A PROPOSED BATHROOM REMODEL FOR:
IAN SHORE RESIDENCE

813 SANTA FE AVENUE ALBANY CA 94706

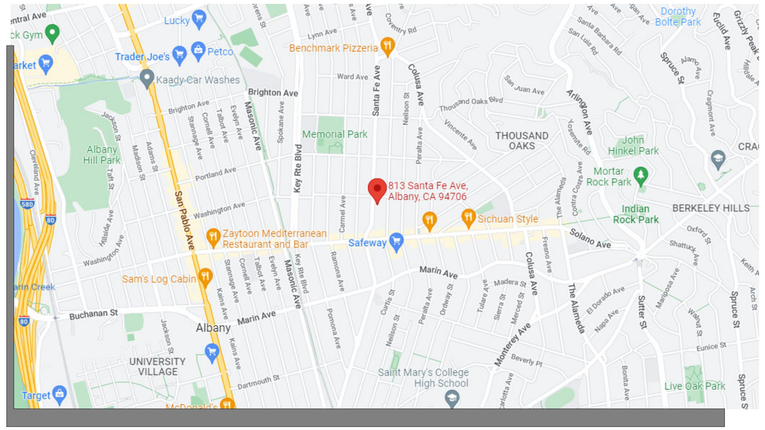
GENERAL NOTES:

1. REGARDLESS OF DETAILS ON PLANS, THE CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING CODES:
   2019 CALIFORNIA BUILDING CODE
   2019 CALIFORNIA RESIDENTIAL CODE
   2019 CALIFORNIA ELECTRICAL CODE
   2019 CALIFORNIA PLUMBING CODE
   2019 CALIFORNIA MECHANICAL CODE
   2019 CALIFORNIA FIRE CODE
   2019 CALIFORNIA ENERGY CODE
   2019 CALIFORNIA ENERGY EFFICIENCY STANDARDS
   2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
   CITY OF **ALBANY** ORDINANCES AND AMENDMENTS
2. ANY DISCREPANCY DISCOVERED ON OR BETWEEN THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER PRIOR TO THE START OF ANY RELATED WORK. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS ON SITE PRIOR TO CONSTRUCTION.
3. CONTRACTOR ASSUMES RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY. THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND THE DESIGNER HARMLESS FROM ANY LIABILITY IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR DESIGNER.
4. A COMBINATION CARBON MONOXIDE/SMOKE DETECTOR SHALL BE INSTALLED OUTSIDE ALL BEDROOM AREAS. SMOKE DETECTORS ARE ONLY REQUIRED IN BEDROOMS AND ON ALL LEVELS OF THE RESIDENCE. CARBON MONOXIDE DETECTORS ARE REQUIRED ON ALL LEVELS OF THE RESIDENCE PER CBC.
5. NO PIPE SHALL BE EMBEDDED IN CONCRETE.
6. PROTECTION OF PIPING PASSING THROUGH OR UNDER WALLS TO BE IN ACCORDANCE WITH CPC
7. ALL FLOOR DRAINS SHALL BE TRAPPED AND SHALL BE PROVIDED WITH THE PRIMER LINE IN ACCORDANCE WITH CPC.
8. HEATING AND VENTILATING EQUIPMENT SHALL BE PROVIDED IN ACCORDANCE WITH THE CALIFORNIA MECHANICAL CODE.
10. PROVIDE APPROVED, NON-REMOVABLE BACKFLOW PREVENTION DEVICE ON ALL HOSE BIBS.
11. THE LOCATION OF ALL GAS SHUT OFF VALVES FOR APPLIANCES SHALL BE LOCATED WITHIN 3 FEET OF THE APPLIANCE SERVED PER CPC.
12. NO DISHWASHING MACHINE SHALL BE DIRECTLY CONNECTED TO A DRAINAGE OR FOOD WASTE DISPOSER WITHOUT THE USE OF AN APPROVED DISHWASHER AIRGAP FITTING ON THE DISCHARGE SIDE OF THE DISHWASHING MACHINE.
13. PROVIDE BLOCKING IN WALLS AS NECESSARY FOR THE INSTALLATION OF CABINETS, SHELVING AND FIXTURES.
14. STRUCTURAL OBSERVATION SHALL BE REQUIRED BY THE ENGINEER FOR STRUCTURAL CONFORMANCE TO THE APPROVED PLANS.
15. SEE STRUCTURAL DRAWINGS, GENERAL NOTES AND PROJECT INFORMATION FOR SPECIAL INSPECTION REQUIREMENTS.
16. SPECIAL INSPECTION OR STRUCTURAL OBSERVATION IS NOT A SUBSTITUTE FOR INSPECTION BY THE BUILDING OFFICIAL OR THE BUILDING INSPECTOR. SPECIALLY INSPECTED WORK THAT IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE BUILDING OFFICIAL AND THE SPECIAL INSPECTOR AND DESIGN ENGINEER IS SUBJECT TO REMOVAL OR EXPOSURE.
17. THE ENGINEER MUST NOTE ON THE JOB CARD, IN INSPECTION SECTION, THAT STRUCTURAL OBSERVATION HAS BEEN PERFORMED AND THE STRUCTURE IS IN COMPLIANCE TO THE APPROVED PLANS PRIOR TO BUILDING INSPECTION BY THE **ALBANY** BUILDING INSPECTOR.
18. PLACE AND SECURE ALL ANCHOR BOLTS AND OTHER ITEMS TO BE CAST IN CONCRETE FOR FOUNDATION INSPECTIONS. WET SETTING ANCHOR BOLTS OR REINFORCING AFTER PLACEMENT OF CONCRETE IS NOT ALLOWED.
19. SPECIAL INSPECTION IS REQUIRED FOR DRILLED PIERS AND EPOXY SET ANCHOR BOLTS.
20. THE ADDRESS SHALL BE POSTED IN ACCORDANCE WITH REQUIREMENTS OF THE CALIFORNIA BUILDING CODE, CALIFORNIA FIRE CODE AND FIRE DEPARTMENT STANDARD 205. FINAL INSPECTION AND SIGNOFF OF ADDRESS POSTING SHALL BE COORDINATED THROUGH BUILDING DEPARTMENT.
21. SMOKE AND CO DETECTORS SHALL BE INSTALLED IN ACCORDANCE WIT H THE CALIFORNIA BUILDING CODE. FINAL INSPECTION AND SIGNOFF OF SMOKE DETECTORS SHALL BE COORDINATED THROUGH BUILDING DEPARTMENT.
22. THE APPLICANT SHALL COMPLY WITH CHAPTER 49 OF THE 2019 CALIFORNIA FIRE CODE AND APPENDIX II OF THE 2019 WUI CODE REQUIREMENTS RELATING TO THE CLEARANCE OF FLAMMABLE BRUSH AND WEEDS. A MINIMUM CLEARANCE OF 30' FROM STRUCTURES AND 10' FROM ROADS ANDPROPERTY LINES SHALL BE CLEARED AND MAINTAINED. THIS WILL BE A CONDITION OF FINAL INSPECTION.
23. FINAL OCCUPANCY APPROVAL SHALL NOT BE GRANTED BY THE FIRE DEPARTMENT UNLESS ALL CONDITIONS HAVE BEEN MET.
24. FIRE DEPARTMENT AND CITY PERSONNEL SHALL BE GRANTED ACCESS TO PRIVATE DRIVEWAYS AND PRIVATE ROADWAYS IN ORDER TO ENFORCE APPLICABLE ORDINANCES RELATED TO FIRE CODES, MUNICIPAL AND PENAL CODES PERTAINING TO MAINTAINING ROAD ACCESS FOR EMERGENCY VEHICLES.
25. TO AVOID INSPECTION DELAYS BY THE FIRE DEPARTMENT, ALL REQUESTS MUST BE MADE AT LEAST 48 HOURS IN ADVANCE.
26. ALL PERMITS AND/OR INSPECTION FEES REQUIRED BY THE FIRE DEPARTMENT SHALL BE PAID IN FULL PRIOR TO FINAL OCCUPANCY BEING GRANTED.
27. ALL OUTDOOR LIGHTING THAT IS ATTACHED TO THE BUILDING SHALL BE HIGH EFFICIENCY. OTHER LIGHTING MAY BE ALLOWED PROVIDED THAT THEY ARE CONTROLLED BY MOTION SENSORS WITH INTEGRAL PHOTOSENSOR. ALL LIGHTING SHALL BE LABELED "SUITABLE FOR WET LOCATIONS" PER CEC.
28. TEMPORARY POWER POLE INSPECTION SHALL BE THE FIRST INSPECTION REQUESTED. THERE SHALL BE NO FURTHER INSPECTIONS UNTIL TEMPORARY POWER INSTALLATION HAS BEEN APPROVED BY THE CITY OF **ALBANY**.
29. SPECIAL INSPECTION IS REQUIRED FOR EPOXY HOLDOWNS AND HIGH STRENGTH SHEARWALL NAILING AT 4"O.C. OR LESS.
30. TRUSSES WILL BE A DEFERRED SUBMITTAL. TRUSS LAYOUT PLANS AND CALCULATIONS MUST BE APPROVED BY THE ENGINEER OF RECORD AND APPROVED BY THE BUILDING OFFICIAL PRIOR TO REQUESTING A ROOF NAILING OR A FRAMING INSPECTION.
31. FIRE SPRINKLERS ARE REQUIRED FOR THIS PROJECT AND DO EXIST. PLANS FOR SPRINKLER SYSTEM MODIFICATIONS AND HYDROLIC CALCULATIONS SHALL BE COMPLETED BY A LICENSED C-16 SPRINKLER CONTRACTOR AND SUBMITTED TO THE MILL VALLEY FIRE DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION. ALL FIRE SPRINKLER MODIFICATIONS TO BE SUBMITTED UNDER A SEPARATE PERMIT.
32. ANY SMOKE ALARM MORE THAN TEN YEARS OLD WILL BE REPLACED PER R314.3.2.

PROJECT INFORMATION

SCOPE OF WORK:

A PROPOSED GARAGE CONVERSION OF 260 SQUARE FEET TO AN EXISTING TWO-STORY SINGLE-FAMILY HOME, RESULTING IN 1,420 SQUARE FEET WITH (3) THREE BEDROOM AND (2) TWO BATH. THE PROJECT INCLUDES NEW BEDROOM w/ CLOSET, NEW FULL BATHROOM, NEW STAIRCASE, RELOCATED LAUNDRY ,FURNACE ROOM, REMODEL 2ND FLOOR BATHROOM AND REPLACE ENTIRE GARAGE SLAB TO MEET 7'-6" CEILING HEIGHT.

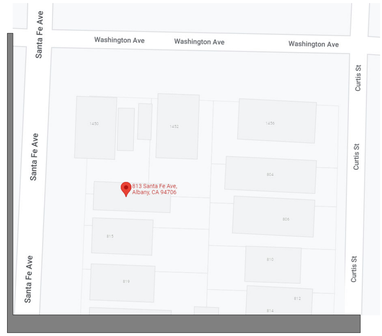


1 A1.0 VICINITY MAP
N.T.S

PROJECT NORTH

GENERAL NOTES:

1. THE GENERAL CONTRACTOR AND ALL SUB CONTRACTORS SHALL VERIFY ALL GRADES, DIMENSIONS AND CONDITIONS BEFORE THE START OF THE JOB.
2. ALL WORKS SHALL COMPLY WITH THE 2019 EDITION OF THE CALIFORNIA BUILDING CODE, MECHANICAL CODE, PLUMBIBG CODE, AND ELECTRICAL CODE, AND ALL LOCAL CODES AND ORDINANCES.
3. ALL EXTERIOR DOORS INCLUDING THE ENTRY DOOR AND THE DOOR TO THE GARAGE, ETC. SHALL BE WEATHERSTRIPPED. ALL SASH AND SLIDING GLASS DOORS ARE TO BE WEATHERSTRIPPED AS WELL.
4. ALL GLAZING SHALL COMPLY WITH CHAPTER 24 OF THE 2019 UNIFORM BUILDING CODE.
5. PROVIDE G.F.I. TYPE OUTLET RECEPTACLE AT ALL BATHS, KITCHENS, AND EXTERIOR WATERPROOF OUTLETS OR SUPPLY THROUGH A GROUND FALULT CIRCUIT INTERRUPTER.
6. LOCATION AND RATING OF ALL ELECTRICAL PANELS TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
7. ALL SITE AND FOUNDATION WORK SHALL COMPLY WITH REQUIREMENTS OF THE SOILS REPORT OR ENGINEERS SITE INSPECTION.
8. ATTIC VENTILATION SHALL COMPLY WITH 2019 UNIFORM BUILDING CODE
9. ALL GLAZING AROUND TUBS AND SHOWER ENCLOSURES SHALL COMPLY WITH THE 2019 UNIFORM BUILDING CODE
10. PROVIDE INTERCONNECTED AC/DC SMOKE DETECTORS IN LOCATIONS AS SHOWN ON PLANS PER 2019 UNIFORM BUILDING CODE.
11. ALL WATER CLOSET SHALL BE 1.28 GALLON PER FLUSH
12. PROVIDE EGRESS WINDOWS AT SLEEPING ROOMS AS REQUIRED PER 2019 UBC
13. PROVIDE WATER RESISTANT GYP. BD AT ALL SHOWER/TUBS AND OTHER WET LOCATIONS.
14. SHOWERS AND TUB-SHOWER COMBINATIONS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE OR THERMOSTATIC MIXING VALVE TYPE. HANDLE POSITION STOPS SHALL BE PROVIDED ON SUCH VALVES AND SHALL BE ADJUSTED PER MANUFACTURERS INSTRUCTION TO DELIVER A MAX. WATER SETTING OF 120 DEGRESS F (49 DEG C)



2 A1.0 LOCATION MAP
N.T.S

PROJECT NORTH

SHEET INDEX

Sheet Number	Sheet Name
A1.0	COVER SHEET
A1.1	EXISTING PHOTOS
A2.2	EXISTING AND PROPOSED GARAGE CONVERSION
A2.3	EXISTING AND PROPOSED 2ND FLOOR PLAN
A3.0	ENLARGED GARAGE PLAN & SECTIONS
A4.0	ENLARGED ELECTRICAL & LIGHTING PLAN
A5.0	DOOR AND WINDOW SCHEDULE
1	BOUNDARY AND TOPOGRAPHIC SURVEY
S1	GENERAL NOTES
S2	FOUNDATION & 2ND FLOOR FRAMING PLAN
S3	STRUCTURAL DETAILS
S4	STRUCTURAL DETAILS
S5	STRUCTURAL DETAILS
T24-A	TITLE 24
T24-B	TITLE 24
AGBC	ALBANY GREEN BUILDING CHECKLIST
AGBW	ALBANY GREEN BUILDING WORKSHEET

PROJECT DIRECTORY

OWNER:

IAN SHORE
813 SANTA FE AVE
ALBANY, CA 94706
602-478-6943

DESIGNER:

3D DESIGN SOLUTIONS
2335 ARTHUR PLACE
MANTECA, CA 95337
408-710-3454
3ddesignsolutionsinc@gmail.com

ENGINEER:

EQ ENGINEERING
STRUCTURAL ENGINEERS
P.O. BOX 51342
SAN JOSE, CA
408-772-7920
equebral@eqengineering.net

TITLE 24 ENERGY CONSULTANTS:

IGOR PICHKO, CEA
ENERGY CONSULTANT LLC
(424) 248-7658
www.title24ez.com

CONTRACTOR:

ANDALUSIAN BUILDERS INC.
MARYSOL LUJANO
130 HIDDEN VALLEY RD
HOLLISTER CA 95023
jclujano@andalusianbuildersinc.com

PROJECT DATA

LOT SIZE:	2,500 SQ. FT.
ZONING:	R-1
OCCUPANCY GROUP:	U
APN:	067 284703600

EXISTING FLOOR AREA

HOUSE :	1,160 sq. ft.
GARAGE:	500 sq. ft.
BUILDING COVERAGE	1,660 sq. ft.

NEW FLOOR AREA

ADDITION:	260 sq. ft.
HOUSE :	1,160 sq. ft.
GARAGE:	240 sq. ft.
BUILDING COVERAGE	1,660 sq. ft.
HEATED AREA	1,420 sq. ft.
LOT COVERAGE	1,660 / 2,500 = 66.4%
F.A.R.	1,420 / 2,500 = **56.8%**

3D Design Solutions
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email: 3ddesignsolutionsinc@gmail.com
DANNY DIMATULAC

CONSULTANT

No.	Description	Date
1		

PROPOSED GARAGE CONVERSION & REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany CA 94706

COVER SHEET

PROJECT NO.	21.027
DATE	03/22/2022
DRAWN BY	3D
CHECKED BY	3D

A1.0

SCALE As indicated

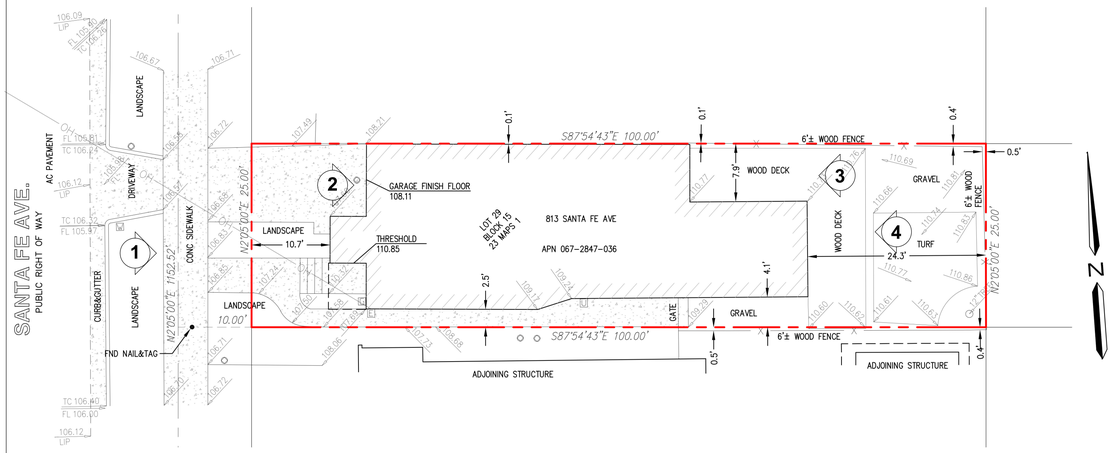
3/21/2022 11:55:52 PM

1 EXISTING FRONT PHOTO NOT TO SCALE

2 EXISTING GARAGE PHOTO NOT TO SCALE

3 (E) COVERED PATIO PHOTO NOT TO SCALE

4 EXISTING REAR PHOTO NOT TO SCALE



5 SITE PLAN/KEY PLAN NOT TO SCALE

3D Design Solutions
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email: 3ddesignsolutionsinc@gmail.com
DANNY DIMATULAC

CONSULTANT

No.	Description	Date
1		

PROPOSED GARAGE CONVERSION & REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany CA 94706

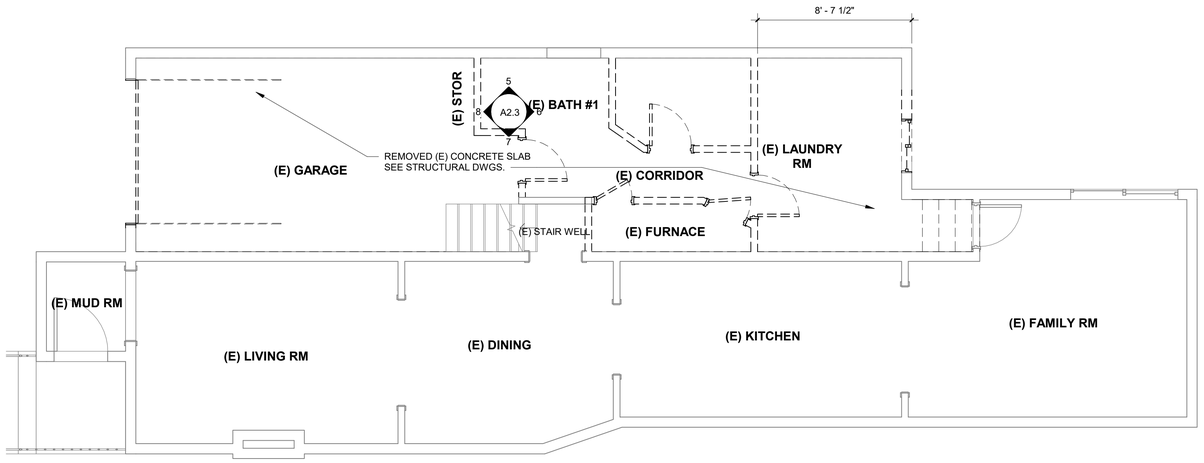
EXISTING PHOTOS

PROJECT NO.	21.027
DATE	03/22/2022
DRAWN BY	3D
CHECKED BY	3D

A1.1

SCALE

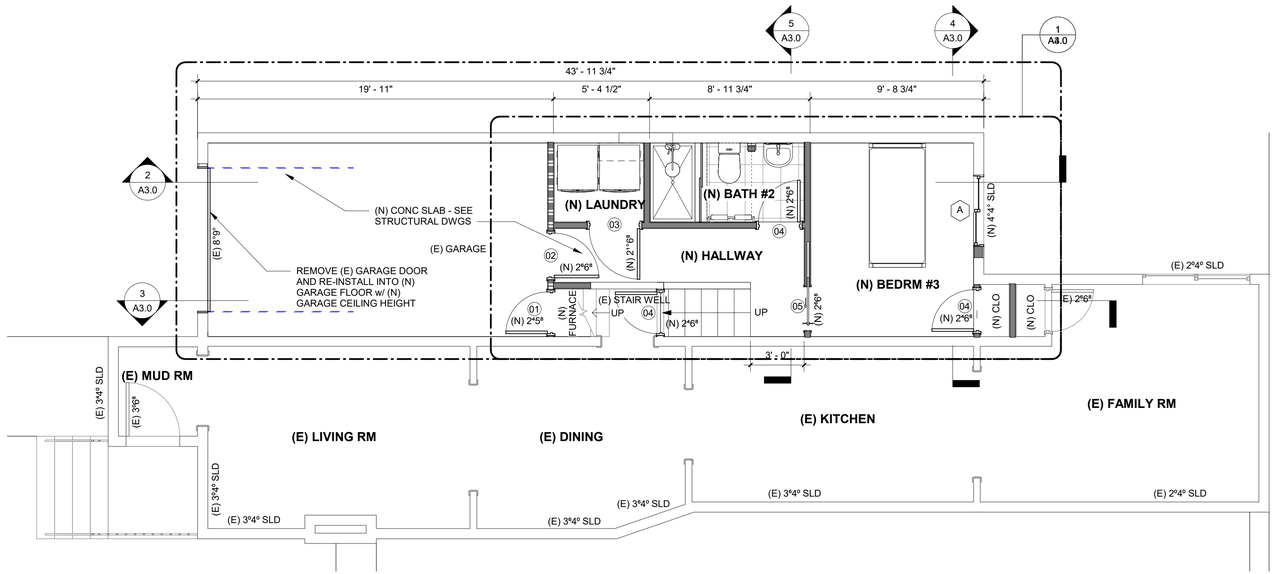
3/22/2022 12:02:18 AM



1 A2.2 — 1ST FLOOR DEMOLITION PLAN

1/4" = 1'-0"

PROJECT NORTH



2 A2.2 — PROPOSED 1ST FLOOR PLAN

1/4" = 1'-0"

PROJECT NORTH

DEMOLITION NOTES:

1. CAREFULLY REMOVE ITEMS TO BE SALVAGED & STORE ON THE OWNER'S PREMISES OR AS DIRECTED BY THE OWNER.
2. PROVIDE FOR SAFE PASSAGE OF PERSONS AROUND THE AREA OF DEMOLITION.
3. COORDINATE THE TIMING OF NOISY OPERATIONS W/ THE OWNER & GAIN APPROVAL FOR SUCH OPERATIONS.
4. RESTORE DAMAGED IMPROVEMENTS TO THE ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER, AT NO EXTRA COST.
5. PROVIDE TEMPORARY SHORING OF EXISTING CONSTRUCTION TO REMAIN, AS REQUIRED.
6. NOTIFY LPC PLANNING, IN WRITING, UPON THE DISCOVERY OF ANY & ALL UNFORESEEN CONDITIONS WHICH MAY BECOME A DESIGN, COST/OR SCHEDULE ISSUE IMMEDIATELY.
7. REMOVE MATERIALS, RUBBISH & DEBRIS FROM THE SITE PROMPTLY. NO ACCUMULATION ON THE SITE WILL BE PERMITTED.
8. REMOVE (E) PARTITIONS AS SHOWN TO BE DEMOLISHED, INCLUDING BUT NOT LIMITED TO ELECTRICAL OUTLETS, WIRING, ATTACHMENTS & BRACING (TYPICAL).
9. REMOVE EXISTING DOORS AS SHOWN ON PLAN SAVE FOR REUSE ONLY IF IN PERFECT CONDITION.
10. REMOVE ALL (E) FLOOR COVERINGS & BASE WHERE NOTED.
11. SAVE FLOORING IF POSSIBLE FOR REUSE WHERE REQUIRED FOR PATCHING.
12. THERMOSTATS ON REMOVED WALLS SHALL BE RELOCATED.

LEGEND:

- EXISTING PARTITION WALL TO REMAIN
- NEW PARTITION CONSTRUCTION
- ONE HOUR FIRE RATED WALL
- EXISTING WALLS TO BE DEMOLISHED
- EXISTING DOORS TO REMAIN
- EXISTING DOORS TO BE REMOVED (SLD)
- EXISTING WINDOWS TO REMAIN
- EXISTING WINDOWS TO BE REMOVED
- (1) DOOR MARK, SEE DOOR SCHEDULE
- (A) WINDOW SYMBOL, SEE WINDOW SCHEDULE

GENERAL NOTES:

1. ALL DIMENSIONS AND EXISTING CONDITION SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK.
2. DO NOT SCALE THE DRAWINGS.
3. DIMENSION ON PLANS ARE TO FACE OF SHEETROCK OR FINISH MATERIAL UNLESS OTHERWISE (EXCEPT PROPOSED FLOOR PLAN-TO STUD) NOTED. ALL OTHER DIMENSIONS ARE TO POINTS SHOWN.
4. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PRESSURE PRESERVATIVE TREATED OR EQUIVALENT.
5. SMOOTH PAINTED GYP.
6. ALL INSULATION SHALL COMPLY WITH CBC.
7. COORDINATE ALL MECHANICAL,PLUMING, ELECTRICAL DEVICES WITH ARCHITECTURAL INTERIOR ELEVATIONS AND REFLECTED CEILING PLANS.
8. WEATHER PROTECTION SHALL CONFORM TO CBC. WEATHER RESISTIVE BARRIERS SHALL CONFORM TO CBC STANDARD NO. 14-1 FOR KRAFT PAPER AND ASPHALT SATURATED RAG.
9. ALL PIPING,VENTS AND FLUES THAT PENETRATE THE ROOF AND EXPOSED TO VIEW ARE TO BE LOCATED PER THE ROOF PLAN AND AS APPROVED BY THE ARCHITECT. VERIFY LOCATION PRIOR TO INSTALLATION.
10. ALL PIPING,VENTS AND FLUES THAT PENETRATE THE ROOF AND EXPOSED TO VIEW ARE TO BE LOCATED PER THE ROOF PLAN AND AS APPROVED BY THE ARCHITECT. VERIFY LOCATION PRIOR TO INSTALLATION.
11. DOWNSPOUT-BUILDING SHALL CONTAIN RAIN WATER LEADERS FOR ROOF DRAINAGE. INSTALL 24"MIN CONC. SPLASH CLOCKS TO DIRECT WATER AWAY FROM FOUNDATION. WHERE RAIN WATER LEADERS TERMINATE AT CONCRETE PORCHES AND PATIOS, WATER SHALL BE DIRECTED THROUGH PIPE EMBEDDED IN CONCRETE AWAY FROM PATIO TOWARDS DRAINAGE SWALES.
12. GENERAL CONTRACTOR IS ADVISED THAT THE ARCHITECT HAS NOT BEEN RETAINED FOR CONSTRUCTION ADMINISTRATION SERVICES BY THE OWNER. ANY CHANGES OR MODIFICATIONS TO THE WORK WHICH IS NOT REFLECTED IN THESE DOCUMENTS IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
13. ALL CONSTRUCTIONS SHALL CONFORM TO THE UNIFIED BUILDING CODE AND SHALL BE COMPLETED IN STRICT ACCORDANCE OF CODES AND REQUIREMENTS.
14. THE CONTRACTOR SHALL NOT TAKE ADVANTAGE OF ANY UNINTENTIONAL ERROR OR OMISSION IN THE DRAWINGS OR SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE TO BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT IN WRITING.
15. ALL LABOR, MATERIAL AND EQUIPMENTS SHALL BE GUARANTEED FOR MIN PERIOD OF 1 YEAR FROM ACCEPTANCE AGAINST DEFECTS IN WORKMANSHIP AND OR MATERIALS.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL CONSTRUCTION DEBRIS. AT COMPLETION, HOUSE SHALL BE PROFESSIONALLY CLEAN.

