

PROJECT SUMMARY

THE SCOPE OF WORK FOR THIS PROJECT INCLUDES:

A PROPOSED REMODEL OF A SINGLE STORY 2,480 SQ. FT SINGLE FAMILY RESIDENCE WITH REPLACED EXTERIOR WOOD FINISHES (TO WEATHER NATURALLY), ALUMINUM WINDOWS & DOORS, NEW PATHWAYS AND LANDSCAPING.

THE PROPOSED REMODEL IS WITHIN THE FOOTPRINT OF THE EXISTING RESIDENCE. NO ADDITIONAL SQUARE FOOTAGE IS PROPOSED.

THE PROPOSED BUILDING STRUCTURE AT THE SOUTHEAST & NORTHWEST OF THE RESIDENCE WILL REMAIN. WITHIN THE INTERIOR OF THE PROPERTY, A NEW CONTINUOUS ROOF & FOUNDATION ARE PROPOSED WITH A MAXIMUM HEIGHT OF 13'-11 1/2" ABOVE FINISHED GRADE.

PER OUR PRELIMINARY PROJECT REVIEW ZOOM MEETING WITH KATHLEEN KILGARIFF ON JUNE 30, 2021, A COASTAL PERMIT AND DESIGN REVIEW PROCESS IS NOT REQUIRED FOR THIS PROJECT.

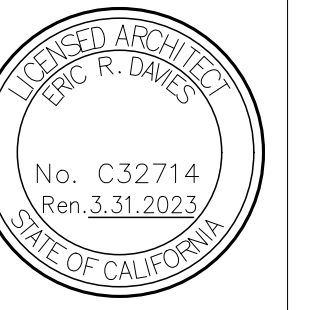
THE PROPOSED PROJECT INCLUDES A REPLACEMENT SEPTIC SYSTEM WHICH WAS APPROVED BY E.H.S. ON SEPTEMBER 30, 2021. PERMIT NUMBER B26599.

THE PROJECT PROPOSES NO DIKING, FILLING, OR DREDGING OF OPEN COASTAL WATERS, WETLANDS, ESTUARIES OR LAKES. THE PROJECT WILL NOT EXTEND ONTO OR ADJOIN ANY BEACH TIDELANDS, SUBMERGED LANDS OR PUBLIC TRUST LANDS.

BUILDING PERMIT SUBMITTAL FOR:
 DAI - SHEN REMODEL
 161 ELM ROAD, BOLINAS, CA 94924
 192-212-17
 REV 3: DECEMBER 13, 2022

EICHLER | DAVIES
 ARCHITECTURE

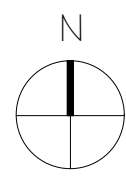
2732 Balboa Street
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 eric@eichlerdaves.net



PROJECT SITE LOCATION MAP



PROJECT SITE



ZONING REQUIREMENTS

ZONING: C-RA-82 (RESIDENTIAL AGRICULTURE)
 MAXIMUM ROOF HEIGHT PERMITTED: 25'-0"
 REQUIRED FRONT SETBACK: 25'-0"
 REQUIRED SIDE SETBACK: 10'-0"
 REQUIRED REAR SETBACK: 25'-0"
 FEMA FLOOD ZONE: PARCEL NOT IN FEMA FLOOD ZONE

PROJECT IS LOCATED IN WILDLAND-URBAN INTERFACE FIRE AREA (WUI) DESIGNATED BY THE FIRE MARSHALL PER MARIN COUNTY CODE 16.17 AND SHALL COMPLY WITH THE PROVISIONS OF CHAPTER 7A OF C.B.C.

PROJECT BUILDING DATA

BUILDING DATA

LATITUDE & LONGITUDE (GPS COORDINATES): 37.900139, -122.701828 (37° 54' 0.5" N, 122° 42' 6.58" W)
 TOTAL LOT AREA: 8,000 SF
 EXISTING SQUARE FOOTAGE: 2,480 SF
 PROPOSED SQUARE FOOTAGE: 2,480 SF

FINISH FLOOR HEIGHT PROPOSED:
 GROUND FLOOR: 185'-5" NAVD (TO MATCH EXISTING)

ROOF HEIGHTS PROPOSED:

SLOPED ROOF HIGH POINT: 198'-8 1/2" NAVD (15'-11 1/2" ABV FINISHED GRADE @ 184'-9" NAVD)
 SLOPED ROOF LOW POINT: 192'-8 1/2" NAVD TO MATCH EXISTING

DRAWING INDEX

ARCHITECTURAL DRAWINGS:

AO.0 TITLE SHEET
 AO.1 GENERAL NOTES
 AO.2 LIGHTING SPECIFICATIONS
 AO.3 BEST MANAGEMENT PRACTICES - STORM WATER POLLUTION PREVENTION

EN.0.1 TITLE 24 CF-1R
 EN.0.2 TITLE 24 CF-1R MANDATORY MEASURES
 GB.0.1 MARIN CALGREEN TIER 1 CHECKLIST
 GB.2.0 CALGREEN MANDATORY MEASURES
 GB.2.1 CALGREEN MANDATORY MEASURES

A1.0 EXISTING SITE PLAN
 A1.1 PROPOSED SITE, GRADING AND DRAINAGE PLAN

A2.0 DEMO PLAN
 A2.1 PROPOSED FLOOR PLAN
 A2.2 REFLECTED CEILING PLAN
 A2.3 ROOF PLAN

A3.0 EXISTING AND PROPOSED EAST ELEVATION
 A3.1 EXISTING AND PROPOSED NORTH ELEVATION
 A3.2 EXISTING AND PROPOSED WEST ELEVATION
 A3.3 EXISTING AND PROPOSED SOUTH ELEVATION

A4.0 EXISTING AND PROPOSED BUILDING SECTION
 A4.1 EXISTING AND PROPOSED BUILDING SECTION
 A4.2 EXISTING AND PROPOSED BUILDING SECTION
 A4.3 PROPOSED BUILDING SECTIONS

A8.0 WALL SECTIONS
 A8.1 WALL SECTIONS

A10.0 EXISTING DOOR AND WINDOW SCHEDULE
 A10.1 PROPOSED EXTERIOR DOOR AND WINDOW SCHEDULE
 A10.2 PROPOSED INTERIOR DOOR AND FINISH SCHEDULE

E1.0 MECHANICAL, ELECTRICAL, LIGHTING AND SWITCHING PLAN

STRUCTURAL DRAWINGS:

S0.1 GENERAL NOTES, ABBREVIATIONS & FASTENING SCHEDULE
 S0.2 TYPICAL CONCRETE DETAILS
 S0.3 TYPICAL WOOD & STEEL DETAILS
 S0.4 TYPICAL SHEAR WALL & HOLDOWN DETAILS

S2.1 FIRST FLOOR & FOUNDATION PLAN
 S2.2 LOW ROOF PLAN
 S2.3 HIGH ROOF PLAN

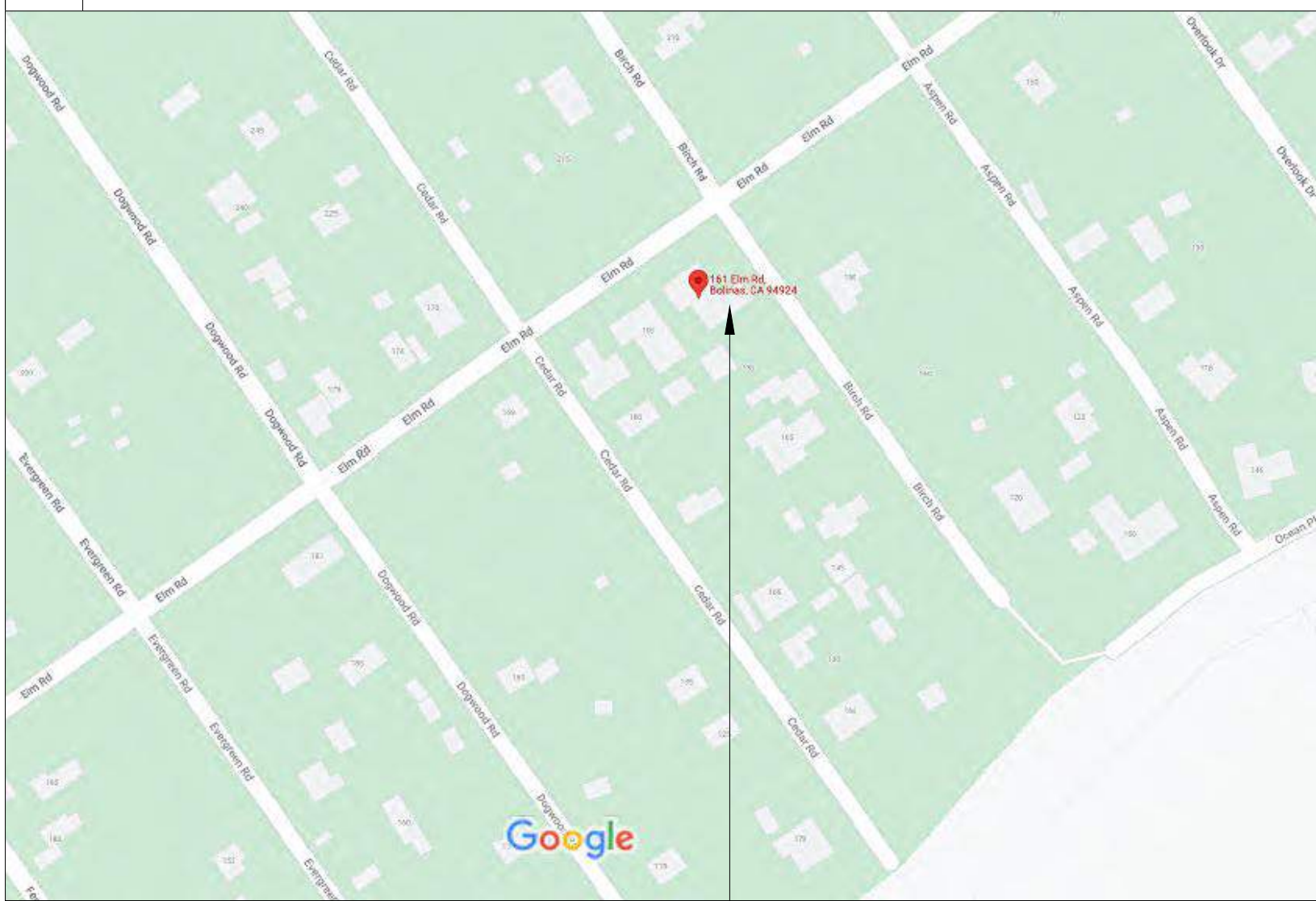
S5.1 DETAILS
 S5.2 DETAILS
 S5.3 NOT USED
 S5.4 NOT USED

S5W1 NOT USED
 S5W1.1 NOT USED
 S5W2 NOT USED

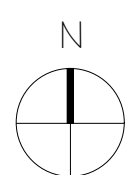
SEPTIC SYSTEM DRAWINGS (APPROVED BY E.H.S. ON 9.30.2021):

S51 BOTTOMLESS SANDFILTER DESIGN
 S52 BOTTOMLESS SANDFILTER DESIGN

SITE VICINITY MAP



PROJECT SITE



CODE REQUIREMENTS

THE FOLLOWING CODES ARE APPLICABLE TO THIS PROJECT:

2019 CALIFORNIA RESIDENTIAL CODE
 2019 CALIFORNIA BUILDING CODE
 2019 CALIFORNIA PLUMBING CODE
 2019 CALIFORNIA MECHANICAL CODE
 2019 CALIFORNIA ELECTRICAL CODE
 2019 CALIFORNIA ENERGY CODE
 2019 CALIFORNIA FIRE CODE
 2019 CALIFORNIA TITLE 24, PART 6 RESIDENTIAL ENERGY STANDARDS APPLY

PROJECT DIRECTORY

OWNER:
 THE DAI-SHEN FAMILY
 835 ORCHID PLACE
 LOS ALTOS, CA 94024
 T: 650-814-5386
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 herzog@herzog-geotechnical.com

SEPTIC ENGINEER:
 CSW/ STUBER - STROEB ENGINEERING GP
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ARCHITECT:
 EICHLER DAVIES ARCHITECTURE
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 eric@eichlerdaves.net

STRUCTURAL ENGINEERING:
 L WONG ENGINEERING
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 lwong@lwongengineering.com

ENERGY:
 PHILIP NEUMANN ENERGY DESIGN
 CONTACT: PHILIP NEUMANN
 193A W. BLYTHEDALE AVE.
 MILL VALLEY, CA 94941
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 philp@philneumann.com

DAI - SHEN REMODEL
 161 ELM ROAD, BOLINAS, CA 94924
 APN: 192-212-17

Title:
 TITLE SHEET

Revisions: Date:
 WARM PERM SUBMITTAL 11.16.2021
 WARM PERM SUBMITTAL REV 2 4.22.2022
 WARM PERM SUBMITTAL REV 3 12.13.2022

Date:
 11.16.2021

Scale:
 AS NOTED

Sheet:

AO.0

ABBREVIATIONS & SYMBOLS			
& @ -- # O L L > < (E)	AND AT ANGLE AT DIAMETER PERPENDICULAR POINT OR NUMBER LESS THAN GREATER THAN CENTERLINE EXISTING	ENCL. E.P. EQ. EQUIP. EXPO. EXP. EXT.	ENCLOSURE ELECTRICAL PANEL EQUAL EQUIPMENT EXPOSED EXPANSION EXTERIOR
ASV. ACOUS. A.D. A.D.I. AFF. AGGR. ALUM. APPROX. ARCH. ASPH.	ABOVE ACCESS PANEL ACOUSTICAL AREA DRAIN ADJACENT ABOVE FINISHED FLOOR AGGREGATE ALUMINUM APPROXIMATE ARCHITECT ASPHALT	F.D. FDN. FIN. FL. FLASH FLOR. F.O. F.O.F. F.O.F. F.P.P. F.P.P. FTG. FLUR. FLUT.	FLOOR DRAIN FOUNDATION FINISH FLOOR FLASHING FLUORESCENT FACE OF FACE OF CONCRETE FACE OF FINISH FACE OF STUD FIREPROOF FLOOR OR FEET FOOTING FLURING FUTURE
BD. BKG. BLDG. BLDG. BLDG. BM. B.O. BLUR.	BOARD BACKING BUILDING BUILDING BUILDING BEAM BOTTOM OF BUILT-UP ROOFING	GA. GALV. GAS GAR. GL. G.F.C.I. GR. GWB	GAGE GALVANIZED GRASS BAR GLASS GROUND FAULT CIRCUIT INTERRUPT GROUND GRAPE GYPSUM WALL BOARD
CAB. C.B. CEM. Cer. C.I. CLG. CLG. CLG. CLR. C.O. COL. CONC. C.M.U. CONF. C.J. CSWK. CNTR. CTR. CTS.	CABINET CATCH BASIN CEMENT CERAMIC CAST IRON CEILING CALLING CLOSET CLEAR CLEANOUT COLUMN CONCRETE CONCRETE CONTINUOUS CONTROL JOINT CASEWORK COUNTER CERAMIC TILE CENTER COUNTERSUNK	H.B. H.C. HWKD. HWDR. HDR. H.M. HORIZ. HP. HR. HT.	HOSE BIB HOLLOW CORE HARDWOOD HARDWARE HANDRAIL HOLLOW METAL HORIZONTAL HIGH POINT HOUR HEIGHT
DBL. DET. DIA. DIM. DN. D.O. DR. DWR. D.S. DWG.	DOUBLE DETAIL DIAMETER DIMENSION DOWN DOOR DOOR DRAWER DOWNSPOUT DRAWING	LAM. LAV. L.P. LT.	LAMINATE LAVATORY LOW POINT LIGHT
E. EA. E.P. E.L. EL. ELEC. ELEV.	EXISTING EACH EXPANSION BOLT EXPANSION JOINT ELEVATION ELECTRICAL ELEVATION OF ELEVATOR	MAX. M.C. MECH. MEMB. MET. MFG. MIN. MISC. M.O. MIL.	MAXIMUM MEDICINE CABINET MECHANICAL MEMBRANE METAL MANUFACTURER MINIMUM MISCELLANEOUS MASONRY OPENING MULLION
		N. N. N.I.C. NOM. N.T.S.	NEW NORTH NOT IN CONTRACT NOMINAL NOT TO SCALE

GENERAL CONTRACTOR NOTES

1. THE GENERAL CONTRACTOR WILL VISIT THE SITE AND BE FULLY COGNIZANT OF ALL EXISTING CONDITIONS PRIOR TO SUBMITTING ANY PROPOSITIONS OR BIDS.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFEKEEPING OF ALL EXISTING UTILITIES, AMENITIES AND SITE IMPROVEMENTS DURING CONSTRUCTION, WHETHER OR NOT SHOWN ON DRAWINGS OR UNCOVERED DURING WORK.

3. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM RESIDENCE.

4. THE CONTRACTOR SHALL AT ALL TIMES, KEEP THE CONSTRUCTION SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY HIS OPERATIONS.

5. AT THE COMPLETION OF THE WORK, HE SHALL CLEAN ALL SURFACES AND LEAVE THE WORK "BROOM CLEAN". ALL CARPETS ARE TO BE VACUUMED CLEAN.

6. TRENCH BACKFILL WITHIN PUBLIC RIGHT-OF-WAY SHALL CONFORM TO COUNTY STANDARDS.

7. CONTRACTOR SHALL PROVIDE FOR TRAFFIC CONTROL AS REQUIRED.

8. CONTRACTOR SHALL PROVIDE AND UTILIZE FACILITIES NECESSARY TO CONTROL DUST.

9. IF ANY ASBESTOS OR KNOWN MATERIALS CONTAINING ASBESTOS ARE DISCOVERED, THEN THE CONTRACTOR WILL BE RESPONSIBLE TO COORDINATE WITH THE OWNER, AS REQUIRED FOR THE REMOVAL OF THESE CONDITIONS, PRIOR TO THE BEGINNING OF THIS PROJECT. IF THE CONTRACTOR PARTICIPATES IN ANY PORTION OF THE REMOVAL PROCESS IN HIS COORDINATION WITH THE OWNER, THEN THE CONTRACTOR WILL PROVIDE THE OWNER WITH A WRITTEN STATEMENT RELEASING THE OWNER OF ANY FUTURE LIABILITY FROM THE CONTRACTOR, HIS EMPLOYEES AND ANY SUBCONTRACTORS HIRED BY THE CONTRACTOR RELATED TO THIS WORK.

10. THESE DRAWINGS AND SPECIFICATIONS DO NOT REPRESENT AN ASSESSMENT OF THE PRESENCE OR AN ASSESSMENT OF THE ABSENCE OF ANY TOXIC OR HAZARDOUS MATERIALS ON THIS PROJECT SITE. THE OWNERS ARE SOLELY RESPONSIBLE FOR SUCH AN ASSESSMENT AND SHOULD BE CONSULTED FOR ANY QUESTIONS, THEREIN. THE CONTRACTOR WILL RESOLVE THE APPLICABLE REGULATIONS AND PROCEDURES WITH THE OWNER AT THE TIME OF DISCOVERY.

11. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ARCHITECT AT ONCE UPON DISCOVERY OF ANY CONFLICTS OR DISCREPANCIES BETWEEN THE AFOREMENTIONED AND THE DRAWINGS AND SPECIFICATIONS OF THIS PROJECT.

12. THE CONTRACTOR SHALL NOT SCALE DRAWINGS UNDER ANY CIRCUMSTANCE. THE CONTRACTOR SHALL REQUEST DIMENSIONS NOT ON THE DRAWINGS FROM THE ARCHITECT WHEN NEEDED. THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THEIR DRAWINGS AND FIELD CONDITIONS OR A CONSULTANT'S DRAWINGS OR SPECIFICATIONS.

13. THE CONTRACTOR WILL COORDINATE AND BE RESPONSIBLE FOR ALL WORK BY THEIR SUBCONTRACTORS AND THEIR COMPLIANCE WITH ALL THESE GENERAL CONDITIONS. THE CONTRACTOR WILL IDENTIFY ANY CONFLICTS BETWEEN THE WORK OF THE SUBCONTRACTORS, AS DIRECTED BY THESE DRAWINGS, BEFORE BEGINNING ANY INSTALLATION.

14. THE CONTRACTOR WILL FIELD VERIFY ALL EXISTING AND PROPOSED DIMENSIONS AND CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ARCHITECT AT ONCE UPON DISCOVERY OF ANY CONFLICTS OR DISCREPANCIES BETWEEN THE AFOREMENTIONED AND THE DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL FOLLOW DIMENSIONS AND SHOULD NOT SCALE DRAWINGS. IF DIMENSIONS ARE REQUIRED BUT NOT SHOWN THE CONTRACTOR SHALL NOTIFY THE ARCHITECT.

15. ANY CHANGES, ALTERNATIVES OR MODIFICATIONS TO THESE DRAWINGS AND SPECIFICATIONS MUST BE APPROVED IN WRITING FROM THE ARCHITECT AND OWNER. AND ONLY WHEN SUCH WRITTEN APPROVAL CLEARLY STATES THE AGREED COST OR CREDIT OF THE CHANGE, ALTERNATIVE OR MODIFICATION TO THIS PROJECT.

16. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS TO INCLUDE ALL ITEMS NECESSARY FOR A COMPLETE JOB. THE CONTRACTOR WILL PROVIDE ALL MATERIALS, LABOR AND EXPERTISE NECESSARY TO ACHIEVE A COMPLETE JOB AS SHOWN IN THESE DRAWINGS AND SPECIFICATIONS OR NOT SHOWN, BUT INTENDED.

17. THE CONTRACTOR IS FULLY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES FOR THE WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO ENACT THE AFOREMENTIONED IN COMPLIANCE WITH GENERALLY ACCEPTED STANDARDS OF PRACTICE FOR THE CONSTRUCTION INDUSTRY FOR THE TYPE OF WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS.

18. THE ARCHITECT RESERVES THE RIGHT OF REVIEW FOR ALL MATERIALS AND PRODUCTS, FOR WHICH NO SPECIFIC BRAND NAME OR MANUFACTURER IS IDENTIFIED IN THESE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY WITH THE ARCHITECT THE NEED FOR SHOP DRAWINGS OR SAMPLES OF MATERIALS AND PRODUCTS, WHICH WERE NOT IDENTIFIED, AS WELL AS ANY MATERIAL, PRODUCTS OR EQUIPMENT SUBSTITUTIONS PROPOSED IN PLACE OF THOSE ITEMS IDENTIFIED IN THESE DRAWINGS AND SPECIFICATIONS.

19. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY AND COORDINATE ALL UTILITY TYPE CONNECTIONS. UTILITY COMPANY'S REQUIREMENTS AND INCLUDE ANY RELATED COSTS ASSOCIATED WITH THIS RESPONSIBILITY IN THEIR PROPOSAL OR BID. THE CONTRACTORS RESPONSIBLE FOR WRITING LETTERS REGARDING OPERATIVE AGREEMENTS FOR THIS PROJECT BETWEEN THE CONTRACTOR AND THE LOCAL FIRE DEPARTMENT, THE LOCAL WATER AGENCY, THE LOCAL NATURAL OR PROPANE GAS PROVIDERS, TV PROVIDER, THE OWNER'S SECURITY SERVICE PROVIDER AND ANY UNNAMED UTILITY TYPE SERVICE PROVIDER. THE CONTRACTOR WILL PROVIDE COPIES OF ANY SUCH AGREEMENTS TO THE ARCHITECT AND OWNER, IF REQUIRED OR REQUESTED.

20. THE CONTRACTOR IS FULLY RESPONSIBLE TO ENACT THE APPROPRIATE SAFETY PRECAUTIONS REQUIRED TO MAINTAIN A SAFE WORKING ENVIRONMENT. THE CONTRACTOR WILL ALSO INDEMNIFY AND HOLD HARMLESS THE OWNER, THE ARCHITECT, THEIR CONSULTANTS, AND THEIR EMPLOYEES FROM AND AGAINST ANY CLAIMS FOR DAMAGES, INCLUDING ANY INJURY CLAIMS BY THE CONTRACTOR, HIS EMPLOYEES, HIS SUBCONTRACTORS OR ANYONE HE ALLOWS ON THE CONSTRUCTION SITE, WHICH RESULT FROM THE CONTRACTOR'S PERFORMANCE OF THE WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS.

21. THE CONTRACTOR WILL CARRY THE APPROPRIATE WORKMAN'S COMPENSATION AND LIABILITY INSURANCE AS REQUIRED BY THE LOCAL GOVERNMENT AGENCY HAVING JURISDICTION FOR THIS ISSUE, AS WELL AS COMPLY WITH THE GENERALLY ACCEPTED INDUSTRY STANDARDS OF PRACTICE FOR A PROJECT OF THIS SCOPE. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WITH THE OWNER, IF HE WILL BE REQUIRED TO CARRY FIRE INSURANCE OR OTHER TYPES OF INSURANCE FOR THE DURATION OF THE PROJECT, HE SHOULD ALSO ASSIST THE OWNER IN IDENTIFYING THE AMOUNT OF COVERAGE REQUIRED.

22. UNLESS OTHERWISE NOTED (U.O.N), DIMENSIONS ARE TO FACE OF STUD (F.O.S) AT NEW (N) CONSTRUCTION; FACE OF FINISH (F.O.F) AT EXISTING (E) CONSTRUCTION; FACE OF CONCRETE (F.O.C) OR CENTERLINE OF ENTITY.

GENERAL CONTRACTOR NOTES

20. THE CONTRACTOR IS FULLY RESPONSIBLE TO ENACT THE APPROPRIATE SAFETY PRECAUTIONS REQUIRED TO MAINTAIN A SAFE WORKING ENVIRONMENT. THE CONTRACTOR WILL ALSO INDEMNIFY AND HOLD HARMLESS THE OWNER, THE ARCHITECT, THEIR CONSULTANTS, AND THEIR EMPLOYEES FROM AND AGAINST ANY CLAIMS FOR DAMAGES, INCLUDING ANY INJURY CLAIMS BY THE CONTRACTOR, HIS EMPLOYEES, HIS SUBCONTRACTORS OR ANYONE HE ALLOWS ON THE CONSTRUCTION SITE, WHICH RESULT FROM THE CONTRACTOR'S PERFORMANCE OF THE WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS.

21. THE CONTRACTOR WILL CARRY THE APPROPRIATE WORKMAN'S COMPENSATION AND LIABILITY INSURANCE AS REQUIRED BY THE LOCAL GOVERNMENT AGENCY HAVING JURISDICTION FOR THIS ISSUE, AS WELL AS COMPLY WITH THE GENERALLY ACCEPTED INDUSTRY STANDARDS OF PRACTICE FOR A PROJECT OF THIS SCOPE. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WITH THE OWNER, IF HE WILL BE REQUIRED TO CARRY FIRE INSURANCE OR OTHER TYPES OF INSURANCE FOR THE DURATION OF THE PROJECT, HE SHOULD ALSO ASSIST THE OWNER IN IDENTIFYING THE AMOUNT OF COVERAGE REQUIRED.

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NOTE: THE 2019 CBC, CMC, CPC, CEC, CALIFORNIA ENERGY CODE, PART 6, AND CALIFORNIA FIRE CODE, AS AMENDED BY THE STATE OF CALIFORNIA AND LOCAL JURISDICTIONS, ARE APPLICABLE TO THIS PROJECT.

CODE REQUIREMENTS (WHEN APPLICABLE):

1. ALL AREAS, WHICH ARE SUBJECT TO MOISTURE, SHALL HAVE WATER RESISTANT GYPSUM BOARD UNDER THE DESIGNATED SMOOTH, HARD NONABSORBENT WALL SURFACE, AT ALL TUB & SHOWER ENCLOSURES, WATER RESISTANT GYP. BD. AND WALL SURFACE TO EXTEND 70" MIN. ABOVE THE DRAIN INLET.

2. ALL DOORS WITH GLASS SURFACES SHALL BE TEMPERED.

3. ALL GLASS SHOWER DOORS SHALL BE TEMPERED AT ALL BATHROOM LOCATIONS.

4. (N) STAIR HANDRAILS SHALL BE 36" ABOVE TREAD NOSING AND HAVE A 1-1/2" DIA. SMOOTH GRIPABLE SECTION. HANDRAILS SHALL BE MOUNTED SO THAT THE COMPLETED RAIL AND SUPPORTING STRUCTURE ARE CAPABLE OF WITHSTANDING A LOAD OF AT LEAST 200 POUNDS APPLIED IN ANY DIRECTION AT ANY POINT ON THE RAIL.

5. PROVIDE FIRE BLOCKING AT ALL NEW CEILINGS, FLOORS, FURRED-OUT CEILINGS, SHOWERS, SOFFITS AND AT CONCEALED DRAFT OPENINGS, AND IN PARTITIONS AT 10' HORIZONTAL INTERVALS, AS REQUIRED PER CBC 717.2502.11

6. ALL EXTERIOR JOINTS AROUND DOOR AND WINDOW FRAMES BETWEEN SOLE PLATES AND FLOORS, AND ALL OPENINGS FOR PLUMBING, ELECTRICAL AND GAS LINES IN WALLS, CEILING AND FLOOR SHALL BE CAULKED.

7. ALL WINDOWS SHALL BE DUAL GLAZED. ALL EXTERIOR DOORS SHALL BE DUAL, SAFETY GLAZED. ALL GLASS WITHIN 18" OF FLOOR, WITHIN 60" OF A TUB OR SHOWER OR ANY OTHER LOCATION SPECIFIED UNDER CBC 2406 SHALL BE TEMPERED OR SAFETY GLASS. DOORS AND WINDOWS TO BE WEATHER-STRIPPED AND CERTIFIED BY THE MANUFACTURER.

8. CONTRACTOR SHALL VERIFY UL LISTING OF ALL SPARK ARRESTERS FOR ALL SOLID FUEL BURNING CHIMNEYS.

9. MAINTAIN 2" CLEARANCE BETWEEN STAINLESS STEEL FLUES AND ALL COMBUSTIBLE MATERIALS. INSTALL CHIMNEY SUPPORTS, MOUNTING FLANGE, INSULATION STOP, FIRE STOP, AND CHIMNEY CAP PER MANUFACTURER'S SPECIFICATIONS. CAP SHALL INCLUDE SPARK ARRESTING MESH NOT TO EXCEED 1/2".

10. SMOKE DETECTORS SHALL BE INSTALLED IN SLEEPING ROOMS AND IN HALLWAYS GIVING ACCESS TO BEDROOMS ABOVE STAIRWAYS IN ACCORDANCE WITH CRC, R314

11. ALL TOILETS SHALL BE LOW WATER CONSUMPTION TYPE, 1.28 GAL. MAX.

12. PROVIDE APPROVED NON-REMOVABLE BACKFLOW PREVENTION DEVICES ON HOSE BIBS.

ENERGY NOTES (WHEN APPLICABLE):

1. INSULATE ALL INTERIOR ACOUS. WALLS (AS INDICATED), OR FLOORS AND CEILINGS BETWEEN CONDITIONED AND UNCONDITIONED SPACES PER CALIFORNIA ENERGY CODE SECTION 150.

2. ALL EXTERIOR JOINTS AROUND DOOR AND WINDOW FRAMES BETWEEN SOLE PLATES AND FLOORS, AND ALL OPENINGS FOR PLUMBING, ELECTRICAL AND GAS LINES IN WALLS, CEILING AND FLOOR SHALL BE CAULKED.

3. THERMOSTATS SHALL BE AUTOMATIC SETBACK TYPE WITH INTEGRAL CLOCK PROGRAMMABLE FOR TWO PERIODS WITH 24 HOURS.

4. EXHAUST SYSTEMS SHALL HAVE BACK-DRAFT OR AUTOMATIC DAMPERS.

5. HVAC EQUIPMENT, WATER HEATERS, SHOWER HEADS AND FAUCETS SHALL BE CERTIFIED BY THE C.E.C.

6. GAS-FIRED APPLIANCES SHALL HAVE INTERMITTENT IGNITION DEVICE. GAS SHUT OFF VALVES SHALL BE WITHIN 3 FEET OF APPLIANCE SERVED.

7. WATER HEATER BLANKET INSULATION: MIN. R-12. FIRST FIVE FEET OF PIPES CLOSEST TO WH. MIN R-4.

8. GENERAL LIGHTING IN KITCHEN AND BATHROOMS SHALL HAVE A MINIMUM EFFICIENCY OF 40 LUMENS PER WATT

9. REFRIGERATORS, FREEZERS AND FLUORESCENT LAMP BALLAST SHALL BE CERTIFIED BY THE C.E.C.

10. POSTCONSUMER OR PRECONSUMER RECYCLED CONTENT VALUE (RCV) MATERIALS ARE USED ON THIS PROJECT, NOT LESS THAN 10 PERCENT RECYCLED VALUE.

11. RECYCLE AND/ OR SALVAGE FOR REUSE A MINIMUM OF 65 PERCENT OF THE NONHAZARDOUS CONSTRUCTION AND DEMOLITION WASTE IN ACCORDANCE WITH THE REPORTING STANDARDS OUTLINED BY ZERO WASTE MARIN. www.zerowastemar.in.org

12. CONSTRUCTION WASTE GENERATED AT THE SITE IS DIVERTED TO RECYCLE OR SALVAGE IN COMPLIANCE WITH AT LEAST A 65 PERCENT REDUCTION. ANY MIXED RECYCLABLES THAT ARE SENT TO MIXED-WASTE RECYCLING FACILITIES SHALL INCLUDE A QUALIFIED THIRD PARTY VERIFIED FACILITY AVERAGE DIVERSION RATE. VERIFICATION OF DIVERSION RATES SHALL MEET MINIMUM CERTIFICATION ELIGIBILITY GUIDELINES, ACCEPTABLE TO THE LOCAL ENFORCING AGENCY.

13. MOISTURE CONTENT OF BUILDING MATERIALS USED IN WALL AND FLOOR FRAMING IS CHECKED BEFORE ENCLOSURE.

14. EACH BATHROOM SHALL BE PROVIDED WITH THE FOLLOWING: 1. ENERGY STAR FANS DUCTED TO TERMINATE OUTSIDE THE BUILDING. 2. FANS MUST BE CONTROLLED BY A HUMIDITY CONTROL (SEPARATE OR BUILT-IN); OR FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM. 3. HUMIDITY CONTROLS WITH MANUAL OR AUTOMATIC MEANS OF ADJUSTMENT, CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE OF < 50 PERCENT TO A MAXIMUM OF 80 PERCENT.

GENERAL NOTES

NOTE: THE 2019 CBC, CMC, CPC, CEC, CALIFORNIA ENERGY CODE, PART 6, AND CALIFORNIA FIRE CODE, AS AMENDED BY THE STATE OF CALIFORNIA AND LOCAL JURISDICTIONS, ARE APPLICABLE TO THIS PROJECT.

CODE REQUIREMENTS (WHEN APPLICABLE):

1. ALL AREAS, WHICH ARE SUBJECT TO MOISTURE, SHALL HAVE WATER RESISTANT GYPSUM BOARD UNDER THE DESIGNATED SMOOTH, HARD NONABSORBENT WALL SURFACE, AT ALL TUB & SHOWER ENCLOSURES, WATER RESISTANT GYP. BD. AND WALL SURFACE TO EXTEND 70" MIN. ABOVE THE DRAIN INLET.

2. ALL DOORS WITH GLASS SURFACES SHALL BE TEMPERED.

3. ALL GLASS SHOWER DOORS SHALL BE TEMPERED AT ALL BATHROOM LOCATIONS.

4. (N) STAIR HANDRAILS SHALL BE 36" ABOVE TREAD NOSING AND HAVE A 1-1/2" DIA. SMOOTH GRIPABLE SECTION. HANDRAILS SHALL BE MOUNTED SO THAT THE COMPLETED RAIL AND SUPPORTING STRUCTURE ARE CAPABLE OF WITHSTANDING A LOAD OF AT LEAST 200 POUNDS APPLIED IN ANY DIRECTION AT ANY POINT ON THE RAIL.

5. PROVIDE FIRE BLOCKING AT ALL NEW CEILINGS, FLOORS, FURRED-OUT CEILINGS, SHOWERS, SOFFITS AND AT CONCEALED DRAFT OPENINGS, AND IN PARTITIONS AT 10' HORIZONTAL INTERVALS, AS REQUIRED PER CBC 717.2502.11

6. ALL EXTERIOR JOINTS AROUND DOOR AND WINDOW FRAMES BETWEEN SOLE PLATES AND FLOORS, AND ALL OPENINGS FOR PLUMBING, ELECTRICAL AND GAS LINES IN WALLS, CEILING AND FLOOR SHALL BE CAULKED.

7. ALL WINDOWS SHALL BE DUAL GLAZED. ALL EXTERIOR DOORS SHALL BE DUAL, SAFETY GLAZED. ALL GLASS WITHIN 18" OF FLOOR, WITHIN 60" OF A TUB OR SHOWER OR ANY OTHER LOCATION SPECIFIED UNDER CBC 2406 SHALL BE TEMPERED OR SAFETY GLASS. DOORS AND WINDOWS TO BE WEATHER-STRIPPED AND CERTIFIED BY THE MANUFACTURER.

8. CONTRACTOR SHALL VERIFY UL LISTING OF ALL SPARK ARRESTERS FOR ALL SOLID FUEL BURNING CHIMNEYS.

9. MAINTAIN 2" CLEARANCE BETWEEN STAINLESS STEEL FLUES AND ALL COMBUSTIBLE MATERIALS. INSTALL CHIMNEY SUPPORTS, MOUNTING FLANGE, INSULATION STOP, FIRE STOP, AND CHIMNEY CAP PER MANUFACTURER'S SPECIFICATIONS. CAP SHALL INCLUDE SPARK ARRESTING MESH NOT TO EXCEED 1/2".

10. SMOKE DETECTORS SHALL BE INSTALLED IN SLEEPING ROOMS AND IN HALLWAYS GIVING ACCESS TO BEDROOMS ABOVE STAIRWAYS IN ACCORDANCE WITH CRC, R314

11. ALL TOILETS SHALL BE LOW WATER CONSUMPTION TYPE, 1.28 GAL. MAX.

12. PROVIDE APPROVED NON-REMOVABLE BACKFLOW PREVENTION DEVICES ON HOSE BIBS.

ENERGY NOTES (WHEN APPLICABLE):

1. INSULATE ALL INTERIOR ACOUS. WALLS (AS INDICATED), OR FLOORS AND CEILINGS BETWEEN CONDITIONED AND UNCONDITIONED SPACES PER CALIFORNIA ENERGY CODE SECTION 150.

2. ALL EXTERIOR JOINTS AROUND DOOR AND WINDOW FRAMES BETWEEN SOLE PLATES AND FLOORS, AND ALL OPENINGS FOR PLUMBING, ELECTRICAL AND GAS LINES IN WALLS, CEILING AND FLOOR SHALL BE CAULKED.

3. THERMOSTATS SHALL BE AUTOMATIC SETBACK TYPE WITH INTEGRAL CLOCK PROGRAMMABLE FOR TWO PERIODS WITH 24 HOURS.

4. EXHAUST SYSTEMS SHALL HAVE BACK-DRAFT OR AUTOMATIC DAMPERS.

5. HVAC EQUIPMENT, WATER HEATERS, SHOWER HEADS AND FAUCETS SHALL BE CERTIFIED BY THE C.E.C.

6. GAS-FIRED APPLIANCES SHALL HAVE INTERMITTENT IGNITION DEVICE. GAS SHUT OFF VALVES SHALL BE WITHIN 3 FEET OF APPLIANCE SERVED.

7. WATER HEATER BLANKET INSULATION: MIN. R-12. FIRST FIVE FEET OF PIPES CLOSEST TO WH. MIN R-4.

8. GENERAL LIGHTING IN KITCHEN AND BATHROOMS SHALL HAVE A MINIMUM EFFICIENCY OF 40 LUMENS PER WATT

9. REFRIGERATORS, FREEZERS AND FLUORESCENT LAMP BALLAST SHALL BE CERTIFIED BY THE C.E.C.

10. POSTCONSUMER OR PRECONSUMER RECYCLED CONTENT VALUE (RCV) MATERIALS ARE USED ON THIS PROJECT, NOT LESS THAN 10 PERCENT RECYCLED VALUE.

11. RECYCLE AND/ OR SALVAGE FOR REUSE A MINIMUM OF 65 PERCENT OF THE NONHAZARDOUS CONSTRUCTION AND DEMOLITION WASTE IN ACCORDANCE WITH THE REPORTING STANDARDS OUTLINED BY ZERO WASTE MARIN. www.zerowastemar.in.org

12. CONSTRUCTION WASTE GENERATED AT THE SITE IS DIVERTED TO RECYCLE OR SALVAGE IN COMPLIANCE WITH AT LEAST A 65 PERCENT REDUCTION. ANY MIXED RECYCLABLES THAT ARE SENT TO MIXED-WASTE RECYCLING FACILITIES SHALL INCLUDE A QUALIFIED THIRD PARTY VERIFIED FACILITY AVERAGE DIVERSION RATE. VERIFICATION OF DIVERSION RATES SHALL MEET MINIMUM CERTIFICATION ELIGIBILITY GUIDELINES, ACCEPTABLE TO THE LOCAL ENFORCING AGENCY.

13. MOISTURE CONTENT OF BUILDING MATERIALS USED IN WALL AND FLOOR FRAMING IS CHECKED BEFORE ENCLOSURE.

14. EACH BATHROOM SHALL BE PROVIDED WITH THE FOLLOWING: 1. ENERGY STAR FANS DUCTED TO TERMINATE OUTSIDE THE BUILDING. 2. FANS MUST BE CONTROLLED BY A HUMIDITY CONTROL (SEPARATE OR BUILT-IN); OR FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM. 3. HUMIDITY CONTROLS WITH MANUAL OR AUTOMATIC MEANS OF ADJUSTMENT, CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE OF < 50 PERCENT TO A MAXIMUM OF 80 PERCENT.

MECHANICAL/ ELECTRICAL/ PLUMBING GENERAL NOTES:

1. ALL MECHANICAL ELECTRICAL AND PLUMBING SYSTEMS SHALL BE DESIGNED AND INSTALLED BY LICENSED MECHANICAL, ELECTRICAL AND PLUMBING CONTRACTORS PER ALL APPLICABLE CODES THAT RELATE TO THIS PROJECT.

MECHANICAL NOTES (WHEN APPLICABLE):

1. ALL APPLIANCE UNITS TERMINATING OUTSIDE A WALL MUST TERMINATE AT LEAST 4'-0" BELOW OR HORIZONTAL OR 1'-0" ABOVE ANY DOOR OR OPERABLE WINDOW OR AIR INTAKE INLET. V.I.F. WITH ARCHITECT THE VENT LOCATIONS PRIOR TO CONSTRUCTION.

2. PROVIDE COMBUSTION AIR FOR ALL FUEL BURNING APPLIANCES. PROVIDE 1 SQ.IN. MIN. FOR EACH 4000 BTU/ HR. INPUT PER OPENING. INSTALL APPLIANCES PER MANUFACTURERS RECOMMENDATIONS AND ALL APPLICABLE CODES.

3. EXHAUST SYSTEMS SHALL HAVE BACK-DRAFT OR AUTOMATIC DAMPERS.

4. A FORCED AIR HEATING SYSTEM SHALL BE INSTALLED. THE FURNACE WILL BE LOCATED IN THE MECHANICAL ROOM AND INSTALLED PER THE CMC. THE HEATING SYSTEM SHALL BE DESIGNED AND INSTALLED BY A LICENSED MECHANICAL CONTRACTOR PER ALL APPLICABLE CODES. CONTRACTOR SHALL VERIFY IN FIELD THE DUCT & SUPPLY/ RETURN REGISTER LOCATIONS WITH THE ARCHITECT PRIOR TO CONSTRUCTION.

ELECTRICAL NOTES (WHEN APPLICABLE):

1. ELECTRICAL SYSTEM SHALL BE DESIGNED AND INSTALLED BY A LICENSED ELECTRICAL CONTRACTOR WITH REGARD TO LOAD CALCULATIONS, PANEL SIZING, AND GROUNDING REQUIREMENTS PER ALL APPLICABLE CODES.

2. CONTRACTOR SHALL VERIFY LOCATION AND HEIGHT OF OUTLETS, SWITCHES AND LIGHT FIXTURES WITH ARCHITECT PRIOR TO INSTALLATION. INSTALL J-BOXES FOR APPROVAL BY ARCHITECT PRIOR TO WIRING. LOCATE CEILING LIGHTING IN FIELD FOR ARCHITECT AND OWNER APPROVAL PRIOR TO INSTALLING LIGHTS.

3 ALL SWITCHES, RECEPTACLES AND PLATES SHALL HAVE COLOR CHOSEN BY ARCHITECT.

4. FLOOR OUTLETS SHALL BE METAL - VERIFY FINISH WITH ARCHITECT.

5. ALL SWITCHES SHALL BE BY "LUTRON" - VERIFY MODEL WITH ARCHITECT.

6. ALL BATHROOM, LAUNDRY ROOM & GARAGE LIGHTING MUST BE CONTROLLED BY A MANUAL-ON OCCUPANT SENSOR. MANUAL-ON OCCUPANT SENSOR MUST TURN OFF WHEN NO ONE IS PRESENT. ON FUNCTION MUST BE CONTROLLED MANUALLY.

7 ALL ELECTRICAL, SPEAKER AND DATA WIRING SHALL BE CONCEALED. ALL EXISTING EXPOSED ELECTRICAL CONDUIT AND PHONE LINES SHALL BE REROUTED AND CONCEALED.

8. ALL BEDROOMS AND ACCESS CORRIDORS TO BEDROOMS SHALL HAVE HARDWIRED SMOKE DETECTORS. CONTRACTOR TO VERIFY LOCATION W/ ARCHITECT PRIOR TO INSTALLATION.

9. LIGHT FIXTURES IN WET/ DAMP LOCATIONS SHALL BE LABELED "SUITABLE FOR DAMP LOCATIONS."

10. PROVIDE POWER & WATER AS REQUIRED AND LOCATED PER MANUFACTURERS SPECIFICATIONS FOR ALL EQUIPMENT SUCH AS THE WATER HEATER.

11. CLOTHES CLOSET LIGHT FIXTURE CLEARANCES SHALL CONFORM TO CEC 410-16. INCANDESCENT FIXTURES WITH OPEN OR PARTIALLY ENCLOSED LAMPS AND PENDANT FIXTURES OR LAMP HOLDERS ARE NOT ALLOWED IN CLOSETS.

12. WALLS 2" WIDE OR GREATER SHALL HAVE AN OUTLET. OUTLETS SHALL BE SPACED NO MORE THAN 12' APART, AND A MAXIMUM OF 6' FROM END OF WALLS OR OPENINGS.

13. ALL ELECTRICAL OUTLETS THAT SERVE BATHROOMS, THE GARAGE AND THE EXTERIOR SHALL HAVE GROUND FAULT INTERRUPTER PROTECTION.

14. PROVIDE AT LEAST ONE 20 AMP CIRCUIT FOR BATHROOM OUTLETS, WITH NO OTHER OUTLETS ON THE CIRCUITS.

15. PROVIDE A 20' MIN. X #4 MIN. BARE COPPER WIRE GROUND ATTACHED TO FOUNDATION REINFORCING IN ACCORDANCE WITH CEC 250.52.

PLUMBING NOTES (WHEN APPLICABLE):

1. PROVIDE WATER HEATER PRESSURE/ TEMPERATURE RELIEF VALVE WITH DRAIN TO OUTSIDE OF BUILDING OR OTHER APPROVED LOCATION. VERIFY W/ ARCHITECT. NO PART OF DRAIN MAY BE INSTALLED WHERE IT WOULD BE SUBJECT TO FREEZING.

2. ALL HOSE BIBS TO BE EQUIPPED WITH ANTI SIPHON VALVES PER UPC.

3. PROVIDE SHOWERS AND TUB-SHOWER COMBINATIONS WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE OR THERMOSTATIC MIXING VALVE TYPE.

4. ALL SHOWER HEADS TO BE 1.8 GPM. KITCHEN FAUCETS 1.8 GPM AND LAV FAUCETS ARE TO BE 1.2 GPM AND TOILETS ARE TO BE 1.28 GAL / FLUSH. CONTRACTOR TO VERIFY FIXTURE TYPE WITH ARCHITECT.

5. PROVIDE CAST IRON DRAIN/ VENT WASTE SYSTEM THROUGHOUT HOUSE.

6. INSULATE HOT WATER PIPES.

7. PROVIDE SEISMIC ANCHORAGE FOR WATER HEATER PER CPC. PROVIDE STRAPS WITHIN THE UPPER AND LOWER 1/3 OF UNIT WITH THE LOWER STRAP AT LEAST 4" ABOVE THE CONTROLS.

8. PLUMBING FIXTURES, SINKS, TUBS & BATHROOM ACCESSORIES SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS. FIXTURE LAYOUT @ STONE LOCATIONS TO BE COORDINATED DURING THE SHOP DRAWING PROCESS FOR STONE WORK.

MECHANICAL/ ELECTRICAL/ PLUMBING GENERAL NOTES

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DAI - SHEN REMODEL
161 ELM ROAD, BOLINAS, CA 94924
APN: 192-212-17

Title:
GENERAL NOTES

Revisions:	Date:
AMENUS225 SUBMITTAL	11.16.2021

Date:
11.16.2021

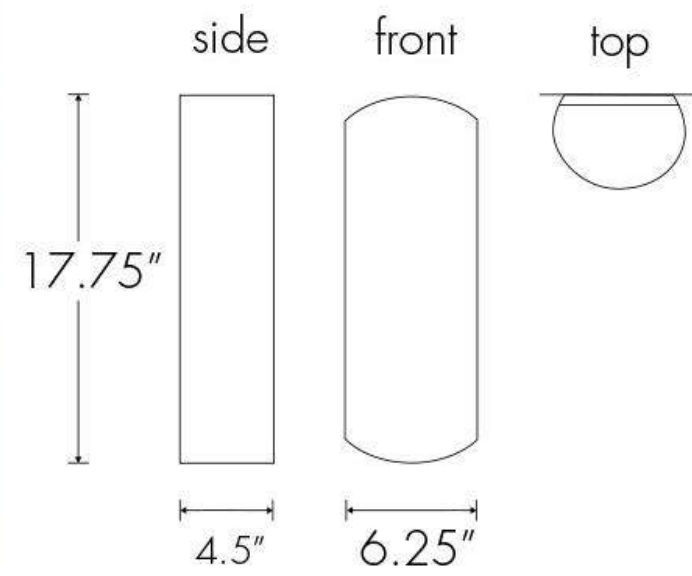
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AS NOTED

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EXTERIOR LIGHTING - TYPICAL WALL SCONCE TYPE 'E'

NOTE: DOWNLIGHT ONLY

ULTRALIGHTS



BASICS 9260-18

Dark Sky Wet Location

Base Specifications:

17.75" h x 6.25" w x 4.5" d
01: Wet Loc - Incan - 2 x E26 - 60W max ea

Notes:

Dark Sky friendly available*
Horizontal mounting available*
02 / 04 Lamping: Wattage and Lumens - Initial at the source

9260-18	TBD	02
MODEL	FINISH	LAMPING

*Modifications:

- Dark Sky (metal top)
- Horizontal mounting
- Top diffuser (LED only)
- Bottom diffuser

Other Modifications:

DARK SKY

FINISH

- BA - Bronze Age
- BK - Black
- BP - Black Pearl
- CB - Cast Bronze
- CH - Chestnut
- CR - Chrome
- DI - Dark Iron
- EB - Empire Bronze
- MB - Medieval Bronze
- NB - New Brass
- SB - Smokey Brass
- SP - Satin Pewter
- SS - Smoked Silver

PREMIUM

- RCU - Raw Copper Unfinished

LAMPING

- 01: Wet Loc Incan - 2 x E26 - 60W max ea - 120V
- 02: Wet Loc LED - 8.4W - 1181 Lumens
- (Dim w/ Std Phase Dim) - 120V
- (Non-Dim or Dim w/ 0-10V Dim system) - Universal
- 03: Dry / Damp Loc Incan - 2 x E26 - 60W max ea - 120V
- 04: Dry / Damp Loc LED - 14W - 2198 Lumens
- (Non-Dim or Dim w/ 0-10V Dim system) - Universal
- 10: WRL - 2 x E26 - for LED Retro 20W max ea - 120V

COLOR TEMPERATURE / CRI

- 3000K - Standard - CRI available upon request
- 2700K - CRI available upon request
- 3500K - CRI available upon request
- 4000K - CRI available upon request

Project Name: 161 Elm Road Specifier Name: Eric Davies Quantity: count by GC
Project Location: Specifier Location: Fixture Type:

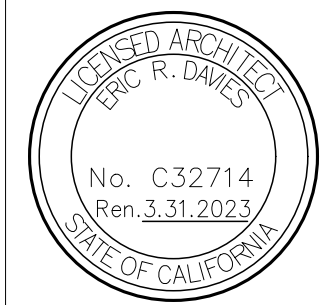
WWW.ULTRALIGHTSLIGHTING.COM

320 S Plumer Avenue • Tucson, AZ 85719 • p +1 520 623 9829 • info@ultralightslighting.com

EXTERIOR LIGHTING - NOT USED

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DAI - SHEN REMODEL
161 ELM ROAD, BOLLINAS, CA 94924
APN: 192-212-17

Title:
LIGHTING SPECS

Revisions: Date:

WARREN.BIG SUBMITTAL 11.06.2021
WARREN.BIG SUBMITTAL REV 5 12.15.2022

Date:
11.08.2021
Scale:
AS NOTED
Sheet:

AO.2



DAI - SHEN REMODEL
161 ELM ROAD, BOLLINAS, CA 94924
APN: 192-212-17

Introduction

Stormwater pollution is a national environmental problem. In California, stormwater runoff is a major source of water pollution. To help combat the problems of stormwater pollution, federal and state governments have developed a program for monitoring and permitting discharges to municipal storm drain systems, creeks, and water bodies such as San Francisco Bay.

Municipalities in the Bay Area are required by the Clean Water Act to develop stormwater management programs that include requirements for construction activities. Your construction project will need to comply with local municipal requirements. If your construction activity will disturb one acre or more, you must also obtain coverage under the General Construction Activity Permit (see Requirements for Dischargers).

Blueprint for a Clean Bay is an introductory guide to stormwater quality control on construction sites. It contains several principles and techniques that you can use to help prevent stormwater pollution. BASMAA has developed this booklet as a resource for all general contractors, home builders, and subcontractors working on construction sites.

Blueprint for a Clean Bay is not a design manual or a Stormwater Pollution Prevention Plan (SWPPP) (see Requirements for Dischargers). For more information on the General Permit, designing stormwater quality controls, or producing a Stormwater Pollution Prevention Plan, please refer to:

- the California Stormwater Quality Association (CASQA) Stormwater Best Management Practice Handbook for Construction,
- the Regional Water Quality Control Board's (RWQCB) Guidelines for Construction Projects, or
- consult your local program or the State Water Resources Control Board (SWRCB) (see below).

Please note that this booklet is concerned only with the management of construction sites and activities during construction.

For more information on stormwater requirements, call the State Water Resources Control Board's Stormwater Information Line at (916) 341-5537 or your local program.

Stormwater Pollution

Storm Drain System

Stormwater or runoff from sources like sprinklers and hoses flows over the ground into the storm drain system. In the San Francisco Bay Area, storm drain systems consist of gutters, storm drains, underground pipes, open channels, culverts, and creeks. Storm drain systems are designed to drain directly to the Bay, Delta, or Pacific Ocean with no treatment.

Pollution From Construction Sites

Stormwater runoff is part of a natural hydrologic process. However, land development and construction activities can significantly alter natural drainage patterns and pollute stormwater runoff. Runoff picks up pollutants as it flows over the ground or paved areas and carries these pollutants into the storm drain system. Common sources of pollutants from construction sites include: sediments from soil erosion, construction materials and waste (e.g., paint, solvents, concrete, drywall), landscaping runoff containing fertilizers and pesticides, and spilled oil, fuel, and other fluids from construction vehicles and heavy equipment.

Adverse Effects From Stormwater Pollution

Stormwater pollution is a major source of water pollution in California. It can cause declines in fisheries, damage habitats, and limit water recreation activities. Stormwater pollution poses a serious threat to the overall health of the ecosystem.

- the California Stormwater Quality Association (CASQA) Stormwater Best Management Practice Handbook for Construction,
- the Regional Water Quality Control Board's (RWQCB) Guidelines for Construction Projects, or
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Requirements for Dischargers

Best Management Practices

Municipal Stormwater Program

Municipalities in the Bay Area are required by federal regulations to develop programs to control the discharge of pollutants from construction sites and areas of new development or significant redevelopment. As a result, your development and construction projects are subject to new requirements designed to improve stormwater quality such as, expanded plan check and review, contract specifications, stormwater treatment measures, runoff monitoring, and increased site inspection. For more information on municipal requirements, please contact the municipal representative listed on the back cover of this booklet.

Projects Equal To Or Greater Than 1 Acre

If your construction activity will disturb one acre or more, you must obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit) issued by the SWRCB for stormwater discharges associated with construction activity. To obtain coverage under the General Permit, a Notice of Intent (NOI) must be filed with the SWRCB. The General Construction Permit requires you to prepare and carry out a Stormwater Pollution Prevention Plan or SWPPP. Your SWPPP must identify appropriate stormwater pollution prevention measures or best management practices (BMPs), like the ones described in this booklet, to reduce pollutants in stormwater discharges from the construction site both during and after construction is complete. A best management practice or BMP is defined as any technology, process, practice, operating method, measure, or device that controls, prevents, removes, or reduces pollution. The General Permit also requires permanent stormwater quality controls (see BASMAA's Start at the Source manual and CASQA's BMP Handbook: New Development and Redevelopment for examples). You should keep a copy of your SWPPP readily available onsite throughout construction.

