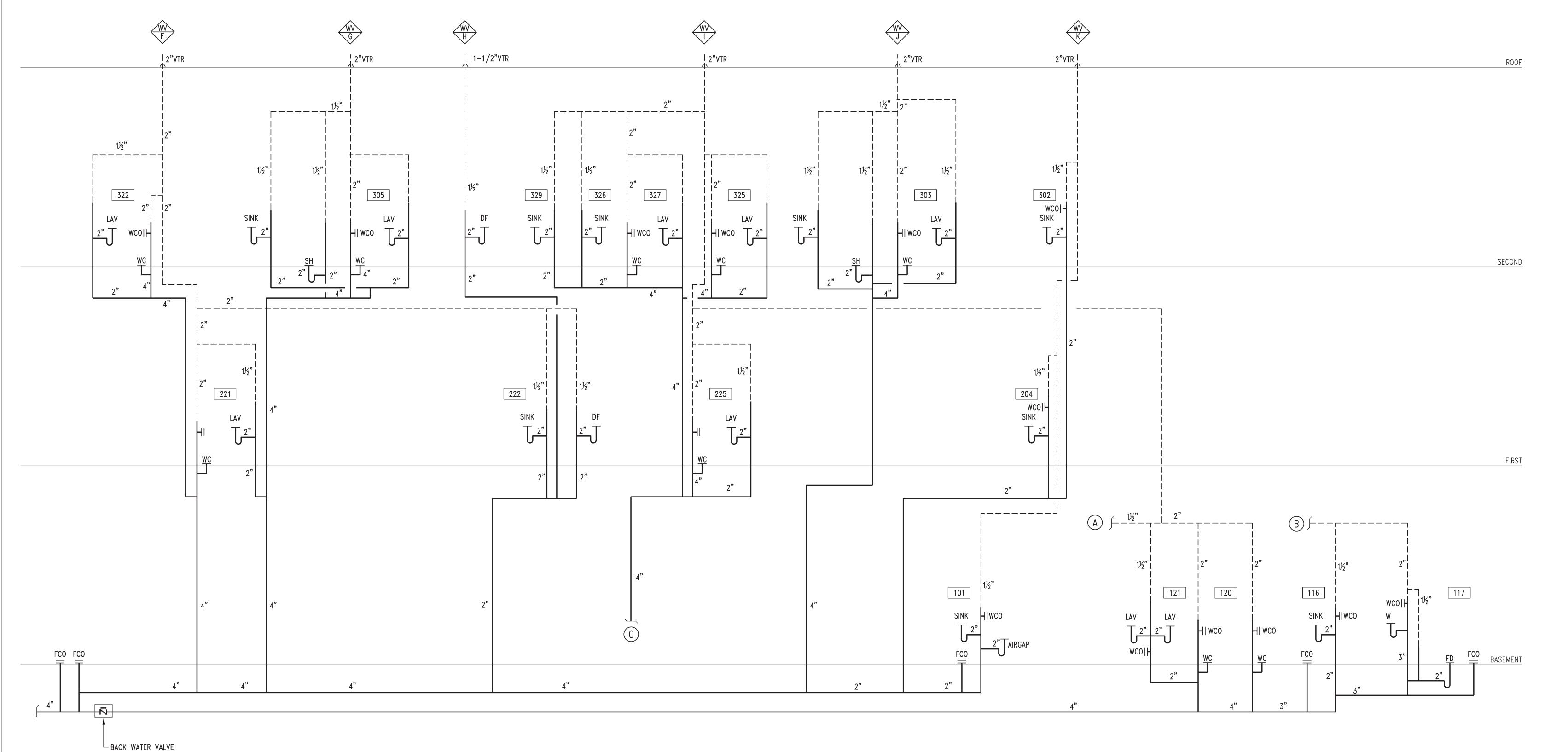
PROJECT TITLE:

SANSUM DIABETES RESEARCH INSTITUTE 2219 BATH STREET SANTA BARBARA, CA

Waste & Vent Riser Diagram - West

DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201

P-3.1





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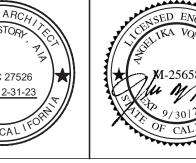
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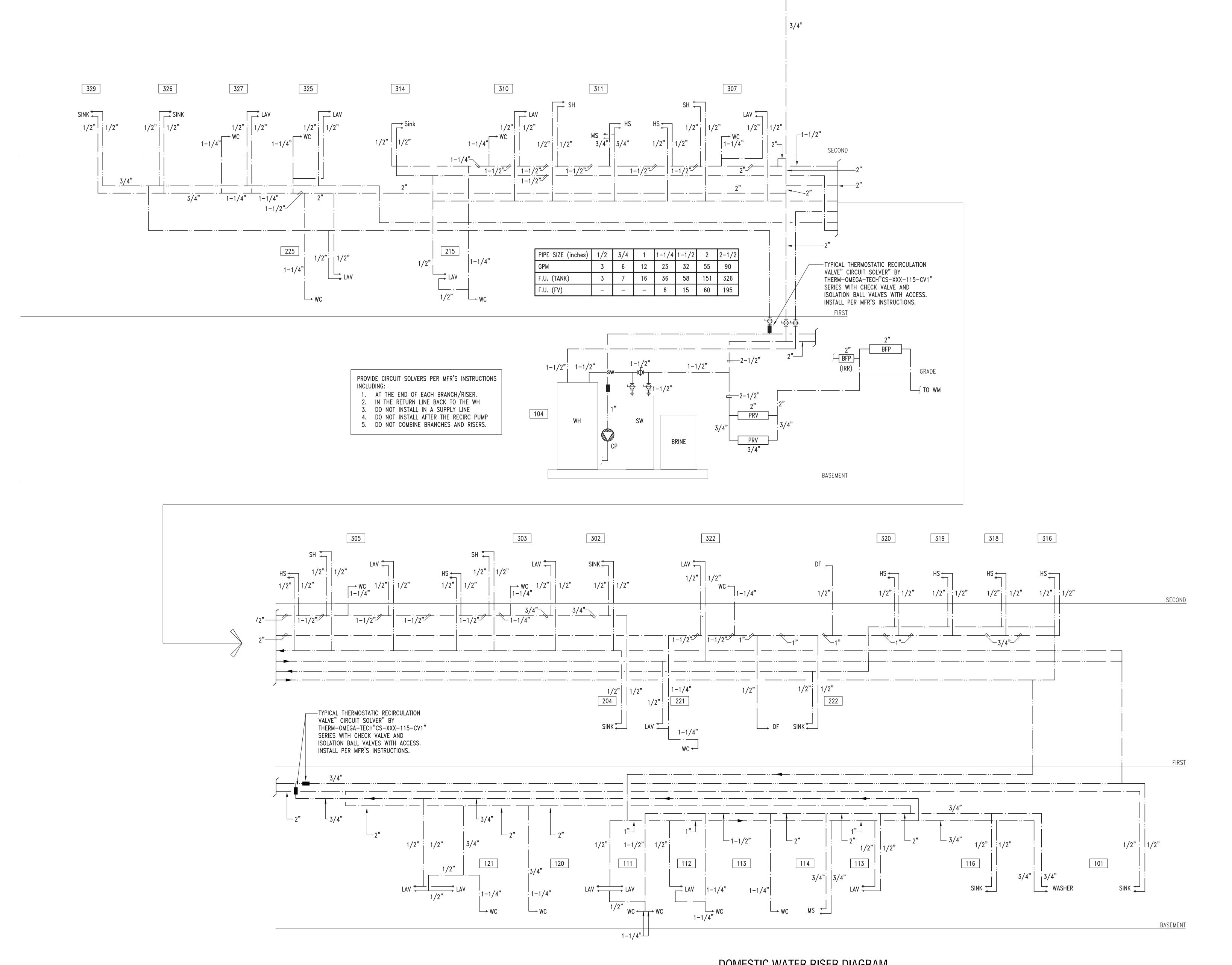
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Waste & Vent Riser Diagram - East

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> > P-3.2

WASTE & VENT RISER DIAGRAM - EAST



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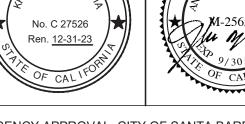
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PROJECT TITLE:

SANSUM DIABETES RESEARCH INSTITUTE 2219 BATH STREET SANTA BARBARA, CA

Domestic Water Riser Diagram DATE: 09-07-23

DRAWN BY: TDH, LLA JOB NUMBER: SAN-2201

P-3.3

ROOF

# **SPECIFICATIONS**

1.1 WORK A. Provide and install plumbing as shown on the Drawings and as specified herein. The Work shown on Drawings is diagrammatic. Vary piping and locate equipment as required to avoid structure and other interferences as approved by the

B. Plumbing includes: Hot and cold water distribution systems. Waste drains and vents. Gas piping. Plumbing fixtures.

- Roof drainage. C. Plumbing fixtures shall be as shown on the Architectural Drawings and specifications. Work includes trim and related construction as required. See owner for plumbing fixture specifications. Contractor to purchase and install.
- 1.2 QUALITY STANDARDS A. Provide experienced, well-trained workers competent to complete the work as
- B. Unless approved by the Architect, provide related products and accessories from one manufacturer.
- C. All work shall comply with manufacturer's instructions and governing building and safety codes, including the currently adopted California Plumbing Code, California Green Code, and the California Energy Code, Mandatory Requirements for Appliances:
- a. Any appliance regulated by the Appliance Efficiency b. Regulations, Title 20 California Code of Regulations. Install appliances only fully compliant.
- 1.3 SUBMITTALS

PART 1 -- GENERAL

- A. Submit the following after receiving the Notice to Proceed. Submit list of materials to be provided for this work. Submit manufacturer's specifications required to prove compliance with these
- specifications. Submit manufacturer's installation instructions. Submit Shop Drawings as required with complete details and assembly
- Submit samples of proposed exposed finishes and fixtures for approval by the
- Architect. B. At the time of final inspection, a manual or compact disc which includes all of the following shall be placed in the building:
- 1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure. 2. Manufacturer's installation, operation, maintenance instructions, and warranty information for plumbing fixtures, plumbing equipment and systems, water heating systems, etc.
- 1.4 MATERIALS HANDLING
- A. Provide all materials required to complete the work as shown on Drawings and specified herein. Deliver, store, and transport materials to avoid damage to the product or to any other work. Reject and return any products or materials delivered in a damaged or unsatisfactory condition. Materials and products delivered will be certified by the manufacturer to be as specified.
- B. Store materials indoors, protected from dirt, moisture, contaminants, and
- 1.5 PRECONSTRUCTION AND PREPARATION
- A. Examine and verify that job conditions are satisfactory for speedy and acceptable work. Maintain and use up-to-date trade standards and manufacturer's
- instructions. B. Verify utilities, site conditions and points of connection. Camera test the sanitary sewer lateral if existing to confirm it is in good working order. Repair or replace as required.
- C. Confirm there are no conflicts between this work and work of other trades. All work shall be in accordance to local and State Codes. Confirm that work of other trades that must precede this work has been completed. Meet all
- requirements to secure warranty. D. Notify Architect when work is scheduled to be installed. Use agreed schedule for installation and for field observation by Architect

#### PART 2 -- MATERIALS

- 2.1 GRAVITY SANITARY SEWER, WASTE & VENT PIPING A. Building drain and vent piping materials shall comply with CPC 701 and 903, and
- shall be listed by an approved listing agency. B. Sanitary sewer & waste piping shall be: made in the USA Cast Iron Pipe, fittings and joints per ASTM A74, ASTM A888, and CISPI 301. Fittings shall be hubless cast iron, service weight per CISPI 310, neoprene gaskets and stainless steel clamp-and-shield assemblies.
- C. Sanitary Sewer piping below grade within 5 feet of the building and when ABS is not allowed, the sanitary sewer, waste and vent piping shall be: made in the USA cast iron pipe: CISPI 301, hubless with MG couplings, where soils are reactive, and with stainless steel clamp and shield assemblies, where soils are non-reactive.
- D. Floor Cleanouts: polished nickel bronze non-skid adjustable top in carpeted areas by J.R. Smith or Zurn.
- E. Dry Wall Cleanouts: Prime coated steel cover or wall type by J.R. Smith or Zurn. F. Non Dry Wall Cleanouts: chrome plated cover and screws with wall thickness
- 2.2 RAINWATER PIPING

2. 3 INDIRECT WASTE and CONDENSATE DRAIN PIPING

- A. Storm drainage piping: Same as sanitary sewer piping.
- A. Indirect waste shall be Type L copper DWV piping with, wrought copper fittings, and Grade 95TA soldered joints. B. When serving condensing equipment where acidic waste is produced, indirect waste
- piping shall be cPVC with solvent joints. C. Insulate piping where pipes may sweat.
- 2.4 WATER SUPPLY

A. Water supply piping above grade and within the building line shall be: Copper tubing. Type L, ASTM B-88, hard drawn, cast brass or wrought copper fittings, soldered joints. Ball Valves: Full port, low lead, bronze with minimum 150 PSI rating, quarter turn by Nibco or approved equal in accordance with ASME A112. 4. 14, ASME B16. 34, ASTM F1970, ASTM F 2389, AWWA C500, AWWA C504, AWWA C507, CSA b125.3, MSS SP80, MSS SP110 MSS SP122 or NSF 359.

- 2. 6 GAS SUPPLY
- A. Natural gas piping below grade beyond the building line and <u>not</u> under hardscape shall be polyethylene Pipe ASTM D2513, SDR 11.5, with ASTM D2683 socket fittings, and fusion welded joints. Provide continuous tracer wire with ends secured to risers. Provide electrically continuous corrosion—resistant blue
- insulated copper tracer wire with ends secured to risers. B. Provide proper grounding of the electrical system and equipotential bonding of all metallic systems in accordance with NFPA 70.
- C. Natural gas piping below grade beyond the building and under hardscape shall be: OmegaFlex, Inc, "TracPipe PS-II" ASTM A240 stainless steel tubing factory sleeved with polyethylene with vent channels, yellow brass fittings. All buried metallic parts shall be wrapped with Code approved metallic wrap. Provide manufacturer's striker plates as necessary. Route dedicated vent to roof. Installer shall have successfully trained through the TracPipe manufacturer's installation program. Install per manufacturer's installation instructions and
- recommendations. D. Natural gas piping above grade and within the building line shall be made in the USA steel, Schedule 40 black, malleable iron or forged steel fittings, with screwed or welded joints for interior and galvanized for exterior applications.
- E. Provide clearly marked, easily accessible, and tested shut off valves as required by the building code. F. Provide a pressure relief valve which vents to outdoors when the gas supply pressure is greater than 2 PSI for piping systems designed to operate at 14
- inches water column or less. G. Gas piping on the roof shall be elevated and supported in accordance with CPC Table 1210. 3. 5. 1.
- 2.7 WATER HEATERS
- A. Provide and install automatic water heaters as shown on the Drawings. Provide pressure and temperature relief valve piped to exterior, seismic bracing, and an expansion tank per CPC. Provide 24" reinforced flexible, braided stainless steel, or polymer braided with EPDM core connectors to the piping system in accordance with ASME A112.18.6/CSA B125.6
- 2.8 PIPING INSULATION A. Provide and install piping insulation on entire hot water piping system, including run outs, and in accordance with Title 24 and the CPC Section 609.11. AP Armaflex or Manville insulation with minimum wall thickness of not less than the diameter of the pipe up to 2 inches and not less than 1" wall thickness, 0.25 BTU-in/hr per square foot per degree F and with flame spread and smoke rating not exceeding 25/50 per ANSI/ASTM-E-84, NFPA 225 or UL 723. Provide PVC jacketing where exposed inside the building and aluminum jacketing where exposed on exterior of the building. Provide jacketing on all components including valves and fittings.
- 2.9 PLUMBING FIXTURES
- A. Install plumbing fixtures which reduce the overall use of potable water within the building by a least 20 percent in compliance with California's Green Code, Title 24, Part 11, Chapter 4. Provide the required trim, and related construction.
- B. Provide and install accessible fixtures in compliance with the American's with Disabilities Act.
- 2.10 LEAD FREE
- A. Domestic water plumbing systems and components shall be lead free in compliance with California's Health and Safety Code and CPC.
- 2.11 VOLATILE ORGANIC COMPOUNDS [VOC]
- A. Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits per CGBS Section 4.504.

#### PART 3 -- CONSTRUCTION AND INSTALLATION

- 3.1 WORK CONDITIONS
- A. Correct any conditions not in compliance with Section 1.5. A. noted above. B. All work conditions shall be as per manufacturer's instructions, trade association standards, and governing building and safety codes.
- A. Vents and related support construction for plumbing and mechanical equipment must be as required by the building department.

#### 3.3 INSTALLATION

- A. Install products as per Drawings and these Specifications. B. Provide all necessary sawcutting, excavation, shoring, backfilling and compaction required for the proper installation of the Work of this Section. Lay underground lines on firm bed through its entire length in compliance with CPC Section 718.2 and 718.3. Place 6" of clean cohesionless sand all around pipes. After underground piping has been tested and accepted, backfill with the excavated material or acceptable imported soil. Backfill material shall be free of clods or stone larger than 2" in dimension. Install backfill material in thin layers (less than ten inches uncompacted thickness), brought to near the optimum moisture content and compacted to a minimum of 90% of the maximum density obtainable by ASTM Test Method D1557, unless higher density is specified by the Architect. If it becomes necessary to import materials from offsite to complete site grading, imported soils should consist of essentially granular, silty sands with low expansion potential and free of grasses, weeds, debris, rocks larger than 3 inches in maximum dimension, and soluble sulfates in excess of 200 parts per million. Sawcut existing surface to facilitate new piping. Locate existing underground Work prior to marking cut lines. Do not allow cut path to disturb existing Work without prior review from the Architect. Segregate and dispose of demolished concrete or asphalt concrete. Evaluate excavated soil for re-use in same location. Dispose of soil if it is not in compliance with the Contract Documents or not acceptable to Soils Engineer. Carefully excavate trench to prevent damage to existing Work. Restore existing Work found damaged to its intended condition. Comply with requirements for excavation, backfill and
- compaction specified by the Architect. C. Protect any pipes crossing "zones of influence" with Schedule 40 black steel sleeves. Zone of influence is defined as the area that projects out at 45 degrees from the outer lower perimeter of footings and grade beams. Do not run piping parallel to footings or grade beams in zones of influence.