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DANNY DIMATULAC

CONSULTANT

No.	Description	Date
1		

PROPOSED GARAGE CONVERSION & REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany CA 94706

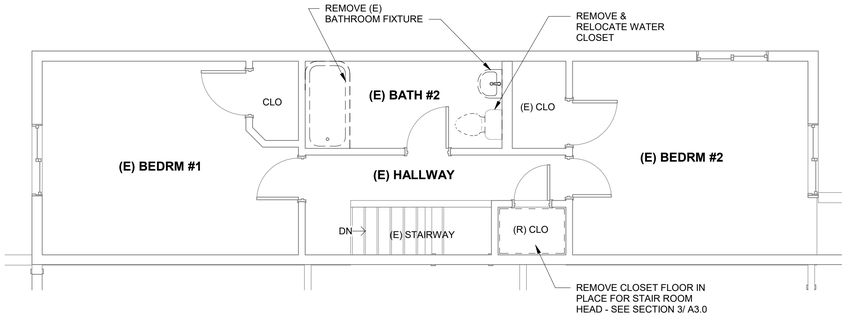
EXISTING AND PROPOSED GARAGE CONVERSION

PROJECT NO.	21.027
DATE	02/22/2022
DRAWN BY	DD
CHECKED BY	JC

A2.2

SCALE As indicated

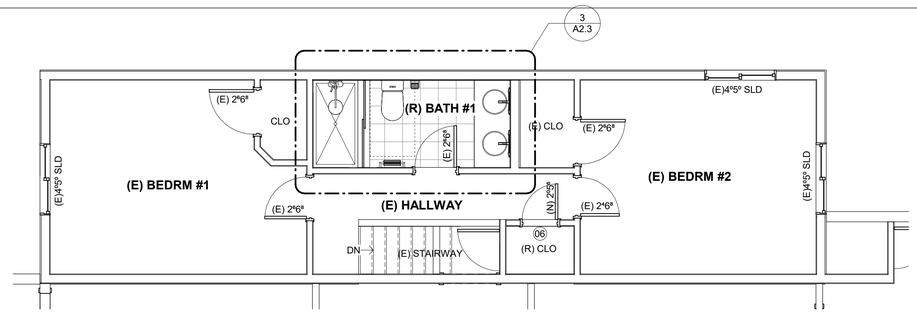
2/23/2022 12:48:13 AM



1 A2.3 EXISTING 2ND DEMO PLAN

1/4" = 1'-0"

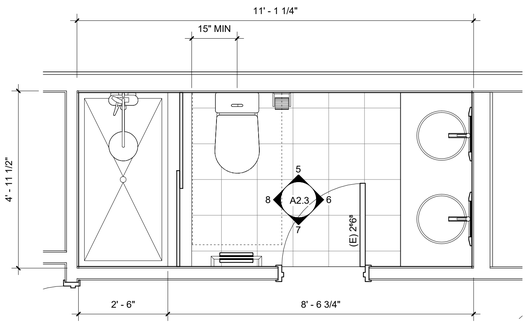
PROJECT NORTH



2 A2.3 EXISTING 2ND FLOOR PLAN

1/4" = 1'-0"

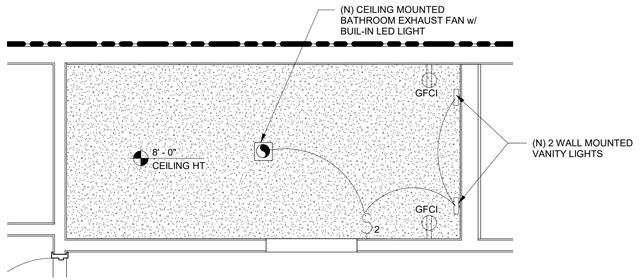
PROJECT NORTH



3 A2.3 ENLARGED BATH #2

1/2" = 1'-0"

PROJECT NORTH



4 A2.3 2ND FLOOR RCP

1/2" = 1'-0"

PROJECT NORTH

LEGEND:

- EXISTING PARTITION WALL TO REMAIN
- EXISTING WALLS TO BE DEMOLISHED
- EXISTING DOORS TO REMAIN
- EXISTING DOORS TO BE REMOVED
- SLD
- EXISTING WINDOWS TO REMAIN
- EXISTING WINDOWS TO BE REMOVED

DEMOLITION NOTES:

1. CAREFULLY REMOVE ITEMS TO BE SALVAGED & STORE ON THE OWNER'S PREMISES OR AS DIRECTED BY THE OWNER.
2. PROVIDE FOR SAFE PASSAGE OF PERSONS AROUND THE AREA OF DEMOLITION.
3. COORDINATE THE TIMING OF NOISY OPERATIONS W/ THE OWNER & GAIN APPROVAL FOR SUCH OPERATIONS.
4. RESTORE DAMAGED IMPROVEMENTS TO THE ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER, AT NO EXTRA COST.
5. PROVIDE TEMPORARY SHORING OF EXISTING CONSTRUCTION TO REMAIN, AS REQUIRED.
6. NOTIFY LPC PLANNING, IN WRITING, UPON THE DISCOVERY OF ANY & ALL UNFORESEEN CONDITIONS WHICH MAY BECOME A DESIGN, COST/OR SCHEDULE ISSUE IMMEDIATELY.
7. REMOVE MATERIALS, RUBBISH & DEBRIS FROM THE SITE PROMPTLY. NO ACCUMULATION ON THE SITE WILL BE PERMITTED.
8. REMOVE (E) PARTITIONS AS SHOWN TO BE DEMOLISHED, INCLUDING BUT NOT LIMITED TO ELECTRICAL OUTLETS, WIRING, ATTACHMENTS & BRACING (TYPICAL).
9. REMOVE EXISTING DOORS AS SHOWN ON PLAN SAVE FOR REUSE ONLY IF IN PERFECT CONDITION.
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11. SAVE FLOORING IF POSSIBLE FOR REUSE WHERE REQUIRED FOR PATCHING.
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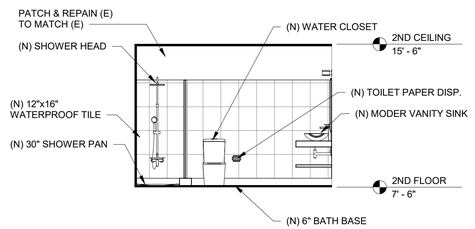
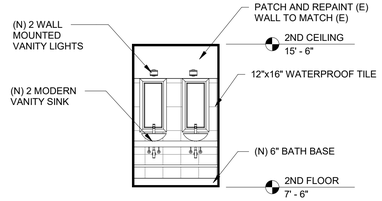


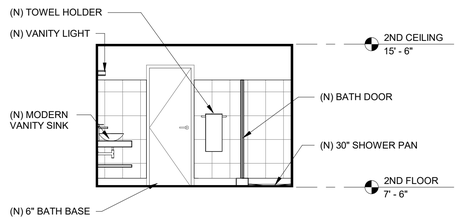
5 A2.3 BATH #2 - NORTH

1/4" = 1'-0"



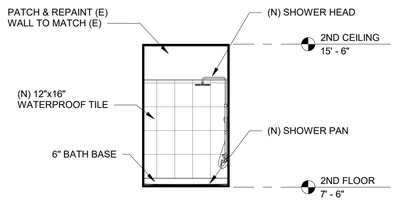
6 A2.3 BATH #2 - EAST

1/4" = 1'-0"



7 A2.3 BATH #2 - SOUTH

1/4" = 1'-0"



8 A2.3 BATH #2 - WEST

1/4" = 1'-0"

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2335 Arthur Place, Manteca, CA 95337
cp# 408.710.3454 hp# 925.476.8183
email: 3ddesignsolutionsinc@gmail.com
DANNY DIMATULAC

CONSULTANT

No.	Description	Date

PROPOSED GARAGE CONVERSION & REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany
CA 94706

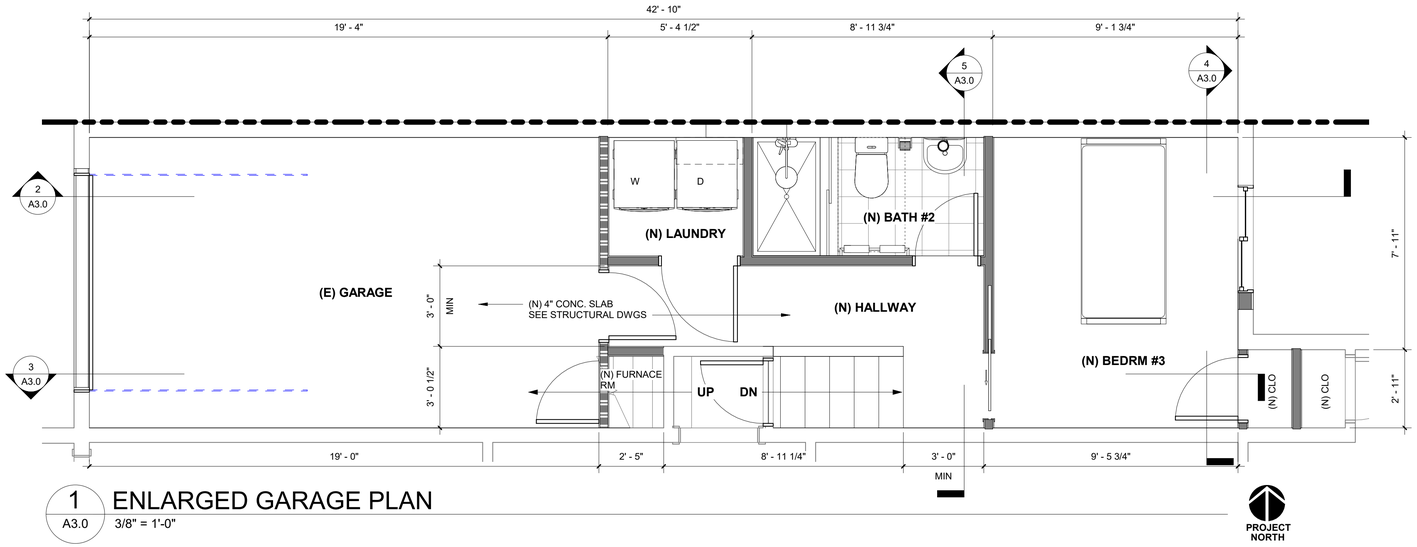
EXISTING AND PROPOSED 2ND FLOOR PLAN

PROJECT NO.	21.027
DATE	02/22/2022
DRAWN BY	DD
CHECKED BY	JC

A2.3

SCALE As indicated

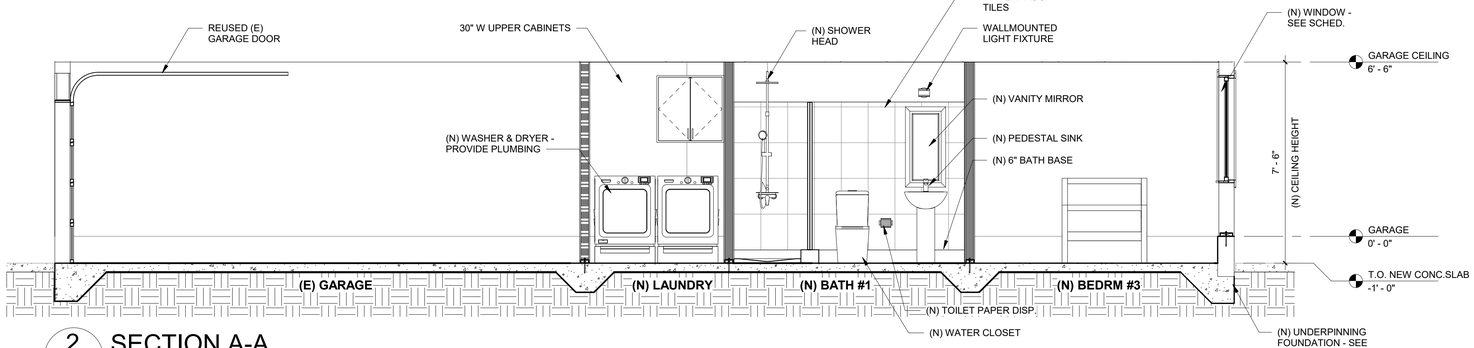
2/23/2022 12:48:18 AM



1 A3.0 ENLARGED GARAGE PLAN

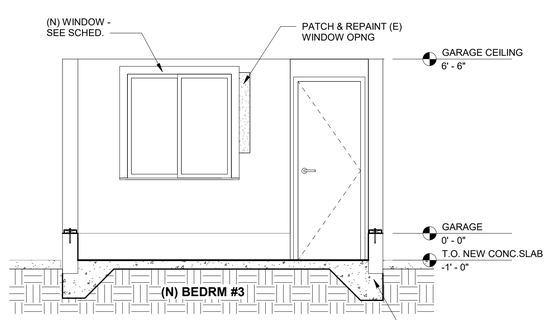
3/8" = 1'-0"

PROJECT NORTH



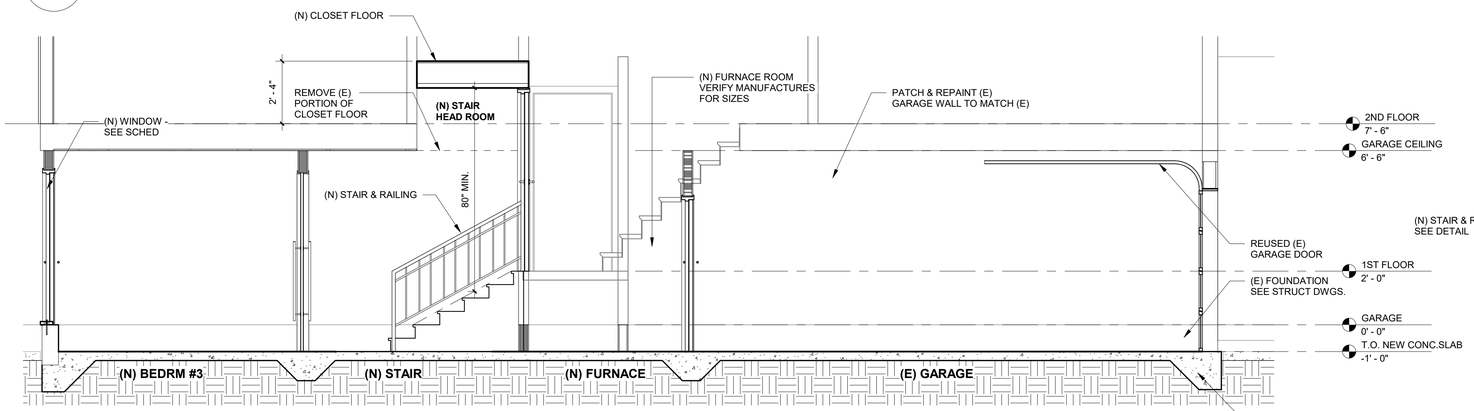
2 A3.0 SECTION A-A

3/8" = 1'-0"



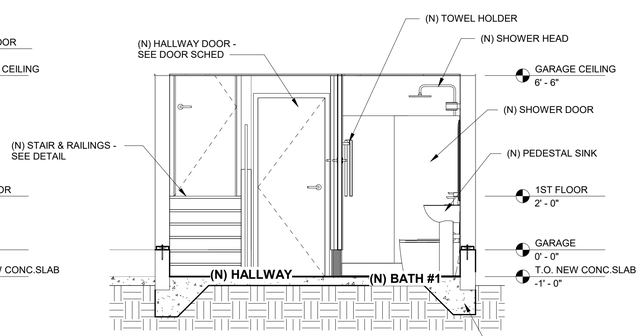
4 A3.0 SECTION B-B

3/8" = 1'-0"



3 A3.0 SECTION C-C

3/8" = 1'-0"



5 A3.0 SECTION D-D

3/8" = 1'-0"

3D Design Solutions
2335 Arthur Place, Manteca, CA 95337
cp# 408.710.3454 hp# 925.476.8183
email: 3ddesignsolutionsinc@gmail.com
DANNY DIMATULAC

CONSULTANT

No.	Description	Date
1		

PROPOSED GARAGE CONVERSION & REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany CA 94706

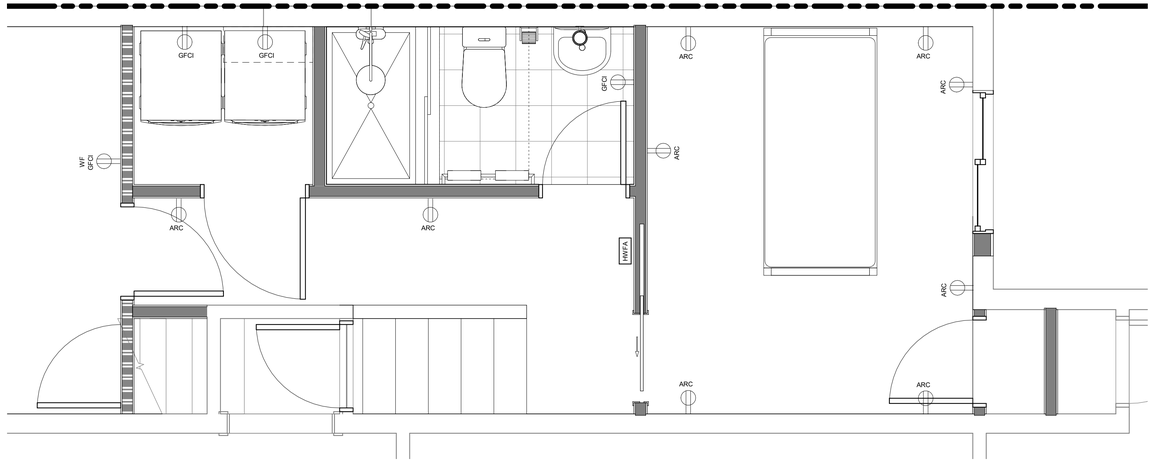
ENLARGED GARAGE PLAN & SECTIONS

PROJECT NO.	21.027
DATE	02/22/2022
DRAWN BY	DD
CHECKED BY	JC

A3.0

SCALE 3/8" = 1'-0"

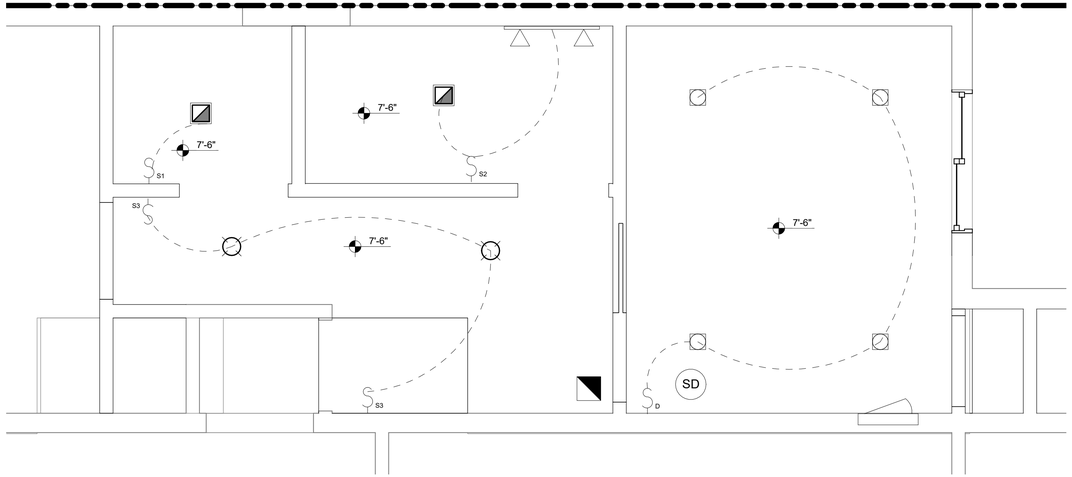
2/23/2022 12:48:21 AM



1 A4.0 PARTIAL ENLARGED ELECTRICAL POWER

1/2" = 1'-0"

PROJECT NORTH



2 A4.0 PARTIAL GARAGE LIGHTING PLAN

1/2" = 1'-0"

PROJECT NORTH

GENERAL NOTES:

1. CONTRACTOR TO VERIFY ELECTRICAL LOAD OF APPLIANCE. PROVIDE POWER AND CIRCUITING PER CODE AND MANUFACTURER'S RECOMMENDATION.
2. ALL ELECTRICAL OUTLETS ABOVE KITCHEN COUNTER, BATHROOM COUNTERS AND LAUNDRY AREA SHALL BE GFI TYPE.
3. LOCATE ALL ELECTRICAL OUTLETS 12" ABOVE FLOOR, U.ON..
4. THE SERVICE DISCONNECTING MEANS SHALL HAVE A RATING OF NOT LESS THAN 100 AMPS. OVER CURRENT PROTECTION MUST NOT BE LOCATED IN BATHROOMS, CLOTHES CLOSET OR IN THE VICINITY OF IGNITABLE MATERIALS.
5. ALL BRANCH CIRCUITS THAT SUPPLY OUTLETS INSTALLED IN DWELLING UNIT DINING ROOMS, LIVING ROOMS, BEDROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY AN ARC-FAULT CIRCUIT INTERRUPTER. CEC 210.12(B).
6. MIN. TWO 20-AMP SMALL APPLIANCE BRANCH CIRCUITS ARE REQUIRED FOR THE KITCHEN AND ARE LIMITED TO SUPPLYING WALL AND COUNTER SPACE OUTLETS FOR THE KITCHEN, PANTRY, BREAKFAST ROOM, DINING ROOM OR SIMILAR AREAS.