Projects Less Than 1 Acre
If your project is less than one acre, you may still need to use BMPs to comply with local municipal requirements. Check with the local stormwater program (listed on back cover), or planning or engineering department for details.

- the California Stormwater Quality Association (CASQA) Stormwater Best Management Practice Handbook for Construction,
- the Regional Water Quality Control Board's (RWQCB) Guidelines for Construction Projects, or
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For more information on stormwater requirements, call the State Water Resources Control Board's Stormwater Information Line at (916) 341-5537 or your local program.

Best Management Practices

Best Management Practices

Specific Practices

- 1. Keep pollutants off exposed surfaces. Place trash cans around the site to reduce litter. Dispose of non-hazardous construction waste in covered dumpsters or recycling facilities.
- 2. Practice source reduction — reduce waste by ordering only the amount you need to finish the job.
- 3. Do not over-apply pesticides or fertilizers and follow manufacturer instructions for mixing and applying materials.
- 4. Recycle leftover materials whenever possible. Materials such as concrete, asphalt, scrap metal, solvents, degreasers, cleaned vegetable, paper, rock, and vehicle maintenance materials such as used oil, oil, tires, batteries, and tires are recyclable (check with the local planning or building department for more information).

Erosion Prevention and Sediment Control

Sediment is the process by which soil particles are removed from the land surface, by wind, water and/or gravity. Soil particles are removed by stormwater runoff and pollutants that "ride" deposited in local creeks, lakes, Bay or Delta, can cause negative impacts on aquatic habitat. Exposed soil after logging, grading, or excavation is easily eroded by wind or water. The following practices will help prevent erosion from occurring on the construction site.

- 1. Plan the development to fit the topography, soil, drainage pattern and natural vegetation of the site.
- 2. Do limited clearing limits, to stumps, stumps, sensitive or critical areas, trees, drainage courses, and buffer zones to prevent excessive or unnecessary disturbance to riparian ecosystems.
- 3. Place grading operations to reduce disturbed areas and time of exposure.
- 4. Avoid excavation and grading during wet weather.
- 5. Limit on-site construction routes and stabilize construction entrances (a) and exit (b).
- 6. Remove existing vegetation only when absolutely necessary.
- 7. Construct diversion ditches and drainage swales to channel runoff around the site.
- 8. The berms and drainage ditches to divert runoff around the project area. Place diversion ditches across the top of cut slopes.



Best Management Practices

Best Management Practices

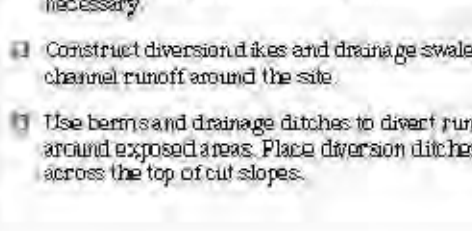
Specific Practices

- 1. Plant vegetation on exposed surfaces. Where replanting is not feasible, use erosion control blankets (e.g., pile of straw mulch, glass fiber or erodible matting, mulch, netting).
- 2. Consider slope terracing with cross drains to increase soil stability.
- 3. Cover stockpiled soil and landscaping materials with secured plastic sheeting and divert runoff around them.
- 4. As a backup measure, protect drainage courses, creeks, or catch basins with filter rolls, silt fences, sand/gravel bags and/or temporary drainage swales.
- 5. Once grading is completed, stabilize the disturbed areas using permanent vegetation as soon as possible. The temporary erosion control methods are established.
- 6. Conduct routine inspections of erosion control measures especially before and immediately after rainstorms, and repair if necessary.

Control sediment

Sedimentation is defined as the process of depositing sediments carried away by runoff. Sediments consist of soil particles, clays, sands, and other materials. The purpose of sediment control practices is to remove sediments from stormwater before they are transported off site or reach a storm drain inlet or nearby creek. The most effective sediment control practices reduce runoff velocity and trap or detain runoff allowing sediments to settle out.

- 1. Use berms, silt fences, sand/gravel bags, rocks, filter rolls, and/or temporary vegetation on slopes to reduce runoff velocity and trap sediments. Do not use straw bales or other erosion control devices for this purpose.
- 2. Use check dams in temporary ditches and swales to reduce runoff velocity and promote sedimentation.
- 3. Protect storm drain inlets from such materials as silt, sand, gravel, and debris. Use silt traps and sediment control devices.



Best Management Practices

Best Management Practices

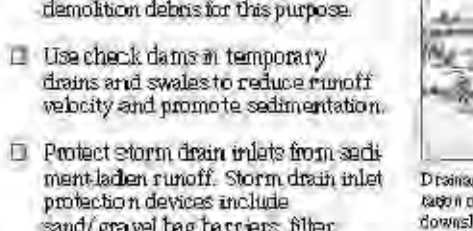
Specific Practices

- 1. Plant vegetation on exposed surfaces. Where replanting is not feasible, use erosion control blankets (e.g., pile of straw mulch, glass fiber or erodible matting, mulch, netting).
- 2. Consider slope terracing with cross drains to increase soil stability.
- 3. Cover stockpiled soil and landscaping materials with secured plastic sheeting and divert runoff around them.
- 4. As a backup measure, protect drainage courses, creeks, or catch basins with filter rolls, silt fences, sand/gravel bags and/or temporary drainage swales.
- 5. Once grading is completed, stabilize the disturbed areas using permanent vegetation as soon as possible. The temporary erosion control methods are established.
- 6. Conduct routine inspections of erosion control measures especially before and immediately after rainstorms, and repair if necessary.

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Best Management Practices

Best Management Practices

Specific Practices

- 1. If you must disturb and replace motor oil, radiator coolant, or other fluids on-site, use drip pans or drop cloths to catch drips and spills. Collect all spent fluids, store in labeled separate containers, and recycle whenever possible. Note that in order to be recyclable, such liquids must not be mixed with other fluids. Non-recycled fluids generally must be disposed of as hazardous wastes.

Clean up spills immediately after they happen

When vehicle fluids or materials such as paints or solvents are spilled, cleanup should be immediate, automatic, and routine.

- 1. Sweep up spilled dry materials (e.g., cement, mortar, or fertilizer) immediately. Never attempt to "wash them away" with water. Use only minimal water for dust control.
- 2. Clean up liquid spills on paved or impervious surfaces using "dry" cleanup methods (e.g., absorbent materials like cat litter, sand or bags).
- 3. Clean up spills on dirt areas by digging up and properly disposing of the contaminated soil.
- 4. Report significant spills to the appropriate spill response agencies immediately (see reference list on the back cover of this booklet for more information).



General Site Maintenance

Prevent spills and leaks

Properly maintained vehicles and heavy equipment (including fuel, oil, lubricants, or other fluids) on the construction site are common sources of stormwater pollution and soil contamination. Construction material spills can also cause serious problems. Careful site planning, preventive maintenance, and good materials handling practices can eliminate most spills and leaks.

- 1. Maintain all vehicles and heavy equipment regularly for a and repair leaks.
- 2. Diagnose specific areas of the construction site and vehicle and equipment leaking fluids when feasible, or schedule regular maintenance when feasible.
- 3. Perform major maintenance, repair jobs and vehicle and equipment washing operations when feasible, or schedule regular maintenance when feasible.

Remember: The property owner and the contractor share ultimate responsibility for the activities that occur on a construction site. You may be held responsible for any environmental damage caused by your subcontractors or employees.

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- 1. Abandoned underground storage tanks, drums, or other buried debris are encountered during construction activities; or
- 2. Spills have occurred on the site or adjacent properties involving pesticides and herbicides, fertilizers, detergents, plaster and other products; petroleum products such as fuel, oil, and grease; or other hazardous chemicals such as acids, lime, glues, paints, solvents, and curing compounds.



Best Management Practices

Best Management Practices

Specific Practices

- 1. Store materials under cover. Mix and dry building materials with the potential to pollute runoff should be stored under cover and/or surrounded by berms when rain is forecast during wet weather.
- 2. Store stockpiled materials and washwater in a temporary roof or secured plastic sheeting or tarp.
- 3. Berm around storage piles to prevent contact with runoff.
- 4. Plaster or other products can create large quantities of suspended solids in runoff, which may be toxic to aquatic life and cause serious environmental harm even if the materials are inert. Store all such potentially polluting dry materials especially open bags — under a temporary roof or inside a building, or cover securely within impermeable bags. By properly storing dry materials, you may also help protect air quality.
- 5. Store containers of paints, chemicals, solvents, and other hazardous materials in accordance with secondary containment regulations and under cover during any periods.

Best Management Practices

Best Management Practices

Specific Practices

- 1. Cover open dumpsters with plastic sheeting or a tarp. Secure the sheeting or tarp around the outside of the dumpster. If your dumpster has a cover close it.
- 2. If a dumpster is leaking, contain and collect leaking material. Notify the dumpster's leasing company for repair or replacement.
- 3. Do not clean dumpsters on-site. Return to leasing company for periodic cleaning, if necessary.

Clean up paints, solvents, adhesives, and cleaning solutions properly
Although many paint materials can and should be recycled, liquid residues from paints, thinners, solvents, glues, and cleaning fluids are hazardous wastes. When

Cover and maintain dumpsters

Open and/or leaking dumpsters can be a source of stormwater pollution.

Recycle yard waste and tree prunings at a landfill that chips and composts plant material.

Recycle yard waste and tree prunings at a landfill that chips and composts plant material.

Best Management Practices

Best Management Practices

Specific Practices

- 1. Never clean brushes or rinse paint containers into a street, gutter, storm drain, or creek.
- 2. For water based paints, paint out brushes to the extent possible and rinse to a drain leading to the sanitary sewer (i.e., indoor plumbing).
- 3. For oil based paints, paint out brushes to the extent possible, and filter and reuse thinners and solvents. Dispose of unusable thinners and residue as hazardous waste.
- 4. Recycle, return to supplier or donate unwanted water based (latex) paint. You may be able to recycle clean empty dry paint cans as metal (check with the local planning or building department for more information).
- 5. Dried latex paint may be disposed of in the garbage.
- 6. Unwanted paint (that is not recycled), thinners, and sludges must be disposed of as hazardous waste.
- 7. More and more paint companies are recycling excess latex paint (check with the local planning or building department for more information).

Keep fresh concrete and cement mortars out of gutters, storm drains, and creeks
Concrete and cement related mortars that wash into gutters and storm drains are toxic to fish and the aquatic environment.

Cover and maintain dumpsters

Open and/or leaking dumpsters can be a source of stormwater pollution.

Recycle yard waste and tree prunings at a landfill that chips and composts plant material.

Recycle yard waste and tree prunings at a landfill that chips and composts plant material.

Best Management Practices

Best Management Practices

Specific Practices

- 1. Whenever possible, return contents of mixer barrel to the yard for recycling. Dispose of small amounts of excess concrete, grout, and mortar in the trash.

Service and maintain portable toilets
Leaking portable toilets are a potential health and environmental hazard.

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CERTIFICATE OF COMPLIANCE

Project Name: Dai - Shen Remodel

Calculation Description: Title 24 Analysis

Calculation Date/Time: 2022-12-13T18:05:00-08:00

Input File Name: 221213 161 Elm - Bolinas Alteration - PV PERMIT.ribd19x

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Table with 22 columns: 01-22. Contains general information such as Project Name, Run Title, Project Location, City, Zip code, Standards Version, Software Version, Climate zone, Front Orientation, Building Type, Project Scope, Addition Cond. Floor Area, Existing Cond. Floor Area, Total Cond. Floor Area, ADU Bedroom Count, and Is Natural Gas Available?

Table with 3 columns: 01-03. Contains compliance results: Building Complies with Computer Performance, Building incorporates features that require field testing, and Building incorporates one or more Special Features.

Table with 5 columns: Energy Use (KTDWh/ft²-yr), Standard Design, Proposed Design, Compliance Margin, Percent Improvement. Lists energy uses like Space Heating, Space Cooling, IAQ Ventilation, Water Heating, and Self Utilization/Flexibility Credit.

Registration Number: 222-P010242524A-000-000-0000000-0000. Registration Date/Time: 2022-12-13 18:43:35. HERS Provider: CalCERTS, Inc. Report Version: 2019.2.000. Schema Version: rev 20200901.

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REQUIRED SPECIAL FEATURES: The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

HERS FEATURE SUMMARY: The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis.

Table with 7 columns: 01-07. Contains building features information: Project Name, Conditioned Floor Area, Number of Dwelling Units, Number of Bedrooms, Number of Zones, Number of Ventilation Cooling Systems, and Number of Water Heating Systems.

Table with 7 columns: 01-07. Contains zone information: Zone Name, Zone Type, HVAC System Name, Zone Floor Area, Avg. Ceiling Height, Water Heating System 1, and Water Heating System 2.

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Table with 11 columns: 01-11. Contains opaque surfaces data: Name, Zone, Construction, Azimuth, Orientation, Gross Area, Window and Door Area, Tilt, Wall Exceptions, Status, and Verified Existing Condition.

Table with 14 columns: 01-14. Contains opaque surfaces - cathedral ceilings data: Name, Zone, Construction, Azimuth, Orientation, Area, Skylight Area, Roof Rise, Roof Reflectance, Roof Emittance, Cool Roof, Status, Verified Existing Condition, and Existing Construction.

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Table with 16 columns: 01-16. Contains fenestration/glazing data: Name, Type, Surface, Orientation, Azimuth, Width, Height, Mult., Area, U-factor, SHGC, Exterior Shading, Status, and Verified Existing Condition.

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Table with 16 columns: 01-16. Contains fenestration/glazing data: Name, Type, Surface, Orientation, Azimuth, Width, Height, Mult., Area, U-factor, SHGC, Exterior Shading, Status, and Verified Existing Condition.

Table with 6 columns: 01-06. Contains opaque doors data: Name, Side of Building, Area, U-factor, Status, and Verified Existing Condition.

Table with 17 columns: 01-17. Contains overhangs and fins data: Window, Depth, Dist Up, Dist R, Bot Up, Top Up, Dist L, Bot Up, Depth, Top Up, Dist R, Bot Up, Status, Verified Existing Condition, and Existing Construction.

Table with 10 columns: 01-10. Contains slab floors data: Name, Zone, Area, Perimeter, Edge Insul. R-value and Depth, Edge Insul. R-value and Depth, Carpeted Fraction, Heated, Status, and Verified Existing Condition.

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Table with 8 columns: 01-08. Contains opaque surface constructions data: Construction Name, Surface Type, Construction Type, Framing, Total Cavity R-value, Interior / Exterior Continuous R-value, U-factor, and Assembly Layers.

Table with 4 columns: 01-04. Contains building envelope - HERS verification data: Quality Insulation Installation (QII), High R-value Spray Foam Insulation, Building Envelope Air Leakage, and CFM50.

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Table with 10 columns: 01-10. Contains water heating systems data: Name, System Type, Distribution Type, Water Heater Name, Solar Heating System, Compact Distribution, HERS Verification, Status, Verified Existing Condition, and Existing Water Heating System.

Table with 14 columns: 01-14. Contains water heaters data: Name, Heating Element Type, Tank Type, # of Units, Tank Vol., Energy Factor or Efficiency, Input Rating, Tank Insulation R-value, Standby Loss or Recovery Eff, 1st Ht. Rating or Flow Rate, NEEA Heat Pump Brand or Model, Tank Location or Ambient Condition, Status, and Verified Existing Condition.

Table with 8 columns: 01-08. Contains water heating - HERS verification data: Name, Pipe Insulation, Parallel Piping, Compact Distribution, Compact Distribution Type, Recirculation Control, Central DHW Distribution, and Shower Drain Water Heat Recovery.

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Table with 11 columns: 01-11. Contains space conditioning systems data: Name, System Type, Heating Unit Name, Cooling Unit Name, Fan Name, Distribution Name, Required Thermostat Type, Status, Verified Existing Condition, Heating Equipment Count, and Cooling Equipment Count.

Table with 4 columns: 01-04. Contains HVAC - heating unit types data: Name, System Type, Number of Units, and Heating Efficiency.

Table with 8 columns: 01-08. Contains HVAC - cooling unit types data: Name, System Type, Number of Units, Efficiency EER/CEER, Efficiency SEER, Zonally Controlled, Multi-speed Compressor, and HERS Verification.

Table with 4 columns: 01-04. Contains HVAC - fan systems data: Name, Type, Fan Power (Watts/CFM), and Name.

HERS RATER VERIFICATION OF EXISTING CONDITIONS

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Documentation Author's Declaration Statement, Responsible Person's Declaration Statement, and Responsible Designer Name/Signature section with signature of Eric Davies and company information.

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

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EICHLER | DAVIES ARCHITECTURE

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DAI-SHEN RESIDENCE 161 ELM ROAD BOLINAS, CA 94924 192-212-17

Title:

TITLE 24 CF-1R

Revisions: Date: BLDG PERM 11/9/2020 BLDG PERM REV 2 4/21/2022 MRS DAVIS 12/19/2022

Date: 10/30/21

Scale: NO SCALE

Sheet: ENO.1



REVISION 1	11/9/2020
REVISION 2	4/22/2022
REVISION 3	12/19/2022

2019 Low-Rise Residential Mandatory Measures Summary

NOTE: Low-rise residential buildings subject to the Energy Standards must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. Exceptions may apply. (Chapter 1902019)

Building Envelope Measures:	
§ 110.6(a)1:	Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 cfm per square foot or less when tested per NFRC-400, ASTM E283 or AAMA/WDMCSA 1011.S.2/4440-2011.
§ 110.6(a)5:	Labeling. Fenestration products and exterior doors must have a label meeting the requirements of Section 10-111(f).
§ 110.6(b):	Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather stripped.
§ 110.7:	Air Leakage. All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	Insulation Certification by Manufacturers. Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g):	Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of Section 110.8(g).
§ 110.8(j):	Roofing Products Solar Reflectance and Thermal Emittance. The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per § 110-113 when the installation of a cool roof is specified on the CF-IR.
§ 110.8(j):	Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	Ceiling and Rafter Roof Insulation. Minimum R-22 insulation in wood-frame ceiling; or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.
§ 150.0(b):	Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less, (R-19 in 2x6 or U-factor of 0.074 or less). Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102, equivalent to an installed value of R-13 in a wood framed assembly. Masonry walls must meet Table 150.1-A or B.
§ 150.0(d):	Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.
§ 150.0(f):	Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings no greater than 0.3%; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	Vapor Retarder. In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(i).
§ 150.0(g)2:	Vapor Retarder. In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.
Fireplaces, Decorative Gas Appliances, and Gas Log Measures:	
§ 110.5(e):	Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1:	Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the fireplace.
§ 150.0(e)2:	Combustion Intake. Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and light-tighting damper or combustion-air control device.
§ 150.0(e)3:	Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.
Space Conditioning, Water Heating, and Plumbing System Measures:	
§ 110.0-§ 110.3:	Certification. Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the Energy Commission.
§ 110.2(a):	HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-K.
§ 110.2(b):	Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-off temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.
§ 110.2(c):	Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.
§ 110.3(c):	Water Heating Recirculation Loops Serving Multiple Dwelling Units. Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)(4).
§ 110.3(c)(6):	Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.
§ 110.5:	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt); and pool and spa heaters.
§ 150.0(h)1:	Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.

2019 Low-Rise Residential Mandatory Measures Summary

Requirements for Ventilation and Indoor Air Quality:	
§ 150.0(a)1:	Requirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(i).
§ 150.0(a)1C:	Single Family Detached Dwelling Units. Single family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow provided at rates determined by ASHRAE 62.2 Sections 4.1.1 and 4.1.2 and as specified in § 150.0(a)1C.
§ 150.0(a)1E:	Multifamily Attached Dwelling Units. Multifamily attached dwelling units must have mechanical ventilation airflow provided at rates in accordance with Equation 150.0-B and must be either a balanced system or continuous supply or continuous exhaust system. If a balanced system is not used, all units in the building must use the same system type and the dwelling-unit envelope leakage must be ≤ 0.3 CFM at 50 Pa (0.2 inch water) per square foot of dwelling unit envelope surface area and verified in accordance with Reference Residential Appendix RA3.8.
§ 150.0(a)1F:	Multifamily Building Central Ventilation Systems. Central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow for each dwelling unit served at a rate equal to or greater than the rate specified by Equation 150.0-B. All unit airflows must be within 20% of the unit with the lowest airflow rate as it relates to the individual unit's minimum required airflow rate needed for compliance.
§ 150.0(a)1G:	Kitchen Range Hoods. Kitchen range hoods must be rated for removal in accordance with Section 7.2 of ASHRAE 62.2.
§ 150.0(a)2:	Field Verification and Diagnostic Testing. Dwelling unit ventilation airflow must be verified in accordance with Reference Residential Appendix RA3.7. Kitchen range hoods must be verified in accordance with Reference Residential Appendix RA3.7.4.3 to confirm it is rated by HV1 to comply with the airflow rates and sound requirements as specified in Section 5 and 7.2 of ASHRAE 62.2.
Pool and Spa Systems and Equipment Measures:	
§ 110.4(a):	Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating.
§ 110.4(b)1:	Piping. Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	Covers. Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	Directional Inlets and Time Switches for Pools. Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.
Lighting Measures:	
§ 110.9:	Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.
§ 150.0(k)1A:	Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.
§ 150.0(k)1B:	Blank Electrical Boxes. The number of electrical boxes that are more than 5 feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
§ 150.0(k)1C:	Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C.
§ 150.0(k)1D:	Electronic Ballasts for Fluorescent Lamps. Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.
§ 150.0(k)1E:	Night Lights, Step Lights, and Path Lights. Night lights, step lights and path lights are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power and emit no more than 150 lumens.
§ 150.0(k)1F:	Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k).
§ 150.0(k)1G:	Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JAB.
§ 150.0(k)1H:	Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JAB elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1I:	Light Sources in Drawers, Cabinets, and Linen Closets. Light sources integral to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	Interior Switches and Controls. All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems.
§ 150.0(k)2C:	Interior Switches and Controls. Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned ON and OFF.
§ 150.0(k)2D:	Interior Switches and Controls. Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 150.0(k)2E:	Interior Switches and Controls. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the control is installed to comply with § 150.0(k).
§ 150.0(k)2F:	Interior Switches and Controls. Lighting controls must comply with the applicable requirements of § 110.9.

2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(h)3A:	Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least 5 feet from the outlet of any dryer vent.
§ 150.0(h)3B:	Liquid Line Drier. Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(i)1:	Storage Tank Insulation. Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have a minimum of R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0(i)2A:	Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water piping must be insulated as specified in Section 609.11 of the California Plumbing Code. In addition, the following piping conditions must have a minimum insulation wall thickness of 1 inch or a minimum insulation R-value of 7.7: the first 5 feet of cold water pipes from the storage tank; all hot water piping with a nominal diameter equal to or greater than 3/4 inch and less than 1 inch; all hot water piping with a nominal diameter less than 3/4 inch that is associated with a domestic hot water recirculation system, from the heating source to storage tank or between tanks, buried below grade, and from the heating source to kitchen fixtures.
§ 150.0(i)3:	Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by Section 120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(m)1:	Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must include all of the following: A dedicated 125 volt, 20 amp electrical receptacle that is connected to the electric panel with a 120/240 volt 3 conductor, 10 AWG copper branch circuit, within 3 feet from the water heater without obstruction. Both ends of the unused conductor must be labeled with the word "spare" and be electrically isolated; Have a resettable single pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit and labeled with the words "Future 240V Use," a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; condensate drain that is no more than 2 inches higher than the base of the water heater, and allows natural drainage without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu per hour.
§ 150.0(m)2:	Recirculating Loops. Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)(5).
§ 150.0(m)3:	Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the Executive Director.
Ducts and Fans Measures:	
§ 110.8(d)3:	Ducts. Insulation installed on an existing space-conditioning duct must comply with California Mechanical Code (CMC) Section 604.0. If a contractor installs the insulation, the contractor must certify to the customer in writing, that the insulation meets this requirement.
§ 150.0(m)1:	CMC Compliance. All air-distribution system ducts and plenums must meet the requirements of the CMC Section 601.0, 602.0, 603.0, 604.0, 605.0 and ANSIS/MACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to a minimum installed level of R-6.0 or a minimum installed level of R-4.2 when ducts are entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3). Portions of the duct system completely exposed and surrounded by directly conditioned space are not required to be insulated. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than 1/4 inch, the combination of mastic and either mesh or tape must be used. Building cavities, support platforms for air handlers, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms must not be compressed to cause restriction in the cross-sectional area.
§ 150.0(m)2:	Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8:	Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	Protection of Insulation. Insulation must be protected from damage, sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
§ 150.0(m)10:	Porous Inner Core Flex Duct. Porous inner core flex ducts must have a non-porous layer between the inner core and outer vapor barrier.
§ 150.0(m)11:	Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with § 150.0(m)11 and Reference Residential Appendix RA3.
§ 150.0(m)12:	Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a 2 inch depth or can be 1 inch deep per Equation 150.0-A. Pressure drops and labeling must meet the requirements in § 150.0(m)12. Filters must be accessible for regular service.
§ 150.0(m)13:	Space Conditioning System Airflow Rate and Fan Efficiency. Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit efficiency ≤ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficiency ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3.

2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(k)2G:	Interior Switches and Controls. An energy management control system (EMCS) may be used to comply with control requirements if it provides functionality of the specified control according to § 110.9; meets the Installation Certificate requirements of § 130.4; meets the EMCS requirements of § 130.0(e); and meets all other requirements in § 150.0(k)2.
§ 150.0(k)2H:	Interior Switches and Controls. A multiscene programmable controller may be used to comply with dimmer requirements in § 150.0(k)1 if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)2.
§ 150.0(k)2I:	Interior Switches and Controls. In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by an occupant sensor or a vacancy sensor providing automatic off functionality. If an occupant sensor is installed, it must be initially configured to manual-on operation using the manual control required under Section 150.0(k)2C.
§ 150.0(k)2J:	Interior Switches and Controls. Luminaires that are or contain light sources that meet Reference Joint Appendix JAB requirements for dimming, and that are not controlled by occupancy or vacancy sensors, must have dimming controls.
§ 150.0(k)2K:	Interior Switches and Controls. Under cabinet lighting must be controlled separately from ceiling-installed lighting systems.
§ 150.0(k)3A:	Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must meet the requirement in Item § 150.0(k)3A(i) (ON and OFF switch) and the requirements in either § 150.0(k)3A(ii) (photocell and either a motion sensor or automatic time switch control) or § 150.0(k)3A(iii) (astronomical time clock), or an EMCS.
§ 150.0(k)3B:	Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, outdoor lighting for private patios, entrances, balconies, and porches; and residential parking lots and carports with less than eight vehicles per site must comply with either Section 150.0(k)3A or with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)3C:	Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, any outdoor lighting for residential parking lots or carports with a total of eight or more vehicles per site and any outdoor lighting not regulated by Section 150.0(k)3B or Section 150.0(k)3D must comply with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)4:	Internally Illuminated Address Signs. Internally illuminated address signs must comply with § 140.8; or must consume no more than 5 watts of power as determined according to § 130.0(c).
§ 150.0(k)5:	Residential Garages for Eight or More Vehicles. Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in Sections 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.
§ 150.0(k)6A:	Interior Common Areas of Low-Rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building must be controlled by an occupant sensor.
§ 150.0(k)6B:	Interior Common Areas of Low-Rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting for the interior common areas in that building must: i. Comply with the applicable requirements in Sections 110.9, 130.0, 130.1, 140.6 and 141.0; and ii. Lighting installed in corridors and stairwells must be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors must be capable of turning the light fully on and off from all assigned paths of ingress and egress.
Solar Ready Buildings:	
§ 110.10(a)1:	Single Family Residences. Single family residences located in subdivisions with ten or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b).
§ 110.10(a)2:	Low-rise Multifamily Buildings. Low-rise multi-family buildings that do not have a photovoltaic system installed must comply with the requirements of § 110.10(b) through § 110.10(d).
§ 110.10(b)1:	Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other Parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be composed of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multi-family buildings the solar zone must be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building, or on covered parking installed with the building project, and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including interior ceiling occupancy.
§ 110.10(b)2:	Azimuth. All sections of the solar zone located on steep-sloped roofs must be oriented between 90 degrees and 300 degrees of true north.
§ 110.10(b)3A:	Shading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.
§ 110.10(b)3B:	Shading. Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.
§ 110.10(b)4:	Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	Interconnection Pathways. The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
§ 110.10(d):	Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through § 110.10(c) must be provided to the occupant.
§ 110.10(e)1:	Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2:	Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."

MARIN COUNTY 2019 CALGREEN CHECKLIST
Tier 1 Standards for Residential Additions & Alterations
1,200 square feet or larger

This checklist is effective January 1, 2020 and applies to additions and alterations of low-rise residential buildings including hotels, motels, lodging houses, dwellings, dormitories, condominiums, shelters, congregate residences, employee housing, factory-built housing and other types of dwellings containing sleeping accommodations, and accessory structures.

The provisions of this checklist apply only to the portions of the building being added to or altered within the scope of the permitted work when the cumulative square footage of the project is greater than or equal to 1,200 square feet. Existing site and landscaping improvements that are not otherwise disturbed are also not subject to the requirements of CALGreen.


Submit this checklist with your plans to demonstrate compliance with the green building ordinance. This checklist includes modifications specific to Marin County. For more information on the County's Green Building requirements, please visit www.marinegreenbuilding.org

For more information on CALGreen and complete measure language, see Chapters 4 and Appendix 4 here: <https://codes.iccsafe.org/content/CAGBSC2019/table-of-contents>

PROJECT ADDRESS: 161 ELM ROAD BOLINAS, CA 94924
APN: 192-212-17 APPLICANT NAME: ERIC R DAVIES
ARCHITECT -415-379-6381

PROJECT VERIFICATION

The Green Building Rater, listed below, has reviewed the plans and certifies that the mandatory and elective measures listed above are hereby incorporated into the project plans and will be implemented into the project in accordance with the requirements set forth in the 2019 California Green Building Standards Code as amended by the County of Marin.

 11-1-2021
Signature Date
Philip Neumann
Name (Please Print)
ICC 8869457
Green Building Certification¹ and License Number

¹ CalGREEN Special Inspector, LEED AP, or Green Point Rater are acceptable certifications
Last Updated: January 6, 2020 Page 1

MARIN COUNTY 2019 CALGREEN CHECKLIST
Tier 1 Standards for Residential Additions & Alterations
1,200 square feet or larger

CALGREEN MEASURE	PLAN SHEET REFERENCE	COMPLETED? (YES OR N/A)
4.106.2 A plan is developed and implemented to manage stormwater runoff from the construction activities through compliance with the County of Marin's stormwater management ordinance .	CIVIL 1+2	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.106.3 Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings.	CIVIL 1+2	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.106.4.1 One- and two-family dwellings, and townhouses with attached private garages. If the project scope includes an upgrade of the electrical service panel, achieve Level 2 EV readiness including a raceway and dedicated 208/240-volt branch circuit, as required in the Marin County Building Code, Chapter 19.04, Subchapter 2 .	NA	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.106.4.2 Multifamily dwellings and hotels/motels. If the project scope includes an upgrade of the electrical service panel or modification of the parking lot, comply with EV Readiness requirements outlined in the Marin County Building Code, Chapter 19.04, Subchapter 2 .	NA	<input type="checkbox"/> YES <input type="checkbox"/> N/A
A4.106.2.3 Displaced topsoil shall be stockpiled for reuse in a designated area and covered or protected from erosion.	NA	<input type="checkbox"/> YES <input type="checkbox"/> N/A
A4.106.4 Permeable paving is utilized for not less than 20 percent of the total parking, walking, or patio surfaces.	A 1.0	<input type="checkbox"/> YES <input type="checkbox"/> N/A
A4.106.5 Roofing materials shall have a minimum 3-year aged solar reflectance and thermal emittance or a minimum Solar Reflectance Index (SRI) equal to or greater than the values specified in Tables A4.106.5.1(3). <i>In Marin County, this measure applies only to high-rise residential buildings, hotels, and motels with a roof slope > 2:12.</i>	NA	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.201.1 Building meets or exceeds the requirements of the California Building Energy Efficiency Standards.	EN 0.1-0.2	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.303.1 Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) installed in residential buildings shall comply with the prescriptive requirements of Sections 4.303.1.1 through 4.303.1.4.4.	GB2.0	<input type="checkbox"/> YES <input type="checkbox"/> N/A

MARIN COUNTY 2019 CALGREEN CHECKLIST
Tier 1 Standards for Residential Additions & Alterations
1,200 square feet or larger

CALGREEN MEASURE	PLAN SHEET REFERENCE	COMPLETED? (YES OR N/A)
4.303.1.4.3 Metering faucets in residential buildings shall not deliver more than 0.2 gallons per cycle.	NA	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.303.2 Plumbing fixtures and fittings required in Section 4.303.1 shall be installed in accordance with the California Plumbing Code and shall meet the applicable referenced standards.	GB2.0	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.304.1 Residential developments shall comply with local water efficient landscape ordinance or the current California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.	GB2.0	<input type="checkbox"/> YES <input type="checkbox"/> N/A
A4.403.2 Cement use in foundation mix design is reduced as directed by Marin County Ordinance 3717 .		
A4.405.3 Postconsumer or preconsumer recycled content value (RCV) materials are used on the project, not less than a 10 percent recycled content value.		<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.406.1 Annular spaces around pipes, electric cables, conduits, or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or similar method acceptable to the enforcing agency.	GB2.0	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.408.1 Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with the reporting standards outlined by Zero Waste Marin .		<input type="checkbox"/> YES <input type="checkbox"/> N/A
A4.408.1 Construction waste generated at the site is diverted to recycle or salvage in compliance with at least a 65 percent reduction. Any mixed recyclables that are sent to mixed-waste recycling facilities shall include a qualified third party verified facility average diversion rate. Verification of diversion rates shall meet minimum certification eligibility guidelines, acceptable to the local enforcing agency.		<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.410.1 An operation and maintenance manual shall be provided to the building occupant or owner.	GB2.0	<input type="checkbox"/> YES <input type="checkbox"/> N/A

DAI-SHEN RESIDENCE
161 ELM ROAD BOLINAS, CA 94924
192-212-17

MARIN COUNTY 2019 CALGREEN CHECKLIST
Tier 1 Standards for Residential Additions & Alterations
1,200 square feet or larger

CALGREEN MEASURE	PLAN SHEET REFERENCE	COMPLETED? (YES OR N/A)
4.410.2 Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible areas that serve all buildings on the site and is identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance if more restrictive.	NA	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.503.1 Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with the U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances including the County of Marin Municipal Code (Wood-Burning Devices) .	NA	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.504.1 Duct openings and other related air distribution component openings shall be covered during construction.	NA	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.504.2.1 Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits.	GB2.1	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.504.2.2 Paints, stains and other coatings shall be compliant with VOC limits.	GB2.1	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.504.2.3 Aerosol paints and coatings shall be compliant with product weighted MIR Limits for ROC and other toxic compounds.	GB2.1	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.504.2.4 Documentation shall be provided to verify that compliant VOC limit finish materials have been used.	GB2.1	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.504.3 Carpet and carpet systems shall be compliant with VOC limits.	NA	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.504.4 80 percent of floor area receiving resilient flooring shall comply with specified VOC criteria.	GB2.1	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.504.5 Particleboard, medium density fiberboard (MDF), and hardwood plywood used in interior finish systems shall comply with low formaldehyde emission standards.	GB2.1	<input type="checkbox"/> YES <input type="checkbox"/> N/A

MARIN COUNTY 2019 CALGREEN CHECKLIST
Tier 1 Standards for Residential Additions & Alterations
1,200 square feet or larger

CALGREEN MEASURE	PLAN SHEET REFERENCE	COMPLETED? (YES OR N/A)
A4.504.2 Install VOC compliant resilient flooring systems. Ninety (90) percent of floor area receiving resilient flooring shall comply with the VOC-emission limits established in section A4.504.2.	GB2.1	<input type="checkbox"/> YES <input type="checkbox"/> N/A
A4.504.3 Thermal insulation installed in the building shall install thermal insulation in compliance with VOC limits	GB2.1	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.505.2 Vapor retarder and capillary break is installed at slab on grade foundations.	GB2.1	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.505.3 Moisture content of building materials used in wall and floor framing is checked before enclosure.	GB0.1	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.506.1 Each bathroom shall be provided with the following: 1. ENERGY STAR fans ducted to terminate outside the building. 2. Fans must be controlled by a humidity control (Separate or built-in); OR functioning as a component of a whole-house ventilation system. 3. Humidity controls with manual or automatic means of adjustment, capable of adjustment between a relative humidity range of ≤ 50 percent to a maximum of 80 percent.	A0.1	<input type="checkbox"/> YES <input type="checkbox"/> N/A
4.507.2 Duct systems are sized, designed, and equipment is selected using the following methods: 1. Establish heat loss and heat gain values according to ANSI/ACCA 2 Manual J-2016 or equivalent. 2. Size duct systems according to ANSI/ACCA 1 Manual D - 2016 or equivalent. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S-2014 or equivalent.	NA	<input type="checkbox"/> YES <input type="checkbox"/> N/A
ELECTIVE MEASURES - ENTER CALGREEN MEASURE NUMBER SEE CALGREEN APPENDIX A4 FOR OPTIONS		
A4.1 Elective 1:		<input type="checkbox"/> YES <input type="checkbox"/> N/A
A4.1 Elective 2:		<input type="checkbox"/> YES <input type="checkbox"/> N/A
A4.3 Elective 1:		<input type="checkbox"/> YES <input type="checkbox"/> N/A

MARIN COUNTY 2019 CALGREEN CHECKLIST
Tier 1 Standards for Residential Additions & Alterations
1,200 square feet or larger

CALGREEN MEASURE	PLAN SHEET REFERENCE	COMPLETED? (YES OR N/A)
A4.3 Elective 2:		<input type="checkbox"/> YES <input type="checkbox"/> N/A
A4.4 Elective 1:		<input type="checkbox"/> YES <input type="checkbox"/> N/A
A4.4 Elective 2:		<input type="checkbox"/> YES <input type="checkbox"/> N/A
A4.5 Elective 1:		<input type="checkbox"/> YES <input type="checkbox"/> N/A

Title:

MARIN
CALGREEN TIER
1

Revisions: _____ Date: 1/9/2021
RUC/PMR

Date: 10/20/21
Scale: NO SCALE
Sheet: GB 0.1

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, (FOR REFERENCE)

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192-212-17

Title:

CAL GREEN

Revisions: _____ Date: _____
 1/2/2021

Date:

Scale:

Sheet:

CB 2.0

Y	N/A	RESPON. PARTY
		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.
		301.1.1 Additions and alterations. HCD The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.
		Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace non-compliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a non-compliant plumbing fixture, types of residential buildings affected and other important enactment dates.
		301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. HCD The provisions of individual sections of CALGreen may apply to either low-rise residential buildings high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.
		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.
		ABBREVIATION DEFINITIONS:
		HCD Department of Housing and Community Development BSC California Building Standards Commission DSA-SS Division of the State Architect, Structural Safety OSHPD Office of Statewide Health Planning and Development LR Low Rise HR High Rise AA Additions and Alterations N New
		CHAPTER 4 RESIDENTIAL MANDATORY MEASURES
		DIVISION 4.1 PLANNING AND DESIGN
		SECTION 4.102 DEFINITIONS
		4.102.1 DEFINITIONS The following terms are defined in Chapter 2 (and are included here for reference)
		FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water.
		WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also used for perimeter and inlet controls.
		4.106 SITE DEVELOPMENT
		4.106.1 • Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil or are part of a larger common plan of development which in total disturbs one acre or more of soil. (Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html)
		4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.
		4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less than one acre of soil or are part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage property, prevent erosion and retain soil runoff on the site.
		1. Retention basins of sufficient size shall be utilized to retain storm water on the site. 2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency. 3. Compliance with a lawfully enacted storm water management ordinance.
		4.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will water include, but are not limited to, the following:
		1. Swales 2. Water collection and disposal systems 3. French drains 4. Water retention gardens 5. Other water measures which keep surface water away from buildings and aid in groundwater recharge.
		Exception: Additions and alterations not altering the drainage path.
		4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 4.106.4.1, 4.106.4.2, or 4.106.4.3 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.
		Exceptions: On a case-by-case basis, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:
		1. Where there is no commercial power supply. 2. Where there is evidence substantiating that meeting the requirements will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the homeowner or developer by more than \$400.00 per unit.
		4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous and enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.
		4.106.4.1.1 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".
		4.106.4.2 New multifamily dwellings. Where 17 or more multifamily dwelling units are constructed on a building site, 3 percent of the total number of parking spaces provided for all types of parking facilities, but in no case less than one, shall be electric vehicle charging stations (EV spaces) capable of supporting future EVSE. Calculations for the number of EV spaces shall be rounded up to the nearest whole number.
		Note: Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.
		4.106.4.2.1 Electric vehicle charging space (EV space) locations. Construction documents shall indicate the location of proposed EV spaces. At least one EV space shall be located in common use areas and available for use by all residents.
		When EV chargers are installed, EV spaces required by Section 4.106.4.2, Item 3, shall comply with at least one of the following options:
		1. The EV space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space. 2. The EV space shall be located on an accessible route, as defined in the California Building Code, Chapter 2, to the building.

Y	N/A	RESPON. PARTY																		
		4.106.4.2.2 Electric vehicle charging space (EV space) dimensions. The EV space shall be designed to comply with the following:																		
		1. The minimum length of each EV space shall be 18 feet (5486mm). 2. The minimum width of each EV space shall be 9 feet (2743mm). 3. One in every 25 EV spaces, but not less than one EV space, shall have an 8-foot (2438mm) wide minimum aisle. A 5-foot (1524mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658mm).																		
		a. Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.																		
		4.106.4.2.3 Single EV space required. Install a listed raceway capable of accommodating a 208240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV space. Construction documents shall identify the raceway termination point. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.																		
		4.106.4.2.4 Multiple EV spaces required. Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also provide information on amperage of future EVSE, raceway method(s), wiring schematics and electrical load calculations to verify that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.																		
		4.106.4.2.5 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.																		
		Notes:																		
		1. The California Department of Transportation adopts and publishes the "California Manual on Uniform Traffic Control Devices (California MUTCD)" to provide uniform standards and specifications for all official traffic control devices in California. Zero Emission Vehicle Signs and Pavement Markings can be found in the New Policies & Directives Number 13-01. Website: www.dot.ca.gov/trafficoespolicy13-01.pdf																		
		2. See Vehicle Code Section 22511 for EV charging space signage in off-street parking facilities and for use of EV charging spaces.																		
		3. The Governor's Office of Planning and Research (OPR) published a "Zero-Emission Vehicle Community Readiness Guidebook" which provides helpful information for local governments, residents and businesses. Website: http://opr.ca.gov/docs_ZEV_Guidebook.pdf.																		
		4.106.4.3 New hotels and motels. All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE. The construction documents shall identify the location of the EV spaces.																		
		Notes:																		
		1. Construction documents are intended to demonstrate the project's capability and capacity or facilitating future EV charging. 2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.																		
		4.106.4.3.1 Number of required EV spaces. The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1.																		
		Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.																		
		TABLE 4.106.4.3.1																		
		<table border="1"> <thead> <tr> <th>TOTAL NUMBER OF PARKING SPACES</th> <th>NUMBER OF REQUIRED EV SPACES</th> </tr> </thead> <tbody> <tr> <td>0-9</td> <td>0</td> </tr> <tr> <td>10-25</td> <td>1</td> </tr> <tr> <td>26-50</td> <td>2</td> </tr> <tr> <td>51-75</td> <td>4</td> </tr> <tr> <td>76-100</td> <td>5</td> </tr> <tr> <td>101-150</td> <td>7</td> </tr> <tr> <td>151-200</td> <td>10</td> </tr> <tr> <td>201 and over</td> <td>6 percent of total</td> </tr> </tbody> </table>	TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED EV SPACES	0-9	0	10-25	1	26-50	2	51-75	4	76-100	5	101-150	7	151-200	10	201 and over	6 percent of total
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201 and over	6 percent of total																			
		4.106.4.3.2 Electric vehicle charging space (EV space) dimensions. The EV spaces shall be designed to comply with the following:																		
		1. The minimum length of each EV space shall be 18 feet (5486mm). 2. The minimum width of each EV space shall be 9 feet (2743mm).																		
		4.106.4.3.3 Single EV space required. When a single EV space is required, the EV space shall be designed in accordance with Section 4.106.4.2.3.																		
		4.106.4.3.4 Multiple EV spaces required. When multiple EV spaces are required, the EV spaces shall be designed in accordance with Section 4.106.4.2.4.																		
		4.106.4.3.5 Identification. The service panels or sub-panels shall be identified in accordance with Section 4.106.4.2.5.																		
		4.106.4.3.6 Accessible EV spaces. In addition to the requirements in Section 4.106.4.3, EV spaces for hotels/motels and all EVSE, when installed, shall comply with the accessibility provisions for the EV charging stations in the California Building Code, Chapter 11B.																		
		Notes:																		
		1. The California Department of Transportation adopts and publishes the "California Manual on Uniform Traffic Control Devices (California MUTCD)" to provide uniform standards and specifications for all official traffic control devices in California. Zero Emission Vehicle Signs and Pavement Markings can be found in the New Policies & Directives Number 13.01. Website: http://www.dot.ca.gov/trafficoespolicy.html																		
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		4. The Governor's Interagency Working Group on Zero-Emission Vehicles, 2016, "2016 ZEV Action Plan, An Updated Roadmap toward 1.5 Million Zero-Emission Vehicles on California Roadways by 2025." https://www.gov.ca.gov/docs2016_ZEV_Action_Plan.pdf.																		

DIVISION 4.2 ENERGY EFFICIENCY

4.201 GENERAL

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

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

4.303 INDOOR WATER USE

• 4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with Sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.1.4.

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

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

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

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

4.303.1.3 Showerheads.

4.303.1.3.1 Single Showerhead. Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to only allow one shower outlet to be in operation at a time.

Note: A hand-held shower shall be considered a showerhead.
per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not 4.303.1.4 Faucets.

4.303.1.4.1 Residential Lavatory Faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.5 gallons per minute at 20 psi.

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

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

4.303.1.4.4 Kitchen Faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi.

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

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

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

FIXTURE TYPE	FLOW RATE
SHOWER HEADS (RESIDENTIAL)	1.8 GPM @ 80 PSI
LAVATORY FAUCETS (RESIDENTIAL)	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI
LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI
KITCHEN FAUCETS	1.8 GPM @ 60 PSI
METERING FAUCETS	0.25 GAL/CYCLE
WATER CLOSET	1.28 GAL/FLUSH
URINALS	0.125 GAL/FLUSH

4.304 OUTDOOR WATER USE

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

4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. After December 1, 2015, new residential developments with an aggregate landscape area equal to or greater than 500 square feet shall comply with one of the following options:

- A water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent;
- Projects with aggregate landscape areas less than 2,500 square feet may comply with the MWELO's Appendix D Prescriptive Compliance Option.

NOTES:

- The Model Water Efficient Landscape Ordinance (MWELO) and supporting documents are available at: http://www.water.ca.gov/wateruseefficiency/landscapeordinance
- A water budget calculator is available at: http://www.water.ca.gov/wateruseefficiency/landscapeordinance

DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in soleboard plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.

4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

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

Exceptions:

- Excavated soil and land-clearing debris.
- Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.
- The enforcing agency may make exceptions to the requirements of this section when isolated jobsite are located in areas beyond the haul boundaries of the diversion facility.

4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.

- Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
- Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).
- Identify diversion facilities where the construction and demolition waste material collected will be taken.
- Identify construction methods employed to reduce the amount of construction and demolition waste generated.
- Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.

Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.

4.408.4 WASTE STREAM REDUCTION ALTERNATIVE LR. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs.sq.ft. of the building area shall meet the minimum 65 construction waste reduction requirement in Section 4.408.1

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

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

Notes:

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

4.410 BUILDING MAINTENANCE AND OPERATION

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

- Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
- Operation and maintenance instructions for the following:
 - Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment.
 - Roof and yard drainage, including gutters and downspouts.
 - Space conditioning systems, including condensers and air filters.
 - Landscape irrigation systems.
- Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
- Public transportation and/or carpool options available in the area.
- Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range.
- Information about water-conserving landscape and irrigation design and controllers which conserve water.
- Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
- Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
- Information about state solar energy and incentive programs available.
- A copy of all special inspections verifications required by the enforcing agency or this California Green Building Standards code.

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

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42549.82 (a)(2)(A) et seq. are not required to comply with the organic waste portion of this section.

DIVISION 4.5 ENVIRONMENTAL QUALITY

SECTION 4.501 GENERAL

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

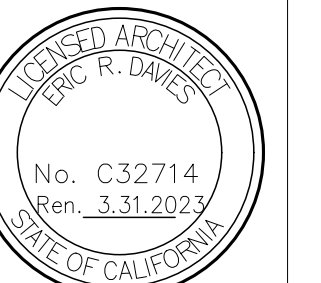
SECTION 4.502 DEFINITIONS

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

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

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardwood, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section 93120.1.

DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

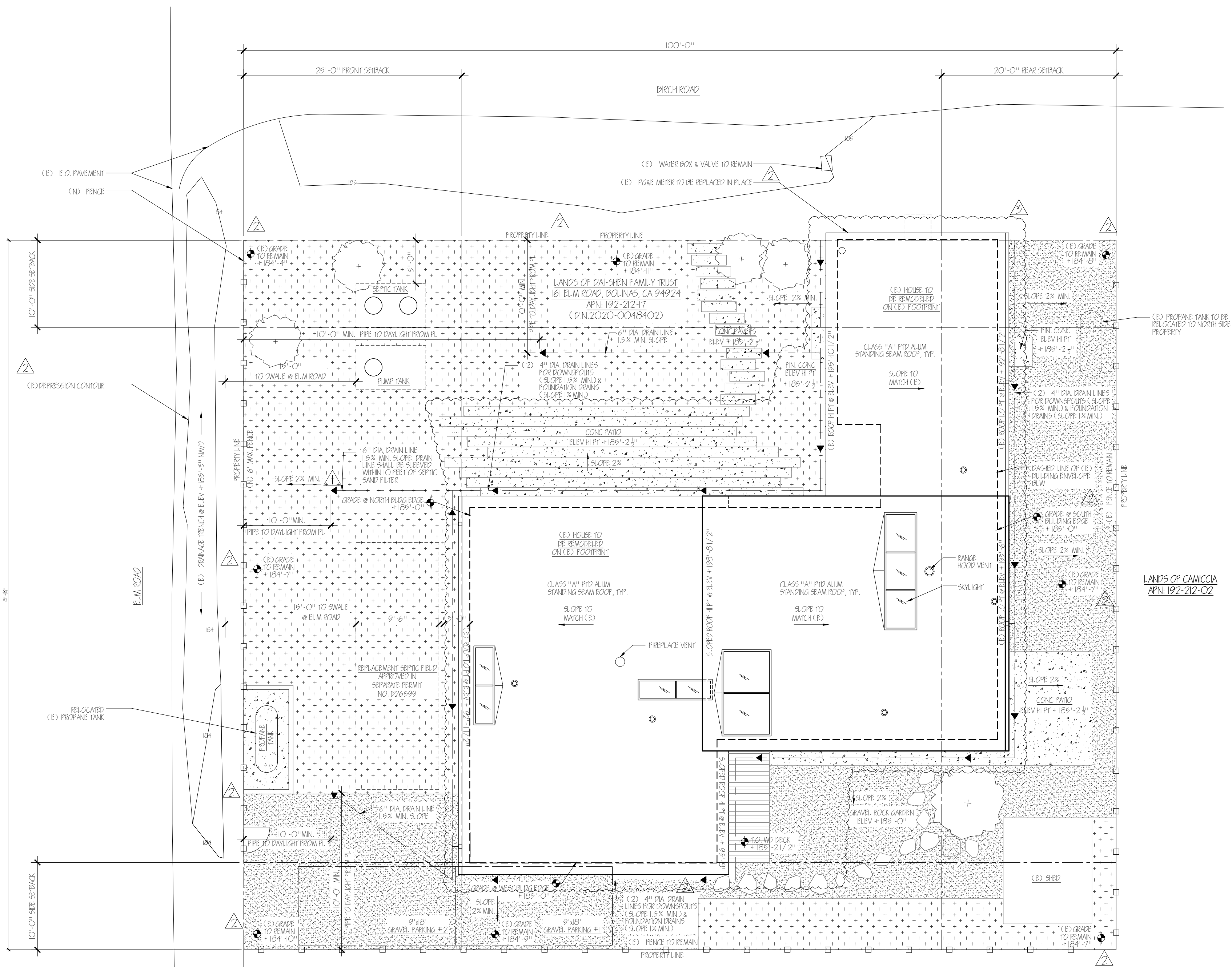


DAI - SHEN REMODEL
 161 ELM ROAD, BOLINAS, CA 94924
 APN: 192-212-17

Title:
PROPOSED SITE,
GRADING & DRAINAGE
PLAN

Revisions:	Date:
1. INITIAL DESIGN	11.16.2021
2. PRELIMINARY DESIGN	01.11.2022
3. PRELIMINARY DESIGN	4.22.2022
4. PRELIMINARY DESIGN	12.16.2022

Date:
11.16.2021
Scale:
AS NOTED
Sheet:
A1.1



BUILDING DATA

CODES REQUIRED: 2019 CBC, 2019 CRC, 2019 CMC, 2019 CPC, 2019 CEC, 2019 CFC & 2019 C. ENERGY C.

TOTAL LOT AREA: 8,000 SF

LATITUDE & LONGITUDE (GPS COORDINATES): 37.900159, -122.708228 (91° 54' 0.5" N, 122° 42' 6.68" W)

TOTAL CONDITIONED FLOOR AREA: EXISTING (TO BE REMOVED): 2,480 SF; ADDED: 0 SF

ZONING REQUIREMENTS

ZONING: C-RA-82

MAXIMUM ROOF HEIGHT PERMITTED: 25'-0"

REQUIRED FRONT SETBACK: 25'-0"

REQUIRED SIDE SETBACK: 10'-0"

REQUIRED REAR SETBACK: 20'-0"

PROPOSED FINISH FLOOR HEIGHT: TO MATCH (E) @ 185'-5" NAVD

PROPOSED ROOF HEIGHTS

ROOF 1: 185'-5 1/2" NAVD (13'-11 1/2" ABOVE FINISHED GRADE @ 184'-5" NAVD)

DEFERRED SUBMITTALS:

- AN AUTOMATIC FIRE SPRINKLER SYSTEM IS REQUIRED FOR THIS PROJECT PER 905 OF THE C.C.C. & SECTION 19.04.065 OF THE MARIN COUNTY CODE. GC TO SUBMIT FIRE SPRINKLER DRAWINGS AND CALCULATIONS DIRECTLY TO THE FIRE DISTRICT HAVING JURISDICTION FOR REVIEW AND APPROVAL OF THIS PROJECT.
- A 7.56KW MIN. PV SYSTEM IS TO BE INSTALLED ON THE ROOF. GC TO SUBMIT DRAWINGS AND CALCULATIONS TO THE COUNTY OF MARIN FOR REVIEW AND APPROVAL.

DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE:

ERIC R. DAVIES, C 92714
2732 BALBOA STREET
SAN FRANCISCO, CA 94121
O: 415-379-6381
C: 415-279-1561
eric@eichlerdaves.net

- LANDSCAPE NOTES**
- LANDSCAPE PLANTING TO BE NON-INVASIVE & DROUGHT TOLERANT.
 - CONTRACTOR SHALL COORDINATE ALL PLANTING WITH UTILITY LOCATIONS NOT SHOWN ON THE PLANS. ANY CONFLICTS BETWEEN LOCATIONS OF PROPOSED SITE UTILITIES OR LIGHTING SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT.
 - IRRIGATION SYSTEM TO BE A FULLY AUTOMATIC, LOW GALLONAGE DRIP SYSTEM WITH COMPLETE WATER PROTECTION. TREE, SHRUB, AND GROUND COVER AREAS TO RECEIVE DRIP EMITTER TYPE IRRIGATION.
 - THE CONTRACTOR IS REQUIRED TO COORDINATE IRRIGATION CONTRACT WORK WITH ALL APPLICABLE SUB-CONTRACTORS FOR THE DESIGN, LOCATION AND INSTALLATION OF PIPING, CONDUIT AND SLEEVES. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE IRRIGATION SYSTEM WITH THE PROJECT'S ELECTRICAL AND WATER SYSTEM.
 - THE IRRIGATION SYSTEM SHALL BE PROGRAMMED TO PROVIDE THE MINIMUM AMOUNT OF WATER REQUIRED TO SUSTAIN GOOD PLANT GROWTH.
 - THE CONTRACTOR SHALL LOCATE IRRIGATION PIPING AND WIRING AS NOT TO CONFLICT WITH OTHER UTILITIES. PIPING SHALL NOT BE LOCATED PARALLEL TO AND DIRECTLY ABOVE OTHER UTILITIES.