D. Provide non-conducting dielectric connections whenever jointing dissimilar

- E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connections to fixtures or equipment.
- F. Contractor shall install "Acousto-Plumb" at all pipe penetrations to ensure no piping or valves come in direct contact with the structure. G. Collect vents to minimize roof penetrations and maintain the integrity of the
- roof assembly. Each vent shall rise vertically to a point not less than 6 inches above the flood-level rim of the fixture served before offsetting horizontally or before being connected to any other vent. H. Provide for maintenance of this work for one year following final approval by
- governing agencies. Maintenance includes all work required in manufacturer's instructions such as inspection, adjustment, repair and replacement of parts as
- I. Identify all piping with the words "DOMESTIC WATER", "SEWER", "STORM DRAIN", "NATURAL GAS" etc, every six feet. J. No plumbing piping shall be directly embedded or come in direct contact with the structure. Provide sleeve over all pipes passing through concrete or masonry
- walls and concrete floors. K. Install ball valves to shut off and isolate equipment. L. Provide flexible pipe connectors and plug valves at all natural gas appliances
- M. Maintain minimum one quarter of an inch per foot slope on all drainage piping. N. Install cleanouts, vacuum breakers, and backflow preventors in accordance to
- local and State codes. 0. Provide hangers and supports per CPC Table 313.3, capable of supporting the tributary weight of pipe and contents, maintain its alignment, and prevent sagging. Provide saddles for insulated pipes. Gas piping shall be supported by metal straps at intervals not to exceed those shown in Table 1210.3.5.1 of CPC. All piping and equipment shall be suitably restrained and anchored in both horizontal and vertical directions to withstand seismic forces as required by the State of California and in compliance with SMACNA standards (Sheet Metal and
- P. Avoid running plumbing piping above electrical equipment. Q. Provide the next available pipe size up, if the size indicated on the Drawings

Air Conditioning Contractors' National Association, Inc.)

- is not available. R. Test all new piping systems as specified. Install shut-off valves to isolate existing systems that do not require testing. Existing systems that have been connected to by new systems shall be tested to the extent of the closest new connection. Tests must be performed and systems approved prior to painting, covering, or concealing piping. Provide all test equipment, instrumentation and labor in conjunction with tests. Prior to test, protect or remove all devices, and other items which are not designed to stand pressures used in test. Accomplish testing of piping in sections so as not to leave any portion of pipe or joints untested. Obtain prior approval for test procedures. Responsibility for Damages: Bear costs of repair and restoration of Work of other trades damaged by tests or cutting done in connection with tests. Domestic Water systems: Test all portions of new water systems at hydrostatic pressure of not less than 150 psig, with 5 psig permissible drop at end of four hours. Drainage Systems: Fill entire waste and vent system with water to level of highest vent stack. System shall hold water for two hours. Fuel Gas Systems: Test with air at a pressure of not less than 10 psig for a minimum of 15 minutes with no perceptible drop in pressure. For welded pipe or gas pressures of 14 inches water column, the test pressure shall not be less than 60 psig (or as approved
- S. Disinfection of domestic water piping system. Verify system is complete, flushed and clean. Ensure Ph of water to be treated is between 7.4 and 7.6. Inject disinfectant, free chlorine in liquid, powder or gas form throughout system to obtain 50 to 80 mg/L residual. Bleed water from outlets to ensure distribution. Maintain disinfectant is system until residual is equal to incoming water of 1.0 mg/L. Analyze 24 hours after flushing in accordance with AWWA C651. Provide copies of Certificates of Performance.

by governing authority) and shall be continued for a minimum of 30 minutes.

Rainwater Systems: Test in the same manner as described for the Drainage Systems

of the completed system. Make all required adjustments and corrections at no added cost to the Owner. U. Openings in the building envelope separating conditioned space from unconditioned space needed to accommodate piping and other necessary

T. Upon completion, secure all required pressure tests, inspections, and approvals

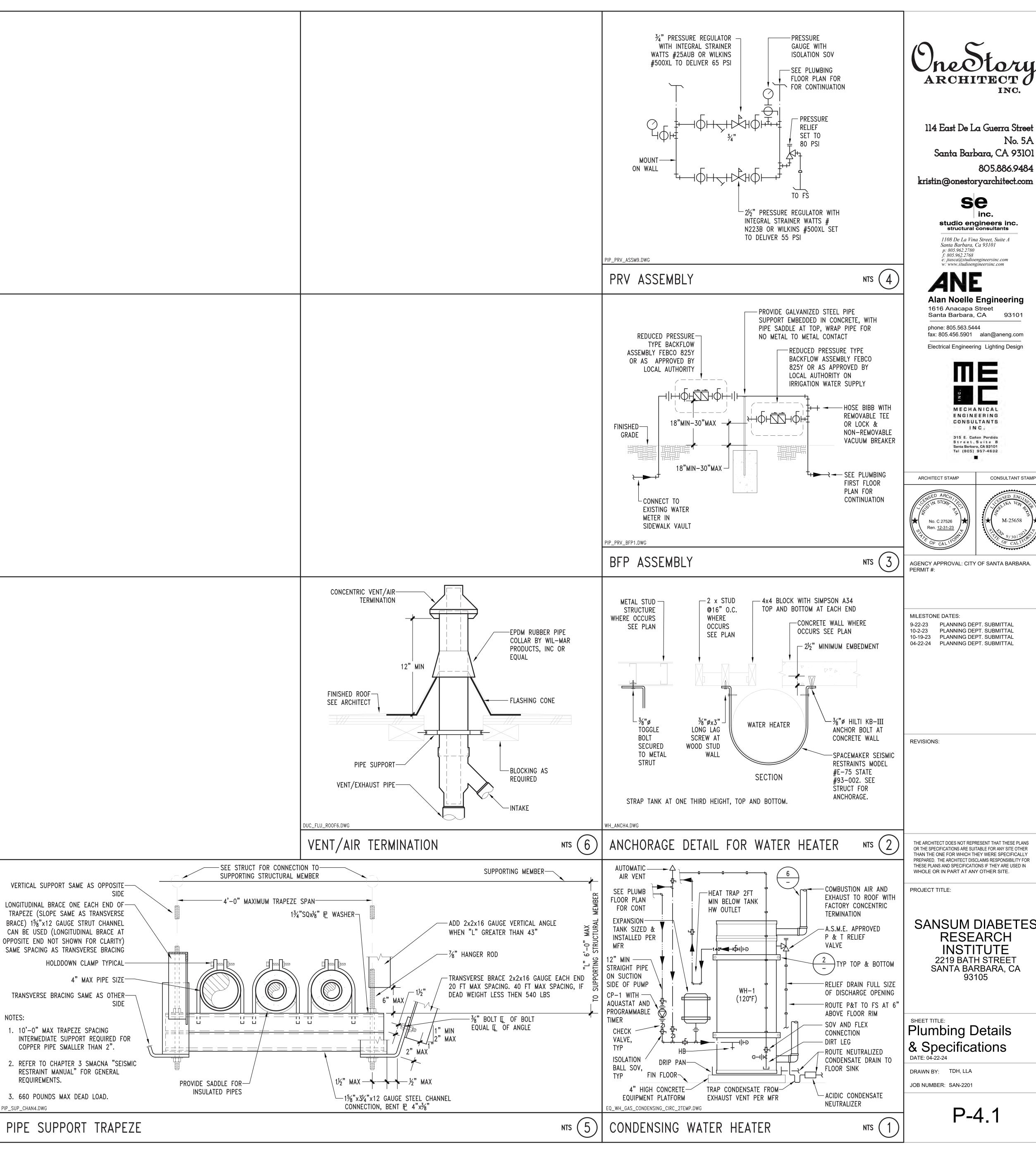
- penetrations must be sealed in compliance with the California Energy Code. Exception: The annular spaces around pipes and other openings at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, or concrete masonry.
- V. Wall hung fixtures shall be installed with carriers concealed in walls that are anchored to the floor in compliance with ASME A112.6.
- 3.4 PROTECTION FROM MARINE/COASTAL ENVIRONMENT A. Contractor shall be responsible for protecting all plumbing systems from premature corrosion due to the coastal environment. This includes the use of non ferrous piping, supports, equipment and other materials and components. Epoxy paint, or wrap any exterior or exposed ferrous metallic plumbing systems. No sheet metal flashing is allowed. Contractor shall be responsible for any damage resulting from his failure to protect plumbing systems from premature

corrosion.

- A. After installation, inspect all work for improper installation or damage. B. Operating fixtures must perform smoothly. Repair or replace any defective work. Repair work will be undetectable. Redo repairs if work is still defective, as
- directed by the Architect or governing safety regulatory agency. C. Clean the work area and remove all scrap and excess materials from the site and

dispose of in accordance with State and local requirements.

END OF SECTION

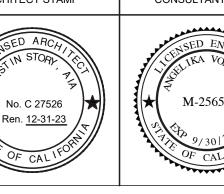




No. 5A Santa Barbara, CA 93101 805.886.9484

**Alan Noelle Engineering** 





AGENCY APPROVAL: CITY OF SANTA BARBARA.

THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR

SANSUM DIABETES SANTA BARBARA, CA

#### ELECTRICAL SPECIFICATION NOTES

PROVIDE ALL ELECTRICAL WORK, AND MATERIALS AS SHOWN ON THE DRAWINGS, AS CALLED FOR HEREIN, AND AS IS NECESSARY TO FURNISH A COMPLETE INSTALLATION.

THE INSTALLATION SHALL CONFORM TO ALL THE REQUIREMENTS OF THE CURRENTLY ADOPTED CALIFORNIA ELECTRICAL CODE, STATE OF CALIFORNIA TITLE 24, ALL OTHER APPLICABLE CODES AND ORDINANCES, AND THE REQUIREMENTS OF THE FIRE MARSHALL. ALL EQUIPMENT AND WIRING SHALL BEAR THE APPROVAL STAMP OF UNDERWRITERS' LABORATORY (UL) OR AN APPROVED TESTING LABORATORY. PAYMENT FOR ALL INSPECTION FEES AND PERMITS ARE PART OF THIS CONTRACT.

THIS CONTRACT SHALL BE RESPONSIBLE FOR THE SAFETY, AND GOOD CONDITION, OF ALL MATERIALS AND EQUIPMENT FOR THE ENTIRE INSTALLATION, AND UNIT COMPLETION OF WORK. ERECT AND MAINTAIN APPROVED AND SUITABLE BARRIERS, PROTECTIVE DEVICES, AND WARINNG SIGNS. BE FULLY RESPONSIBLE FOR ANY LOSS OR INJURY TO PERSONS OR PROPERTY RESULTING FROM NEGLIGENT MAINTENANCE AND/OR ENFORCEMENT OF ALL SAFETY PRECAUTIONS AND WARNINGS.

COORDINATE THE ELECTRICAL INSTALLATION WITH ALL OTHER TRADES.

ALL SAWCUTTING, TRENCHING, BACKFILLING, AND PATCHING SHALL BE PART OF THIS CONTRACT. ALL BACKFILLING, COMPACTION, AND RESURFACING METHODS SHALL BE APPROVED BY THE ARCHITECT.

FINALIZE ALL ELECTRICAL SERVICE ARRANGEMENTS, INCLUDING VERIFICATION OF LOCATIONS, DETAILS. COORDINATION OF THE INSTALLATION. AND PAYMENT OF ACCRUED CHARGES WITH LOCAL POWER COMPANY. VERIFY LOCATION OF FACILITIES AND DETAILS WITH POWER UTILITY. IN ADDITION TO THE REQUIREMENTS SHOWN IN THE CONTRACT DOCUMENTS, WORK SHALL COMPLY WITH CONSTRUCTION STANDARDS AND SERVICE REQUIREMENTS OF THE RESPECTIVE UTILITIES, INCLUDING ANY SUPPLEMENTAL DRAWINGS ISSUED, AND SHALL BE SUBJECT TO APPROVAL OF THESE UTILITIES.

RACEWAYS FOR ALL CONDUCTORS IN EXPOSED AREAS LESS THAN 5'-0" ABOVE GRADE SHALL BE GALVANIZED STEEL CONDUIT OR PVC SCHEDULE 80, AS PERMITTED BY BUILDING CONSTRUCTION TYPE. UNDERGROUND CONDUITS SHALL BE BURIED A MINIMUM OF 24" BELOW GRADE, AND MAY BE PVC SCHEDULE 40. ALL CONDUIT RISERS FROM UNDERGROUND RUNS SHALL BE PVC SCHEDULE 80 OR RIGID GALVANIZED STEEL. RACEWAYS IN ALL CONCEALED AREAS MAY BE TYPE EMT. FLEXIBLE STEEL CONDUIT MAY BE USED IN CONCEALED AREAS, UP TO A MAXIMUM LENGTH OF 12'-0", IF A SUITABLE BONDING WIRE IS INSTALLED. THIS BONDING CONDUCTOR SHALL BE IN ADDITION TO THE REQUIRED EQUIPMENT GROUNDING CONDUCTOR. CONCEALED RACEWAYS FOR LOW VOLTAGE SYSTEMS WITHIN BUILDING CONSTRUCTION MAY BE EQUAL TO CARLON TYPE "EFT". ALL EMPTY CONDUITS SHALL HAVE A SUITABLE PULLCORD INSTALLED. A SUITABLE GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL LINE VOLTAGE CONDUIT RUNS. NOTE THAT THIS CONDUCTOR IS NOT NECESSARILY SHOWN ON THE DRAWINGS. CONDUCTOR-IN-CONDUIT TYPE SYSTEMS, SUCH AS 'MC' CABLE SHALL NOT BE ALLOWED UNLESS SPECIFICALLY CLEARED BY THE ENGINEER. NO MORE THAN THREE NINETY DEGREE BENDS SHALL BE ALLOWED IN ANY CONDUIT RUN, BETWEEN PULL POINTS.

OUTLET AND JUNCTION BOXES SHALL BE GALVANIZED STEEL, 4" SQUARE BY 1-1/2" DEEP, OR LARGER. THEY SHALL BE FLUSH MOUNTED IN ALL FINISHED AREAS, AND SHALL INCLUDE A PLASTER RING SUITABLE FOR THE DEVICE MOUNTED IN THE BOX. TELEPHONE AND COMMUNICATIONS OUTLETS MAY CONSIST OF THE PLASTER RING, BUT NO BOX, WHERE NOISE TRANSMISSION FROM ONE ROOM TO THE NEXT IS NOT AN ISSUE. UNLESS OTHERWISE NOTED, CONDUIT STUBS SHALL STILL BE REQUIRED FOR ALL COMMUNICATIONS OUTLETS INTO ACCESSIBLE CEILING SPACE. ALL BOXES SHALL BE LISTED FOR THEIR USE, INCLUDING ANY FIRE RATING. ADDITIONALLY, REGARDLESS OF OUTLET LOCATIONS SHOWN ON THESE PLANS, BOXES SHALL BE LOCATED AS REQUIRED TO COMPLY WITH NOISE AND FIRE SEPARATION REQUIREMENTS.

PROVIDE ALL CONDUIT, WIRING, OUTLETS, DISCONNECT OR MANUAL MOTOR STARTER SWITCHES, AND EQUIPMENT NECESSARY TO CONNECT MECHANICAL SYSTEMS AND EQUIPMENT. INSTALL OUTLETS AND CONTROL WIRING FOR LOW VOLTAGE CONTROL EQUIPMENT, IF REQUIRED. PROVIDE ALL REQUIRED CONDUIT FOR LOW VOLTAGE SYSTEMS.

FURNISH AND INSTALL ALL LIGHT FIXTURES, COMPLETE WITH REQUIRED LAMPS, BALLASTS, MOUNTING TRIMS. AND DEVICES. ALL EXISTING FIXTURES TO REMAIN SHALL BE CLEANED. REPAIRED OR REPLACED, AND RELAMPED AS NECESSARY. FIXTURES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN AN APPROVED MANNER. CONNECT T-BAR DROP-IN FIXTURES AT DIAGONAL CORNERS DIRECTLY TO STRUCTURE OVERHEAD USING MINIMUM #12

ALL FIXTURE AND OUTLET HEIGHTS AND LOCATIONS SHALL BE INDIVIDUALLY COORDINATED WITH

LIGHT SWITCHES SHALL BE 20A, EQUAL TO HUBBELL #CS120 SERIES. DUPLEX RECEPTACLES SHALL BE 20A, EQUAL TO HUBBELL #CRF20 SERIES. "ALL DEVICE COVERPLATES IN FINISHED AREAS SHALL BE SMOOTH PLASTIC, OR BRUSHED ALUMINUM, AS SPECIFIED BY THE ARCHITECT. ALL DEVICE COVERPLATES IN UNFINISHED AREAS MAY BE SMOOTH PLASTIC OR PRESSED STEEL, AS SPECIFIED BY THE ARCHITECT. ALL COVERPLATES IN EXTERIOR LOCATIONS SHALL BE WEATHERPROOF. DEVICE AND COVERPLATE COLORS SHALL BE AS SPECIFIED BY THE ARCHITECT. WHERE MULTIPLE DEVICES EXIST, THEY SHALL BE GROUPED TOGETHER, AND GROUPED DEVICES SHALL BE UNDER A SINGLE COVER PLATE. DEVICES ON AN EMERGENCY OR BACKUP POWER SYSTEM SHALL BE RED IN COLOR.

PANELBOARDS SHALL BE EQUAL TO SQUARE D TYPE "NQOD". PROVIDE TYPEWRITTEN CIRCUIT DIRECTORIES PER PANEL SCHEDULES. PANEL DIRECTORIES SHALL INCLUDE THE PANEL OR SWITCHBOARD FROM WHICH THE PANEL IS FED. (1) 3/4" STUB INTO ACCESSIBLE CEILING SPACE IS REQUIRED FOR EVERY (3) SPARES OR SPACES IN RECESSED PANELBOARDS. CIRCUIT BREAKERS USED AS SWITCHES SHALL BE LISTED FOR SWITCHING AND MARKED "SWD" PER NEC 240-83(d).