   NOTE: THESE CIRCUITS CANNOT SERVE OUTSIDE PLUGS, RANGE HOODS, DISPOSALS, DISHWASHERS OR MICROWAVES - ONLY THE REQUIRED COUNTERTOP/WALL OUTLETS INCLUDING THE REFRIGERATOR. CEC 210.11(C)(1) AND 210.52(B).
7. ALL 15-AMP AND 20-AMP DWELLING UNIT RECEPTACLE OUTLETS SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES. CEC ARTICLE 406.11
8. ELECTRICAL PANELS SHALL NOT BE LOCATED IN THE VICINITY OF EASILY IGNITABLE MATERIAL(S) SUCH AS CLOTHES CLOSETS OR LOCATED IN BATHROOMS. CEC 240.24(0) AND 240.24(E)

LIGHT FIXTURES SCHEDULE

MARK	COUNT	TYPE	SIZE	BULB	FINISH	REMARKS
	4	RECESSED CEILING LIGHTS	6"	CFL.26 TRT	WHITE	BEDROOM #3
	2	CEILING MOUNTED LIGHTS	21"	CFL.26 TRT	WHITE	HALLWAY
	1	VANITY LIGHT FIXTURE	10" W	CFL. 2x13	ANTIQUE BRONZE	BATH #2
	2	EXHAUST FAN w/ LIGHT	10 1/4" SQ	CFM 80-110	WHITE	BATH #2 / LAUNDRY
MAIN	1	MAIN ELECT PANEL		100 AMP	MAGNETIC PRIMER	BEDROOM #3
S1	1	SINGLE SWITCH		15 AMP	WHITE	LAUNDRY
S2	1	DOUBLE SWITCH		15 AMP	WHITE	BATH #2
S3	1	3-WAY SWITCH		15 AMP	WHITE	HALLWAY
D	1	DIMMER SWITCH		15 AMP	WHITE	BEDROOM #2
ARC	9	DUPLEX OUTLET		15 AMP	WHITE	BEDROOM #2 / HALLWAY
GFI	3	GFCI OUTLET		20 AMP	WHITE	BATH #2LAUNDRY
W/F GFI	1	WEATHER PROOF / GFCI OUTLET		20 AMP	WHITE	GARAGE
HWFA	1	HARD WIRED FIRE ALARM			RED	HALLWAY

3D Design Solutions
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cp# 408.710.3454 hp# 925.476.8183
email: 3ddesignsolutionsinc@gmail.com
DANNY DIMATULAC

CONSULTANT

No.	Description	Date

PROPOSED GARAGE CONVERSION & REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany CA 94706

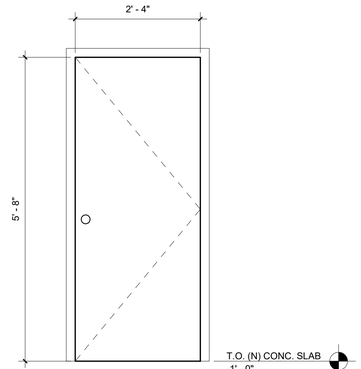
ENLARGED ELECTRICAL & LIGHTING PLAN

PROJECT NO.	21.027
DATE	02/22/2022
DRAWN BY	D. DIMATULAC
CHECKED BY	D. DIMATULAC

A4.0

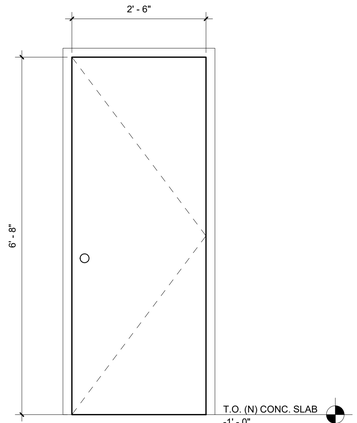
SCALE As indicated

2/23/2022 12:48:23 AM



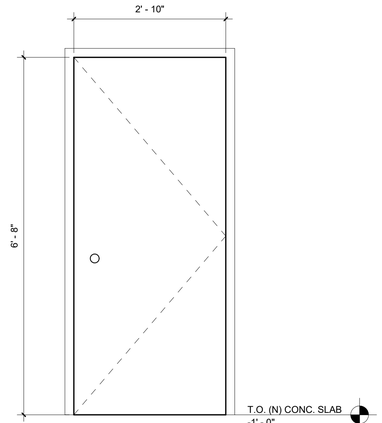
1 COUNT OF 1 3/8" THICK SOLID WOOD OR HONEYCOMB-CORE STEEL w/ 20 MINUTES FIRE RATED WALL

1 DOOR 01
A6.0 — 3/4" = 1'-0"



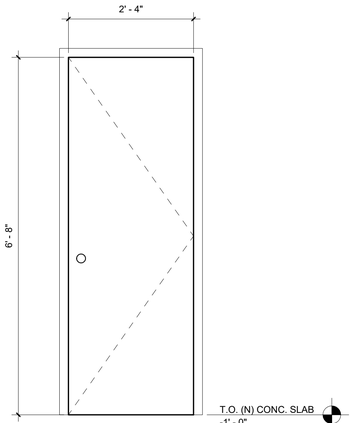
1 COUNT OF 32"x80" MINERAL CORE FIRE RATED WOOD DOOR 1-3/4" THICK BEVELED EDGES w/ SELF-LATCHING DEVICE FOR 60 MINUTES FIRE RATING w/ WHI/ITS METAL LABEL APPLIED

2 DOOR 02
A6.0 — 3/4" = 1'-0"



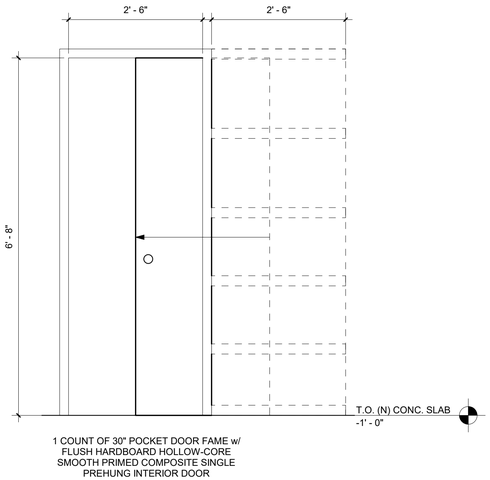
1 COUNT OF 34" x 80" FLUSH HARDBOARD LEFT HANDED HOLLOW-CORE SMOOTH PRIMED COMPOSITE SINGLE PREHUNG INTERIOR DOOR

3 DOOR 03
A6.0 — 3/4" = 1'-0"



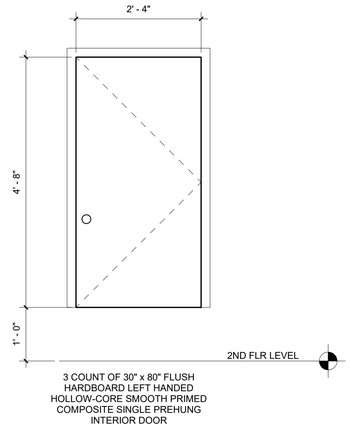
3 COUNT OF 30" x 80" FLUSH HARDBOARD LEFT HANDED HOLLOW-CORE SMOOTH PRIMED COMPOSITE SINGLE PREHUNG INTERIOR DOOR

4 DOOR 04
A6.0 — 3/4" = 1'-0"



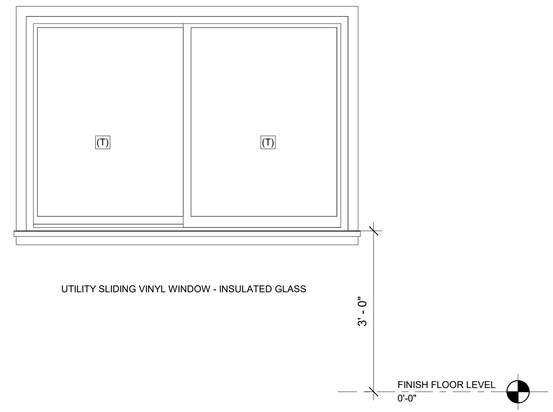
1 COUNT OF 30" POCKET DOOR FAME w/ FLUSH HARDBOARD HOLLOW-CORE SMOOTH PRIMED COMPOSITE SINGLE PREHUNG INTERIOR DOOR

5 DOOR 05
A6.0 — 3/4" = 1'-0"



3 COUNT OF 30" x 80" FLUSH HARDBOARD LEFT HANDED HOLLOW-CORE SMOOTH PRIMED COMPOSITE SINGLE PREHUNG INTERIOR DOOR

6 DOOR 06
A6.0 — 3/4" = 1'-0"



UTILITY SLIDING VINYL WINDOW - INSULATED GLASS

WINDOW A
3/4" = 1'-0"

WALLS AND INTERIOR PARTITIONS, WOOD FRAMED

GA FILE NO. WP 3242	GENERIC	1 HOUR FIRE	50 TO 54 STC SOUND

GYPSUM WALLBOARD, RESILENT CHANNELS, MINERAL OR GLASS FIBER INSULATION, WOOD STUDS

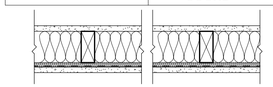
FIRE DESIGN:

RESILENT CHANNELS 16" O.C. ATTACHED AT RIGHT ANGLES TO ONE SIDE OF 2x4 WOOD STUDS 24" O.C. WITH 1 1/4" TYPE S SCREWS. ONE LAYER 5/8" TYPE "X" GYPSUM WALLBOARD OR GYPSUM VENEER BASE APPLIED AT NIGHT ANGLES TO CHANNELS WITH 1" TYPE S SCREWS 8" O.C. WITH VERTICAL JOINTS LOCATED MDWAY BETWEEN STUDS. 3" MINERAL OR GLASS FIBER INSULATION IN STUD SPACE.

OPPOSITE SIDE: ONE LAYER 5/8" TYPE "X" GYPSUM WALLBOARD OR GYPSUM VENEER BASE APPLIED PARALLEL OR AT RIGHT ANGLES TO STUDS WITH 6d CEMENT COATED NAILS. 1 7/8" LONG. 0.0915" SHANK, 15/64" HEADS, 7" O.C.

VERTICAL JOINTS STAGGERED 24" ON OPPOSITE SIDES. (LOAD-BEARING)

SOUND DESIGN
SOUND TESTED AS CONSTRUCTED FOR FIRE.



THICKNESS:	5-3/8" (FIRE AND SOUND)
APPROX. WEIGHT	7 PSF (FIRE AND SOUND)
FIRE TEST:	BASE ON UL R14196, 05NK05371, 2-15-05, UL DESIGN U309
SOUND TEST:	NRCC TL-93-098, IRC-IR-761,3-98

3D Design Solutions
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DANNY DIMATULAC

CONSULTANT

No.	Description	Date

PROPOSED GARAGE CONVERSION & REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany CA 94706

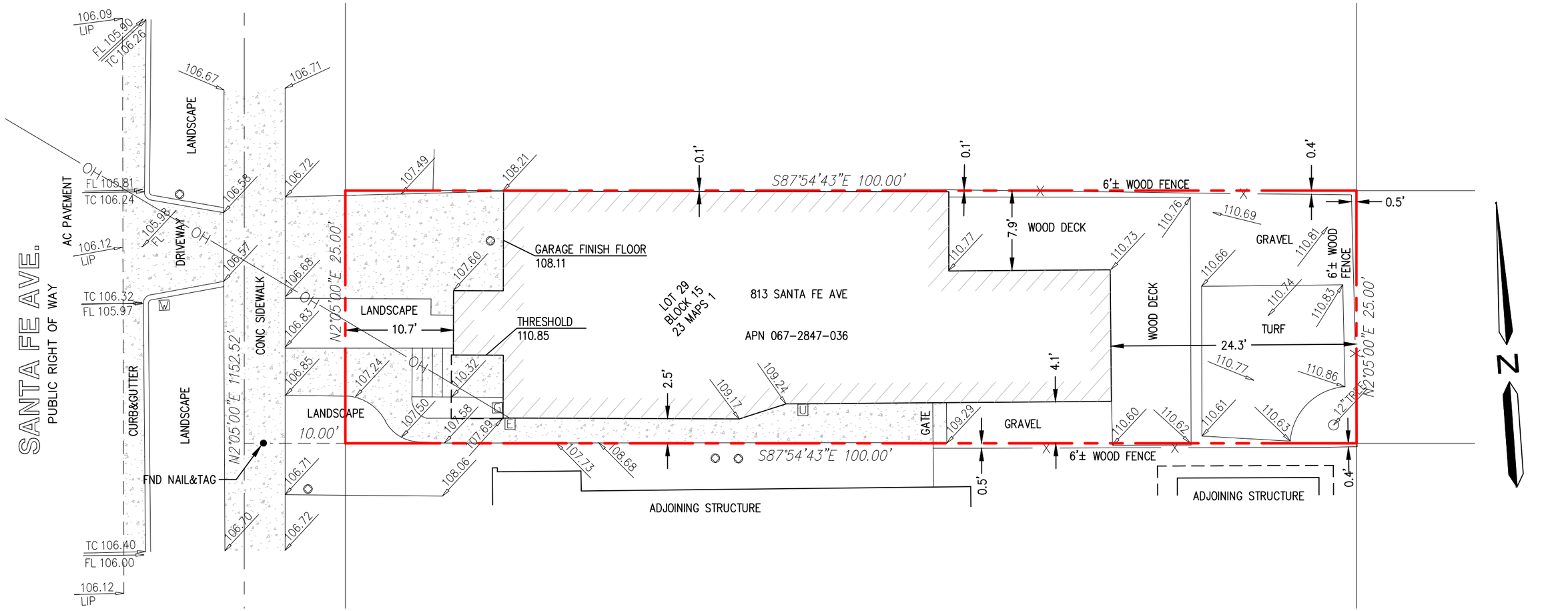
DOOR AND WINDOW SCHEDULE

PROJECT NO.	21.027
DATE	02/22/2022
DRAWN BY	Author
CHECKED BY	Checker

A5.0

SCALE: As indicated

2/23/2022 12:48:26 AM



SURVEYOR'S CERTIFICATE

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE MAP ACT AND CITY OF ALBANY ON MARCH 12, 2022.

CHRISTIAN CINTEAN, LS 8941

PROFESSIONAL LAND SURVEYOR
CHRISTIAN CINTEAN
No. 8941
STATE OF CALIFORNIA

SURVEY NOTES

1. ALL DISTANCES AND DIMENSIONS ARE SHOWN IN FEET AND DECIMALS THEREOF.
2. LOT AREA = 2,500 S.F.
3. VERTICAL ELEVATIONS ARE BASED ON NAVD88 DATUM USING GNSS RTK METHODS CONNECTED TO THE LEICA SMARTNET REAL TIME NETWORK.

BASIS OF BEARINGS

THE BEARING OF NORTH 2° 05' EAST BEING THE MONUMENT LINE OF SANTA FE AVENUE, AS SHOWN ON THE CITY OF ALBANY MONUMENT MAP NO. T-4897, WAS TAKEN AS THE BASIS FOR ALL BEARINGS SHOWN HEREON.

0 5' 10' 20'
SCALE: 1" = 10'

DEVELOMAP engineering
672 West 11th Street
Tracy, CA 95376
Ph 408.212.6054
www.develomap.com

DATE: 03/18/2022
SCALE: 1"= 10'
DRAWN BY: CC
APPROVED BY: CC
DRAWING NO.: 202202

BOUNDARY AND TOPOGRAPHIC SURVEY

813 SANTA FE AVENUE
ALBANY CALIFORNIA

SHEET 1 OF 1 SHEETS

STRUCTURAL SPECIFICATIONS

STRUCTURAL SHEATHING
STRUCTURAL SHEATHING SHALL BE PLYWOOD OR ORIENTED STRAND-BOARD AT CONTRACTOR'S OPTION. EACH PANEL SHALL BE IDENTIFIED WITH THE APPROPRIATE TRADEMARK OF APA AND SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF VOLUNTARY PRODUCT STANDARD PS-1, VOLUNTARY PRODUCT STANDARD PS-2 OR APA PRP-108 PERFORMANCE STANDARDS.

ROOF SHEATHING
- SHALL BE 15/32" APA RATED SHEATHING, EXPOSURE 1, SPAN RATING 32/16.
WALL SHEATHING
- SHALL BE 15/32" APA RATED SHEATHING, EXPOSURE 1, SPAN RATING 32/16"
- SHALL BE 15/32" APA STRUCTURAL 1 RATED SHEATHING. EXPOSURE 1, SPAN RATING 32/16"
WHERE NOTED ON DRAWINGS AS REQUIRING STRUCTURAL 1 SHEATHING.

ALL WOOD STRUCTURAL PANELS PERMANENTLY EXPOSE TO WEATHER SHALL BE EXTERIOR VS EXPOSURE 1 AS REFERENCED ABOVE.

ALL UNBLOCKED ROOF AND FLOOR SHEATHING EDGES SHALL BE TONGUE-AND-GROOVE. AS AN ALTERNATIVE, UNBLOCKED ROOF SHEATHING MAYBE SUPPORTED WITH PLYWOOD CLEATS OR EDGE CLIPS.

PLYWOOD ADHESIVES
ADHESIVES SHALL CONFORM TO APA SPECIFICATION AFG-01, APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. IF OSB PANELS WITH SEALED SURFACES AND EDGES ARE USED, GLUE SHALL BE SOLVENT-BASED.

FRAMING
DOUGLAS FIR COAST REGION, CONFORMING TO WEST COAST LUMBER INSPECTION BUREAU STANDARD GRADING AND DRESSING RULE NO. 17 AS AMENDED TO DATE. MOISTURE CONTENT AT TIME OF FABRICATION SHALL NOT EXCEED 19%.

1. 2x, 3x, 4x JOISTS AND BEAMS, NO. 1, 123-B, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
2. 2x, 3x, 4x LEDGERS AND RAFTERS, NO. 1 PARA. 123-B, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
3. 4x4 POSTS, NO. 1, PARA. 124-B, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
4. 4x6 POSTS, NO. 1, PARA. 123-B, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
5. 2x4, 3x4 STUDS AND BLOCKING, STANDARD GRADE, PARA. 122-C, UNLESS NOTED OTHERWISE.
6. 2x, 3x PLATES, NO.2, PARA 124-C, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
7. FOUNDATION PLATES: PRESSURE TREATED DOUGLAS FIR.

LIGHT GAGE METAL CONNECTORS
ALL LIGHT GAGE METAL CONNECTORS SHALL BE "SIMPSON COMPANY STRONG TIE CONNECTORS," OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS, U.N.O. ON DRAWINGS.

NAILS
ALL NAILS SHALL BE BRIGHT COMMON WIRE NAILS, GALVANIZED FOR EXTERIOR WORK. 16d GREEN VINYL SINKERS MAY BE SUBSTITUTED FOR 10d COMMONS IN ALL APPLICATIONS EXCEPT SHEET METAL CONNECTORS AND PERMANENT EXTERIOR CONDITIONS. 16d GREEN VINYL SINKERS MAY BE SUBSTITUTED FOR 16d COMMONS AT 7/8 OF THE SPACING REQUIREMENT FOR THE 16d COMMONS. IN NO CASE SHALL GREEN VINYL SINKERS BE USED FOR SHEET METAL CONNECTORS - USE THE MANUFACTURER'S RECOMMENDED NAILS. TO PROVIDE CORROSION RESISTANCE, NAILS INTO PRESSURE PRESERVATIVE TREATED AND FIRE-RETARDANT TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED; HOWEVER, SOME METHODS OF PRESSURE-TREATING MAY ACT ADVERSELY WITH GALVANIZED METAL COMPONENTS. CONTRACTOR SHALL VERIFY WITH PRESSURE TREATED LUMBER SUPPLIER THAT GALVANIZED COMPONENTS WILL NOT BE ADVERSELY AFFECTED.

ENGINEERED LUMBER
ALL ENGINEERED LUMBER BEAMS SHALL BE BY TRUSS-JOIST MACMILLAN, BOISE, IDAHO:
1. LVL - LAMINATED VENEER LUMBER SHALL BE 1.9E MICROLAM LVL.
2. PSL - PARALLEL STRAND LUMBER SHALL BE 2.0E PARALLAM PSL.
3. LSL - LAMINATED STRAND LUMBER SHALL BE 1.3E TIMBERSTRAND FOR STUDS, RIM BOARDS AND BLOCKING, 1.5E TIMBERSTRAND FOR JOISTS, BEAMS AND HEADERS.

CONCRETE
ALL CONCRETE SHALL HAVE PROPERTIES AS LISTED BELOW. MAXIMUM WATER-CEMENT RATIO, BY WEIGHT SHALL BE 0.55. AT CONTRACTOR'S OPTION APPROXIMATELY 4 OUNCES PER 100 POUNDS OF CEMENT OF POZZOLITH 300-R BY MASTER BUILDERS OR APPROVED EQUAL SHALL BE USED AS A WATER DISPERSING ADDITIVE. TO PROVIDE THE REQUIRED AIR CONTENT, THE CONTRACTOR MAY ADD AN AIR ENTRAINING AGENT CONFORMING TO THE LATEST REVISION OF ASTM SPECIFICATIONS C 260 TO THE CONCRETE MIX.

CONCRETE ELEMENT	MIN. 28 DAY COMPRESSIVE STRENGTH(psi)	MAX. AGGREGATE SIZE	MAX. SLUMP (INCHES)	TOTAL AIR CONTENT (%)
FOOTINGS	3000 (DESIGNED FOR 2500)	1 1/2"	4"	--

MAINTAIN CONCRETE IN A MOIST CONDITION FOR A SUITABLE PERIOD AFTER PLACEMENT IN ACCORDANCE WITH ACI 301, CHAPTER 12. CEMENT SHALL BE TYPE II AND CONFORM TO ASTM C150. AGGREGATE SHALL CONFORM TO ASTM C33.

MIX DESIGN SHALL NOT CONTAIN CHLORIDES AND SHALL BE PROPORTIONED WITH 15% FLY ASH PER WEIGHT OF CEMENTITIOUS MATERIAL. MAXIMUM WATER-CEMENT RATIO BY WEIGHT SHALL BE 0.50.

*** REINFORCING STEEL**
BARS FOR REINFORCING SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM A615 INCLUDING SUPPLEMENT S1. WHERE REINFORCING STEEL IS SHOWN TO BE WELDED, BARS SHALL CONFORM TO ASTM 706. LAP SPLICES SHALL CLASS B U.N.O. IN ACCORDANCE WITH ACI 318-14. STANDARD HOOKS SHALL BE IN ACCORDANCE WITH ACI 318-14.

FOUNDATIONS

1. ALL EXISTING FILL SOIL AND DISTURBED NATURAL SOILS ARE TO BE EXCAVATED AND REPLACED WITH PROPERLY COMPACTED FILL. ALL FILLING, BACKFILLING, RECOMPACTION, ETC. IS TO BE ACCOMPLISHED ONLY UNDER THE SUPERVISION OF A SOILS ENGINEER. COMPACTED FILL SHALL BE 95% DENSITY.
2. FOOTINGS ARE TO BE CARRIED A MINIMUM OF 18" INTO FIRM UNDISTURBED NATURAL SOIL OR APPROVED COMPACTED FILL.
3. DESIGN BEARING PRESSURE IS 1500 PSF WITH A 33% INCREASE FOR SEISMIC OR WIND LOADING.
4. 4. RELATIVELY NON-EXPANSIVE FILL SHOULD BE USED IN BACKFILLING BEHIND WALLS ALL WALLS SHALL BE ADEQUATELY SHORED DURING THE BACKFILL

EPOXY ANCHOR & DOWELS

EPOXY ANCHOR & DOWELS SHALL BE INSTALLED USING "SIMPSON SET-XP EPOXY ADHESIVE' AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC., PLEASANTON, CA. PREPARATION OF HOLES SHALL CONFORM TO MANUFACTURER'S RECOMMENDATIONS. ANCHORS AND RODS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND I.C.C. REPORT NO. ESR-2508.

SPECIAL INSPECTIONS
THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR DURING CONSTRUCTION ON THE FOLLOWING PHASE OF WORK:

EPOXY ANCHORS AND DOWELS
- DURING ALL ANCHOR AND DOWEL INSTALLATIONS, U.N.O. ON THE DRAWINGS. SPECIAL INSPECTOR SHALL VERIFY THE FOLLOWING:
- HOLE DIAMETER AND DEPTH;
- CLEANLINESS OF HOLE AND ANCHOR;
- ADHESIVE TYPE AND APPLICATION;
- ANCHOR DIAMETER, EMBEDMENT AND GRADE OF STEEL;
- OTHER REQUIREMENTS SPECIFIED IN THE APPROPRIATE ICC REPORT, IN THE MANUFACTURER'S LITERATURE AND ON THE DRAWINGS.

SPECIAL INSPECTOR
THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE HIS COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF A PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR

- THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS.
- THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE ENGINEER OR ARCHITECT OF RECORD, AND OTHER DESIGNATED PERSONS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE PROPER DESIGN AUTHORITY AND TO THE BUILDING OFFICIAL.
- THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE.

CONSTRUCTION LIABILITY

CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS AGREE THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS FURTHER AGREE TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

GENERAL CONSTRUCTION

1. ALL BUILDINGS SHALL BE GRADED SO AS TO PROVIDE 2% POSITIVE DRAINAGE AWAY FROM THE HOUSE.
2. UNLESS SUPPORTED LATERALLY BY ADEQUATE FRAMING, THE MAXIMUM ALLOWABLE HEIGHT SHALL BE 14'-0" FOR 2x4 & 3x4 STUD WALLS AND 20'-0" FOR A 2x6 STUD WALL (U.N.O.).
3. THE ENDS OF JOISTS, BEAMS, AND GIRDERS SHALL HAVE AT LEAST 1 1/2" OF BEARING ON WOOD OR METAL AND 3" OF BEARING ON CONCRETE OF MASONRY, (U.N.O.).
4. WHEN BOLTS ARE IN USE A WASHER NOT LESS THAN A STANDARD CUT WASHER OR A METAL PLATE OR STRAP IN LIEU THEREOF, SHALL BE BETWEEN THE WOOD AND THE BOLT HEAD AND BETWEEN THE WOOD AND THE NUT

GENERAL NOTES

1. ALL CONSTRUCTION AND WORKMANSHIP SHALL CONFORM TO THE 2016 CALIFORNIA BUILDING CODE.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ELEVATIONS AND CONDITIONS PRIOR TO STARTING CONSTRUCTION.
3. ANY DEVIATIONS FROM THE PLANS. WHICH ARE NECESSITATED BY FIELD CONDITIONS OR ANY CONDITIONS DIFFERENT FROM THOSE INDICATED ON PLAN, SHALL BE CALLED TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO CONTINUING CONSTRUCTION. ALL WORK IS TO BE COORDINATED SO THAT COOPERATION BETWEEN THE TRADES, WHERE REQUIRED, IS ACCOMPLISHED.
4. ALL DIMENSIONS TO TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, ELEVATIONS SECTIONS AND DETAILS.
5. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
6. MATERIAL NOTES AND SPECIFICATIONS ON DRAWINGS SHALL TAKE PRECEDENCE OVER THE PROJECT SPECIFICATIONS.
7. VERIFY ALL OPENINGS THROUGH CONSTRUCTION WITH HEATING AND VENTILATING CONTRACTOR PLUMBING CONTRACTOR AND ELECTRICAL CONTRACTOR FOR SIZE AND LOCATION, PRIOR TO COMMENCING CONSTRUCTION.
8. SEE ARCHITECTURAL PLANS FOR SIZES AND LOCATIONS OF ALL DOOR AND WINDOW OPENINGS, LOCATION OF ALL NON-BEARING PARTITIONS, CONCRETE CURBS, FLOOR AND ROOF SLOPES, DRAINS, ELEVATIONS, LOCATIONS OF ALL STAIRWAYS, (IF ANY), MISCELLANEOUS HANDRAILS, LADDERS. HANGERS, STEEL GRATING, LOCATION OF ALL CONCRETE INSERTS, CLIPS, GROOVES, GROUNDS AND VENEER ANCHORS, LOCATION AND DETAIL OF MISCELLANEOUS YARDWORK INCLUDING WALKS, CURBS, DRIVEWAYS, TUNNELS AND FINISHED GRADING PLANS.
9. NO OPENINGS, POCKETS, ETC. SHALL BE PLACED IN SLABS DECKS, BEAMS, JOISTS, WALLS, COLUMNS, ETC. UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS, NOTIFY THE STRUCTURAL ENGINEER WHEN (MECH., ELECT.) DRAWINGS SHOW OPENINGS, POCKETS, ETC., THAT ARE NOT LIKEWISE SHOWN ON THE STRUCTURAL DRAWINGS.
10. CONTRACTOR SHALL REPAIR OR REPLACE ALL DAMAGED FINISH MATERIAL AND/OR STRUCTURAL MEMBERS AS REQUIRED AND AS CONFIRMED BY THE BUILDING INSPECTOR AND STRUCTURAL ENGINEER.
11. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY BRACING DURING CONSTRUCTION.
12. FRAMING CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE FRAMED SIMILAR TO TYPICAL DETAILS FOR THE RESPECTIVE MATERIAL.
13. THE CONTRACTOR AND/OR SUB-CONTRACTORS WORK SHALL CONFORM TO ALL APPLICABLE FEDERAL STATE, OR LOCAL BUILDING CODES.
14. TRADE NAMES AND MANUFACTURERS REFERRED TO ARE FOR QUALITY STANDARDS ONLY, EQUIVALENT SUBSTITUTIONS WILL BE PERMITTED.
15. TYPICAL DETAILS SHALL APPLY WHERE NO SPECIFIC DETAILS OR SECTIONS GIVEN.

NAILING

CONNECTION	NAILING (U.N.O.) ON PLANS
1. JOIST TO SILL OR GIRDER TOENAIL	3-8d
2. BRIDGING TO JOIST, TOENAIL EACH END.	2-8d
3. 1" X 6" SUBFLR. OR LESS TO EA. JOISTS, FACE NAIL	2-8d
4. WINDER THAN 1" X 6" SUBFLR. TO EA. JST. FACE NAIL	3-8d
5. 2" SUBFLR. TO JOIST OF GIRDER BLIND AND FACE NAIL	2-16d
6. SOLE PLATE TO JOIST OR BLDG.., FACE NAIL.	16d @ 16" o.c.
7. TOP PLATE TO STUD, END NAIL	2-16d 4-8d TOENAIL OR
8. STUD TO SOLE PLATE	2-16d, END NAIL
9. DOUBLE STUDS, FACE NAIL.	16d @ 24" O.C.
10. DOUBLE TOP PLATES, FACE NAIL	16d @ 16" O.C.
11. TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL	4-16d
12. CEILING JOIST TO PLATE, TOENAIL.	3-8d
13. CONTINUOUS HEADER TO STUD, TOENAIL	4-8d
14. CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL.	3-16d
15. CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	3-16d
16. RAFTER TO TRUSSES TO PLATE, TOENAIL.	3-16d
17. 1" X 8" SHEATHING OR LESS TO EA. BEARING., FACE NAIL.	2-8d
18. WIDER THAN 1" X 8" SHEATHING TO EA. BEARING, FACE NAIL	3-8d
19. BUILT-UP CORNER STUDS.	16d @ 24" O.C.