LANDSCAPE MATERIAL LEGEND

	GRAVEL: NATURAL BEIGE COLOR		WEATHERED CAPPED PIPE O / GRAVEL
	CONCRETE SLAB		
	DROUGHT-TOLERANT GROUNDCOVER: GRASSES & LOW-GROWING SUCCULENTS		
	(N) TREE: DWARF JAPANESE MAPLE 'ACER PALMAMUM'		

- GRADING & DRAINAGE NOTES**
- FOR DRAINAGE AND GRADING REQUIREMENTS, SEE GEOTECH REPORT BY HERZOG GEOTECHNICAL CONSULTING ENGINEERS DATED AUGUST 26, 2021. FOR FOUNDATION DRAINAGE, SEE DETAILS ON AS SERIES. GROUND SURFACE WITHIN 5' OF THE PERIMETER OF THE RESIDENCE SHOULD BE SLOPED TO DRAIN AT LEAST 2% AWAY FROM THE STRUCTURE.
 - SITE WORK, GRADING AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE BEST MANAGEMENT PRACTICES "BLUEPRINT FOR A CLEAN BAY" BY THE BAY AREA STORMWATER MANAGEMENT AGENCIES ASSOCIATION (BASMAA). SEE SHEET A0.5.
 - PROVIDE HAY WADDER AND COVER FOR A STABLE CONSTRUCTION ENTRANCE. PERFORM EROSION PREVENTION AND SEDIMENT CONTROL IN ACCORDANCE WITH THE 2019 CBC, APPLICABLE MARIN COUNTY STANDARDS, CODES AND ORDINANCES AND BASMAA BEST MANAGEMENT PRACTICES.
 - ALL UTILITY CONNECTIONS AND EXTENSIONS SERVING THE PROJECT SHALL BE INSTALLED UNDERGROUND. SOME UTILITIES MAY NOT BE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF EXISTING UTILITIES. UTILITIES MAY BE LIVE OR ABANDONED. IF UNMARKED UTILITIES ARE FOUND NOTIFY THE OWNER.
 - ALL TRENCHES 6" IN DEPTH OR GREATER SHALL BE SHORED AND BRACED.

5. AREA OF DISTURBANCE:

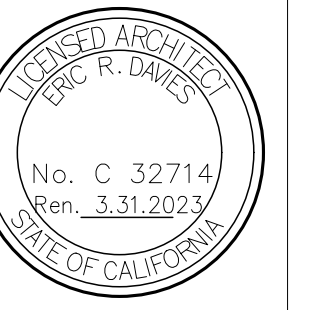
MAIN RESIDENCE:	2,480 SF
SITE WORK & SEPTIC SYSTEM:	1,146 SF
TOTAL:	3,626 SF

GRADING QUANTITIES:

CUT:	40 CY
FILL:	0 CY
NET CUT:	40 CY

- EXISTING IMPERVIOUS AREA WITHIN 8,000 SF LOT AREA:** 3,022 SF (3,362 SF)
- PROPOSED IMPERVIOUS AREA WITHIN 8,000 SF LOT AREA:** 3,626 SF (3,626 SF)
- EXISTING PERVIOUS AREA WITHIN 8,000 SF LOT AREA:** 4,978 SF (4,679 SF)
- PROPOSED PERVIOUS AREA WITHIN 8,000 SF LOT AREA:** 4,374 SF (4,374 SF)
- NOTE: ALL PATHWAYS AND DRIVEWAY TO BE PERVIOUS GRAVEL SURFACES. USE 4" OF 3/8" GRAVEL OVER EXISTING SAND.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UNDERGROUND SERVICE ALERT AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION. THE CONTRACTOR SHALL UNCOVER RELEVANT UTILITIES TO VERIFY THEIR LOCATION AND ELEVATION. IF UNEXPECTED OR CONFLICTING UTILITIES ARE ENCOUNTERED DURING EXCAVATION, NOTIFY U.S.A. THE UTILITY OWNER AND / OR THE ARCHITECT AND OWNER IMMEDIATELY. UTILITIES INCLUDE, BUT ARE NOT LIMITED TO, WATER, SEWER, SEPTIC, ELECTRICAL, GAS, TELEPHONE AND CABLE / TV.
 - SEE ROOF PLAN SHEET A2.9 FOR DOWNSPOUT LOCATIONS.
 - SEPTIC SYSTEM INFORMATION SHOWN ON THIS PLAN FOR REFERENCE ONLY. SEE SEPTIC SYSTEM DRAWINGS FOR PLAN DETAILS & NOTES.
 - THE ARCHITECT SHALL CERTIFY TO THE COUNTY IN WRITING, UPON COMPLETION OF WORK, THAT ALL GRADING & DRAINAGE WAS DONE IN ACCORDANCE WITH PLANS AND FIELD DIRECTIONS. THE CERTIFICATION LETTER SHALL REFER TO THE BUILDING PERMIT #, THE PROJECT ADDRESS, THE ASSESSOR'S PARCEL NUMBER AND SHALL BE STAMPED AND SIGNED BY THE ARCHITECT. THE DRIVEWAY, PARKING AND OTHER SITE IMPROVEMENTS SHALL BE INSPECTED BY A DEPARTMENT OF PUBLIC WORKS ENGINEER PRIOR TO BUILDING FINAL.





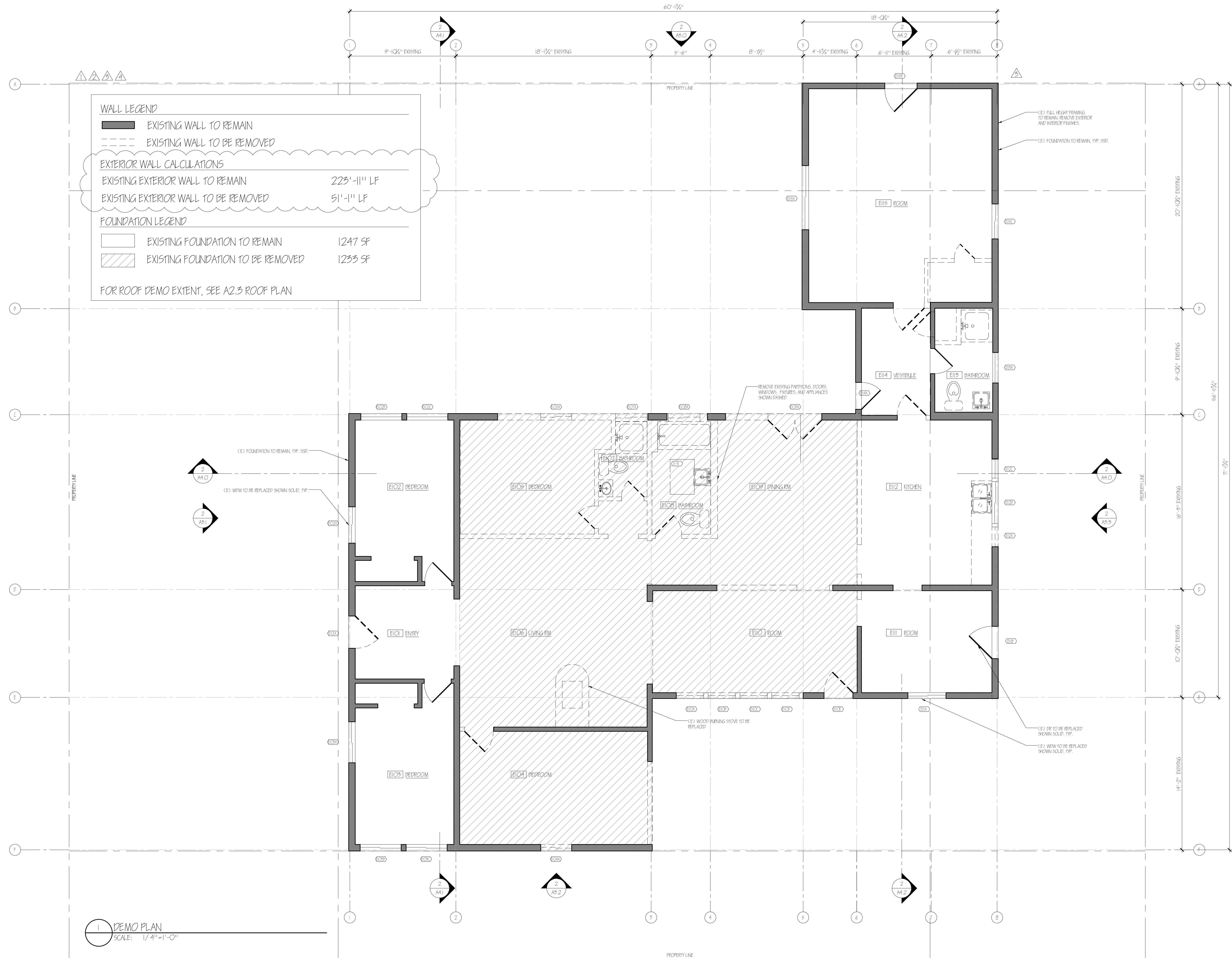
DAI - SHEN REMODEL
161 ELM ROAD, BOLINAS, CA 94924
APN: 192-212-17

Title:
DEMO PLAN

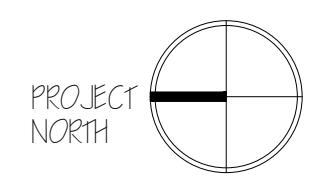
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ANNA EGGER/STEPH LIA REV 2	4.22.2022
ANNA EGGER/STEPH LIA REV 3	10.19.2022
ANNA EGGER/STEPH LIA REV 4	11.16.2022

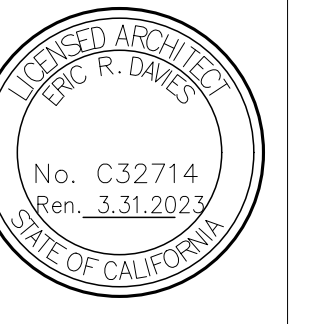
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1 DEMO PLAN
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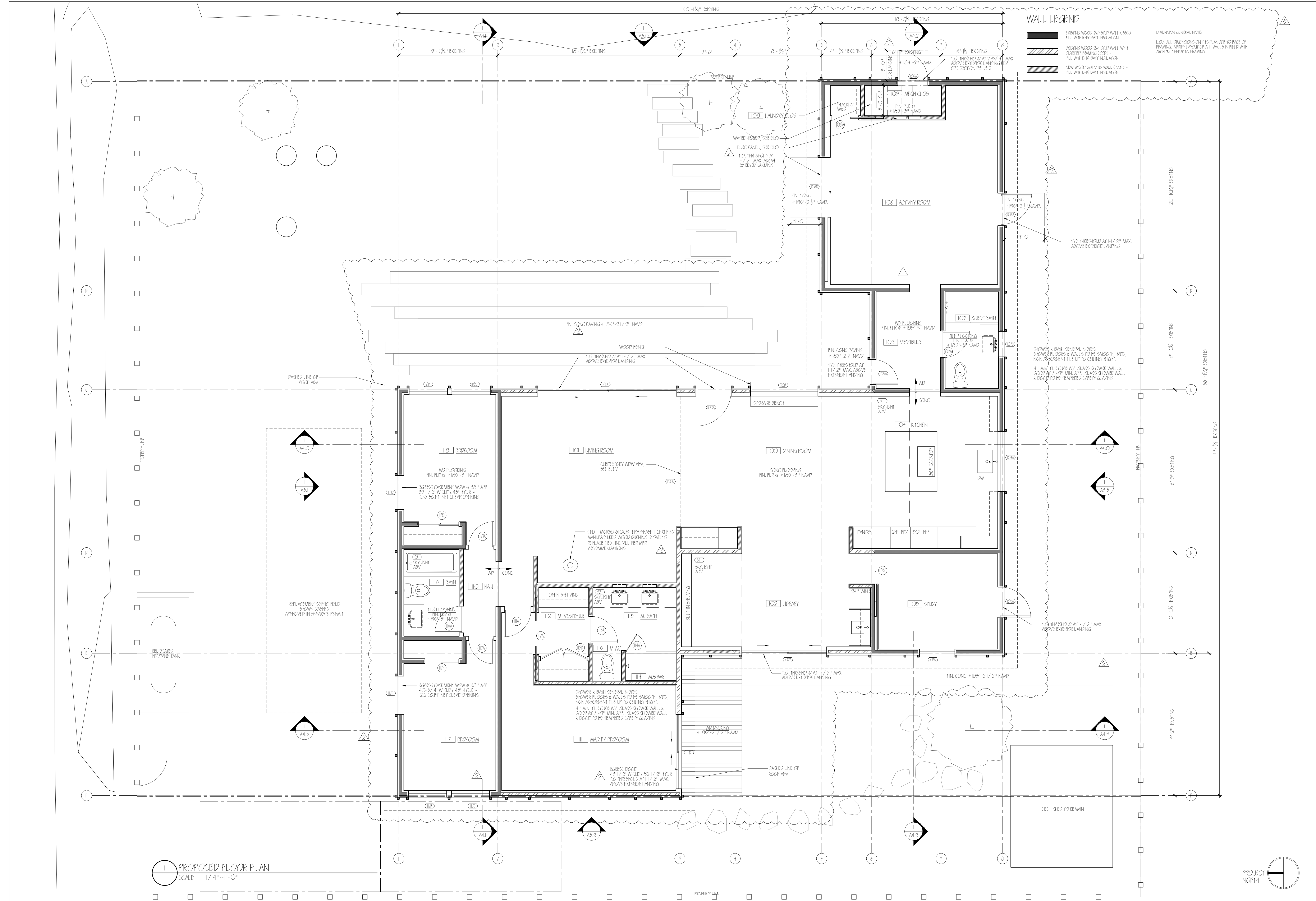


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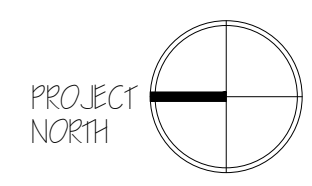
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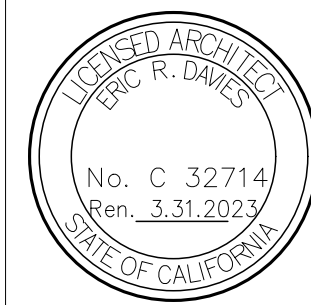
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WARRIA DG/RES/SMITHA, REV 4	12.16.2022

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1 PROPOSED FLOOR PLAN
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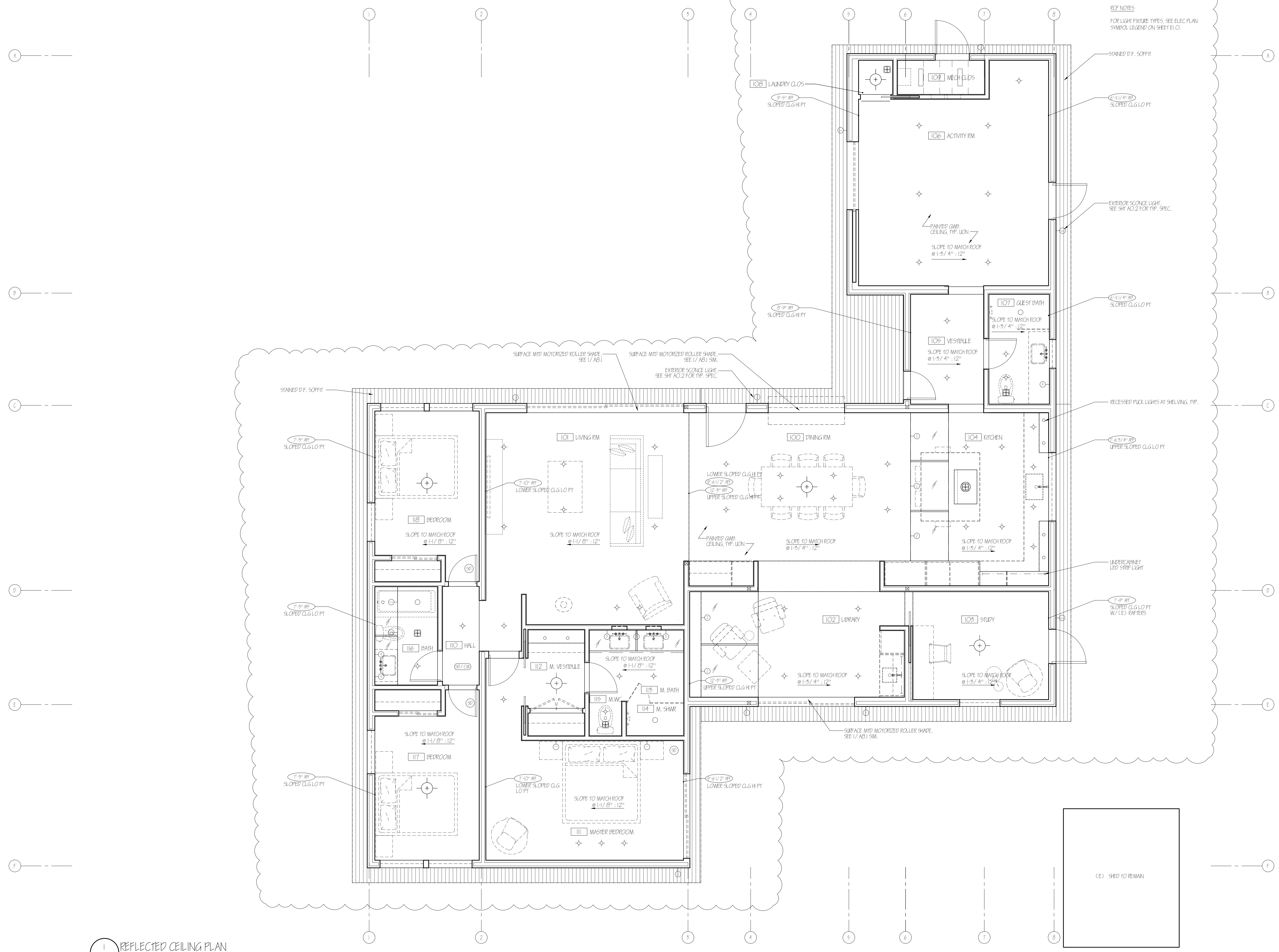




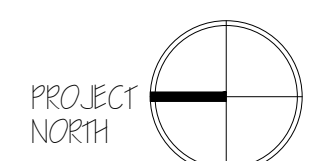
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REFLECTED CEILING
PLAN

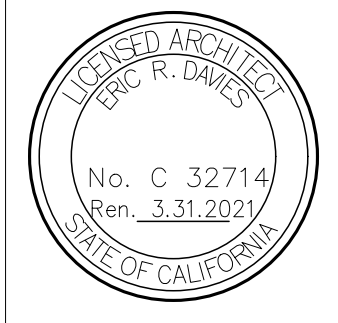
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MANUELO SERRA	12.10.2022

Date:
11.16.2021
Scale:
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1 REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"





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161 ELM ROAD, BOLINAS, CA 94924
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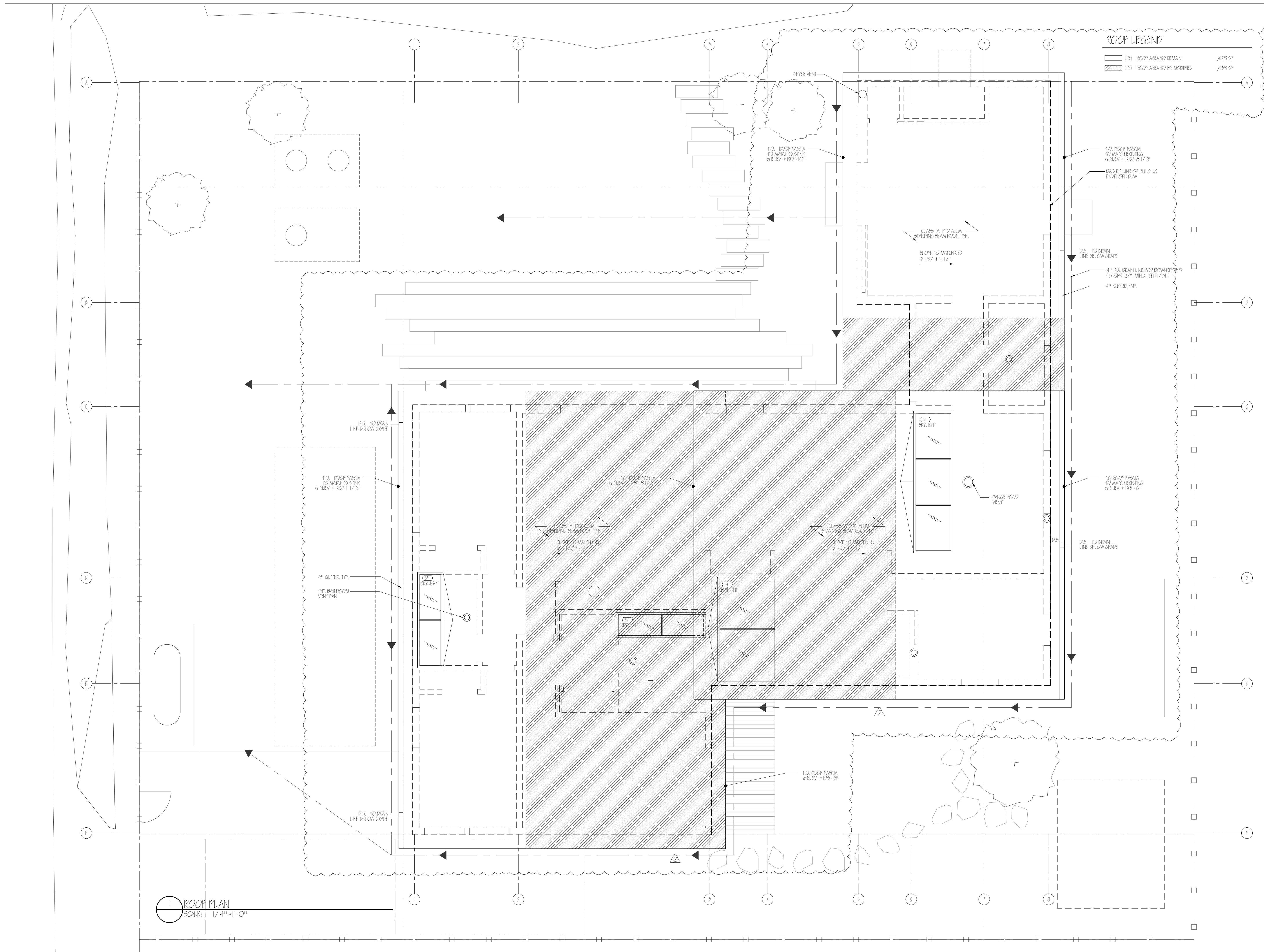
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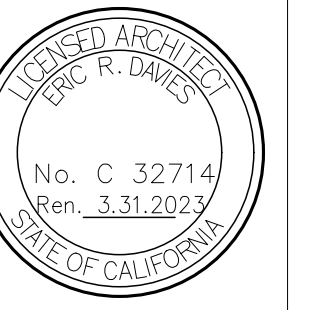
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WANDA.S@SMPTRA.COM	11.16.2021
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WANDA.S@SMPTRA.COM	12.16.2022

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11.16.2021

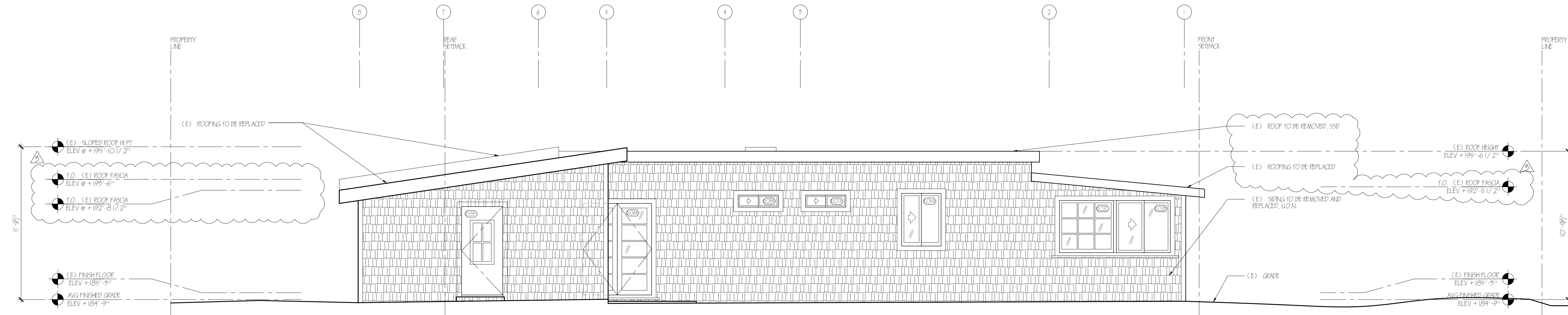
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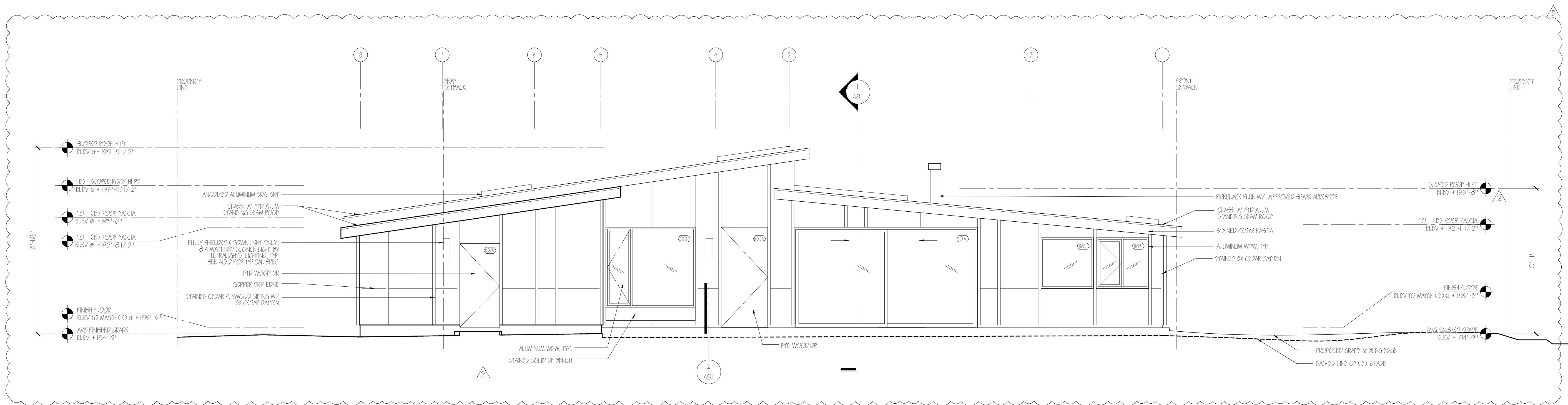




DAI - SHEN REMODEL
161 ELM ROAD, BOLINAS, CA 94924
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2 EXISTING ELEVATION - EAST
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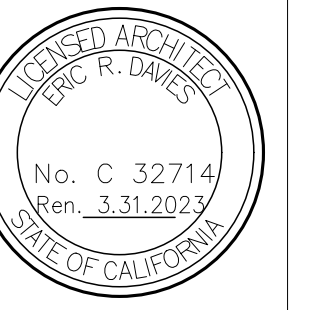


1 PROPOSED ELEVATION - EAST
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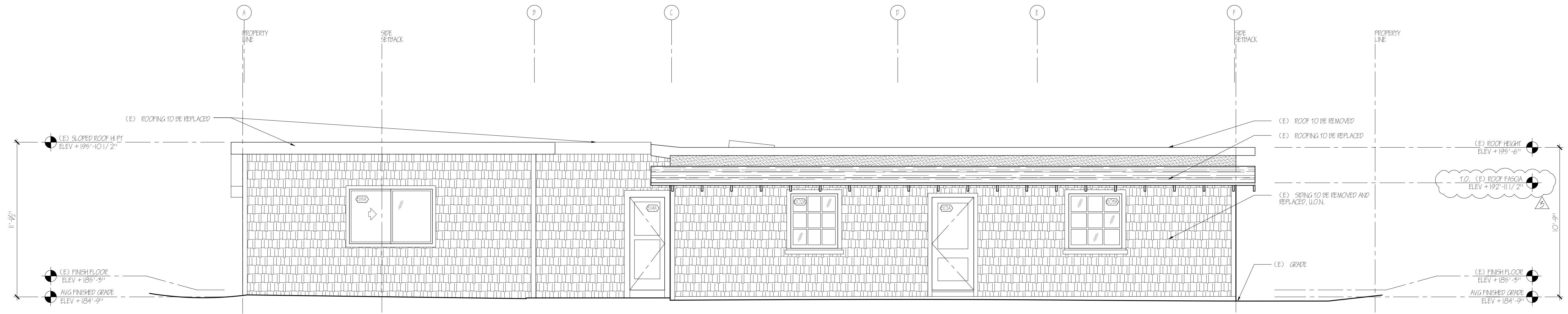
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MANUSCRIPTAL REV 2	4.22.2022
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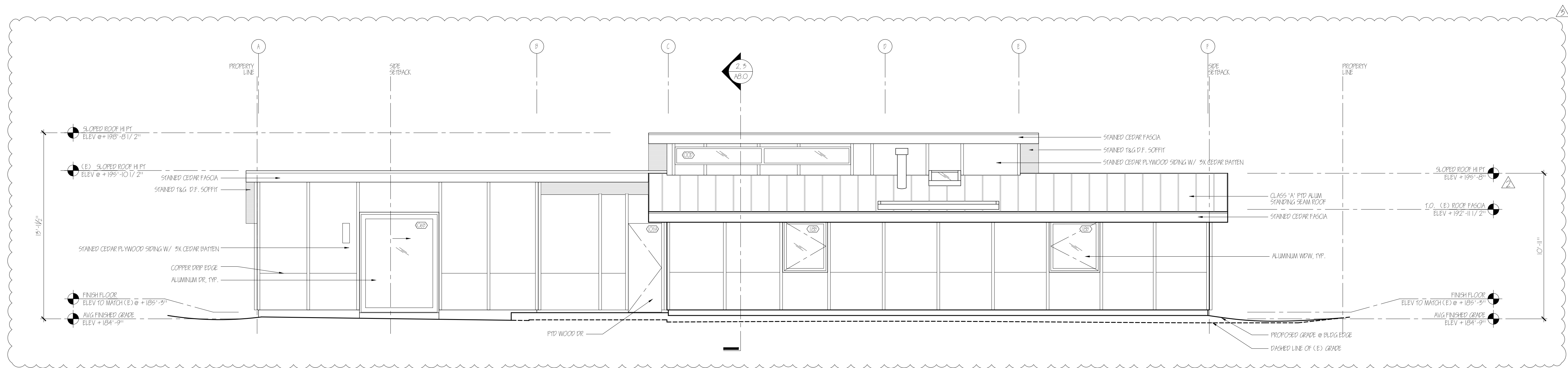
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DAI - SHEN REMODEL
 161 ELM ROAD, BOLINAS, CA 94924
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2 EXISTING ELEVATION - NORTH
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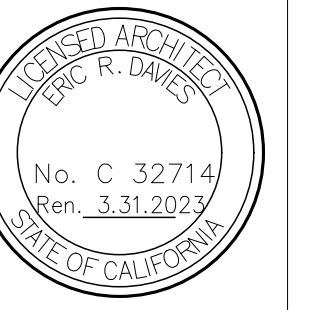


1 PROPOSED ELEVATION - NORTH
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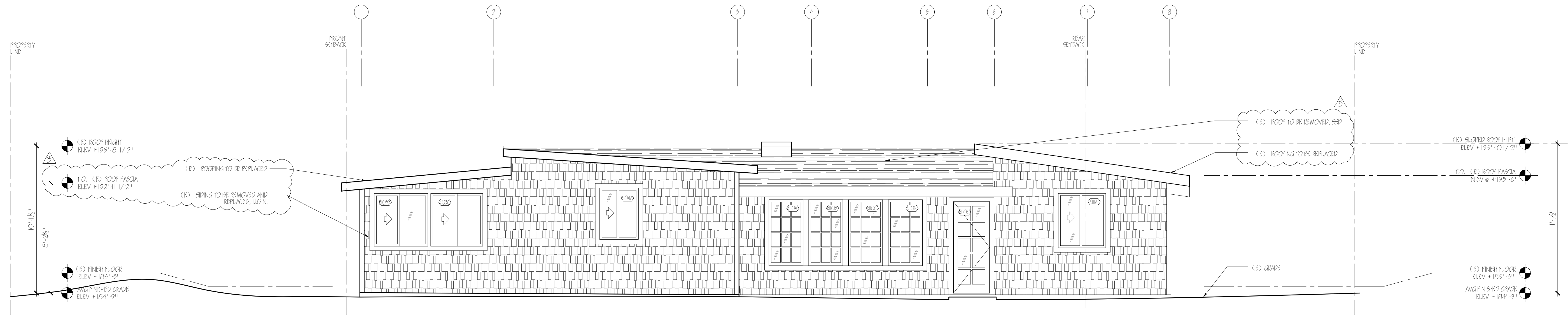
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NORTH ELEVATION

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WANDA EG SUBMITTA, REV 3	12.10.2022

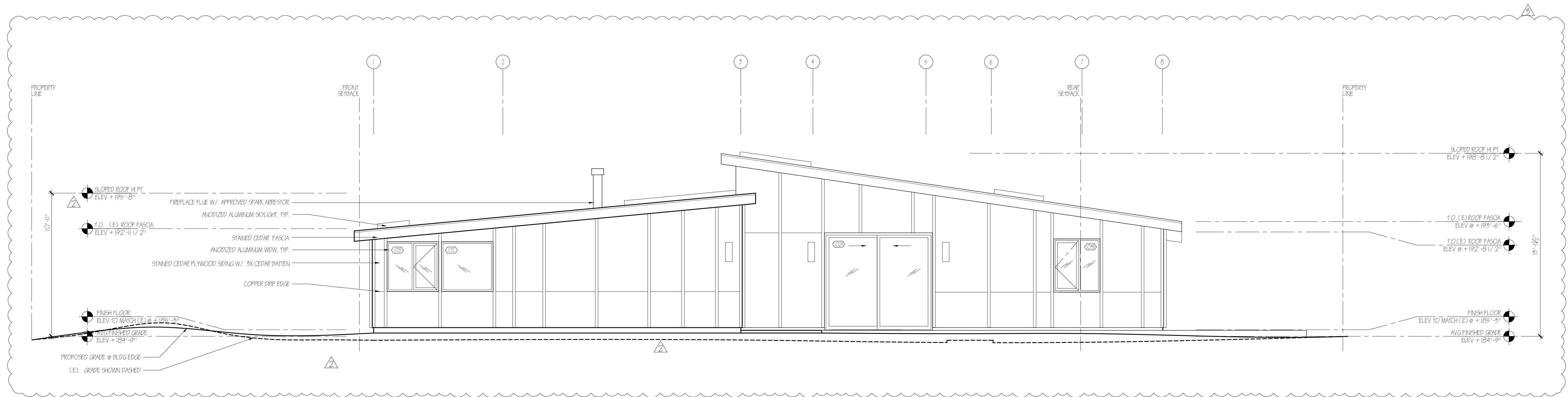
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11.16.2021
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DAI - SHEN REMODEL
161 ELM ROAD, BOLINAS, CA 94924
APN: 192-212-17



2 EXISTING ELEVATION - WEST
SCALE: 1/4"=1'-0"

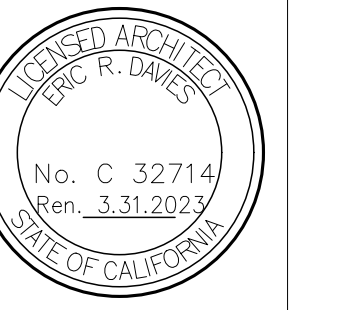


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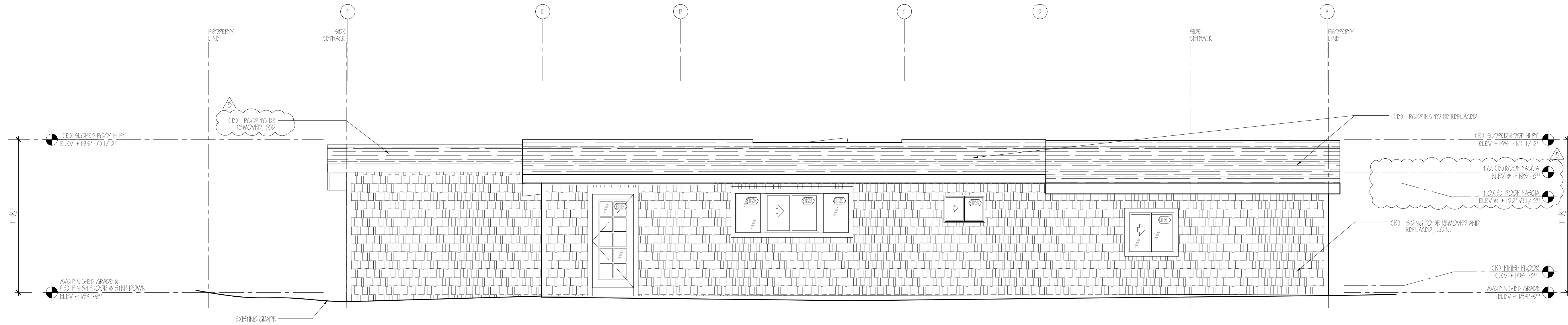
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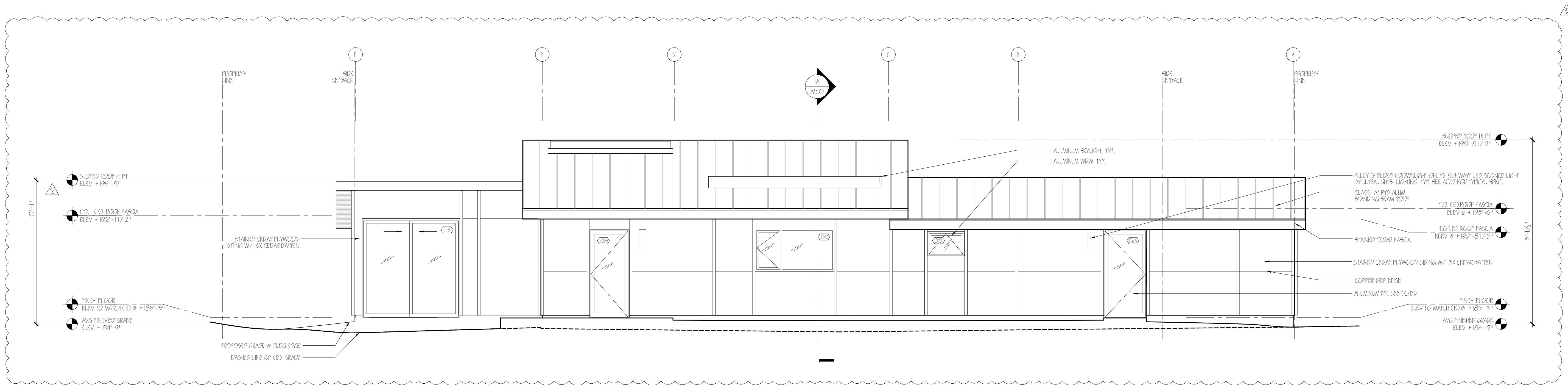
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DAI - SHEN REMODEL
161 ELM ROAD, BOLINAS, CA 94924
APN: 192-212-17



2 EXISTING ELEVATION - SOUTH
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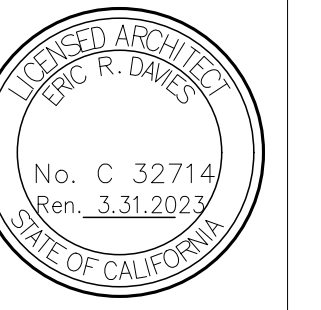


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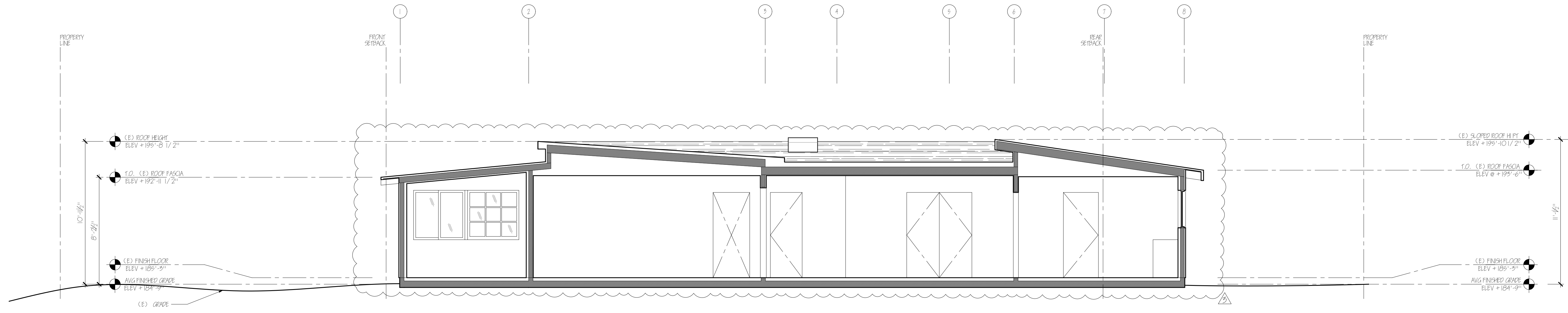
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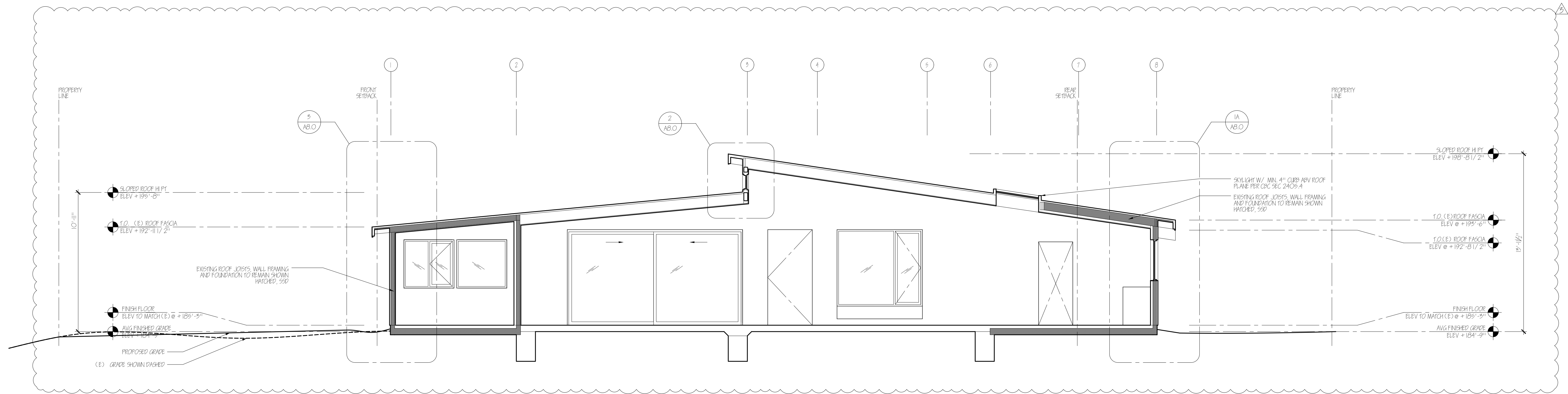
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DAI - SHEN REMODEL
161 ELM ROAD, BOLINAS, CA 94924
APN: 192-212-17



2 EXISTING SECTION - LOOKING EAST
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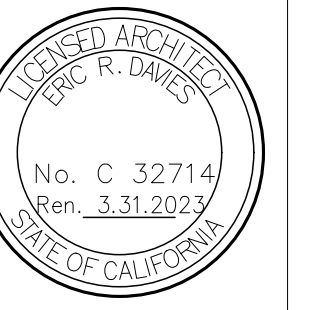
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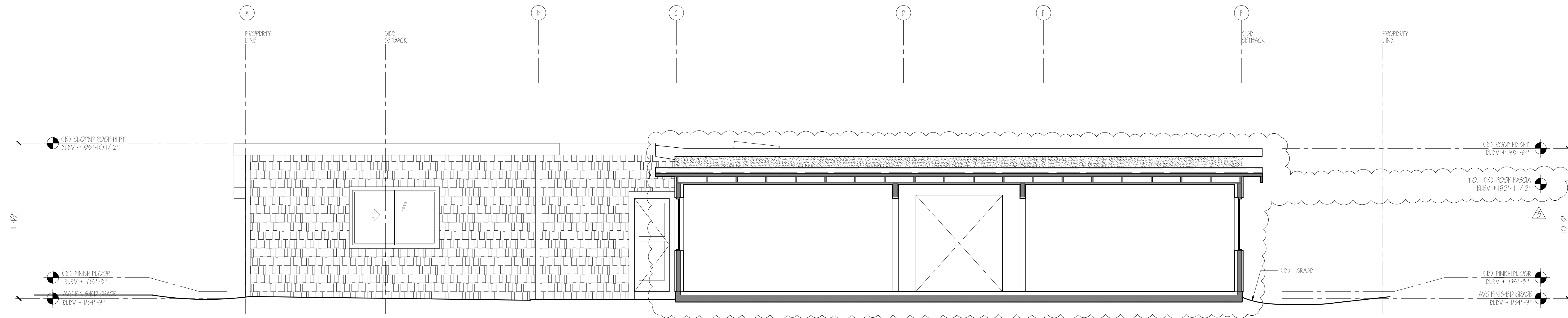
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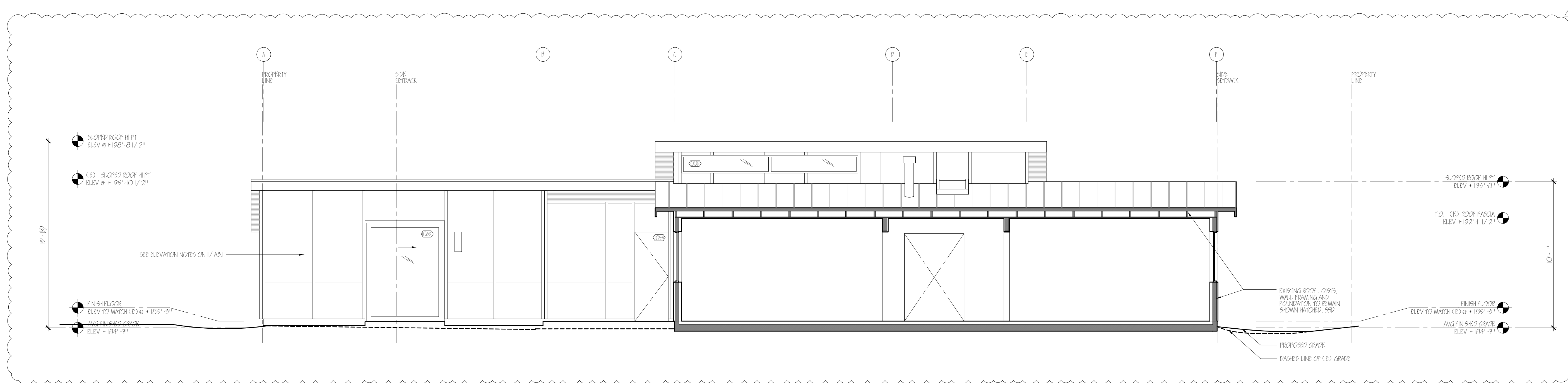
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DAI - SHEN REMODEL
161 ELM ROAD, BOLINAS, CA 94924
APN: 192-212-17



2 EXISTING SECTION - LOOKING SOUTH
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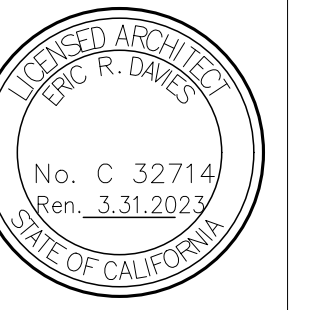


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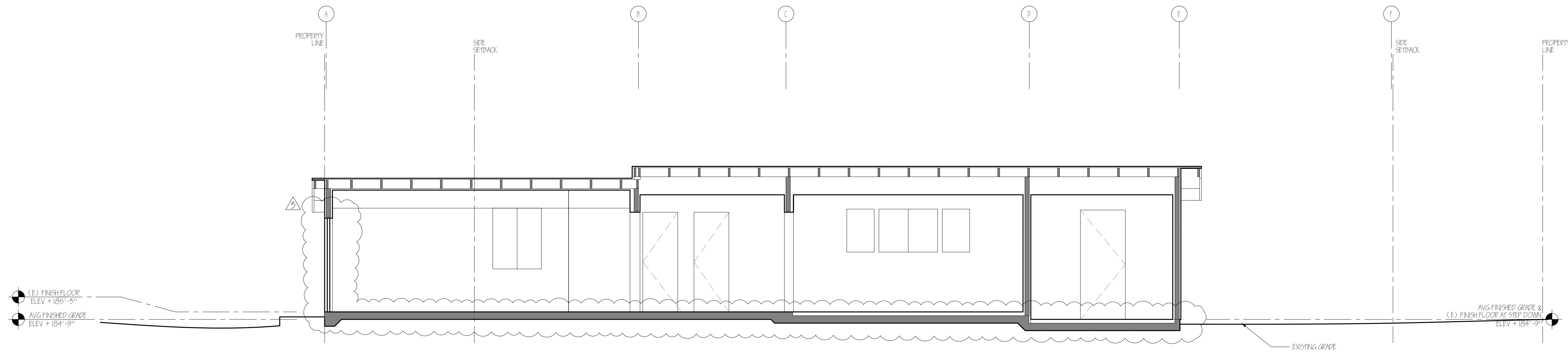
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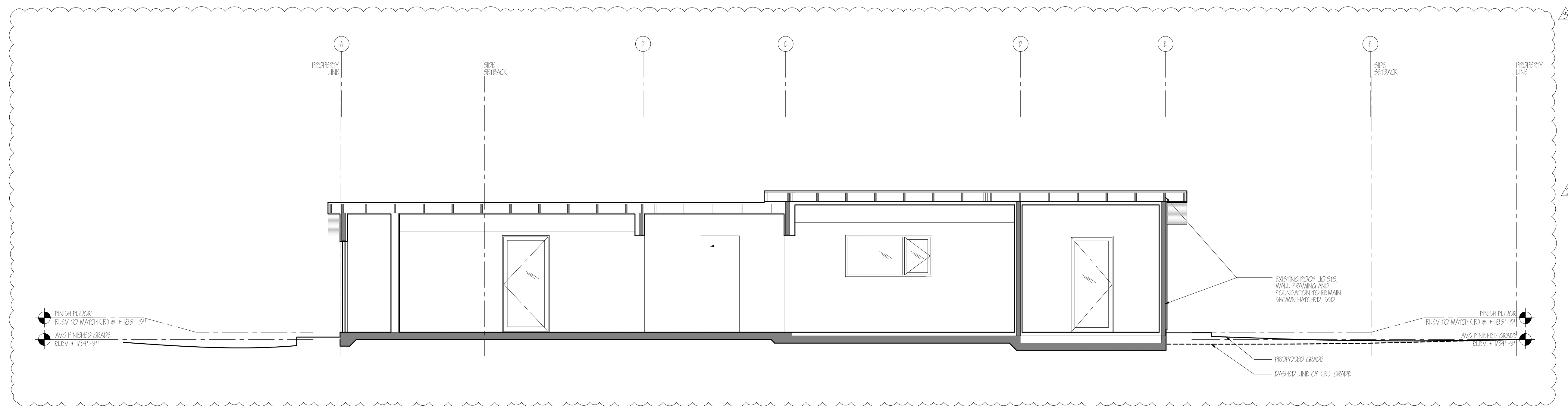
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DAI - SHEN REMODEL
161 ELM ROAD, BOLINAS, CA 94924
APN: 192-212-17



2 EXISTING SECTION - LOOKING SOUTH
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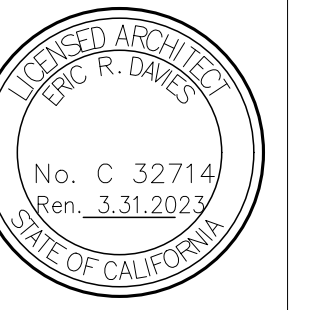


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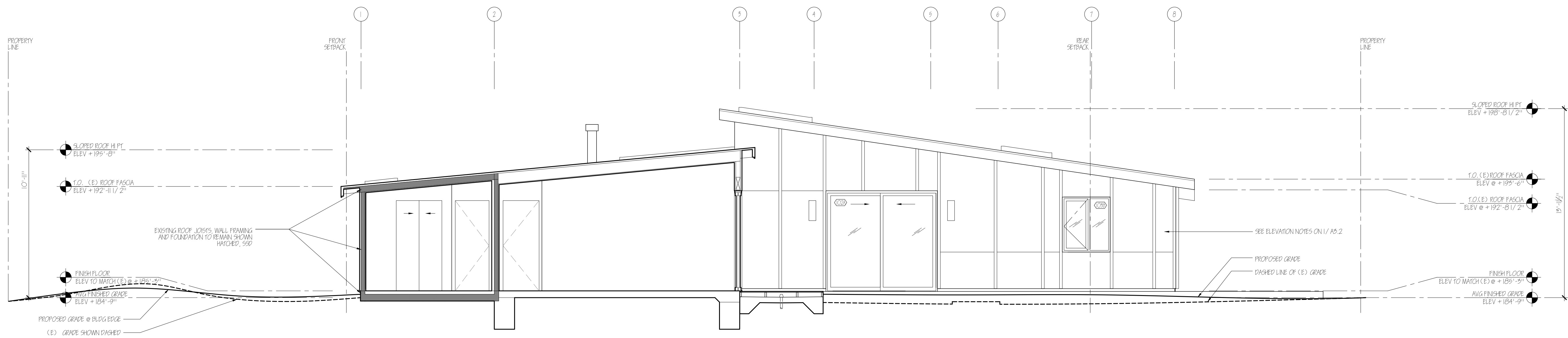
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11.16.2021
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A4.2



DAI - SHEN REMODEL
161 ELM ROAD, BOLINAS, CA 94924
APN: 192-212-17

2 NOT USED
SCALE: N/A



1 PROPOSED SECTION - LOOKING EAST
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Revisions:	Date:
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Date:

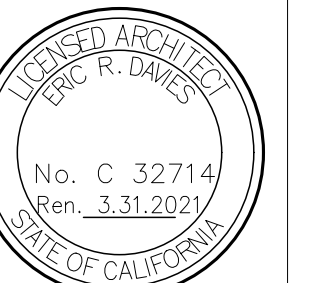
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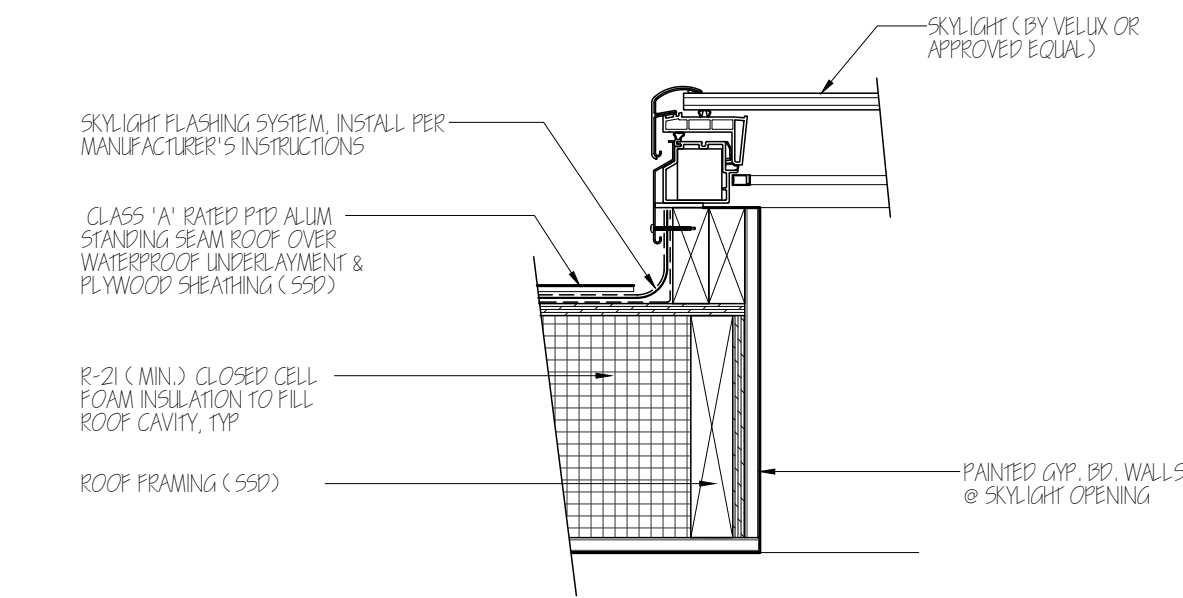
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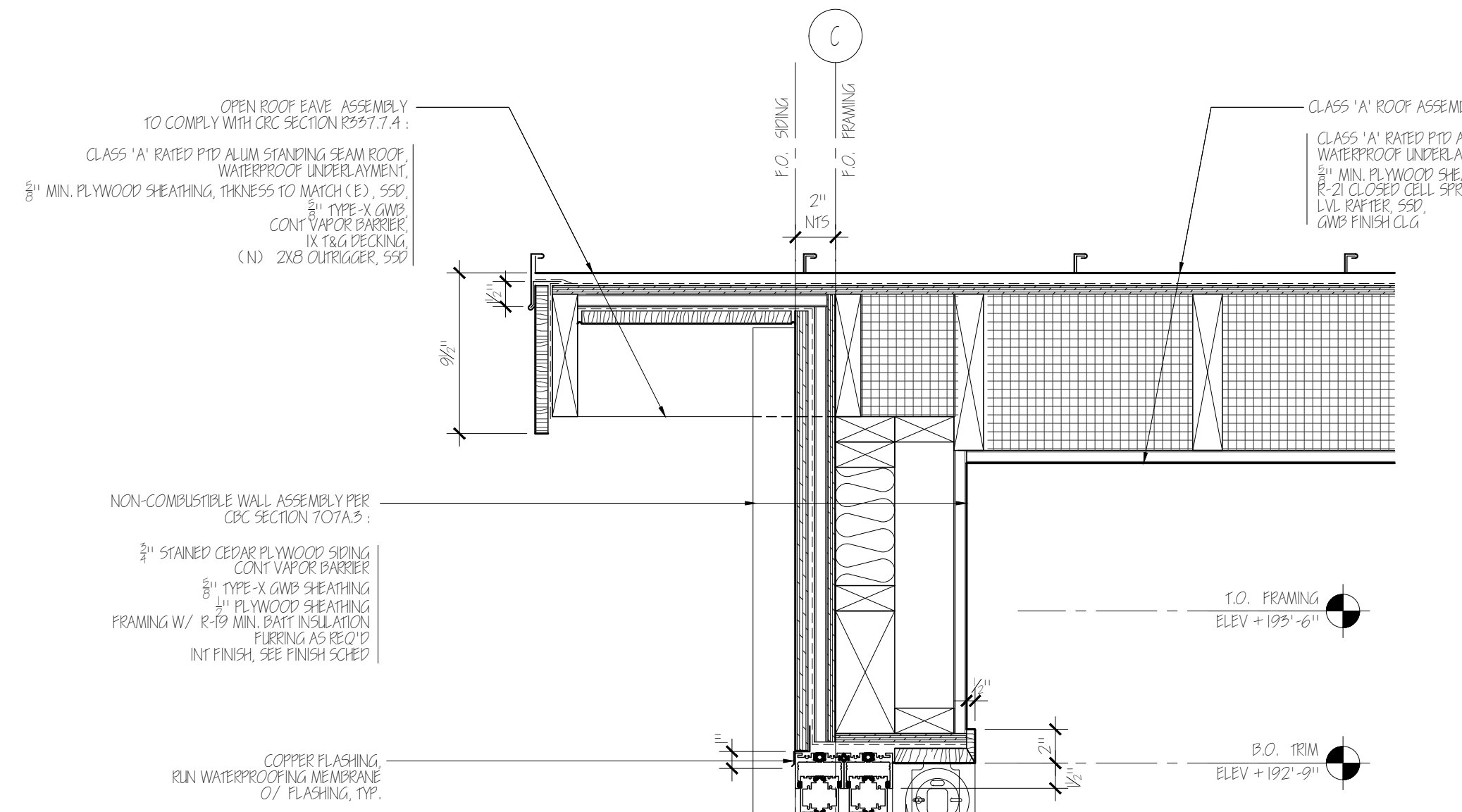
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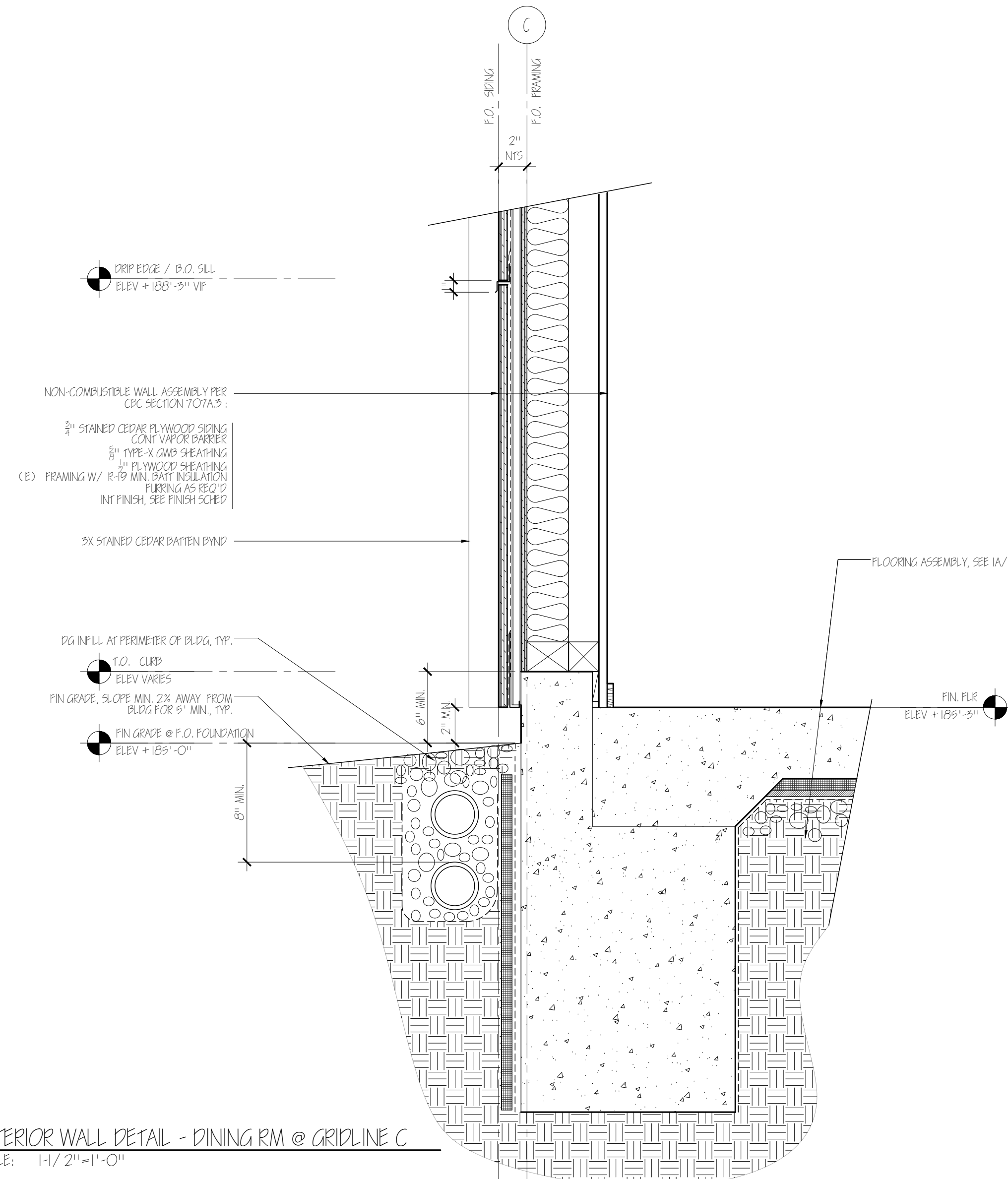
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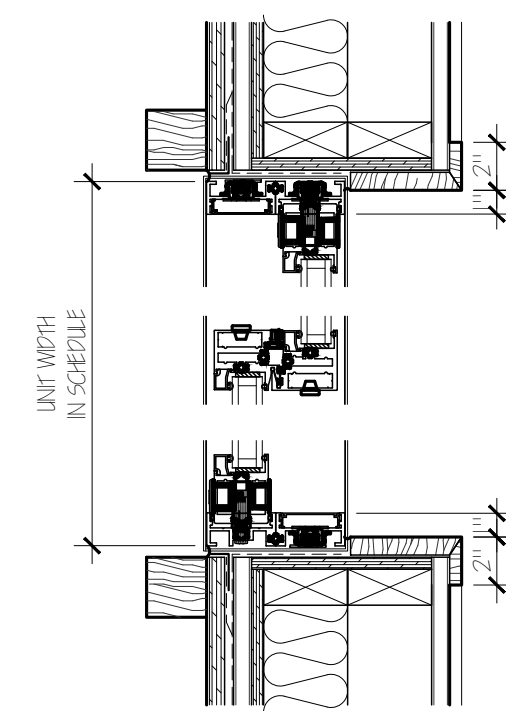
4 DETAIL - TYPICAL VELLUX CURB MOUNTED SKYLIGHT
SCALE: 1/2"=1'-0"



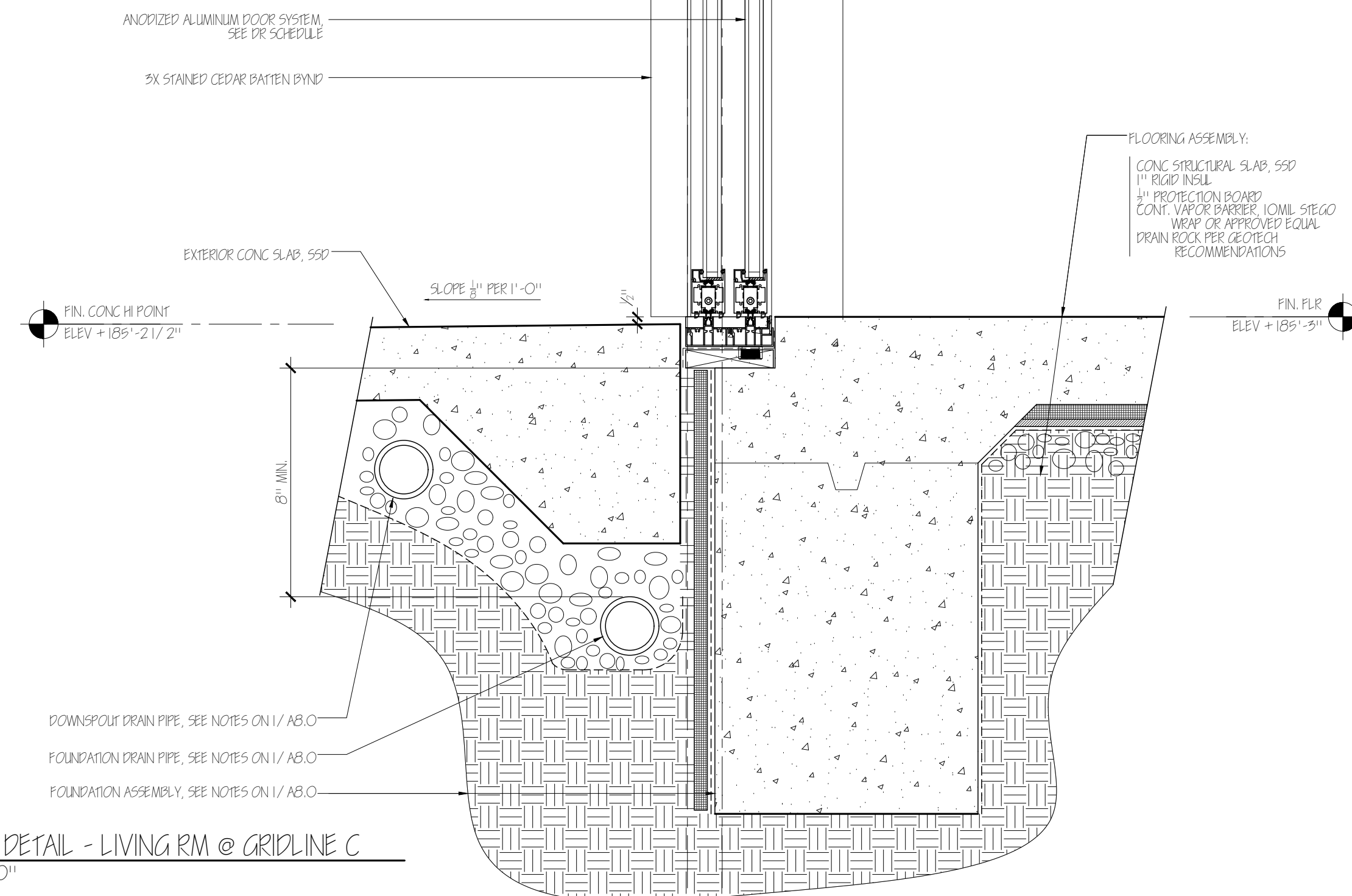
1A EXTERIOR WALL DETAIL - LIVING RM @ GRIDLINE C
SCALE: 1/2"=1'-0"



2 EXTERIOR WALL DETAIL - DINING RM @ GRIDLINE C
SCALE: 1/2"=1'-0"



1B TYPICAL SLIDER JAMB DETAIL - LIVING RM @ GRIDLINE C
SCALE: 1/2"=1'-0"



1A EXTERIOR WALL DETAIL - LIVING RM @ GRIDLINE C
SCALE: 1/2"=1'-0"

EXISTING EXTERIOR DOOR SCHEDULE

NOTE: FOR ENERGY CALCULATION REFERENCE;
EXISTING EXTERIOR DOORS TO BE REMOVED AND REPLACED, SEE AIO.1

161 ELM ROAD, BOLINAS, CA - EXISTING EXTERIOR DOOR SCHEDULE										
SYMBOL	TYPE	MFR.	MODEL	MAT'L	GLZ. TYPE	UNIT SIZE		FINISH EXT.	FINISH INT.	NOTES
						W	H			
E101A	IN-SWING DOOR	N/A	N/A	WOOD & GLASS	SINGLE PANE	3'-0"	6'-9 1/2"	PAINTED	PAINTED	
E109A	IN-SWING PAIRED DOORS	N/A	N/A	WOOD & GLASS	SINGLE PANE	(2) 2'-6"	6'-8"	PAINTED	PAINTED	
E110E	IN-SWING DOOR	N/A	N/A	WOOD & GLASS	SINGLE PANE	2'-8"	6'-9 1/2"	PAINTED	PAINTED	
E110B	IN-SWING DOOR	N/A	N/A	WOOD & GLASS	SINGLE PANE	3'-0"	6'-9 1/2"	PAINTED	PAINTED	
E114A	IN-SWING DOOR	N/A	N/A	WOOD & GLASS	SINGLE PANE	2'-6"	6'-8"	PAINTED	PAINTED	
E115B	IN-SWING DOOR	N/A	N/A	WOOD & GLASS	SINGLE PANE	3'-0"	6'-5"	PAINTED	PAINTED	

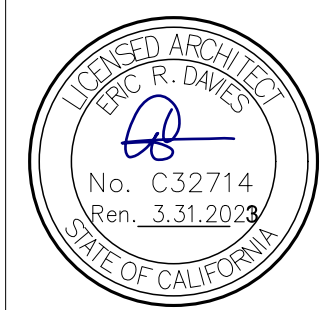
EXISTING WINDOW SCHEDULE

NOTE: FOR ENERGY CALCULATION REFERENCE;
EXISTING WINDOWS TO BE REMOVED AND REPLACED, SEE AIO.1

161 ELM ROAD, BOLINAS, CA - EXISTING WINDOW SCHEDULE										
SYMBOL	TYPE	MFR.	MAT'L	GLZ. TYPE	UNIT SIZE		FINISH EXT.	FINISH INT.	NOTES	
					W	H				
E102A	FIXED WINDOW	N/A	WOOD	SINGLE PANE	3'-4 1/2"	3'-11"	PAINTED	PAINTED		
E102B	SLIDING WINDOW	N/A	ALUMINUM	SINGLE PANE	3'-9 3/4"	3'-9 1/2"	ANODIZED	ANODIZED		
E102C	FIXED WINDOW	N/A	WOOD	SINGLE PANE	3'-9 3/4"	3'-9 1/2"	PAINTED	PAINTED		
E103A	FIXED WINDOW	N/A	WOOD	SINGLE PANE	3'-4 1/2"	3'-11"	PAINTED	PAINTED		
E103B	SLIDING WINDOW	N/A	VINYL	SINGLE PANE	3'-9 3/4"	3'-11"	N/A	N/A		
E103C	SLIDING WINDOW	N/A	VINYL	SINGLE PANE	3'-9 3/4"	3'-11"	N/A	N/A		
E104A	SLIDING WINDOW	N/A	VINYL	SINGLE PANE	2'-10 1/2"	3'-10"	N/A	N/A		
E105A	SLIDING WINDOW	N/A	VINYL	SINGLE PANE	2'-10 1/2"	3'-10"	N/A	N/A		
E107A	SLIDING WINDOW	N/A	VINYL	SINGLE PANE	2'-11 1/4"	0'-10 1/2"	N/A	N/A		
E107A	SLIDING WINDOW	N/A	VINYL	SINGLE PANE	2'-11 1/4"	0'-10 1/2"	N/A	N/A		
E110A	FIXED WINDOW	N/A	WOOD	SINGLE PANE	2'-6 1/2"	4'-11"	PAINTED	PAINTED		
E110B	FIXED WINDOW	N/A	WOOD	SINGLE PANE	2'-6 1/2"	4'-11"	PAINTED	PAINTED		
E110C	FIXED WINDOW	N/A	WOOD	SINGLE PANE	2'-6 1/2"	4'-11"	PAINTED	PAINTED		
E110D	FIXED WINDOW	N/A	WOOD	SINGLE PANE	2'-6 1/2"	4'-11"	PAINTED	PAINTED		
E111A	SLIDING WINDOW	N/A	ALUMINUM	SINGLE PANE	3'-6 1/2"	4'-0 3/4"	ANODIZED	ANODIZED		
E112A	FIXED WINDOW	N/A	WOOD	SINGLE PANE	1'-10"	2'-10 1/2"	PAINTED	PAINTED		
E112B	SLIDING WINDOW	N/A	ALUMINUM	SINGLE PANE	3'-11"	2'-10 1/2"	ANODIZED	ANODIZED		
E112C	FIXED WINDOW	N/A	WOOD	SINGLE PANE	1'-10"	2'-10 1/2"	PAINTED	PAINTED		
E113A	SLIDING WINDOW	N/A	ALUMINUM	SINGLE PANE	2'-10"	1'-10"	ANODIZED	ANODIZED		
E115A	SLIDING WINDOW	N/A	ALUMINUM	SINGLE PANE	5'-11 1/2"	3'-11"	ANODIZED	ANODIZED		
E115C	SLIDING WINDOW	N/A	ALUMINUM	SINGLE PANE	3'-3"	2'-10"	ANODIZED	ANODIZED		
S1	FIXED SKYLIGHT	N/A	VINYL	LAMINATED SAFETY	2'-0"	3'-0"	N/A	N/A		

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Title:
EXISTING
DOOR & WINDOW
SCHEDULE

Revisions: Date:
 11/16/2021 11/16/2021

Date:
11.16.2021
Scale:
AS NOTED
Sheet:
AIO.0

EXTERIOR DOOR SCHEDULE 

161 ELM ROAD, BOLINAS, CA - EXTERIOR DOOR SCHEDULE

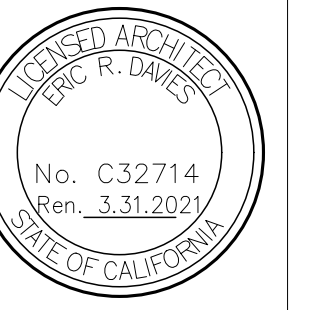
SYMBOL	TYPE	MFR.	MODEL	MATL.	HAND ACTIVE	GLZ. TYPE	SCREEN	HRDWR GROUP	UNIT SIZE		SILL HT. A.F.F.	FINISH EXT.	FINISH INT.	DETAIL			NOTES	
									W	H				JAMB	HEAD	SILL		
VERIFY W/ ARCH																	EXTERIOR DOOR & WINDOW GLAZING TO BE DOUBLE PANE LOE 270 GLAZING (VERIFY W/ ARCH) SEE ENERGY CALCS FOR MAXIMUM U-FACTOR AND SHGC	
100A	IN-SWING DOOR	CUSTOM	N/A	WOOD		NONE	N/A	1	3'-6"	7'-6"		PTD	PTD					
101A	XX SLIDING DOOR	FLEETWOOD	4070-T	ALUM		TEMPERED SAFETY	N	4	13'-9"	7'-6"		FLUSH	ANODIZED	ANODIZED	1B/A8.1	1A/A8.1	1A/A8.1	EQUAL WIDTH PANELS WHEN STACKED
102A	XX SLIDING DOOR	FLEETWOOD	4070-T	ALUM		TEMPERED SAFETY	N	4	8'-5 1/2"	7'-6"		FLUSH	ANODIZED	ANODIZED	1B/A8.1 SIM.	1A/A8.1 SIM.	1A/A8.1 SIM.	EQUAL WIDTH PANELS WHEN STACKED
103A	OUT-SWING DOOR	FLEETWOOD	3200-T	ALUM		TEMPERED SAFETY	N	5	3'-0" TO MATCH (E)	6'-8" TO MATCH (E)		FLUSH	ANODIZED	ANODIZED				
105A	IN-SWING DOOR	CUSTOM	N/A	WOOD		NONE	N/A	2	2'-6" TO MATCH (E)	6'-8" TO MATCH (E)			PTD	PTD				
106A	OUT-SWING DOOR	FLEETWOOD	3200-T	ALUM		TEMPERED SAFETY	N	5	3'-3" TO MATCH (E)	6'-8"		FLUSH	ANODIZED	ANODIZED				
106B	PX POCKETING DOOR	FLEETWOOD	4070-T	ALUM		TEMPERED SAFETY	N	4	6'-0" TO MATCH (E)	7'-6"		FLUSH	ANODIZED	ANODIZED				
109A	OUT-SWING DOOR	CUSTOM	N/A	WOOD		NONE	N/A	3	3'-0" TO MATCH (E)	6'-5" TO MATCH (E)			PTD	PTD				
111B	XX SLIDING DOOR	FLEETWOOD	4070-T	ALUM		TEMPERED SAFETY	N	4	7'-5"	7'-6"		FLUSH	ANODIZED	ANODIZED	1B/A8.1 SIM.	1A/A8.1 SIM.	1A/A8.1 SIM.	EQUAL WIDTH PANELS WHEN STACKED

DOOR & WINDOW SCHEDULE NOTES:

- ALL DOORS WITH GLASS SURFACES SHALL BE TEMPERED.
- ALL GLASS SHOWER DOORS SHALL BE TEMPERED AT ALL BATHROOM LOCATIONS.
- ALL WINDOWS SHALL BE DUAL GLAZED. ALL EXTERIOR DOORS SHALL BE DUAL, SAFETY GLAZED. ALL GLASS WITHIN 18" OF FLOOR, WITHIN 60" OF A TUB OR SHOWER OR ANY OTHER LOCATION SPECIFIED UNDER CBC 24C06 SHALL BE TEMPERED OR SAFETY GLASS. DOORS AND WINDOWS TO BE WEATHER-STRIPPED AND CERTIFIED BY THE MANUFACTURER.
- EXTERIOR DOORS AND EXTERIOR GLAZED DOOR ASSEMBLIES SHALL COMPLY WITH REQUIREMENTS OF CBC SEC 70B.A.3 FOR EXTERIOR WILDFIRE EXPOSURE.
 - ALL EXTERIOR DOORS SHALL BE SOLID CORE WITH STILES AND RAILS NOT LESS THAN 1-3/8" THICK WITH INTERIOR FIELD PANEL THICKNESS NO LESS THAN 1-1/4", OR SHALL HAVE A FIRE RATING OF 20 MINS.
- GLAZING IN EXTERIOR DOORS, WINDOWS AND SKYLIGHT ASSEMBLIES SHALL COMPLY WITH CBC SEC 70B.A.2.1 FOR EXTERIOR WILDFIRE EXPOSURE.
- CONTRACTOR AND SUBCONTRACTOR TO VERIFY ALL DOOR AND WINDOW OPENING DIMENSIONS IN FIELD PRIOR TO FABRICATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES IMMEDIATELY.

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WINDOW SCHEDULE 

161 ELM ROAD, BOLINAS, CA - WINDOW SCHEDULE

SYMBOL	TYPE	MFR.	MODEL	MATL.	HAND ACTIVE	GLZ. TYPE	SCREEN	UNIT SIZE		SILL HT. A.F.F.	FINISH EXT.	FINISH INT.	DETAIL			NOTES	
								W	H				JAMB	HEAD	SILL		
VERIFY W/ ARCH																	EXTERIOR DOOR & WINDOW GLAZING TO BE DOUBLE PANE LOE 270 GLAZING (VERIFY W/ ARCH) SEE ENERGY CALCS FOR MAXIMUM U-FACTOR AND SHGC
100B	FIXED WINDOW W/ CASEMENT UNIT	FLEETWOOD	3800-T - 350-T	ALUM		TEMPERED SAFETY	Y	6'-8 1/2" (CASEMENT DIM: 2'-0")	6'-0"		ANODIZED	ANODIZED	1B/A8.0 SIM.	1A/A8.0 SIM.		ROTO GEAR	
100D	FIXED CLERESTORY WINDOW	FLEETWOOD	350-T	ALUM		TEMPERED SAFETY		13'-0" (2 EQ. DIVISIONS)	1'-4 1/2"		ANODIZED	ANODIZED	1B/A8.0 SIM.	2/A8.0	2/A8.0		
103B	FIXED WINDOW W/ CASEMENT UNIT	FLEETWOOD	350-T	ALUM		TEMPERED SAFETY	Y	3'-6 1/2" TO MATCH (E); (CASEMENT DIM: 2'-0")	4'-1" TO MATCH (E)		ANODIZED	ANODIZED	1B/A8.0 SIM.	1A/A8.0 SIM.	1A/A8.0 SIM.	ROTO GEAR	
104A	FIXED WINDOW W/ CASEMENT UNIT	FLEETWOOD	350-T	ALUM		TEMPERED SAFETY	Y	6'-0"	3'-2 1/2"		ANODIZED	ANODIZED	1B/A8.0	1A/A8.0	1A/A8.0	ROTO GEAR	
107B	AWNING WINDOW	FLEETWOOD	350-T	ALUM		TEMPERED SAFETY	Y	2'-10" TO MATCH (E)	1'-10" TO MATCH (E)		ANODIZED	ANODIZED				ROTO GEAR	
117B	FIXED WINDOW W/ CASEMENT UNIT	FLEETWOOD	350-T	ALUM		TEMPERED SAFETY	Y	3'-11 1/4" TO MATCH (E); (CASEMENT DIM: 1'-11 1/2")	3'-9 1/2" TO MATCH (E)		ANODIZED	ANODIZED	1B/A8.0 SIM.	1A/A8.0 SIM.	1A/A8.0 SIM.	ROTO GEAR	
117C	FIXED WINDOW	FLEETWOOD	350-T	ALUM		TEMPERED SAFETY	Y	3'-11 1/4" TO MATCH (E)	3'-9 1/2" TO MATCH (E)		ANODIZED	ANODIZED	1B/A8.0 SIM.	1A/A8.0 SIM.	1A/A8.0 SIM.		
117D	CASEMENT WINDOW	FLEETWOOD	350-T	ALUM		TEMPERED SAFETY	Y	3'-9 3/4" TO MATCH (E)	3'-11" TO MATCH (E)		ANODIZED	ANODIZED	1B/A8.0 SIM.	1A/A8.0 SIM.	1A/A8.0 SIM.	ROTO GEAR	
118B	FIXED WINDOW W/ CASEMENT UNIT	FLEETWOOD	350-T	ALUM		TEMPERED SAFETY	Y	3'-11 1/4" TO MATCH (E); (CASEMENT DIM: 1'-11 1/2")	3'-9 1/2" TO MATCH (E)		ANODIZED	ANODIZED	1B/A8.0 SIM.	1A/A8.0 SIM.	1A/A8.0 SIM.	ROTO GEAR	
118C	FIXED WINDOW	FLEETWOOD	350-T	ALUM		TEMPERED SAFETY	Y	3'-11 1/4" TO MATCH (E)	3'-9 1/2" TO MATCH (E)		ANODIZED	ANODIZED	1B/A8.0 SIM.	1A/A8.0 SIM.	1A/A8.0 SIM.		
118D	CASEMENT WINDOW	FLEETWOOD	350-T	ALUM		TEMPERED SAFETY	Y	3'-4 1/2" TO MATCH (E)	3'-11" TO MATCH (E)		ANODIZED	ANODIZED	1B/A8.0 SIM.	1A/A8.0 SIM.	1A/A8.0 SIM.	ROTO GEAR	
S1	FIXED SKYLIGHT	ROYALITE		ALUM		LAMINATED SAFETY		3'-9"	13'-6" (3 EQ. DIVISIONS)		ANODIZED	ANODIZED	4/A8.1	N/A	N/A	LAMINATED SAFETY GLAZING. INTERLAYER THICKNESS NOT LESS THAN .03" PER R308.6.2 OF THE CRC.	
S2	FIXED SKYLIGHT	ROYALITE		ALUM		LAMINATED SAFETY	Y	2'-4"	8'-6" (2 EQ. DIVISIONS)		ANODIZED	ANODIZED	4/A8.1	N/A	N/A	LAMINATED SAFETY GLAZING. INTERLAYER THICKNESS NOT LESS THAN .03" PER R308.6.2 OF THE CRC.	
S3	FIXED SKYLIGHT	ROYALITE		ALUM		LAMINATED SAFETY	Y	2'-4"	8'-10" (2 EQ. DIVISIONS)		ANODIZED	ANODIZED	4/A8.1	N/A	N/A	LAMINATED SAFETY GLAZING. INTERLAYER THICKNESS NOT LESS THAN .03" PER R308.6.2 OF THE CRC.	
S4	FIXED SKYLIGHT	ROYALITE		ALUM		LAMINATED SAFETY	Y	5'-7 1/2"	9'-11" (2 EQ. DIVISIONS)		ANODIZED	ANODIZED	4/A8.1	N/A	N/A	LAMINATED SAFETY GLAZING. INTERLAYER THICKNESS NOT LESS THAN .03" PER R308.6.2 OF THE CRC.	

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 APN: 192-212-17

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PROPOSED EXTERIOR
DOOR & WINDOW
SCHEDULE

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 11/16/2021
 11/16/2021

Date:
11.16.2021
 Scale:
AS NOTED
 Sheet:
A10.I

INTERIOR DOOR SCHEDULE

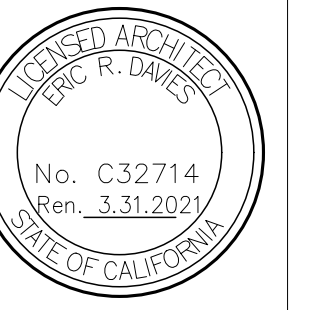
161 ELM ROAD, BOLINAS, CA - INTERIOR DOOR SCHEDULE													
DOOR	LOCATION		HAND	UNIT SIZE			MATERIAL	FINISH		FRAME		MODEL	NOTES
	FROM / OUTSIDE	TO / INSIDE		W	H	T		INSIDE	OUTSIDE	MATERIAL	FINISH		
103C	LIBRARY	STUDY		3'-0"	6'-8"	1-3/4"	WOOD	PTD	PTD	WOOD	PTD		POCKET DOOR, HAFELE HARDWARE (OR EQUAL)
107A	VESTIBULE	GUEST BATH		2'-8"	6'-8"	1-3/4"	WOOD	PTD	PTD	WOOD	PTD		SWING DOOR
108A	ACTIVITY ROOM	LAUNDRY CLOS		2'-8"	6'-8"	1-3/4"	WOOD	PTD	PTD	WOOD	PTD		POCKET DOOR, HAFELE HARDWARE (OR EQUAL)
111A	LIVING ROOM	MASTER BEDROOM		2'-8"	6'-8"	1-3/4"	WOOD	PTD	PTD	WOOD	PTD		SWING DOOR
112A	MASTER BEDROOM	MASTER VESTIBULE		(2) 2'-1"	6'-8"	1-3/4"	WOOD	PTD	PTD	WOOD	PTD		BI-PARTING POCKET DOORS, HAFELE HARDWARE (OR EQUAL)
112B	MASTER VESTIBULE	CLOSET		(2) 2'-3 3/4"	6'-8"	1-3/4"	WOOD	PTD	PTD	WOOD	PTD		PAIRED SWING DOORS
113A	MASTER VESTIBULE	MASTER BATH		2'-8"	6'-8"	1-3/4"	WOOD	PTD	PTD	WOOD	PTD		SWING DOOR
114A	MASTER BATH	MASTER SHOWER		2'-0"	7'-0" +/-	3/8"	TEMPERED SAFETY GLASS	CLEAR	N/A	N/A	N/A		WALL MTD SWING DOOR
116A	HALL	BATH		2'-8"	6'-8"	1-3/4"	WOOD	PTD	PTD	WOOD	PTD		SWING DOOR
117A	HALL	BEDROOM		2'-6"	6'-8"	1-3/4"	WOOD	PTD	PTD	WOOD	PTD		SWING DOOR
117E	BEDROOM	CLOSET		3'-4 1/2"	6'-8"	1-3/4"	WOOD	PTD	PTD	WOOD	PTD		PAIRED SLIDER, HAFELE HARDWARE (OR EQUAL)
118A	HALL	BEDROOM		2'-6"	6'-8"	1-3/4"	WOOD	PTD	PTD	WOOD	PTD		SWING DOOR
118E	BEDROOM	CLOSET		4'-0"	6'-8"	1-3/4"	WOOD	PTD	PTD	WOOD	PTD		PAIRED SLIDER, HAFELE HARDWARE (OR EQUAL)

ROOM FINISH SCHEDULE

161 ELM ROAD, BOLINAS, CA - ROOM FINISH SCHEDULE																
RM. #	LOCATION	FLOOR		BASE		WALLS		WINDOW & DOOR CASING		CEILING		MILLWORK			NOTES	
		MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	TOP/ SPLASH		
100	DINING RM	CONCRETE	SEALED	WOOD	PTD	GWB	PAINTED	WOOD	PTD	GWB	PAINTED	PLAIN SAWN WHITE OAK	SEALED			
101	LIVING ROOM	CONCRETE	SEALED	WOOD	PTD	GWB	PAINTED	WOOD	PTD	GWB	PAINTED					
102	LIBRARY	CONCRETE	SEALED	WOOD	PTD	GWB	PAINTED	WOOD	PTD	GWB	PAINTED	PLAIN SAWN WHITE OAK	SEALED	QUARTZ		
103	STUDY	CONCRETE	SEALED	WOOD	PTD	GWB	PAINTED	WOOD	PTD	GWB	PAINTED					
104	KITCHEN	CONCRETE	SEALED	WOOD	PTD	GWB	PAINTED	WOOD	PTD	GWB	PAINTED	PLAIN SAWN WHITE OAK	SEALED	QUARTZ		
105	VESTIBULE	5-1/2" WIDE OAK ENGINEERED	PREFINISHED	WOOD	PTD	GWB	PAINTED	WOOD	PTD	GWB	PAINTED					
106	ACTIVITY ROOM	5-1/2" WIDE OAK ENGINEERED	PREFINISHED	WOOD	PTD	GWB	PAINTED	WOOD	PTD	GWB	PAINTED					
107	GUEST BATH	PORCELAIN TILE	SEALED	WOOD	PTD	GWB / TILE	PAINTED / SEALED	WOOD	PTD	GWB	PAINTED	PLAIN SAWN WHITE OAK	SEALED	QUARTZ		
108	LAUNDRY CLOS	5-1/2" WIDE OAK ENGINEERED	PREFINISHED	WOOD	PTD	GWB	PAINTED	WOOD	PTD	GWB	PAINTED					
109	MECH CLOS	CDX PLYWOOD	SEALED	N/A	N/A	CDX PLYWOOD	N/A	WOOD	PTD	CDX PLYWOOD	N/A					
110	HALL	5-1/2" WIDE OAK ENGINEERED	PREFINISHED	WOOD	PTD	GWB	PAINTED	WOOD	PTD	GWB	PAINTED					
111	MASTER BEDROOM	CONCRETE	SEALED	WOOD	PTD	GWB	PAINTED	WOOD	PTD	GWB	PAINTED					
112	MASTER VESTIBULE	CONCRETE	SEALED	WOOD	PTD	GWB	PAINTED	WOOD	PTD	GWB	PAINTED	PLAIN SAWN WHITE OAK	SEALED	QUARTZ		
113	MASTER BATH	CONCRETE	SEALED	WOOD	PTD	GWB / TILE	PAINTED / SEALED	WOOD	PTD	GWB	PAINTED	PLAIN SAWN WHITE OAK	SEALED	QUARTZ		
114	MASTER SHOWER	CONCRETE	SEALED	CONCRETE	SEALED	GWB / TILE	PAINTED / SEALED	N/A	N/A	GWB	PAINTED					
115	MASTER W.C.	CONCRETE	SEALED	WOOD	PTD	GWB	PAINTED	N/A	N/A	GWB	PAINTED					
116	BATH	PORCELAIN TILE	SEALED	WOOD	PTD	GWB / TILE	PAINTED / SEALED	WOOD	PTD	GWB	PAINTED	PLAIN SAWN WHITE OAK	SEALED	QUARTZ		
117	BEDROOM	5-1/2" WIDE OAK ENGINEERED	PREFINISHED	WOOD	PTD	GWB	PAINTED	WOOD	PTD	GWB	PAINTED					
118	BEDROOM	5-1/2" WIDE OAK ENGINEERED	PREFINISHED	WOOD	PTD	GWB	PAINTED	WOOD	PTD	GWB	PAINTED					

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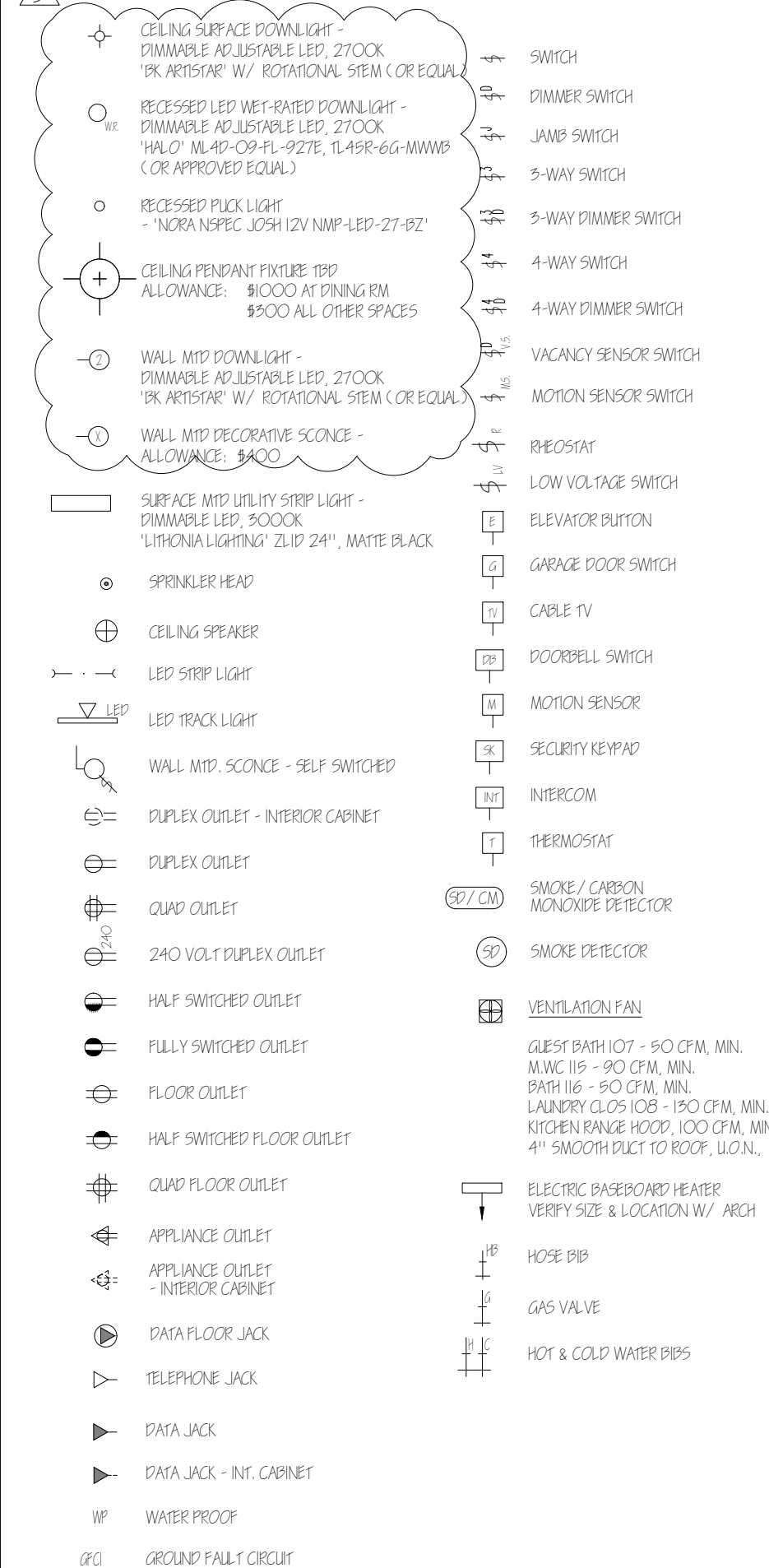
Title:
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FINISH SCHEDULE

Revisions: Date:
 11/16/2021
 11/16/2021

Date:
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 Scale:
AS NOTED
 Sheet:

A10.2

ELECTRICAL / MECHANICAL PLAN SYMBOL LEGEND



ELECTRICAL NOTES

- ELECTRICAL SYSTEM SHALL BE DESIGNED AND INSTALLED BY A LICENSED ELECTRICAL CONTRACTOR WITH REGARD TO LOAD CALCULATIONS, PANEL SIZING, AND GROUNDING REQUIREMENTS PER ALL APPLICABLE CODES.
- CONTRACTOR SHALL VERIFY LOCATION AND HEIGHT OF OUTLETS, SWITCHES AND LIGHT FIXTURES WITH ARCHITECT PRIOR TO INSTALLATION. INSTALL J-BOXES FOR APPROVAL BY ARCHITECT PRIOR TO WIRING. LOCATE CEILING LIGHTING IN FIELD FOR ARCHITECT AND OWNER APPROVAL PRIOR TO INSTALLING LIGHTS.
- ALL LIGHTING (SURFACE MOUNTED CEILING LIGHTING, RECESSED DOWNLIGHTS & WALL SCENES) TO BE HIGH EFFICACY LED FIXTURES. U.O.N.
- SWITCHES, RECEPTACLES AND PLATE COLORS TO BE CHOSEN BY ARCHITECT.
- FLOOR OUTLETS SHALL BE METAL WITH FINISH CHOSEN BY ARCHITECT.
- CONTRACTOR SHALL PROVIDE ONE TYPE OF EACH LIGHT FIXTURE IMMEDIATELY AFTER PRAVING FOR REVIEW WITH ARCHITECT AND OWNER.
- ALL BATHROOM, LAUNDRY ROOM & GARAGE LIGHTING MUST BE CONTROLLED BY A MANUAL ON/OCCUPANT SENSOR & BE HIGH EFFICACY. MANUAL ON/OCCUPANT SENSOR MUST TURN OFF WHEN NO ONE IS PRESENT. ON FUNCTION MUST BE CONTROLLED MANUALLY.
- ALL ELECTRICAL, SPEAKER AND DATA WIRING SHALL BE CONCEALED.
- PER CEC 854 AND 859: ALL BEDROOMS AND ACCESS CORRIDORS TO BEDROOMS SHALL HAVE HARDWIRED SMOKE DETECTORS WITH BATTERY BACK-UP. THE GROUND FLOOR AND THE HALLWAYS TO EACH BEDROOM SHALL HAVE HARDWIRED CARBON MONOXIDE ALARMS WITH BATTERY BACK-UP. CONTRACTOR TO VERIFY LOCATIONS W/ ARCHITECT PRIOR TO INSTALLATION.
- LIGHT FIXTURES IN WET / DAMP LOCATIONS SHALL BE LABELED "SUITABLE FOR DAMP LOCATIONS"
- PROVIDE POWER & WATER AS REQUIRED AND LOCATED PER MANUFACTURERS SPECIFICATIONS FOR ALL EQUIPMENT SUCH AS REFRIGERATOR, WATER HEATER, STOVE, VENTILATION HOOD, DISPOSAL (W/ SWITCH), AND KITCHEN & LAUNDRY APPLIANCES.
- ALL 125-VOLT, 15&20 AMPERE RECEPTACLES SHALL BE LISTED TAMPER RESISTANT PER CEC 406.12
- CLOSETS CLOSE LIGHT FIXTURE CLEARANCES SHALL CONFORM TO CEC 401.6. INCANDESCENT FIXTURES WITH OPEN OR PARTIALLY ENCLOSED LAMPS AND PENDANT FIXTURES OR LAMP HOLDERS ARE NOT ALLOWED IN CLOSETS.
- WALLS 2" WIDE OR GREATER SHALL HAVE AN OUTLET. RECEPTACLES SHALL BE INSTALLED SO THAT NO POINT MEASURED HORIZONTALLY ALONG THE FLOOR LINE IN ANY WALL SPACE IS MORE THAN 6 FEET FROM A RECEPTACLE OUTLET. HALLWAYS OF TEN FEET OR MORE SHALL HAVE AT LEAST ONE RECEPTACLE.
- ALL OUTLETS THAT SERVE COUNTERTOP SURFACES IN THE KITCHEN SHALL HAVE GROUND FAULT INTERRUPTER PROTECTION. ALL ELECTRICAL OUTLETS THAT SERVE BEDROOMS, THE GARAGE, THE GROUND FLOOR MECHANICAL & STORAGE AREAS AND THE EXTERIOR SHALL HAVE GROUND FAULT INTERRUPTER PROTECTION.
- PROVIDE COMBINATION ARC-FAULT CIRCUIT INTERRUPTER (AFCI) FOR ALL OUTLETS IN THE LIVING ROOM, DINING ROOM, BEDROOMS, CLOSETS, HALLWAYS & SIMILAR AREAS PER C.E.C. 210.12
- DEDICATED CIRCUIT AT MICROWAVE RECEPTACLE, TV & COMPUTER.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AT LEAST (2) SEPARATE 20 AMP CIRCUITS FOR SMALL APPLIANCES IN THE KITCHEN, DINING ROOM AND SIMILAR AREAS, WITH NO OTHER OUTLETS ON THE CIRCUITS.
- DEDICATED CIRCUIT AT MICROWAVE RECEPTACLE.
- PROVIDE AT LEAST ONE SEPARATE 20 AMP CIRCUIT TO LAUNDRY APPLIANCES.
- PROVIDE AT LEAST ONE 20 AMP CIRCUIT FOR BATHROOM OUTLETS, WITH NO OTHER OUTLETS ON THE CIRCUITS.
- REFRIGERATORS, FREEZERS & FLUORESCENT LAMP BALLAST SHALL BE CERTIFIED BY THE C.E.C.
- ALL RECESSED LIGHT FIXTURES SHALL BE CE RATED OR FIXTURES NOT IDENTIFIED FOR CONTACT WITH INSULATION SHALL HAVE ALL RECESSED PARTS SPACED AT LEAST 1/2" FROM COMBUSTIBLE MATERIALS AND 5" FROM THERMAL INSULATION.
- PROVIDE A 20" MIN. X 4" MIN. BARE COPPER WIRE GROUND ATTACHED TO FOUNDATION REINFORCING IN ACCORDANCE WITH CEC 250.52.
- ELECTRICAL WIRING IN CONCRETE WALLS & CEILINGS SHALL USE NON METALLIC PVC CONDUIT OR GALVANIZED RIGID CONDUIT. FOR SURFACE WIRING PERFORMED ON CONCRETE SURFACES USE GALVANIZED RIGID CONDUIT. VERIFY LOCATIONS WITH ARCHITECT. CONDUIT & WIRING SYSTEMS SHALL BE INSTALLED BY A LICENSED ELECTRICAL CONTRACTOR PER ALL APPLICABLE CODES.

MECHANICAL / ELECTRICAL / PLUMBING GENERAL NOTES

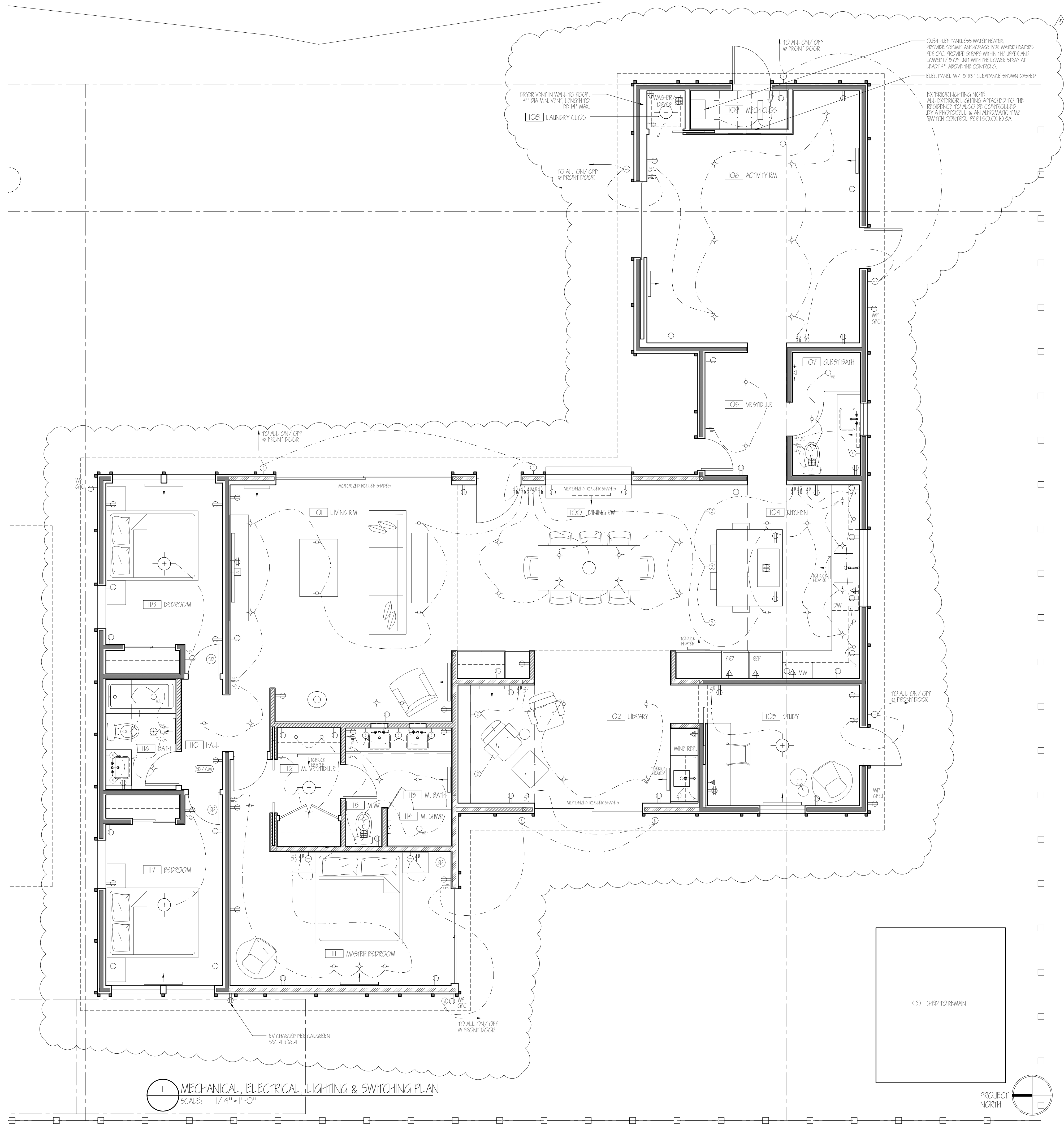
- ALL MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS SHALL BE DESIGNED AND INSTALLED BY LICENSED MECHANICAL, ELECTRICAL AND PLUMBING CONTRACTORS PER ALL APPLICABLE CODES THAT RELATE TO THIS PROJECT.

MECHANICAL NOTES

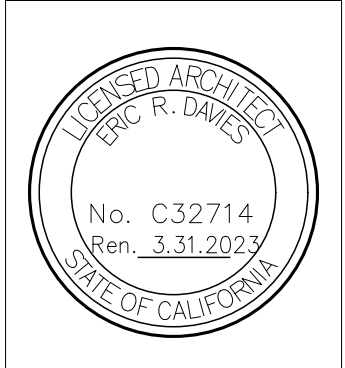
- VENT DRYER TO ROOF OF BUILDING. VENT LENGTH SHALL BE 14'-0" MAXIMUM W/ TWO 90 DEGREE ELBOWS. VENT SHALL BE METAL AND HAVE SMOOTH INTERIOR SURFACES.
- ALL APPLIANCE UNITS TERMINATING OUTSIDE A WALL MUST TERMINATE AT LEAST 4'-0" BELOW OR HORIZONTAL OR 1'-0" ABOVE ANY DOOR OR OPERABLE WINDOW OR AIR INTAKE INLET, V.I.F. WITH ARCHITECT THE VENT LOCATIONS PRIOR TO CONSTRUCTION.
- REPLACE (E) ELECTRIC BARBERED HEATERS WITH (1) CABEIT-SERIES ELECTRIC BARBERED HEATERS. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ARCHITECTS APPROVAL PRIOR TO CONSTRUCTION.
- PROVIDE COMBUSTION AIR FOR ALL OTHER FUEL BURNING APPLIANCES. PROVIDE 1 SQ. IN. MIN. FOR EACH 4000 BTU/HR. INPUT PER OPENING. INSTALL APPLIANCES PER MANUFACTURERS RECOMMENDATIONS AND ALL APPLICABLE CODES.
- EXHAUST SYSTEMS SHALL HAVE BACK-DRAFT OR AUTOMATIC DAMPERS.
- PROVIDE A 150 CFM, MINIMUM WHOLE-BUILDING MECHANICAL VENTILATION SYSTEM PER SECTION 150-0 OF THE 2019 CAL. ENERGY CODE & 519.02.2. USE PANASONIC UNIPURE GREEN FAN (OR APPROVED EQUAL). FAN TO BE IN THE LAUNDRY ROOM AND RUN CONTINUOUSLY.

PLUMBING NOTES

- AN AUTOMATIC FIRE SPRINKLER SYSTEM IS REQUIRED FOR THIS PROJECT PER DIVS OF THE C.E.C. & SECTION 19.04.05 OF THE MARIN COUNTY CODE. SUBMIT THE SPRINKLER DRAWINGS AND CALCULATIONS DIRECTLY TO THE FIRE DISTRICT HAVING JURISDICTION FOR REVIEW AND APPROVAL OF THIS PROJECT.
- ALL DRAWINGS AND CALCULATIONS SHALL HAVE THE OWNERS NAME, ADDRESS OF THE PROJECT AND ASSESSOR'S PARCEL NUMBER IN THE TITLE BLOCK, AND WET STAMP AND WET SIGNATURE OF THE DESIGNER (C16 CONTRACTOR)
- THE SPRINKLER SYSTEM IS TO BE DESIGNED AND INSTALLED BY A LICENSED PLUMBING CONTRACTOR PER ALL APPLICABLE CODES. PLUMBING CONTRACTOR SHALL CONSULT WITH ARCHITECT PRIOR TO BEGINNING DESIGN WORK. ABOUT APPROVED SPRINKLER SYSTEM OPTIONS. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ARCHITECTS APPROVAL PRIOR TO CONSTRUCTION.
- SPRINKLER HEAD COVER COLOR TO MATCH ADJACENT CEILING FINISH COLOR. CONTRACTOR TO REQUEST COLOR SAMPLES FROM ARCHITECT 10 DAYS PRIOR TO REQUIRED SUBMITTAL TO THE MANUFACTURER.
- PROVIDE WATER HEATER PRESSURE / TEMPERATURE RELIEF VALVE WITH DRAIN TO OUTSIDE OF BUILDING OR OTHER APPROVED LOCATION. VERIFY W/ ARCHITECT. NO PART OF DRAIN MAY BE INSTALLED WHERE IT WOULD BE SUBJECT TO FREEZING.
- ALL HOSE BIBS TO BE EQUIPPED WITH ANTI SPION VALVES PER UPC.
- PROVIDE SHOWER AND TUB-SHOWER COMBINATIONS WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE OR THERMOSTATIC MIXING VALVE TYPE.
- ALL SHOWER HEADS TO BE 1.8 GPM, KITCHEN ARE TO BE 1.8 GPM, LAV FAUCETS ARE TO BE 1.2 GPM AND TOILETS ARE TO BE 1.28 GPM / FLUSH. CONTRACTOR TO VERIFY.
- WATER SUPPLY PIPING TO BE COPPER. VENT AND DRAIN WASTE SYSTEM PIPING TO BE CAST IRON. ABS AND PVC PIPING IS NOT PERMITTED.
- INSTALL A RECIRCULATING HOT WATER PUMP. LOCATE TIMER AND MANUAL ON/OFF SWITCH IN MECHANICAL ROOM.
- INSULATE HOT WATER PIPES.
- PROVIDE SEISMIC ANCHORAGE FOR WATER HEATER PER CEC. PROVIDE STRAPS WITHIN THE UPPER AND LOWER 1/3 OF UNIT WITH THE LOWER STRAP AT LEAST 4" ABOVE THE CONTROLS.
- INSTALL CHLORINE FILTERS ON ALL SHOWERHEADS IN ALL BATHROOMS. VERIFY FILTER TYPE WITH ARCHITECT.
- PLUMBING FIXTURES, SINKS, TUBS & BATHROOM ACCESSORIES SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS. FIXTURE LAYOUT @ SINK LOCATIONS TO BE COORDINATED DURING THE SHOP DRAWING PROCESS FOR STONE WORK.