SWITCHGEAR AND DISTRIBUTION EQUIPMENT SHALL BE SPECIFICATION GRADE, AS MANUFACTURED BY SQUARE D. SIEMENS, OR APPROVED EQUAL. ALL CONNECTIONS TERMINATIONS, GROUNDING, AND HARDWARE ASSEMBLIES SHALL BE CHECKED BY AN EXPERIENCED SWITCHBOARD INSTALLER PRIOR TO ENERGIZATION. EACH CONNECTION POINT OR FASTENER SHALL BE ALIGNED AND TORQUED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. ANCHOR EACH SECTION TO THE FLOOR AND WALL. STRUCTURAL ANCHORAGE SHALL BE PER MANUFACTURER'S SPECIFICATIONS, AND SHALL BE APPROVED BY

ALL WIRING SHALL BE COPPER. INSULATION FOR BRANCH CIRCUIT CONDUCTORS SHALL BE TYPE "THWN". CONDUCTORS LARGER THAN #6 AWG MAY BE TYPE "THWN" OR "THW".

PROVIDE BRANCH CIRCUIT WIRING, OUTLETS, DEVICES, AND CONNECTIONS TO ALL EQUIPMENT. ELECTRICAL EQUIPMENT AND MATERIAL SHALL BE LISTED, LABELED, AND INSTALLED PER A RECOGNIZED ELECTRICAL TESTING LABORATORY.

STEEL, LIQUID-TIGHT, FLEXIBLE CONDUITS ARE REQUIRED FOR MOTOR CONNECTIONS, CONNECTIONS TO LIQUID-HANDLING EQUIPMENT, AND CONNECTIONS IN WET OR EXTERIOR

PROVIDE CONDUIT SEALS FOR ALL CONDUITS PENETRATING WEATHERPROOFING OR WEATHERPROOF ENCLOSURE ENVELOPE. MASTIC SEAL ALL CONDUIT OPENING PENETRATIONS

UNLESS SHOWN OTHERWISE, FUSED DISCONNECT SWITCHES SHALL BE PROVIDED WITH LOW-PEAK, DUAL ELEMENT FUSES SIZED TO EQUIPMENT NAMEPLATE FUSE CURRENT RATING. MANUAL MOTOR STARTERS SHALL BE PROVIDED WITH SIMILARLY SIZED FUSIBLE ELEMENTS. SWITCHES EXPOSED TO THE WEATHER SHALL BE TYPE NEMA 3R. ALL MOTOR DISCONNECTING MEANS SHALL BE HORSEPOWER RATED, BASED ON UNIT SERVED.

PANELBOARDS, TERMINAL CABINETS, SWITCHGEAR, DISCONNECTS, DISTRIBUTION BREAKERS, AND MISCELLANEOUS ELECTRICAL EQUIPMENT, SHALL HAVE LAMINATED, WHITE LETTERS ON BLACK BACKGROUND, PHENOLIC NAMEPLATES PROPERLY IDENTIFYING EACH ITEM.

PROVIDE ALL MATERIALS AND WORK REQUIRED TO LOCATE. AND CONNECT TO, EXISTING DISTRIBUTION EQUIPMENT. UPDATE EXISTING PANELBOARDS WITH NEW TYPEWRITTEN CIRCUIT DIRECTORIES, AND FURNISH NEW CIRCUIT BREAKERS AS REQUIRED. EXISTING CIRCUIT DESCRIPTIONS IN EXISTING PANEL DIRECTORIES SHALL BE USED FOR EXISTING CIRCUITS TO REMAIN IF THEY ARE MORE DETAILED THAN THE PANEL SCHEDULES SHOWN IN THESE PLANS. RECONNECT ANY BRANCH CIRCUITS INTERRUPTED DURING DEMOLITION THAT ARE TO REMAIN. PANELBOARD CIRCUIT DIRECTORIES SHALL INCLUDE WHERE THE PANEL IS FED FROM.

RE-USE OF EXISTING BRANCH CIRCUIT CONDUITS AND WIRING IS ACCEPTABLE IF IN COMPLIANCE WITH ALL APPLICABLE CODES AND ORDINANCES, AND APPROVED BY THE AHJ.

INFORMATION SHOWN WAS OBTAINED FROM "AS-BUILT" DRAWINGS. VISIT THE SITE PRIOR TO BID TO VERIFY EXISTING CONDITIONS, AND MAKE ALLOWANCE FOR VARIATIONS TO THAT WHICH

(5) COPIES OF SUBMITTAL DRAWINGS ARE REQUIRED FOR DISTRIBUTION EQUIPMENT, LIGHT FIXTURES, DEVICES, AND COVERPLATES. SUBSTITUTIONS MAY BE APPROVED BY THE ENGINEER IF THE SUBMITTAL SHOWS A REASONABLE BENEFIT TO THE OWNER. NO PRIOR APPROVAL FOR SUBSTITUTIONS SHALL BE GIVEN BEFORE SUBMITTALS. AS SUCH, BID COMPARISONS MUST BE MADE BASED ON SPECIFIED EQUIPMENT. THE ENGINEER RESERVES THE RIGHT TO REJECT SUBMITTALS BASED ON INCOMPLETENESS OF THE SUBMITTAL, AS WELL AS NOT MEETING THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. SUBMITTALS MUST BE PROVIDED FOR SPECIFIED EQUIPMENT, AS WELL AS ANY SUBSTITUTIONS

PROVIDE PANEL AND CIRCUIT NUMBER ON WALL OUTLET AND LIGHT SWITCH COVERPLATES. USE A TAPE TYPE SYSTEM EQUAL TO KROY OR BROTHER.

THE ELECTRICAL DRAWINGS SHALL BE TREATED AS DIAGRAMMATIC IN NATURE. THEY SHALL NOT BE USED TO DETERMINE EXACT DIMENSIONS OR LOCATIONS FOR ANY DEVICE. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COORDINATING WITH ARCHITECTURAL ELEMENTS AND PLANS, OTHER DISCIPLINES, THE ARCHITECT, AND OWNER, FOR ALL LOCATIONS, BEFORE COMPLETING ANY WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS IN RELOCATING ANY DEVICE OR CONNECTION INSTALLED IN THE WRONG LOCATION. THE CONTRACTOR SHALL ALLOW SUFFICIENT TIME FOR COORDINATION.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED LIGHTING CONTROL PROGRAMMING. TO ACHIEVE A WORKING SYSTEM TO THE SATISFACTION OF THE PLANS, ENGINEER, AND OWNER. REQUIRED PROGRAMMING INFORMATION MAY NOT BE FULLY SHOWN IN THE CONTRACT DOCUMENTS. THAT DOES NOT RELEASE THE CONTRACTOR FROM ADJUSTING/PROGRAMMING THE CONTROLS TO THE SATISFACTION OF THE OWNER. THE CONTRACTOR SHALL ALLOW SUFFICIENT TIME FOR COORDINATION.

CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SHORT CIRCUIT, COORDINATION, OR ARC FAULT CALCULATIONS REQUIRED TO PRODUCE PROPER EQUIPMENT LABELING. CONTRACTOR TO PROVIDE CODE REQUIRED SHORT CIRCUIT AND ARCH FLASH LABELS AT ALL PANELS, DISCONNECTS, AND OVERCURRENT PROTECTION.

#### LIGHT FIXTURE SCHEDULE FIXT. | MANUFACTURER | CATALOGUE NUMBER MOUNTING LAMPING | WATTS | DIM HPRLED-A-2X2-H-930-DC0-96LG-129-FC-10%-C1-96LG RECESSED, CEILING LED INCLUDED 42.8 0-10V 3 FINELITE HPRLED-A-2X4-H-930-DC0-96LG-129-FC-10%-C1-96LG RECESSED, CEILING LED INCLUDED 40.6 0-10V C32 | FINELITE HP2-P-ID-32'-S-H-935-F-F-96LG-120-DC-FC-10%-FA50-FM-C1-FE-SW PENDANT, CEILING LED INCLUDED 504 0-10V HP2-P-ID-40'-S-H-935-F-F-96LG-120-DC-FC-10%-FA50-FM-C1-FE-SW C40 | FINELITE PENDANT, CEILING LED INCLUDED 640 0-10V 2061-18-BN-R23-FL1-35K BROWNLEE SURFACE, CEILING LED INCLUDED 0-10V 5160-24-BN-H16-EC1-35K SURFACE, WALL LED INCLUDED BROWNLEE 0-10V 16 BETA CALCO TMRC103-LMA0320-CR80-CTA35-V1-DA01-FA20 SURFACE, CEILING LED INCLUDED 132 0-10V M4-NC-R-S-DRD2M-12-9-35-WF-W-O-M4T-R-S-WH RECESSED, CEILING LED INCLUDED G1 DMF 14.3 0-10V G1E DMF M4-NC-R-S-DRD2M-10-9-35-GA-W-O-M4T-R-S-WH RECESSED, CEILING LED INCLUDED 14.3 0-10V G2 DMF 2FSL4-48L-MVOLT-EZ1-LP835-WH RECESSED, CEILING LED INCLUDED 12.5 0-10V 75R-2-L32-8-35-DIM SURFACE, CEILING LED INCLUDED H2 | HEW 21.3 0-10V H4 | HEW 75R-4-L65-8-35-DIM SURFACE, CEILING LED INCLUDED 42.3 0-10V TSL9-24-2DRV-50W-35-MVOLT-CLP-WHT-EMB310-FAM7 SURFACE, WALL LED INCLUDED 0-10V LUMINAIRE LED CORE LSM40HF-35K-2'-24 UNDERCABNET LED INCLUDED 8.8 0-10V J6 CORE LSM40HF-35K-6'-24 UNDERCABNET LED INCLUDED 26.4 0-10V J18 | CORE LSM40HF-35K-18'-24 UNDERCABNET LED INCLUDED 79.2 0-10V LOUIS POULSEN 10000151370 PENDANT, CEILING LED INCLUDED 0-10V HP2-2-R-D-8'-H-935-F-96LG-120-SC-FC-10%-VF-FE-SW RECESSED, CEILING LED INCLUDED L8 | FINELITE 54.4 0-10V

#### GENERAL NOTES

ALL MOUNTING HEIGHTS AND EXACT LOCATIONS SHALL BE COORDINATED WITH ARCHITECT. BEFORE ROUGH-IN. MOUNTING OUTLET BOX, OR FIXTURE, TO NEAREST STUD IS NOT ACCEPTABLE.

ALL INTERIOR LED LAMPS SHALL BE 3500K COLOR, UON. ALL EXTERIOR LED LAMPS SHALL BE 2700K COLOR, UON.

★ GFI TYPE BREAKER

o EXISTING BREAKER WITH NEW LOAD

NEW BREAKER IN EXISTING SPACE, OR REPLACING EXISTING BREAKER

ALL FINISHES SHALL BE CHOSEN BY ARCHITECT. FOR BID PURPOSES, ASSUME A STANDARD FINISH, UON.

KEYED NOTES LEGEND

200A MLO, 200A BUSSING 120/208V, 3ø4W SQUARE D TYPE NQOB			Р	Ά	N	EXIS	STING	• • • • • • • • • • • • • • • • • • • •	A	99			MOL	INTING:	RECESSED
DESCRIPTION/LOCATION	ØΑ	øΒ	øС	CIRCI BREA	UIT AKER		CUIT MBER	CIRCU	IT KER	ØΑ	øΒ	øС		DESCRIP1	TON/LOCATION
LIGHTS (LOWER LVL WEST)	608			<b>o</b> 20		1	2		/10	720			RE	CEPT	(BATHROOM GFI)
		733		0	ĺ	3	4		0		720				(STORAGE)
V			855	0		5	6		0			720			V
SPARE				0		7	8		0	900				(R	ECORDS/OFFICE)
				0		9	10		0		720				V
				0		11	12		0			720			(TRIAL STORAGE)
				0		13	14		0	720					<u> </u>
				0		15	16		0		540				WH/MECH ROOM)
V				0		17	18		0			360			(STAFF/PAT RR)
SPARE						19	20		0	900					(LAB)
N				ļ.,		21	22		0		1000			. (C	COUNTER TOP)
<u> </u>					<u> </u>	23	24		0			1000	\ \ \		<u>VV</u>
RECEPTS (RESEARCH STAFF)	540			<b>-20</b>	)/1	25	26			830	4000			MP PUMP	(1) (5) (5) (5)
(5) 5) (5) (5)		540	000			27	28		0		1000	1000	RE	CEPTS	(INFUSION)
(FLEX SPACE)	000		900	<u> </u>		29	30		0	1000		1000			
(T.V.S. EVERSISE)	900	5.40			<u>V</u>	31	32		0	1000	1000				
(T.V.S EXERCISE)		540	1000	<b>0</b> 20	) / T T	33	34		0		1000	1000	١ ,	1	N/
(CARDIO EQUIP)	1000		1000	0		35	36 38	1	- 9			1000		ARE	<u>V</u>
VI VI	1000	1000		0		37	40	15	/1		500			T WATER	DLIMD
VVVV Receptacles		1000	750	١	,	39 41	40	15,			500	200			CEPT/LIGHT
										<i>'</i>					
					CO	NNE	JIED	LO	AD	8.11	8.29	8.51		24.92	kVA CONN.
* LONG CONTINUOUS LOAD (	(LCL) O	R LAR	GEST M	IOTC	R L	_OAD	(LM	IL)						0.55	LCL & LML
△ PROVIDE CIRCUIT BREAKER LOCK-ON DEVICE AND RED HANDLED BREAKER								25.47	TOTAL kVA						
♦ ISOLATED GROUND CIRCUIT	-													71	TOTAL AMPS
★ GFI TYPE BREAKER														/1	TOTAL AMPS

	ELECTRICA	L SYMBOLS					
	LIGHTING SEE LIGHT FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION	CONDUIT & WIRE ALL WIRE SHALL BE #12 THWN CU UON					
A	LED (LETTER DESIGNATION REFERS TO FIXTURE TYPE AS SPECIFIED IN THE LIGHT FIXTURE SCHEDULE)		- (4) #12 + ground MAX. IN 1/2" CONDUIT - (8) #12 + ground MAX. IN 3/4" CONDUIT				
0	RECESSED DOWNLIGHT	<del></del>	# (16) #12 + ground MAX. IN 1" CONDUIT				
0	SURFACE MOUNTED		- BELOW GRADE OR FLOOR STUBBED AND CAPPED				
Q	SURFACE, WALL MOUNTED		- WIREMOLD G4000				
ă	PENDANT MOUNTED		- PLUGMOLD, WIREMOLD G20GBAX12				
$\Delta$	TRACK WITH TRACK HEADS		SWITCHES & CONTROLS				
			MOUNT AT +44" TO & UNLESS OTHERWISE NOTED				
_	4 STRIP	$S_2$	SINGLE POLE (SPST) TWO POLE (DPST)				
	EXIT SIGN (SINGLE OR DOUBLE FACED WITH DIRECTIONAL ARROWS AS SHOWN)	$S_3$	3-WAY (SPDT)				
		S <sub>4</sub> S <sub>P</sub>	4-WAY (DPDT) WITH PILOT LIGHT				
WALL MOUNTED RECEPTACLES			DOOR OPERATED				
	MOUNT AT +18" TO Q UNLESS OTHERWISE NOTED	S <sub>D</sub> S <sub>T</sub>	TIMER				
₽	20A DUPLEX, VERTICALLY MOUNTED	I '`	KEY OPERATED  (RATED FOR THE LAMP TYPES AND WATTAGE				
₽,	20A DUPLEX, W/USB PORTS		WALLBOX DIMMER THE LOAD THEY CONTROL, INCLUDING REQUESTIONS DERATING FOR MULTIGANG INSTALLATIONS)				
€	20A HALF SWITCHED DUPLEX RECEPTACLE 20A DUPLEX, HORIZONTALLY MOUNTED						
$\stackrel{\vee}{\Rightarrow}$	DOUBLE DUPLEX		FLOOR OUTLETS				
<b>⊕ ⊕ ⊘</b>	CATV AND/OR VIDEO		TEOOK OUTLETS				
$\bowtie$	TELEPHONE AND/OR COMMUNICATIONS (PROVIDE 3/4"CO INTO ACCESIBLE CEILING SPACE, UON)	⊙	20A DUPLEX (OUTLETS SHALL BE FLUSH, RECESSED, OR PEDES				
$\Theta$	NON-STANDARD OUTLET (SEE PLANS FOR NEMA CONFIGURATION)	•	TEL/COMM  TYPE, AND SHALL BE AS SPECIFIED IN THE PLAN AND SPECIFICATIONS)				
	LETTER DESIGNATIONS	MI:	SC. OUTLETS & EQUIPMENT				
AC	ABOVE COUNTER (MOUNT ABOVE COUNTER SPLASH, BUT NOT ABOVE +48" TO TOP OF BOX, AS DIRECTED BY ARCHITECT)	╚	TIME SWITCH				
AHJ	AUTHORITY HAVING JURISDICTION	0	THERMOSTAT (+44" STANDARD UON)				
CO	CONDUIT ONLY (WITH PULL CORD)	0	JUNCTION BOX				
dns	DO NOT SWITCH (LIGHT FIXTURE SHALL BE WIRED HOT)		MOTOR				
EX	EXISTING, TO REMAIN		DISCONNECT SWITCH TRANSFORMER				
EXR FLA	EXISTING, TO BE REMOVED FULL LOAD AMPS	R	RELAY OR CONTACTOR (IN NEMA 1 ENCLOSURE UON)				
GD	CONNECT, AS REQ'D TO GARBAGE DISPOSAL	$\overline{S}_{M}$	MANUAL MOTOR STARTER				
GFI	GROUND FAULT INTERRUPTING	<u>©</u>	SPEAKER				
GWS	GANG WITH SWITCH	V   ●	VOLUME CONTROL SWITCH DOORBELL				
MCA	MINIMUM CIRCUIT AMPS		FIRE ALARM PULL STATION				
MCB	MAIN CIRCUIT BREAKER	♦	FIRE ALARM HORN				
MFS MLO	MAXIMUM FUSE SIZE MAIN LUGS ONLY	💠	FIRE ALARM CHIME				
MLO NL	NIGHT LIGHT (LIGHT FIXTURE TO BE LEFT ON 24-HOURS A DAY)		FIRE ALARM VISUAL				
	LOCATE, AS REQ'D FOR REFRIGERATOR		FIRE ALARM AUDIO/VISUAL FIRE ALARM SMOKE DETECTOR				
REF	EXISTING, RELOCATED TO NEW POSITION	l Å	FIRE ALARM HEAT DETECTOR				
REF REL							
	TANDEM WIRED	<b>Š</b> <sup>CO</sup>	FIRE ALARM SMOKE/CO DETECTOR				
REL	TYPICAL		FIRE ALARM SMOKE/CO DETECTOR LOW VOLTAGE/WIRELESS KEYPAD				
REL TW TYP UON	TYPICAL UNLESS OTHERWISE NOTED		LOW VOLTAGE/WIRELESS KEYPAD				
REL TW TYP UON WM	TYPICAL UNLESS OTHERWISE NOTED OUTLET MOUNTED IN WIREMOLD		LOW VOLTAGE/WIRELESS KEYPAD				
REL TW TYP UON	TYPICAL UNLESS OTHERWISE NOTED		LOW VOLTAGE/WIRELESS KEYPAD OCCUPANCY SENSOR (CEILING OR WALL MOUNTED)				

PER CBC 11B-308.1, ALL POWER, LOW VOLTAGE, AND SWITCH CONTROLS SHALL BE LOCATED AS FOLLOWS:

MAXIMUM HEIGHT WITH 20"-25" OBSTRUCTION, FORWARD APPROACH SHALL BE +44" TO TOP OF OUTLET

MAXIMUM HEIGHT WITH 1"-24" OBSTRUCTION, SIDE APPROACH SHALL BE +46" TO TOP OF OUTLET BOX.