CORROSION PROTECTION NOTE

CORROSION PROTECTION FOR NAILS AND OTHER HARDWARE ATTACHED TO PRESSURE TREATED LUMBER. OF PARTICULAR CONCERN IS THE SHEAR WALL EDGE NAILING INTO A PRESSURE-TREATED SILL PLATE. (NOTE: AS OF JAN. 1, 2004, MOST PRESSURE TREATED LUMBER WILL UTILIZE NEW CHEMICALS THAT ARE MORE CORROSIVE THAN THE TRADITIONAL CCA-C PROCESS.) USE GALVANIZED PRODUCTS, NOTE THAT THEY ARE TO BE HOT DIPPED GALVANIZED.

CONCRETE:

1. THE FOLLOWING MINIMUM CLEAR DISTANCES BETWEEN REINFORCING STEEL AND FACE OF CONCRETE SHALL BE MAINTAINED UNLESS NOTED OTHERWISE.

   POURED AGAINST FORMS 2"
   POURED AGAINST EARTH 3"
2. PIPES MAY PASS THROUGH STRUCTURAL CONCRETE IN SLEEVES, BUT SHALL NOT BE EMBEDDED THEREIN. PIPES OF DUCTS EXCEEDING ONE-THIRD THE SLAB OR FOOTING THICKNESS SHALL NOT BE PLACE IN THE STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAINED.
3. DOWELS, ANCHOR BOLTS AND OTHER EMBEDDED ITEMS ARE TO BE SECURED IN PLACE BEFORE CONCRETE IS POURED.

REINFORCING STEEL:

1. ALL BENDING OF REINFORCING STEEL SHALL CONFORM TO THE LATEST EDITION OF THE CALIFORNIA BUILDING CODE.
2. REINFORCING SHALL BE PLACED AND SUPPORTED IN A TRUE LINE AS SHOWN.
3. ALL REINFORCING SHALL BE CLEAN AND FREE OF EXTRANEOUS MATERIAL.

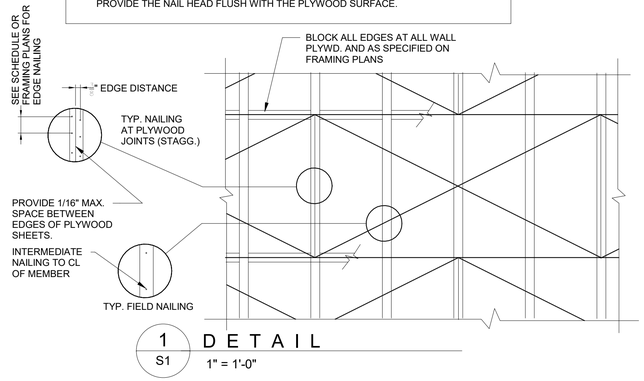
ABBREVIATIONS

A.B.	ANCHOR BOLT	M.A.	MST ABOVE
ABV.	ABOVE	M.B.	MACHINE BOLT
		MFR.	MANUFACTURER
BM.	BEAM	MAX.	MAXIMUM
BLW.	BELOW	MIN.	MINIMUM
BLK.	BLOCK OR BLOCKING	MTL.	METAL
BLK'G	BLOCK OR BLOCKING	(N)	NEW
		N.T.S..	NOT TO SCALE
C.B.C.	CALIFORNIA BUILDING CODE	OC	ON CENTER
CLG.	CEILING	O.F.	OUTSIDE FACE
C.B.	CEILING BEAM	O.H.	OPPOSITE HAND
OC	CENTER TO CENTER, ON CENTER	P.A.	POST ABOVE
		PL	PLATE
COL.	COLUMN	PLY.	PLYWOOD
CONC.	CONCRETE	PLYWD.	PLYWOOD
CONT.	CONTINUOUS	P.E.N.	PLYWOOD EDGE NAILING
DL	DEAD LOAD	PLF	POUNDS PER LINEAL FOOT
Ø	DIAMETER	P.S.I.	POUNDS PER SQ. INCH
D.F.	DOUGLAS FIR	P.S.F.	POUNDS PER SQ. FOOT
D.S.	DOUBLE STUD	PSL	PARALLAM STRAND LUMBER
EA.	EACH	P.T.	PRESSURE TREATED
(E)	EXISTING	P.T.D.F	PRESSURE TREATED DOUGLAS FIR
E.N.	EDGE NAILING	REBAR	DEFORMED REINFORCING BAR
EXT.	EXTERIOR	S.A.D.	SEE ARCHITECTURAL DRAWINGS
F.N.	FIELD NAILING	S.W.S	SHEAR WALL SCHEDULE
FIN.	FINISH	SHTG.	SHEATHING
FLR.	FLOOR	SHT.	SHEET
F.C.B.	FLUSH CEILING BEAM	SPECS.	SPECIFICATIONS
FTG.	FOOTING		
HGR.	HANGER	STD.	STANDARD
HDR..	HEADER	STL.	STEEL
H.D.	HOLDOWN	SQ.	SQUARE
HORIZ.	HORIZONTAL	THD.	THREAD
H.D.G.	HOT DIPPED GALVANIZED	T.O.BM.	TOP OF BEAM., ETC.
ICBO	INTERNATIONAL CONF. OF BLDG. OFFICIALS	T & G	TONGUE & GROOVE
		T & B	TOP & BOTTOM
INT.	INTERIOR	TYP.	TYPICAL
JST.	JOIST	U.N.O.	UNLESS NOTED OTHERWISE
LVL	LAMINATED VENEER LUMBER	VERT.	VERTICAL
LL	LIVE LOAD	W/	WITH
K.B.	KICK BRACE		
K.P.	KING POST OR KICKER POST		

EQ ENGINEERING SHALL NOT BE RESPONSIBLE FOR ANY WORK STARTED OR COMPLETED PRIOR TO APPROVAL BY THE CITY BUILDING OFFICIAL IN A FORM OF CONSTRUCTION PERMIT. ANY WORK STATED OR COMPLETED BUT NOT SUBJECT TO REVISION DUE TO PLAN CHECK, IS THE SOLE RESPONSIBLE OF THE GENERAL / TRADE CONTRACTOR TO MEET THE REVISED REQUIREMENTS AT NO COST TO THE OWNER.

SILL ANCHORS AND P.T.D.F. MUDSILLS:
1. ALL NON-SHEAR WALL SILLS SHALL BE ATTACHED TO THE FOUNDATION WITH A MINIMUM OF A SIMPSON 5/8"ø x 12" ANCHORS AT 4'-0" O.C. (U.N.O.) EACH PIECE OF SILL PLATE IS TO HAVE A MINIMUM OF 2 ANCHORS PER PIECE 12" MAXIMUM FROM EACH END. EMBED ANCHORS 7" MIN. INTO CONCRETE.
2. ALL PLATES ON CONTRETE OR MASONARY SHALL BE PRESSURE TREATED DOUGLAS FIR (P.T.D.F.).
3. WHERE REQUIRED, USE HOT DIPPED GALVANIZED ANCHOR BOLTS, NAILS AND HARDWARES THAT ARE ATTACHED TO P.T.D.F. MUDSILL. PER RELEVANT CITY CODE REQUIREMENTS.

PLYWOOD SHEATHING NOTES:
1. ALL NAILS SHALL BE COMMON NAILS OR HOT DIPPED GALVANIZED BOX NAILS
2. INDIVIDUAL PIECES OF PLYWOOD SHALL NOT BE LESS THAN 24" IN THE LEAST DIMENSION NOR LESS THAN 4'-0" SQ. TOTAL AREA.
3. ALL PLYWOOD MUST BE APA RATED.
4. PRE-DRILL HOLES WHERE PLYWOOD OR FRAMING TENDS TO SPLIT.
5. PROVIDE EDGE NAILING ALONG ALL JOISTS, RAFTERS, BEAMS, COLLECTORS AND BLOCKING OVER OR IN LINE WITH SHEAR WALLS. (2-ROWS REQUIRED AT EACH OF THESE LOCATIONS.)
6. DO NOT OVER DRIVE NAILS INTO PLYWOOD SHEATHING, ANYMORE THAN TO PROVIDE THE NAIL HEAD FLUSH WITH THE PLYWOOD SURFACE.



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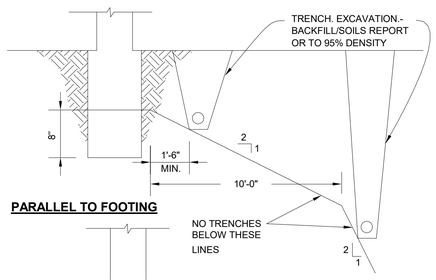
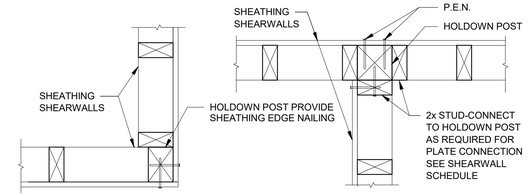


PARALLEL TO FOOTING

PERPENDICULAR TO FOOTING

2 / S1 DETAIL
1" = 1'-0"



@ CORNERS **@ INTERSECTIONS**

3 / S1 DETAIL
1" = 1'-0"

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(408) 772-7920

No.	Description	Date

PROPOSED REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany CA 94706

GENERAL NOTES

PROJECT NO.	21.027
DATE	02/22/2022
DRAWN BY	DD
CHECKED BY	EQ

S1

SCALE 1" = 1'-0"

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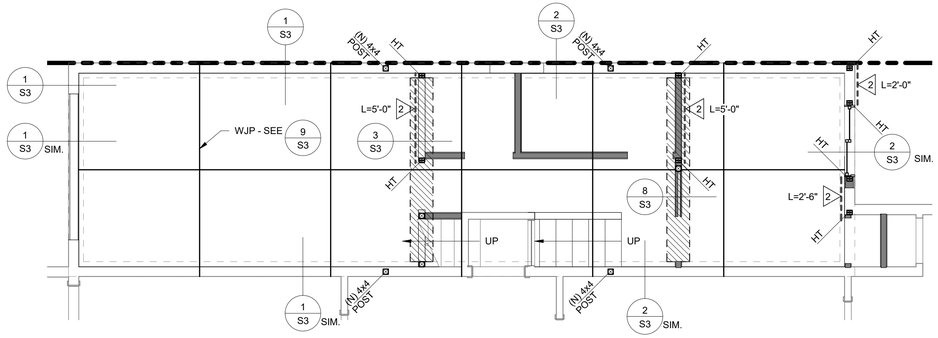
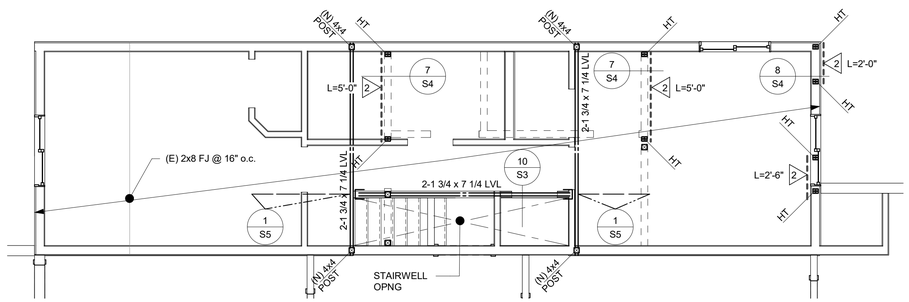


FOUNDATION PLAN

1/4" = 1'-0"



2ND FLOOR FRAMING PLAN

1/4" = 1'-0"

FOUNDATION NOTES

1. ALL ANCHOR BOLTS NOT SHOWN ARE TO BE 5/8" DIA. x 12" A307 ANCHOR BOLT AT 4'-0"o.c. W/ 3" x 3" x 0.229" WASHER PLATE. SEE PLAN FOR FOR SPECIAL ANCHOR BOLT REFERENCE AT SHEAR WALLS.
2. ALL HOLDOWNS SHOWN ON THIS PLAN TO BE CONNECTED FROM POST IN WALL TO FOOTING BELOW (UNO) AND TO BE INSTALLED PER SIMPSON CO. SPECIFICATIONS.
3. STITCH NAIL ALL DOUBLE OR TRIPLE MEMBERS W/16d @ 4" o.c., STAGGERED (TYP.).
4. SEE DETAIL 5/S3 FOR TYP. REINFORCEMENT SPLICES AND BENDS.
5. SEE DETAIL 6/S3 FOR TYP. CORNER REINFORCEMENT DETAIL.
6. SEE DETAIL 2/S1 FOR TYP. TRENCH DETAIL.
7. SEE SHEET S1 FOR STRUCTURAL SPECIFICATIONS AND GENERAL NOTES.
8. INTERIOR SLAB: 4" THK CONCRETE SLAB w/ #4 @ 9 1/2" O.C. E.W. @ MID DEPTH OF SLAB OVER 10 MIL VAPOR BARRIER OVER 2" SAND OVER 4" CLEAN CRUSHED ROCK OVER PRESOAKED EARTH OR 4" THK CONCRETE SLAB w/ #4 @ 18" O.C. E.W. @ MID DEPTH OF SLAB OVER 10 MILVAPOR BARRIER OVER 2" SAND OVER 4" CLEAN CRUSHED ROCK OVER PRESOAKED EARTH w/ WEAKENED PLANE JOINT (SEE 9/S3) @ 10'-0" O.C. MIN EA. WAY.
9. ALL WOOD MEMBERS EXPOSED TO WEATHER SHALL BE PRESSURE TREATED.
10. EXTERIOR SLAB: 4" CONCRETE SLAB-ON-GRADE W/ #4 @ 16" o.c. @ MID-DEPTH OF SLAB OVER 4" CRUSHED ROCK OVER PRESOAKED EARTH.

LEGEND

- 1 — BRACED WALL/SHEAR MATERIAL AND ANCHOR BOLT SPACING IDENTIFIER. SEE DETAIL 2/S4
- HT — INDICATES LOCATION OF SIMPSON HTT4 HOLDOWN, SEE 7/S3
- (N) 2x4 (MIN.) @ 16" O.C. STUDWALL BELOW (SEE 2/S4 FOR LOCATIONS OF 3x STUDS FOR SHEAR WALLS.)
- (N) 2x4 @ 16" O.C. NON-LOAD BEARING WALL - SEE 4/S3
- INDICATES 4x4 DF#1 POST
- INDICATES 4x6 DF#1 POST
- (N) 18" DEEP x 15" WIDE UNDERPIN FOOTING - SEE 1/S3
- (E) FOOTING
- SHEAR WALL LOCATIONS (SEE PLANS & 2/S4). PROVIDE 3/8 PLYWOOD. NAIL W/ 8d COMMON @ 4" o.c. EDGE & @ 12" o.c. FIELD @ EXTERIOR NON-SHEAR WALL LOCATION.

NOTE

1. ANCHOR BOLTS AND HOLD-DOWN ANCHORS TO BE SET AND POSITIONED IN PLACE PRIOR TO CALLING FOR FOUNDATION INSPECTION.
2. SEE ROOF FRAMING PLAN FOR LOCATIONS OF POSTS NOT SHOWN ON FOUNDATION PLAN.

NOTE

USE 2x6 STUDS AT ALL PLUMBING WALLS
SEE ARCHITECTURAL DRAWINGS FOR LOCATION

LEGEND

- (N) 2x4 @ 16" O.C. STUDWALL BELOW (SEE 2/S4 FOR LOCATIONS OF 3X STUDS FOR SHEAR WALLS.)
- 4X12 HEADER BM. (U.N.O.) REQUIRED AT EXT. WALLS & INT. BEARING WALLS ONLY-SEE 3/S4
- SHEAR WALL LOCATIONS (SEE PLANS & 2/S4) . PROVIDE 3/8 PLYWOOD. NAIL W/ 8d COMMON AT 4" O.C. EDGE. AND AT 12" O.C. FILED AT EXTERIOR NON-SHEAR WALL LOCATION.
- SHEAR MATERIAL AND ANCHOR BOLT SPACING IDENTIFIER. SEE 2/S4

HOLDOWN NOTES:

1. ALL STRAP TYPE ANCHORS TO BE INSTALLED OVER PLYWD SHEAR MATERIAL.
2. ALL DBL. 2x4 POSTS AT HOLDOWN, 'HTT5' OR STRAP LOCATIONS TO BE NAILED TOGETHER WITH 16d AT 4"o.c., STAGGERED.
3. IF 2x SHIMS OR 'PAD-OUT' STUDS ARE USED BETWEEN THE HOLDOWN ANCHOR AND THE POST SPECIFIED. ATTACH SHIMS TO THE SPECIFIED POST WITH A MINIMUM OF 16d AT 4"o.c., STAGGERED.

FRAMING NOTES

1. PROVIDE A 2-2x POST BELOW ALL BEAM ENDS UNLESS A LARGER POST IS SPECIFIED.
2. NAIL ROOF PLYWOOD W/ SHEAR TRANSFER NAILING (EN) TO ALL FRIEZE BLOCKING AT EXTERIOR WALLS AND TRUSSES IN LINE WITH EXTERIOR WALLS OR SHEAR WALLS
3. EXTEND ALL ROOF PLYWOOD BELOW CALIF. FRAMED AREAS AND PROVIDE SHEAR TRANSFER NAILING (EN) TO BEAM OR PERIMETER WALL BLOCKING.
4. NAIL SHEAR MATERIAL WITH TWO ROWS OF EDGE NAILING TO ALL POSTS ATTACHED TO HOLDOWN ANCHORS OR STRAPS.
5. ALL SPECIFIED BLOCKING IS TO BE INSTALLED "TIGHT" BETWEEN ADJACENT MEMBERS.
6. DO NOT OVERDRIVE NAILS INTO PLYWOOD. IF NAIL GUN IS USED, GUN SHOULD BE ADJUSTED TO UNDERDRIVE NAIL, THEN NAILS ARE TO BE HAND DRIVEN SO THE HEAD OF THE NAIL IS FLUSH WITH THE FACE OF THE PLYWOOD.
7. AT NAILED CONNECTIONS, CARE IS TO BE TAKEN DURING CONSTRUCTION TO ENSURE THAT SPLITTING OF WOOD DOES NOT OCCUR. ANY SPLIT MEMBERS SHALL BE REMOVED AND REPLACED, USING A METHOD OF ATTACHING THE SPECIFIED CONNECTORS IN A WAY TO PREVENT SPLITTING.
8. SEE DETAIL 4/S4 FOR PLYWOOD SHEAR WALL LAYOUT.
9. WALL, WINDOW, DOOR & OPENING LOCATIONS SHOW ON PLANS ARE FOR REFERENCE ONLY. SEE ARCHITECTURAL PLANS FOR ALL DIMENSIONS AND EXACT LOCATIONS.
10. SEE DETAIL 2/S5 FOR TOP PLATE SPLICE DETAIL.
11. SEE DETAIL 3/S1 FOR STUD LOCATIONS.
12. SEE SHEET S1 FOR STRUCTURAL SPECIFICATIONS & GENERAL NOTES;
13. SEE DETAIL 3/S4 FOR FRAMED WALL OPENING.
14. SEE DETAILS 3/S5 FOR BEAM SUPPORT.
15. SEE DETAIL 8/S4 FOR SHEAR CONN. @ ADJOINING WALL.
16. ALL WOOD MEMBERS EXPOSED TO WEATHER SHALL BE PRESSURE TREATED.
17. FLOOR SHEATHING SHALL BE UNBLOCKED 3/4" T&G W/ 10d COMMON NAILS @ 6" O.C. EDGES, 10d @ 10" O.C. FIELD TYP. U.N.O. GLUE PLYWOOD TO ALL FRAMING. FLOOR SHEATHING SHALL BE INSTALLED WITH 4' x 8' PANELS, EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING WHERE MINIMUM SHEET DIMENSION SHALL BE 24" UNLESS ALL EDGES OF UNDERSIZED SHEETS ARE SUPPORTED BY FRAMING MEMBERS OR BLOCKING.SHEATHING SHALL BE INSTALLED WITH 8' SIDE PERPENDICULAR TO FRAMING AND 4' SIDES STAGGERED.

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EQ Engineering

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STRUCTURAL ENGINEERS
P.O. BOX 51342 SAN JOSE, CA
(408) 613-2136

No.	Description	Date

PROPOSED REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany CA 94706

FOUNDATION & 2ND FLOOR FRAMING PLAN

PROJECT NO.	21.027
DATE	02/22/2022
DRAWN BY	Author
CHECKED BY	Checker

S2

SCALE As indicated

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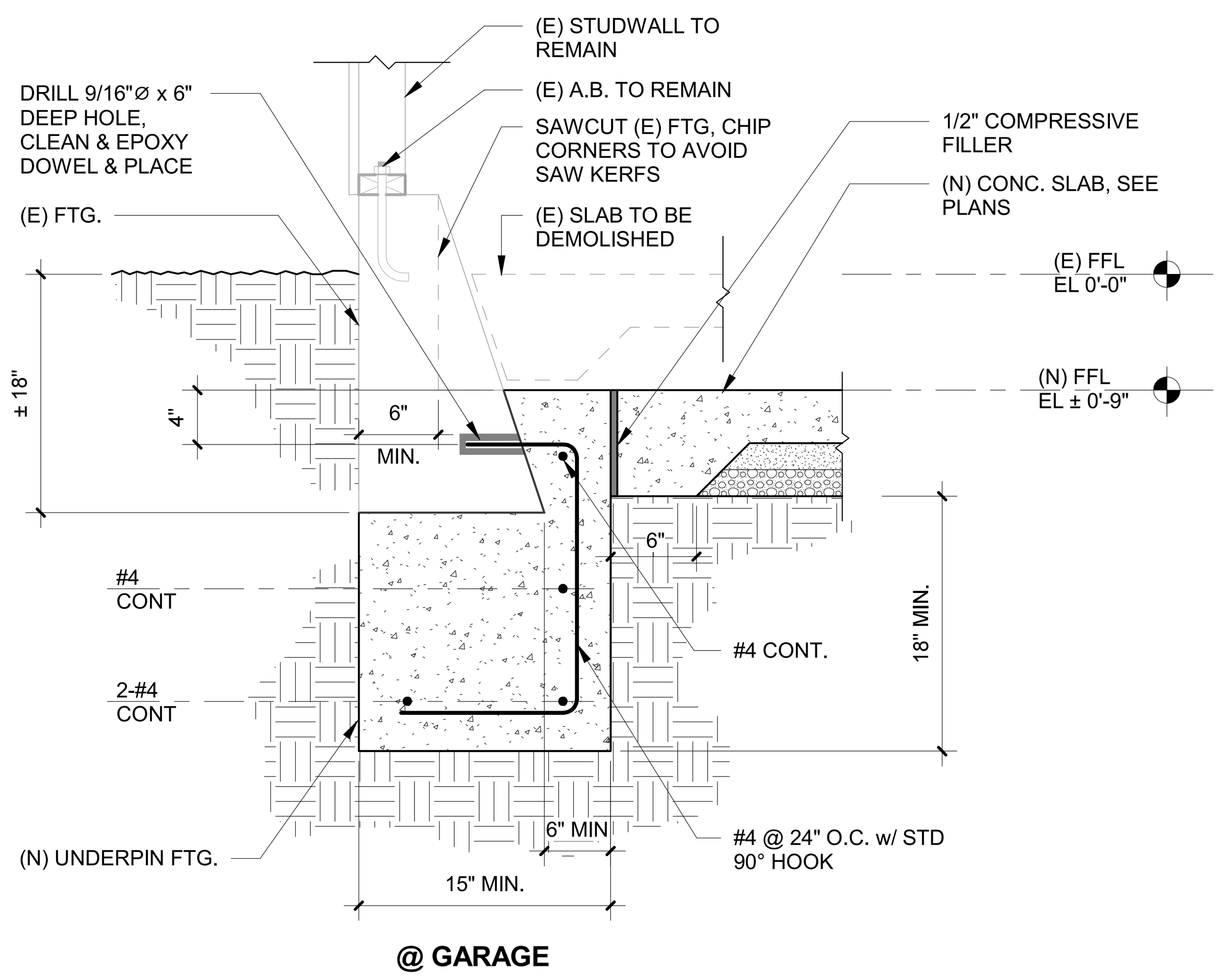

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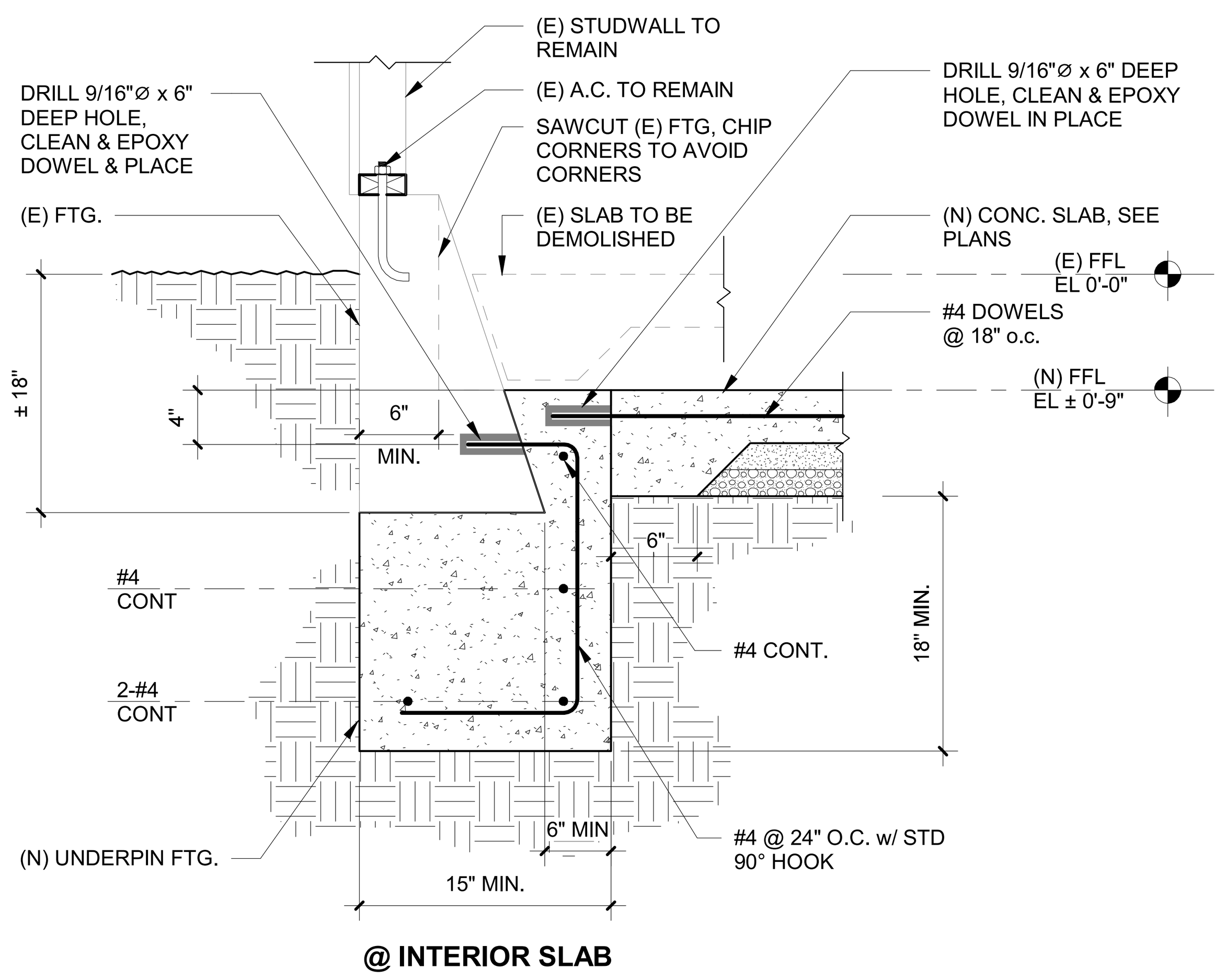