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DAI - SHEN REMODEL
161 ELM ROAD, BOLINAS, CA 94924
APN: 192-212-17

Title:
MECHANICAL,
ELECTRICAL,
LIGHTING &
SWITCHING PLAN

Revisions:	Date:
ISSUED FOR PERMITS	11.16.2021
ISSUED FOR SUBMITTAL REV 2	4.22.2022
ISSUED FOR SUBMITTAL REV 3	12.16.2022

Date:
11.16.2021
Scale:
AS NOTED
Sheet:
E.I.O

FASTENING SCHEDULE

THE FOLLOWING FASTENING SCHEDULE SHALL BE USED WHERE FASTENERS ARE NOT SPECIFIED EITHER IN THE GENERAL NOTES "ROUGH CARPENTRY" SECTION OR ON STRUCTURAL PLANS AND DETAIL SHEETS.

Table with columns for item number, description, and fastener specifications. Includes items for joist to sill, bridging, subfloor, studs, rafters, and various sheathing applications.

ABBREVIATIONS

Table mapping abbreviations (e.g., LOGN, LSL, LVL) to their full names (e.g., LOGN LOCATION, LSL LAMINATED STRAND LUMBER).

GENERAL NOTES (CONTINUED)

ROUGH CARPENTRY
1. STRUCTURAL LUMBER SHALL CONFORM TO THE FOLLOWING INCLIB MINIMUM GRADES AND SHALL BE DOUGLAS FIR, NO. 1.
2. NO SUBSTITUTIONS SHALL BE MADE WITHOUT PRIOR APPROVAL.
3. MOISTURE CONTENT SHALL MEET THE FOLLOWING LIMITS: 'DRY' FOR VERTICAL FRAMING (18% MAXIMUM). FINISHES SHALL NOT BE INSTALLED OVER DIMENSIONAL LUMBER FRAMING UNTIL MOISTURE CONTENT IS BELOW 12% MAXIMUM.

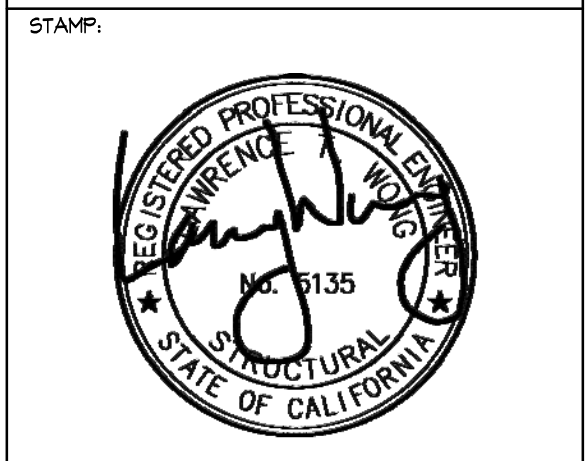
GENERAL NOTES

GENERAL
1. DESIGN IS BASED ON THE 2019 EDITION OF THE CALIFORNIA BUILDING CODE. MATERIALS AND WORKMANSHIP TO CONFORM WITH THE APPLICABLE SECTIONS OF THIS CODE AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
2. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, USE SIMILAR DETAILS OF CONSTRUCTION, SUBJECT TO REVIEW BY THE OWNER'S REPRESENTATIVE.

L Wong Engineering logo and contact information (485 14th Street, San Francisco, CA 94103). Includes a vertical title 'DAI - SHEN RESIDENCE' and project details.

DESIGN LIVE LOADS table (ROOF LIVE 20 PSF, FLOOR LIVE 40 PSF, DECK LIVE 60 PSF). EARTHQUAKE DESIGN DATA table (Seismic force-resisting systems, analysis procedure). WIND DESIGN DATA (Basic wind speed 92 MPH, Exposure Category D). SPECIAL INSPECTIONS (Independent special inspector, concrete strength, welds). STRUCTURAL OBSERVATIONS (Engineer of record to perform structural observation).

CONCRETE (Concrete shall be normal weight and shall be reinforced unless otherwise noted). REINFORCING STEEL (Reinforcing steel shall conform to ASTM A615, grade 60). STRUCTURAL STEEL (Details and workmanship shall be in accordance with the latest AISI standard specifications).



TITLE: GENERAL NOTES ABBREVIATIONS & FASTENING SCHEDULE

JOB NUMBER: 21044

SHEET:

S0.1

AGENCY APPROVAL STAMPS:

DATE: 10-26-21
 ISSUE: PERMIT SET

DAI - SHEN RESIDENCE
 OWNERS: HENRY DAI & DAN SHEN
 APN: 192-212-17
 161 ELM ROAD
 BOLINAS, CA 94924

STAMP:

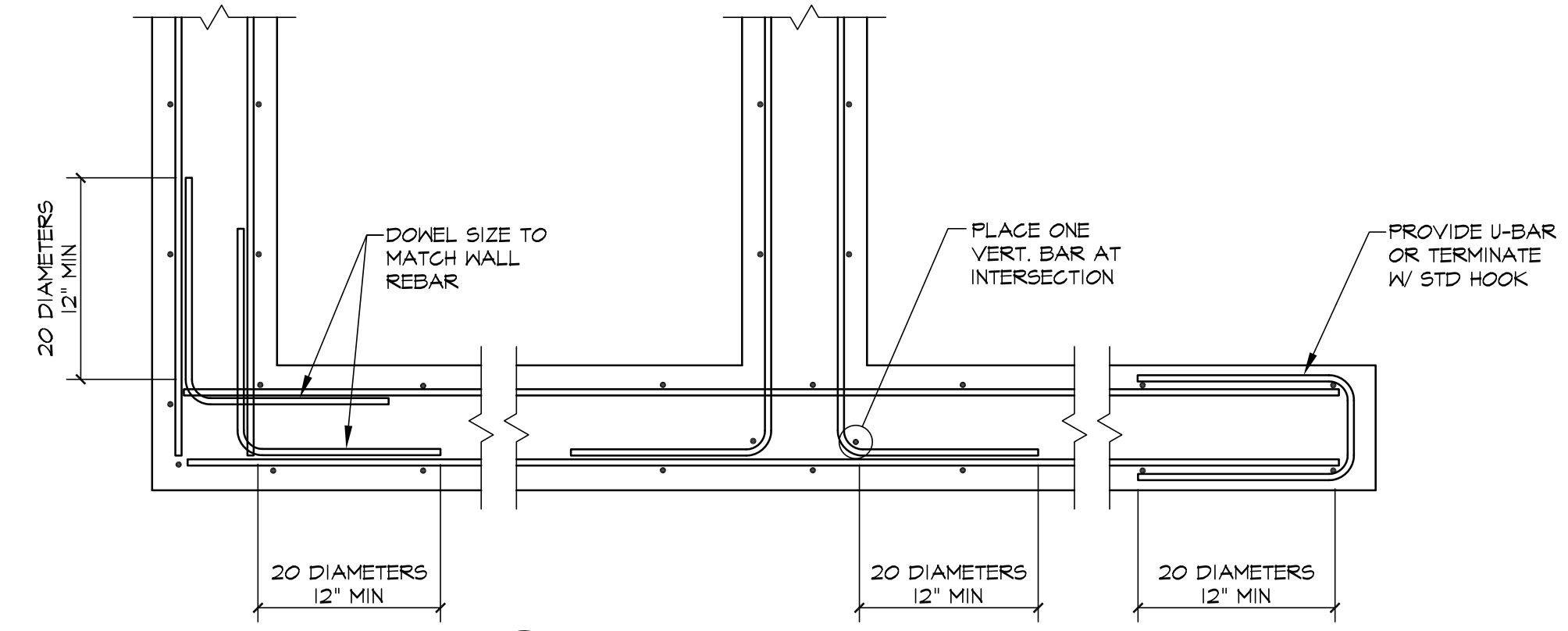


TITLE:
TYPICAL CONCRETE DETAILS

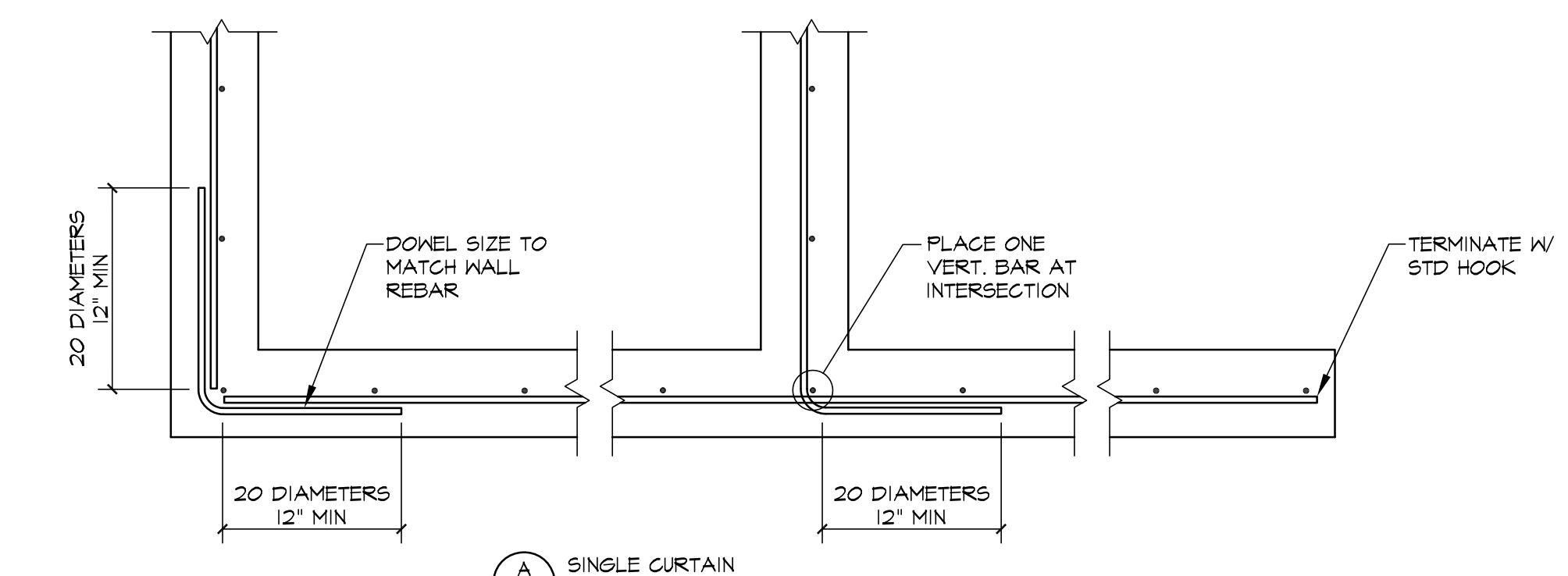
JOB NUMBER: 21044

SHEET:

S0.2

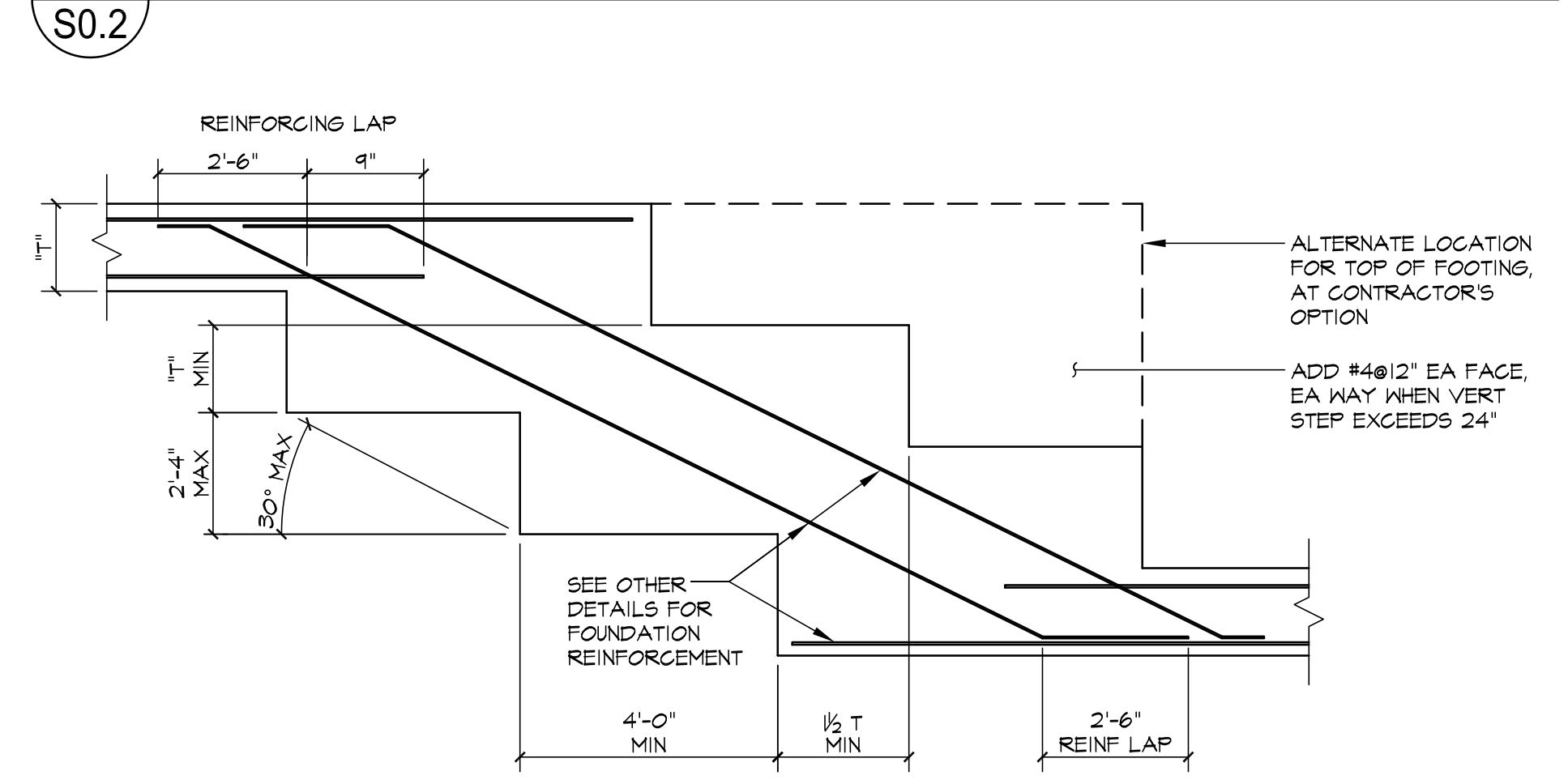


B DOUBLE CURTAIN

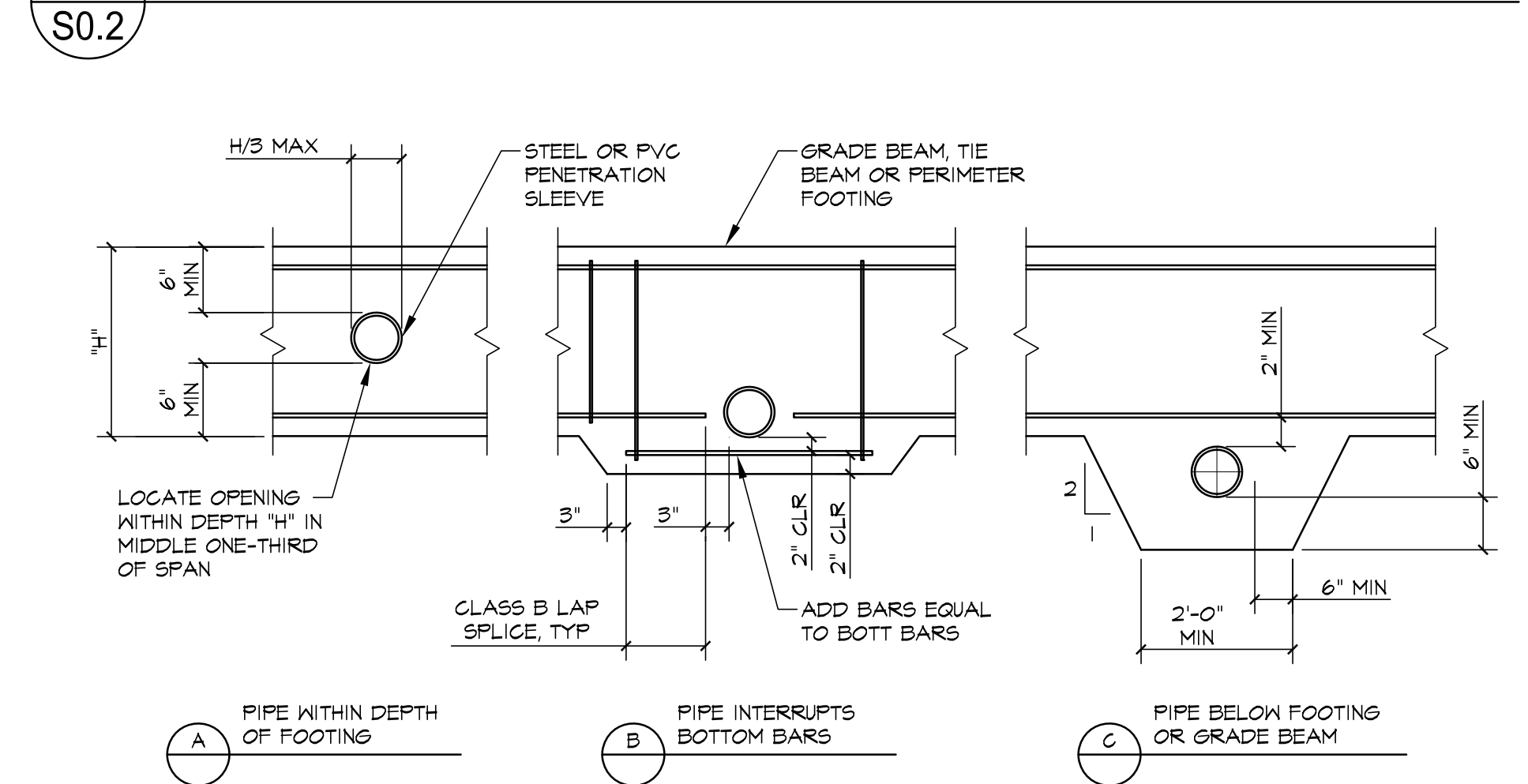


A SINGLE CURTAIN

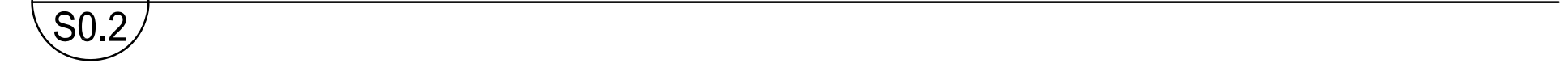
3 CONCRETE WALL INTERSECTION



2 STEPPED FOOTING DETAIL

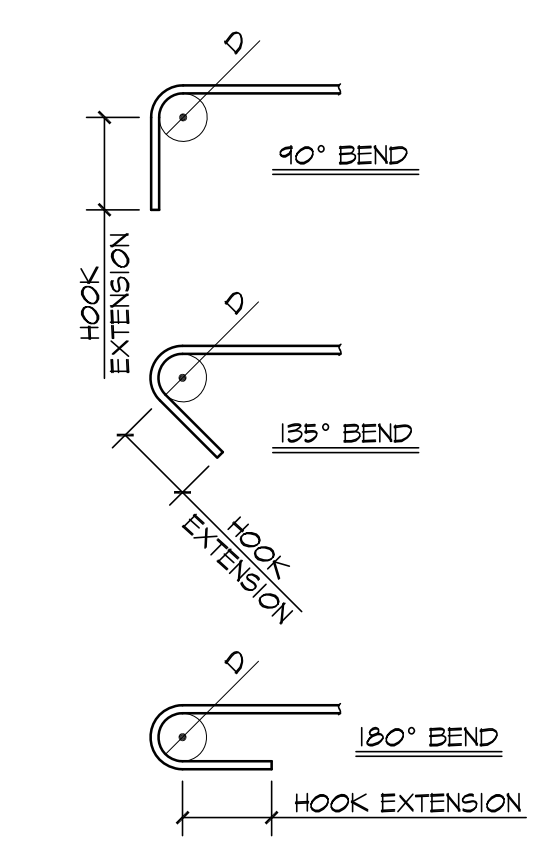


1 PIPE CLEARANCE IN FOUNDATION



HOOK EXTENSION LENGTHS

BAR SIZE	STANDARD		STIRRUP & TIE HOOKS	
	90°	180°	90°	135°
#3	4.5"	2.5"	2.25"	2.25"
#4	6"	2.5"	3"	3"
#5	7.5"	2.5"	3.75"	3.75"
#6	9"	3"	4"	4.5"
#7	10.5"	3.5"	10.5"	5.25"
#8	12"	4"	12"	6"
#9	13.5"	4.5"	-	-
#10	15"	5"	-	-
#11	16.5"	5.5"	-	-

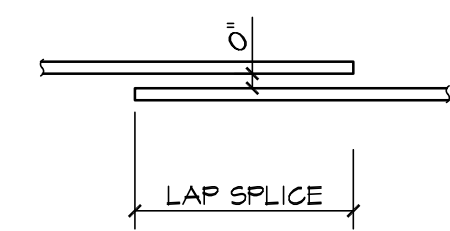


STANDARD HOOK BEND DIAMETER
 #3 THROUGH #8: D=6d
 #9, #10, #11: D=8d

STIRRUP & TIE BEND DIAMETER
 #3 THROUGH #5: D=4d
 #6 THROUGH #8: D=6d
 WHERE d=BAR DIAMETER
 D=INSIDE DIAMETER OF BEND

6 HOOK LENGTHS

S0.2



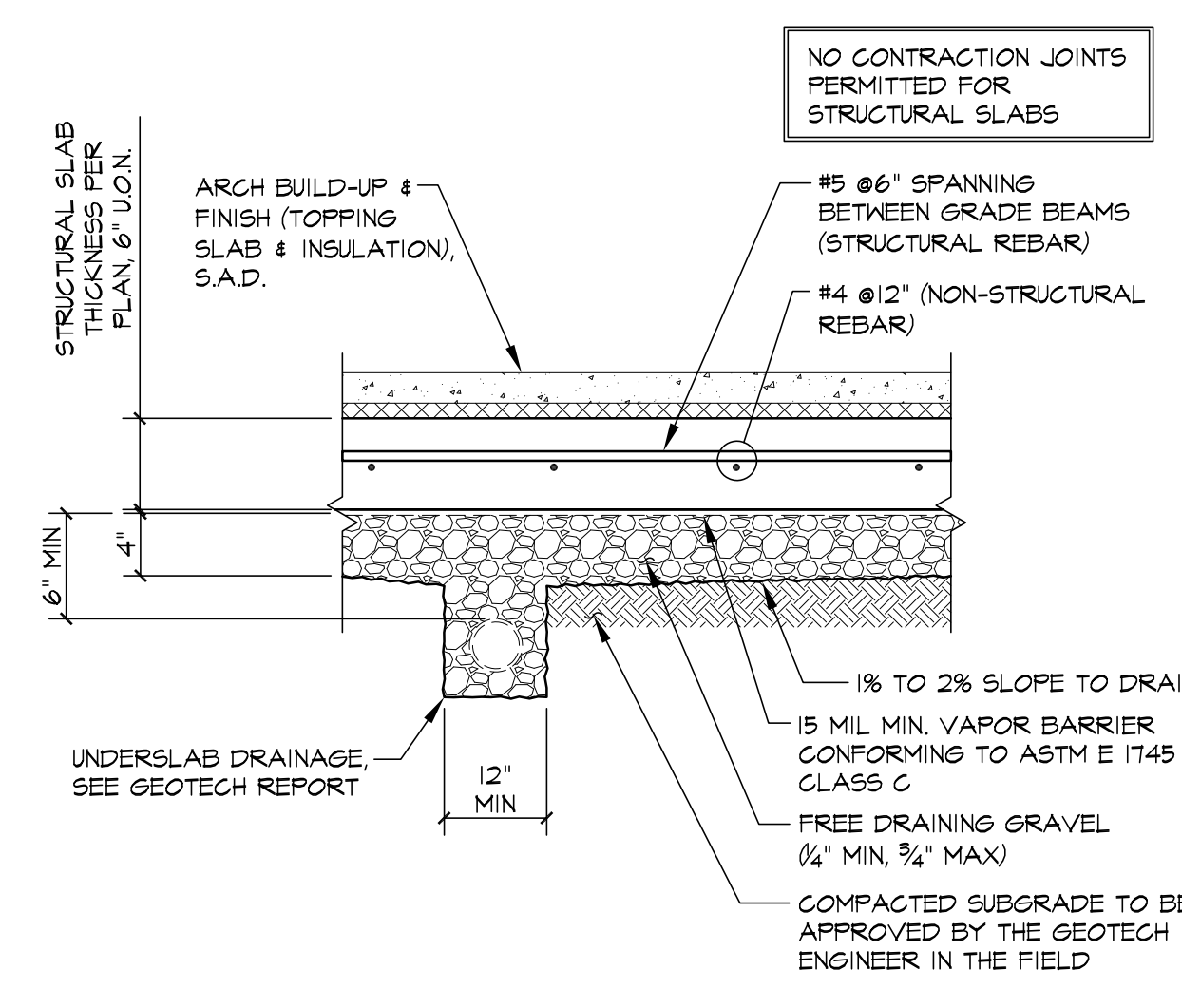
COMPRESSION STRENGTH (F'c) 2,500 PSI OR 3,000 PSI

BAR SIZE	CLASS 'B' LAP SPLICE		DEVELOPMENT LENGTH	
	TOP BARS	OTHER	TOP BARS	OTHER
#3	30"	21"	23"	16"
#4	39"	28"	30"	22"
#5	49"	36"	37"	27"
#6	59"	43"	48"	32"
#7	81"	62"	62"	48"
#8	93"	71"	78"	56"
#9	104"	80"	100"	71"

NOTES:
 1. REINFORCEMENT SPLICES SHALL BE STAGGERED U.O.N.
 2. LAP SPLICE LENGTHS ARE BASED ON GRADE 60 STEEL AND NORMAL WEIGHT AGGREGATE FOR CONCRETE.
 3. TOP BARS ARE BARS WITH MORE THAN 12" OF CONCRETE Poured BELOW THE BARS.