MAXIMUM HEIGHT WITHOUT OBSTRUCTION SHALL BE +48" AFF TO TOP OF OUTLET BOX.

MINIMUM HEIGHT AFF SHALL BE +15" TO BOTTOM OF OUTLET BOX.



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AGENCY APPROVAL: CITY OF SANTA BARBARA.

MILESTONE DATES: 9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL

4-22-24 PLANNING DEPT. SUBMITTAL

**REVISIONS:** 

PROJECT TITLE:

SANSUM DIABETES 2219 BATH STREET SANTA BARBARA, CA

ELECTRICAL SYMBOLS, SPECS

DATE: 12-30-22

DRAWN BY: KEVIN M. MURPHY JOB NUMBER: 22004

THE ARCHITECT DOES NOT REPRESENT THAT THESE PLANS OR THE SPECIFICATIONS ARE SUITABLE FOR ANY SITE OTHER THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY PREPARED. THE ARCHITECT DISCLAIMS RESPONSIBILITY FOR THESE PLANS AND SPECIFICATIONS IF THEY ARE USED IN WHOLE OR IN PART AT ANY OTHER SITE.

SHEET TITLE:

3639 Harbor Blvd, Suite 204 Ventura, CA 93001 SHEET \_\_\_ of \_\_\_ phone: 805.563.5444

alan@aneng.com Electrical Engineering Lighting Desig A23029E10.dwg

**Alan Noelle Engineering** 

200A MLO, 200A BUSSING							STING		•••	- 1	MOUNT	ING: RECESSED	(RELOCATED)
120/208V, 3ø4W SQUARE D TYPE NQOB			Р	Ά	N	ΕI		"B					
DESCRIPTION/LOCATION	ØΑ	øΒ	øС	CIRCL			CUIT IBER	CIRCUIT BREAKER	ØΑ	øΒ	øС	DESCRIPTION	I/LOCATION
*LIGHTS (1ST LVL WEST)	1130			<b>o</b> 20	/1	1	2	20/10	720			RECEPTS (	OFFICE 5,6,7)
*		1280		0		3	4	0		720			
* V		<u> </u>	1280	0		5	6	0			720		V
SPARE		<u> </u>		0	$\square$	7	8	0	720			(0	OFFICE 8,9,10)
CYCTEMO EUDINITUDE			700	0	$\vdash \vdash$	9	10	0		900	000		
SYSTEMS FURNITURE	720	<del>                                     </del>	720	0	$\vdash\vdash$	11	12	0			900		/UNICEY DD)
	720	720		0	$\vdash$	13 15	14 16	0	180	540		(HIDDLE OF	(UNISEX RR) FICE 1, CONF)
		/20	720	0		17	18			340	720	(HUDDLE OF	TICE I, CONF)
	720		120	0	$\square$	19	20		720		120		<u> </u>
	- 25	720		0	$\overline{}$	21	22	0		900		+ + (	OFFICE 2,3,4)
		<del>_</del> -	720	0		23	24	0		500	720		011102 2,0,1,
<b>1</b>	720		1	o V		25	26	0	900				V
SPACE				<u> </u>		27	28	0		360		V (MEN RE	R, WOMEN RR)
V						29	30	0			720	SYSTEM FURNIT	URE
COPIER	800			<b>=20</b> ,	/2	31	32	0	720				
<u> </u>		800		- V		33	34	0		720			
SPARE		<u> </u>		<b>o</b> 20	/1	35	36	0			720	<b>V</b>	
		<u> </u>		0	igwdown	37	38	0				SPARE	
N/				0	-	39	40	0					
<u> </u>				0	<u></u>	41	42	V 0		7.00		V 20.07 I	
								LOAD	7.33	7.66	7.94	+	VA CONN.
* LONG CONTINUOUS LOAD (	LCL) O	R LAR	GEST M	ЮТО	R L	-OAD	· (LM	IL)				0.92 L	.CL & LML
△ PROVIDE CIRCUIT BREAKER		ON DE	EVICE /	AND	REI	D HA	∤NDL	.ED BRE	AKER			23.85 T	OTAL kVA
♦ ISOLATED GROUND CIRCUIT	•											66 T	OTAL AMPS
★ GFI TYPE BREAKER													017.12 7.11.11 0
o EXISTING BREAKER WITH N					<b></b>								
NEW BREAKER IN EXISTING	SPACE	E, OR F	REPLAC	JING	EXI	ISTIN	IG BI	REAKER					

DESCRIPTION/LOCATION	ØΑ	øΒ	øС	CIRCUIT BREAKER		CUIT MBER	CIRCUI		ØΑ	øΒ	øС	DESCRIPTI	ON/LOCATION
LIGHTS	862			20/1	1	2	20,	_	1000			RECEPTS	(KITCHEI
V		414			3	4	Í			1000			,
SPARE					5	6					1000		
					7	8			600				(REF)
V					9	10				1000		(GAF	RBAGE DISP.)
SPARE				<u> </u>	11	12	V				500		(HOOD)
SPACE				<u> </u>	13	14	30/	/2	2000			(R	ANGE/OVEN)
					15	16	V			2000			
					17	18	20,	/1			180	V	(LAUNDR)
<u>V</u>					19	20			900			RECEPTS	
GATE UNIT		600		20/1	21	22				1080			
SPARE					23	24					720	<u> </u>	
					25	26						SPARE	
					27	28				150		CIRC. PUMP	
V					29	30	V				150	CIRC. PUMP	
SPARE					31	32	-	_	1500			WASHER	(LAUNDR
SPARE					33	34	30/	/2		2500		DRYER	
IRRIGATION CONTROL			100		35	36	<u> </u>				2500	<u> </u>	
FIRE ALARM CONTROL	500				37	38	60/	/3				SPARE	
SUMP PUMP		1130			39	40							
RECEPTACLES			1130	<u> </u>	41	42	V					V	
				CC	NNE	CTED	LOA	۱D	7.36	9.87	6.28	23.52	kVA CONN.
* LONG CONTINUOUS LOAD	(LCL) C	R LAR	GEST M	OTOR	LOAD	) (LN	/L)					0.32	LCL & LML
△ PROVIDE CIRCUIT BREAK		ON DE	EVICE A	AND RE	D H	ANDL	.ED E	BRE	AKER			23.84	TOTAL kVA
♦ ISOLATED GROUND CIRCU	IIT												TOTAL AMPS

DESCRIPTION/LOCATION	ØΑ	øΒ	øС	CIRCU	JIT T AKER	CIRC	CUIT MBER	CIRCU	JIT AKER	ØΑ	øΒ	øС		DESCRIP*	TION/LOCAT	ΠO
LIGHTS (GROUND LVL EAST)	517		+	<b>o</b> 20	_	1	2	_		900			RE	CEPT	(OFFICE 1,	
		692		0		3	4		Ó		1080					
V			1531	0		5	6		0			1080				_
SPARE				0		7	8		0	500					FRIG (BREAI	
	<u> </u>			0		9	10	Ĺ'	0		1000		$\square$		(SMALL AP	PL
	<u> </u>			0		11	12	↓′	0			1000	$\bigsqcup$	<b></b>	<u>V</u> _	
<u> </u>				0 \	<u>↓</u>	13	14	<u>↓'</u>	+	1500			$\bigsqcup$	<b>—</b>	(	(CC
SPARE	<del> </del>			<b>o</b> 20	/3	15	16	<u> </u> '	0		1500	<del> </del>	$\coprod$	<del></del>		_
	<del></del>	<u> </u>		0		17	18	<del>                                     </del>	0			720	$\sqcup$	<del></del>	(OFFICE	5,
		-		0 \		19	20	<del> </del> '	0	000	1	-	$\longmapsto$			_
SPARE	<del>                                     </del>		<del></del>	<b>o</b> 20	/ <u>5</u> ]	21	22	+	V o		900	900	$\vdash$			
- \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		-	<del></del>	0 1	<del> </del>	23 25	24		1	900		900	$\vdash$	PEERIC	(OFFI	
RECEPTS (LIBRARY/CONF)		720		□20	$\frac{1}{1}$	27	28		J/ IU		1500	-	$\vdash$		(SMALL API	
W (LIBITATE )		120	540		<del>/                                    </del>	29	30	-	V -		1300	500	$\overline{}$		IG FOUNT (	
RECEPTACLES			5+5		<u> </u>	31	32		· .		-	- 300	SP	ARE	<u> </u>	
SPARE			+	<b>o</b> 40		33	34		0							-
V			<b> </b>	0 1	<u> </u>	35			V o					Ī		_
SPARE				<b>o</b> 20	<del>ا 1</del> /ر	37	38		)/30				SP	ARE		_
				0		39	40	+ 1	O							
V				0 \	<b>V</b>	41	42	V	V o							
					CO	NNEC	CTED	LO	AD	5.62	7.39	6.27		19.28	kVA CON	١N
* LONG CONTINUOUS LOAD (	(LCL) C	PR LAR	GEST N	MOTC	DR I	OAD	(LN	ЛL)						0.69	LCL & LI	.MI
△ PROVIDE CIRCUIT BREAKER							•	•	BRE	AKER		I	$\vdash$	19.97	TOTAL k\	 V/
♦ ISOLATED GROUND CIRCUIT												ı	$\vdash$	55		
★ GFI TYPE BREAKER												1	Ш		10176 7	<u> </u>

QUARE D TYPE NQOB  PANEL "F"  OFFICIENT ON A CONTINUE AND ACCURATION ACCURATION AND ACCURATION ACC											MOUNTING: SURFACE			
DESCRIPTION/LOCATION		ØΑ	ØΒ	øС	CIRCI			CUIT IBER	CIRCUIT		ØΑ	ØΒ	øС	DESCRIPTION/LOCATION
LIGHTS (UPPER FLR EAS	ST)	689			<b>o</b> 20	/1	1	2	20/	_	720			RECEPTS (CORR. WAITING)
V			809		0		3	4		0		900		(DRINKING FOUNTAIN)
SPARE					0		5	6		0			1080	(EXAM RMS 4,5)
					0		7	8		0	360			(NURSE STATION)
					0		9	10		0		360		
V					o \		11	12		0			360	V
RANG HOOD/RECEPT (TRAIN KTO	HN)	1080			<b>-20</b>	/1	13	14		0	360			(NURSE WORK RM)
REFRIGERATOR			1500		0		15	16		0		360		V
DISHWASHER				1500	0		17	18		0			180	(STAFF TOILET)
MICROWAVE		1500			0		19	20		0	720			V (NURSE WK, STATION)
SMALL APPLANCE	V		1500		o \		21	22		0		360		PYXIS
SPACE	-						23	24		0			1000	COPIER (NURSE STATION)
							25	26		0	360			RECEPTS (CHARTING)
							27	28		0		720		(PRIVATE RM 2)
							29	30		0			900	(PRIVATE RM 1)
							31	32		0	720			(CORRIDOR)
V						L	33	34		0		900		(CONF RM)
RANGE (TAIN KTCH	N)			3300	<b>¤</b> 50	/2	35	36		0			540	V
V		3300			o \		37	38		0				SPARE
OVEN			3300		<del>-5</del> 0	/2	39	40	<b>V</b>	0				V
V	V			3300	<b>□</b> \		41	42		-0				SPACE
						CO	NNEC	CTED	LOAI	D	9.81	10.71	12.16	32.68 kVA CONN.
* LONG CONTINUOUS LOA	D (	LCL) O	R LAR	GEST M	ото	R L	OAD	(LN	/L)					0.37 LCL & LML
△ PROVIDE CIRCUIT BREA	(ER	LOCK-	ON DE	EVICE A	AND	RE	D H	NDL	ED B	RE	AKER			33.05 TOTAL kVA
♦ ISOLATED GROUND CIRC	TIU	•												92 TOTAL AMPS
★ GFI TYPE BREAKER														92 TOTAL AMES
O EXISTING BREAKER WITH	l N	EW LOA	AD.											
□ NEW BREAKER IN EXIST	ING	SPACE	E, OR F	REPLAC	ING	ΕX	ISTIN	G B	REAKI	ER				

DESCRIPTION/LOCATION	ØΑ	øΒ	øС	CIRCU		CIR(		CIRCU		ØΑ	ØΒ	øС	DESCRIF	TION/LOCATION
IGHTS (UPPER FLR WEST)	689			<b>o</b> 20		1	2	_		720			RECEPTS	(EXAM RMS 2
V V		809		0		3	4		0		900			AM RM 1, OFFI
SPARE				0		5	6		0			1080		(OFFI
V				0		7	8		0	360				(CORRIDO
RECEPTS (CLEAN RM) (RR)				0		9	10		0		360			(SUPPLY/LINE
V				0 \		11	12		0			360		(SOILED UTIL, F
RECEPTS (BREAK RM)	1080			<b>-20</b>	/1	13	14		0	360				(CHARTII
REFRIGERATOR		1500		0		15	16		0		360			(PRIVATE RM
DISHWASHER			1500	_		17	18		0			180		(STAFF TOIL
MICROWAVE	1500			0		19	20			720			<u> </u>	(INFUSATE F
SPARE		1500		0		21	22		0		360		HOOD	
V				<u> </u>		23	24		0			1000	RECEPTS	(VITA
SPACE				1-7		25	26		0	360			<u>V</u>	(L/
						27	28		0		720	222	CENTRIFUGE	<u>:</u>
						29	30		0	700		900		
						31	32	20	_	720	000		V CDADE	
						33	34		 /		900	F 40	SPARE	
						35	36		$\vdash \exists$			540	V	
N/						37	38 40						SPACE	
V				+		39 41	40						V	
					COI	NNEC		LO	AD	7.80	8.64	7.20	23.64	4 kVA CONN.
LONG CONTINUOUS LOAD (	LCL) O	R LAR	GEST N	иото	R L	OAD	(LN	1L)			ļ		0.38	B LCL & LML
PROVIDE CIRCUIT BREAKER		ON DE	EVICE	AND	REI	D HA	NDL	.ED	BRE.	AKER			24.02	2 TOTAL kVA
SISOLATED GROUND CIRCUIT													67	7 TOTAL AMP

150A MLO, 225A BUSSING 120/208V, 3Ø4W SQUARE D TYPE NQOB			PA	٩N		(ISTIN	NG 99	M	1"			MOUI	NTING: S	SURFACE	
DESCRIPTION/LOCATION	ØΑ	øΒ	øС	CIRCUIT BREAKE		CIRCUIT IUMBER		CUIT EAKER	ØΑ	øΒ	øС		DESCRIPT	ION/LOCAT	ION
RECEPTS (ROOF)	900			20/	<u>′1 1</u>	2	_	5/2	208			MCL	J	(1ST FLR	EAST)
FC UNITS (1ST FLR WEST)		625		15/		_		V		208		V			
V			625	<u> </u>	_ 5			5/2			208	MCL	J		
MCU	208			15/	_			<u>V</u>	208			<u> </u>			
V		208		<u> </u>	9		_	5/2		621		FC	UNITS		
MCU			208	15/	_			<u> </u>			321	<u> </u>			
V	208			I V	13			<b>T</b>				SPA	CE		
SMOKE FIRE DAMPERS(1ST FLR)		350		△20/											
SPACE				<del>  -</del>   -	- 17	_	_								
					19	_	_								
					2										
					2	_	_								
					2	_									
					3				<b> </b>						
					_	3 3						V			
V					_			5/2			1123	ERV	/-2.1	(	ROOF)
HP-2 (ROOF)	7686			80/		_	-	ý	1123			V			,
		7686		† Í	39	9 40	0 1	5/2		1123		ERV	/-2.2		
V			7686	₩	4	1 42	2	Ý			1123	٧			V
				С	CONN	ECTE	D L	OAD	10.54	10.82	11.39		32.96	kVA CON	N.
* LONG CONTINUOUS LOAD (	LCL) O	R LARC	SEST M	OTOR	LOA	AD (L	_ML)						0.00	LCL & L	ML
A PROVIDE CIRCUIT BREAKER		ON DE	VICE A	AND F	RED I	HANE	DLED	BRE	EAKER				32.96	TOTAL k'	٧A
♦ ISOLATED GROUND CIRCUIT ★ GFI TYPE BREAKER	•												91	TOTAL A	MPS
A SIT THE BILANEIN															

150A MLO, 225A BUSSING 120/208V, 3ø4W SQUARE D TYPE NQOB		PA	NI	EXIS	STING	, M	2"			MOL	JNTING:	SUF	RFACE	
DESCRIPTION/LOCATION	ØΑ	øΒ	øС	CIRCUIT BREAKER		CUIT MBER	CIRCUIT BREAKER	ØΑ	øΒ	øС		DESCR	PTION	I/LOCATION
RECEPTS (ROOF)	900			20/1	1	2	15/2	208			МС	:U		(2ND FLF
FC UNITS (2ND FLR SOUTH)		629		15/2	3	4	V		208		1	1		
V			629	V	5	6	15/2			208	MC	U		
MCU (2ND FLR)	208			15/2	7	8	V	208				1		V
<u> </u>		208		V	9	10	15/2		717		FC	UNITS	(2ND	FLR NORTH
SMOKE FIRE DAMPERS			208	△20/1		12	V			717				
SPACE					13	14					SP	ACE		
					15	16								
					17	18								
					19	20								
					21	22								
					23	24								
					25	26								
					27	28								
					29	30								
					31	32								
N/					33	34				1107	١.,	1		
V HP−3 (ROOF)	7606				35	36		1107		1123				(500)
HP-3 (ROOF)	7686	7686		80/3		38	20/3	1123	1107		ER	V-2.1		(ROOI
W		/600	7686	W	39 41	40 42			1123	1123	١ ١	ı		N.
<u> </u>			/000				<u>V</u>	11 17	11 11	+		77.0		V/A CONIN
								11.17	11.41	11.40		33.9		VA CONN.
* LONG CONTINUOUS LOAD (	. ,					•	-					0.0	00 L	CL & LML
△ PROVIDE CIRCUIT BREAKER		ON DE	EVICE A	ND RE	ED H	ANDL	ED BRI	EAKER				3.9	7 T	OTAL kVA
♦ ISOLATED GROUND CIRCUIT	•												94 T	OTAL AMPS