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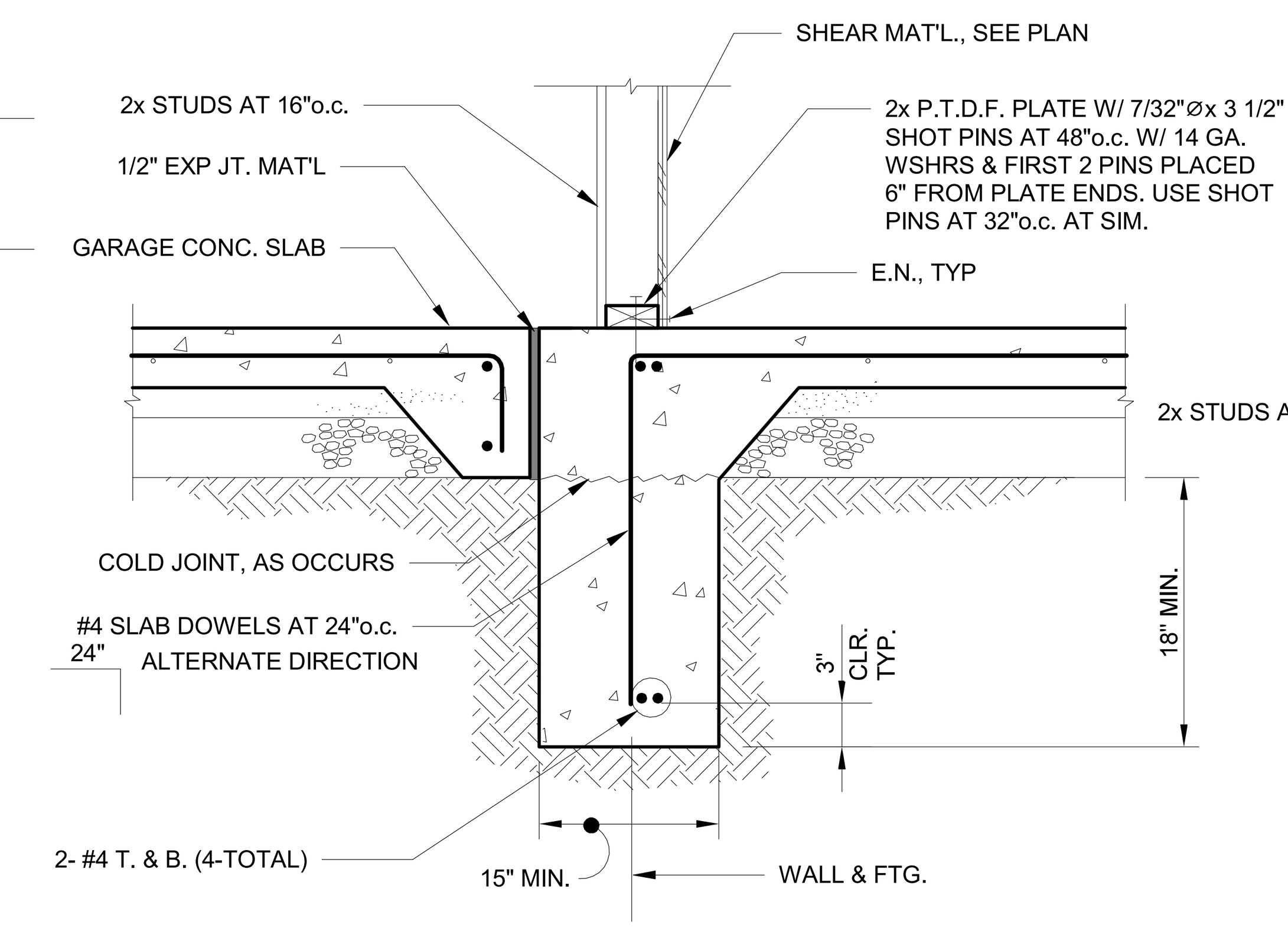

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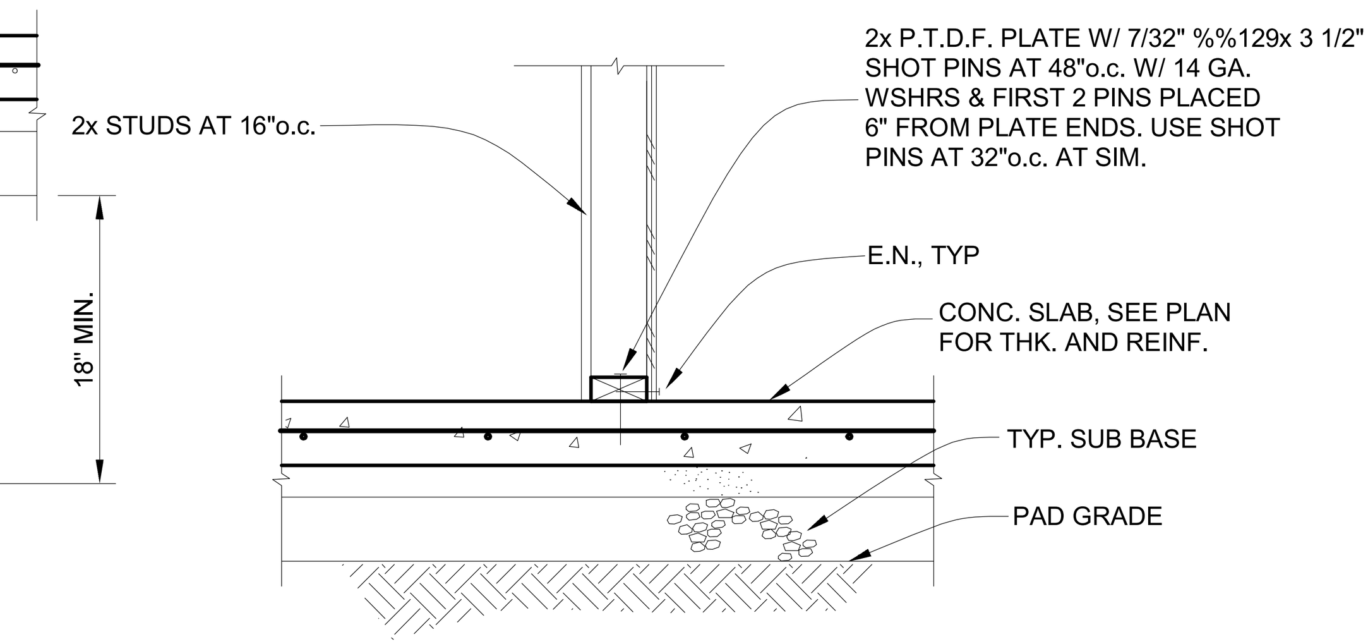

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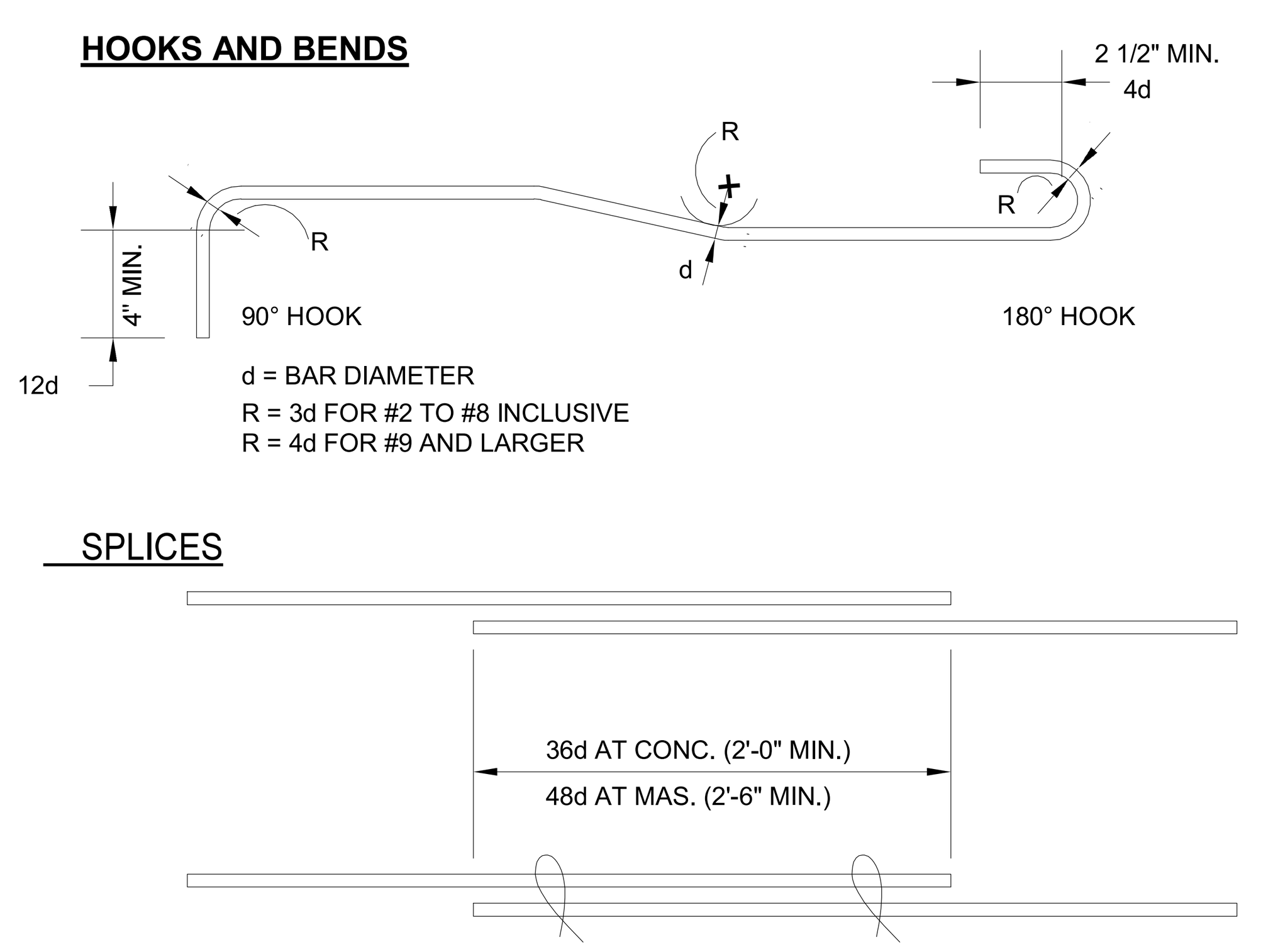

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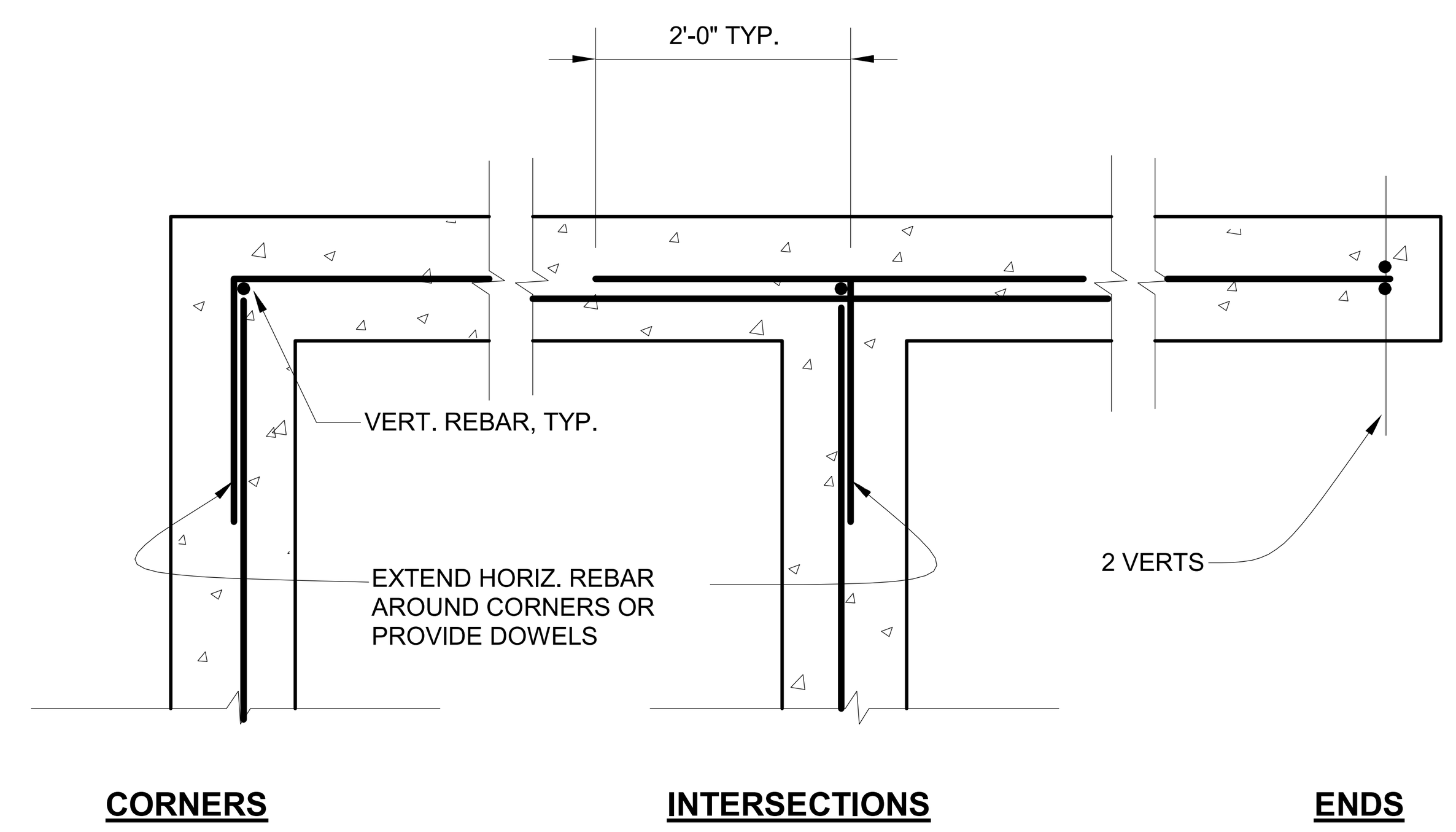

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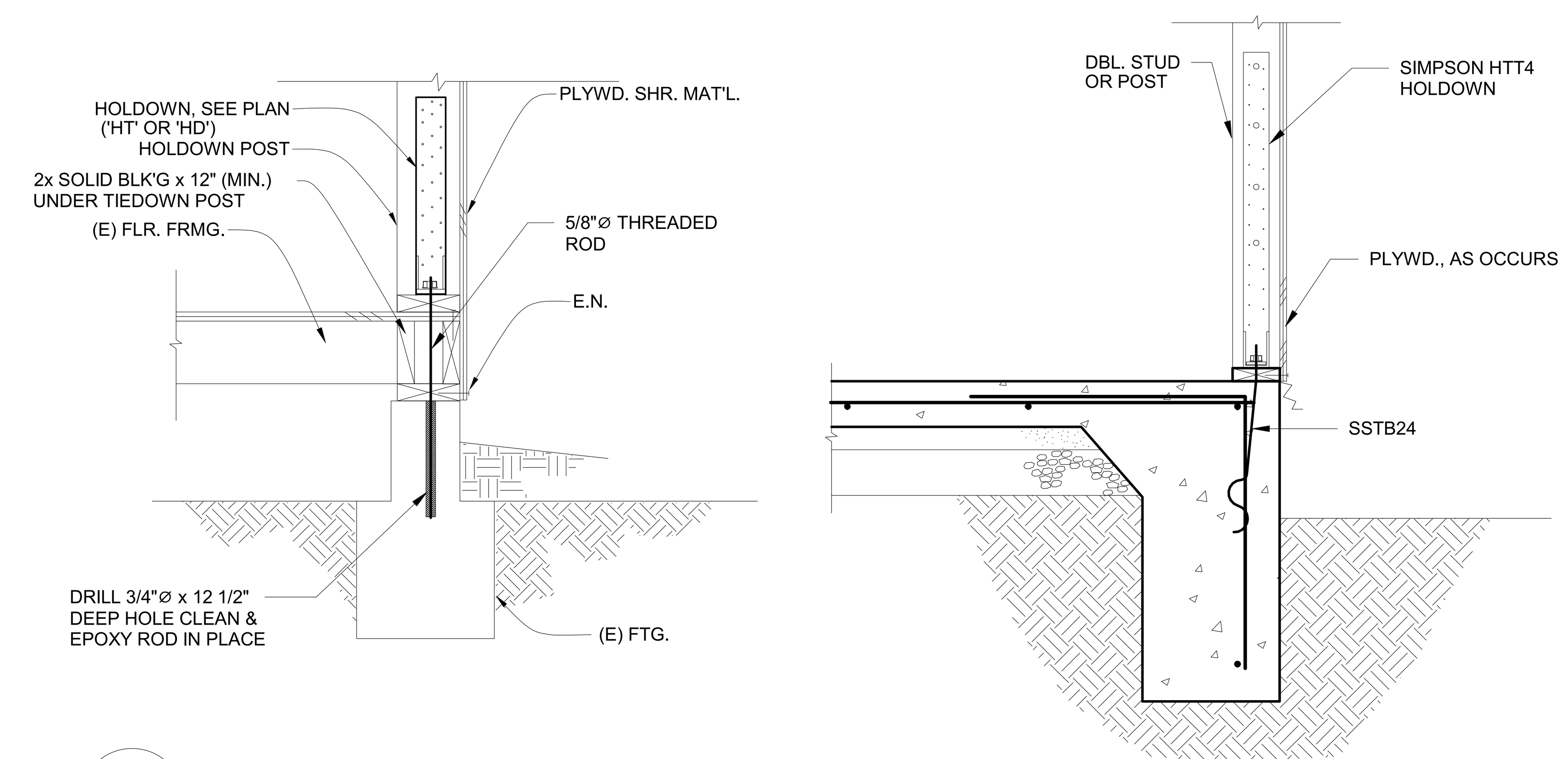

7 DETAIL
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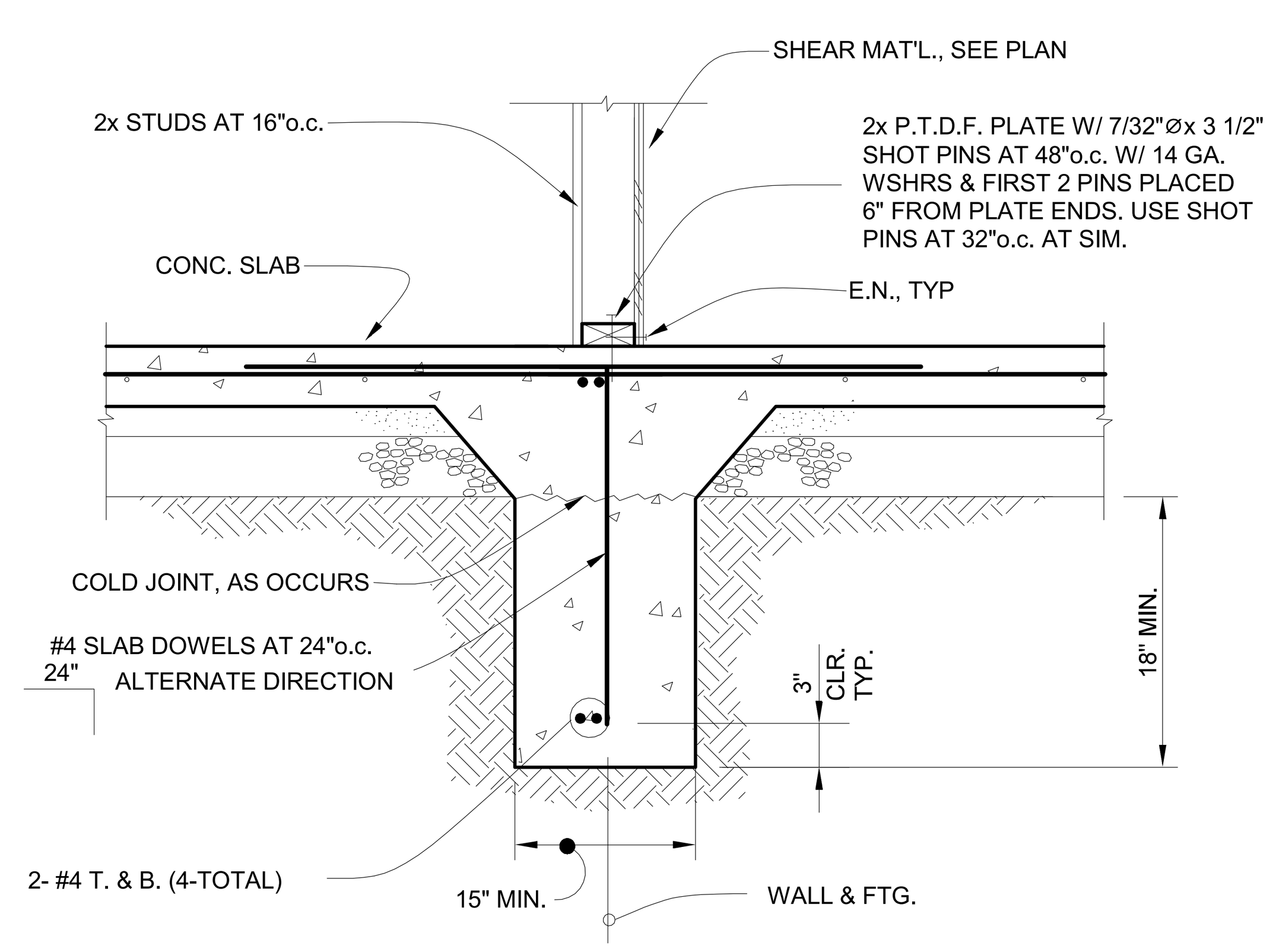

8 DETAIL
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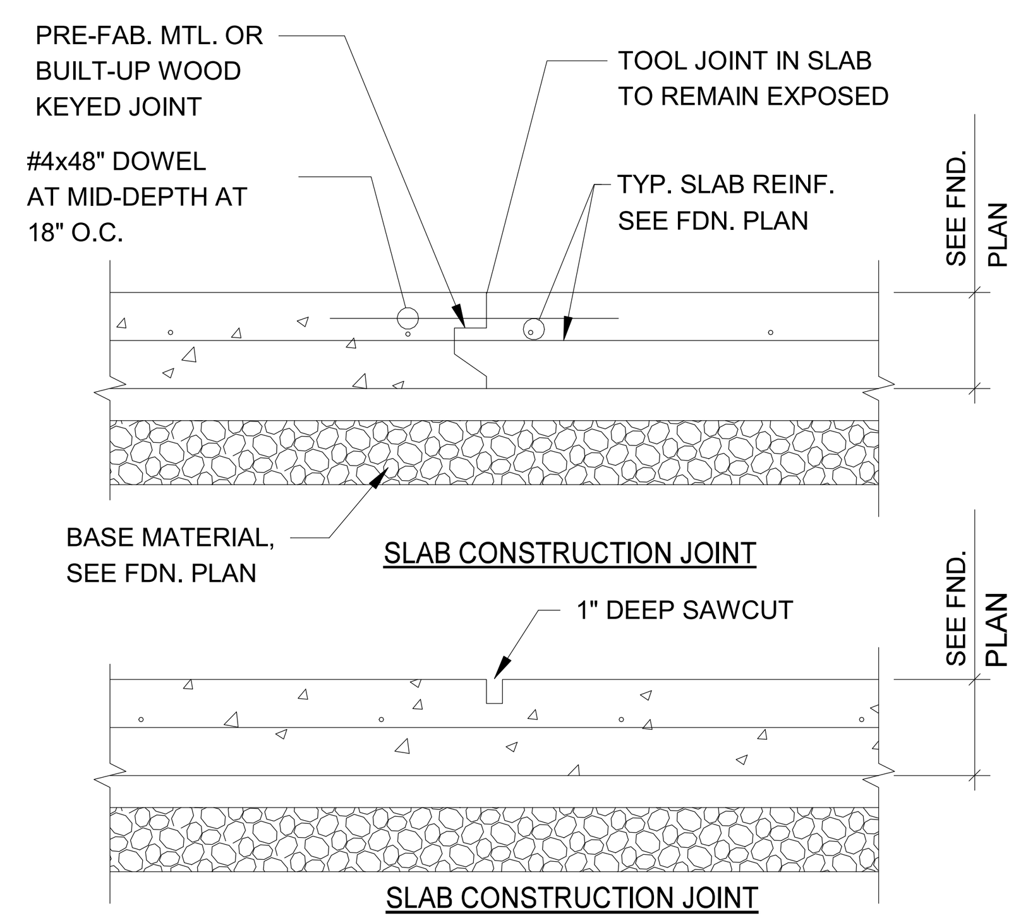

9 DETAIL
S3
1" = 1'-0"

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EQ Engineering

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STRUCTURAL ENGINEERS
P.O. BOX 51342 SAN JOSE, CA
(408) 772-7920

No.	Description	Date
△		

PROPOSED REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany CA 94706

STRUCTURAL DETAILS

REGISTERED PROFESSIONAL ENGINEER · C 67478 · S 5447 · Exp. 6/30/22 · CIVIL & STRUCTURAL · STATE OF CALIFORNIA

PROJECT NO.	21.027
DATE	02/22/2022
DRAWN BY	DD
CHECKED BY	EQ

S3

SCALE 1" = 1'-0"

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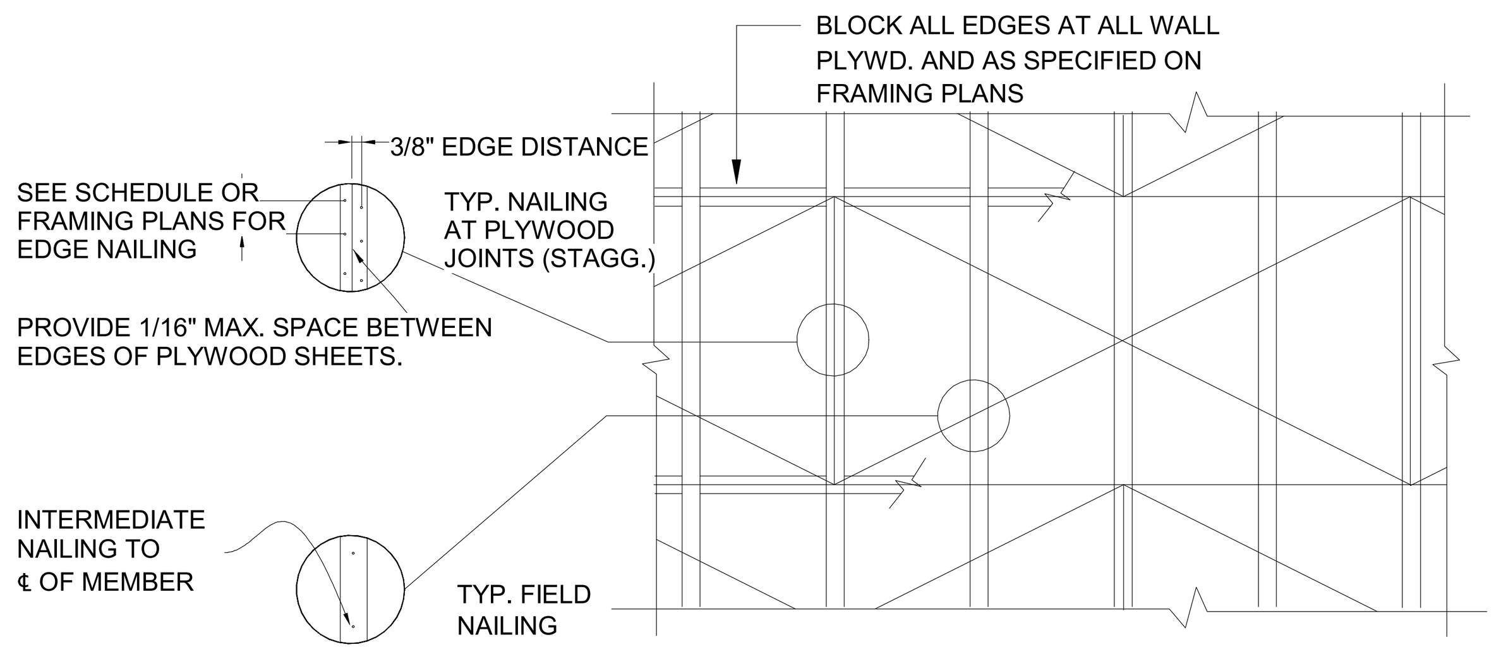
PLYWOOD SHEATHING NOTES:

1. ALL NAILS SHALL BE COMMON NAILS OR HOT DIPPED GALVANIZED BOX NAILS
2. INDIVIDUAL PIECES OF PLYWOOD SHALL NOT BE LESS THAN 24" IN THE LEAST DIMENSION NOR LESS THAN 4'-0" SQ. TOTAL AREA.
3. ALL PLYWOOD MUST BE APA RATED.
4. PRE-DRILL HOLES WHERE PLYWOOD OR FRAMING TENDS TO SPLIT.
5. PROVIDE EDGE NAILING ALONG ALL JOISTS, RAFTERS, BEAMS, COLLECTORS AND BLOCKING OVER OR IN LINE WITH SHEAR WALLS. (2-ROWS REQUIRED AT EACH OF THESE LOCATIONS.)
6. DO NOT OVER DRIVE NAILS INTO PLYWOOD SHEATHING, ANYMORE THAN TO PROVIDE THE NAIL HEAD FLUSH WITH THE PLYWOOD SURFACE.



1 DETAIL S4
3/4" = 1'-0"

SHEAR WALL SCHEDULE

NOTE # 12

MARK	MATERIAL	PLYWOOD NAILING	SHEAR TRANSFER NOTE#11: NAILING OR CLIPS (T.N.)	SILL PLATE CONNECTIONS (SEE NOTE # 9 @ EXISTING CONCRETE): NAILING (S.N.) FOR 2x SOLE PLATES ONLY	SILL PLATE CONNECTIONS: ANCHOR BOLTS (A.B.'S) REMARKS	SHEAR WALL CAPACITY (#/')
1	3/8" CDX PLYWOOD P.I.: 24/0 *	8d AT 6"o.c. E.N. 8d AT 12"o.c. F.N.	16d AT 5"o.c. OR A35 @ 16" o.c. OR LTP4 AT 24" o.c	16d AT 5"o.c.	5/8"∅ A.B. AT 4'-0"o.c.	220
2	3/8" CDX PLYWOOD P.I.: 24/0 *	8d AT 4"o.c. E.N. 8d AT 12"o.c. F.N.	16d AT 3"o.c. OR A35 @ 12" o.c. OR LTP4 AT 20" o.c	16d AT 3"o.c. +	5/8"∅ A.B. AT 3'-0"o.c.	320
3	3/8" CDX PLYWOOD P.I.: 24/0 **	8d AT 3"o.c. E.N. 8d AT 12"o.c. F.N.	A35 @ 10" o.c. OR LTP4 AT 16" o.c	16d AT 2 1/2"o.c. +	5/8"∅ A.B. AT 2'-4"o.c.	410
4	3/8" CDX PLYWOOD P.I.: 24/0 **	8d AT 2"o.c. E.N. 8d AT 12"o.c. F.N.	A35 @ 10" o.c. OR LTP4 AT 16" o.c	SIMPSON SDS 1/4 x 6" LONG SCREWS @ 6" o.c. +	5/8"∅ A.B. AT 1'-8"o.c.	530
5	1/2" CDX PLYWOOD P.I.: 24/0 **	10d AT 2"o.c. E.N. 10d AT 12"o.c. F.N.	2-A35 @ 12" o.c. OR LTP4 AT 10" o.c	SIMPSON SDS 1/4 x 6" LONG SCREWS @ 5" o.c. +	5/8"∅ A.B. AT 1'-6"o.c.	770

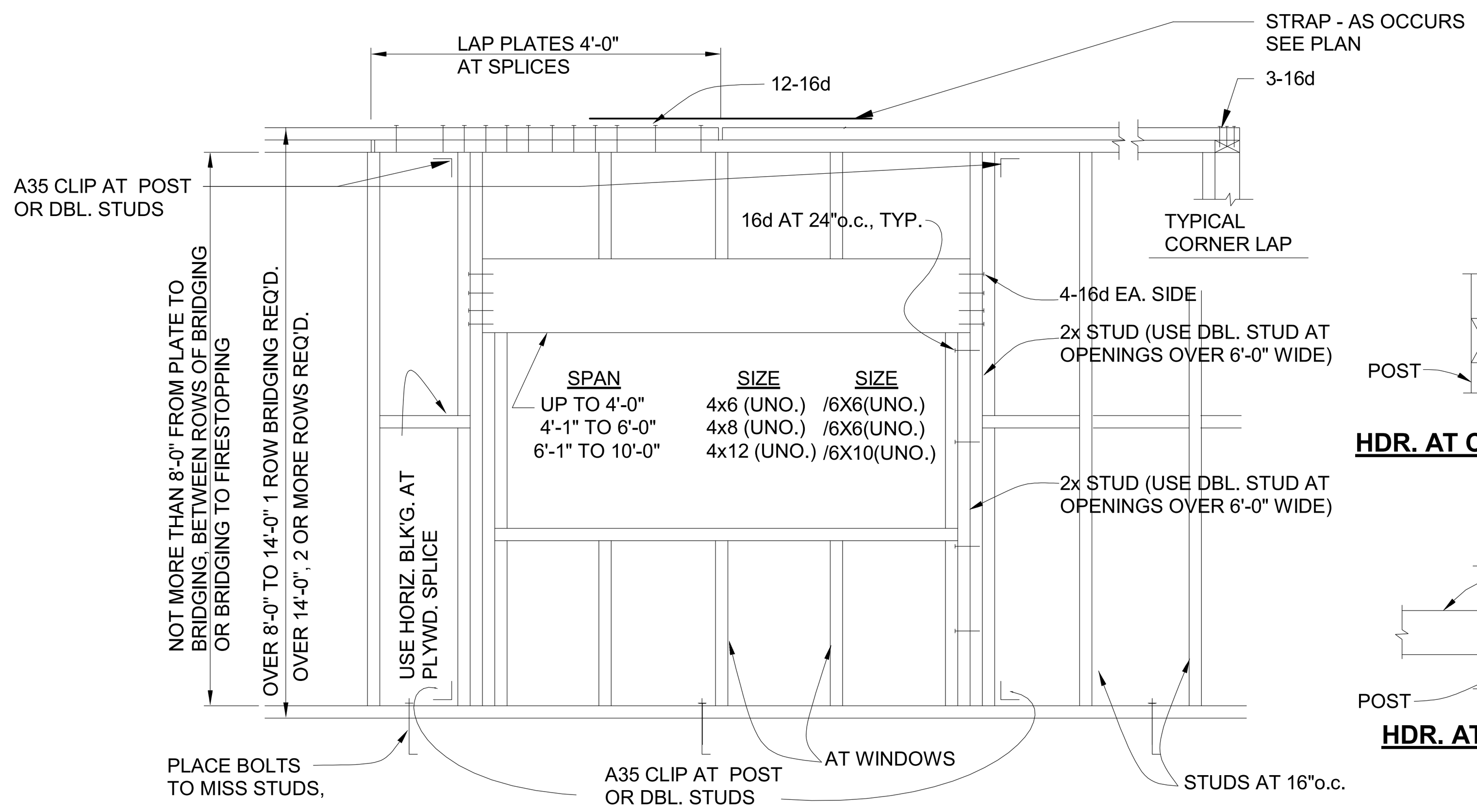
USE 3x P.T.D.F. MUDSILL AT FOUNDATION FOR SHEAR WALL TYPE BELOW: (OTHERWISE USE 2x P.T.D.F. MUDSILL W/ REDUCED A.B.'S SPACING BY HALF (1/2) AS SHOWN ON SHEAR WALL SCHEDULE W/ 3" SQ. x .229" THK. WASHER PLATE)

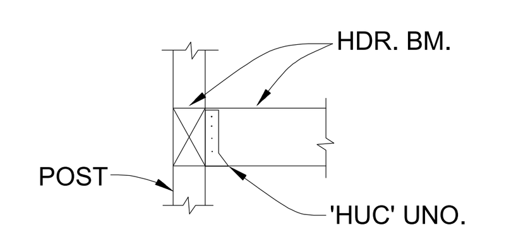
3

NOTES: (U.N.O. ON PLANS)

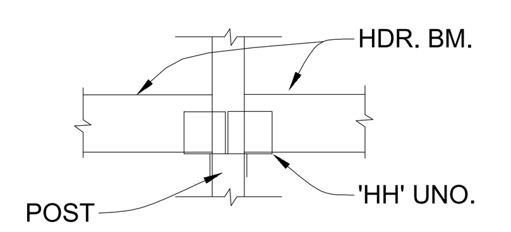
1. "*" BLOCK ALL EDGES
2. "**" BLOCK ALL ADJOINING PLYWOOD EDGES WITH 3x LUMBER AND STAGGER NAILS (PLATES, STUDS, POST, BLOCKING, ETC.) USE 3x MUDSILL
3. OFFSET PANEL JOINTS ON DIFFERENT FRAMING MEMBERS WHERE PLYWOOD SHEAR MATERIAL OCCURS ON EACH SIDE OF WALL. OTHERWISE USE 3x MIN. LUMBER, NAILS SHALL BE STAGGERED ON BOTH SIDES
4. USE PNEUMATICALLY DRIVEN 16d NAILS FOR ALL SPACING LESS THAN 6"o.c.. IF SILL PLATES SPLITS, NAILS SHALL BE DRIVEN IN PRE-DRILLED HOLES. NAILS SHALL NOT BE UNDERDRIVEN, OVERDRIVEN AND/OR SLANTED.
5. ALL NAILS SHALL BE COMMON.
6. "N/A" INDICATES NOT APPLICABLE WHEN PLYWOOD IN ON THE EXTERIOR FACE OF WALL. SEE PLANS FOR ATTACHMENTS WHEN PLYWOOD IS ON INTERIOR FACE OF WALL.
7. PROVIDE STUDS AT 16" O.C. (MAX.)
8. OSB APA RATED SHEATHING MAY BE USED.
9. USE 5/8"Ø ALL-THREAD ROD EMBED 6" INTO (E) CONCRETE & SET W/ SIMPSON 'SET' XP EPOXY AT EXISTING FOOTING CONDITIONS ONLY.
10. USE BLK'G OR RIM BOARD EACH SIDE OF WALL FOR LTP4.
11. T.N.- INDICATES TRANSFER NAILING CLIP
12. ALL SILL NAILING T.N. & S.N. APPLY TO THE EXTENT OF SHEAR WALLS ONLY.
13. '+' PRE-DRILL HOLES, IF WOOD SPLITS.
14. USE 3" x 3" x 0.229" WASHER PLATE FOR ALL ANCHOR BOLTS.

2 DETAIL S4
1 1/2" = 1'-0"





HDR. AT CORNER POST ELEV.

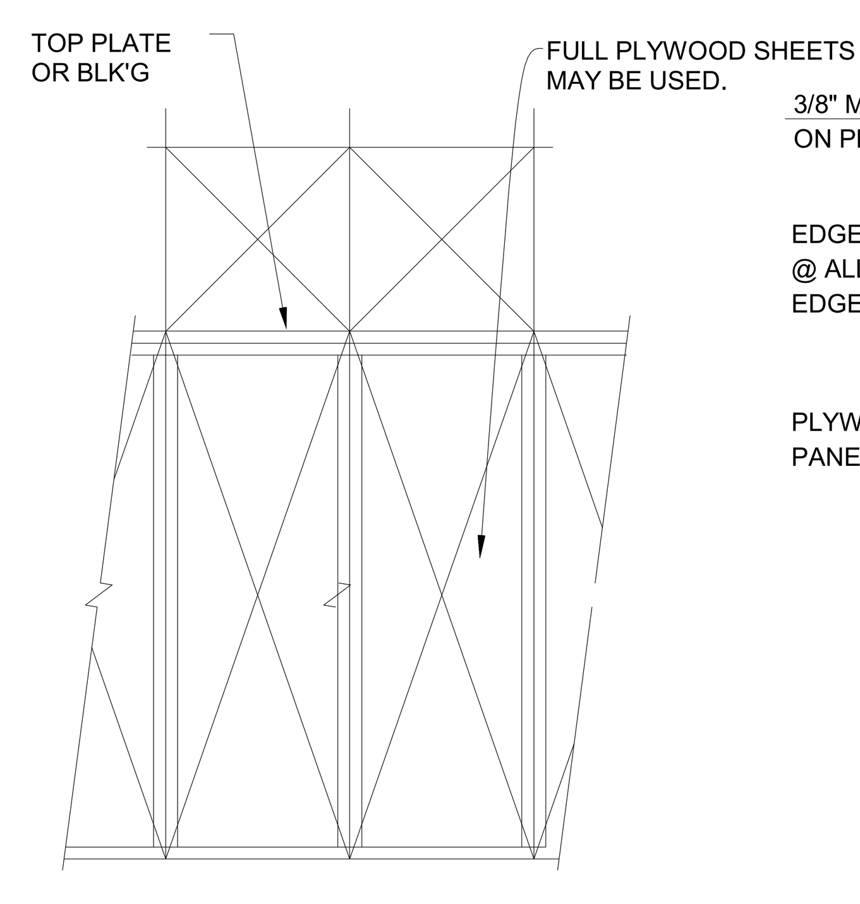


HDR. AT POST ELEV.

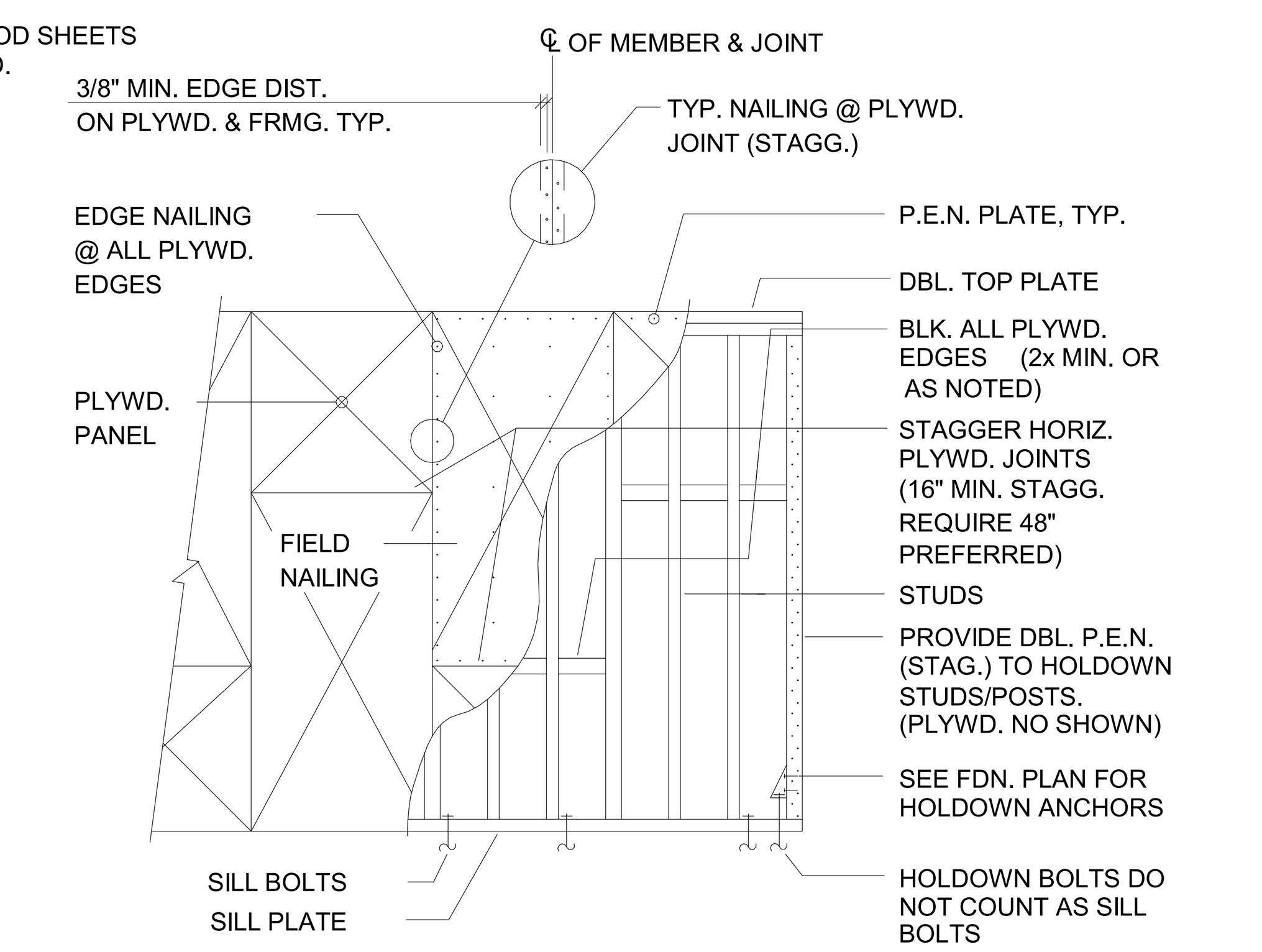
SILL ANCHORS AND P.T.D.F. MUDSILLS:

1. ALL NON-SHEAR WALL SILLS SHALL BE ATTACHED TO THE FOUNDATION WITH A MINIMUM OF A SIMPSON 5/8"∅ x 12" ANCHORS AT 4'-0" O.C. (U.N.O.) EACH PIECE OF SILL PLATE IS TO HAVE A MINIMUM OF 2 ANCHORS PER PIECE 12" MAXIMUM FROM EACH END. EMBED ANCHORS 7" MIN. INTO CONCRETE.
2. ALL PLATES ON CONTRETE OR MASONARY SHALL BE PRESSURE TREATED DOUGLAS FIR (P.T.D.F.).
3. WHERE REQUIRED, USE HOT DIPPED GALVANIZED ANCHOR BOLTS, NAILS AND HARDWARES THAT ARE ATTACHED TO P.T.D.F. MUDSILL. PER RELEVANT CITY CODE REQUIREMENTS.

3 DETAIL S4
1" = 1'-0"



ALTERNATE FRAMING CONDITION



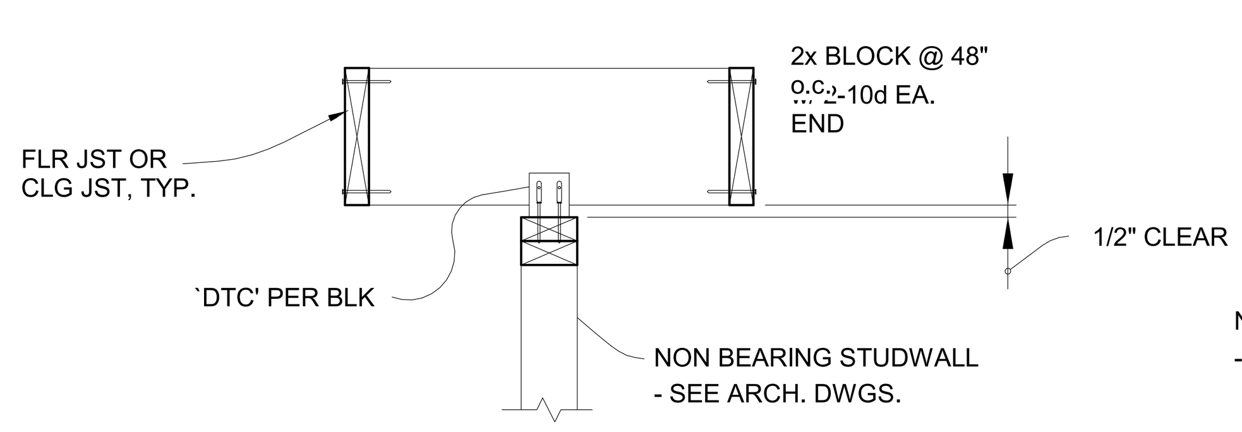
SCALE: NOT TO SCALE (N.T.S) TYP. (DO NOT SCALE DETAILS, SEE PLANS FOR ACTUAL DIMENSIONS OR SIZES)

4 DETAIL S4
1" = 1'-0"

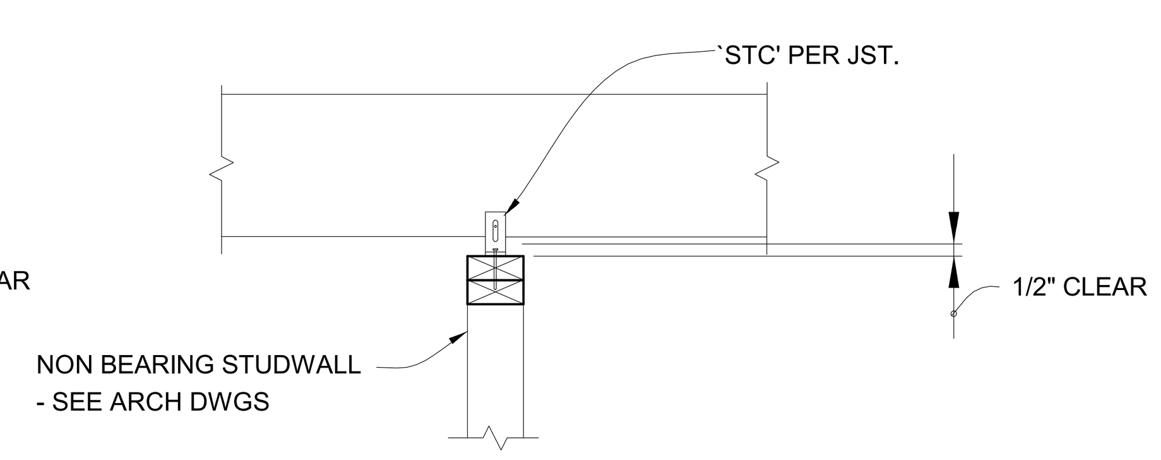
CEILING JOIST SCHEDULE ALTERNATE TO 24" o.c. SPACING		HANGERS
HORIZ. SPAN	SIZE & SPACING	SIMPSON TYPE
0'0" TO-9-0"	2X4 DF #2 @ 16" O.C.	U24
9'-1" TO 15'-6"	2X6 DF #2 @ 16" O.C.	U26
15'-7" TO 20'-0"	2X8 DF #2 @ 16" O.C.	U28
20'-1" TO 24'-0"	2X10 DF #2 @ 16" O.C.	U210
24'-1" TO 28'-0"	2X12 DF# 2 @ 16" O.C.	U210

CEILING JOIST SCHEDULE		HANGERS
HORIZ. SPAN	SIZE & SPACING	SIMPSON TYPE
0'0" TO-8-0"	2X4 DF #2 @ 24" O.C.	U24
8'-1" TO 13'-6"	2X6 DF #2 @ 24" O.C.	U26
13'-7" TO 17'0"	2X8 DF #2 @ 24" O.C.	U28
17'-1" TO 20'-0"	2X10 DF #2 @ 24" O.C.	U210
20'-1" TO 24'-0"	2X12 DF# 2 @ 24" O.C.	U210

5 DETAIL S4
1" = 1'-0"

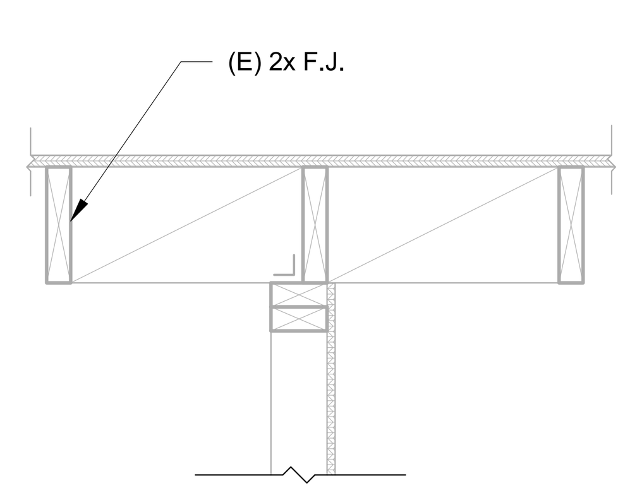


NON-BEARING WALL PARALLEL TO JST

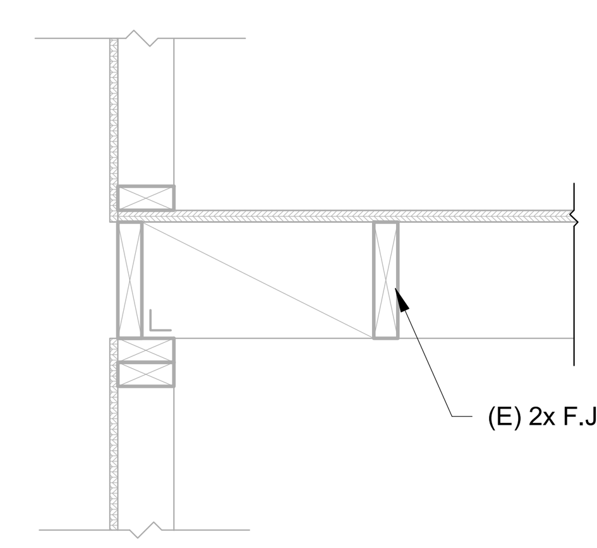


NON-BEARING WALL PERPENDICULAR TO JST

6 DETAIL S4
1" = 1'-0"



7 DETAIL S4
1" = 1'-0"



8 DETAIL S4
1" = 1'-0"

3D Design Solutions
2335 Arthur Place, Manteca, CA 95337
cp# 408.710.3454 hp# 925.476.8183
email: 3ddesignsolutionsinc@gmail.com

EQ Engineering

EQ ENGINEERING
STRUCTURAL ENGINEERS
P.O. BOX 51342 SAN JOSE, CA
(408) 772-7920

No.	Description	Date
△		

PROPOSED REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany CA 94706

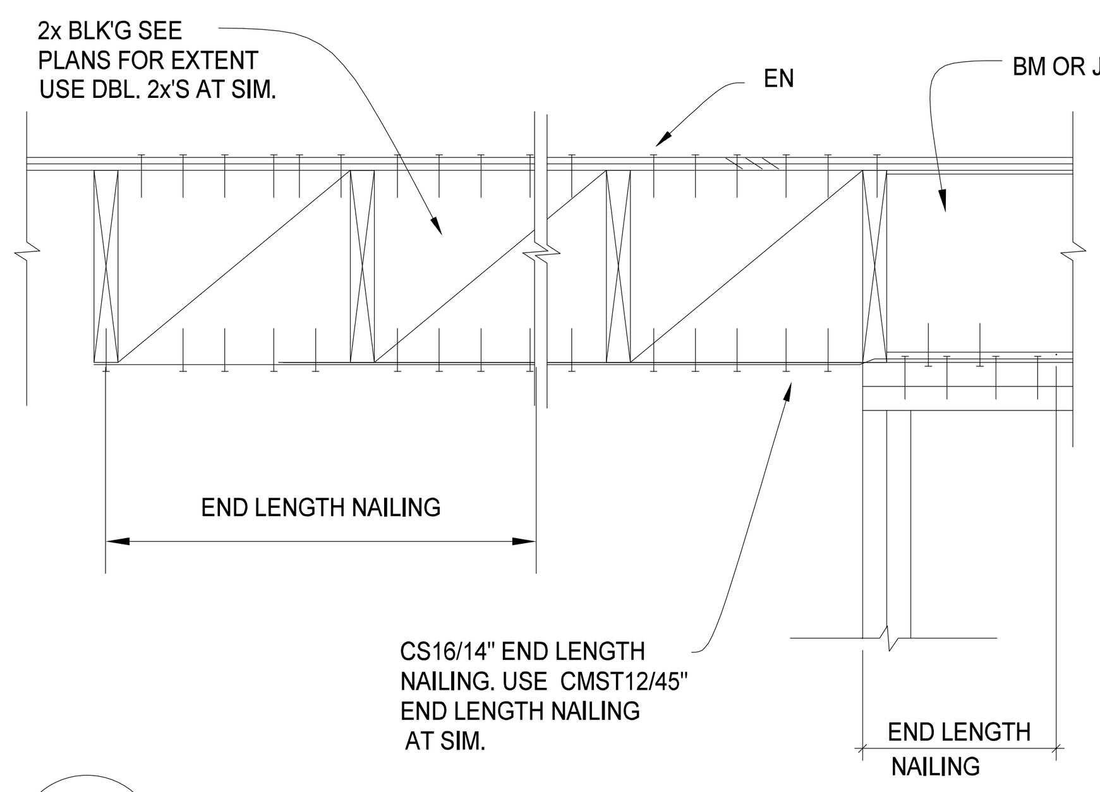
STRUCTURAL DETAILS

PROJECT NO.	21.027
DATE	02/22/2022
DRAWN BY	DD
CHECKED BY	EQ

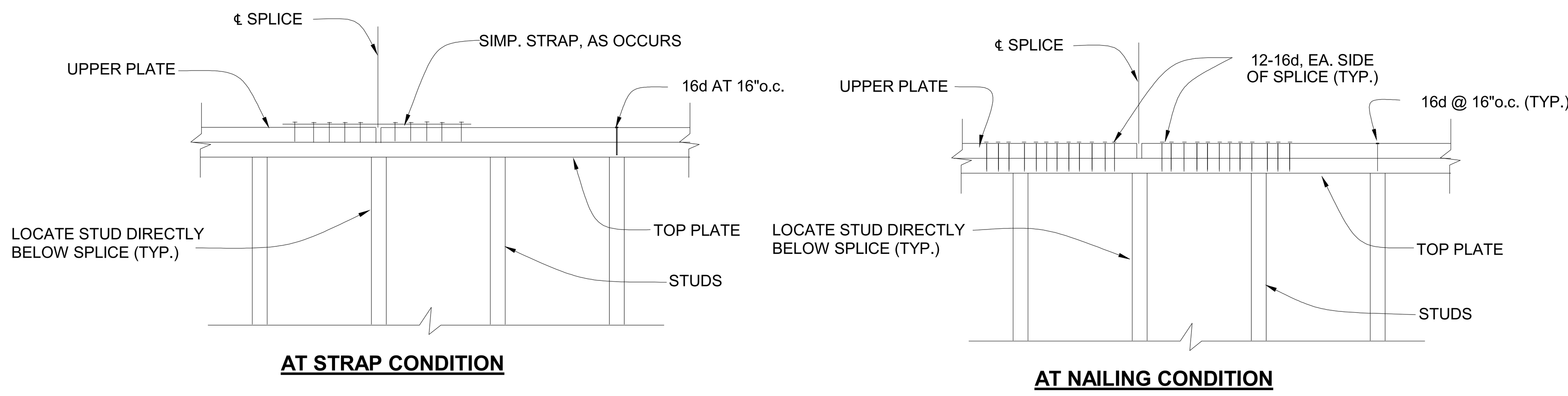
S4

SCALE As indicated

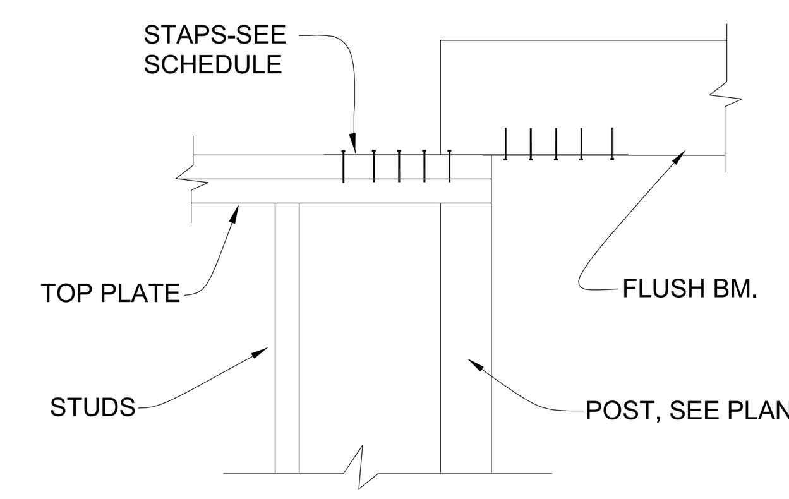
2/21/2022 2:45:34 PM



1 S5 DETAIL
1" = 1'-0"



2 S5 DETAIL
1" = 1'-0"



3 S5 DETAIL
1" = 1'-0"

3D Design Solutions
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cp# 408.710.3454 hp# 925.476.8183
email: 3ddesignsolutionsinc@gmail.com

EQ ENGINEERING
STRUCTURAL ENGINEERS
P.O. BOX 51342 SAN JOSE, CA
(408) 613-2136

No.	Description	Date

PROPOSED REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany CA 94706

STRUCTURAL DETAILS

PROJECT NO.	21.027
DATE	02/22/2022
DRAWN BY	DD
CHECKED BY	EQ

S5

SCALE 1" = 1'-0"

2/21/2022 2:45:35 PM

GENERAL INFORMATION					
01	Project Name	813 Santa Fe Residence			
02	Run Title	Title 24 Analysis			
03	Project Location	813 Santa Fe Ave			
04	City	Albany	05	Standards Version	2019
06	Zip code	94706	07	Software Version	CBECC-Res 2019.2.0
08	Climate Zone	3	09	Front Orientation (deg/ Cardinal)	180
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	AdditionAlteration	13	Number of Bedrooms	3
14	Addition Cond. Floor Area (ft^2)	260	15	Number of Stories	2
16	Existing Cond. Floor Area (ft^2)	1160	17	Fenestration Average U-factor	0.58
18	Total Cond. Floor Area (ft^2)	1420	19	Glazing Percentage (%)	11.97%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Is Natural Gas Available?	Yes			

COMPLIANCE RESULTS	
01	Building Complies with Computer Performance
02	Building does not require field testing or HERS verification
03	This building incorporates one or more Special Features shown below

ENERGY USE SUMMARY

Energy Use (kTDV/ft^2-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	139.83	135.05	4.78	3.4
Space Cooling	13.92	13.4	0.52	3.7
IAQ Ventilation	0	0	0	
Water Heating	23.69	23.69	0	0
Self Utilization/Flexibility Credit	n/a	0	0	n/a
Compliance Energy Total	**177.44**	**172.14**	**5.3**	**3**

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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.

- No cooling system included
- New ductwork added is less than 40 ft. in length
- Non-standard duct location (any location other than attic)

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. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

Building-level Verifications:
- -- None --

Cooling System Verifications:
- -- None --

Heating System Verifications:
- -- None --

HVAC Distribution System Verifications:
- -- None --

Domestic Hot Water System Verifications:
- -- None --

BUILDING - FEATURES INFORMATION

01 Project Name	02 Conditioned Floor Area (ft^2)	03 Number of Dwelling Units	04 Number of Bedrooms	05 Number of Zones	06 Number of Ventilation Cooling Systems	07 Number of Water Heating Systems
813 Santa Fe Residence	1420	1	3	2	0	1

ZONE INFORMATION

01 Zone Name	02 Zone Type	03 HVAC System Name	04 Zone Floor Area (ft^2)	05 Avg. Ceiling Height	06 Water Heating System 1	07 Water Heating System 2
House	Conditioned	HVAC ex	1160	8	DHW ex	N/A
Addition	Conditioned	HVAC ex	260	7.5	DHW ex	N/A

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OPAQUE SURFACES

01 Name	02 Zone	03 Construction	04 Azimuth	05 Orientation	06 Gross Area (ft^2)	07 Window and Door Area (ft2)	08 Tilt (deg)	09 Wall Exceptions	10 Status	11 Verified Existing Condition
Ex Wall F	House	Wall ex	180	Front	725	68	90	none	Existing	No
Ex Wall L	House	Wall ex	270	Left	188	44	90	none	Existing	No
Ex Wall B	House	Wall ex	0	Back	451	28	90	none	Existing	No
Ex Wall R	House	Wall ex	90	Right	205	20	90	none	Existing	No
Ex Wall 340	House	Wall ex	160	n/a	36	14	90	none	Existing	No
Add Wall F	Addition	Wall new	180	Front	56	0	90	none	New	n/a
Add Wall B	Addition	Wall new	0	Back	209	0	90	none	New	n/a
Add Wall R	Addition	Wall new	90	Right	64	16	90	none	New	n/a
Interior WallToAdd	House>>Addition	Wall Int ex	n/a	n/a	222	0	n/a		New	n/a
Interior WallToGar-ex	House>>Garage	Wall Int ex	n/a	n/a	107	0	n/a		Existing	No
Interior WallToGar-n	Addition>>Garage	Wall Int new	n/a	n/a	86	17	n/a		New	n/a
Ceiling ex	House	Ceiling attic ex	n/a	n/a	339	n/a	n/a		Existing	No
Floor Over Crawlspace ex	House	Floor crawl ex	n/a	n/a	633	n/a	n/a		Existing	No
Interior Floor to gar-ex	House	Floor Int ex	n/a	n/a	222	n/a	n/a		Existing	No
Interior Floor to add-ex	House	Floor Int ex	n/a	n/a	245	n/a	n/a		Existing	No
Exterior GWall F	Garage	Wall Gar	180	Front	39	0	90	none	Existing	No
Exterior GWall L	Garage	Wall Gar	270	Left	86	56	90	none	Existing	No
Exterior GWall B	Garage	Wall Gar	0	Back	146	0	90	none	Existing	No

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OPAQUE SURFACES - CATHEDRAL CEILINGS

01 Name	02 Zone	03 Construction	04 Azimuth	05 Orientation	06 Area (ft^2)	07 Skylight Area (ft^2)	08 Roof Rise (x in 12)	09 Roof Reflectance	10 Roof Emittance	11 Cool Roof	12 Status	13 Verified Existing Condition	14 Existing Construction
Cathedral-ex	House	Ceiling cath ex	90	Right	821	0	0.25	0.1	0.85	No	Existing	No	
Cathedral-n	Addition	Ceiling cath new	90	Right	15	0	0.25	0.1	0.85	No	New	n/a	

ATTIC

01 Name	02 Construction	03 Type	04 Roof Rise (x in 12)	05 Roof Reflectance	06 Roof Emittance	07 Radiant Barrier	08 Cool Roof	09 Status	10 Verified Existing Condition
Attic ex	Roof ex	Ventilated	3	0.1	0.85	No	No	Existing	No

FENESTRATION / GLAZING

01 Name	02 Type	03 Surface	04 Orientation	05 Azimuth	06 Width (ft)	07 Height (ft)	08 Mult.	09 Area (ft^2)	10 U-factor	11 U-factor Source	12 SHGC	13 SHGC Source	14 Exterior Shading	15 Status	16 Verified Existing Condition
Wind-ex	Window	Ex Wall F	Front	180	2	4	1	8	1.28	Table 110.6-A	0.8	Table 110.6-B	Bug Screen	Existing	No
Wind-ex-2	Window	Ex Wall F	Front	180	3.5	4	1	14	1.28	Table 110.6-A	0.8	Table 110.6-B	Bug Screen	Existing	No
Wind-ex-3	Window	Ex Wall F	Front	180	3.5	4	1	14	1.28	Table 110.6-A	0.8	Table 110.6-B	Bug Screen	Existing	No
Wind-ex-4	Window	Ex Wall F	Front	180	3	4	1	12	1.28	Table 110.6-A	0.8	Table 110.6-B	Bug Screen	Existing	No
Wind-ex-5	Window	Ex Wall L	Left	270	3	4	1	12	1.28	Table 110.6-A	0.8	Table 110.6-B	Bug Screen	Existing	No
Wind-ex-6	Window	Ex Wall L	Left	270	3	4	1	12	1.28	Table 110.6-A	0.8	Table 110.6-B	Bug Screen	Existing	No

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FENESTRATION / GLAZING

01 Name	02 Type	03 Surface	04 Orientation	05 Azimuth	06 Width (ft)	07 Height (ft)	08 Mult.	09 Area (ft^2)	10 U-factor	11 U-factor Source	12 SHGC	13 SHGC Source	14 Exterior Shading	15 Status	16 Verified Existing Condition
Wind-ex-7	Window	Ex Wall L	Left	270	4	5	1	20	1.28	Table 110.6-A	0.8	Table 110.6-B	Bug Screen	Existing	No
Wind-ex-8	Window	Ex Wall B	Back	0	4	2	1	8	1.28	Table 110.6-A	0.8	Table 110.6-B	Bug Screen	Existing	No
Wind-ex-9	Window	Ex Wall B	Back	0	4	5	1	20	1.28	Table 110.6-A	0.8	Table 110.6-B	Bug Screen	Existing	No
Wind-ex-10	Window	Ex Wall R	Right	90	4	5	1	20	1.28	Table 110.6-A	0.8	Table 110.6-B	Bug Screen	Existing	No
Wind-ex-11	Window	Ex Wall 340		160	3.5	4	1	14	1.28	Table 110.6-A	0.8	Table 110.6-B	Bug Screen	Existing	No
Wind-n	Window	Add Wall R	Right	90	4	4	1	16	0.58	NFRC	0.67	NFRC	Bug Screen	New	n/a

OPAQUE DOORS

01 Name	02 Side of Building	03 Area (ft^2)	04 U-factor	05 Status	06 Verified Existing Condition
Entry-ex	Ex Wall F	20	0.5	Existing	No
Entry-n	Interior WallToGar-n	17	0.5	New	n/a
GarDoor	Exterior GWall L	56	1	Existing	No

SLAB FLOORS

01 Name	02 Zone	03 Area (ft^2)	04 Perimeter (ft)	05 Edge Insul. R-value and Depth	06 Edge Insul. R-value and Depth	07 Carpeted Fraction	08 Heated	09 Status	10 Verified Existing Condition
Slab On Grade n	Addition	260	67	none	0	80%	No	New	n/a
Slab on Grade	Garage	222	50	none	0	0%	No	Altered	No

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OPAQUE SURFACE CONSTRUCTIONS

01 Construction Name	02 Surface Type	03 Construction Type	04 Framing	05 Total Cavity R-value	06 Interior / Exterior Continuous R-value	07 U-factor	08 Assembly Layers
Wall ex	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.387	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4
Wall new	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-13	None / None	0.093	Inside Finish: Gypsum Board Cavity / Frame: R-13 / 2x4 Sheathing / Insulation: Wood Siding/sheathing/decking Exterior Finish: 3 Coat Stucco
Wall Gar	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.387	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4
Ceiling cath ex	Cathedral Ceilings	Wood Framed Ceiling	2x10 @ 24 in. O. C.	R-0	None / None	0.488	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x10 Inside Finish: Gypsum Board
Ceiling cath new	Cathedral Ceilings	Wood Framed Ceiling	2x10 @ 24 in. O. C.	R-30	None / None	0.035	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x10 Inside Finish: Gypsum Board
Wall Int ex	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
Wall Int new	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-13	None / None	0.092	Inside Finish: Gypsum Board Cavity / Frame: R-13 / 2x4 Other Side Finish: Gypsum Board

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3D Design Solutions
2335 Arthur Place, Manteca, CA 95337
cp# 408.710.3454 hp# 925.476.8183
email: 3ddesignsolutionsinc@gmail.com
DANNY DIMATULAC

CONSULTANT

No.	Description	Date
1		

PROPOSED GARAGE CONVERSION & REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany
CA 94706

TITLE 24

PROJECT NO.	21.027
DATE	02/22/2022
DRAWN BY	IGOR PICHKO
CHECKED BY	IGOR PICHKO

T24-A

SCALE

2/23/2022 12:48:30 AM

CERTIFICATE OF COMPLIANCE **CF1R-PRF-01E**

Project Name: 813 Santa Fe Residence **Calculation Date/Time:** 2022-02-21T10:15:00-08:00 **(Page 7 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 813_Santa_Fe_addition_v20.ribd19

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
Roof ex	Attic Roofs	Wood Framed Ceiling	2x4 Top Chord of Roof Truss @ 24 in. O. C.	R-0	None / None	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4 Top Chrd
Floor crawl ex	Floors Over Crawlspace	Wood Framed Floor	2x6 @ 16 in. O. C.	R-0	None / None	0.22	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x6
Ceiling attic ex	Ceilings (below attic)	Wood Framed Ceiling	2x4 Bottom Chord of Truss @ 24 in. O. C.	R-19	None / None	0.049	Over Ceiling Joists: R-9.9 insul. Cavity / Frame: R-9.1 / 2x4 Btm Chrd Inside Finish: Gypsum Board
Floor Int ex	Interior Floors	Wood Framed Floor	2x6 @ 16 in. O. C.	R-0	None / None	0.199	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x6 Ceiling Below Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50
Not Required	Not Required	Not Required	n/a

CERTIFICATE OF COMPLIANCE **CF1R-PRF-01E**

Project Name: 813 Santa Fe Residence **Calculation Date/Time:** 2022-02-21T10:15:00-08:00 **(Page 8 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 813_Santa_Fe_addition_v20.ribd19

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09	10
Name	System Type	Distribution Type	Water Heater Name (#)	Solar Heating System	Compact Distribution	HERS Verification	Status	Verified Existing Condition	Existing Water Heating System
DHW ex	Domestic Hot Water (DHW)	Standard Distribution System	Gas Storage (1)	n/a	None	n/a	Existing	No	

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Energy Factor or Efficiency	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	NEEA Heat Pump Brand or Model	Tank Location or Ambient Condition	Status	Verified Existing Condition
Gas Storage	Gas	Small Storage	1	50	0.6-EF	<= 75 kBtu/hr	0	70	n/a	n/a	n/a	Existing	No

WATER HEATING - HERS VERIFICATION

01	02	03	04	05	06	07	08
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Central DHW Distribution	Shower Drain Water Heat Recovery
DHW ex - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required	Not Required

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Heating Equipment Count	Cooling Equipment Count
HVAC ex	Heating and cooling system other	Ex Furnace	NoCool	Fan ex	Ducts ex	n/a	Existing	No	1	1

CERTIFICATE OF COMPLIANCE **CF1R-PRF-01E**

Project Name: 813 Santa Fe Residence **Calculation Date/Time:** 2022-02-21T10:15:00-08:00 **(Page 9 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 813_Santa_Fe_addition_v20.ribd19

HVAC - HEATING UNIT TYPES

01	02	03	04
Name	System Type	Number of Units	Heating Efficiency
Ex Furnace	Central gas furnace	1	AFUE-75

HVAC - COOLING UNIT TYPES

01	02	03	04	05	06	07	08
Name	System Type	Number of Units	Efficiency EER/CEER	Efficiency SEER	Zonally Controlled	Mulit-speed Compressor	HERS Verification
NoCool	No Cooling	1	n/a	n/a	Not Zonal	Single Speed	n/a

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
			Duct Ins. R-value		Duct Location		Surface Area								
Name	Type	Design Type	Supply	Return	Supply	Return	Supply	Return	Bypass Duct	Duct Leakage	HERS Verification	Status	Verified Existing Condition	Existing Distribution system	New Ducts 40 ft
Ducts ex	Conditioned space - except 12ft	Non-Verified	R-6	R-6	Conditioned Zone	Conditioned Zone	n/a	n/a	No Bypass Duct	Existing (not specified)	Ducts ex-hers-dist	Existing + New	No	n/a	n/a

HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
Fan ex	HVAC Fan	0.58	n/a

HERS RATER VERIFICATION OF EXISTING CONDITIONS

CERTIFICATE OF COMPLIANCE **CF1R-PRF-01E**

Project Name: 813 Santa Fe Residence **Calculation Date/Time:** 2022-02-21T10:15:00-08:00 **(Page 10 of 10)**

Calculation Description: Title 24 Analysis **Input File Name:** 813_Santa_Fe_addition_v20.ribd19

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Igor Pichko	Documentation Author Signature: Igor Pichko
Company: Energy Consult LLC	Signature Date: 02/21/2022
Address: 1252 W 22nd St Unit #2	CEA/ HERS Certification Identification (If applicable): R19-14-30005
City/State/Zip: San Pedro, CA 90731	Phone: 4242477658

CABEC California Association of Building Energy Consultants CERTIFIED ENERGY ANALYST

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name: Danny Dimatulac	Responsible Designer Signature: Danny Dimatulac
Company: 3D Design Solutions	Date Signed: 02/22/2022
Address: 2335 Arthur place	License:
City/State/Zip: Manteca, CA 95337	Phone: 4087103454

Digitally signed by ConSol Home Energy Efficiency Rating System Services, Inc. (CHEERS). 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.

3D Design Solutions
2335 Arthur Place, Manteca, CA 95337
cp# 408.710.3454 hp# 925.476.8183
email: 3ddesignsolutionsinc@gmail.com
DANNY DIMATULAC

CONSULTANT

No.	Description	Date
1		

PROPOSED GARAGE CONVERSION & REMODEL FOR:

IAN SHORE

813 Santa Fe Avenue, Albany CA 94706

TITLE 24

PROJECT NO.	21.027
DATE	02/22/2022
DRAWN BY	IGOR PICHKO
CHECKED BY	IGOR PICHKO

T24-B

SCALE

2/23/2022 12:48:34 AM

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE AND ALBANY AMENDMENTS

RESIDENTIAL MANDATORY MEASURES, SHEET 1 (Updated December 13th, 2021)

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

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

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 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 and are not 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 during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent 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.

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)

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

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

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 208/240-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 shall 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 at 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. See Appendix A.

4.106.4.2.1.1 Electric Vehicle Charging Stations (EVCS) When EV chargers are installed, EV spaces required by Section 4.106.2.2, 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.

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

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

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

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

4.106.4.2.3 Single EV space required. Install a listed raceway capable of accommodating a 208/240-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. See Appendix A.

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.*

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

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

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

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

4.106.4.3.3 Single EV space required. When a single EV space is required, the EV space shall be designed in accordance with Section 4.106.4.2.3.

4.106.4.3.4 Multiple EV spaces required. When multiple EV spaces are required, the EV spaces shall be designed in accordance with Section 4.106.4.2.4.

4.106.4.3.5 Identification. The service panels or sub-panels shall be identified in accordance with Section 4.106.4.2.5.

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.

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. For new buildings see Appendix A.

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 the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.4.4.

Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential 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 1.8 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 1.8 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.

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 0.8 gallons per minute at 20 psi.

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

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

4.303.1.4.4 Kitchen Faucets. See Appendix A.

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.

TABLE - MAXIMUM FIXTURE WATER USE

FIXTURE TYPE	FLOW RATE
SHOWER HEADS (RESIDENTIAL)	1.8 GMP @ 80 PSI
LAVATORY FAUCETS (RESIDENTIAL)	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI
LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI
KITCHEN FAUCETS	1.5 GPM @ 60 PSI
METERING FAUCETS	0.2 GAL/CYCLE
WATER CLOSET	1.28 GAL/FLUSH
URINALS	0.125 GAL/FLUSH

4.304 OUTDOOR WATER USE

4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

NOTES:

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

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 sole/bottom 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:

1. Excavated soil and land-clearing debris.
2. 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.
3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.

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

1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).
3. Identify diversion facilities where the construction and demolition waste material collected will be taken.
4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.
5. 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:

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

4.410 BUILDING MAINTENANCE AND OPERATION

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

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

4.410.2 RECYCLING BY OCCUPANTS. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waster, 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 42649.82 (a)(2)(A) et seq. are note 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)*

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

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

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2019 CALIFORNIA GREEN BUILDING STANDARDS CODE AND ALBANY AMENDMENTS

RESIDENTIAL MANDATORY MEASURES, SHEET 2 (Updated December 13th, 2021)

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O³/g ROC).
Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 and 94701.

MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood.

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).
Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).

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

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

4.503 FIREPLACES

4.503.1 GENERAL. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.

4.504 POLLUTANT CONTROL

4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust or debris which may enter the system.

4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.

4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2 below.

2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with section 94507.

4.504.2.2 Paints and Coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply.

4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.

4.504.2.4 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

1. Manufacturer's product specification.
2. Field verification of on-site product containers.

TABLE 4.504.1 - ADHESIVE VOC LIMIT[1,2]

(Less Water and Less Exempt Compounds in Grams per Liter)

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

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

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

TABLE 4.504.2 - SEALANT VOC LIMIT

(Less Water and Less Exempt Compounds in Grams per Liter)

SEALANTS	VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

TABLE 4.504.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]

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

COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS[1]	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

TABLE 4.504.5 - FORMALDEHYDE LIMITS[1]

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD[2]	0.13

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.

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

DIVISION 4.5 ENVIRONMENTAL QUALITY (continued)

4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the testing and product requirements of at least one of the following:

1. Carpet and Rug Institute's Green Label Plus Program.
2. California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers" Version 1.1, February 2010 (also known as Specification 01350).
3. NSF/ANSI 140 at the Gold level.
4. Scientific Certifications Systems Indoor Advantage™ Gold.

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.

4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.

4.504.4 RESILIENT FLOORING SYSTEMS. See Appendix A.

4.504.5 COMPOSITE WOOD PRODUCTS. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5

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

1. Product certifications and specifications.
2. Chain of custody certifications.
3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European 636 3S standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0325 standards.
5. Other methods acceptable to the enforcing agency.

4.505 INTERIOR MOISTURE CONTROL

4.505.1 General. Buildings shall meet or exceed the provisions of the *California Building Standards Code*.

4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 19, or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.

4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:

1. A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.
2. Other equivalent methods approved by the enforcing agency.
3. A slab design specified by a licensed design professional.

4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following:

1. Moisture content shall be determined with either a probe-type or contact-type moisture meter.Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code.
2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece verified.
3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.

Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.

4.506 INDOOR AIR QUALITY AND EXHAUST

4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following:

1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.
   a. Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of adjustment.
   b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in)

Notes:

1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination.
2. Lighting integral to bathroom exhaust fans shall comply with the *California Energy Code.*

4.507 ENVIRONMENTAL COMFORT

4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:

1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.
2. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods.
3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential Equipment Selection), or other equivalent design software or methods.

Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable.

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS

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

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

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

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

Notes:

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

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

Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

703 VERIFICATIONS

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

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2019 CALIFORNIA GREEN BUILDING STANDARDS CODE AND ALBANY AMENDMENTS

APPENDIX A: CITY OF ALBANY AMENDMENTS (Updated Decemeber 13th, 2021)

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

Y	N/A	RESPON. PARTY	
☐	☐		**Permeable Paving**. Permeable paving is utilized for not less than 30 percent of the total parking, walking, or patio surfaces. Exceptions: 1. The primary driveway, primary entry walkway and entry porch or landing shall not be included when calculating the area required to be a permeable surface. 2. Required accessible routes for persons with disabilities as required by the California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable.
☐	☐		**Electric Vehicle Charging Stations in new multifamily buildings.** If residential parking is available, twenty percent (20%) of the parking spaces in newly constructed multi-family buildings, rounded to the nearest whole number, shall be Electric Vehicle Charging Stations. The remainder of the parking spaces shall be electric vehicle charging spaces (EV spaces) capable of supporting future EVSE. Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. Branch circuit panelboard(s) shall be installed that contain the physical space to accommodate the future installation of a minimum of one 40-ampere dedicated branch circuit and overcurrent protective device per EV-Ready space and have sufficient electrical capacity to deliver a minimum 40 amperes at 208 or 240 volts multiplied by 20% of the total number of parking spaces. 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.
☐	☐		**Energy Star Appliances**. In each unit where a dishwasher or clotheswasher is being installed, at least one dishwasher or clothes-washer shall be Energy Star approved.
☐	☐		**Kitchen Faucets**. The maximum flow rate of kitchen faucets shall not exceed 1.5 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi. Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.
☐	☐		**Reduction in cement use**. As allowed by the enforcing agency, cement used in foundation mix design shall be reduced not less than a 25 percent. Note: Products commonly used to replace cement in concrete mix designs include, but are not limited to: 1. Fly ash. 2. Slag. 3. Silica fume. 4. Rice hull ash.
☐	☐		**Resilient Flooring Systems**. Where resilient flooring is installed, at least 90% of floor area receiving resilient flooring shall comply with one or more of the following: 1. Products compliant with the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350), certified as a CHPS Low-Emitting Material in the Collaborative for High Performance Schools (CHPS) High Performance Products Database. 2. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children & Schools program). 3. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program. 4. Meet the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers", Version 1.1, February 2010 (also known as Specification 01350).
☐	☐		**Energy Efficiency.** Newly constructed residential buildings, excluding Accessory Dwelling Units (ADUs) shall be required to meet or exceed the Energy Design Rating (EDR) Margins listed below: 1. Single family mixed-fuel buildings: 10 EDR Margin 2. Single family all-electric buildings: 4.7 Efficiency EDR Margin 3. Multi-family mixed fuel buildings under 4 stories: 10.3 EDR Margin 4. Multi-family Electric buildings under 4 stories: 0 EDR Margin

GREEN BUILDING RESOLUTION REGULATIONS
CHECKLIST AND WORKSHEET

Review the City of Albany Green Building Resolution Regulations and complete each section of the worksheet applicable to your project.

		CITY OF ALBANY REGULATION	Existing Single-Family	NEW Single-Family	Existing Multi-Family	NEW Multi-Family	Existing Non-Residential	NEW Non-Residential
1	Permeable Paving	30% of all paved areas of the property, excluding the primary driveway, entry walkway, and entry porch or landing, must use permeable paving.	■	■	■	■		
2	Energy Star rated appliances	Each residential unit in which a clothes washer or dishwasher is to be installed, at least one of those appliances must be Energy Star approved.	■	■	■	■		
3	Kitchen Faucets	Kitchen faucets must have a maximum flow of 1.5 gallons per minute or less.	■	■	■	■		
4	Low Carbon Concrete	Cement content of concrete must be reduced by at least 25% by replacing with fly ash, slag, silica fume, rice hull ash, or another similar material.	■	■	■	■	■	■
5	Resilient Flooring	Resilient flooring is non-textile synthetic flooring materials which have a firm surface but offer a slight give or bounce. Examples are: vinyl tile, linoleum, cork, rubber, or polymer flooring. At least 90% of the total area of resilient flooring installed must comply with Volatile Organic Compound (VOC) emissions limits by being a certified UL GREENGUARD Gold product OR a Resilient Floor Covering Institute (RFCI) FloorScore Program certified product.	■	■	■	■	■	■
6	Energy Design Rating (EDR) Margin	New dwelling construction must adhere to the EDR margin appropriate to the building type & energy source.		■		■		
7	Outdoor Lighting	Outdoor lighting systems must reduce Backlight, Uplight, and Glare (BUG) ratings or Allowed Outdoor Lighting Power, as listed in California Energy Code, whichever is applicable			■	■	■	■
8	EV Charging	20% of parking spaces must be equipped with level 2 EV Chargers. The remainder must be EV-Ready.				■		
9	Designated Parking Spaces	12% of parking spaces must be designated for Clean Air Vehicles.					■	■
10	Water Use	Reduce indoor water use by 12% via prescriptive or performance methods.						■
11	Solar Panels	Solar Panels must be installed on the required "solar zone" that either cover the entire solar zone OR produce as much electricity as the building uses annually.						■
12	Compliance Margin	Mixed-fuel buildings in Occupancy Group B must achieve a Compliance Margin of 20%. All-electric buildings must achieve 10%. All buildings in Occupancy Group M must achieve a 16% Compliance Margin. Non-residential buildings which are in an Occupancy Group other than B or M have no additional requirement.						■

1. PERMEABLE PAVING

Permeable paving is any paving materials or techniques that allow water to percolate through the paved surface to the soil below. Examples: gravel, spaced brick or tile, permeable asphalt or concrete When calculating the total paved area of your property, you can exclude the primary driveway, entry walkway, and entry porch or landing. You can also exclude any accessible routes for persons with disabilities. 30% of the remaining paved area after those exclusions must use permeable paving.	Will the project involve installing or replacing paving? YES / NO

List the paved areas below, separated into permeable areas and non-permeable areas. DO NOT include exempted areas in the list.

PERMEABLE PAVEMENT AREAS		
Location	Sq Ft	Pavement Type
Permeable Subtotal	(A)	
IMPERMEABLE PAVEMENT AREAS		
Location	Sq Ft	Pavement Type
Permeable Subtotal	(B)	

TOTAL PAVED AREA (A+B): _____ = (C)

PERCENTAGE OF PERMEABLE PAVING (A/C) = _____ (Must be at least 0.3)

Example:

PERMEABLE PAVEMENT AREAS		
Location	Sq Ft	Pavement Type
Front Walkway	25	Gravel
Side Walkway	50	Gravel
Front Patio	50	Brick Pavers
Permeable Subtotal	125 (A)	
IMPERMEABLE PAVEMENT AREAS		
Location	Sq Ft	Pavement Type
Back Patio	120	Concrete
Permeable Subtotal	120 (B)	

Total Paved Area (A+B): 125 + 120 = 245 (C)

Percentage of Permeable Paving (A / C) = 125 / 245 = 0.49

2. ENERGY STAR RATED APPLIANCES

In each unit where a dishwasher or clothes-washer is being installed, at least one dishwasher or clothes-washer shall be Energy Star approved. A unit is an individual residence. Only one appliance per unit needs to be Energy Star approved. If the residence only has a clothes-washer but no dishwasher, or vice versa, the appliance that is installed will need to be Energy Star approved.	Will the project involve installing at least one clothes washer or dishwasher? YES / NO

List the dishwasher and clothes-washer model below or write "none". Then check the box if the model is Energy Star approved.

Dishwasher:	Energy Star rated?	Clothes-Washer:	Energy Star rated?

3. KITCHEN FAUCETS

All kitchen faucets must have a flow rate of no more than 1.5 gallons per minute, either through the use of a low flow faucet, or aerator.	Will the project involve installing or replacing a kitchen faucet? YES / NO

List the model name and flow rate of the faucet or aerator to be installed below:

Model Name:	Flow Rate:

4. LOW CARBON CONCRETE

The cement content of concrete must be reduced using additives such as fly ash, slag, silica fume, rice hull ash, or another similar material. For residential projects, the weight of the additives must equal at least 25% of the weight of the total cementitious material (additives and cement). For non-residential projects, concrete additives must follow the equation: F/25 + SL/50 + UF/12 ≥ 1.	Will the project involve pouring concrete? YES / NO

RESIDENTIAL: To demonstrate compliance, fill out the following equations for each concrete mix used in the project.

Weight of Cement + Weight of Additives = Weight of Total Cementitious Material	_____ + _____ =	Weight of Additives / Weight of Total Cementitious Material = (Must be at least 0.25)	_____ ÷ _____ =
Example: Weight of Cement + Weight of Additives = Weight of Total Cementitious Material	100 + 50 = 150	Weight of Additives / Weight of Total Cementitious Material = (Must be at least 0.25)	50 ÷ 150 = 0.33

NON-RESIDENTIAL: To demonstrate compliance, complete the below tables.

Calculate Total Weight of materials used for all concrete. Cement _____lbs Slag Cement _____ lbs Silica Fume, Metakaolin, or UFFA _____lbs Fly Ash, Pozzolan, or other SCM _____ lbs ADD ABOVE = Total Cementitious Material (TCM) _____ lbs	Determine values of SL, UF and F and complete below equation. SL = _____ (slag cement) ÷ _____ (TCM) = _____ (SL) UF = _____ (silica fume, UFFA) ÷ _____ (TCM) = _____ (UF) F = _____ (fly ash, SCM) ÷ _____ (TCM) = _____ (F) (____ (SL) / 50) + (____ (UF) / 12) + (____ (F) / 25) = _____ (must be ≤ 1)

5. RESILIENT FLOORING

Resilient flooring is nontextile synthetic flooring materials which have a firm surface but offer a slight give or bounce. Examples: vinyl tile, linoleum, cork, rubber, polymer flooring. At least 90% of the total area of resilient flooring installed must use products that are certified by one of the two programs below. 1. Products certified UL GREENGUARD Gold 2. Products certified under the Resilient Floor Covering Institute (RCFI) FloorScore Program.	Will the project involve installing or replacing resilient flooring? YES / NO

List all resilient flooring to be installed below. In the first list, include only areas that will be floored with products certified by one of the two programs listed. In the second list, include areas that will be floored with non-certified products.

LOW VOC CERTIFIED FLOORING		
Location	Sq Ft	Product
Certified Subtotal	(A)	

NON-CERTIFIED FLOORING		
Location	Sq Ft	Product
Non-Certified Subtotal	(B)	

TOTAL RESILIENT FLOORING (A + B) = _____ (C)

PERCENTAGE OF CERTIFIED FLOORING (A / C) = _____ (Must be at least 0.9)

Example:

CERTIFIED FLOORING		
Location	Sq Ft	Product:
Kitchen	100	
Downstairs Bath	40	
Upstairs Bath	65	
Permeable Subtotal	205 (A)	

NON-CERTIFIED FLOORING		
Location	Sq Ft	Pavement Type
Laundry Nook	20	Concrete
Non-Certified Subtotal	20 (B)	

TOTAL RESILIENT FLOORING (A + B) = _____225_____ (C)

PERCENTAGE OF CERTIFIED FLOORING (A / C) = _____0.91_____ (Must be at least 0.9)

6. ENERGY DESIGN RATING (EDR) MARGIN

New dwelling construction must adhere to the EDR margin appropriate to the building type & energy source.

EDR Margin Requirements by building type

Single-family mixed-fuel buildings: 10 EDR Margin
Single-family all-electric buildings: 4.7 Efficiency EDR Margin
Multi-family mixed fuel buildings: 10.3 EDR Margin
Multi-family all-electric buildings: 0 EDR Margin (no additional requirement)
Multi-family Buildings over 3 stories: 0 EDR Margin (no additional requirement)

Does the project involve construction of a NEW SINGLE-FAMILY OR MULTI-FAMILY DWELLING? (excluding ADUs)

YES / NO

Staff will confirm compliance via T24 Report

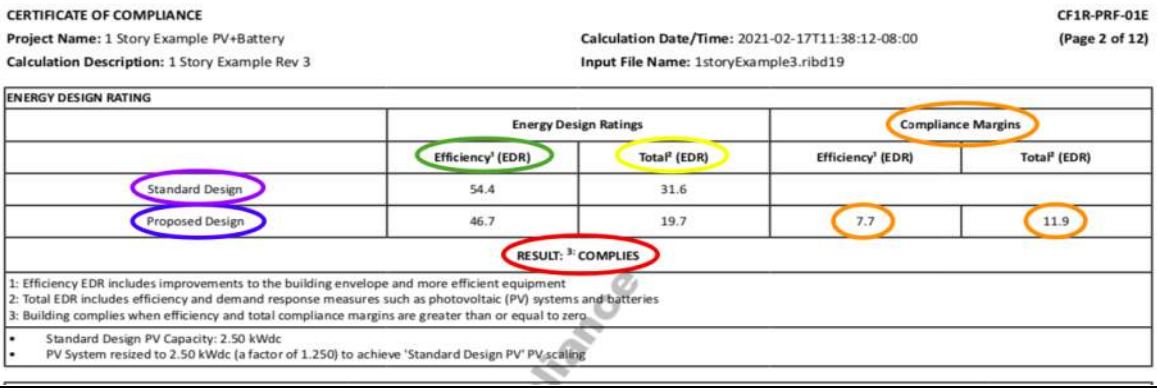
What is an EDR Margin and Efficiency EDR Margin?

The EDR Margin is the difference between the state-required EDR and the actual EDR achieved by your building. For instance, if the required EDR is 30 and the actual building has an EDR of 18, the EDR Margin will be 12. Albany's Green Building Resolution includes required EDR Margins for some new building types. For instance, mixed-fuel single family homes must achieve an EDR Margin of 10. This requirement will make new buildings in Albany even more efficient than the State mandates.

An Efficiency EDR is a calculation of energy efficiency that DOES NOT include solar panels or solar storage batteries. It only includes measures that allow the building to use less energy. For example, insulation, efficient heating equipment, and double pane windows would all contribute to the Efficiency EDR. The Total EDR takes into account all of these same measures AND solar panels and batteries. The Efficiency EDR Margin *only applies to single family all-electric homes*, which must achieve an Efficiency EDR Margin of 4.7. These homes may add additional solar panels and batteries if they would like, but it will not count towards achieving the required Efficiency EDR Margin.

Get to know your Energy Report

When your contractor or architect models your building on the CBECC-Res software, it will generate a Title 24 Energy Report. This report includes all the information you need about your EDR and EDR Margin in a small chart on page 2. Look over the example chart below and read the explanations of each part below.



CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E (Page 2 of 12)

Project Name: 1 Story Example PV+Battery
Calculation Description: 1 Story Example Rev 3
Calculation Date/Time: 2021-02-17T11:38:12-08:00
Input File Name: 1storyExample3.ribd19

ENERGY DESIGN RATING

	Energy Design Ratings		Compliance Margins	
	Efficiency[1] (EDR)	Total[2] (EDR)	Efficiency[1] (EDR)	Total[2] (EDR)
Standard Design	54.4	31.6		
Proposed Design	46.7	19.7	7.7	11.9

RESULT: [3] COMPLIES

1: Efficiency EDR includes improvements to the building envelope and more efficient equipment
2: Total EDR includes efficiency and demand response measures such as photovoltaic (PV) systems and batteries
3: Building complies when efficiency and total compliance margins are greater than or equal to zero

- Standard Design PV Capacity: 2.50 kWdc
- PV System resized to 2.50 kWdc (a factor of 1.250) to achieve 'Standard Design PV' PV scaling

Standard Design- This is the State requirement for your building type.
Proposed Design- This is the actual EDR of your building (as modeled).
Efficiency (EDR)- This is a measure of efficiency that does NOT include solar panels or storage batteries
Total (EDR)- This is a measure of efficiency that DOES include solar panels or storage batteries.
Compliance Margins (Also called EDR Margins). These are calculated by subtracting the Proposed Design EDR from the Standard Design EDR. In this example
Efficiency EDR Margin: 54.5 - 46.7=7.7
Total EDR Margin: 31.6 -19.7=11.9
These values determine whether your building is in compliance with Albany's Green Building Requirements.
Result- This is a determination of whether your building complies with State requirements, not Albany's requirements. As long as the EDR Margin is greater than or equal to 0, it complies with State requirements. However, the City of Albany has increased requirements for most building types. Be sure to check your EDR Margin against the requirements list provided below to ensure that it complies with the City's requirements.

7. OUTDOOR LIGHTING

For **NON-RESIDENTIAL** projects: Outdoor lighting power must be 90% or less of the Allowed Outdoor Lighting Power. Any outdoor lights with a color temperature over 3000K must be for an application listed as an exception in the California Energy Code Part 6 Section 140.7(a), or a "specific application" in Section 140.7(b)2 and Table 140.7. The details to calculate the allowed power for your project and identify exceptions can be found in the California Energy Code Section 140.7.	Is this a NON-RESIDENTIAL project that involves installing or replacing outdoor lighting? YES / NO
Complete the following for each outdoor lighting area: Determine the Allowed Outdoor Lighting Power (OLP) using the calculation in the California Energy Code Section 140.7.	_____ / _____ = (must be no more than 0.9)
Color Temperature: Any outdoor lights with a color temperature over 3000K must be for an application listed as an exception in the California Energy Code Part 6 Section 140.7(a), or a "specific application" in Section 140.7(b)2 and Table 140.7.	Do any of the outdoor lights have a color temperature over 3000K? YES / NO
If yes, please list applications:	

For **MULTI-FAMILY RESIDENTIAL** projects: Outdoor lighting systems, except for emergency lighting, must reduce Backlight, Uplight, and Glare (BUG) ratings to comply with the Lighting Zone 3 column of the table below.	Is this a MULTI-FAMILY RESIDENTIAL project that involves installing or replacing outdoor lighting? YES / NO

Fill out the table below, creating a row for each luminaire.

The "Back hemisphere distance" and "Front hemisphere distance" columns refer to the distance from the back and front hemisphere of the luminaire (respectively) to the nearest property line. The distance should be measured in mounting heights (MH). This is calculated by dividing the distance by the mounting height. For instance, if the luminaire is mounted 8 feet high, and is 12 feet from the property line, it would be 1.5 mounting heights (12/8=1.5).
For property lines that abut public walkways, bikeways, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for the purpose of this calculation. For property lines that abut public roadways and transit corridors, the property line may be considered to be the centerline of the roadway or corridor for the purpose of this calculation.
In the "Area Lighting?" column, mark "yes" for general lighting luminaires in areas such as outdoor parking, sales, or storage lots. For all other lighting uses, including decorative lighting, mark "no."

Luminaire ID	Back hemisphere distance (MH)	B Rating	Area Lighting?	U Rating	Front hemisphere distance (MH)	G Rating
Example	1.5	B4	Yes	U0	1.3	G1

8. EV CHARGING

In new multi-family buildings, 20% of the parking spaces must be electric vehicle (EV) charging stations. The remainder of spaces must be EV-Ready, with inaccessible wiring installed and electrical panel capacity. EV-Charging spaces must have a level 2 charger available at the space. They must be able to deliver 40 amps of power at 240 volts. The EV-Ready spaces must have all inaccessible raceway installed. This means that the physical pathways for future wiring must be installed during construction if they won't be accessible later (for example if they will be underground or go through a wall). If the raceway will be accessible, such as on the outside of a wall or ceiling, it does NOT need to be installed during construction. The raceway must lead to an electrical panel with enough capacity to serve 20% of spaces with 40 amps at 240 volts. In most cases, this overall capacity requirement will be identical to the required capacity for the EV-Charging spaces. The panel must also include an open breaker space labeled "EV-Ready" for each EV-Ready parking space.	Is this project construction of a NEW MULTI-FAMILY DWELLING (three or more units)? YES / NO

Total number of parking spaces: _____ X 0.2 = _____ number of required EV Charging Stations (rounded to nearest whole number)

Remaining spaces must be EV Ready

9. DESIGNATED PARKING SPACES

12% of parking spaces (rounded to the nearest whole number) must be designated for clean air vehicles. Clean air vehicles include any zero-emissions vehicle, vehicles with High-occupancy Vehicle (HOV) carpool lane stickers, or carpool or van pool vehicles. Each space must be marked with the words "CLEAN AIR/VANPOOL/EV" in stall striping paint at the end of the stall striping.	Does the project involve construction of a NEW NON-RESIDENTIAL unit? YES / NO

Total number of parking spaces: _____ X 0.12 = _____ number of required marked Clean Air spaces (rounded to the nearest whole number)

10. WATER USE

Reduce indoor water use by 12% via prescriptive or performance methods. The prescriptive method, which requires all plumbing fixtures in the building have a 12% reduction in flow rate and the performance method, which requires a calculation showing that the overall water use in calculate the overall water use of the building and demonstrate that it is at least a 12% reduction from the maximum water use. **Choose only ONE of the methods and fill out the worksheet for that method below.**	If this project involves construction of a NEW NON-RESIDENTIAL unit, which method will be used to meet compliance: □ Prescriptive OR □ Performance

PRESCRIPTIVE METHOD

Fill in the flow rate of the fixtures to be installed in the far-right column. The actual flow rates may not be greater than those listed in the "Maximum flow rate at 12% reduction" column.

Fixture Type	Maximum flow rate at 12% reduction	Actual flow rate of installed fixtures
Showerheads	1.8 gpm @80 psi	
Lavatory Faucets	0.35 gpm @ 60 psi	
Kitchen Faucets/ Aerators	1.6 gpm@ 60 psi	
Wash Fountains	1.6 gpm/20 [rim space (in.) @ 60 psi]	
Metering Facuets	0.18 gallons/cycle	

Metering Faucets for wash fountains	0.18 gallons/ cycle 20 [rim space (in.) @ 60 psi]	
Water Closets	1.12 gallons/flush	
Floor mounted urinal	0.44 gallons/flush	
Wall Mounted urinal	0.11 gallons/flush	

PERFORMANCE METHOD

Fill in the number of occupants, using Table A, Chapter 4 of the California Plumbing Code to determine occupant load. Then, multiply the numbers in each row to determine the baseline gallons per day for each fixture. Finally, add together all the gallons per day to determine the total gallons per day.

Fixture Type	Baseline Flow Rate	Duration (min or cycle)	Daily Uses	Occupants	Gallons per day
Showerheads	2 gpm	5	1		
Lavatory Faucets	0.5 gpm	25	3		
Kitchen faucets	1.8 gpm	4	1		
Aerators	2 gpm	4	1		
Wash Fountains	1.8/20		3		
Metering Faucets	0.2 gal per 20" rim space	1	4		
Water Closet	1.28	1	4		
Floor mounted urinal	0.5	1	2		
Wall mounted urinal	0.125	1	2		
Total	------	-----	-----	-------	Baseline GPD

In this chart, fill in the same number of occupants, but insert the actual flow rates of the fixtures to be installed. Then, multiply each row to determine the gallons per day, and add up to the total gallons per day at the bottom.

Fixture Type	Actual Flow Rate	Duration (min or cycle)	Daily Uses	Occupants	Gallons per day
Showerheads		5	1		
Lavatory Faucets		25	3		
Kitchen Faucets/aerators		4	1		
Wash Fountains		1	3		
Metering Faucets		1	4		
Water Closets		1	4		
Floor mounted urinal		1	2		
Wall mounted urinal		1	2		
Total	------	-----	-----	-------	Actual GPD

_____ ÷ _____ = _____ (must be no more than 0.88)
Actual GPD Baseline GPD

11. SOLAR PANELS

All new non-residential buildings must have a Solar Zone occupying at least 15% of the rooftop area and must either:

- Fill the entire solar zone with solar panels OR
- Install enough panels to produce as much electricity as the building is modeled to use annually. (compliance is determined using the T24 Energy Report)

If this project involves construction of a NEW NON-RESIDENTIAL unit, which method will be used to meet compliance:

□ Cover entire Solar Zone
OR
□ Cover annual use

12. COMPLIANCE MARGIN

New NON-RESIDENTIAL buildings must achieve a Compliance Margin appropriate to the Occupancy Group and energy source.

Mixed-Fuel buildings in Occupancy Group B must achieve a Compliance Margin of 20%.
All-Electric buildings in Occupancy Group B must achieve a Compliance Margin of 10%.
All buildings in Occupancy Group M must achieve a Compliance Margin of 16%.
Non-Residential buildings in all other Occupancy Groups have no additional requirements.

Does this project involve new non-residential construction?

YES / NO

If Yes, select appropriate type:
□ Occupancy Group B, mixed-fuel
□ Occupancy Group B, all-electric
□ Occupancy Group M
□ Other Occupancy Group

What is a Compliance Margin?

A Compliance Margin is a percentage used to determine the energy efficiency of a given non-residential building. The higher the Compliance Margin, the more efficient the building, with a rating of 100% indicating that the building has zero net-energy use. All buildings have a required level of energy efficiency which is determined by a state-certified software program, called CBECC-Com. When a contractor or architect models your building on the software, the program will model the annual energy use of the building. It will also identify how much energy a building of that type is permitted to use each year based on the California Energy Code. The Compliance Margin is a way of expressing how much more efficient your building is than the state requirement.

How to find your Compliance Margin

When your contractor or architect models your building on the CBECC-Res software, it will generate a Title 24 Energy Report. This report includes all the information you need about your Compliance Margin in a small chart on page 2.

C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft²-yr)

COMPLIES

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	9.83	6.01	3.82
Space Cooling	74.20	61.07	13.13
Indoor Fans	106.75	106.39	0.36
Heat Rejection	--	--	--
Pumps & Misc.	--	--	--
Domestic Hot Water	8.52	7.73	0.79
Indoor Lighting	28.68	22.75	5.93
ENERGY STANDARDS COMPLIANCE TOTAL	**227.98**	**203.95**	**24.03 (10.5%)**

[1] Notes: The number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

The "Standard Design" shows the maximum energy use allowed by the Energy Code. The "Proposed Design" shows the modelled energy use for your building. The Compliance Margin is the number circled in green. Note that it is always a percentage

You can determine your Compliance Margin simply by finding it on the chart above. However, it may be useful to understand how it is calculated by the program. First the Proposed Design energy use is subtracted from the Standard Design, then that difference is divided by the Standard Design energy use. The 10.5% Margin in the example above was determined as follows:

227.98 – 203.95 = 24.03
24.03 / 227.98 = 0.105
= 10.5%