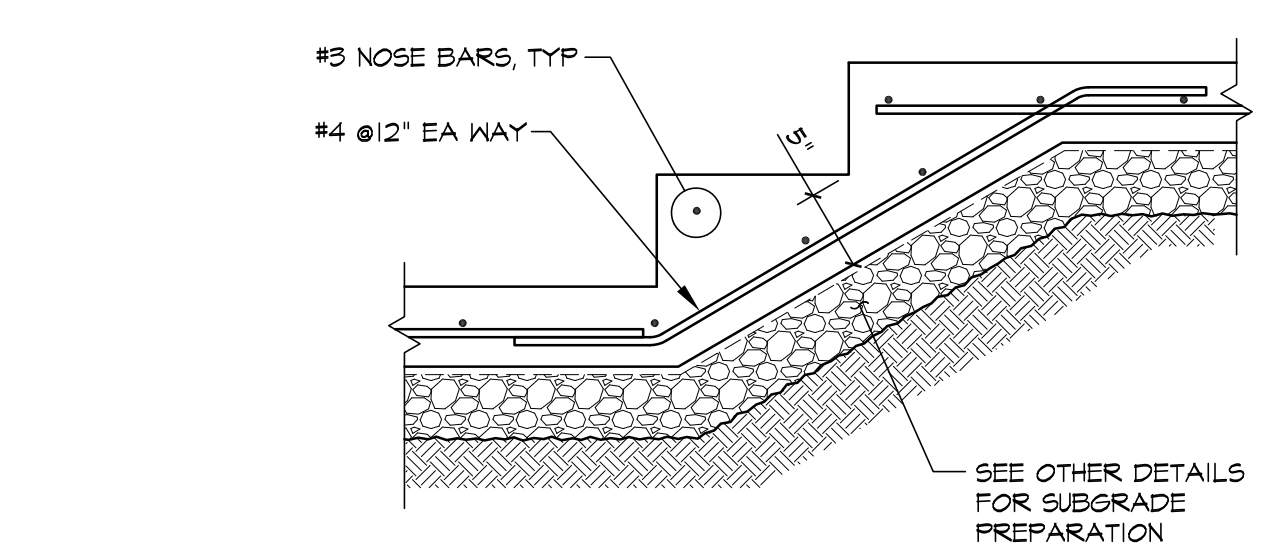
5 REBAR DEVELOPMENT AND LAP LENGTH

S0.2



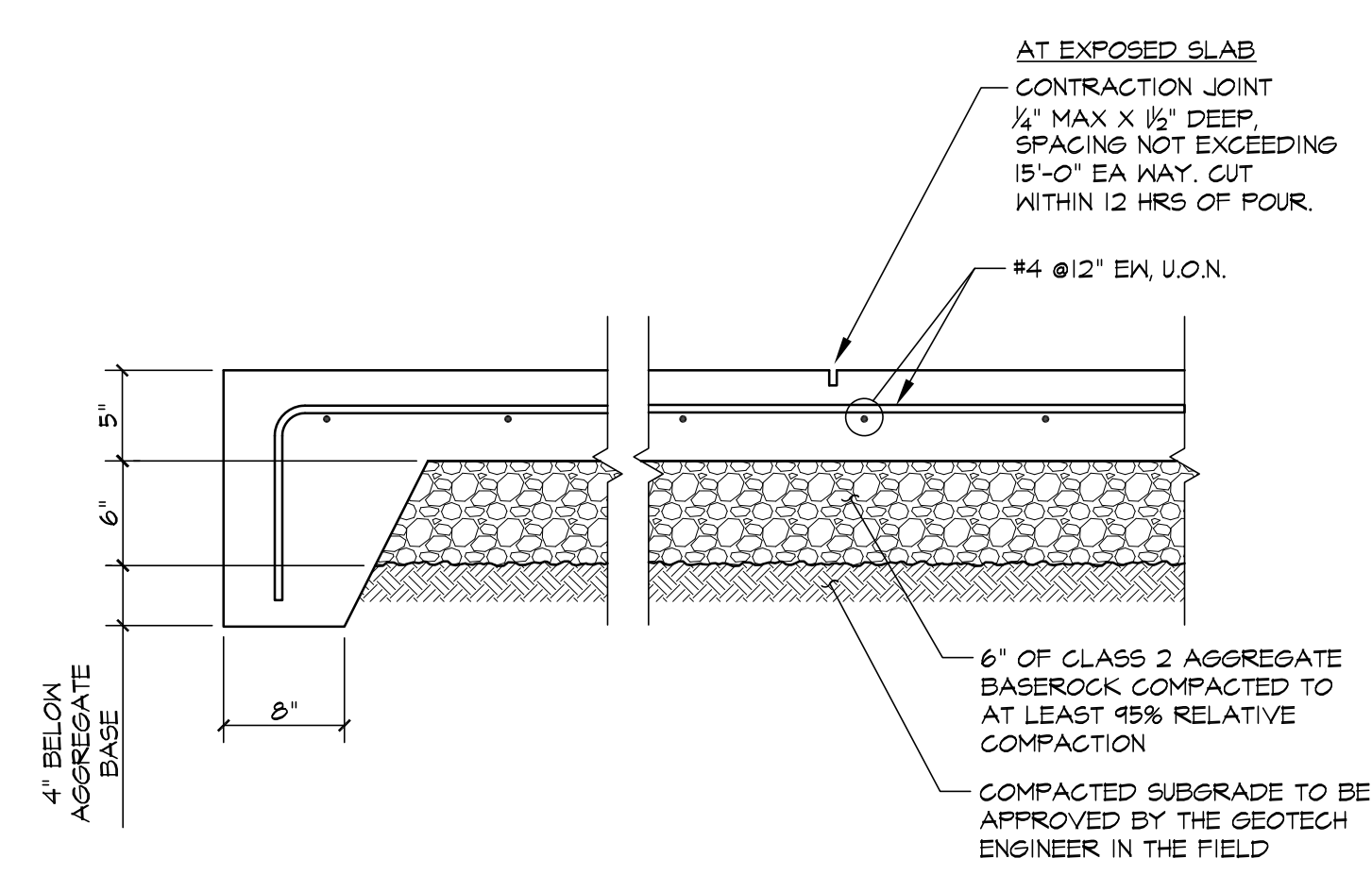
4 INTERIOR SLAB ON GRADE

S0.2



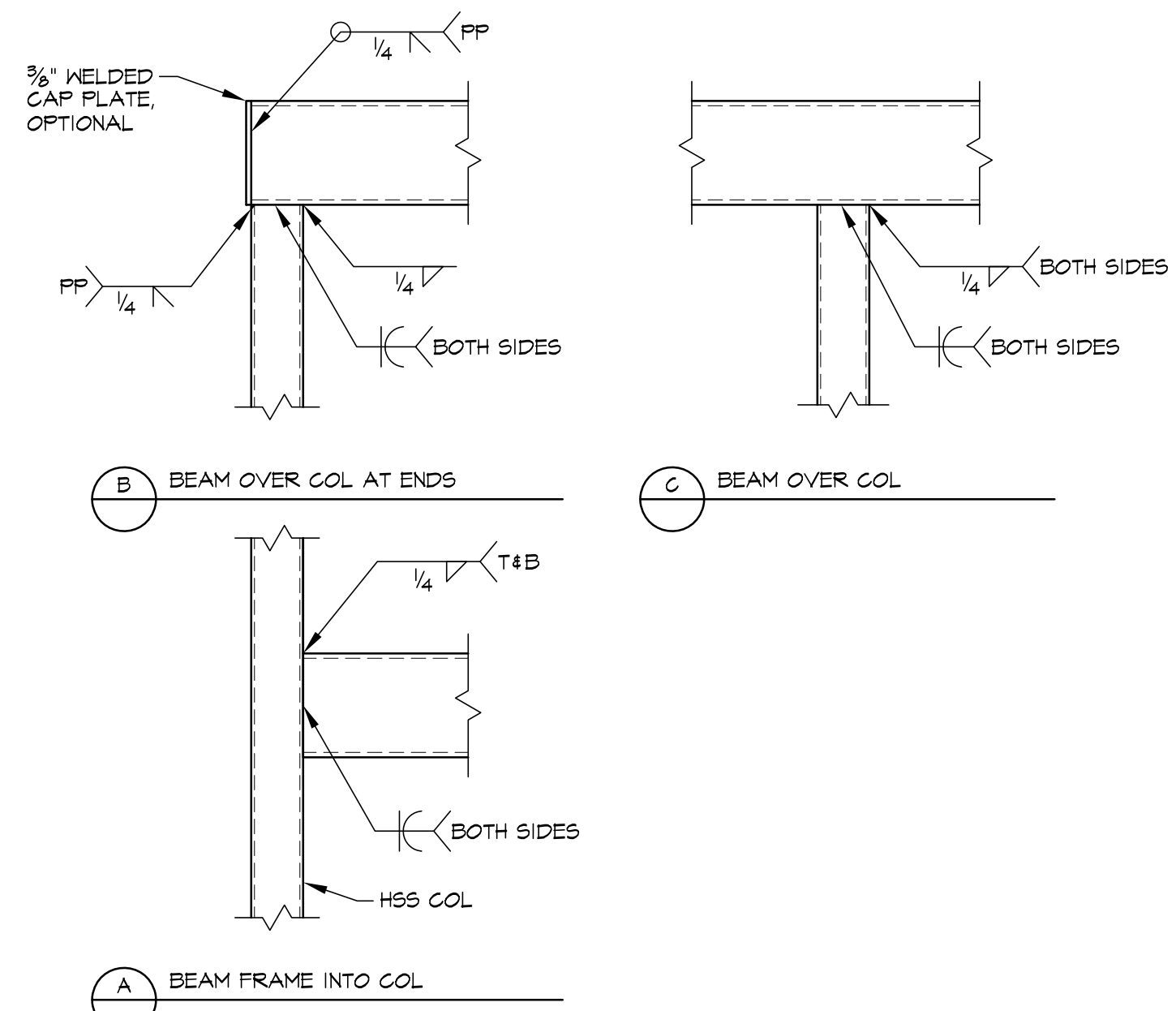
8 STAIRS ON GRADE

S0.2

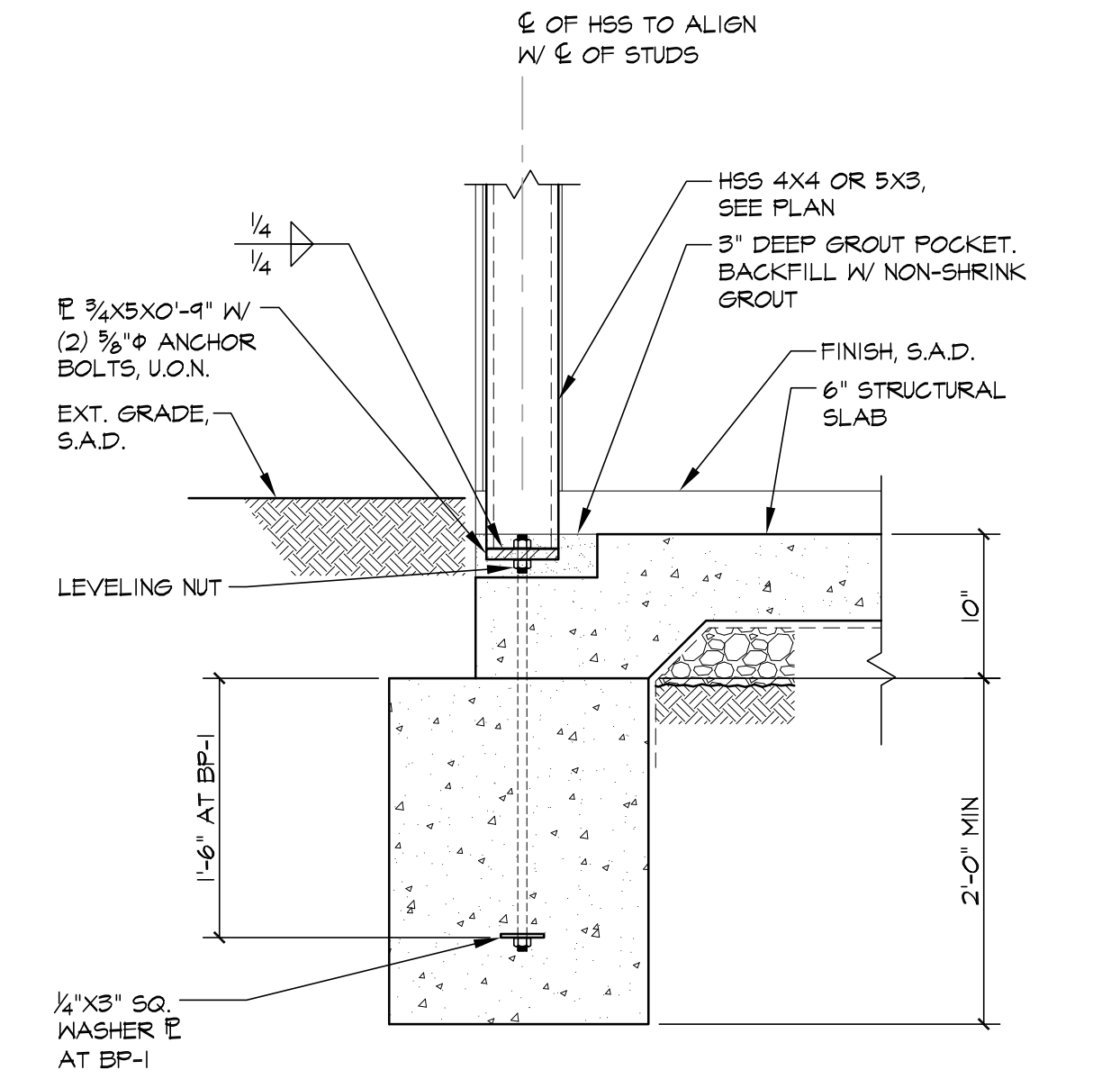


7 EXTERIOR "FLOATING" SLAB ON GRADE

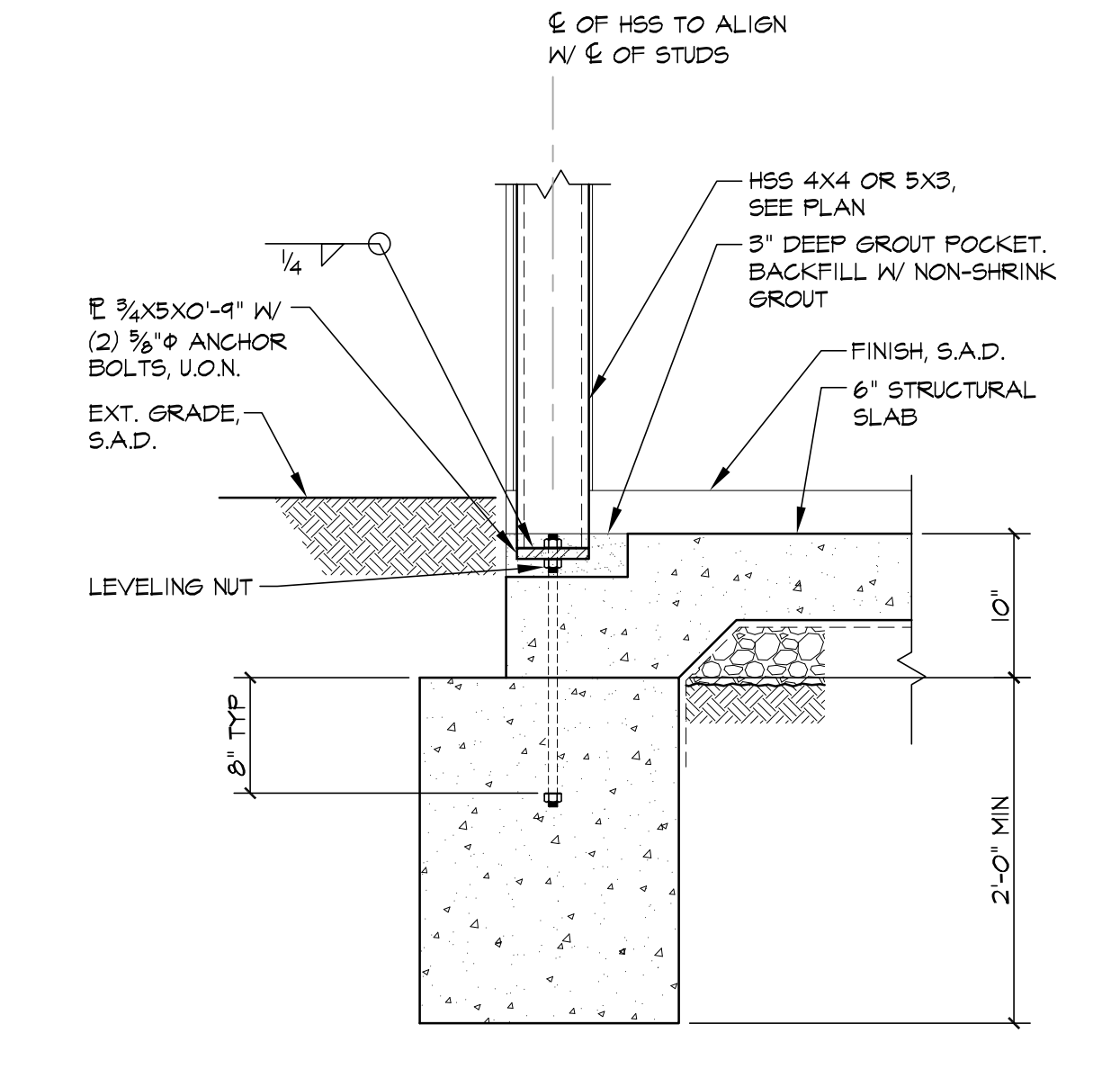
S0.2



9 HSS TO HSS WELDED CONNECTION
S0.3

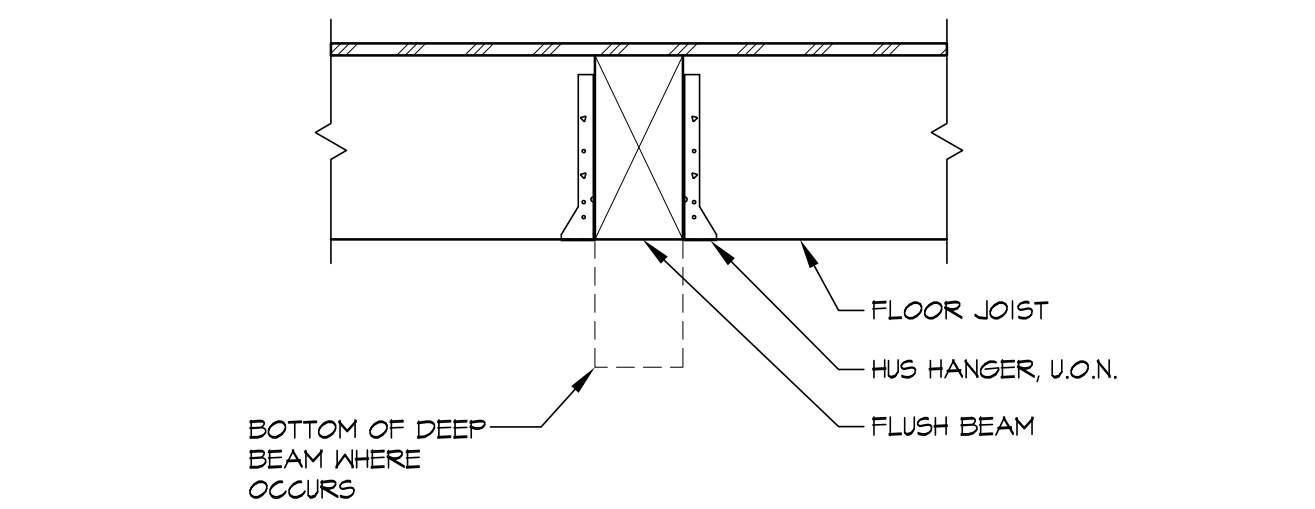


BASE PLATE MARKER	COLUMN SIZE	BASE PLATE CONFIGURATION	REMARKS
BP-1	HSS 5x3x3/8		HSS ALSO ACTS AS HOLDOWN FOR SHEAR WALL

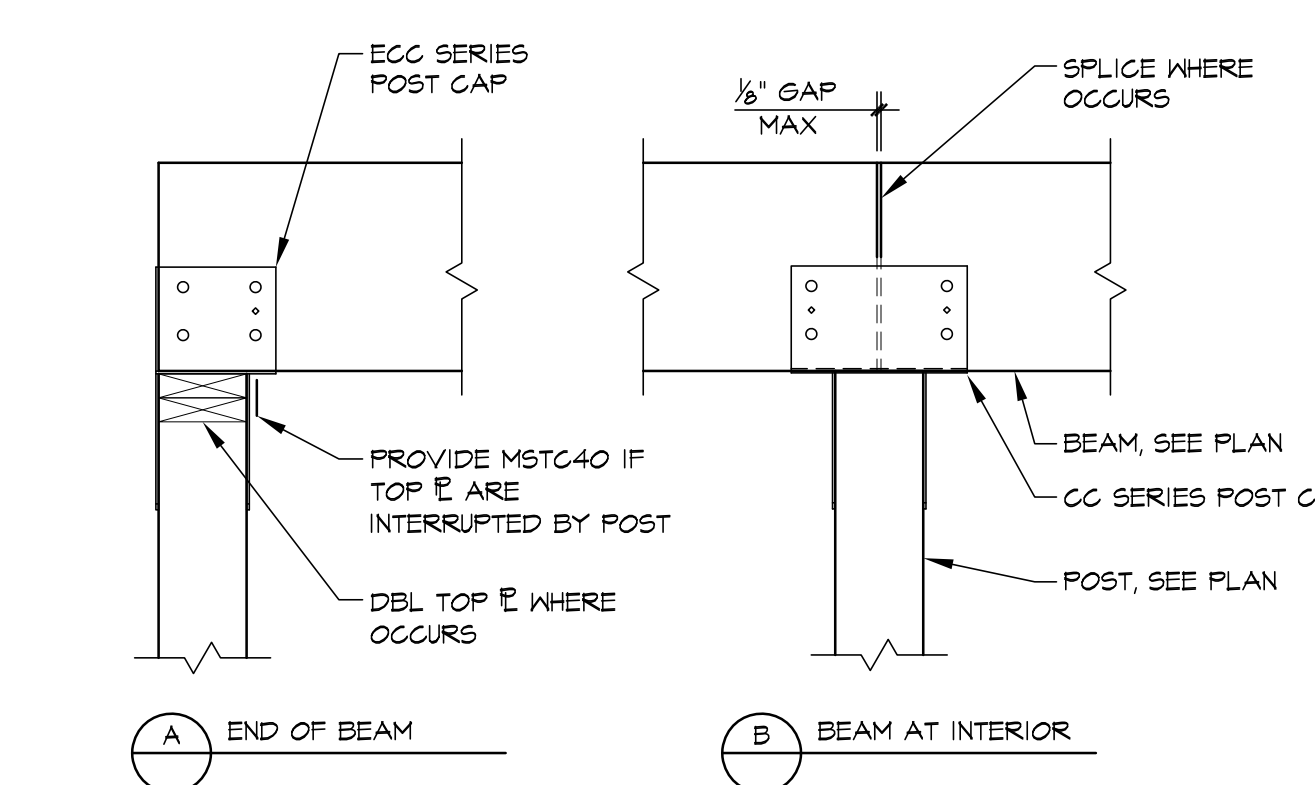


BASE PLATE MARKER	COLUMN SIZE	BASE PLATE CONFIGURATION	REMARKS
BP-2	HSS 5x3x3/8		
BP-3	HSS 5x3x3/8		
BP-4	HSS 4x4x1/2		

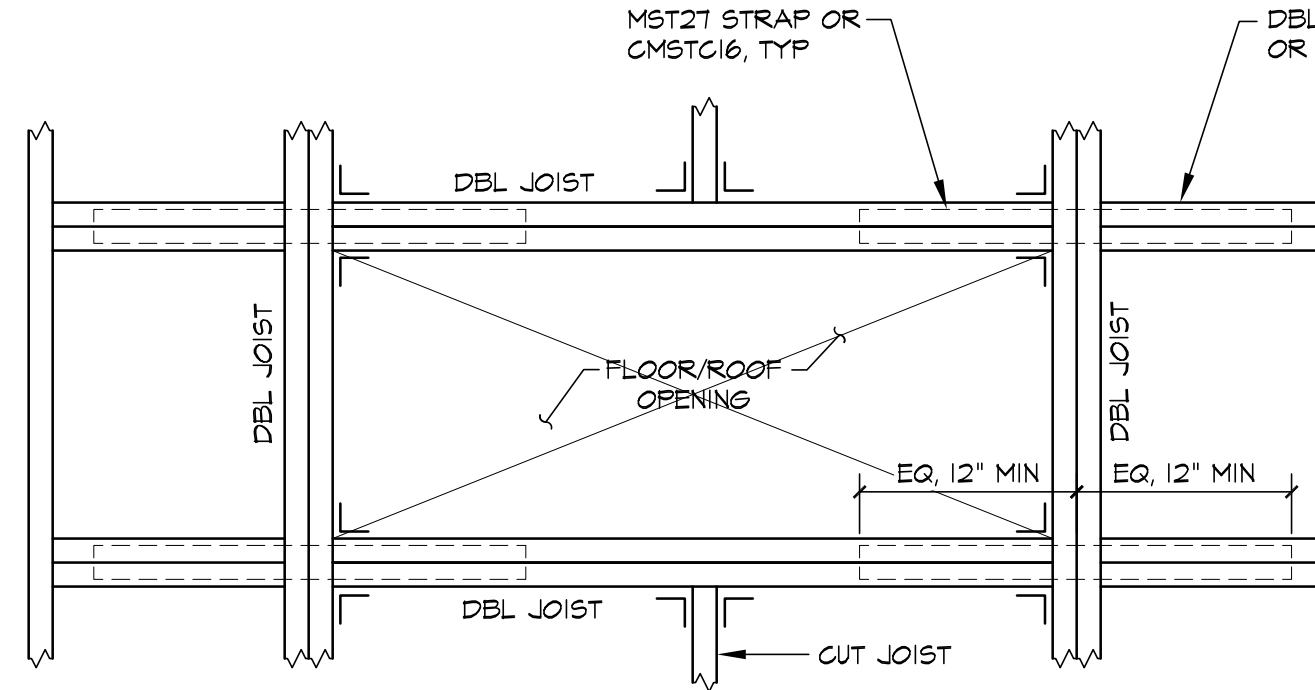
8 HSS COLUMN BASE PLATE
S0.3



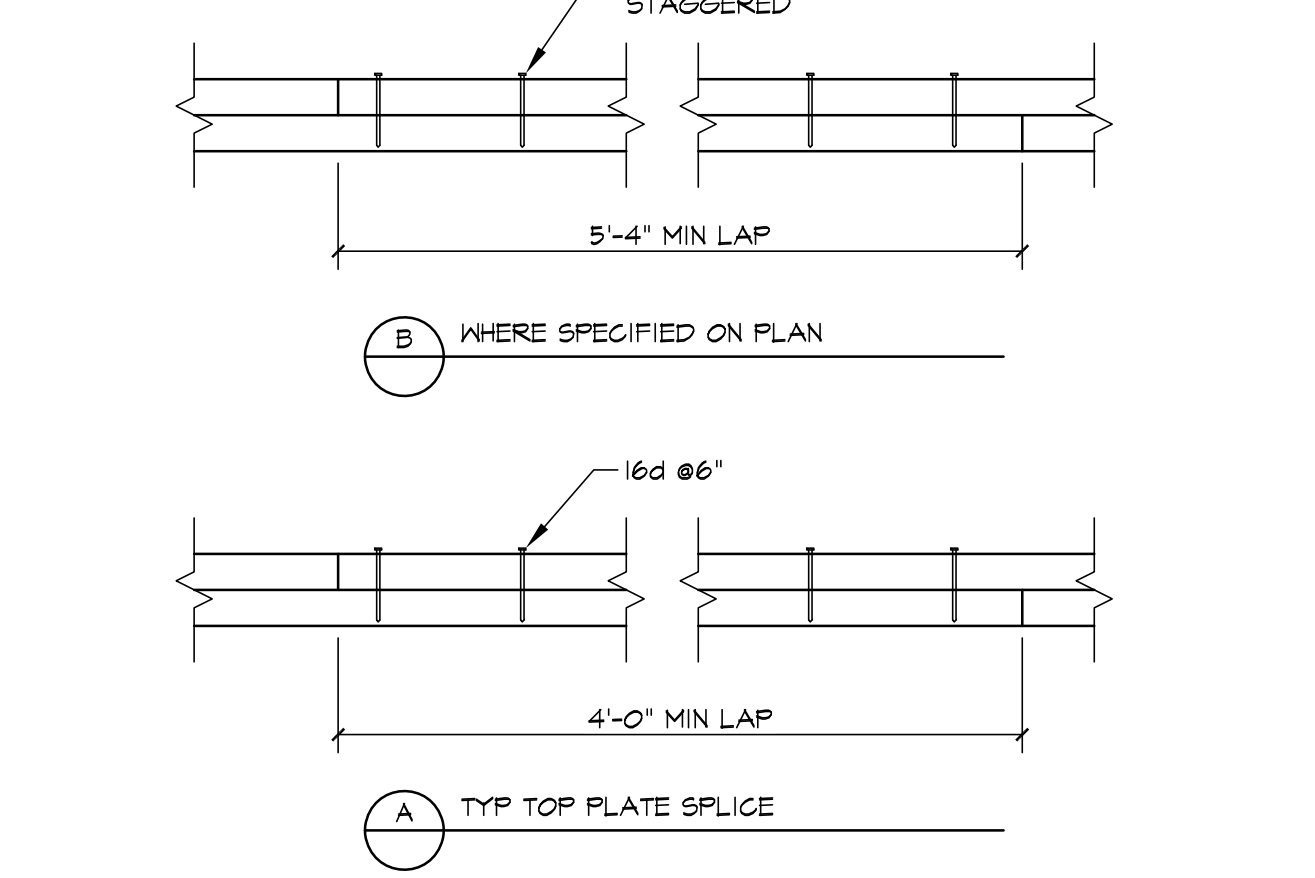
7 WOOD FLUSH BEAM
S0.3



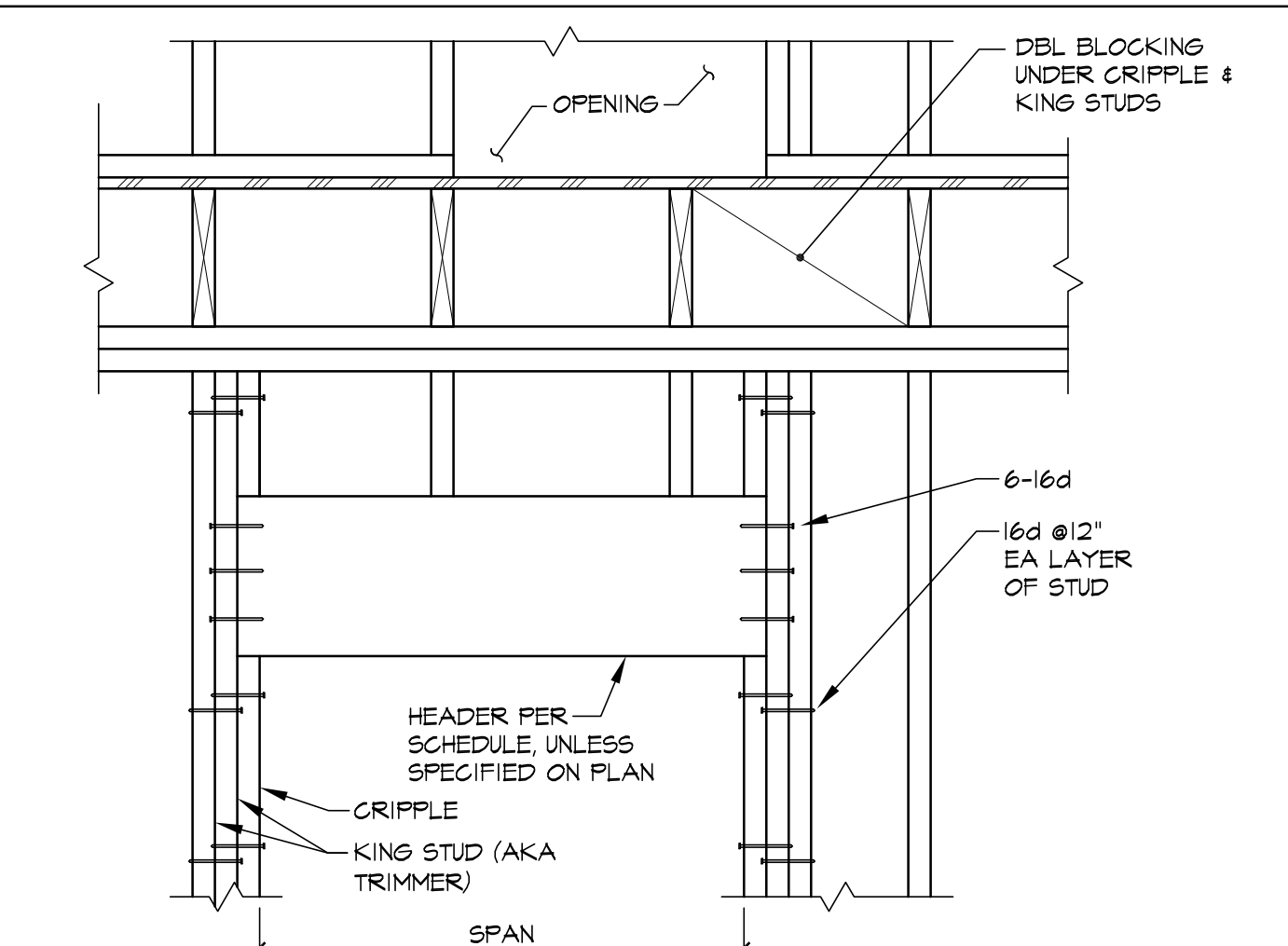
6 WOOD BEAM TO POST CONNECTION
S0.3



5 OPENINGS IN FLOOR OR ROOF
S0.3



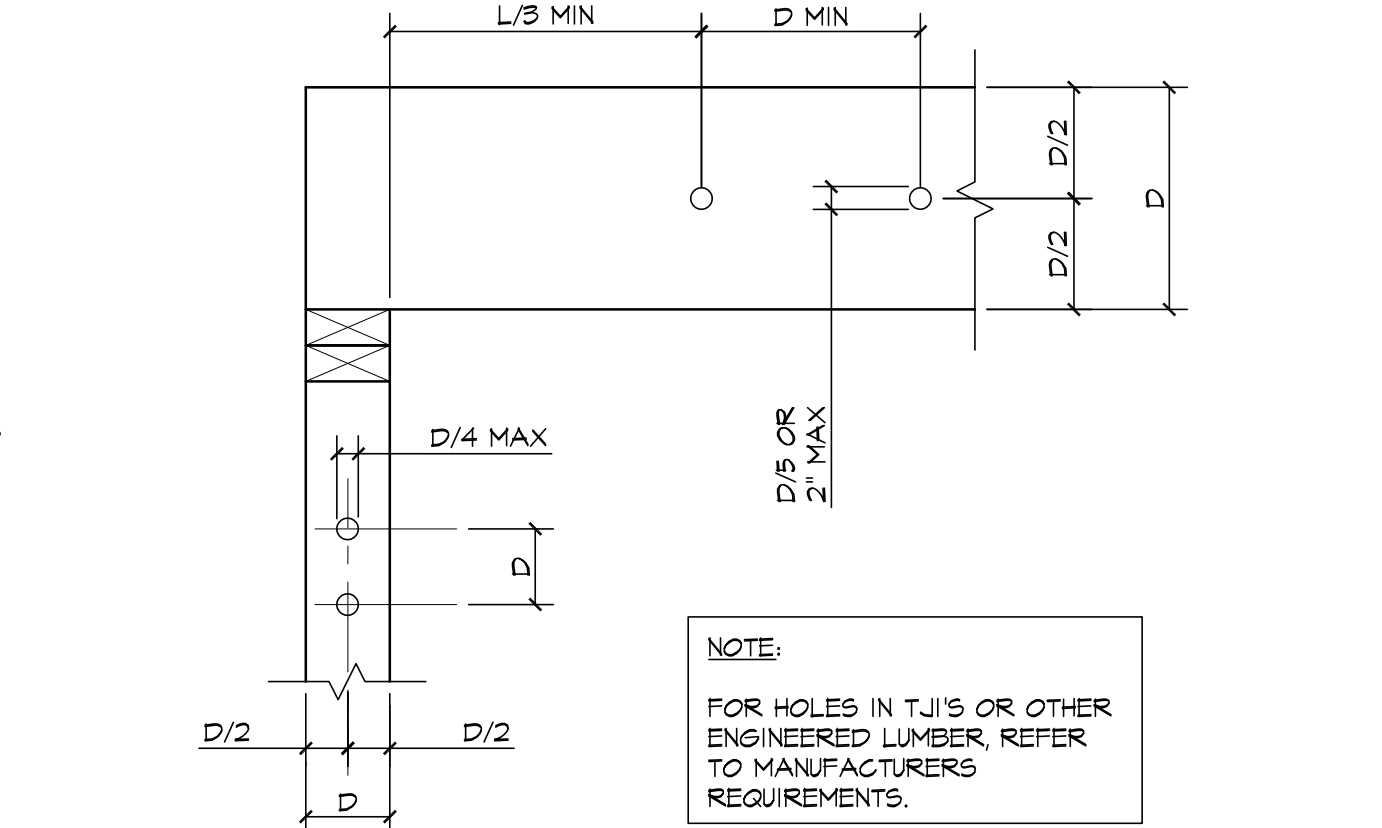
4 TOP PLATE SPLICE
S0.3



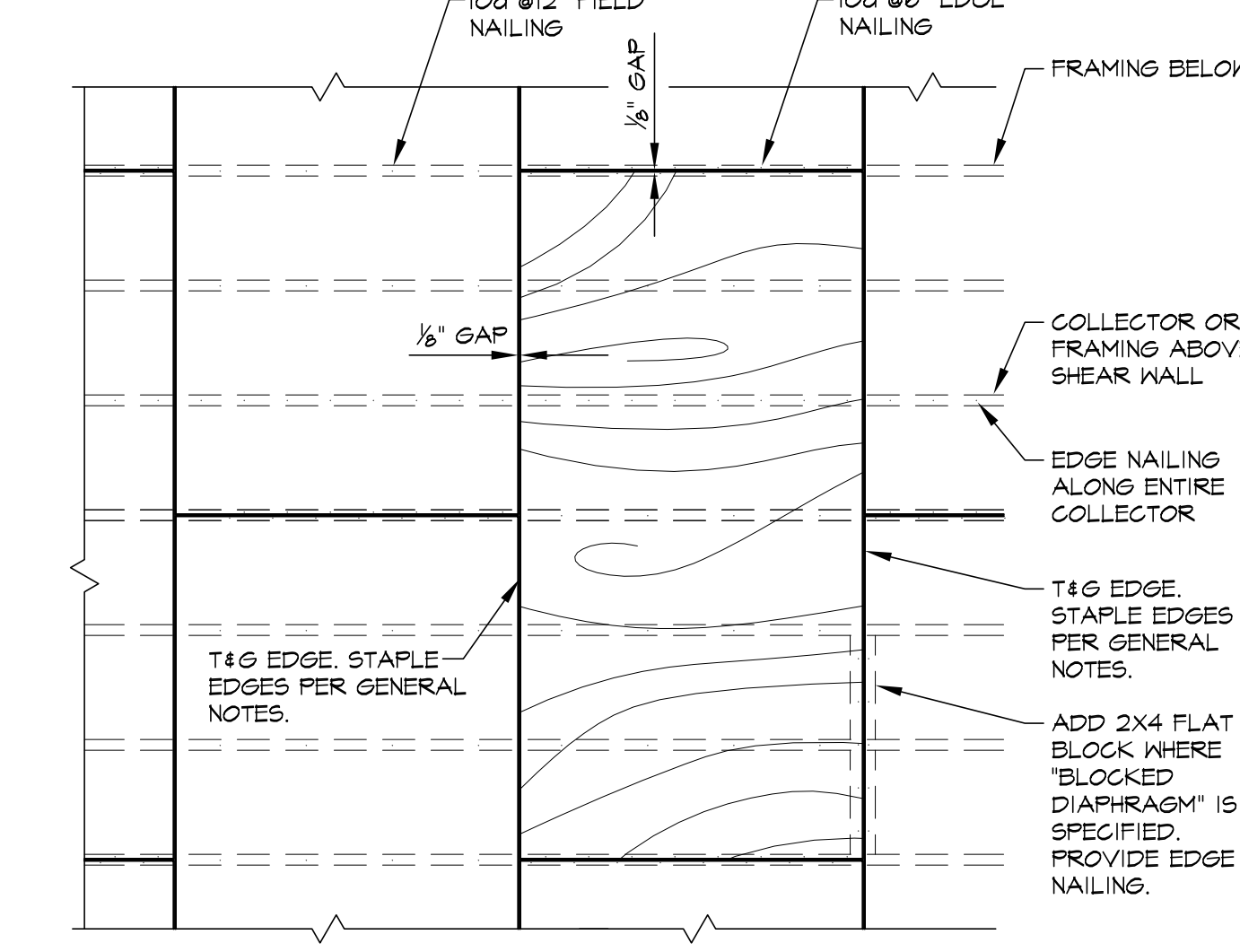
MAX SPAN	2X4 WALL			2X6 WALL		
	HEADER SIZE	TRIMMER	KING STUDS	HEADER SIZE	TRIMMER	KING STUDS
4 FT	4X4	2X4	2X4	4X6 FLAT	2X6	2X6
6 FT	4X6	2X4	2X4	6X6	2X6	2X6
8 FT	4X8	2-2X4	2-2X4	6X8	2-2X6	2-2X6
10 FT	4X10	2-2X4	2-2X4	6X10	2-2X6	2-2X6
12 FT	4X12	2-2X4	2-2X4	6X12	2-2X6	2-2X6

NOTE: SEE ROOF OR FLOOR PLANS FOR SPECIFIC HEADER SIZES, WHERE SPECIFIC HEADER SIZES ARE CALLED OUT ON PLANS, USE THOSE SPECIFIED INSTEAD.

3 DROPPED HEADER FRAMING
S0.3



2 ALLOWABLE HOLES IN STUDS OR JOISTS
S0.3



NOTES:
1. SEE GENERAL NOTES FOR ADDITIONAL SPECIFICATIONS AND REQUIREMENTS.
2. LAY FACE GRAIN ACROSS RAFTERS OR JOISTS AND STAGGER SHEETS.
3. NO UNBLOCKED PANELS LESS THAN 12\"/>

1 FLOOR OR ROOF PLYWOOD SHEATHING
S0.3 PLAN VIEW

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AGENCY APPROVAL STAMPS:

DATE: 10-26-21 ISSUE: PERMIT SET

DAI - SHEN RESIDENCE
OWNERS: HENRY DAI & DAN SHEN
APN: 192-212-17
161 ELM ROAD
BOLINAS, CA 94924

STAMP: REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF CALIFORNIA No. 6135

TITLE: TYPICAL WOOD & STEEL DETAILS

JOB NUMBER: 21044 SHEET:

S0.3

AGENCY APPROVAL STAMPS:

DATE	ISSUE
10-26-21	PERMIT SET
04-22-22	MARIN BLDG RESUBMITAL REV 2
12-13-22	MARIN BLDG RESUBMITAL REV 3

DAI - SHEN RESIDENCE
OWNERS: HENRY DAI & DAN SHEN
APN: 192-212-17
161 ELM ROAD
BOLINAS, CA 94924

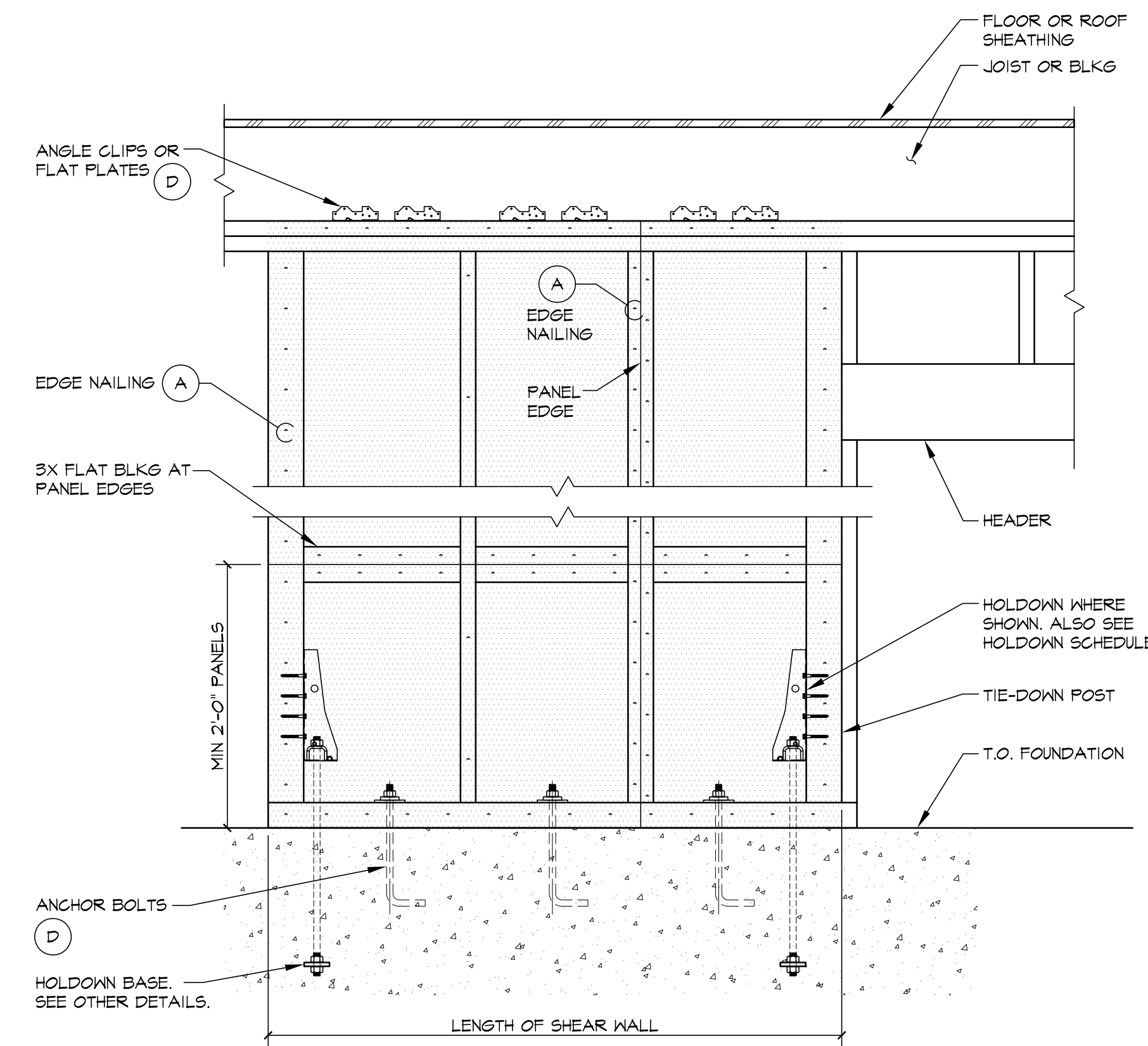


TITLE:
TYPICAL SHEAR WALL & HOLDOWN DETAILS

JOB NUMBER: 21044

SHEET:

S0.4

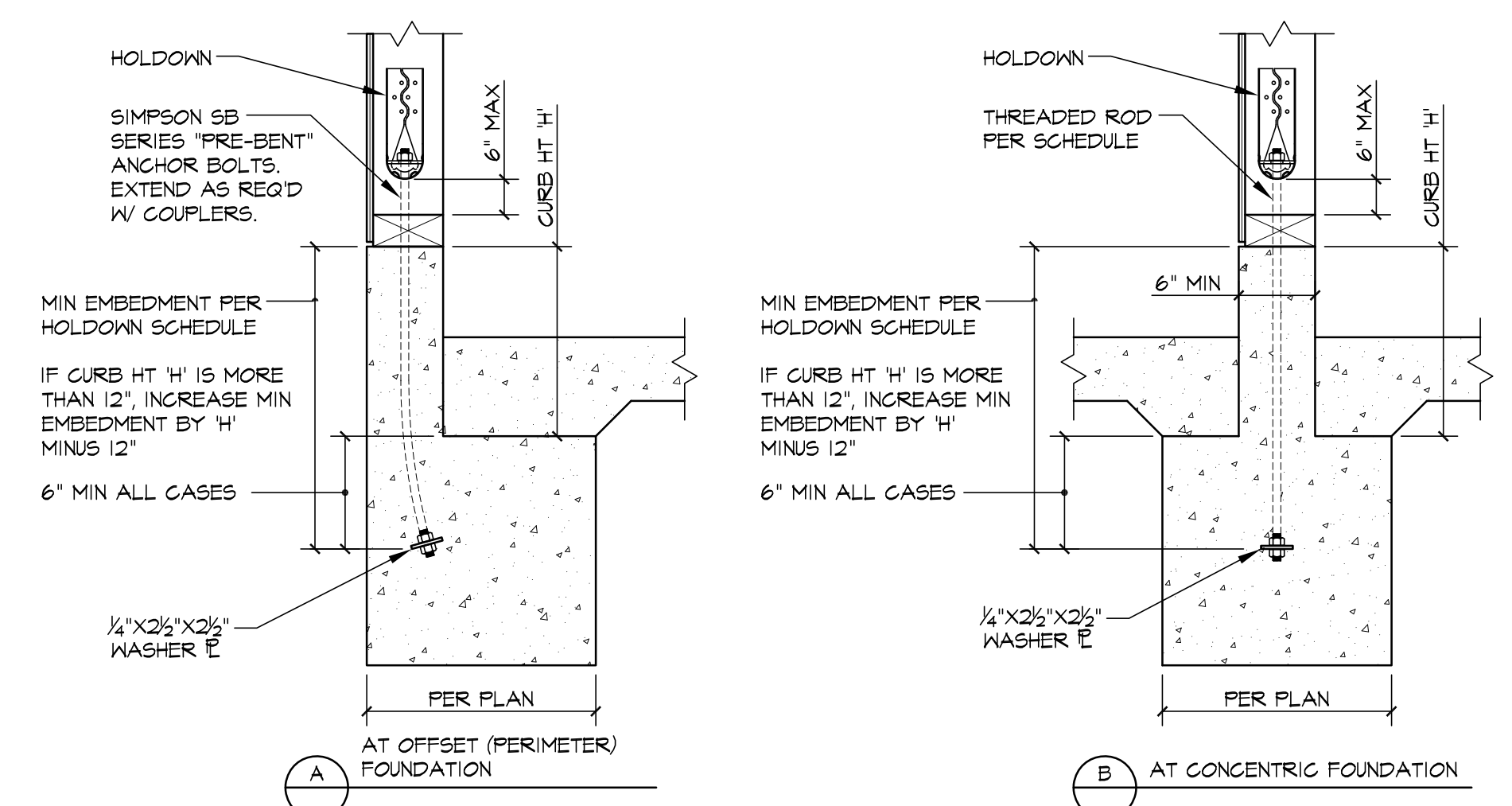


2 SHEAR WALL SCHEMATIC ELEVATION
S0.4

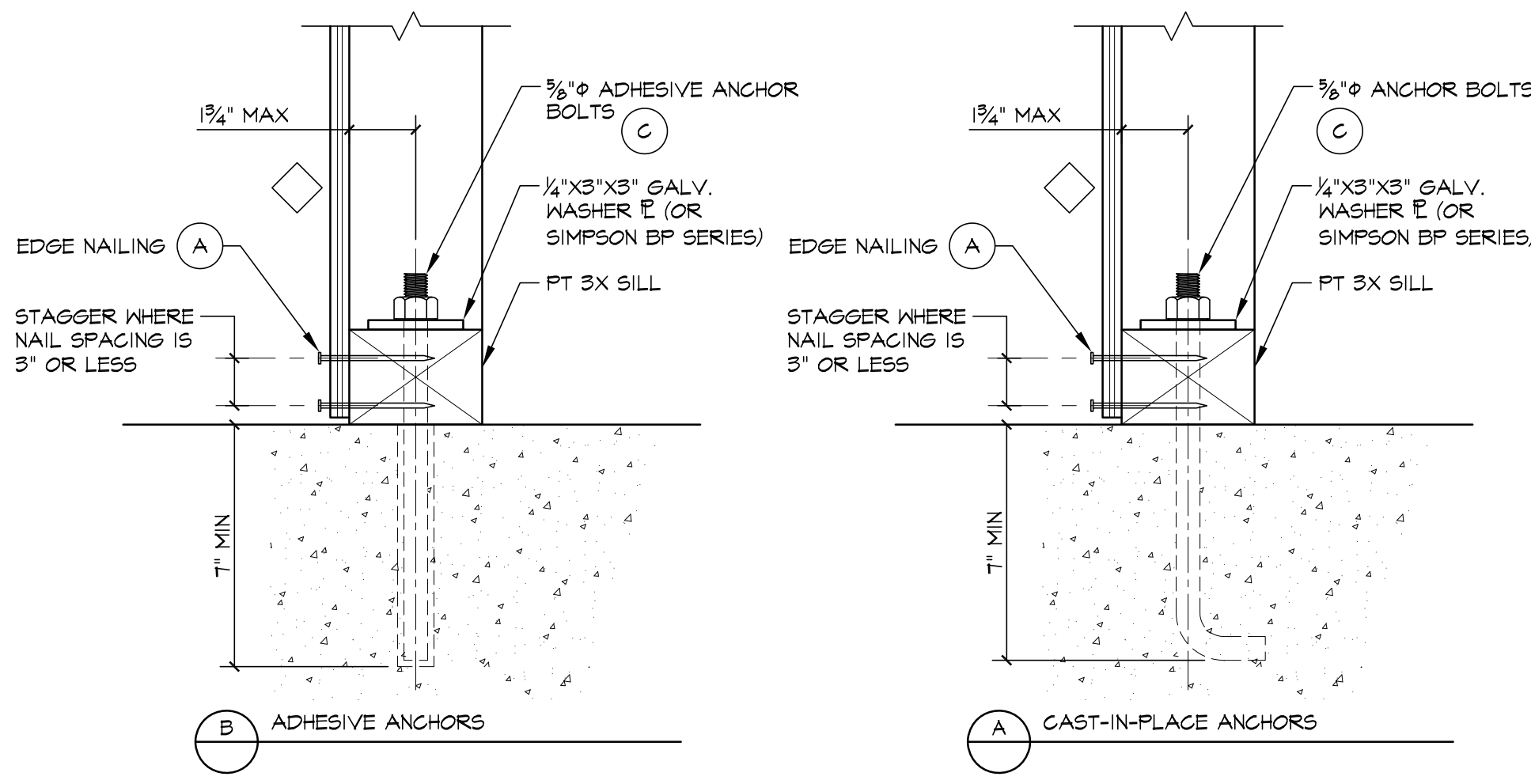
SYMBOL	ALLOWABLE SHEAR (PLF)	SHEATHING MATERIAL	MIN STUD AT PANEL EDGES	FOUNDATION MUD SILL	EDGE NAILING	FIELD NAILING	FLOOR SILL		ANCHOR BOLTS	CLIPS
							NAILS	SDS SCREWS		
6	340	3/8\"/>								
4	510		3X	3X PT	10d@4'	10d@12'	6-20d@16'	3@16'	3/8\"/>	
3	665		3X	3X PT	10d@3'		6-20d@16'	4@16'	3/8\"/>	
2	870	3X	3X PT	10d@2'	4-20d@16'		5@16'	3/8\"/>		
4	1020	3/8\"/>								
3	1350		3X	3X PT	10d@3'	10d@12'	12-20d@16'	6@16'	3/8\"/>	
2	1740		3X	3X PT	10d@2'		12-20d@16'	6@16'	3/8\"/>	
2	1740	3X	3X PT	10d@2'	16-20d@16'		8@16'	3/8\"/>		

- NOTES:**
- ALL NAILS SHALL BE COMMON NAILS, U.O.N. SUBSTITUTIONS MUST BE APPROVED BY ENGINEER.
 - PROVIDE FLAT BLOCKING AT UNSUPPORTED PLYWOOD EDGES. USE 3X4 FOR ONE ROW & 3X6 FOR TWO ROWS.
 - FOUNDATION SILLS SHALL BE PRESSURE-TREATED DOUG-FIR, WITH A MINIMUM OF 2 BOLTS PER PIECE OF SILL. SILL SHALL BE BOLTED TO FOUNDATION W/ MIN 3X3/4\"/>
 - A35 OR LTP4 CLIPS SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE COMPANY.
 - ALL SCREWS SHALL BE SDS 1/8\"/>
 - IF SHEAR WALL SYMBOL APPEARS ON BOTH SIDES OF WALL ON PLAN, SHEAR WALL IS SHEATHED WITH PLYWOOD ON BOTH SIDES. ALL NAILING REQUIREMENTS APPLY TO EACH SIDE.
 - WHERE PLYWOOD IS APPLIED ON BOTH FACES OF A WALL, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS.
 - NAILS OR SCREWS PENETRATING PRESSURE-TREATED WOOD SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.
 - DO NOT SPACE NAILS ANY CLOSER THAN 2\"/>
 - DO NOT DRIVE NAILS THROUGH FACE LAYER OF PLYWOOD.
 - DO NOT SPLIT LUMBER. ANY STRUCTURAL LUMBER SPLIT DUE TO NAILING SHALL BE REPLACED. IF REQUIRED, PRE-DRILL NAIL HOLES TO AVOID SPLITTING.

1 SHEAR WALL SCHEDULE
S0.4



5 HOLDOWN EMBEDMENT IN (N) FOUNDATION
S0.4

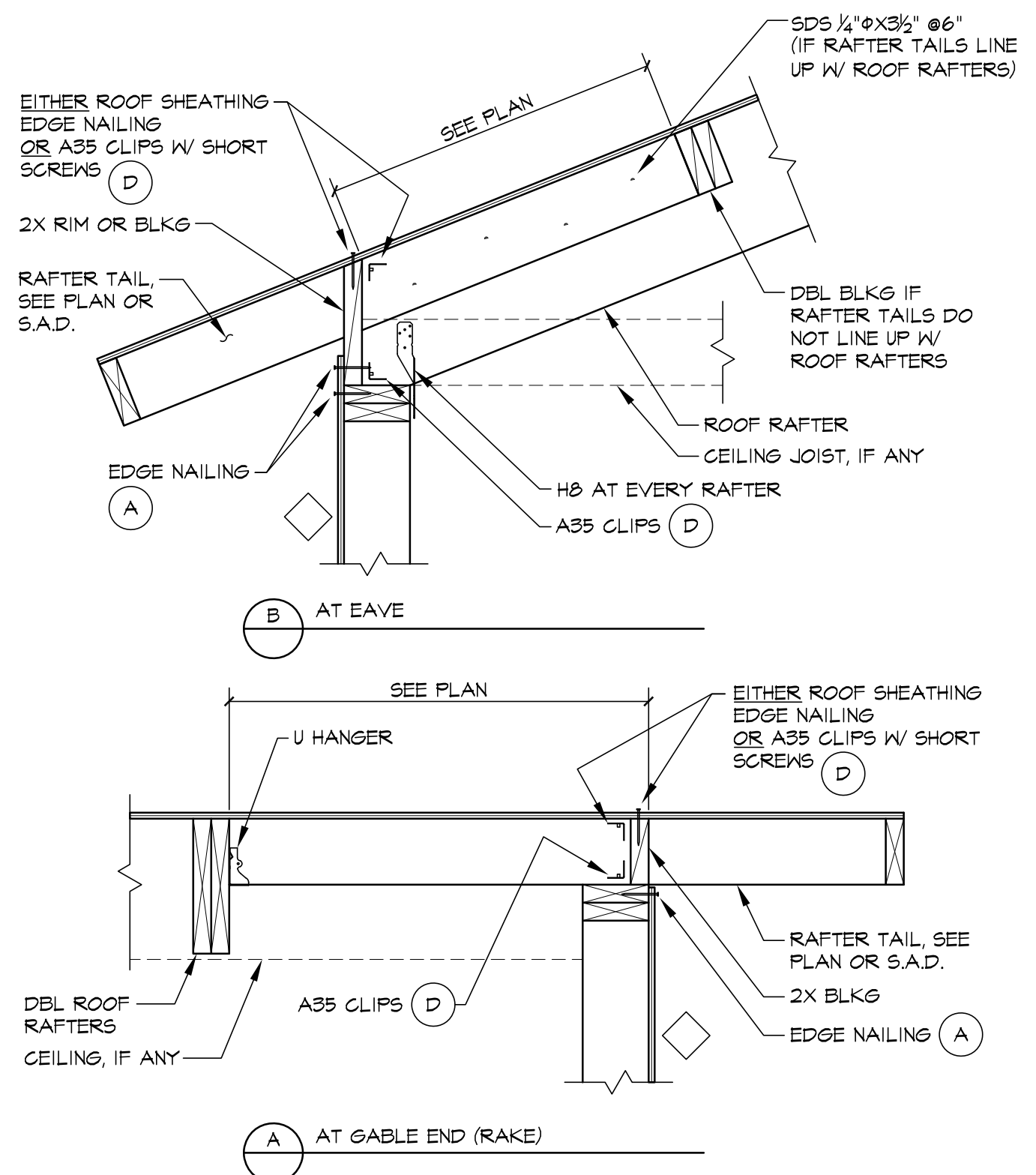


4 ANCHOR BOLT AT MUDSILL
S0.4

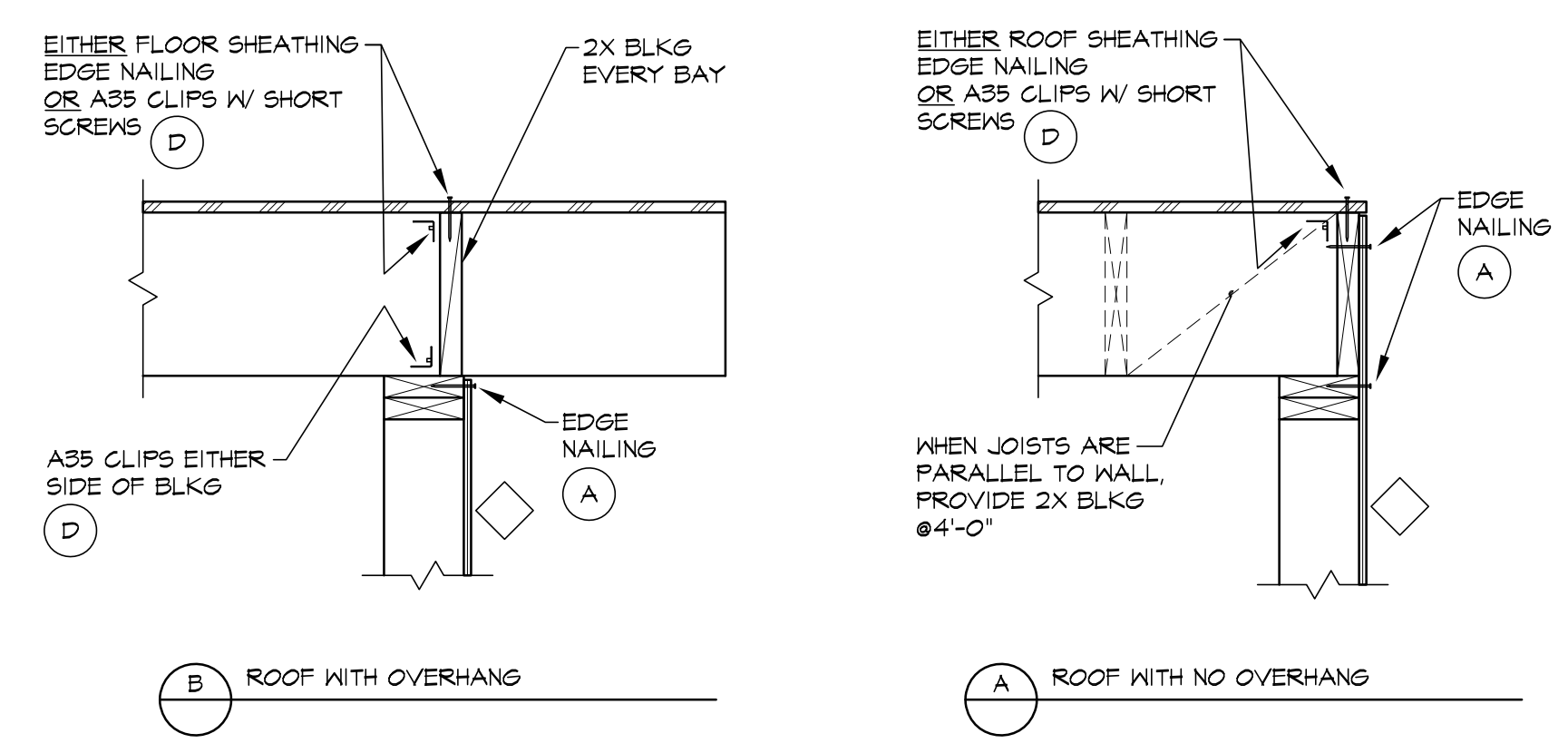
SYMBOL	ALLOWABLE DESIGN TENSION LOAD (KIPS)	FULL TEST LOAD IN (E) CONCRETE (KIPS)	HOLDOWN HARDWARE	ALL-THREAD OR SIMPSON SB SERIES ANCHOR BOLT		SD SCREWS	TIEDOWN POST
				DIAMETER	MINIMUM EMBEDMENT		
H2	3.1	4.7	HDU2-SDS2.5	3/8"	12"	6-SDS 1/4\"/>	
H4	4.6	6.9	HDU4-SDS2.5	3/8"	16"	10-SDS 1/4\"/>	
H5	5.6	8.4	HDU5-SDS2.5	3/8"	16"	14-SDS 1/4\"/>	
H8	7.9	11.9	HDU8-SDS2.5	7/8"	20"	20-SDS 1/4\"/>	
H11	9.5	14.3	HDU11-SDS2.5	1"	24"	30-SDS 1/4\"/>	
H14	14.4	21.6	HDU14-SDS2.5	1\"/>			

- NOTES:**
- HOLDOWNS SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE.
 - ANCHOR BOLTS SHALL BE ASTM A36.
 - ALL TIE DOWN POSTS TO BE DF #1 OR BETTER, U.O.N.

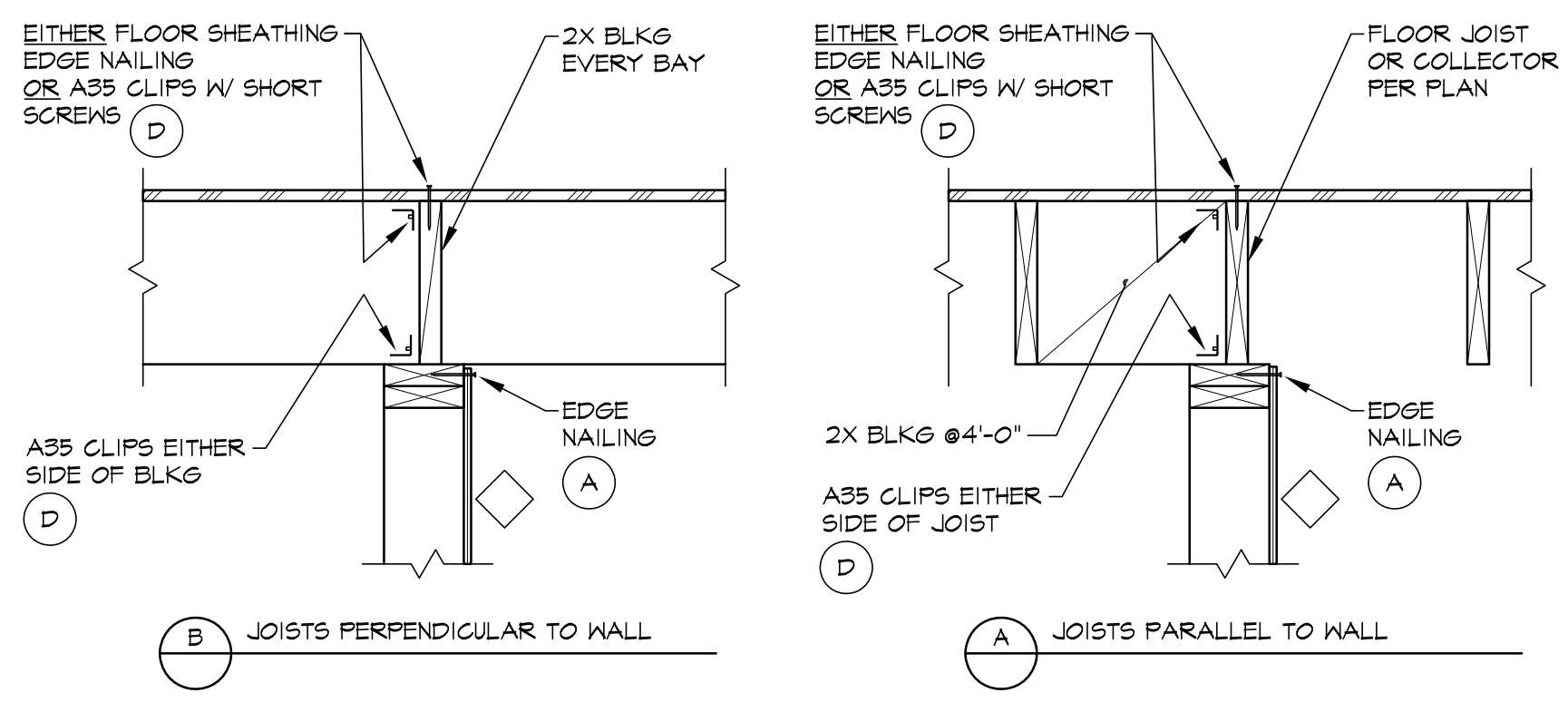
3 HOLDOWN SCHEDULE
S0.4



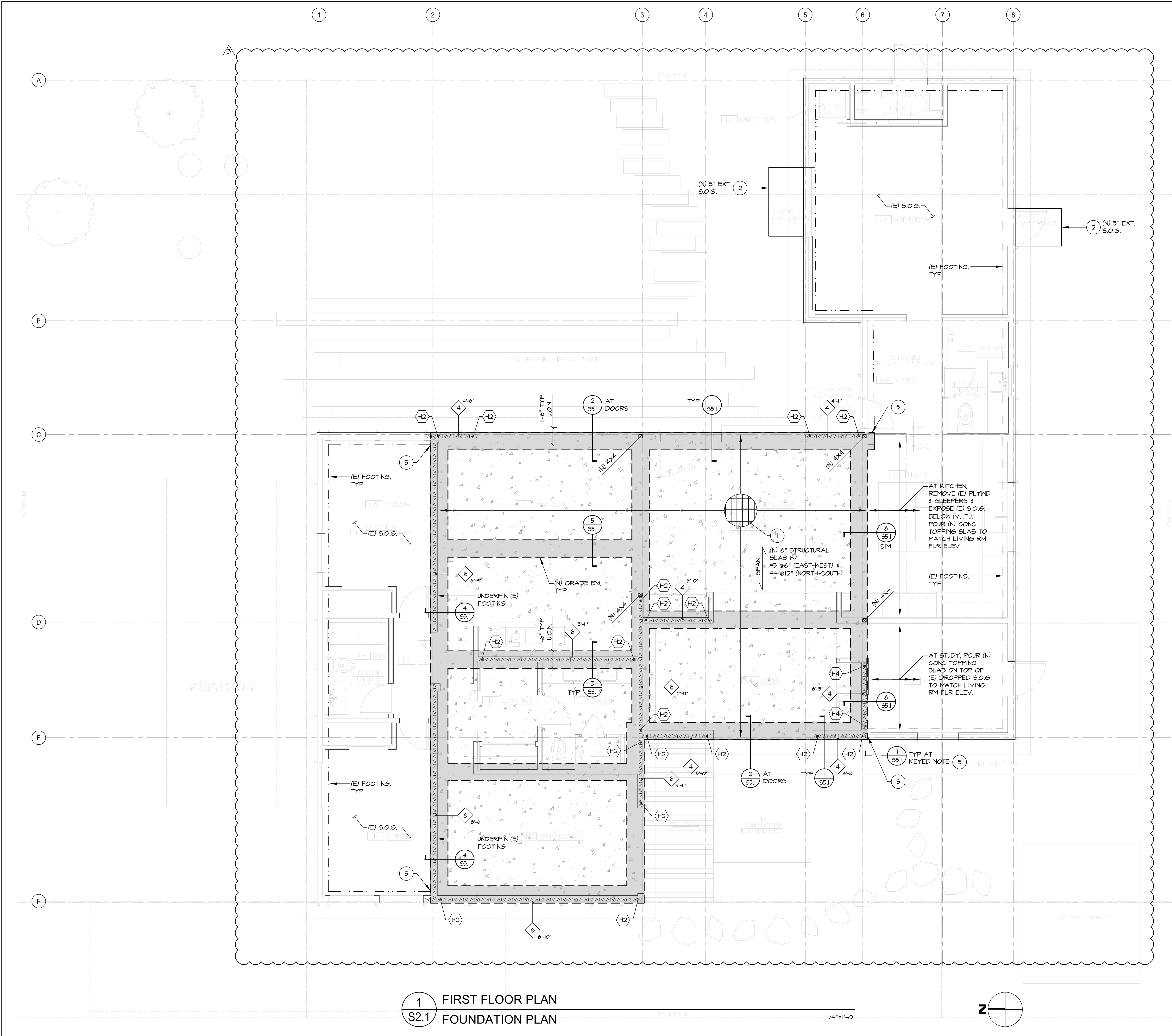
8 SHEAR TRANSFER AT SLOPED ROOF
S0.4



7 SHEAR TRANSFER AT INTERIOR WALLS
S0.4

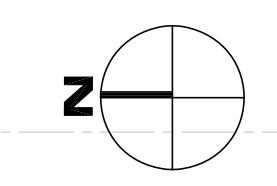


6 SHEAR TRANSFER AT INTERIOR WALLS
S0.4



1 FIRST FLOOR PLAN
S2.1 FOUNDATION PLAN

1/4"=1'-0"



LEGEND

- WALL BELOW
- - - (E) CONCRETE FOOTING TO REMAIN
- ▬ (N) CONCRETE FOOTING
- (E) JOIST OR RAFTER (LIGHT)
(N) JOIST OR RAFTER (DARK)
- - - (E) HEADER OR DROPPED BM (LIGHT)
(N) HEADER OR DROPPED BM (DARK)
- ▬ (N) FLUSH BEAM (WOOD OR STEEL)
- ◊ MIN LENGTH
WOOD SHEAR WALL (1) S.O.G.
TIEDOWN, WHERE SHOWN (3) S.O.G.
- COLLECTOR STRAP
- ☒ POST ABOVE (SIZE AS SPECIFIED ON PLAN)
- ☒ POST ABOVE & BELOW
- ☒ POST BELOW W/ POST CAP AS SPECIFIED

KEYED NOTES

- 1 6" CONCRETE STRUCTURAL SLAB W/ #5 @6" IN EAST-WEST DIRECTION & #4 @12" IN NORTH-SOUTH DIRECTION, SEE (4) S.O.G.
- 2 5" EXTERIOR "FLOATING" SLAB-ON-GRADE W/ #4 @12" EA WAY, SEE (7) S.O.G.
- 3 (N) PLYWOOD SHEATHING AT ROOF. THICKNESS TO MATCH (E) 1X T&G ROOF SHEATHING, 3/4" MIN OR 3/2". SEE ARCH DRAWINGS FOR ROOF BUILD-UP & SLOPE. SEE GENERAL NOTES & (1) S.O.G.
- 4 LSTAB6 STRAP AT SPLICE.
- 4A MST3T STRAP. STRAP BETWEEN PSL BEAM & DOUBLE TOP PLATES.
- 5 DRILL & EPOXY (2) #4 DONNELS INTO (E) FOOTING (IF POSSIBLE), 6" EMBED.

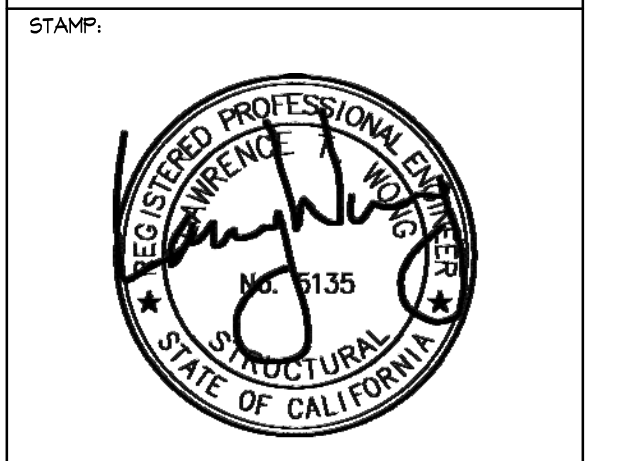
SHEET NOTES

1. FOR HEADER SIZES NOT SPECIFICALLY CALLED OUT ON THE PLANS, SEE TYPICAL HEADER DETAIL (3) S.O.G.
 2. AT BASE OF 4X OR 6X POST SUPPORTED BY MUD SILL, PROVIDE SIMPSON BC HALF BASE.
 3. WHERE CG OR ECG POST CAPS ARE SPECIFIED BETWEEN WOOD BEAMS AND POSTS, SEE (6) S.O.G.
- OTHERWISE, NO POST CAPS ARE REQUIRED SO THAT DOUBLE TOP PLATES CAN REMAIN CONTINUOUS AS MUCH AS POSSIBLE.
4. (E) EXTERIOR 2X4 WALL STUDS SHALL REMAIN IN PLACE WHERE SHOWN ON ARCH DRAWINGS, S.A.D.
 5. (N) EXTERIOR STUD WALLS SHALL BE 2X4 STUDS @16". (N) INTERIOR STUD WALLS SHALL BE 2X4 STUDS @16", U.O.N.

AGENCY APPROVAL STAMPS:

DATE	ISSUE
10-26-21	PERMIT SET
04-22-22	MARIN BLDG RESUBMITTAL REV 2
12-13-22	MARIN BLDG RESUBMITTAL REV 3

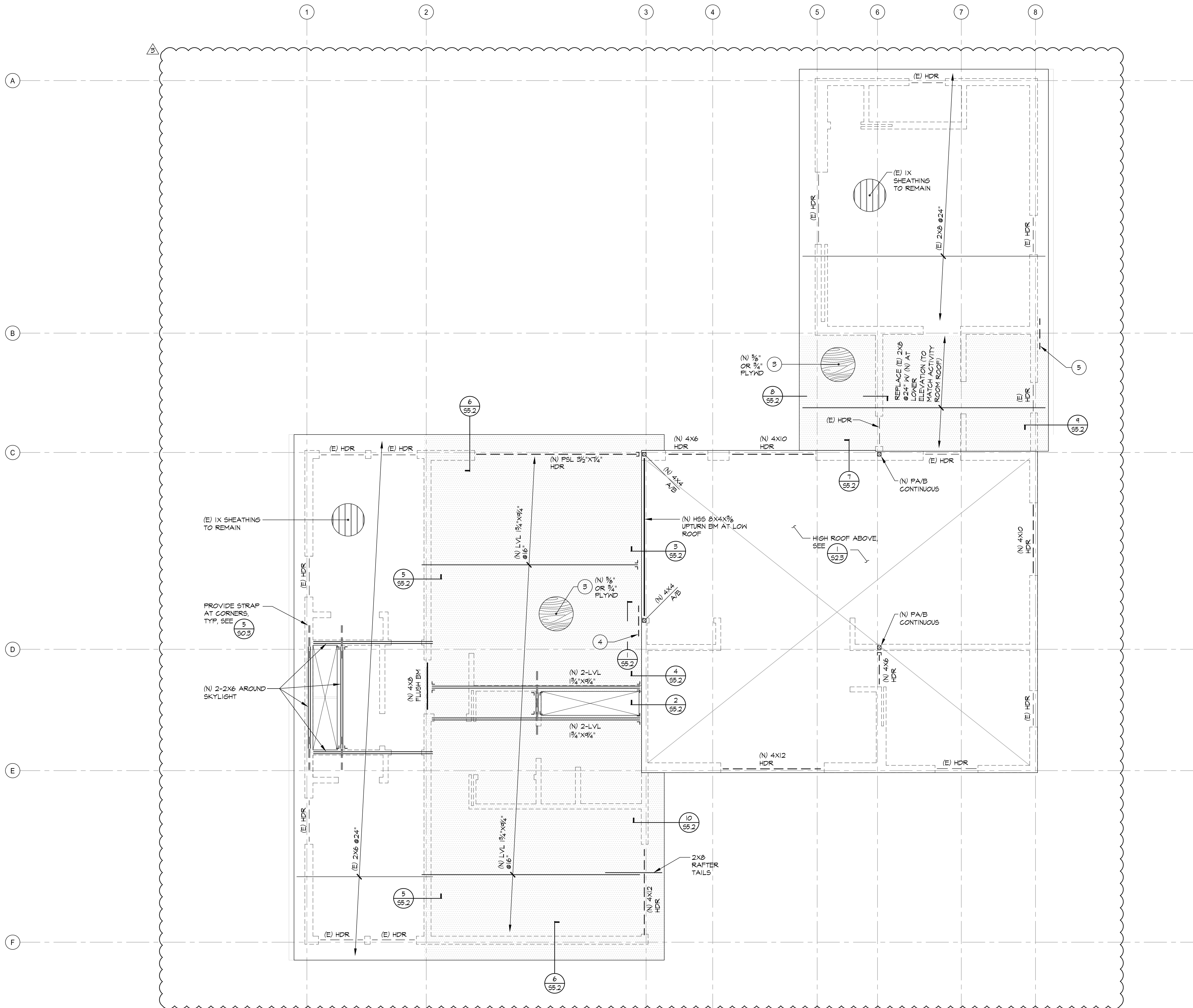
DAI - SHEN RESIDENCE
OWNERS: HENRY DAI & DAN SHEN
APN: 192-212-17
161 ELM ROAD
BOLINAS, CA 94924



TITLE:
FIRST FLOOR & FOUNDATION PLAN

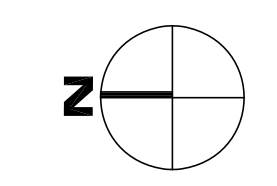
JOB NUMBER: 21044
SHEET:

S2.1



1 LOW ROOF PLAN
S2.2

1/4"=1'-0"



LEGEND

- WALL BELOW
- - - (E) CONCRETE FOOTING TO REMAIN
- ▨ (N) CONCRETE FOOTING
- (E) JOIST OR RAFTER (LIGHT)
(N) JOIST OR RAFTER (DARK)
- - - (E) HEADER OR DROPPED BM (LIGHT)
(N) HEADER OR DROPPED BM (DARK)
- (N) FLUSH BEAM (WOOD OR STEEL)
- ◊ MIN LENGTH
WOOD SHEAR WALL (1) 50.4
TIEDOWN, WHERE SHOWN (3) 50.3
- COLLECTOR STRAP
- ☒ POST ABOVE (SIZE AS SPECIFIED ON PLAN)
- ☒ POST ABOVE & BELOW
- ☒ POST BELOW W/ POST CAP AS SPECIFIED

KEYED NOTES

- 1 6" CONCRETE STRUCTURAL SLAB W/ #5 @6" IN EAST-WEST DIRECTION & #4 @12" IN NORTH-SOUTH DIRECTION, SEE (4) 50.2
- 2 5" EXTERIOR "FLOATING" SLAB-ON-GRADE W/ #4 @12" EA WAY, SEE (7) 50.2
- 3 (N) PLYWOOD SHEATHING AT ROOF. THICKNESS TO MATCH (E) IX T&G ROOF SHEATHING, 3/8" MIN OR 3/4". SEE ARCH DRAWINGS FOR ROOF BUILD-UP & SLOPE. SEE GENERAL NOTES & (1) 50.3
- 4 LSTAB6 STRAP AT SPLICE.
- 4A MST3T STRAP. STRAP BETWEEN PSL BEAM & DOUBLE TOP PLATES.
- 5 DRILL & EPOXY (2) #4 DONNELS INTO (E) FOOTING (IF POSSIBLE), 6" EMBED.

SHEET NOTES

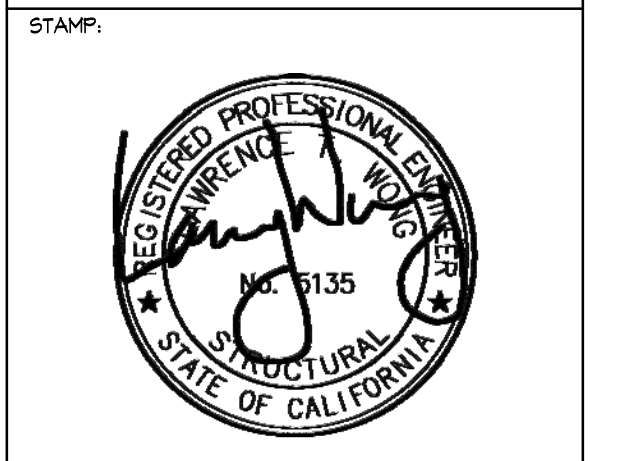
1. FOR HEADER SIZES NOT SPECIFICALLY CALLED OUT ON THE PLANS, SEE TYPICAL HEADER DETAIL (3) 50.3
2. AT BASE OF 4X OR 6X POST SUPPORTED BY MUD SILL, PROVIDE SIMPSON BC HALF BASE.
3. WHERE CG OR ECG POST CAPS ARE SPECIFIED BETWEEN WOOD BEAMS AND POSTS, SEE (6) 50.3

OTHERWISE, NO POST CAPS ARE REQUIRED SO THAT DOUBLE TOP PLATES CAN REMAIN CONTINUOUS AS MUCH AS POSSIBLE.
4. (E) EXTERIOR 2X4 WALL STUDS SHALL REMAIN IN PLACE WHERE SHOWN ON ARCH DRAWINGS, S.A.D.
5. (N) EXTERIOR STUD WALLS SHALL BE 2X4 STUDS @16". (N) INTERIOR STUD WALLS SHALL BE 2X4 STUDS @16", U.O.N.