SQUARE D TYPE NQOB			P												
DESCRIPTION/LOCATION	ØΑ	ØΒ	øС	CIRCU BREAK	IIT KER	CIR( NUM	CUIT IBER	CIRCUI BREAK	T ER	ØΑ	ØΒ	øС		DESCRIPT	ION/LOCATION
FC-106,107,109,115,123	859			15/	/2	1	2	15/	2	208			МС	U	
V		859		<u> </u>	'	3	4	V.			208				
FC-100,103,116,119			915	15/		5	6	20/	/1△			250		OKE FIRE	DAMPERS
<u> </u>	915			<u>                                     </u>		7	8		-				SP	ACE	
MCU-1.3		208	000	15/	/2	9	10								
<u>V</u> SPACE			208	<b>  V</b>		11	12		$\dashv$						
SPACE				$+ = \mp$	-	13 15	14 16								
						17	18								
						19	20								
						21	22								
						23	24								
						25	26								
						27	28								
						29	30	L	-				١		
						31	32	15/	′3	745			ER	V-1.1	
						33	34				745				
<u> </u>					-	35	36	L V				745	\		
HP-1	8166	2122		80,	/3	37	38	15/	3	745			ER	V-1.2	
N/		8166	0400	1	,	39	40	1	_		745	745		1	
<u> </u>			8166	<u> </u>		41	42	<u> </u>	_			745			
				(	COI	NNEC	TED	LOA	νD	11.63	10.93	11.03		33.60	kVA CONN.
* LONG CONTINUOUS LOAD	(LCL) O	R LARG	GEST M	OTO	R L	.OAD	(LM	IL)						0.00	LCL & LML
△ PROVIDE CIRCUIT BREAKE	R LOCK-	ON DE	EVICE A	AND	REI	) HA	NDL	ED B	BRE	AKER				33.60	TOTAL kVA
♦ ISOLATED GROUND CIRCU	ıT													· · · <del>·</del>	

DESCIVII IIO	N/LOCATION	ØΑ	ØΒ	øС	CIRCUIT	CIF	RCUIT MBER	CIRCUIT BREAKER	ØΑ	øΒ	øС	DE	SCRIPT	TON/LOCA	٩T
RECEPTS	(REF)	1000			20/	_	2	20/1	1000			RECE		(FREEZER	
V	(FREEZER)		1000			3	4			1000				`	
SPACE					V	5	6	V			1000	V			
						- 7	8					SPAC	Ξ		
						9	10								
						11	12								
						13	14								
						15	16								
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						21	22								
						23 25									
						27	28								
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						33				<b> </b>					
						35									
						37	38								
						39	40								
V						- 41	42					V			
					С	ONNE	CTED	LOAD	2.00	2.00	1.00		5.00	kVA CC	N
									-	-		Ī			
* LONG CONT	TINUOUS LOAD (	ích c	RIARO	GEST N	<b>JOTOR</b>	LOAI	) (I N	11 )					0.00	LCL &	LN



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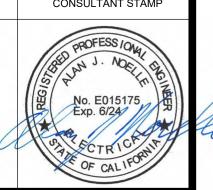
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ARCHITECT STAMP



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MILESTONE DATES:

9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

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PROJECT TITLE:

SANSUM DIABETES
RESEARCH
INSTITUTE
2219 BATH STREET
SANTA BARBARA, CA

SHEET TITLE:
ELECTRICAL

PANEL SCHEDULES

DATE: 12-30-22

DRAWN BY: KEVIN M. MURPHY

JOB NUMBER: 22004

SHEET \_\_\_ of \_\_\_

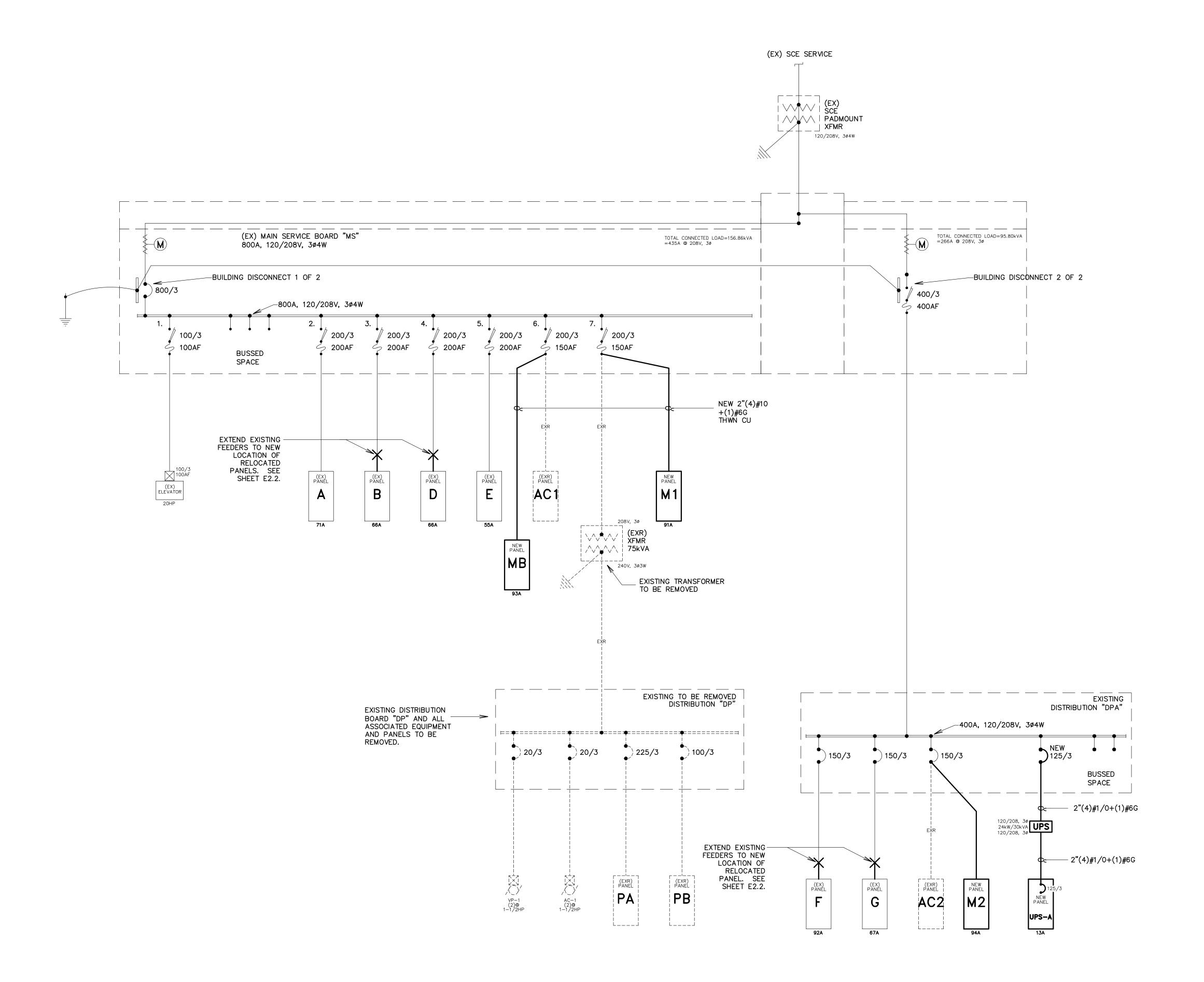
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9.18.23

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EVERYTHING SHOWN HERE IS EXISTING UNLESS OTHERWISE NOTED

ONE LINE DIAGRAM



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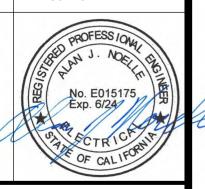
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10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

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PROJECT TITLE:

SANSUM DIABETES
RESEARCH
INSTITUTE
2219 BATH STREET
SANTA BARBARA, CA
93105

SHEET TITLE:
ELECTRICAL
ONE LINE DIAGRAM

DATE: 12-30-22

DRAWN BY: KEVIN M

DRAWN BY: KEVIN M. MURPHY

JOB NUMBER: 22004

SHEET \_\_\_ of \_\_\_

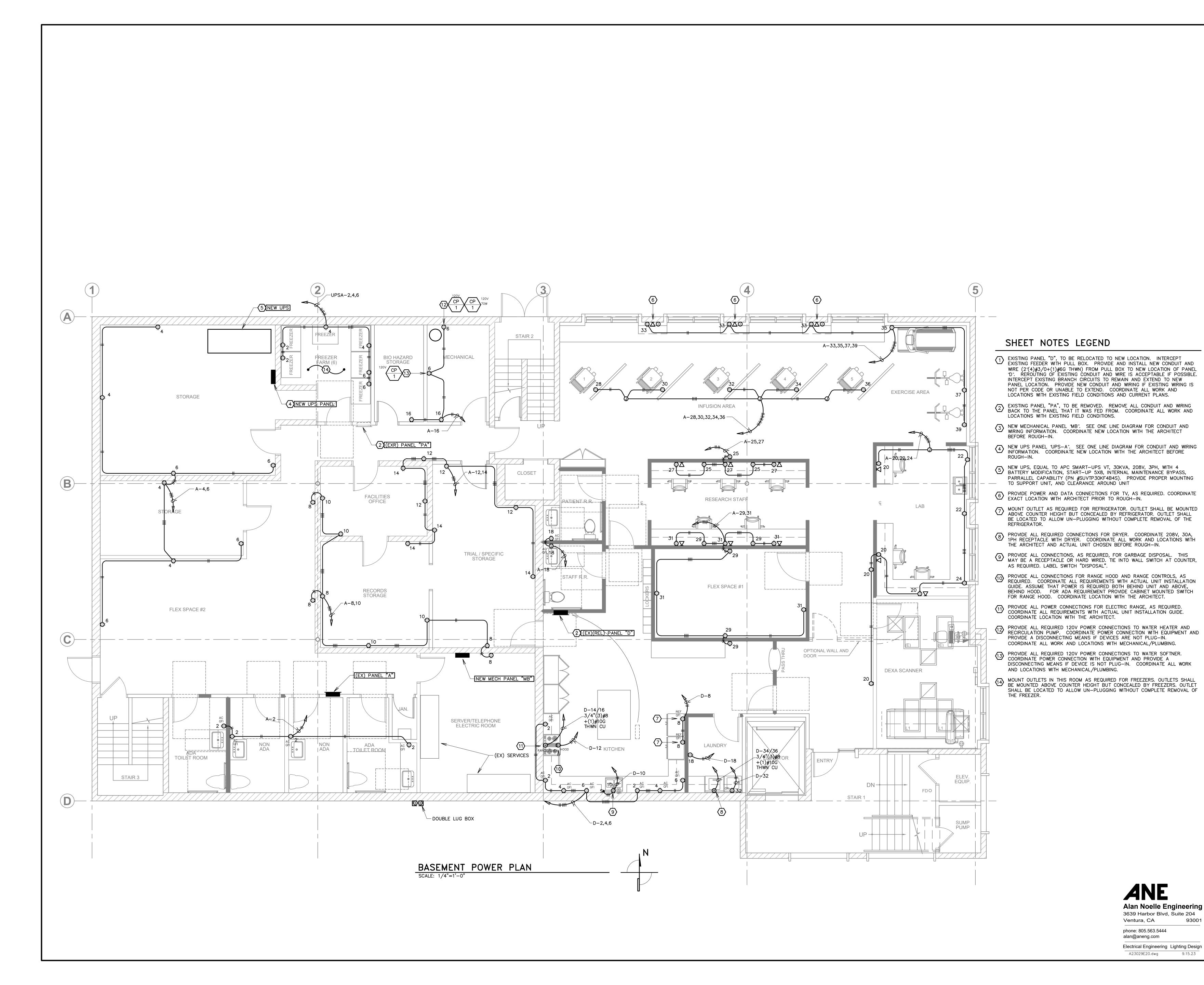
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4-22-24 PLANNING DEPT. SUBMITTAL

10-19-23 PLANNING DEPT. SUBMITTAL

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PROJECT TITLE:

SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

ELECTRICAL BASEMENT POWER PLAN DATE: 12-30-22

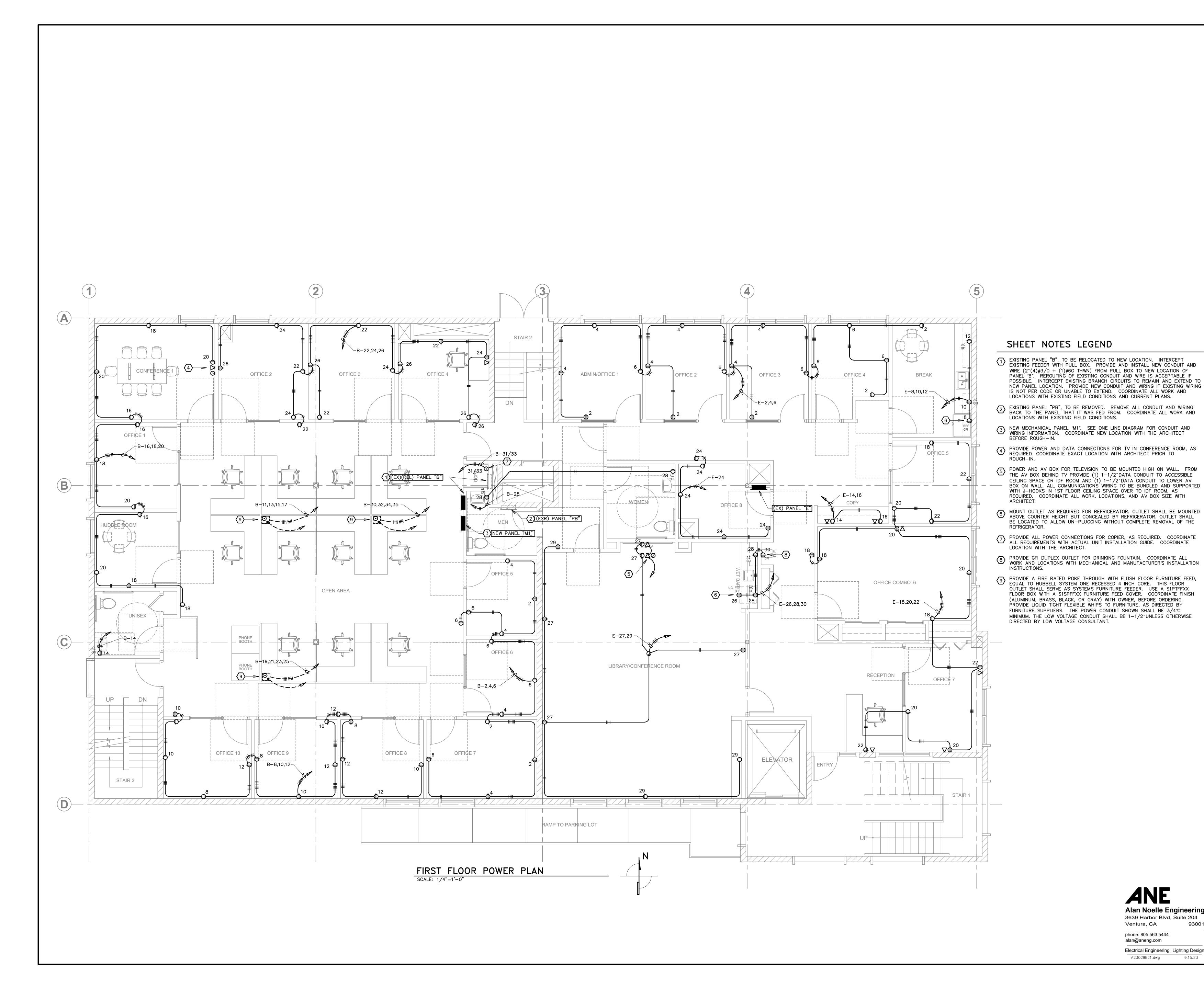
SHEET TITLE:

DRAWN BY: KEVIN M. MURPHY JOB NUMBER: 22004

SHEET \_\_\_ of \_\_ E2.0

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PROJECT TITLE:

SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

SHEET TITLE: ELECTRICAL FIRST FLOOR POWER PLAN

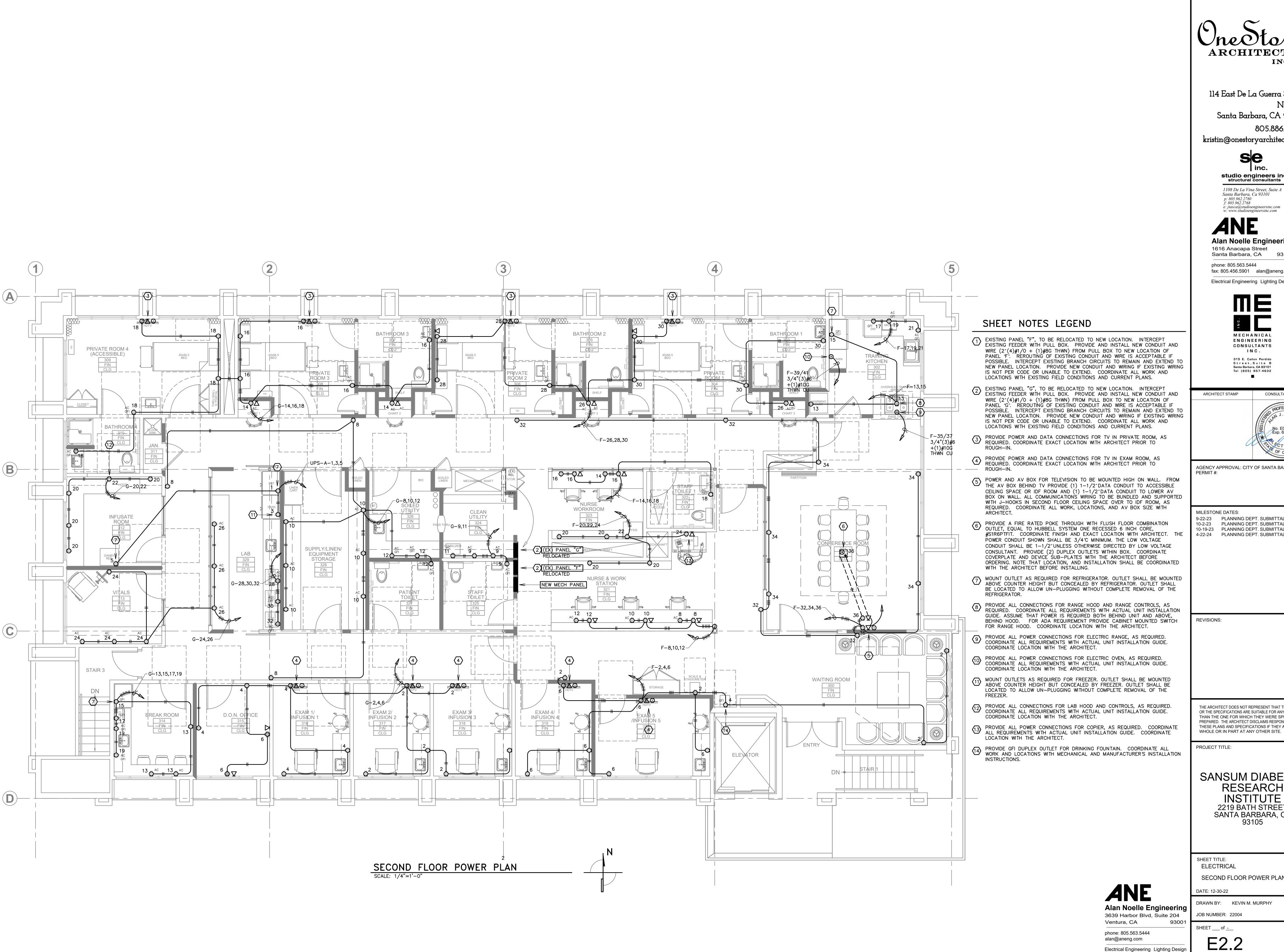
DATE: 12-30-22

DRAWN BY: KEVIN M. MURPHY JOB NUMBER: 22004

SHEET \_\_\_ of \_\_ E2.1

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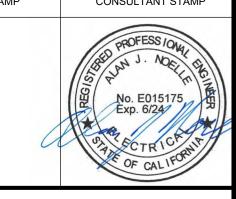
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AGENCY APPROVAL: CITY OF SANTA BARBARA.

MILESTONE DATES:

9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

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PROJECT TITLE:

SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

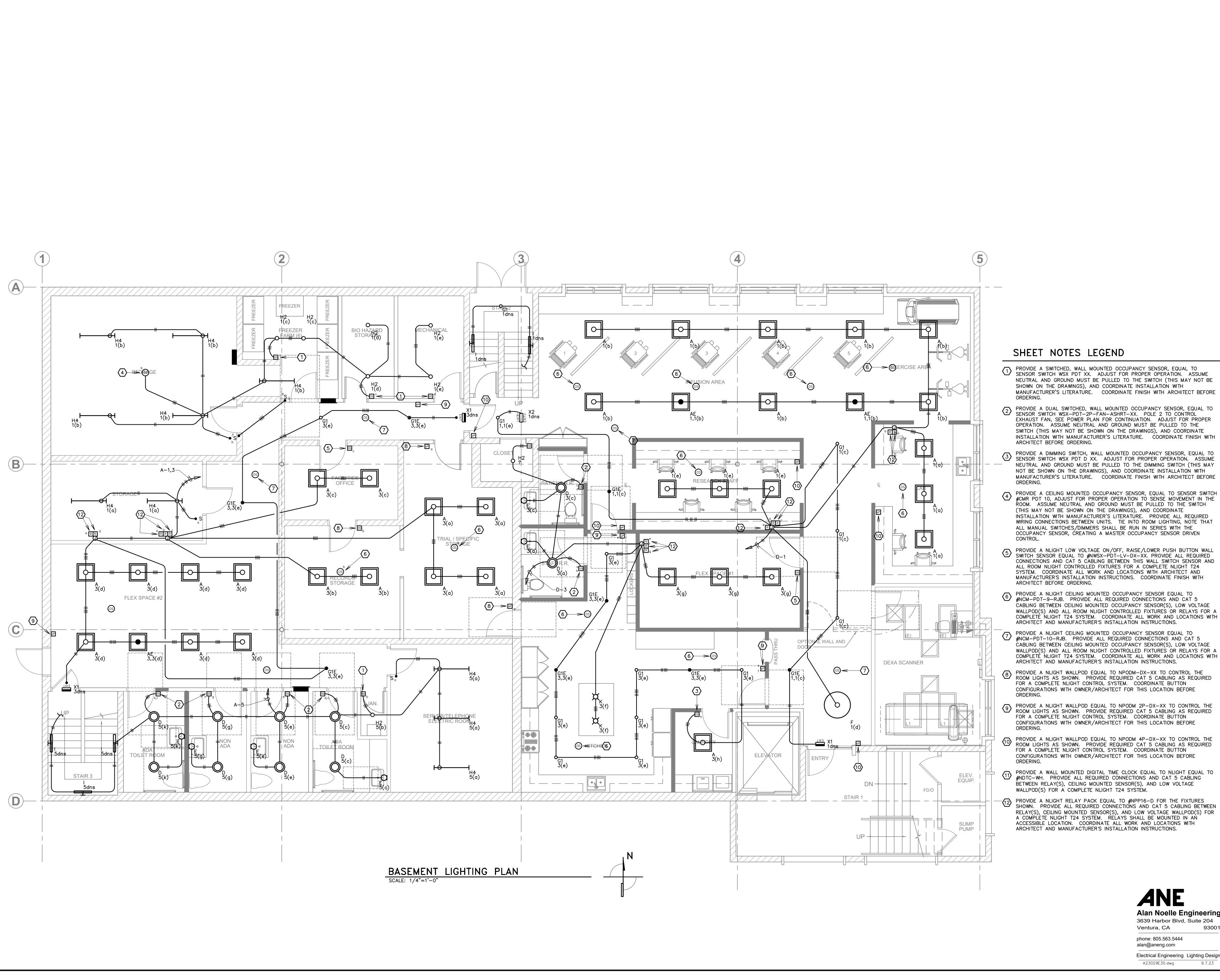
SHEET TITLE: ELECTRICAL

SECOND FLOOR POWER PLAN DATE: 12-30-22

DRAWN BY: KEVIN M. MURPHY JOB NUMBER: 22004

SHEET \_\_\_ of \_\_

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MILESTONE DATES: 9-22-23 PLANNING DEPT. SUBMITTAL PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL

4-22-24 PLANNING DEPT. SUBMITTAL

PERMIT #:

CONNECTIONS AND CAT 5 CABLING BETWEEN THIS WALL SWITCH SENSOR AND ALL ROOM NLIGHT CONTROLLED FIXTURES FOR A COMPLETE NLIGHT T24 SYSTEM. COORDINATE ALL WORK AND LOCATIONS WITH ARCHITECT AND MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE FINISH WITH

PROVIDE A NLIGHT CEILING MOUNTED OCCUPANCY SENSOR EQUAL TO #NCM-PDT-9-RJB. PROVIDE ALL REQUIRED CONNECTIONS AND CAT 5 CABLING BETWEEN CEILING MOUNTED OCCUPANCY SENSOR(S), LOW VOLTAGE WALLPOD(S) AND ALL ROOM NLIGHT CONTROLLED FIXTURES OR RELAYS FOR A COMPLETE NLIGHT T24 SYSTEM. COORDINATE ALL WORK AND LOCATIONS WITH REVISIONS: ARCHITECT AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.

PROVIDE A NLIGHT CEILING MOUNTED OCCUPANCY SENSOR EQUAL TO #NCM-PDT-10-RJB. PROVIDE ALL REQUIRED CONNECTIONS AND CAT 5 CABLING BETWEEN CEILING MOUNTED OCCUPANCY SENSOR(S), LOW VOLTAGE WALLPOD(S) AND ALL ROOM NLIGHT CONTROLLED FIXTURES OR RELAYS FOR A COMPLETÈ NLIGHT T24 SYSTEM. COORDINATE ALL WORK AND LOCATIONS WITH ARCHITECT AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.

PROVIDE A NLIGHT WALLPOD EQUAL TO NPODM-DX-XX TO CONTROL THE ROOM LIGHTS AS SHOWN. PROVIDE REQUIRED CAT 5 CABLING AS REQUIRED FOR A COMPLETE NLIGHT CONTROL SYSTEM. COORDINATE BUTTON CONFIGURATIONS WITH OWNER/ARCHITECT FOR THIS LOCATION BEFORE

PROVIDE A NLIGHT WALLPOD EQUAL TO NPODM 2P-DX-XX TO CONTROL THE ROOM LIGHTS AS SHOWN. PROVIDE REQUIRED CAT 5 CABLING AS REQUIRED FOR A COMPLETE NLIGHT CONTROL SYSTEM. COORDINATE BUTTON CONFIGURATIONS WITH OWNER/ARCHITECT FOR THIS LOCATION BEFORE

PROVIDE A NLIGHT WALLPOD EQUAL TO NPODM 4P-DX-XX TO CONTROL THE ROOM LIGHTS AS SHOWN. PROVIDE REQUIRED CAT 5 CABLING AS REQUIRED FOR A COMPLETE NLIGHT CONTROL SYSTEM. COORDINATE BUTTON CONFIGURATIONS WITH OWNER/ARCHITECT FOR THIS LOCATION BEFORE

PROVIDE A WALL MOUNTED DIGITAL TIME CLOCK EQUAL TO NLIGHT EQUAL TO #NDTC-WH. PROVIDE ALL REQUIRED CONNECTIONS AND CAT 5 CABLING BETWEEN RELAY(S), CEILING MOUNTED SENSOR(S), AND LOW VOLTAGE WALLPOD(S) FOR A COMPLETE NLIGHT T24 SYSTEM.

PROVIDE A NLIGHT RELAY PACK EQUAL TO #NPP16-D FOR THE FIXTURES SHOWN. PROVIDE ALL REQUIRED CONNECTIONS AND CAT 5 CABLING BETWEEN RELAY(S), CEILING MOUNTED SENSOR(S), AND LOW VOLTAGE WALLPOD(S) FOR A COMPLETE NLIGHT T24 SYSTEM. RELAYS SHALL BE MOUNTED IN AN ACCESSIBLE LOCATION. COORDINATE ALL WORK AND LOCATIONS WITH ARCHITECT AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.

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PROJECT TITLE:

SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

SHEET TITLE: **ELECTRICAL** BASEMENT LIGHTING PLAN

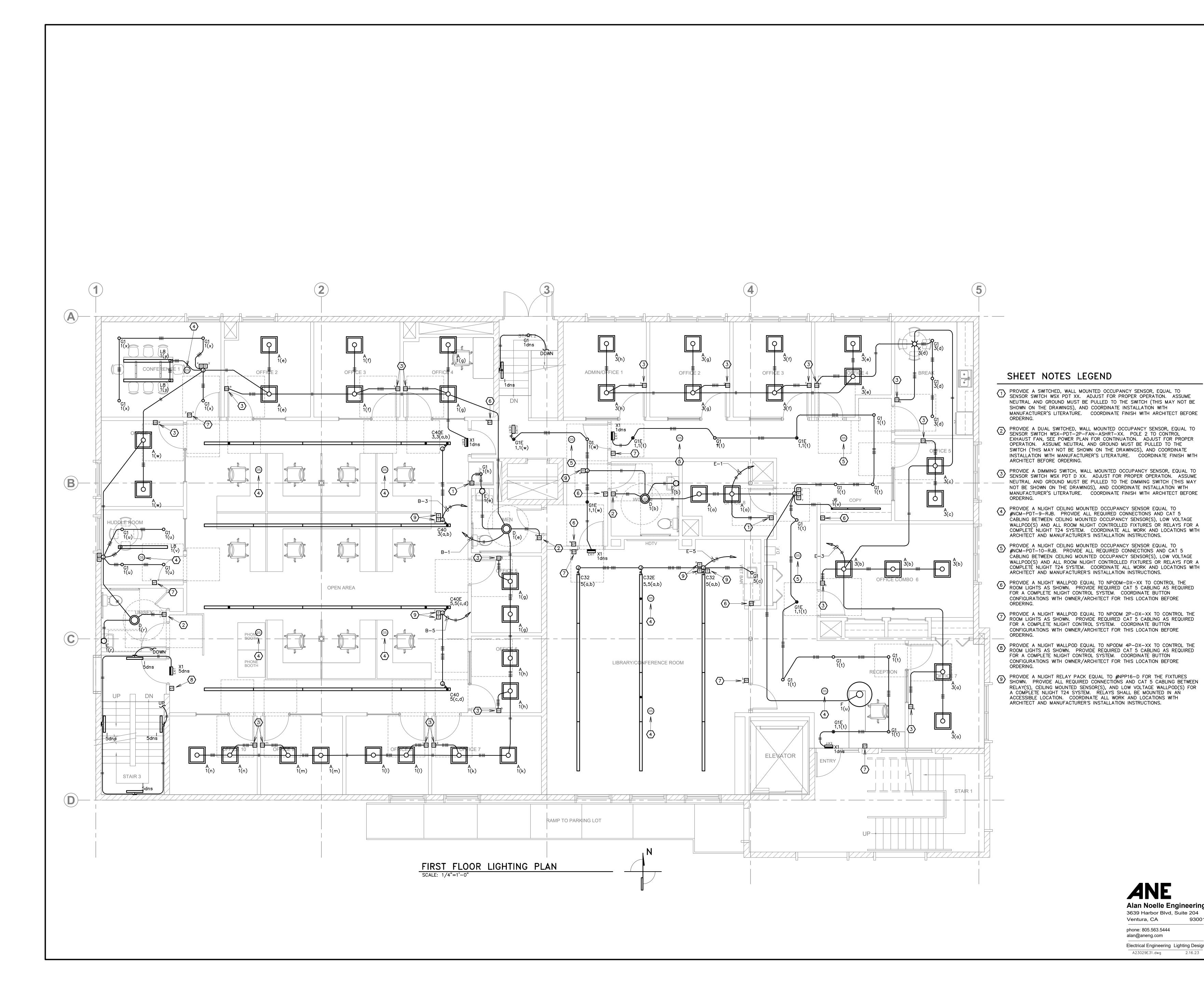
DATE: 12-30-22 DRAWN BY: KEVIN M. MURPHY

JOB NUMBER: 22004 SHEET \_\_\_ of \_\_

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Alan Noelle Engineering 3639 Harbor Blvd, Suite 204 Ventura, CA 93001 phone: 805.563.5444

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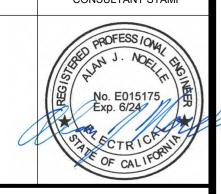
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AGENCY APPROVAL: CITY OF SANTA BARBARA.

MILESTONE DATES:

9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

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PROJECT TITLE:

SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

SHEET TITLE: **ELECTRICAL** FIRST FLOOR LIGHTING PLAN

DATE: 12-30-22 DRAWN BY: KEVIN M. MURPHY

**Alan Noelle Engineering** 3639 Harbor Blvd, Suite 204 JOB NUMBER: 22004

> SHEET \_\_\_ of \_\_ E3.1

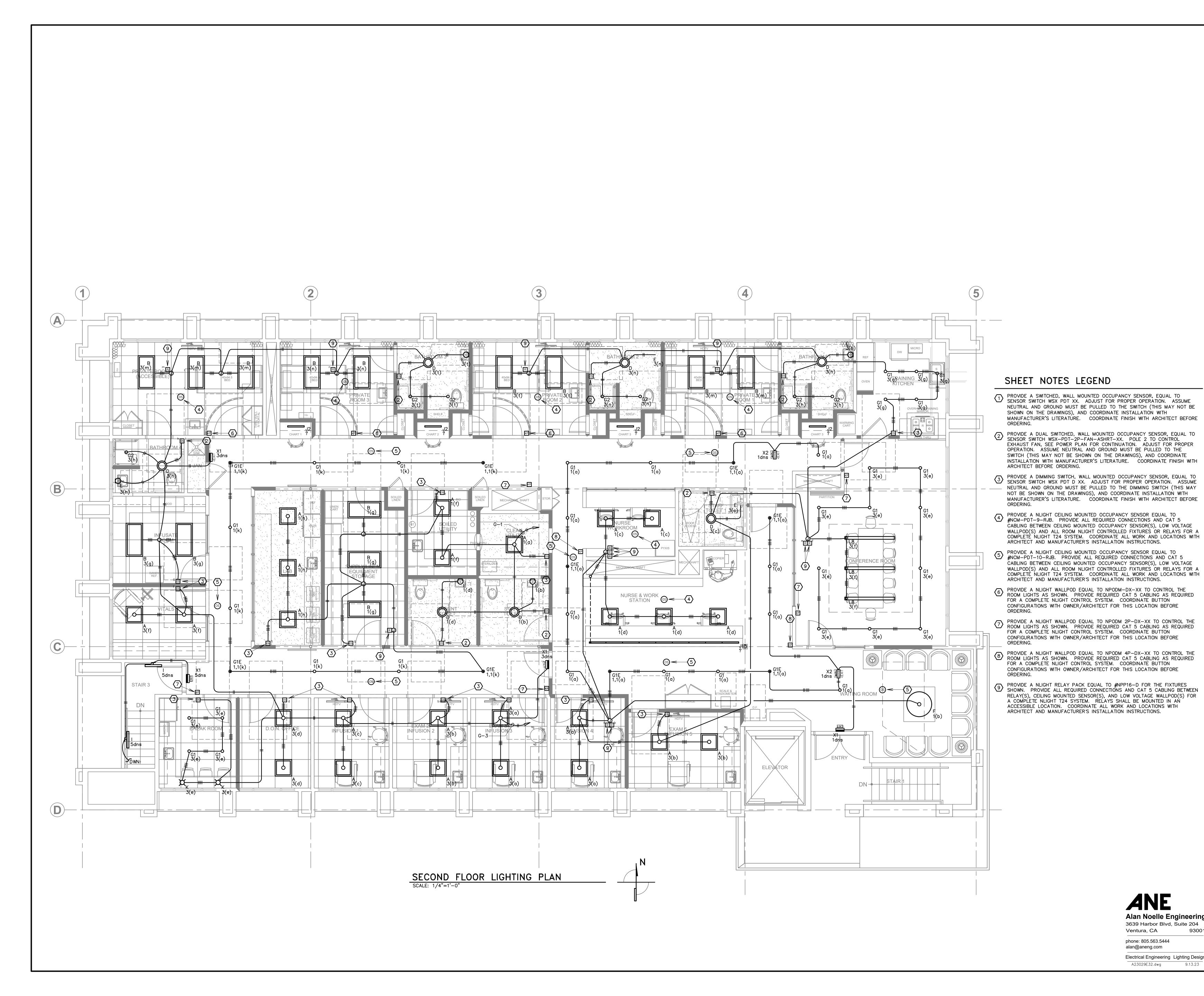
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10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

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PROJECT TITLE:

SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

ELECTRICAL SECOND FLOOR LIGHTING PLAN

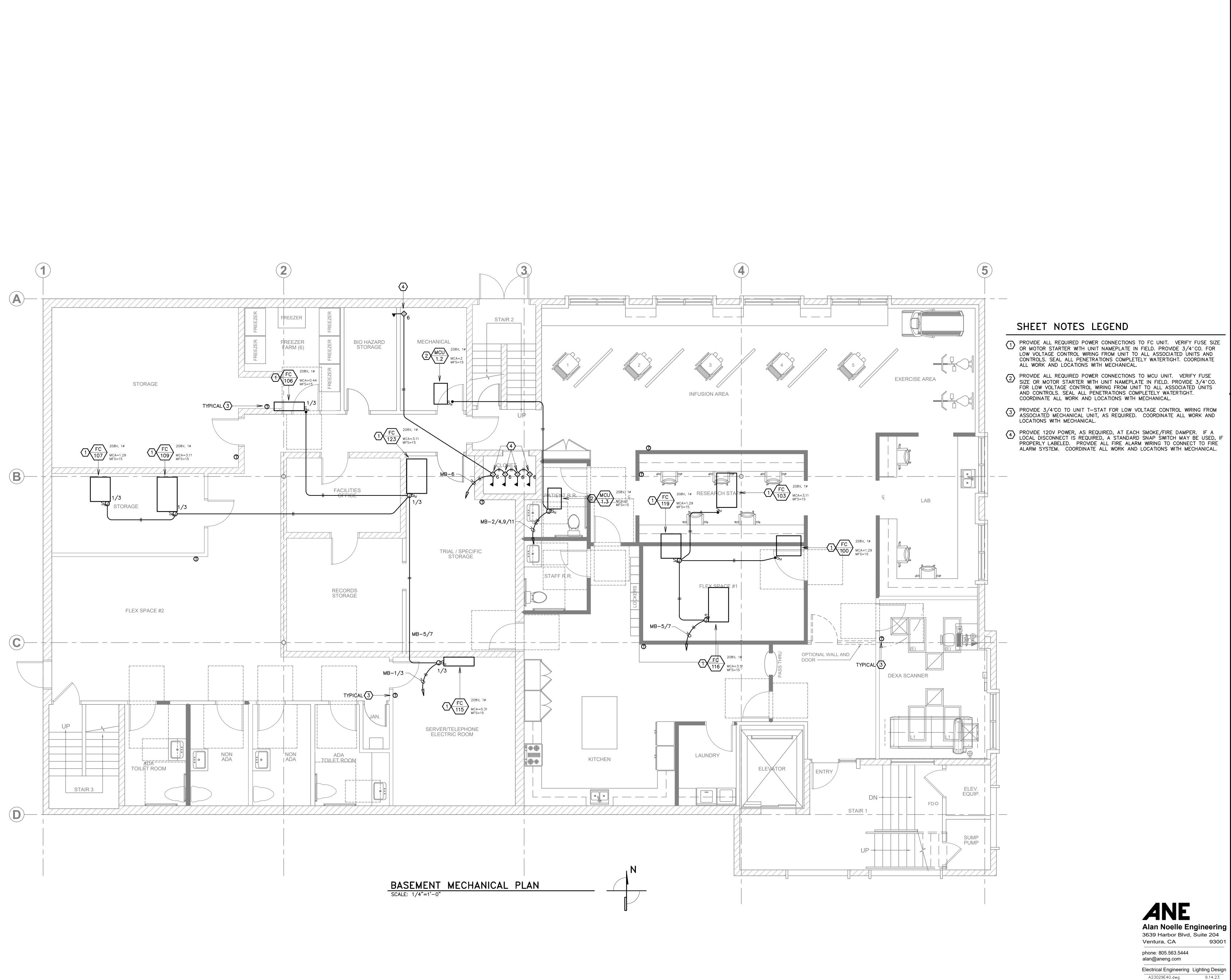
DATE: 12-30-22

DRAWN BY: KEVIN M. MURPHY JOB NUMBER: 22004

SHEET \_\_\_ of \_\_\_

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MILESTONE DATES:
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10-2-23 PLANNING DEPT. SUBMITTAL
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PROJECT TITLE:

SANSUM DIABETES RESEARCH INSTITUTE 2219 BATH STREET SANTA BARBARA, CA 93105

SHEET TITLE:
ELECTRICAL

BASEMENT MECHANICAL PLAN

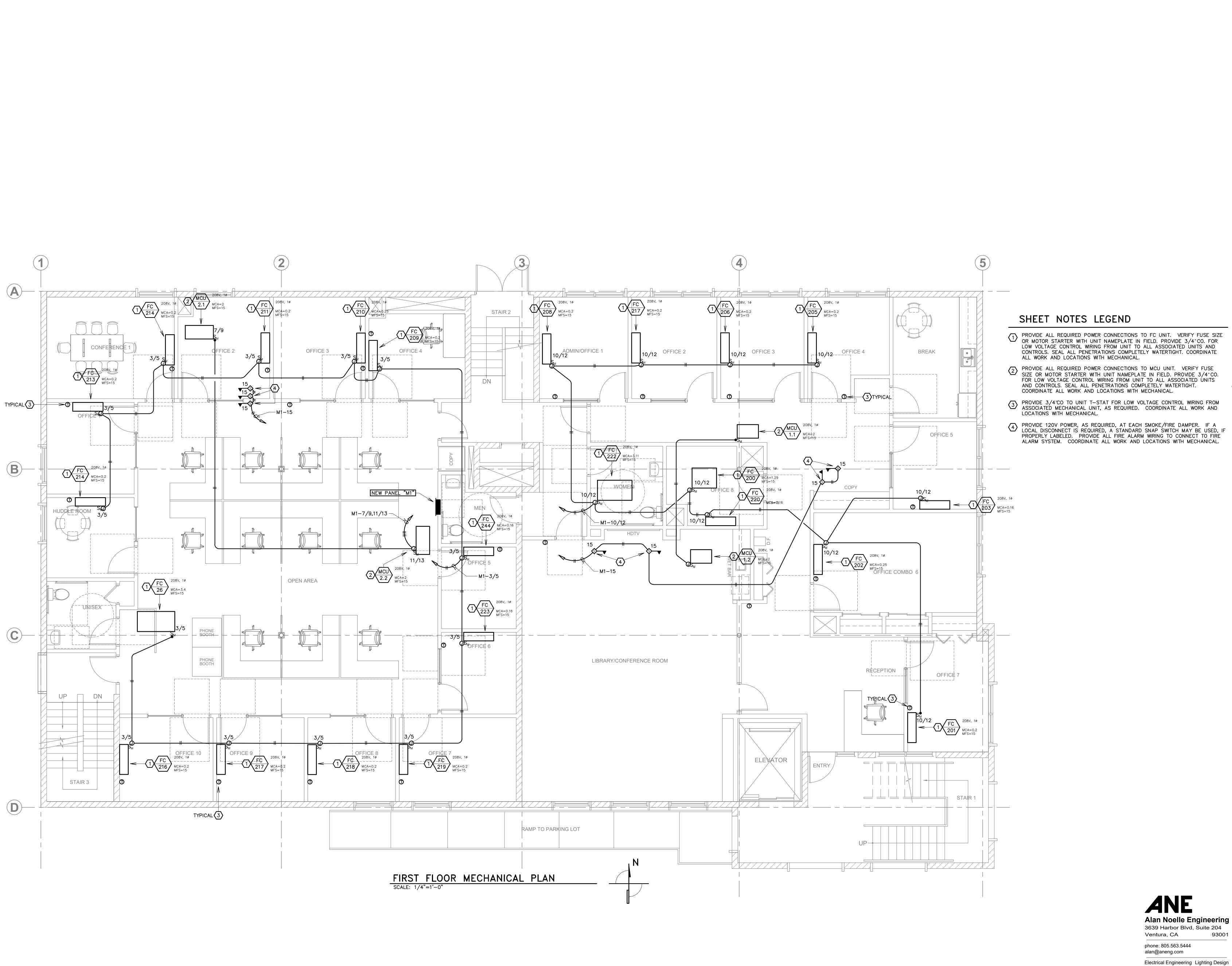
DATE: 12-30-22

DRAWN BY: KEVIN M. MURPHY

JOB NUMBER: 22004

SHEET \_\_\_ of \_\_\_

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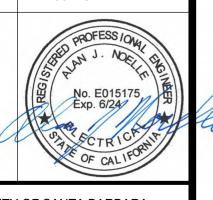
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4-22-24 PLANNING DEPT. SUBMITTAL

REVISIONS:

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PROJECT TITLE:

SANSUM DIABETES
RESEARCH
INSTITUTE
2219 BATH STREET
SANTA BARBARA, CA
93105

SHEET TITLE:
ELECTRICAL
FIRST FLOOR POWER PLAN

DATE: 12-30-22

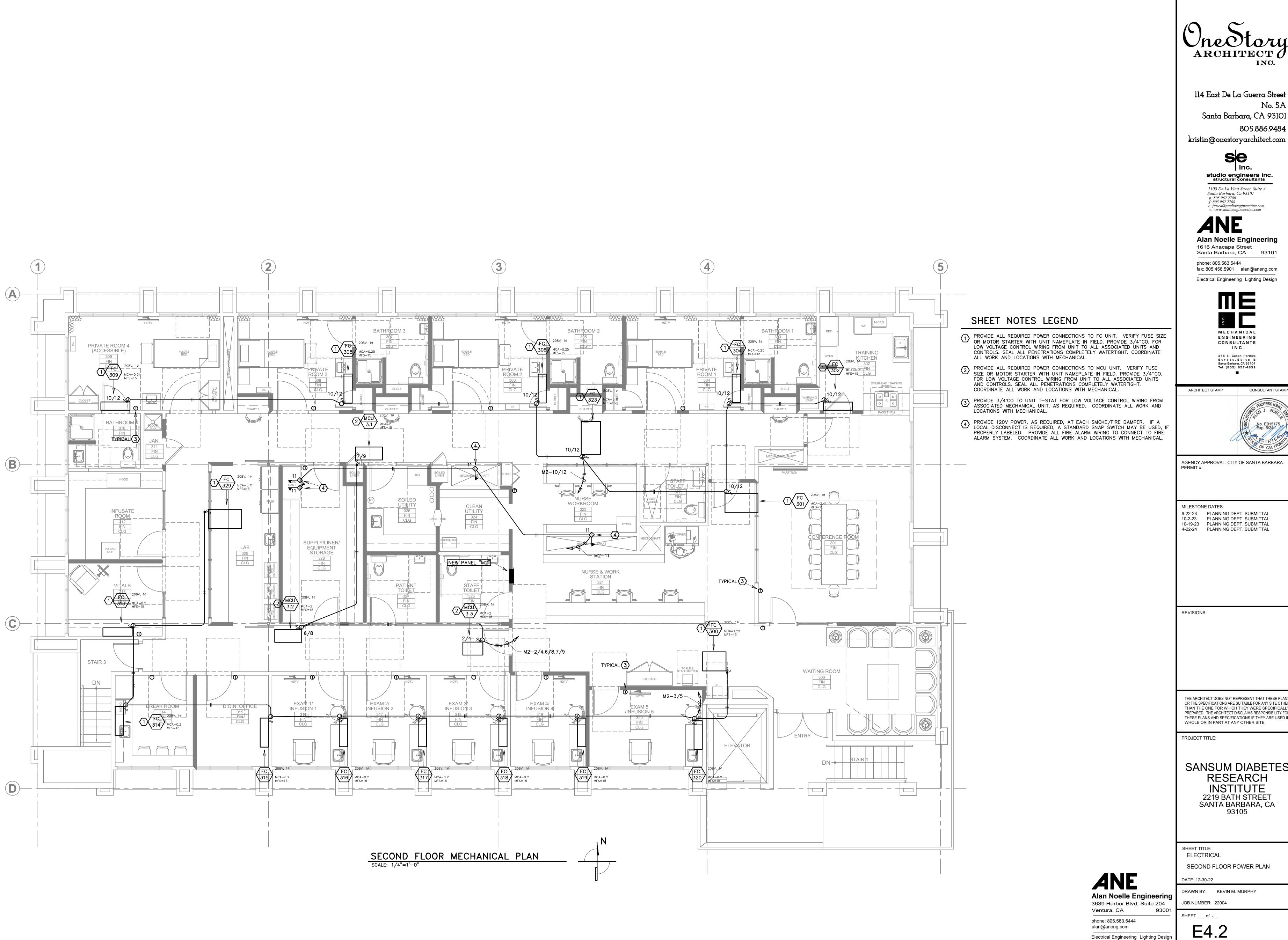
DRAWN BY: KEVIN M. MURPHY

DRAWN BY: KEVIN M. MURPHY

JOB NUMBER: 22004

E4.1

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114 East De La Guerra Street No. 5A Santa Barbara, CA 93101 805.886.9484

studio engineers inc. structural consultants 1108 De La Vina Street, Suite A Santa Barbara, Ca 93101 p: 805.962.2780 f: 805.962.2768 e: jtasca@studioengineersinc.com w: www.studioengineersinc.com

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> MECHANICAL ENGINEERING CONSULTANTS INC. 315 E. Cañon Perdido Street, Suite B Santa Barbara, CA 93101 Tel (805) 957-4632

CONSULTANT STAME



AGENCY APPROVAL: CITY OF SANTA BARBARA. PERMIT #:

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THAN THE ONE FOR WHICH THEY WERE SPECIFICALLY
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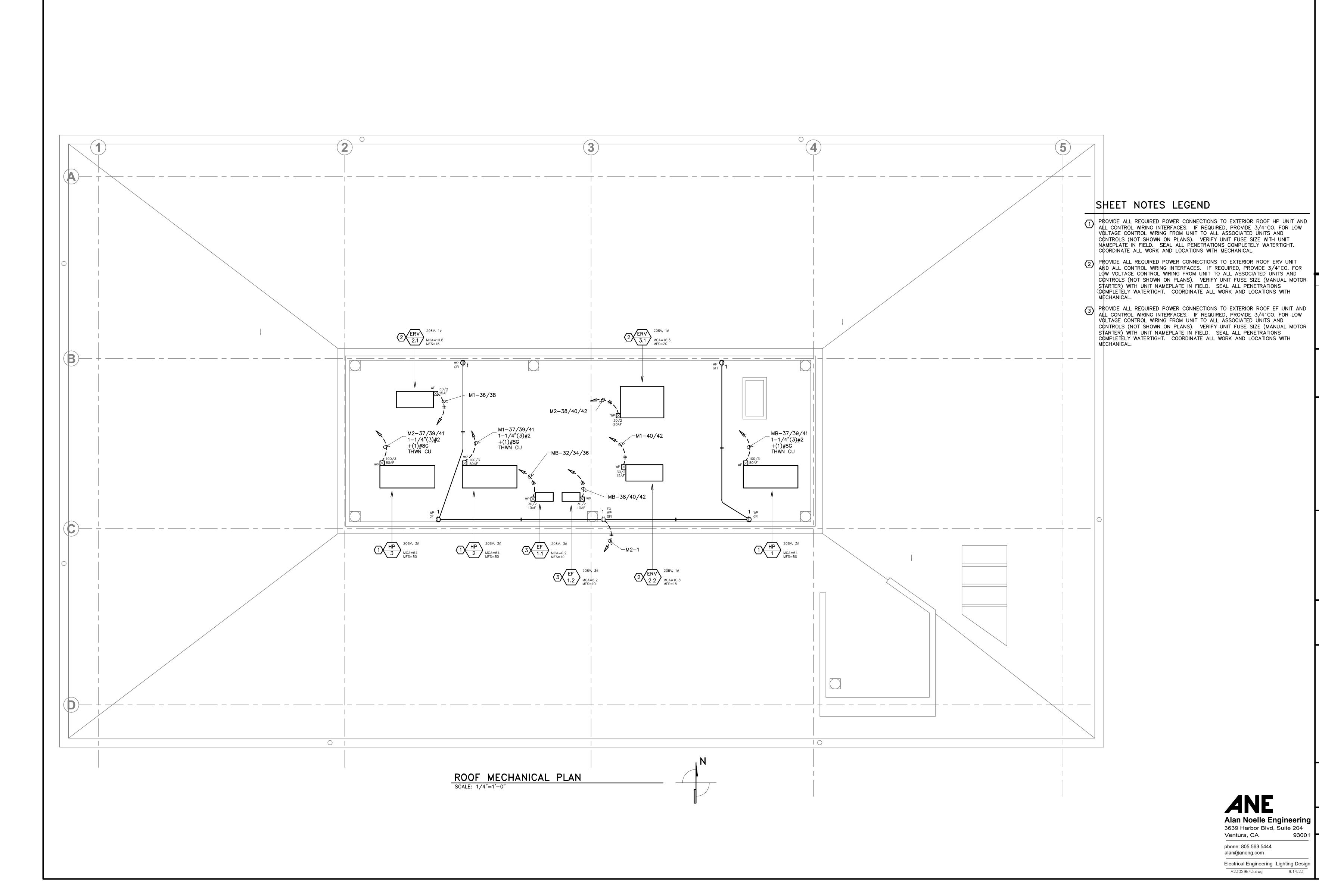
SANSUM DIABETES RESEARCH 2219 BATH STREET SANTA BARBARA, CA

SECOND FLOOR POWER PLAN

DRAWN BY: KEVIN M. MURPHY

E4.2

A23029E42.dwg



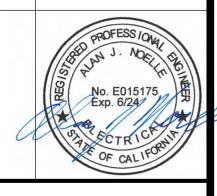


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AGENCY APPROVAL: CITY OF SANTA BARBARA. PERMIT #:

MILESTONE DATES:

9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

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PROJECT TITLE:

SANSUM DIABETES RESEARCH INSTITUTE 2219 BATH STREET SANTA BARBARA, CA

SHEET TITLE: ELECTRICAL

ROOF MECHANICAL PLAN DATE: 12-30-22

DRAWN BY: KEVIN M. MURPHY **Alan Noelle Engineering** 3639 Harbor Blvd, Suite 204 Ventura, CA 93001 JOB NUMBER: 22004

SHEET \_\_\_ of \_\_ E4.3

phone: 805.563.5444 alan@aneng.com

A23029E43.dwg

Electrical Engineering Lighting Design

STATE OF CALIFORNIA			STATE OF CALIFORNIA  Indoor Lighting			STATE OF CALIFORNIA		
Indoor Lighting  CERTIFICATE OF COMPLIANCE		CALIFORNIA ENERGY COMMISSION  NRCC-LTI-E	CERTIFICATE OF COMPLIANCE	To a	CALIFORNIA ENERGY COMMISSION  NRCC-LTI-E	Indoor Lighting CERTIFICATE OF COMPLIANCE		CALIFORNIA ENERGY COMMISSION  NRCC-LTI-E
This document is used to demonstrate compliance with requirements in 110.9, 12 nonresidential and hotel/motel occupancies. It is also used to document compliant path for multifamily occupancies. Multifamily includes dormitory and senior living Project Name: Sansum SDRI	nce with requirements in 160.5, 170.2(e) and 180.2(b)4 fo	nting scopes using the prescriptive path for or indoor lighting scopes using the prescriptive  (Page 1 of 9)	Project Name: Sansum SDRI	Report Page:  Date Prepared:	(Page 4 of 9) 2023-09-15T17:46:58-04:00	Project Name: Sansum SDRI	Report Page:  Date Prepared:	(Page 7 of 9) 2023-09-15T17:46:58-04:00
Project Address: 2219 Bath St.	Date Prepared:	2023-09-15T17:46:58-04:00	F. INDOOR LIGHTING FIXTURE SCHEDULE			P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (PO	A/ED ADJUSTMENT EACTOR (DAE\)	
A. GENERAL INFORMATION			<sup>2</sup> Authority Having Jurisdiction may ask for Luminaire cut sheets to luminaire, not the lamp.	o confirm wattage used for compliance per 130.0(c) / 160.5(b). \	Vattage used must be the maximum rated for the	This section does not apply to this project.	WER ADJUSTIVIENT FACTOR (FAF))	
01 Project Location (city)Santa barbara02 Climate Zone5	04 Total Conditioned Floor Area (ft <sup>2</sup> )					O DATED DOWED DEDUCTION COMPLIANCE FOR ONE FO	D ONE ALTERATIONS	
03 Occupancy Types Within Project (select all that apply):	05 Total Unconditioned Floor Area (ft²) 06 # of Stories (Habitable Above Grade)		G. MODULAR LIGHTING SYSTEMS  This section does not apply to this project.			Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FO	R-ONE ALIERATIONS	
Medical Clinic    Office								•
D. DDOUGGT CCODE			H. INDOOR LIGHTING CONTROLS (Not including PAFs)  This table includes lighting controls for conditioned and unconditions.	ioned spaces.		R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTRO	DLS EXCEPTIONS	
B. PROJECT SCOPE  This table includes any lighting systems that are within the scope of the permit approximately a	oplication and are demonstrating compliance using the pr	rescriptive path outlined in 140.6 / 170.2(e) or	Building Level Controls	02	03			
141.0(b)2 / 180.2(b)4 for alterations.  Scope of Work	Conditioned Spaces	Unconditioned Spaces	Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) /	03 Field Inspector	S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)  This section does not apply to this project.		
01 My Project Consists of (check all that apply):	02 03  Calculation Method Area (ft²)	04 05  Calculation Method Area (ft²)	NA < 4,000W subject to multilevel	See Area/Space Level C	Pass Fail	mis section does not apply to this project.		<b>_</b>
☑ New Lighting System	Area Category Method 18720	N/A 0				T. DWELLING UNIT LIGHTING  This section does not apply to this project		
☐ New Lighting System - Parking Garage  Total Area of Work (ft²)	N/A 0 18720	N/A 0				This section does not apply to this project.		
	•					U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLA Selections have been made based on information provided in this Additional Remarks. These documents must be provided to the based	document. If any selections have been changed by permit appuilding inspector during construction and can be found online	
						NRCI-LTI-E - Must be submitted for all buildings	Form/Title	
	Generated Date/Time:	Documentation Software: Energy Code Ace		Generated Date/Time:	Documentation Software: Energy Code Ace		Generated Date/Time:	Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000	Compliance ID: 142805-0923-0002	CA Building Energy Efficiency Standards - 2022 Nonresidential Complian		Compliance ID: 142805-0923-0002	CA Building Energy Efficiency Standards - 2022 Nonresidential Complia		Compliance ID: 142805-0923-0002
	Schema Version: rev 20220101	Report Generated: 2023-09-15 14:47:03		Schema Version: rev 20220101	Report Generated: 2023-09-15 14:47:03		Schema Version: rev 20220101	Report Generated: 2023-09-15 14:47:03
STATE OF CALIFORNIA  Indoor Lighting		CALIFORNIA ENERGY COMMISSION	STATE OF CALIFORNIA  Indoor Lighting		CALIFORNIA ENERGY COMMISSION	STATE OF CALIFORNIA  Indoor Lighting		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE Project Name: Sansum SDRI	Report Page:	NRCC-LTI-E (Page 2 of 9)	CERTIFICATE OF COMPLIANCE Project Name: Sansum SDRI	Report Page:	NRCC-LTI-E (Page 5 of 9)	CERTIFICATE OF COMPLIANCE Project Name: Sansum SDRI	Report Page:	NRCC-LTI-E (Page 8 of 9)
Froject Name. Sansum SDN	Date Prepared:	2023-09-15T17:46:58-04:00	Project Name. Sansum SDM	Date Prepared:	2023-09-15T17:46:58-04:00	Froject Name. Sansum SDN	Date Prepared:	2023-09-15T17:46:58-04:00
C. COMPLIANCE RESULTS			H. INDOOR LIGHTING CONTROLS (Not including PAFs)  Area Level Controls			V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTA	NCE	
If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional	Adjusted Lighting Power per 140 6	6(a) / 170.2(e)	04 05	06 07 08 09	10 11 12	Selections have been made based on information provided in this Additional Remarks. These documents must be provided to the base	uilding inspector during construction and any with "-A" in the j	form name must be completed through an Acceptance
Allowed Lighting Power per 140.6(b) / 170.2(e) (  Lighting in 01 02 03 04	(Watts) (Watts)	Compliance Results	Complete Building or Area	Manual Area Multi-Level Shut-Off Controls   Primary lit	Daylighting Systems Field Inspector	Test Technician Certification Provider (ATTCP). For more informat		Systems/Spaces To Be Field
conditioned and unconditioned Area	Adjustments	00	Area Description Category Primary Function Area	130.1(a) / 130.1(b) / 130.1(c) // Dayligh	ting   130.1(d) /   140.6(a)1/	NRCA-LTI-02-A - Must be submitted for occupancy sensors and a	Form/Title	Verified  CONFERENCE; OFFICE;
spaces must not be combined for Building Sempliance per Sempliance	=   Total   Designed   Control Credits  =	Total Adjusted (Watts) 05 must be >= 08	Convention, Conference,	160.5(0	Pass Fail	, , , , , , , , , , , , , , , , , , , ,		RESTROOMS; EXAM ROOMS/TREATMENT;
compliance per 140.6(c)1 140.6(c)2 / 140.6(c)2G / 170.2(e)4B 170.2(e)4Av (+)	Allowed (Watts)   140.6(a)2 / 170.2(e)1B (-)	*Includes 140.6 / 170.2(e) Adjustments	CONFERENCE Multipurpose and Meeting Center	Readily Accessible  Dimmer  Occupancy Sensor  daylit z	ot NA: Not One daylit zone No			RESEARCH AREAS
(See Table I) (See Table I) (See Table J) (See Table K)	(See Table F) (See Table P)		OFFICE Office ( >250 square feet)	' I Dimmer I Occupancy Sensor I	ot NA: Not noe daylit zone			
Conditioned 15,995.55 Unconditioned	= 15,995.55 ≥ 12,845.9 = = ≥ = =	12845.9 COMPLIES	RESTROOMS Restroom	Readily NA: Restrooms Occupancy Sensor NA: N	ot NA: Not No D			
	Controls Compliance (See Ta Rated Power Reduction Compliance (See Ta		EXAM ROOMS/TREATMENT Hospital - Exam/Treatment	Readily Dimmer Occupancy Sensor NA: N	ot NA: Not No D			
	nates (ess is		RESEARCH AREAS Laboratory Area, Scientific	Readily Dimmer Occupancy Sensor NA: N	one daylit zone CONTROL CONTRO			
D. EXCEPTIONAL CONDITIONS  This table is auto-filled with uneditable comments because of selections made or	data antored in tables throughout the form			Accessible daylit z	one daylit zone 13			
This table is date fined with directitable comments because of selections made of	data entered in tubies emodghode the joint.				Plan Sheet Showing Daylit Zones:			
E. ADDITIONAL REMARKS  This table is already as great and a but the ground transligant to the Authority Unividend.	u li mindinkin n							
This table includes remarks made by the permit applicant to the Authority Having	j Jurisaiction.		I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING O  Each area complying using the Complete Building or Area Catego.		dicates if additional lighting power allowances per			
			140.6(c) or adjustments per 140.6(a) are being used .  Conditioned Spaces	, , , , , , , , , , , , , , , , , , , ,				
			01 02		05 06			
			Area Description Complete Building or Ar Function	Ι Δτος (ff-)	owed Wattage (Watts) Additional Allowance / Adjustment Area Category PAF			
	Generated Date/Time:	Documentation Software: Energy Code Ace		Generated Date/Time:	Documentation Software: Energy Code Ace		Generated Date/Time:	Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance ID: 142805-0923-0002 Report Generated: 2023-09-15 14:47:03	CA Building Energy Efficiency Standards - 2022 Nonresidential Complian	nce Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance ID: 142805-0923-0002 Report Generated: 2023-09-15 14:47:03	CA Building Energy Efficiency Standards - 2022 Nonresidential Complian	nce Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance ID: 142805-0923-0002 Report Generated: 2023-09-15 14:47:03
STATE OF CALIFORNIA Indoor Lighting		CALIFORNIA ENERGY COMMISSION	STATE OF CALIFORNIA  Indoor Lighting		CALIFORNIA ENERGY COMMISSION	STATE OF CALIFORNIA Indoor Lighting		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE Project Name: Sansum SDRI	Report Page:	NRCC-LTI-E (Page 3 of 9)	CERTIFICATE OF COMPLIANCE Project Name: Sansum SDRI	Report Page:	NRCC-LTI-E (Page 6 of 9)	CERTIFICATE OF COMPLIANCE  Project Name: Sansum SDRI	Report Page:	NRCC-LTI-E (Page 9 of 9)
	Date Prepared:	2023-09-15T17:46:58-04:00		Date Prepared:	2023-09-15T17:46:58-04:00	Project Address:	Date Prepared:	2023-09-15T17:46:58-04:00
								7
F. INDOOR LIGHTING FIXTURE SCHEDULE  This table includes all planned permanent and portable lighting other than dwelle			I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING O  CONFERENCE  Convention, Conference	e, Multipurpose and	1,132.5 No No	DOCUMENTATION AUTHOR'S DECLARATION STATEMENT  I certify that this Certificate of Compliance documentation	n is accurate and complete.	
documented in Table T. If using Table T to document lighting in multifamily commot included here.			OFFICE Office ( >250 s	Center	1,132.5 NO NO NO 3,744 NO NO	Documentation Author Name: Alan Noelle	Documentation Author Signature:	The state of the s
Designed Wattage: Conditioned Spaces  01 02 03 04	05 06 07 08	09 10	RESTROOMS Restro EXAM ROOMS/TREATMENT Hospital - Exam	om 0.65 1,245	809.25 No No No 7.176 No No	Company: Alan Noelle Engineering	Signature Date: 9.15.23	
Name or Item Complete Luminaire Modular Small Aperture & W.	atts per How is Wattage Total Number Excluded p	/ Design Watts	RESEARCH AREAS Laboratory Are	ea, Scientific 0.9 3,482	3,133.8 No No	Address: 3639 Harbor Blvd., Suite 204 City/State/Zip: Ventura, CA 93001	CEA/ HERS Certification Identification (# a Phone: (805)563-5444	oplicable): a fight a
lag Description (Track) Fixture Color Change <sup>1</sup> lur	ninaire <sup>2</sup> determined of Luminaires 170.2(e)20	C Pass Fail		TOTALS: 18,717	15,995.55 See Tables J, or P for detail	RESPONSIBLE PERSON'S DECLARATION STATEMENT I certify the following under penalty of perjury, under the laws of the State of Cal	ifornia:	
B LED 2x4 No NA	42.8         Mfr. Spec         96         No           40.6         Mfr. Spec         14         No	4,108.8	J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD Q	UALIFYING LIGHTING SYSTEM		<ol> <li>The information provided on this Certificate of Compliance is true an</li> <li>I am eligible under Division 3 of the Business and Professions Code to</li> </ol>	d correct. accept responsibility for the building design or system design identified on t	
555 555 555	540         Mfr. Spec         3         No           640         Mfr. Spec         4         No	1,620	This section does not apply to this project.			of Title 24, Part 1 and Part 6 of the California Code of Regulations.	onents, and manufactured devices for the building design or system design in the control of the	
D LED SURFACE NO NA	23 Mfr. Spec 18 No	414	K. TAILORED METHOD GENERAL LIGHTING POWER ALLOW	/ANCE		plans and specifications submitted to the enforcement agency for ap	proval with this building permit application.	
F LED RING NO NA	16         Mfr. Spec         14         No           132         Mfr. Spec         2         No	224	This section does not apply to this project.			inspections. I understand that a completed signed copy of this Certific Responsible Designer Name:	liance shall be made available with the building permit(s) issued for the build cate of Compliance is required to be included with the documentation the build Responsible Designer Signature:	uder provides to see building owner at occupancy.
	14.3         Mfr. Spec         93         No           12.5         Mfr. Spec         7         No	1,329.9	L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL D	ISPLAY		Address: Alan Noelle Engineering Address: 3639 Harbor Blvd., Suite 204	Date Signed: 9.15.23	
H2 LED STRIP NO NA	21.3 Mfr. Spec 7 No	149.1	This section does not apply to this project.			City/State/Zip: Ventura, CA 93001	Phone: (805)563-5444	is a livee.
I LED INDIRECT NO NA	42.3         Mfr. Spec         10         No           51         Mfr. Spec         12         No	423	M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR	AND TASK LIGHTING				
	8.8         Mfr. Spec         4         No           26.4         Mfr. Spec         1         No	35.2	This section does not apply to this project.	A AND LANK LIGHTING				
J18 LED STRIP NO NA	79.2 Mfr. Spec 1 No 6 Mfr. Spec 3 No	79.2	NI ADDITIONAL LIGHT CONTRACTOR CO	ATIVE (CDECIAL EFFECTS				
	54.4 Mfr. Spec 6 No	326.39	N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATION This section does not apply to this project.	ATIVE /SPECIAL EFFECTS				
<sup>1</sup> FOOTNOTE: Design Watts for small aperture and color changing luminaires which	Total Designed Watts: CONDITIONED SPA h qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75							
automatically makes this adjustment, the permit applicant should enter full rated		, area manage, lable l	O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY V	ALUABLE MERCHANDISE				

Generated Date/Time:

Report Version: 2022.0.000

Schema Version: rev 20220101

Documentation Software: Energy Code Ace

Compliance ID: 142805-0923-0002

Report Generated: 2023-09-15 14:47:03

Generated Date/Time:

Report Version: 2022.0.000

Schema Version: rev 20220101

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

This section does not apply to this project.

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Documentation Software: Energy Code Ace

Compliance ID: 142805-0923-0002

Report Generated: 2023-09-15 14:47:03

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Schema Version: rev 20220101

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

114 East De La Guerra Street No. 5A Santa Barbara, CA 93101 805.886.9484 kristin@onestoryarchitect.com

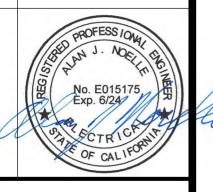
studio engineers inc. structural consultants 1108 De La Vina Street, Suite A Santa Barbara, Ca 93101 p: 805.962.2780 f: 805.962.2768 e: jtasca@studioengineersinc.com w: www.studioengineersinc.com

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MECHANICAL ENGINEERING CONSULTANTS INC. 315 E. Cañon Perdido Street, Suite B Santa Barbara, CA 93101 Tel (805) 957-4632

ARCHITECT STAMP CONSULTANT STAMP



AGENCY APPROVAL: CITY OF SANTA BARBARA. PERMIT #:

MILESTONE DATES: 9-22-23 PLANNING DEPT. SUBMITTAL 10-2-23 PLANNING DEPT. SUBMITTAL 10-19-23 PLANNING DEPT. SUBMITTAL 4-22-24 PLANNING DEPT. SUBMITTAL

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PROJECT TITLE:

SANSUM DIABETES
RESEARCH
INSTITUTE
2219 BATH STREET
SANTA BARBARA, CA 93105

SHEET TITLE: ELECTRICAL TITLE 24

Documentation Software: Energy Code Ace

Compliance ID: 142805-0923-0002 Report Generated: 2023-09-15 14:47:03

Alan Noelle Engineering 3639 Harbor Blvd, Suite 204

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93001

Ventura, CA

phone: 805.563.5444 alan@aneng.com

A23029E50.dwg

DATE: 12-30-22 DRAWN BY: KEVIN M. MURPHY

JOB NUMBER: 22004

SHEET \_\_\_ of \_\_