AGENCY APPROVAL STAMPS:

DATE	ISSUE
10-26-21	PERMIT SET
04-22-22	MARIN BLDG RESUBMITTAL REV 2
12-13-22	MARIN BLDG RESUBMITTAL REV 3

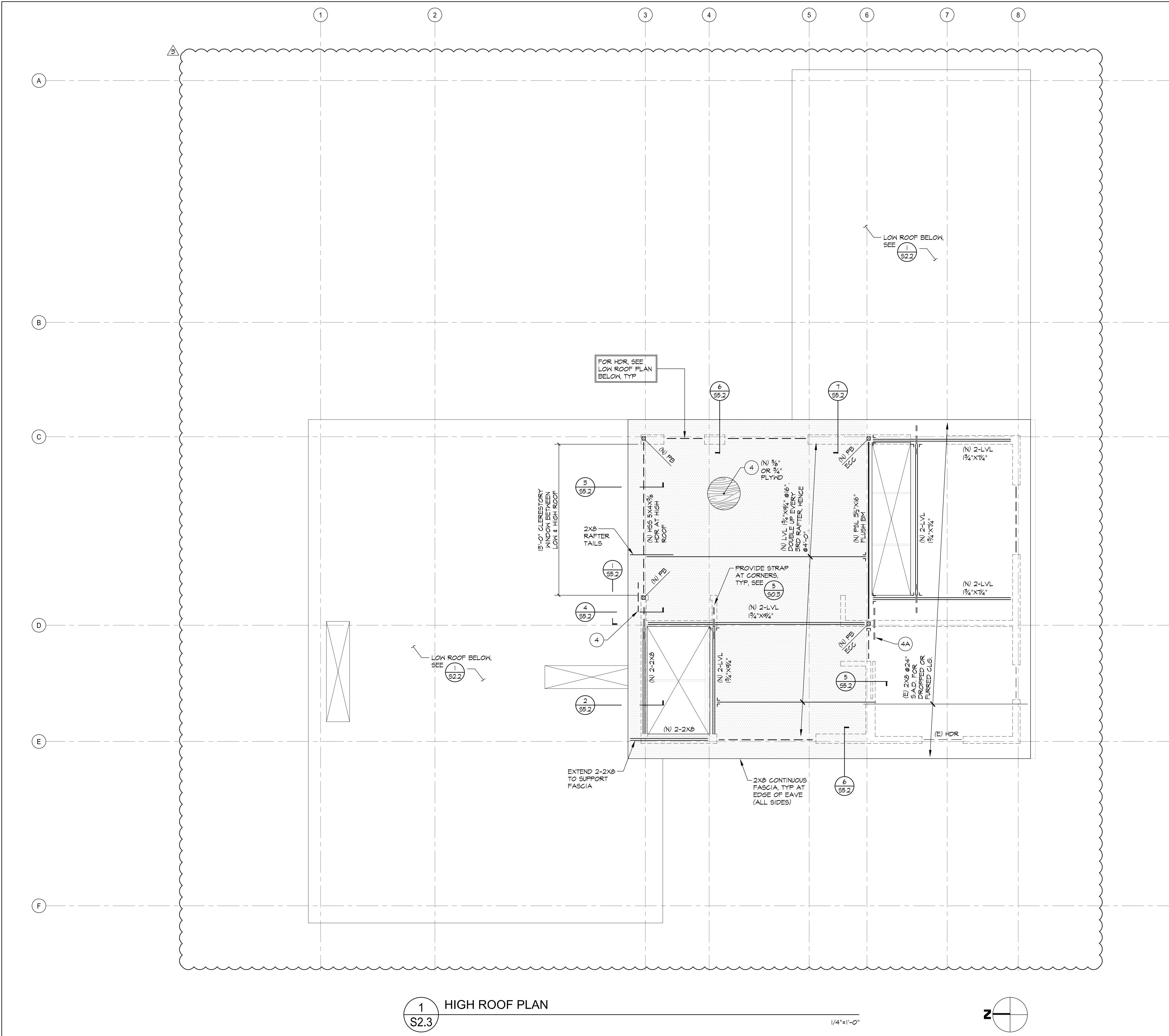
DAI - SHEN RESIDENCE
OWNERS: HENRY DAI & DAN SHEN
APN: 192-212-17
161 ELM ROAD
BOLINAS, CA 94924



TITLE:
LOW ROOF PLAN

JOB NUMBER: 21044
SHEET:

S2.2



LEGEND

	WALL BELOW
	(E) CONCRETE FOOTING TO REMAIN
	(N) CONCRETE FOOTING
	(E) JOIST OR RAFTER (LIGHT) (N) JOIST OR RAFTER (DARK)
	(E) HEADER OR DROPPED BM (LIGHT) (N) HEADER OR DROPPED BM (DARK)
	(N) FLUSH BEAM (WOOD OR STEEL)
	WOOD SHEAR WALL (1/2) (30.4)
	TIEDOWN, WHERE SHOWN (3) (30.3)
	COLLECTOR STRAP
	POST ABOVE (SIZE AS SPECIFIED ON PLAN)
	POST ABOVE & BELOW
	POST BELOW W/ POST CAP AS SPECIFIED

- KEYED NOTES**
- 6" CONCRETE STRUCTURAL SLAB W/ #5 @ 6" IN EAST-WEST DIRECTION & #4 @ 12" IN NORTH-SOUTH DIRECTION, SEE (4) (30.2)
 - 5" EXTERIOR "FLOATING" SLAB-ON-GRADE W/ #4 @ 12" EA WAY, SEE (7) (30.2)
 - (N) PLYWOOD SHEATHING AT ROOF. THICKNESS TO MATCH (E) 1X T&G ROOF SHEATHING, 3/4" MIN OR 3/2". SEE ARCH DRAWINGS FOR ROOF BUILD-UP & SLOPE. SEE GENERAL NOTES & (1) (30.3)
 - L5TA36 STRAP AT SPLICE.
 - M5T3T STRAP. STRAP BETWEEN PSL BEAM & DOUBLE TOP PLATES.
 - DRILL & EPOXY (2) #4 DONNELS INTO (E) FOOTING (IF POSSIBLE), 6" EMBED.

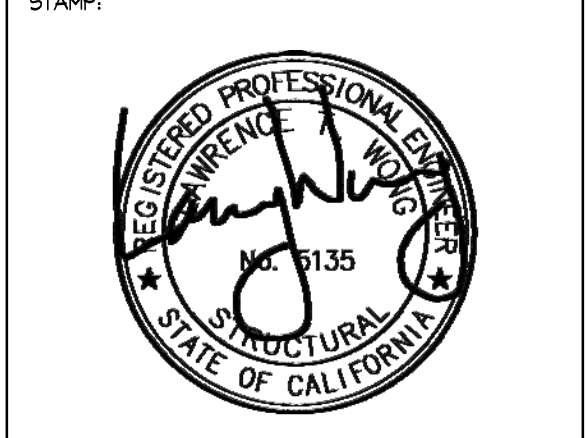
- SHEET NOTES**
- FOR HEADER SIZES NOT SPECIFICALLY CALLED OUT ON THE PLANS, SEE TYPICAL HEADER DETAIL (3) (30.3)
 - AT BASE OF 4X OR 6X POST SUPPORTED BY MUD SILL, PROVIDE SIMPSON BC HALF BASE.
 - WHERE CC OR ECG POST CAPS ARE SPECIFIED BETWEEN WOOD BEAMS AND POSTS, SEE (6) (30.3)
- OTHERWISE, NO POST CAPS ARE REQUIRED SO THAT DOUBLE TOP PLATES CAN REMAIN CONTINUOUS AS MUCH AS POSSIBLE.
- (E) EXTERIOR 2X4 WALL STUDS SHALL REMAIN IN PLACE WHERE SHOWN ON ARCH DRAWINGS, S.A.D.
 - (N) EXTERIOR STUD WALLS SHALL BE 2X4 STUDS @ 16". (N) INTERIOR STUD WALLS SHALL BE 2X4 STUDS @ 16", U.O.N.

L Wong Engineering
 485 14th Street :: San Francisco :: CA 94103
 (P) 415-877-1392 :: (F) 415-871-2230
 lwong@lwongengineering.com

AGENCY APPROVAL STAMPS:

DATE:	ISSUE:
10-26-21	PERMIT SET
04-22-22	MARIN BLDG RESUBMITTAL REV 2 (A)
12-13-22	MARIN BLDG RESUBMITTAL REV 3 (A)

DAI - SHEN RESIDENCE
 OWNERS: HENRY DAI & DAN SHEN
 APN: 192-212-17
 161 ELM ROAD
 BOLINAS, CA 94924

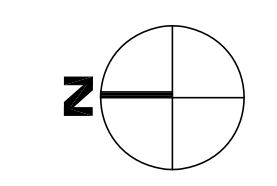


TITLE:
HIGH ROOF PLAN

JOB NUMBER: 21044
 SHEET:

1 HIGH ROOF PLAN
 S2.3

1/4" = 1'-0"



S2.3

AGENCY APPROVAL STAMPS:

DATE	ISSUE
10-26-21	PERMIT SET
04-22-22	MARIN BLDG RESUBMITTAL REV 2
12-13-22	MARIN BLDG RESUBMITTAL REV 3

DAI - SHEN RESIDENCE
 OWNERS: HENRY DAI & DAN SHEN
 APN: 192-212-17
 161 ELM ROAD
 BOLINAS, CA 94924

STAMP:



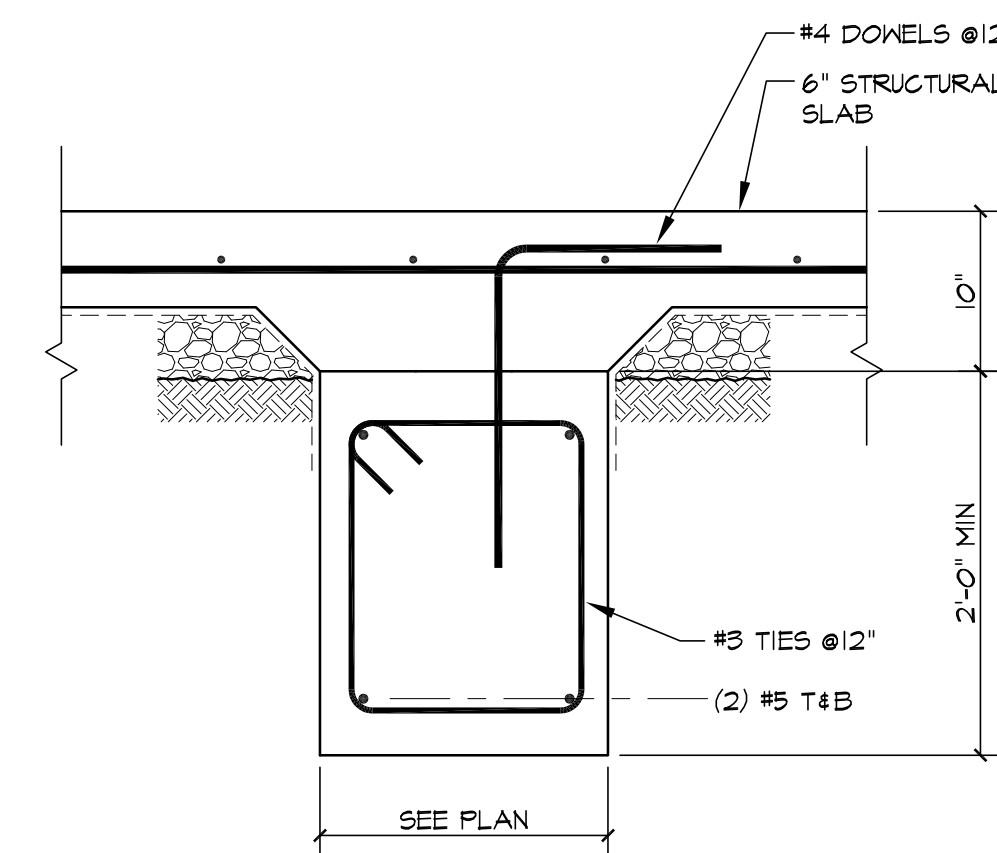
TITLE:

DETAILS

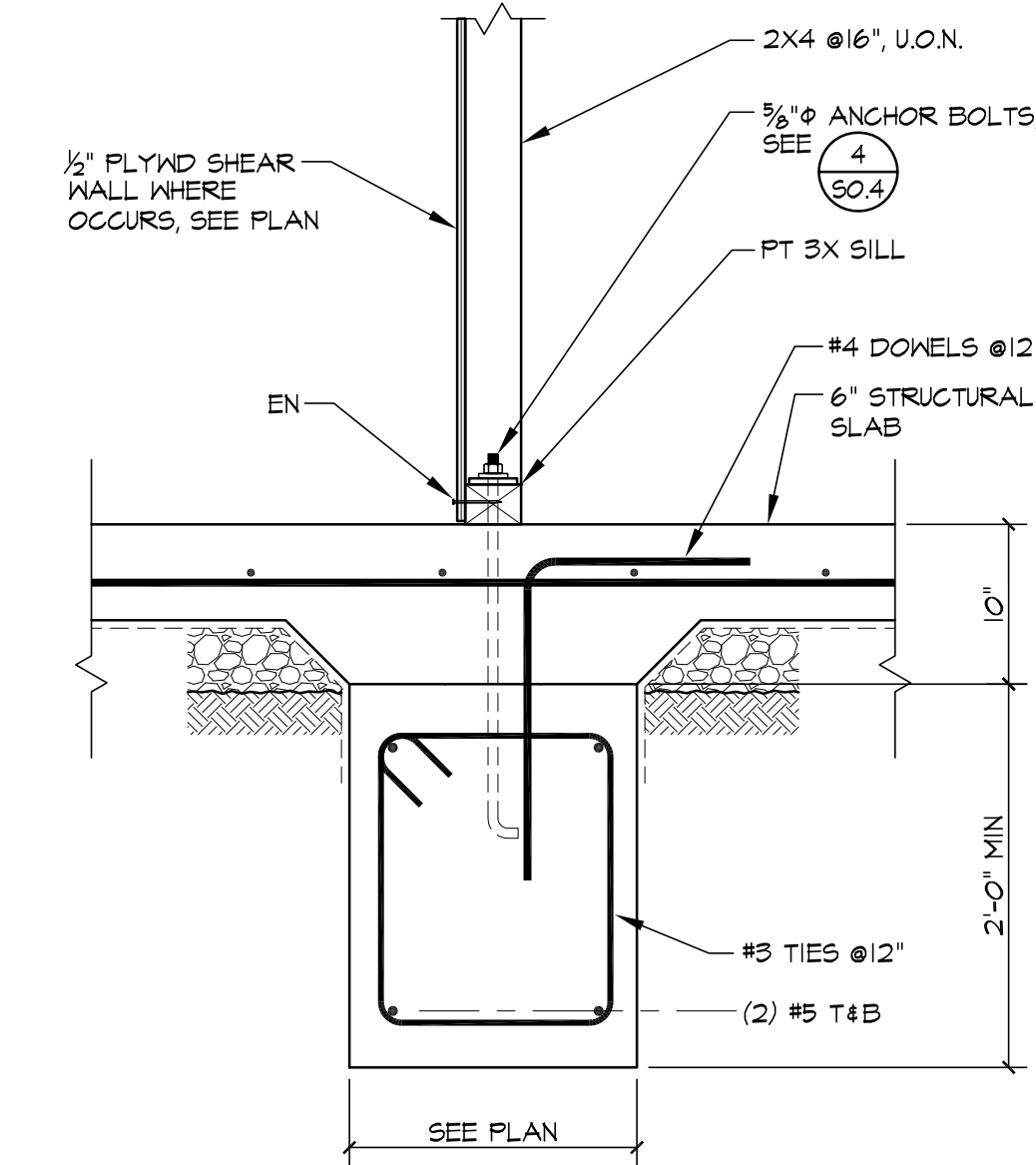
JOB NUMBER: 21044

SHEET:

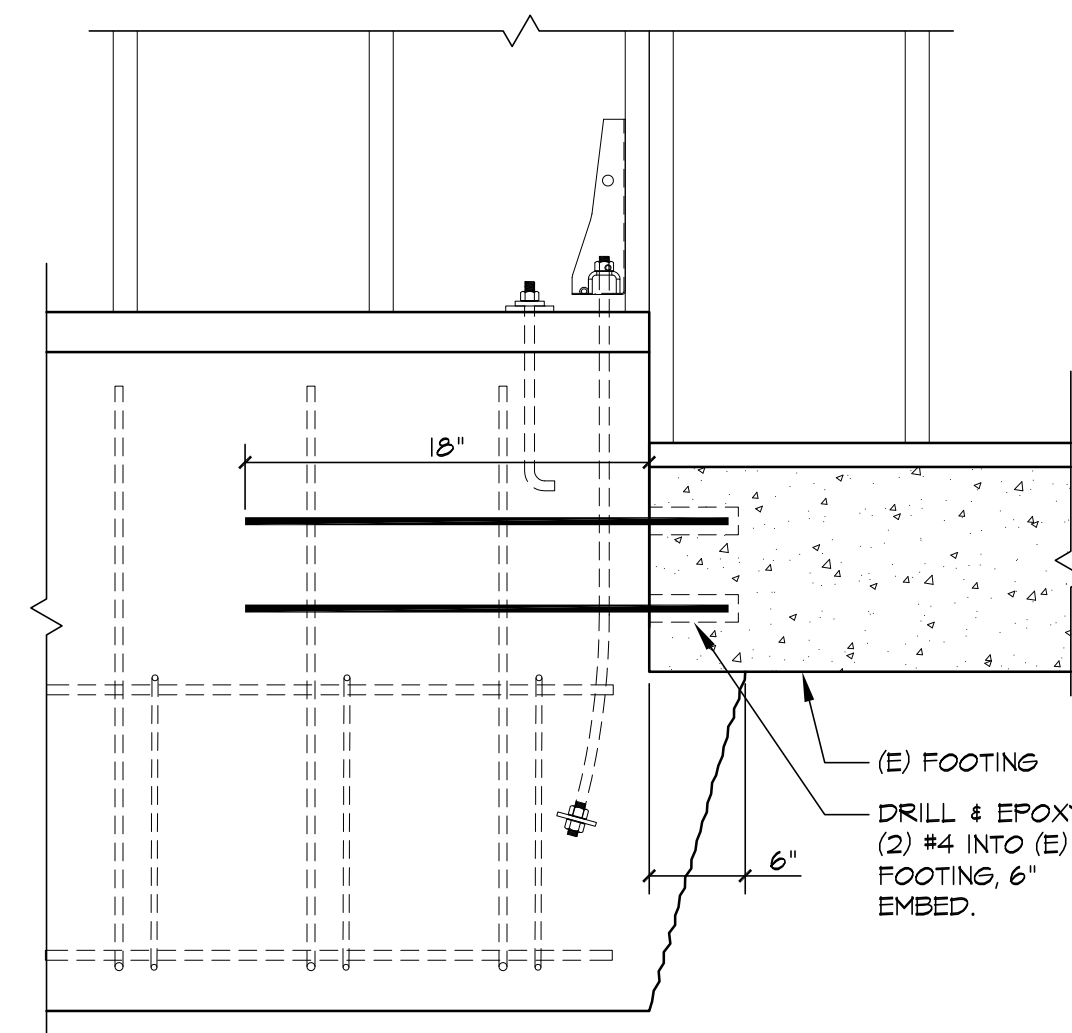
S5.1



5
S5.1 INTERIOR GRADE BEAM
 1"=1'-0"



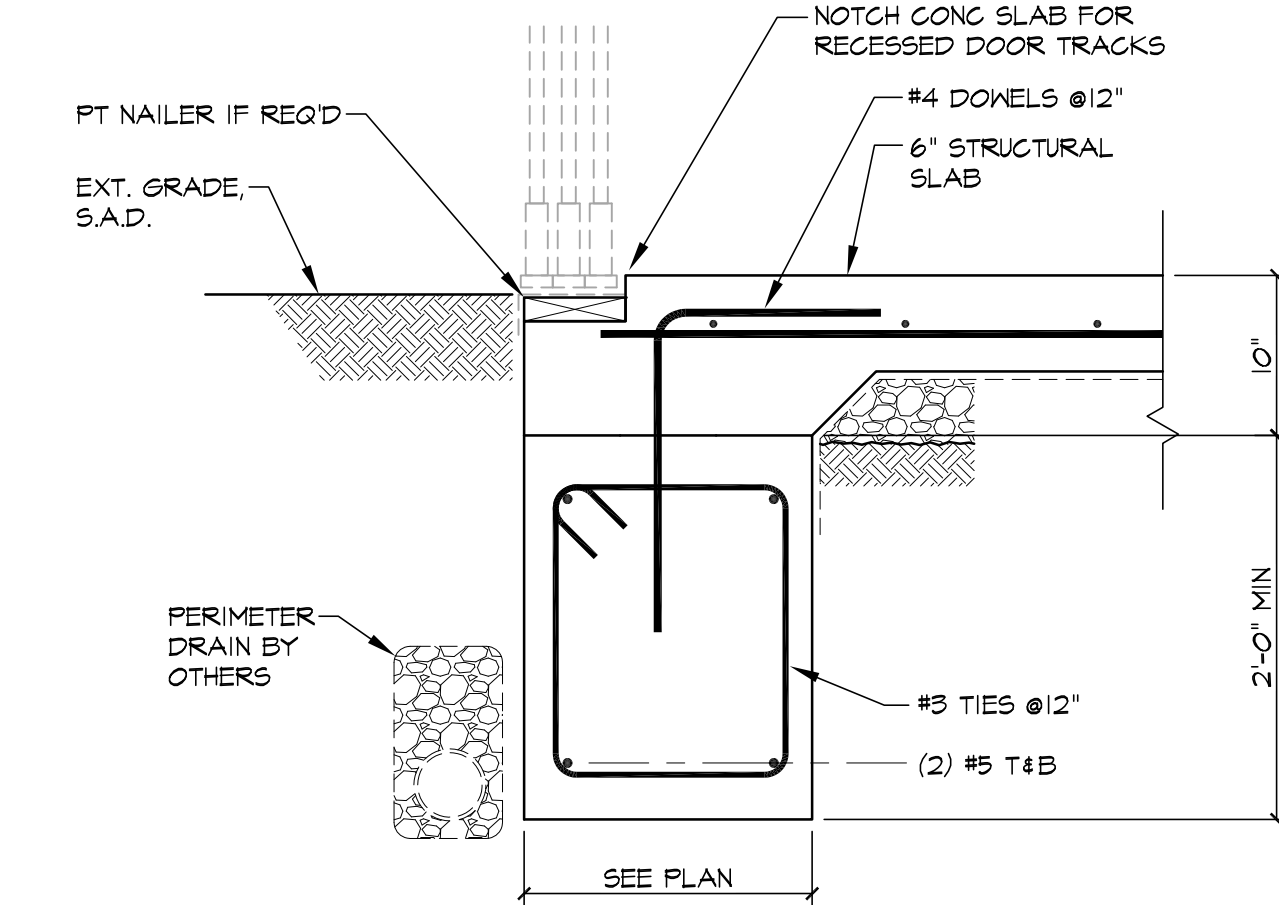
3
S5.1 INTERIOR GRADE BEAM AT BEARING WALL OR SHEAR WALL
 1"=1'-0"



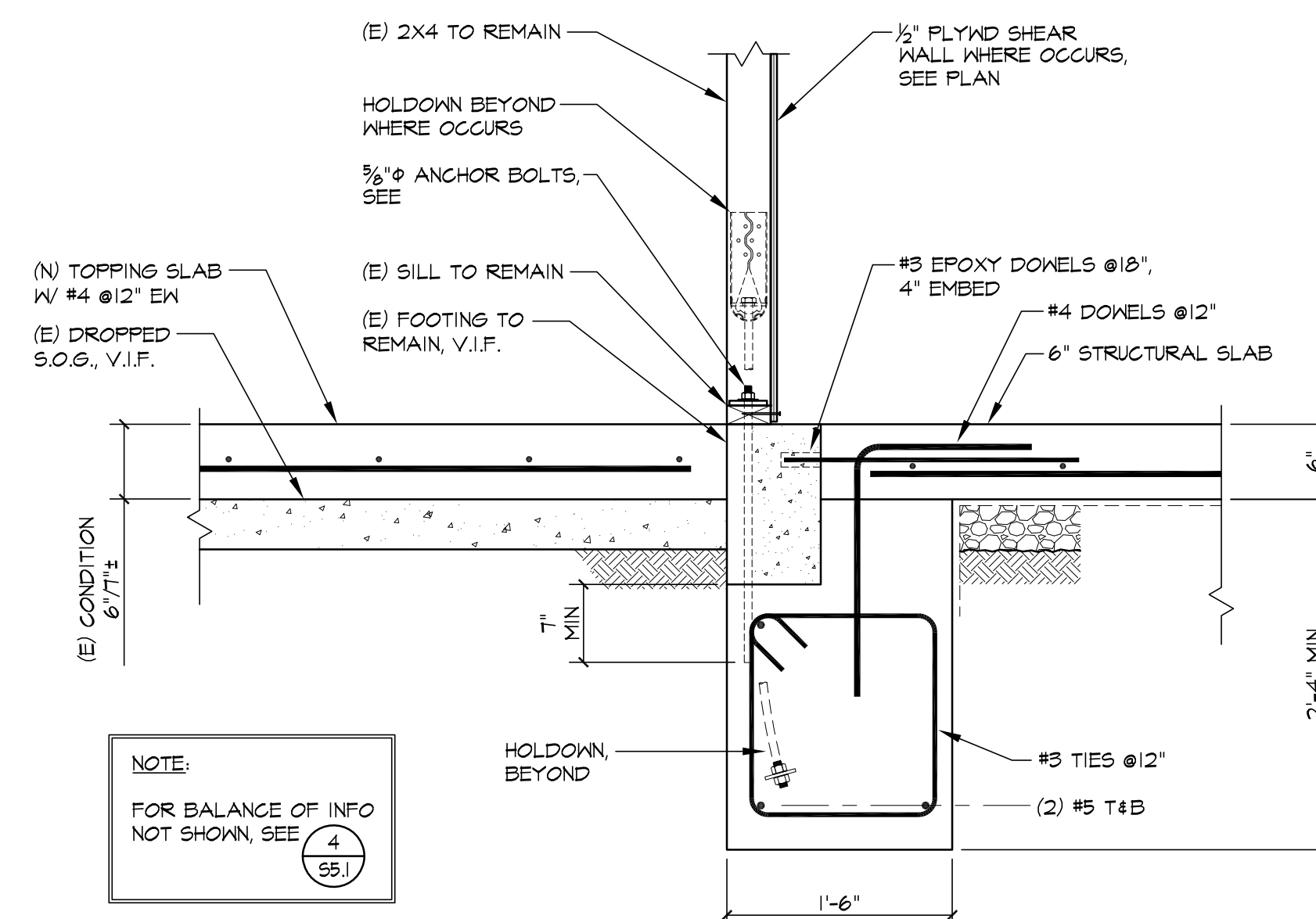
7
S5.1 UNDERPINNING AT (E) FOOTING
 1"=1'-0"

UNDERPINNING NOTES:

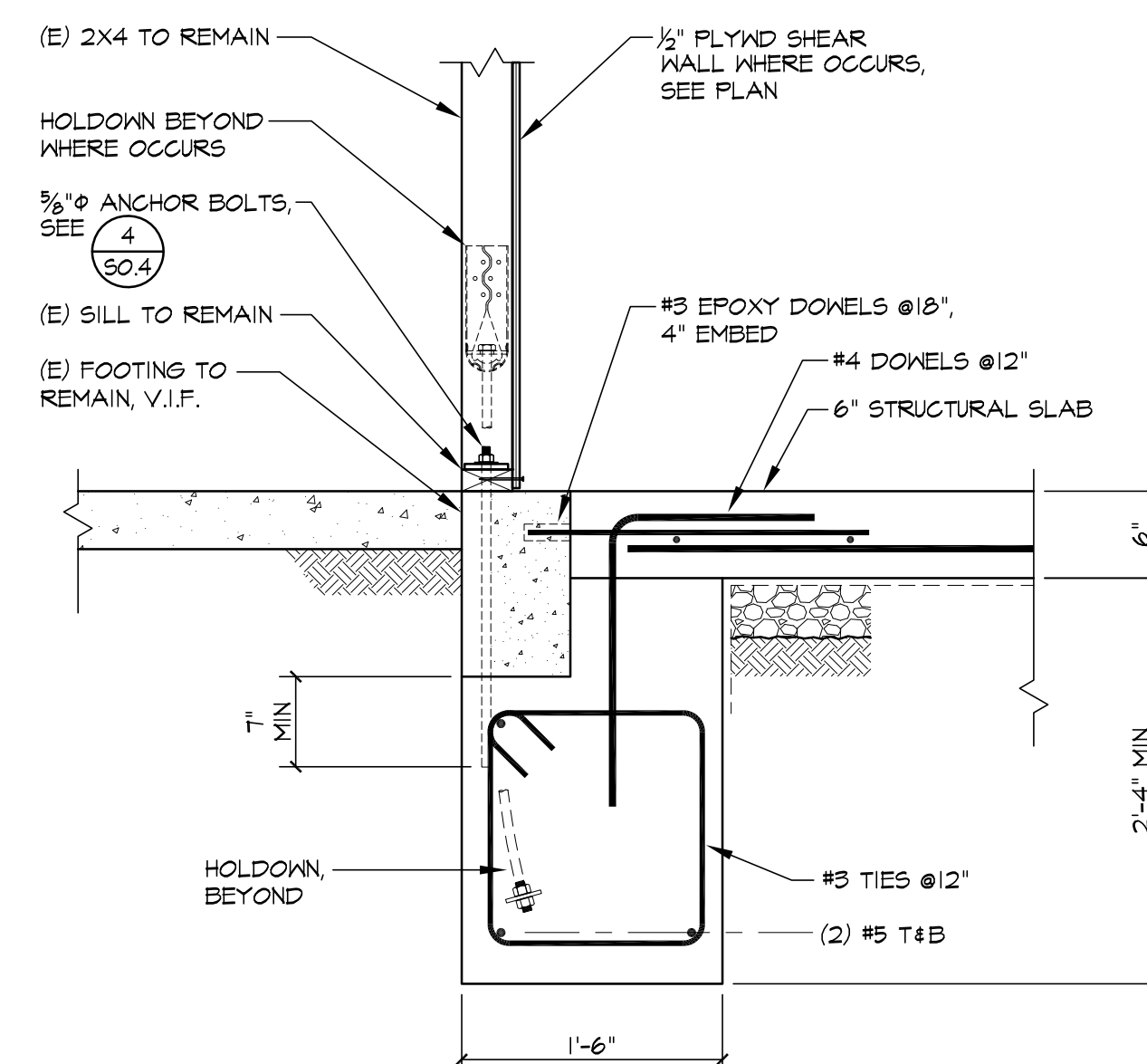
- (E) FOOTING TO REMAIN PER PLANNING CODE REQUIREMENTS.
- WHERE (E) FOOTING IS A THICKENED SLAB EDGE, SAWCUT (E) SLAB & LEAVE (E) THICKENED EDGE TO REMAIN.
- UNDERPINNING SHALL BE PERFORMED IN 4'-0" MAX SECTION IN ALTERNATING 'A-B-C-A-B-C' SEQUENCE.



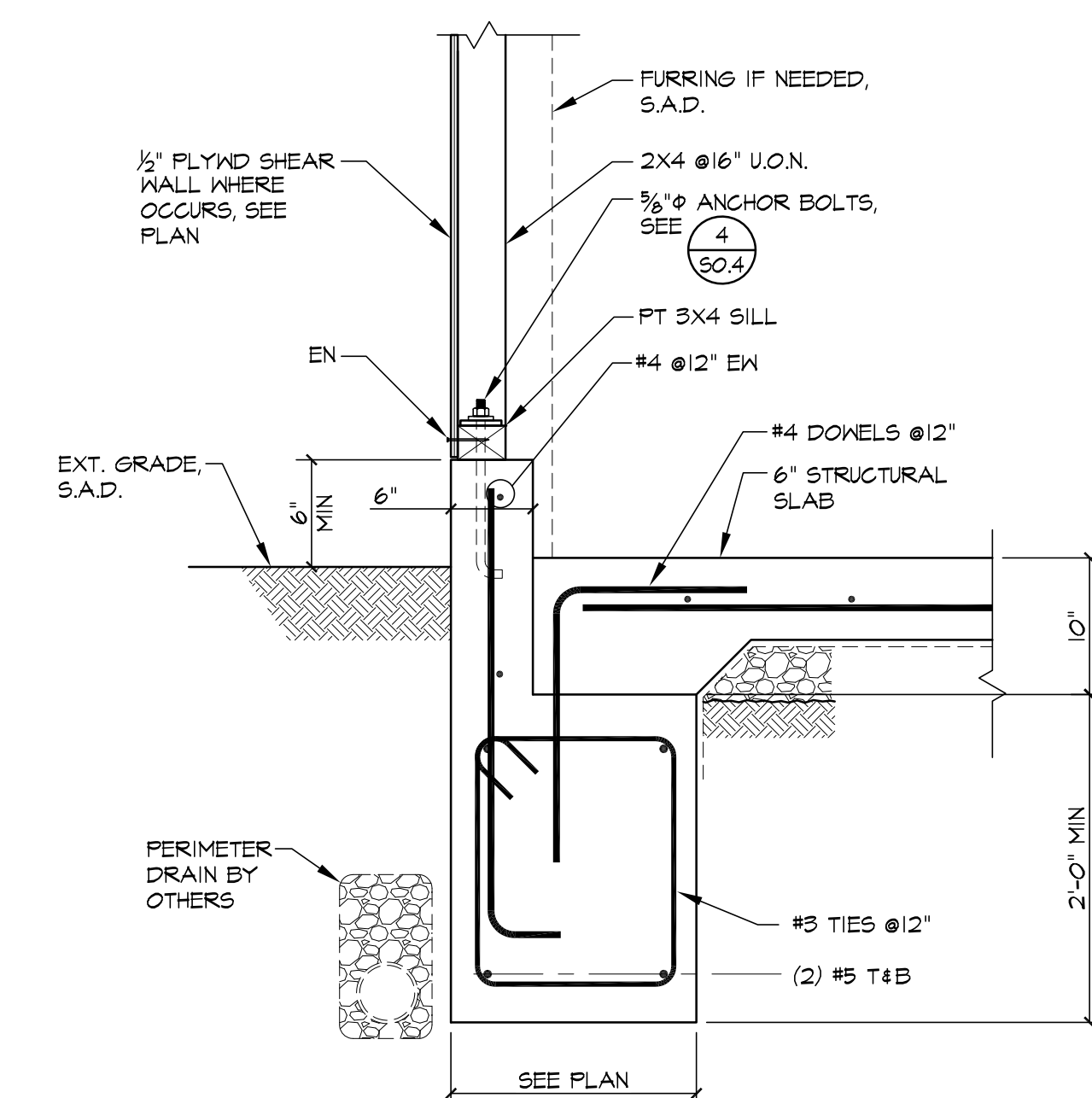
2
S5.1 NEW FOOTING AT DOORS (NO CURB)
 1"=1'-0"



6
S5.1 UNDERPINNING AT (E) INTERIOR FOOTING
 1"=1'-0"



4
S5.1 UNDERPINNING AT (E) PERIMETER FOOTING
 1"=1'-0"



1
S5.1 TYPICAL PERIMETER FOOTING (NEW)
 1"=1'-0"

NOTE:
 FOR BALANCE OF INFO NOT SHOWN, SEE **4** S5.1

AGENCY APPROVAL STAMPS:

DATE:	ISSUE:
10-26-21	PERMIT SET
04-22-22	MARIN BLDG RESUBMITTAL REV 2
12-13-22	MARIN BLDG RESUBMITTAL REV 3

DAI - SHEN RESIDENCE
 OWNERS: HENRY DAI & DAN SHEN
 APN: 192-212-17
 161 ELM ROAD
 BOLINAS, CA 94924

STAMP:



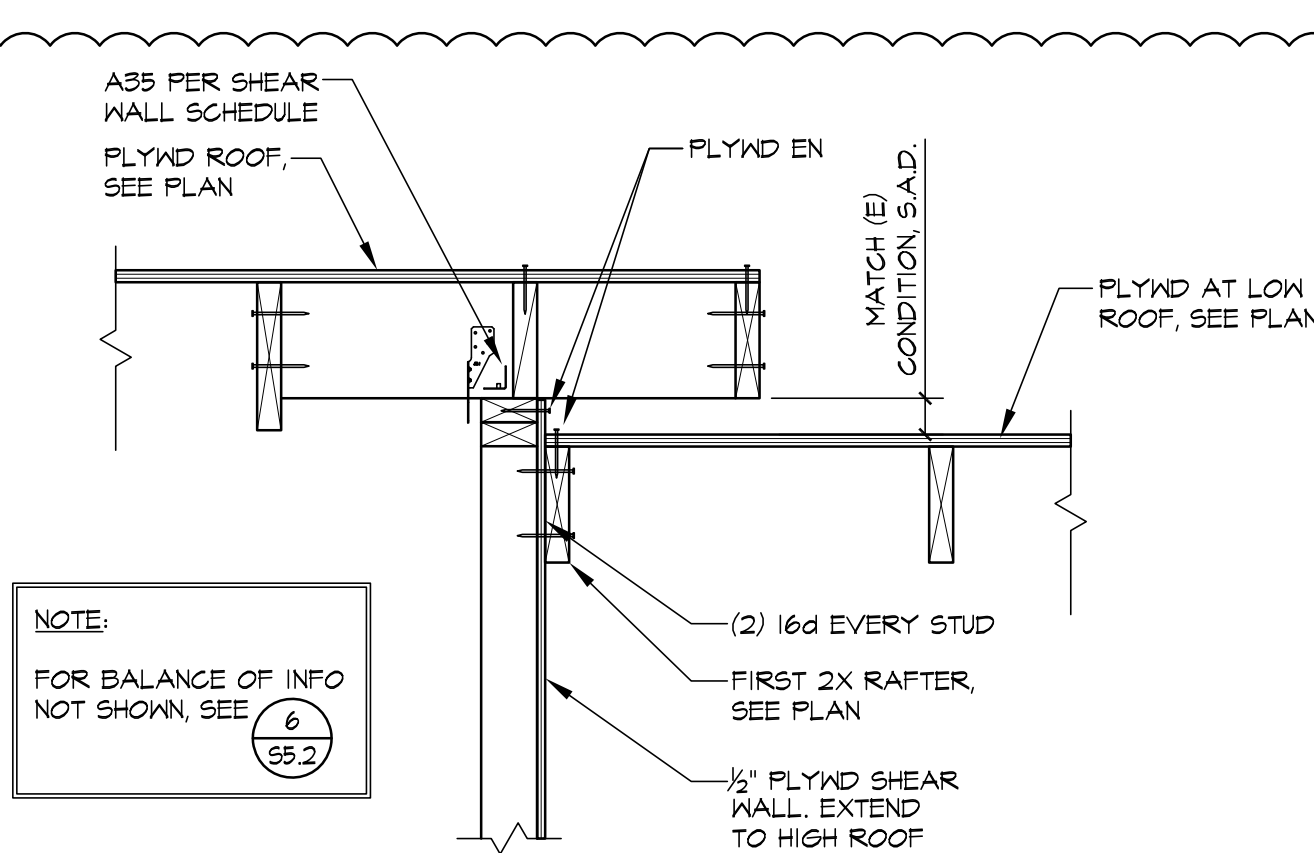
TITLE:

DETAILS

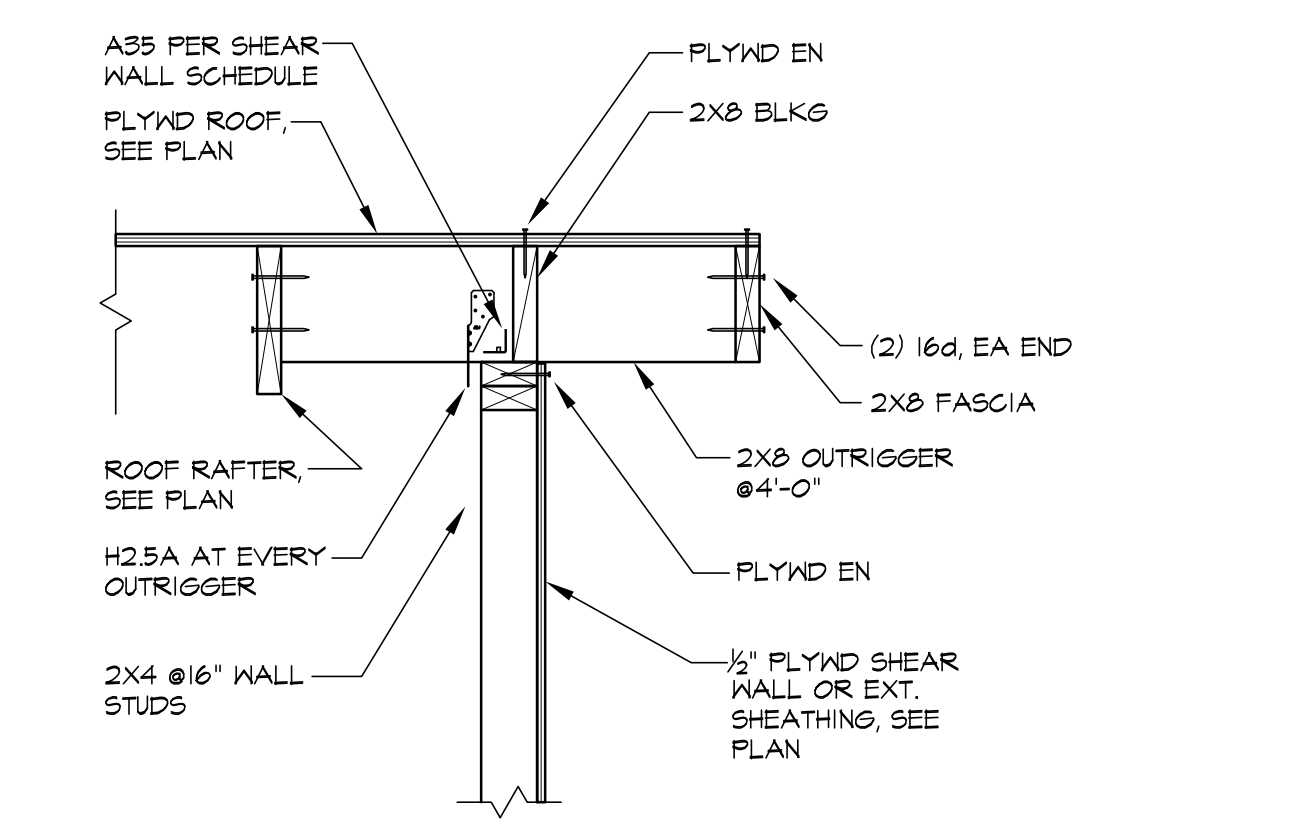
JOB NUMBER: 21044

SHEET:

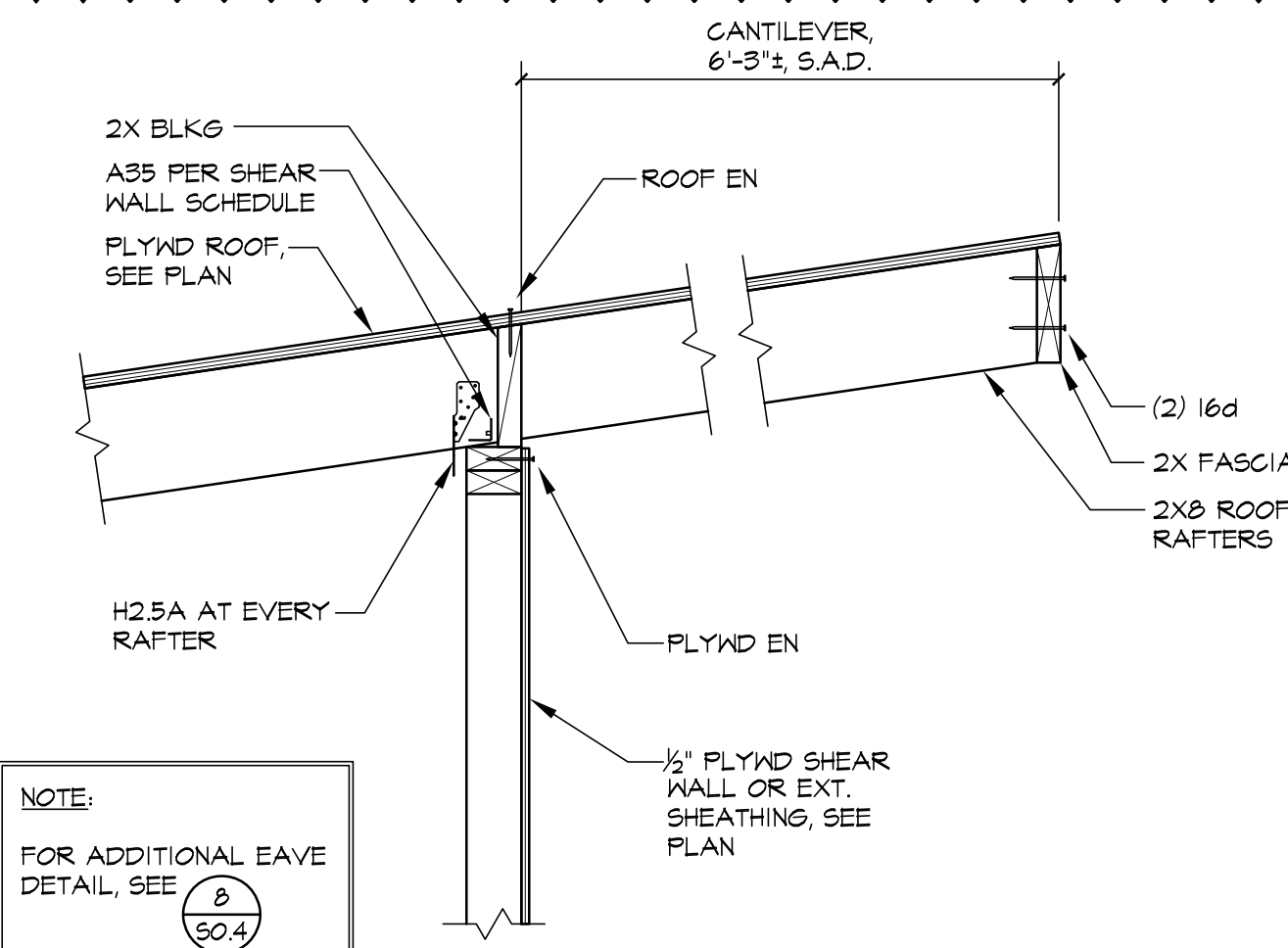
S5.2



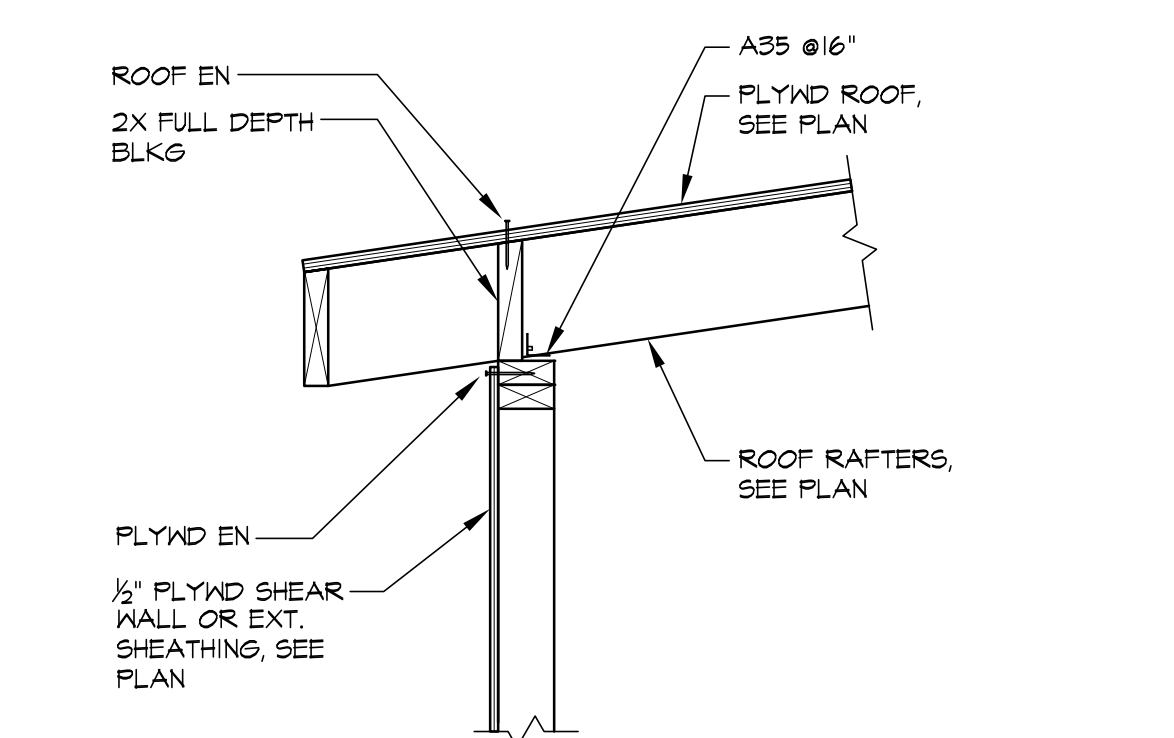
7 HIGH TO LOW ROOF TRANSITION
 S5.2 1"=1'-0"



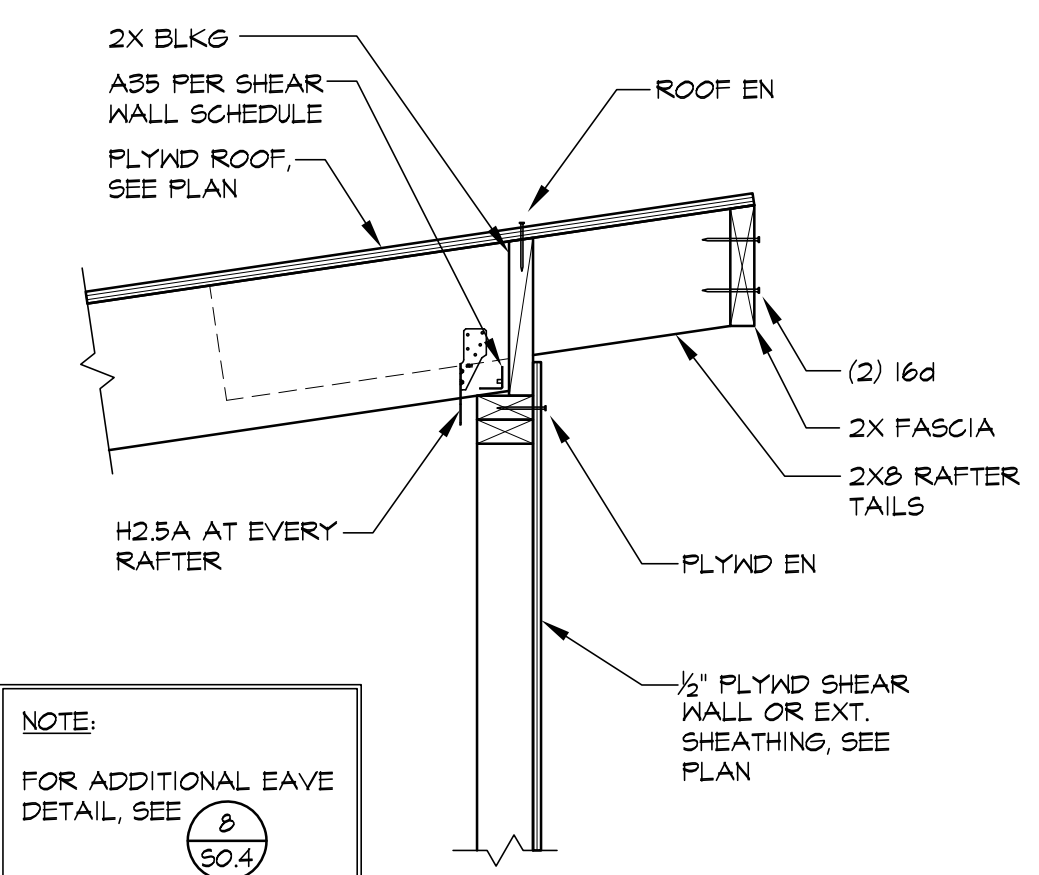
6 TYP DETAIL AT RAKE END
 S5.2 1"=1'-0"



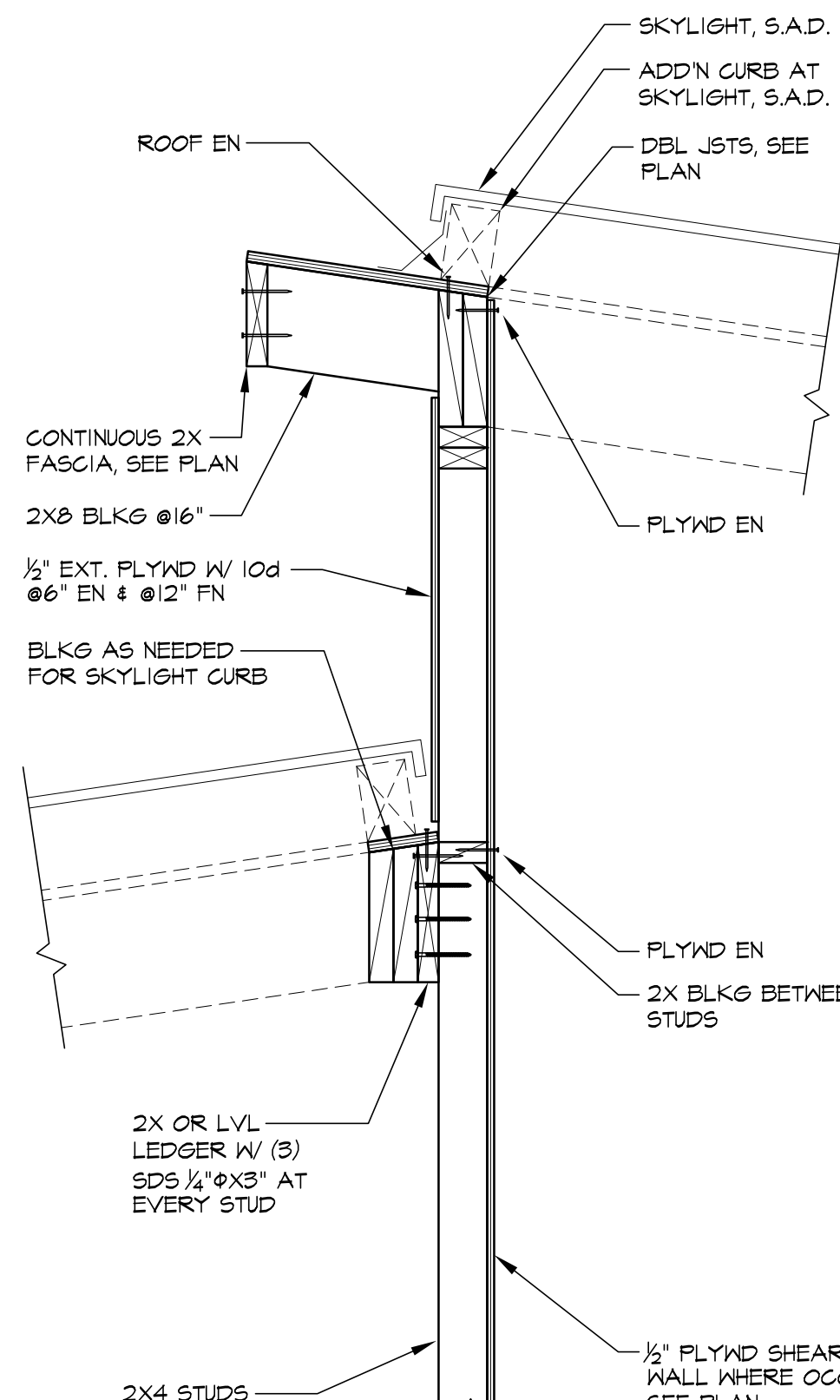
8 EAVE DETAIL AT CANTILEVER
 S5.2 1"=1'-0"



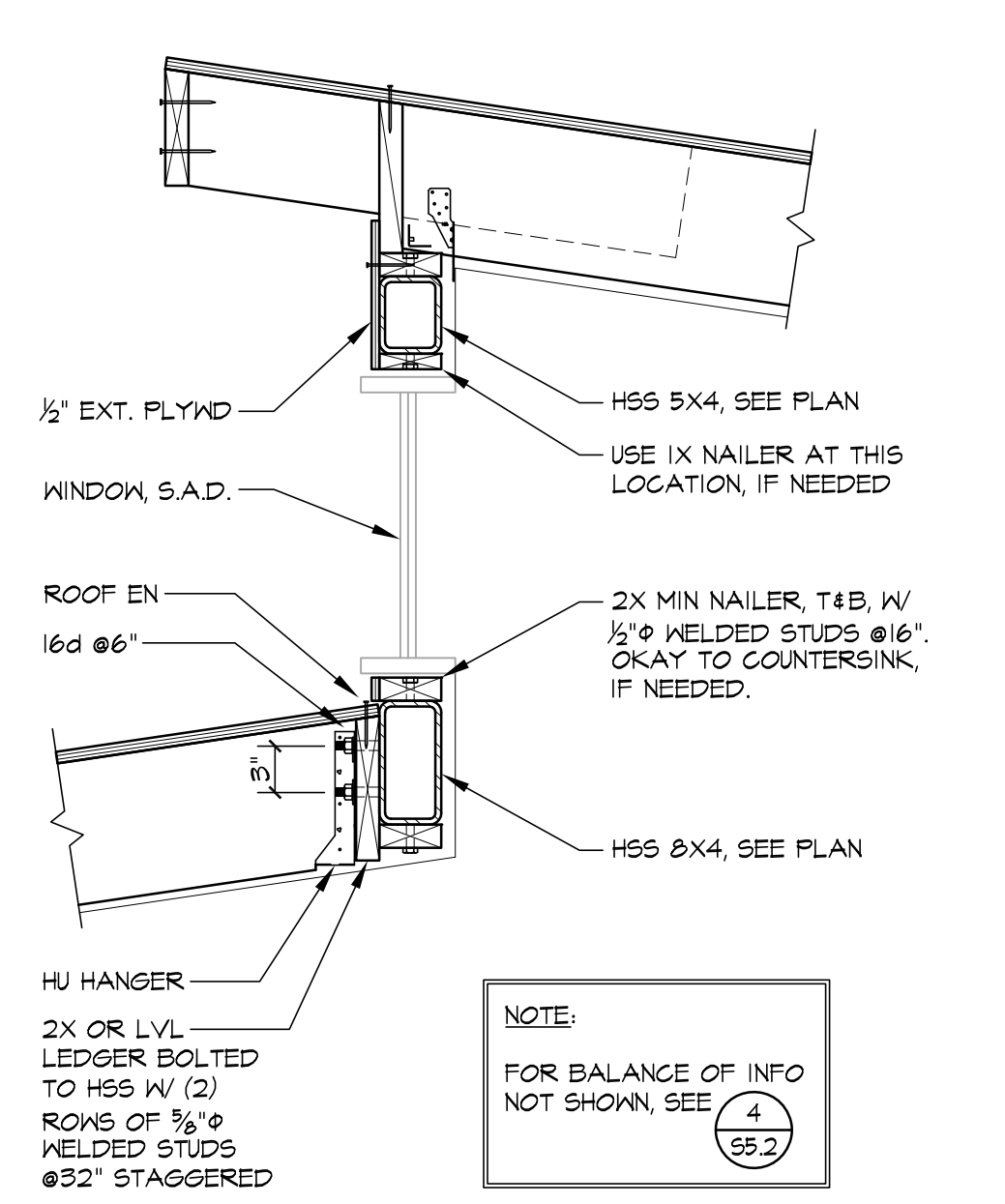
9 TYP EAVE DETAIL
 S5.2 1"=1'-0"



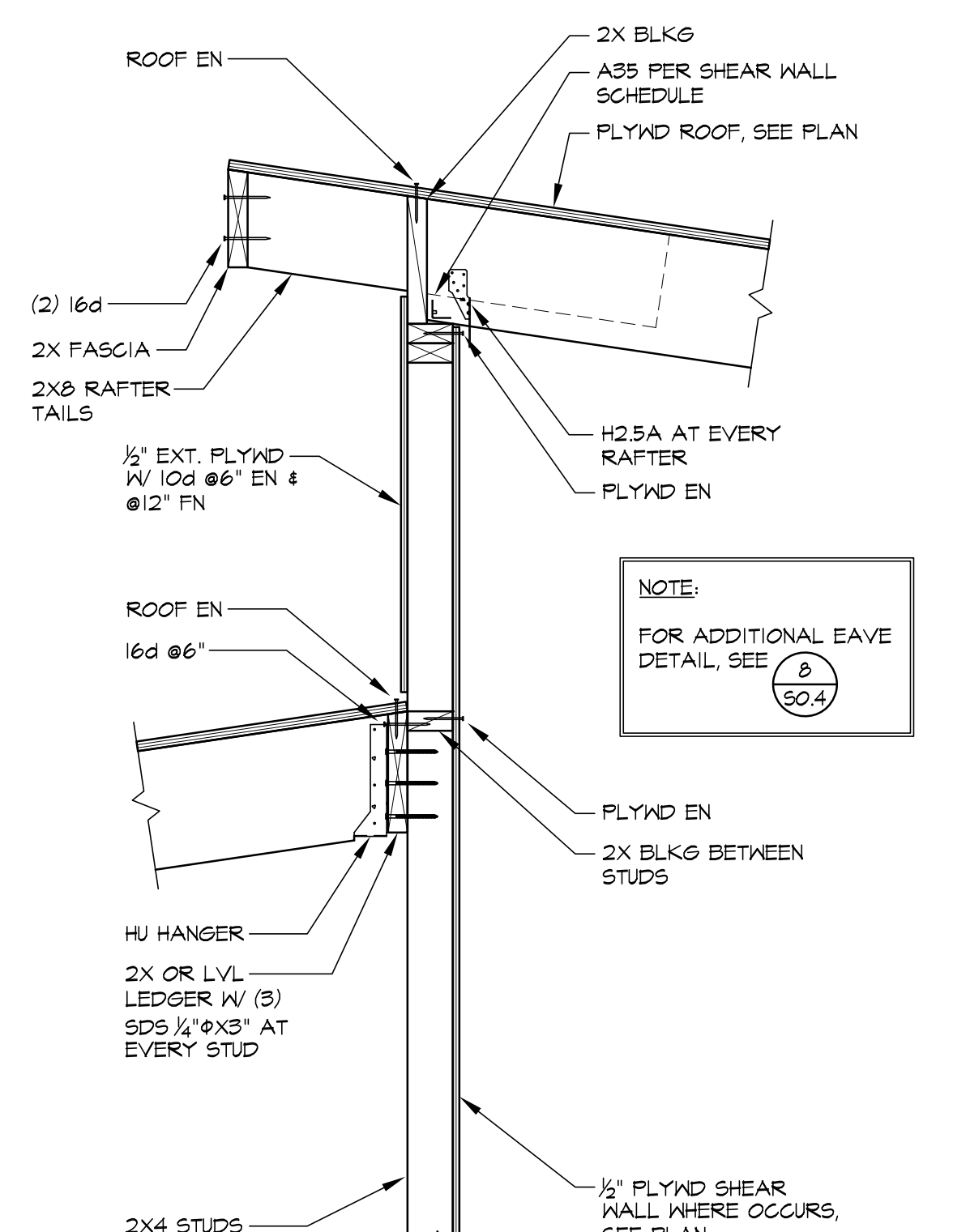
10 TYP EAVE DETAIL
 S5.2 1"=1'-0"



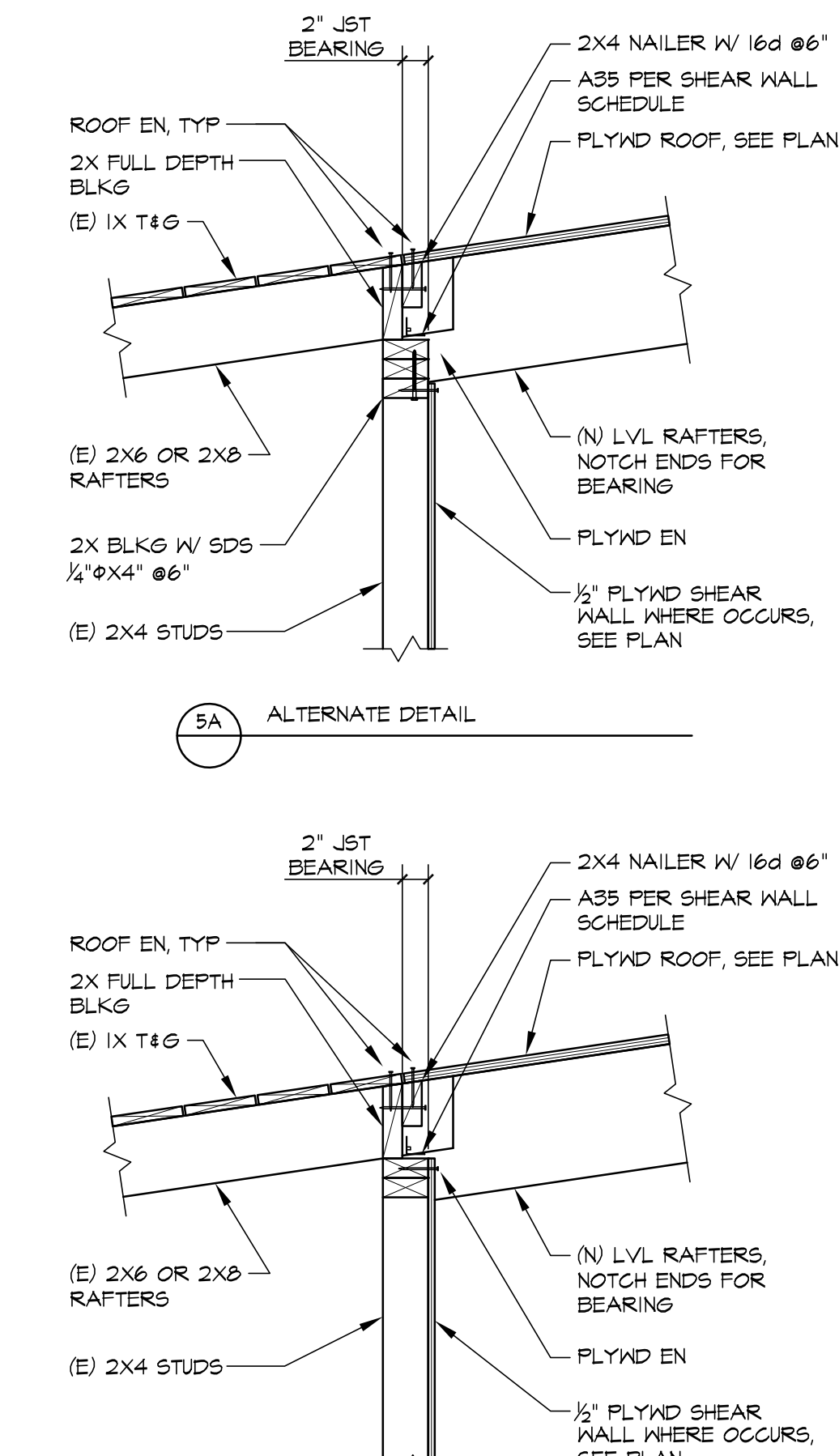
2 SECTION AT SKYLIGHTS
 S5.2 1"=1'-0"



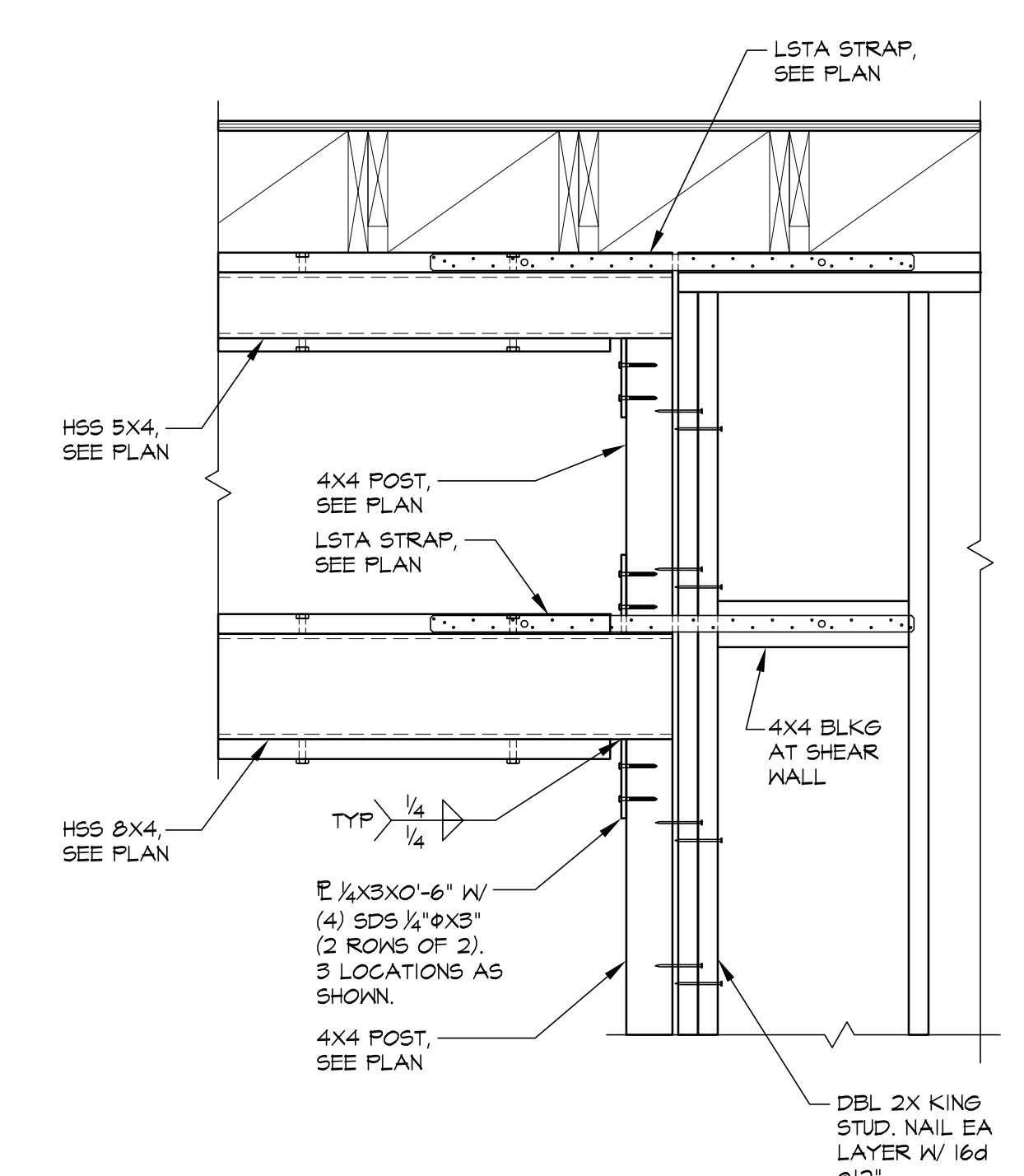
3 SECTION AT CLERESTORY WINDOW
 S5.2 1"=1'-0"



4 HIGH TO LOW ROOF TRANSITION
 S5.2 1"=1'-0"

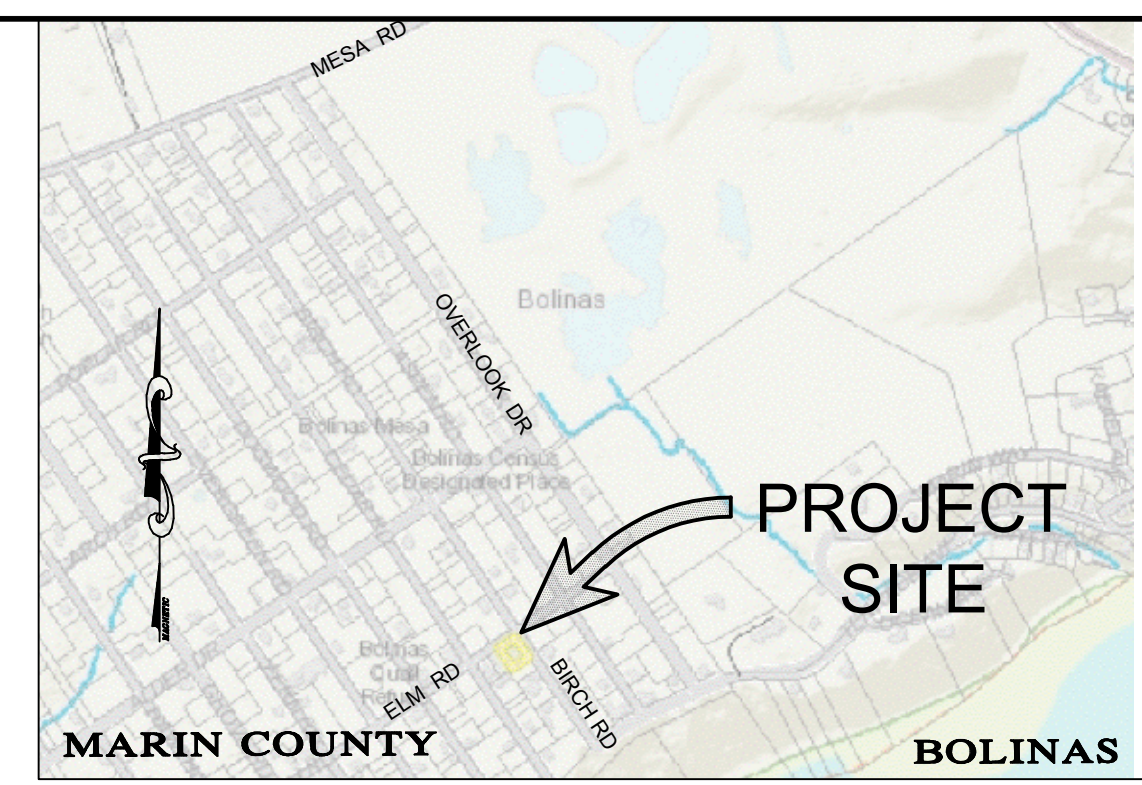


5 TRANSITION AT (E) ROOF
 S5.2 1"=1'-0"



1 HSS BM TO POST CONNECTION AT CLERESTORY WINDOW
 S5.2 1"=1'-0"

U.S.A. NOTIFICATION SERVICE



VICINITY MAP
N.T.S.

SETBACK SCHEDULE

SITE FEATURE	SETBACK TO	
	SEPTIC TANK	DRAINFIELD
BUILDING	3 - 5'	3 - 5'
ADJOINING PROP. LINE	1 - 5'	1 - 5'
DOWNSLOPE PROP. LINE	5'	10'
PERENNIAL WATERCOURSE	25' *	50' **
EDGE OF DRAINFIELD PIPE	5'	-
ROADSIDE SWALE	15'	15'
DOMESTIC WATER LINE	10'	10'
DRIVEWAY OR PAVED SURFACE	1 - 5'	1 - 5'

* With proof or certification that the tank is watertight
** With installation of an approved effluent pretreatment unit

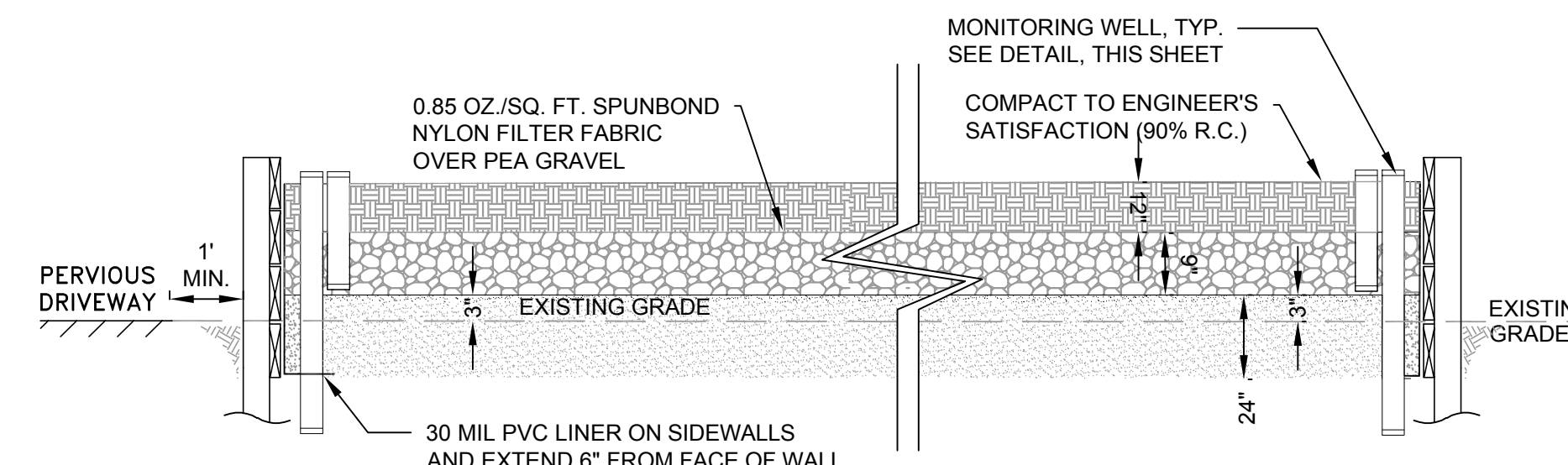
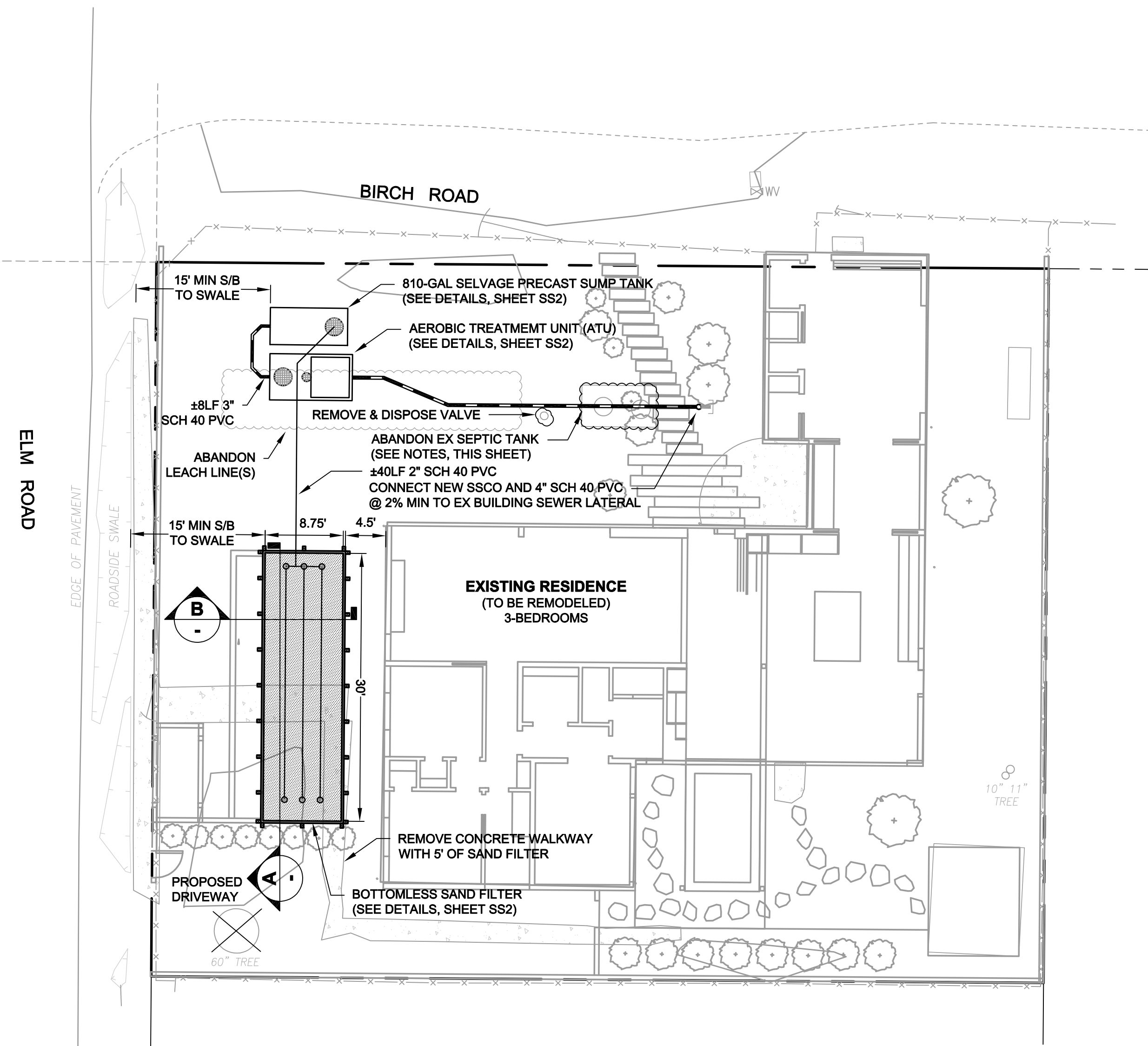
EROSION CONTROL NOTES

1. Perform erosion prevention and sediment control in accordance with the latest edition of Appendix Chapter 33 of the California Building Code, applicable County standards, codes and ordinances, and Section 20 of the Caltrans Standard Specifications
2. The approved plans shall conform with the erosion prevention and sediment control best management practices contained in the latest editions of the following publications or an equivalent best management practice:

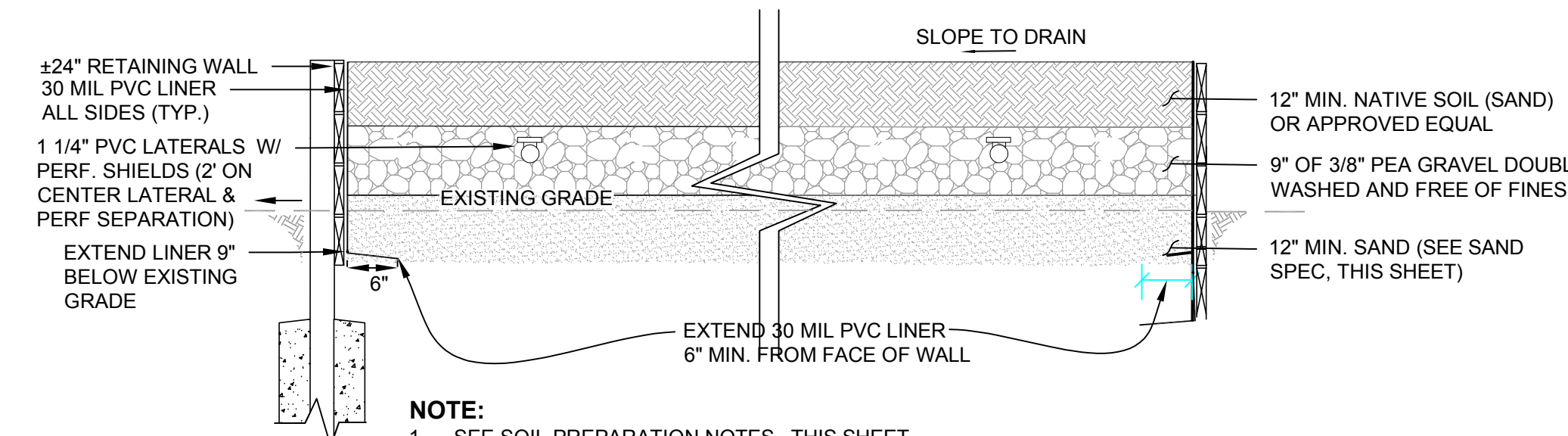
Erosion and Sediment Control Field Manual by the San Francisco Bay Regional Water Quality Control Board. Manual of Standards for Erosion & Sediment Control measures by the Association of Bay Area Governments. Construction site best management practices manual by Caltrans. Stormwater Best Management Practice handbook by the California Stormwater Quality Association.
3. The Owner is responsible for preventing storm water pollution generated from the construction site year round. The owner must implement an effective combination of erosion prevention and sediment control on all disturbed areas during the rainy season (October 15 - April 15).

GENERAL SEPTIC NOTES

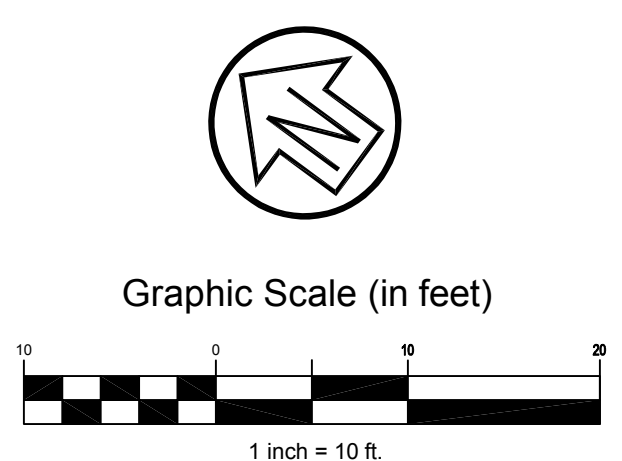
1. This map makes no warranty whatsoever that utilities, either surface or subsurface, do or do not exist. Prior to site planning and/or construction activities, it is recommended that the services of a utility location professional be utilized to ascertain the precise location of any utility, whether shown or not shown hereon.
2. Septic improvements shall conform to County setback requirements for a Class II system. Contractor is responsible for verifying property, utilities, and easement line locations prior to construction.
3. Contractor shall coordinate layout with the proposed architectural site improvements. Elm Street driveway shall have a pervious surface and maintain 1' min. setback to the sand filter.
4. Contractor shall be responsible to relocate existing utilities, as needed, around the septic improvements (including irrigation, gas, and domestic water lines) to meet County setback requirements.
5. Contractor shall install Selvage precast concrete tanks as indicated in the site plan. A larger tank capacity may be utilized.
6. As indicated in plan the existing septic tank shall be abandoned and replaced per County approval. Prior to removal or back filling of the existing tank, the tanks shall be pumped by a licensed septic tank pumper. A copy of the receipt for this pumping shall be provided to County staff. The Contractor shall break a hole in the bottom of the tank and backfill with earth, sand, or other compactable material to a level above the top of the vertical portions of the sidewalls or above the level of any outlet pipe. At this point, the County REHS shall be called for observation. Backfill over the abandoned septic tank shall be native material to match existing grade.
7. Contractor shall field determine the septic tank elevation based on the existing building lateral elevation and maintaining a 2% minimum slope between the new tanks.
8. Contractor shall set new septic tanks such that 2% minimum slope is maintained from the building sewer lateral.
9. Contractor shall perform a water tightness test (see note, Sheet SS2).
10. Prior to importing of loamy topsoil, the Contractor shall provide a 1-gallon sample for Marin County EHS approved at the 1st (layout) construction observation.
11. The bottomless sand filter retaining wall shall be a modified Type "C" wooden wall per UCS #160 without subdrainage and use of 4x6 posts and 3x12 planks or as approved by the Engineer.
12. All work shall be in conformance with the County's most recent regulations for design and construction of individual sewage disposal system.
13. When excavating an existing leach line, the Contractor shall cap existing lateral 1 sack of concrete. Existing leach field rock shall be disposed of at an REHS approved landfill.
14. All sewer connections shall be in accordance with the most recent edition of the Uniform Plumbing Code.
15. Sewer line from building to septic tank shall be inspected by Contractor for slope, water tightness, and overall condition if reutilized. Clean-out to be installed at least 2 to 5 feet from building. All other piping from septic tank to the leach lines shall be schedule 40 P.V.C piping.
16. No work shall be performed during the wet season and all excavation shall be performed when soil conditions are dry or upon approval of the Engineer.
17. Contractor not to over-excavate the delivery line trench. If crossing a water lateral, the sewer line shall be located 12-inches below the water line. The water lateral shall be sleeved within 10' of the leach field.
18. All plumbing fixtures shall be low use type, i.e., toilets (1.6 gallons/flush), shower heads (2.0 GPM). All faucets to have aerators installed.
19. All drainage (i.e. downspouts, area drains, etc.) to drain away from the septic system via a drainage system.



A BOTTOMLESS SANDFILTER CROSS SECTION DETAIL
SCALE: NTS



B BOTTOMLESS SANDFILTER CROSS SECTION DETAIL
SCALE: NTS



SEPTIC SITE PLAN

Rev	Date	Description	Designed	Drawn	Checked
A	9/23/21	ADD ATU TO REDUCE SAND FILL TO 12"	RJS	RJS	RJS

CSW ST2
CSW/Stuber-Stroeh Engineering Group, Inc.
 Civil & Structural Engineers | Surveying & Mapping | Environmental Planning
 Land Planning | Construction Management
 45 Leveroni Court Novato, CA 94949
 tel: 415.883.9850 fax: 415.883.9835
 www.cswst2.com © 2014

Town	Bolinas
County	Marin
State	California

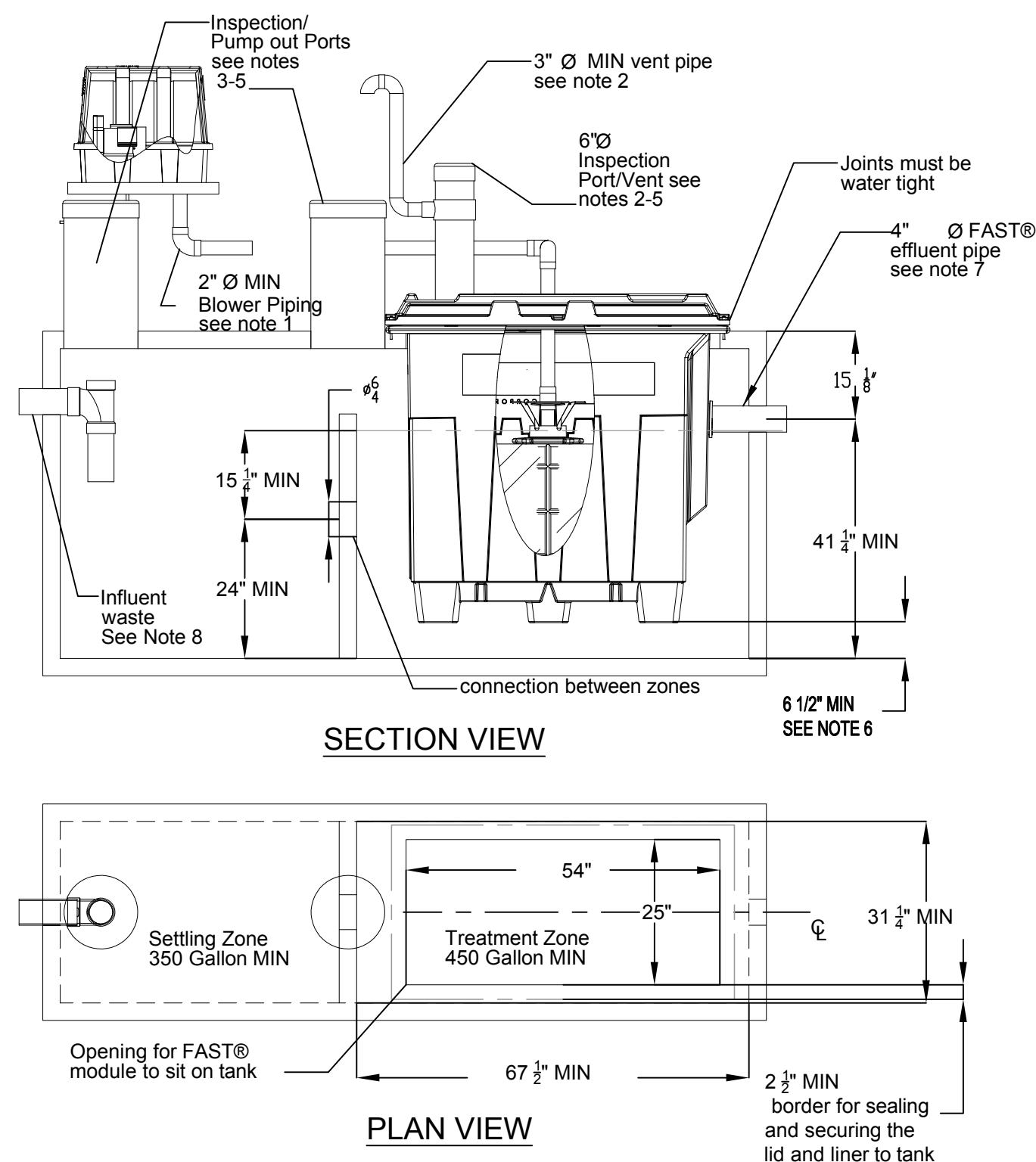
DAI-SHEN RESIDENCE: CLASS II (315 GPD) SEPTIC REPAIR
BOTTOMLESS SANDFILTER DESIGN
 A.P.N. 192-212-17
 161 ELM ROAD

Prepared Under the Direction of:

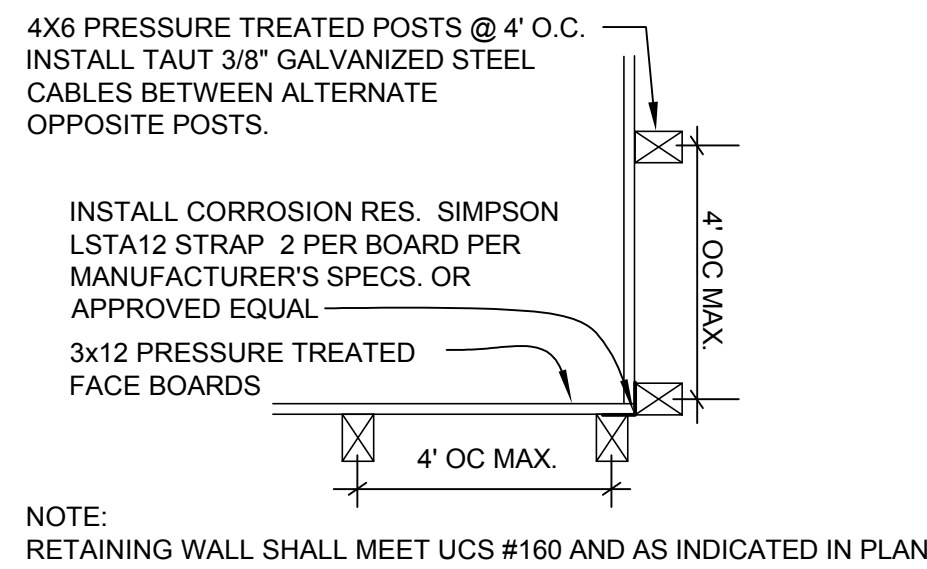
SS1
 Scale: as shown
 Date: July 27, 2021
 Project Number: 2120001
 Plan File:

AEROBIC TREATMENT UNIT NOTES

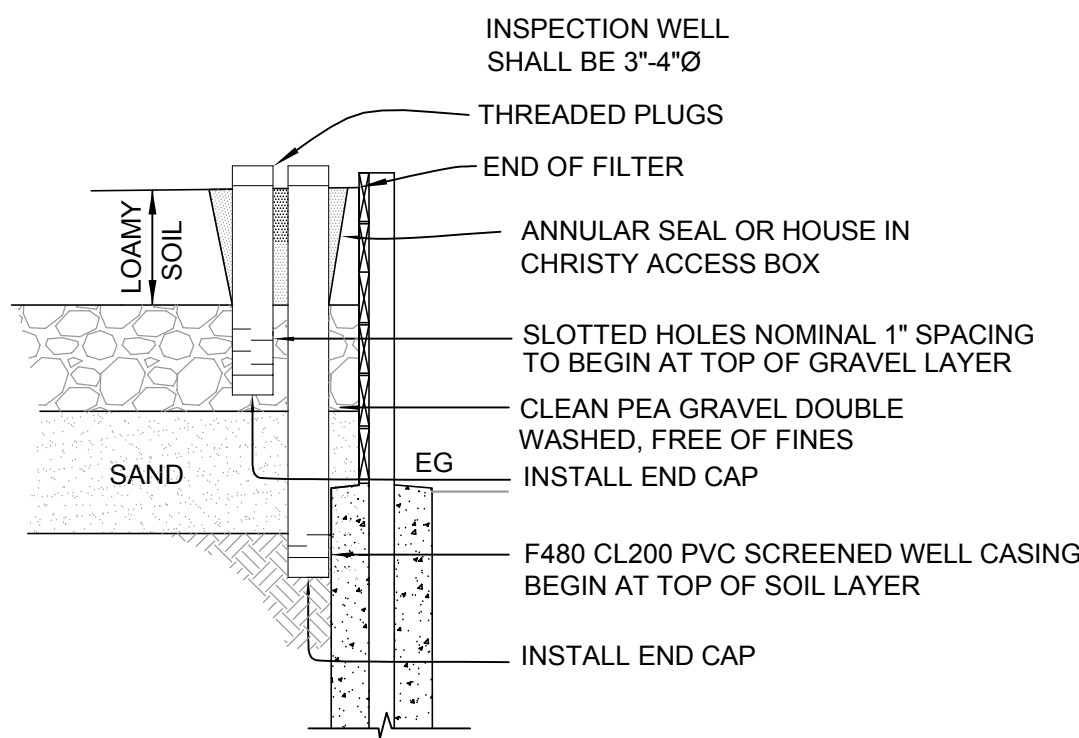
- Airline piping to FAST® may not exceed 100 FT [30m] total length and have a maximum of 4 elbows in the piping system. For distances greater than 100 FT [30m] consult factory. Blower must be located above floor levels on a concrete base 26" X 20" X 2" [65 X 50 X 5cm] min.
- Vent to desired location and cover opening with a vent grate with at least 7 sq in. [45 sq. cm] open surface area. Secure with stainless steel screws. Vent piping must not allow condensate build up or create back pressure. Vent must be above finished grade or higher (see sheet 4 of 4).
- All appurtenances to FAST® (e.g. tanks, access ports, electrical, etc.) must conform to all applicable country, state, province, and local plumbing and electrical codes. Pump out access shall be adequate to thoroughly clean out both zones.
- All inspection, viewing and pump out ports must be secured to prevent accidental or unauthorized access.
- Tank, piping, conduit, etc. are provided by others. Blower control system by Bio-Microbics, Inc. See Installation Manual.
- If less than the specified minimums are considered necessary, consult factory for guidance.
- All piping and ancillary equipment installed after FAST must not impede or restrict free flow of effluent.
- The tank(s) shall be designed to prevent air passage between the settling zone/tank and the treatment zone and preventing an air lock. Examples include a baffle wall sealed to the lid or treatment zone inlet line with a pipe cap. Consult factory for guidance.
- Installations using a FAST® system lid are capable of withstanding AASHTO H-10 equivalent loads. Any installation in which a FAST lid is buried deeper than 3 feet, or where additional loading conditions may occur, a professional engineer should be consulted. FAST® with feet option should be considered. Refer to Installation Manual for more details.
- Specialized treatment levels may require specific features to be incorporated into the design. Consult factory for guidance.



1 1200-GALLON SEPTIC TANK WITH ATU DETAIL
SCALE: NTS



3 WALL DETAIL
SCALE: NTS



4 MONITORING WELL DETAIL
SCALE: NTS

GENERAL NOTES

- DISCHARGE PUMP: Existing discharge pump shall be of the size and type to accommodate the intended use and shall include the following:
 - A "Hand-Auto" switch.
 - An audio and visible alarm.
 - Orengo electrical float switches for starting and stopping to indicate a "high water" condition.
 - All pumps to be set per plan or the manufacturer's minimum liquid level.
- SUMP TANK:
 - Existing float switch elevations shall be field verified and confirmed with the Engineer.
 - The Contractor shall notify the Design Engineer for changes in float elevation resulting in a change of tank(s).
 - Access lid(s) shall be protected in place.
- ELECTRICAL FEATURES: The following electrical features shall be provided:
 - Orengo S-1/2 simplex panel or approved equivalent panel with dose counter and elapsed time meter to control the discharge pump.
 - Control panel should be outdoor type control box containing fused disconnect and motor protection switch.
 - As applicable, the new control box shall be mounted on the building served if located within 20 feet of the sump tank or on a pressure treated wooden 4x4 post.
 - As applicable, electrical conduit shall be PVC per NEC. Separate conduits shall be provided for control wire and power supply.
 - Dedicate separate electrical circuit for pump(s) and float switches. Circuit breaker at main panel to be larger than circuit breaker at control panel.
- PERMITS: Aside from an individual sewage disposal system permit, an electrical permit for the pump installation will be necessary for the Building Inspection Department.
- This map makes no warranty whatsoever that utilities, either surface or subsurface, do or do not exist. Prior to site planning and/or construction activities, it is recommended that the services of a utility location professional be utilized to ascertain the precise location of any utility, whether shown or not shown hereon.
- Contractor shall be responsible to relocate existing utilities, as needed, to meet County setback requirements.
- Contractor shall determine the existing septic tank outlet pipe elevations prior to setting the new pretreatment tank. Any problems connecting to the sewer lateral outlet shall be brought to the Engineer's attention prior to construction at the 1st construction observation.
- The existing septic tanks shall pass a watertight test prior to reuse. If the tank is not watertight, Contractor shall either replace the tank or seal and retest the tank until the watertight test is approved by the County REHS.

RECOMMEND PUMP:

DISCHARGE PUMP USE GOULDS 3885 SERIES (1/2 HP, 1 Ø, 230V) OR EQUIVALENT

TDH: 30 FT
FLOW: 21 GPM

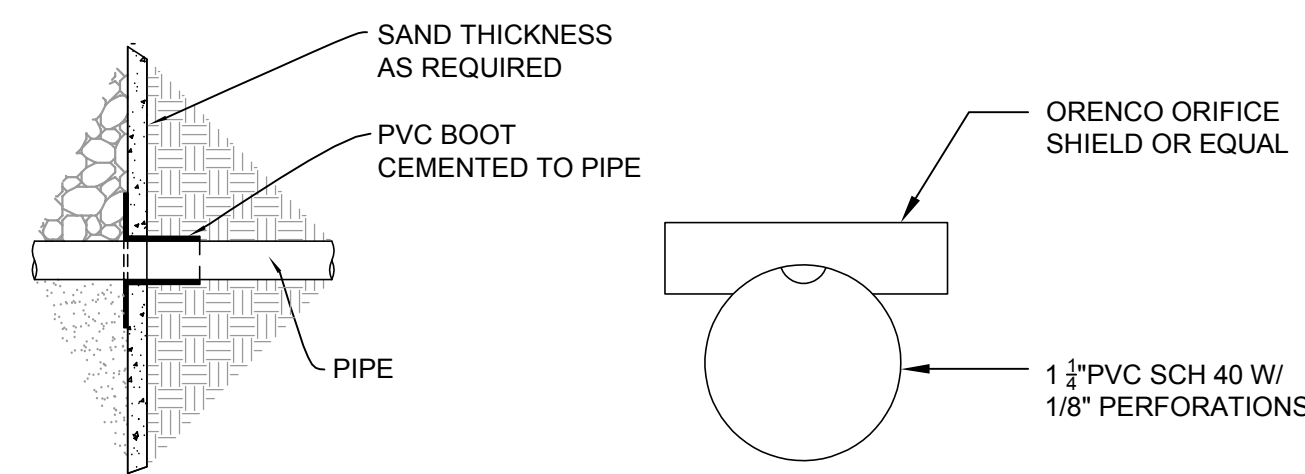
DISCHARGE PUMP TO BE SET FOR "ON-DEMAND" FOR 50 GALLONS OR AS APPROVED BY THE DESIGN ENGINEER AND/OR COUNTY REHS

RECOMMENDED CONTROL PANEL:

USE ORENCO VERICOM CONTROL PANEL, 230V OR EQUIVALENT
CONTRACTOR TO FIELD VERIFY LOCATION WITH THE ENGINEER

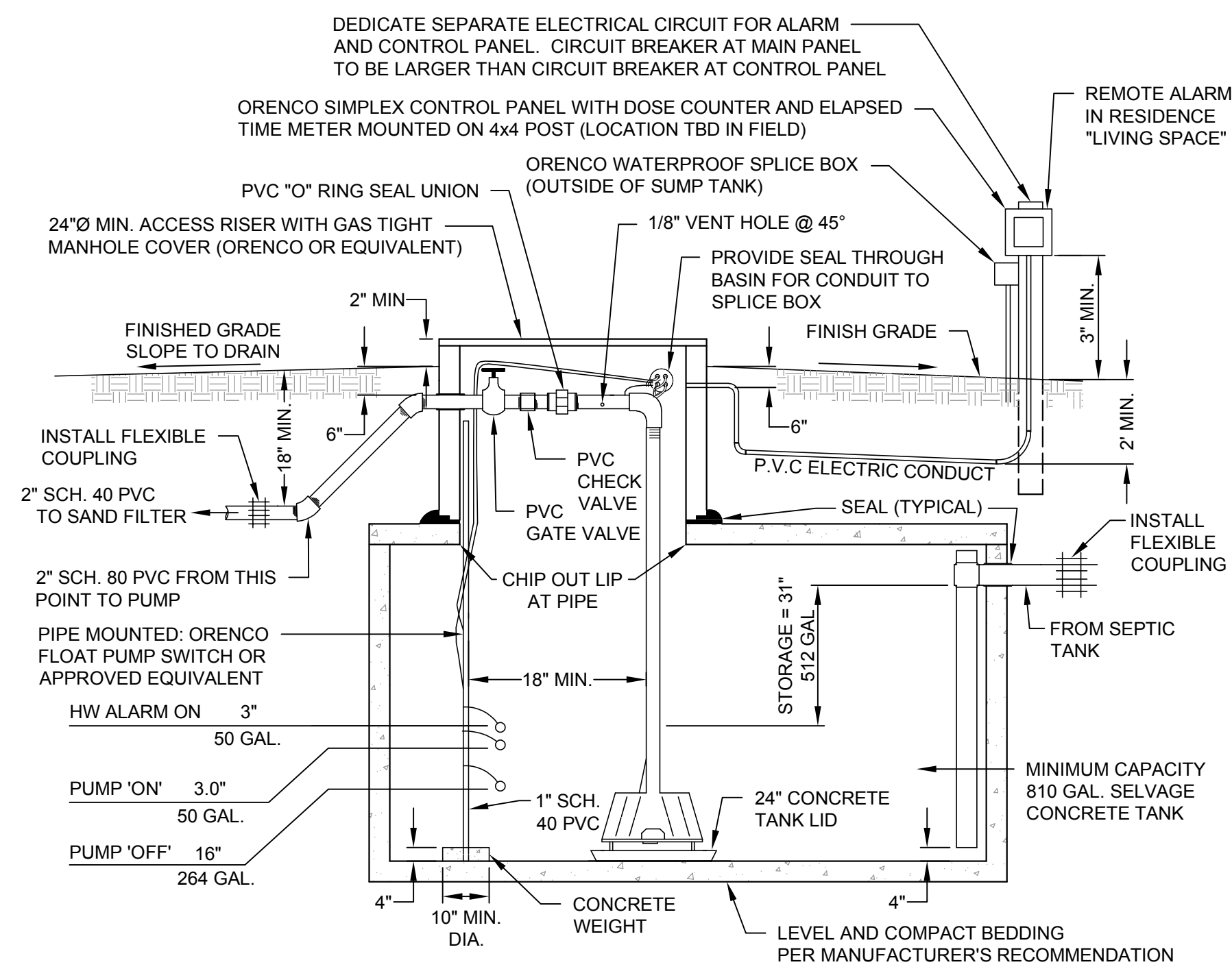
SAND SPECIFICATION

Sieve Size	Percent Passing
3/8	100
#4	90-100
#10	62-100
#16	45-82
#30	25-55
#50	5-20
#60	0-10
#100	0-4



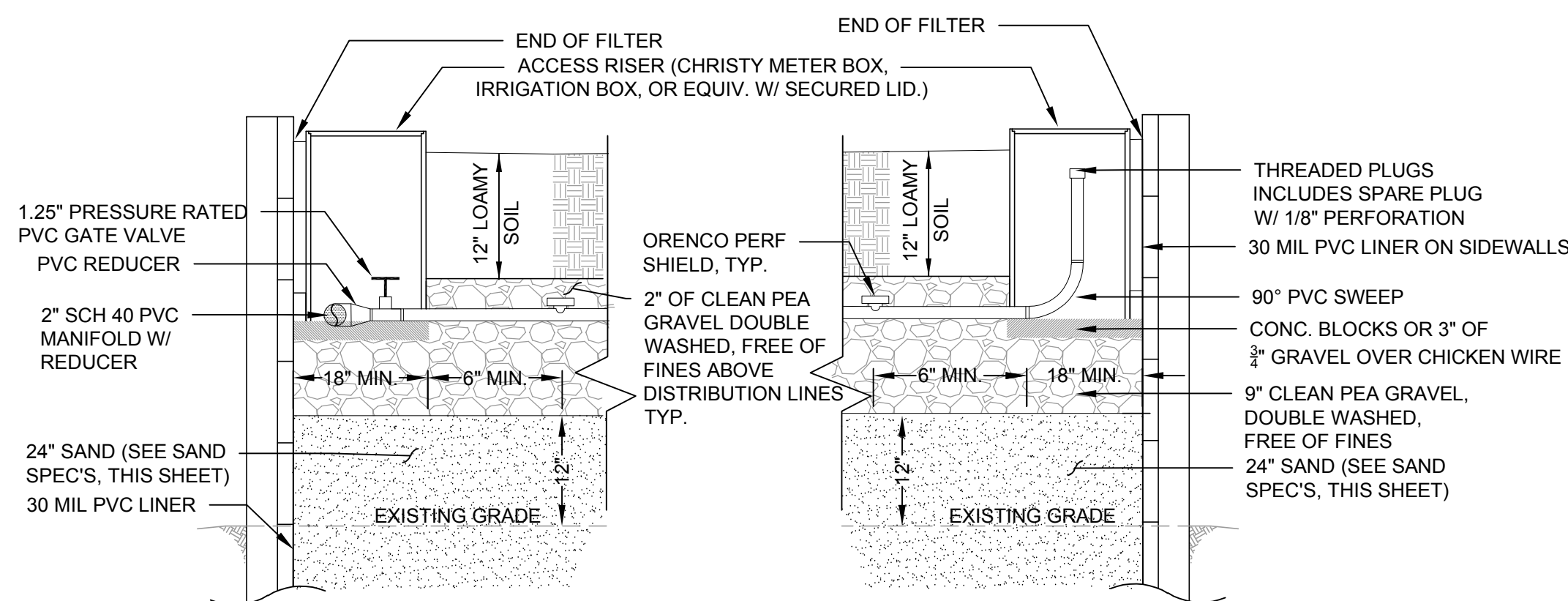
5 PVC BOOT DETAIL
SCALE: NTS

6 PERFORATION SHIELD DETAIL
SCALE: NTS



- NOTE:
- ACCESS RISERS TO BE A MINIMUM OF ONE FOOT AND A MAXIMUM OF THREE FEET FROM EXISTING GRADE TO THE TOP OF TANKS TO ALLOW EASY ACCESS FOR MAINTENANCE.
 - PUMP SHALL BE GOULDS 3885, 1012H (1 HP, 230V, 1 PHASE) OR EQUIVALENT
 - TDH = 49.0 FT & FLOW = 38.1 GPM
 - CONTROL PANEL SHALL BE ORENCO S1-2 SIMPLEX PANEL

2 810-GALLON SUMP TANK DETAIL
SCALE: NTS



- NOTE:
- SEE SOIL PREPARATION NOTES, THIS SHEET

7 LATERAL END DETAIL
SCALE: NTS

SOIL PREPARATION NOTES:

- Trench and place the effluent delivery line from the sump tank to the edge of the sand filter. This will avoid compaction of the mound site following plowing. Cut and cap the pipe one foot beneath the ground surface.
- Place the bed bottom to the proper elevation. Great care should be taken to make sure the distribution bed bottom is level. This will require careful hand work.
- Ripping the site is the first critical construction task. Ripping the site shall be done only when the soil moisture content is sufficiently low. The soil shall not be diced, as this operation can break the soil into fine particles leading to a restriction in the soil's surface percolation capacity. If the soil 6 inches or more under the surface can be easily molded, the soil is too wet. If ripped in this condition, the soil's natural infiltration rate will be substantially reduced, thereby increasing the chance of system failure. Ripping shall immediately precede construction. If after ripping the soil becomes wet, construction shall be postponed. Ripping shall be parallel with the elevation contours. The soil shall be ripped to a depth of 12 inches. A rip as wide as possible should be used to minimize site compaction. Area shall be ripped in one (1) pass.
- Extend the effluent pipe to a height above the future distribution bed.
- Stockpile the fill sand around the perimeter of the plowed area taking care to keep off the ripped surface.
- Place filter sand, following REHS approval of sand and rip area, to minimize compaction of the ripped surface. Distribute the sand over the filter. The sand is placed to the same elevation as the top of the gravel distribution bed. Note: additional sand will have to be added as the sand fill area compresses.
- Place the gravel in the excavated bed over the filter. The distribution bed is filled to the top with 9 inches of gravel.
- Within the distribution bed, place a 3 inch deep furrow with a shovel for the distribution lateral. For testing, connect the distribution laterals with holes up to the distribution manifold pipe. Place clean water in the sump tank and test the pump, controls and distribution system, checking for uniform streams of water from each hole. Clean out those holes with impaired flow until all streams are uniform. Cement the laterals to the manifold and install perforation shields. Cover the line with 2 inches of gravel taking care that the laterals are level and the manifold slopes back to the inlet line so the system can drain to the sump tank if necessary.
- Material such as spun bonded nylon filter fabric or equal shall be placed over the gravel bed to prevent the topsoil fines from infiltrating into the gravel bed. The material used shall be non-biodegradable.
- Place a minimum of 12 inches of top soil over the filter fabric.

CONSTRUCTION OBSERVATION SCHEDULE

The Contractor shall notify the Engineer and County REHS a minimum of 48 hours prior to construction and observation of the system. The Engineer and Inspector shall observe the system at critical construction phases as follows:

- Pre-construction observation where the following items shall be verified:
 - Imminent weather conditions are such that they will not create unsuitable soil conditions during installation.
 - Layout and staking or marking of all tanks and sand filter corners.
 - Review and approval of the source of materials to be used.
- Interim observation(s)
 - Installation of sand filter liner with peagravel, sand, cover elevations marked.
 - Squirt test of all sand filter laterals prior to addition of cover fill. All laterals and fittings shall be exposed.
 - Function and setting of all control devices.
 - Connections of all piping and related components.
 - Water tightness test of all connections, existing septic, existing sump, existing and new grease tanks.
- Start up observation
 - Start up inspection shall be scheduled with the design engineer, service provider, and County REHS.
 - All construction elements are in general conformance with the approved plans and specifications.
 - Final soil cover over the sand filter.
 - System controls are hardwired to permanent power and all floats, pumps and alarms tested.
 - Letter from the Engineer that the system has been installed and is operating in conformance with the design specifications shall be provided.
 - The septic system sump pump electrical system installation conformance certification shall be completed, signed by the installing contractor.

TANK WATER TIGHTNESS TEST:

- Fill septic and sump tank to 2-4" into the risers.
- Measure and mark water level a day prior to inspection.
- After 30 min., if the water elevation drops, tanks have failed and shall be replaced or proper sealant to be applied to correct any leaks as stated in septic note 5.
- Steps 1 thru 3 shall be repeated after corrections completed.
- Test shall be conducted under supervision of SBCWD or Design Engineer.

OPERATING & MAINTENANCE OF SEPTIC & DOSING SYS.

- Inspect septic tank annually for leakage and scum buildup.
- If sludge buildup in septic tank is 6" or greater, have tank pumped.
- Minimize the use of garbage disposal unit by composting or packaging scrap to trash.
- Minimize pouring grease down drain.
- Minimize discharge of paper products, i.e. cigarettes, disposable diapers, sanitary napkins and tissues.
- Do not dispose of oils, paint and thinner down waste lines.
- Minimize liquid load by repairing leaking fixtures and washing clothes with full loads.
- Drain surface water away from leachfield area.
- It is not recommended to install a sprinkler system over a septic system. However, if a sprinkler system is installed within the flow path of the septic system, regular observation of the irrigation system should be performed otherwise failing sprinkler heads, valves, etc. can cause significant problems with the septic system.

Rev	Date	Description	Designed	Drawn	Checked
A	9/23/21	ADD ATU TO REDUCE SAND FILL TO 12"	RJS	RJS	RJS

CSW ST2
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 Land Planning | Construction Management
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 tel: 415.883.9850 fax: 415.883.9835
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Town	Bolinas
County	Marin
State	California

DAI-SHEN RESIDENCE: CLASS II (315 GPD) SEPTIC REPAIR
BOTTOMLESS SANDFILTER DESIGN

A.P.N. 192-212-17

161 ELM ROAD

Prepared Under the Direction of: **Richard J. Souza**
 REGISTERED PROFESSIONAL ENGINEER
 RICHARD J. SOUZA
 No. 67892
 CIVIL
 STATE OF CALIFORNIA

Sheet **SS2**
 Scale: as shown
 Date: July 27, 2021
 Project Number: 2120001
 Plan File: