WILDLAND URBAN INTERFACE - WUI

RESIDENTIAL AND COMMERCIAL PROJECTS BASED ON THE '10 CRC AND THE '10 CBC
THESE REQUIREMENTS APPLY ONLY TO **NEW BUILDINGS**. THESE REQUIREMENTS **DO NO APPLY** TO:

1. ADDITIONS TO EXISTING BUILDINGS UNLESS: THE EXISTING BUILDING WAS REQUIRED TO BE BUILT TO WUI STANDARDS (APPLICATION DATE ON OR AFTER JANUARY 1, 2008).
2. A 120 SF MAX U OCCUPANCY ≥ 30' FROM A BUILDING REQUIRED TO BE WUI COMPLIANT.
3. ANY OTHER U OCCUPANCIES OF ANY SIZE ≥ 50' FROM A BUILDING REQUIRED TO BE WUI COMPLIANT.
4. REMODELS OF BUILDINGS ORIGINALLY CONSTRUCTED PRIOR TO THE APPLICABLE APPLICATION DATE OF JANUARY 1, 2008.
5. DETACHED ACCESSORY STRUCTURES SUCH AS CARPORTS, PATIO COVERS OR TRELLISES WHICH ARE LESS THAN 50' FROM A STRUCTURE REQUIRED TO BE WUI COMPLIANT, UNLESS REQUIRED BY THE ENFORCING AGENCY.

DEFINITIONS
HEAVY TIMBER: HEAVY TIMBER SHALL BE SAWN LUMBER OR GLU LAMINATED WOOD WITH THE SMALLEST MINIMUM NOMINAL DIMENSIONS OF 4 INCHES. HEAVY TIMBER WALLS OR FLOORS SHALL BE SAWN OR GLUE LAMINATED PLANKS SPLINED, TONGUE AND GROVE, OR SET CLOSE TOGETHER AND WELL SPIKED.
IGNITION RESISTANT CONSTRUCTION: "IGNITION RESISTANT CONSTRUCTION" INCLUDES NONCOMBUSTIBLE MATERIALS, FIRE RETARDANT TREATED WOOD IDENTIFIED FOR EXTERIOR USE, AND FIRE RETARDANT TREATED WOOD SHAKES AND SHINGLES LISTED FOR USE AS A CLASS B ROOF COVERING USED AS A WALL COVERING WHEN INSTALLED OVER SOLID SHEATHING OR ANY MATERIAL LISTED ON OSFM WEBSITE AS BEING IGNITION RESISTANT: (WWW.OSFM.FIRE.CA.GOV/STRUCFIREENGINEER/PDF/BML/WUIPRODUCTS/PDF)
LOG WALL CONSTRUCTION: A TYPE OF CONSTRUCTION IN WHICH EXTERIOR WALLS ARE CONSTRUCTED OF SOLID WOOD MEMBERS AND WHERE THE SMALLEST HORIZONTAL DIMENSION OF EACH SOLID WOOD MEMBER IS AT LEAST 6 INCHES.
ROOF EAVE: ROOF EAVES MAY BE EITHER "OPEN" OR "ENCLOSED." OPEN ROOF EAVES HAVE EXPOSED RAFTER TAILS AND AN UNENCLOSED SPACE ON THE UNDERSIDE OF THE ROOF DECK.

NOTE: IN ALL OF THE FOLLOWING CATEGORIES, THE USE OF PAINTS, COATINGS, STAINS OR OTHER SURFACE TREATMENTS ARE NOT AN APPROVED METHOD OF PROTECTION.

ROOFING
1. ROOF COVERINGS IN VERY HIGH FIRE HAZARDS SEVERITY ZONES SHALL BE FIRE RETARDANT "CLASS A" MINIMUM. THIS INCLUDES FIRE RETARDANT WOOD SHAKES AND SHINGLES UNLESS NOT ALLOWED BY THE FIRE AUTHORITY HAVING JURISDICTION.
2. ROOF COVERINGS IN HIGH FIRE SEVERITY ZONES IN STATE RESPONSIBILITY AREAS SHALL BE "CLASS B" MINIMUM. THIS INCLUDES FIRE RETARDANT WOOD SHAKES AND SHINGLES UNLESS NOT ALLOWED BY THE FIRE AUTHORITY HAVING JURISDICTION.
3. ROOF COVERINGS IN MODERATE FIRE HAZARD SEVERITY ZONES AND ALL OTHER AREAS SHALL BE FIRE RETARDANT "CLASS C" MINIMUM, UNLESS PROHIBITED BY THE LOCAL FIRE AGENCY.
4. WHERE THERE IS AN OPENING BETWEEN THE ROOF COVERING AND THE ROOF DECKING, THE OPENING MUST BE FIRE STOPPED. CONSTRUCTED TO PREVENT THE INTRUSION OF FLAMES AND EMBERS OR HAVE ONE LAYER 72# MINERAL CAP SHEET UNDER THE OPENINGS TO PROTECT THE ROOF DECK.
5. EXPOSED ROOF VALLEYS ARE TO BE 26 GA MIN METAL AND 36" WIDE, 72LB CAP SHEET UNDER.
6. ASPHALT SHINGLES OVERLAPPING THE VALLEY ARE AN ACCEPTABLE ALTERNATIVE.
7. GUTTERS ARE TO BE DESIGNED TO PREVENT THE ACCUMULATION OF DEBRIS.

VENTS
1. ANY UNDERFLOOR OR ATTIC VENT (EXCEPT FOR VENTS LOCATED ON THE UNDERSIDE OF EAVES) NEED ONLY BE NONCOMBUSTIBLE, CORROSION RESISTANT AND HAVE $\frac{1}{16}$" - $\frac{1}{8}$" MAX OPENINGS.
2. VENTS LOCATED UNDER THE ROOF COVERINGS OR ALONG THE RIDGE NEED NOT BE NONCOMBUSTIBLE (FOR EXAMPLE SMART VENTS).
3. EAVE AND CORNICE VENTS.
4. NONCOMBUSTIBLE, CORROSION RESISTANT VENTS HAIVNG $\frac{1}{16}$" - $\frac{1}{8}$" MAX OPENINGS CAN BE USED IN THE UNDER SIDE OF EAVES IF:

A. THE ATTIC IS FULLY SPRINKLERED WITH A FULL 13 SYSTEM, OR
B. THE VENTS IS MORE THAN 12' ABOVE GRADE OR WALKING SURFACE AND THE WALL COVERING AND EXPOSED UNDERSIDE OF THE EAVE AREA OF IGNITION RESISTANT CONSTRUCTION.

OTHERWISE, EAVE AND CORNICE VENTS MUST BE DESIGNED TO PREVENT THE INTRUSION OF FLAMES & BURNING EMBERS.

EXTERIOR COVERINGS
WALLS AND THE EXPOSED UNDERSIDE OF OPEN CLOSED EAVE OVERHANGS, SOFFITS, PORCH CEILINGS, FLOOR PROJECTIONS AND UNDERFLOOR AREAS NEED ONLY BE:
1. COVERED WITH IGNITION RESISTANT MATERIALS (SEE ABOVE), CONSTRUCTED OF HEAVY TIMBERS OR LOG WALLS, OR
2. INSTALL ONE LAYER OF $\frac{5}{8}$" TYPE X ON THE EXPOSED SIDE UNDER ANY TYPE OF WALL COVERING, OR
3. HAVE THE EXPOSED SIDE COVERED BY THE EXTERIOR PORTION OF A 1 HR FIRE RESISTIVE EXTERIOR WALL ASSEMBLY AS FOUND IN THE GYPSUM ASSOCIATION FIRE RESISTANT DESIGN MANUAL.

NOTE: THE FOLLOWING ARE **EXEMPTED** AND **NEED NOT COMPLY**:
1. 2X NOMINAL WOOD RAFTER TAILS OR THE BLOCKING BETWEEN THEM.
2. FASCIA, ARCHITECTURAL TRIM, GUTTERS.
3. ROOF PROJECTIONS FROM GABLE ENDS OR CORNICES.
4. HEAVY-TIMBER STRUCTURAL COLUMNS AND BEAMS.

EXTERIOR WINDOWS AND DOORS
ALL EXTERIOR GLAZING INCLUDING SKYLIGHTS IS TO COMPLY WITH THE FOLLOWING:
1. ONE PANE OF A MULTIPANE WINDOW TO BE TEMPERED, OR
2. GLASS BLOCK, OR
3. 20 MINUTE RATED, OR
4. ANY APPROVED WINDOW LISTED ON OSFM WEBSITE.

NOTE: STRUCTURAL GLASS VENEER NEED NOT COMPLY AS LONG AS THERE IS AN APPROVED WALL ASSEMBLY BEHIND THE GLASS MEETING THE REQUIREMENTS FOR EXTERIOR WALL COVERINGS.
NOTE: WINDOW SASH, STILE, AND FRAMES MAY BE OF WOOD, ALUMINUM, VINYL, OR FIBERGLASS MATERIAL. (OSFM INTERPRETATION 10-013)

EXTERIOR DOORS ARE TO COMPLY WITH THE FOLLOWING:
1. THE EXTERIOR SURFACE OR CLADDING SHALL BE OF IGNITION RESISTANT OR NON-COMBUSTIBLE MATERIAL, OR
2. 20 MINUTE RATED, OR
3. 1-3/8" SOLID CORE WOOD OR PANEL DOORS. RAISED PANELS ARE TO BE 1-1/4"

WILDLAND URBAN INTERFACE - WUI CONTD.

THICK MINIMUM TAPERING TO NOT LESS THAN 3/8" THICK.

DECKING
THE WALKING SURFACE (ONLY) OF DECKS, BALCONIES, PORCHES AND STAIRS WITHIN 10' OF A BUILDING REQUIRED TO BE WUI COMPLIANT SHALL BE OF THE FOLLOWING MATERIALS:
1. IGNITION RESISTANT (SEE ABOVE), EXTERIOR FIRE RETARDANT TREATED WOOD OR,
2. SOLID WOOD DECKING (REDWOOD OR CEDAR 5/4" THICK NOMINAL 6" WIDE) OVER 2X6 MIN DF JOISTS 24" OR LESS ON CENTER OR,
3. ANY OTHER DECKING MATERIALS LISTED ON OSFM WEBSITE.

DEX-O-TEX WATERPROOF MEMBRANE FOR IMPERMEABLE DECKS IS "CLASS A" AND AN APPROVED COVERING. THE FOLLOWING ARE EXAMPLES OF COMPLIANT "TREX" DECKING:
1. "TREX ACCENTS: FIRE DEFENSE" WOOD AND POLYETHYLENE COMPOSITE DECK BOARD, NOMINAL 5/4" THICK X 5-1/2" WIDTH.
2. "TREX ESCAPES" CELLULAR PVC COMPOSITE DECK BOARD, NOMINAL 1" THICK X 5-1/2" WIDTH.

GUARDS AND DECK STRUCTURAL MEMBER NEED NOT BE WUI COMPLIANT.

ACCESSORY STRUCTURES
1. ATTACHED TRELLISES, ARBORS, PATIOS, CARPORTS, AND GAZEBOS OR SIMILAR STRUCTURES ATTACHED TO APPLICABLE BUILDINGS ARE REQUIRED TO BE OF IGNITION RESISTANT CONSTRUCTION.
2. APPLICABLE BUILDINGS ARE BUILDINGS THAT WERE APPLIED FOR AFTER JANUARY 1, 2008.

APPROVED EAVE VENTS
1. VULCAN TECHNOLOGIES
2. BRANDGUARD
3. O'HAGIN'S (FIRE RESISTANT ROOF DECK VENTS. MAY NOT WORK IN UNDER EAVE APPLICATION. CHECK WITH MANUFACTURER.)
4. VIVICO "FIRE GUARD VENT"
5. "SMART VENTS" BY DCI PRODUCTS

FIRE BLOCKING

- IN CONCEALED SPACED OF STUD WALLS AND PARTITIONS VETICALLY AT THE CEILING AND FLOOR LEES AND HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET.
- AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES (SOFFITS, DROP CEILINGS, COVE CEILINGS).
- AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL.

SEPTIC DESIGN

DESIGN BASIS:
3 BEDROOMS
120 MIN/IN, PERCOLATION RATE
APPLICATION RATE (q) = 0.7 (GPD/SQ FT)
FLOW (Q) = 375 (GALLONS/DAY)

PRESBY LEACH LINES:
A = Q/q = [GPD/APP. RATE X 0.7] 375/0.7 X 0.7 = 375 SQ FT
PRESBY PIPE REQ'D = [3 GPD / FT FROM TABLE B] 375 / 3 = 125 FT. MIN.
SERIAL SECTIONS REQ'D = [GPD / 750 GPD / SECTION] 375 / 750 = .5 (1 SECTION)
USING 40' ROWS (125 / 40 = 3.125) USE 4 ROWS
SAND BED AREA:
375 / (40' + 1') = 9' = 41' X 9'

REFERENCE NOTES

1. PRESBY LEACH LINES. SEE ATTACHED DETAILS AND INSTALLATION MANUAL
2. 100% LEACH FIELD EXPANSION
3. SEPTIC TANK (1500 GALLON MIN CAPACITY)
4. SEWER CLEANOUT MIN 5' FROM RESIDENCE
5. STREET SWEEPING REQUIRED OF ANY SEDIMENT OR MATERIALS TRACKED OFFSITE TO H-STREET and/or MURPHY AVE.
6. A SOIL OR CIVIL ENGINEER TO DETERMINE GRADING PERFORMED IS IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED PLANS AND IS SUITABLE TO SUPPORT THE INTENDED STRUCTURE.

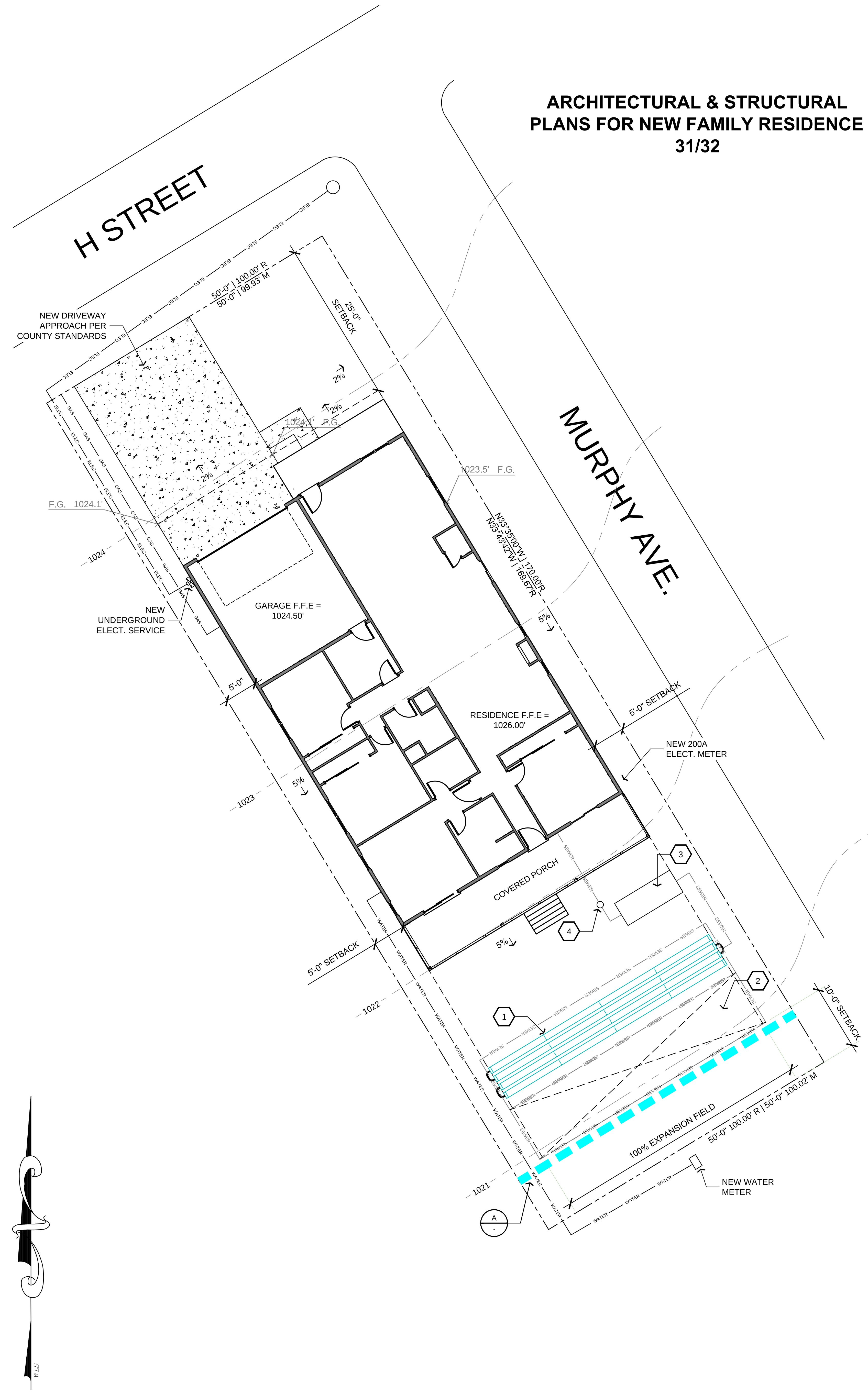
SPECIAL INSPECTION

WHERE SPECIAL INSPECTION OR TESTING IS REQUIRED BY SECTION 1705 THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE SHALL PREPARE A STATEMENT OF SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1704.3.1 FOR SUBMITTAL BY THE PERMIT APPLICANT IN ACCORDANCE WITH SECTION 1704.2.3.

ITEM	REMARKS
SOIL COMPLIANCE PRIOR TO FOUNDATION INSPECTION	YES
STRUCTURAL CONCRETE OVER 2500 PSI	NO
STRUCTURAL MASONRY / RETAINING WALLS	NO
EPOXY / ADHESIVE ANCHORS	NO
STRUCTURAL WOOD	NO
HIGH STRENGTH BOLTING	NO
FIELD WELDING	NO
SPRAYED ON FIREPROOFING	NO
OTHER	N/A
VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	P
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	P
PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS	P
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL.	C
PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	P

C = CONTINUOUS / P = PERIODIC

ARCHITECTURAL & STRUCTURAL PLANS FOR NEW FAMILY RESIDENCE 31/32



SITE PLAN

1" = 10'-0"

SHEET INDEX

PROJECT INFORMATION SEARCH

Assessment Number:	069-113-031
Owner Name:	MUSTANG INVESTMENTS, LLC.
Street Address:	22507 H St
Community Code:	Santa Margarita
Tax Rate Area:	054-050
Parcel Size:	15,000 SF
Link to Map:	069113014
Assessed Value:	186,399
Land Value:	186,399
Improvements:	0
Personal Property:	0
Fixtures Value:	0
Total Exemption:	0
Net:	186,399
Structure Type:	Land
Original Size:	0
Addition Size:	0
Total Area:	0
Year Built:	0
Bedrooms:	0
Bathrooms:	0
Levels:	0
Parking:	None
Improvements:	

PROJECT INFORMATION

OWNER	MUSTANG INVESTMENTS, LLC.
PROJECT ADDRESS	22507 H STREET, SANTA MARGARITA, CA 93453
APN	069-113-031
PHONE	(805) 423-2920

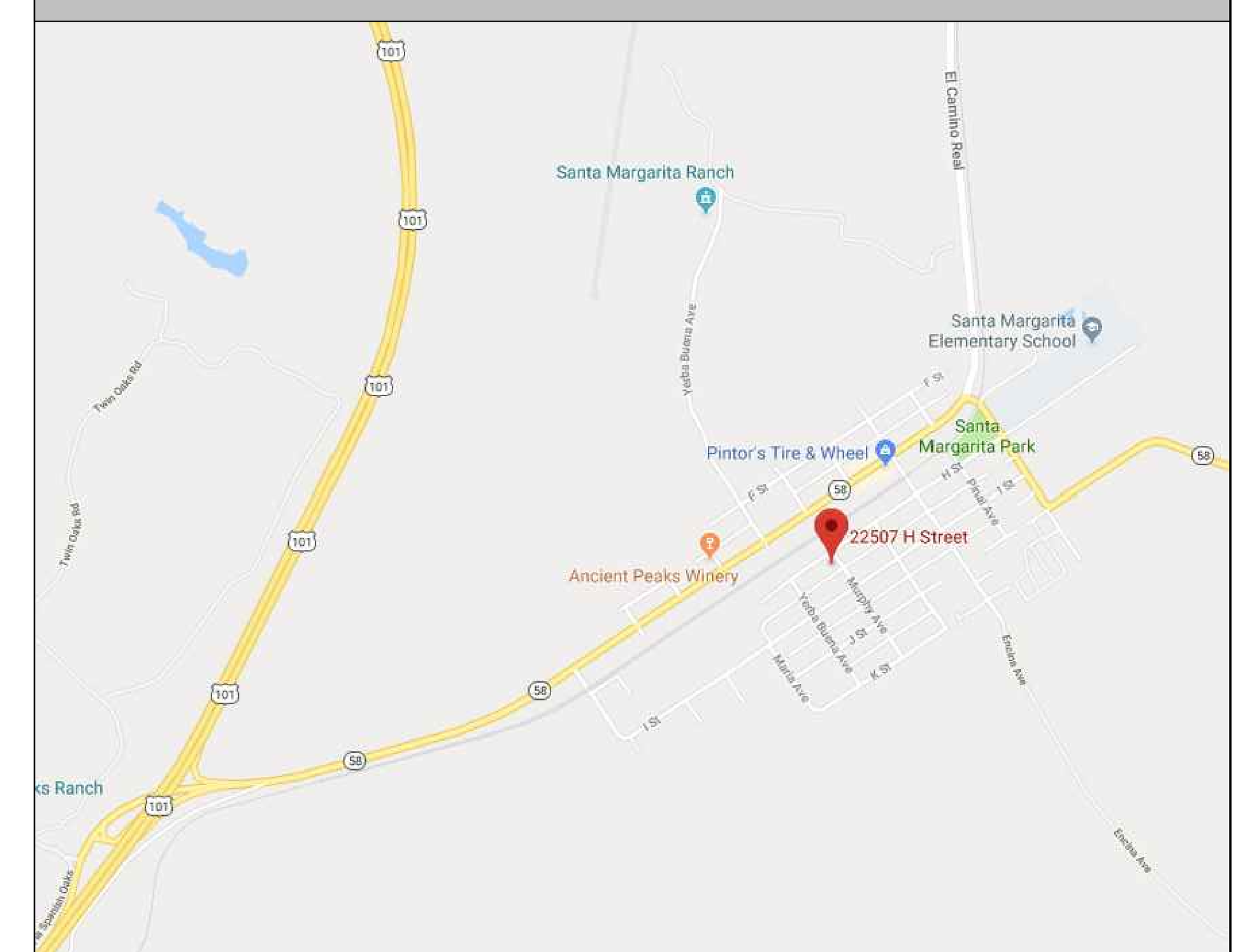
PROJECT STATISTICS

LOT SIZE	15,000 SF
OCCUPANCY	R-1
CONSTRUCTION TYPE	VB
BUILDING HEIGHT	16' 0"
NEW LIVING AREA	2155 SQ.FT.
NEW GARAGE AREA	234 SQ.FT.
NEW COVERED PORCH	383 SQ.FT.

PROJECT DESCRIPTION

ARCHITECTURAL & STRUCTURAL PLANS FOR NEW FAMILY RESIDENCE

VICINITY MAP



CORRESPONDENCE

PROFESSIONAL ENGINEER
JK ENGINEERING
JOHN A. KUDLA
610 10TH ST, STE A
PASO ROBLES, CA 93446
LIC.# : C5652
805.423.3077

DRAFTSMAN/DESIGNER
JB DRAFTING & DESIGN
JOHN BUTLER
610 10TH ST. STE A
PASO ROBLES, CA 93446
(805) 237-0850

GENERAL CONSTRUCTION NOTES

1. ALL WORK SHALL CONFORM WITH THE:
   2016 CBC (2012 IBC AND CALIFORNIA AMENDMENTS)
   2016 CEC (2011 NEC AND CALIFORNIA AMENDMENTS)
   2016 CMC (2012 IAPMO UMC AND CALIFORNIA AMENDMENTS)
   2016 CPC (2012 IAPMO UPC AND CALIFORNIA AMENDMENTS)
   2016 CENC AND T-24.
   2016 CALIFORNIA GREEN BUILDING CODE
   2016 CFC (2012 IFC AND CALIFORNIA AMENDMENTS)
2. THESE NOTES SHALL APPLY TO ALL DRAWINGS UNLESS OTHERWISE NOTED OR SHOWN. FEATURES OF CONSTRUCTION SHOWN ARE TYPICAL AND THEY SHALL APPLY GENERALLY THROUGHOUT SIMILAR CONDITIONS. ALL OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR GENERAL NOTES SHALL BE BROUGHT TO THE ATTENTION OF THE ARHCITECT/ ENGINEER BY THE GENERAL CONTRACTOR BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.
3. ALL WORK AND CONSTRUCTION METHODS AND MATERIALS SHALL COMPLY WITH ALL PROVISIONS OF THE BUILDING CODES AND OTHER RULES, REGULATIONS AND ORDINANCES GOVERNING THE CONSTRUCTION SITE. BUILDING CODE REQUIREMENTS IN ALL CASES TAKE PRECEDENCE OVER THE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF ANYONE SUPPLYING LABOR AND/OR MATERIALS TO BRING TO THE ATTENTION OF THE ARCHITECT/ENGINEER ANY DISCREPANCIES OR CONFLICTS BETWEEN THE REQUIREMENTS OF THE CODE AND THE DRAWINGS.
4. DO NOT SCALE THE DRAWINGS. DIMENSIONS SHOWN SHALL TAKE PRECEDENCE OVER DRAWING SCALE OR PROPORTION. LARGE SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
5. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE SHOWN, THEY DO NOT INDICATE METHOD OF CONSTRUCTION. CONTRACTOR SHALL SUPERVISE AND DIRECT WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY FIELD REPRESENTATIVES OF THE ARCHITECT/ENGINEER SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES REQUIRED FOR SAME, WHICH ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY SUPPORT SERVICES PERFORMED BY THE ARCHITECT/ENGINEER DURING CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED SOLELY FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS, AND THEREFORE THEY DO NOT GUARANTEE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.
6. CONTRACTOR HEREBY GUARANTEES TO THE OWNER AND THE ARCHITECT/ENGINEER THAT ALL MATERIALS, FIXTURES, AND EQUIPMENT FURNISHED TO THE PROJECT ARE NEW UNLESS OTHERWISE SPECIFIED. CONTRACTOR ALSO WARRANTS THAT ALL WORK WILL BE OF GOOD QUALITY AND FREE FROM ANY FAULTS AND DEFECTS FOR A PERIOD OF ONE YEAR AFTER THE DATE OF SUBSTANTIAL COMPLETION, UNLESS A GREATER WARRANTY OR GUARANTEE IS REQUIRED BY THE PROJECT SPECIFICATIONS.
7. ANYONE SUPPLYING LABOR AND/OR MATERIALS TO THE PROJECT SHALL CAREFULLY EXAMINE ALL SUBSURFACES TO RECEIVE WORK. ANY CONDITIONS DETRIMENTAL TO WORK SHALL BE REPORTED IN WRITING TO THE CONTRACTOR PRIOR TO BEGINNING WORK. COMMENCEMENT OF WORK SHALL IMPLY ACCEPTANCE OF ALL SUBSURFACES.
8. REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR DEPRESSED SLABS CURB, FINISHES, TEXTURES, CLIPS, GROUNDS, ETC., NOT SHOWN ON STRUCTURAL DRAWINGS.
9. ANY MATERIALS STORED AT THE SITE SHALL BE COMPLETELY SUPPORTED FREE OF THE GROUND, COVERED AND OTHERWISE PROTECTED TO AVOID DAMAGE FROM THE ELEMENTS.
10. MORE DETAILED INFORMATION SHALL TAKE PRECEDENCE OVER LESSER DETAILED INFORMATION. SPECIFICATIONS SHALL TAKE PRECEDENCE OVER DRAWINGS.
11. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL APPLICABLE CODES AND LOCAL ORDINANCES.
12. THE CONTRACTOR AND ALL SUB-CONTRACTORS WILL BE HELD ACCOUNTABLE TO THE ABOVE GENERAL NOTES FOR THE CONSTRUCTION OF THE PROJECT.
13. THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE OR DISBURSE ANY EXCESS MATERIAL FROM PROJECT SITE.
14. THIS SET OF PLANS TO BE ON JOB SITE AT ALL TIMES DURING CONSTRUCTION. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPROVED PLANS. NO CHANGES OR REVISIONS TO THE APPROVED PLANS OR SPECIFICATIONS SHALL BE PERMITTED UNLESS SUBMITTED TO AND APPROVED BY THE BUILDING OFFICIAL. THE ISSUANCE OF A PERMIT SHALL NOT PREVENT THE BUILDING OFFICIAL FROM REQUIRING THE CORRECTION OF ERRORS OR OMISSIONS FROM THE APPROVED PLANS AND SPECIFICATIONS. [CBC 108]
15. ALL CONTRACTORS AND SUB-CONTRACTORS MUST HAVE ON FILE WITH THE BUILDING DEPARTMENT, A LIST OF ALL SUCH CONTRACTORS AND SUB-CONTRACTORS WITH APPROPRIATE CURRENT BUSINESS LICENSE NUMBERS.
16. UNLESS NOTED OTHERWISE, ALL VESTIBULES, CLOSETS, COLUMNS, PROJECTIONS, RECESSES, OR OTHER ADJACENT AREAS WITHIN SCHEDULED AREA SHALL HAVE FINISHES AS SCHEDULED FOR THE RESPECTIVE SPACES IN WHICH THEY OCCUR.
17. CONTRACTOR SHALL VERIFY ALL SETBACKS, EASEMENTS, CONTOURS, AND BUILDING PAD PRIOR TO CONSTRUCTION.
18. TRUSS CALCULATIONS FOR APPROVED PROJECTS ARE REQUIRED TO BE ON THE JOB SITE AT TIME OF FRAMING INSPECTION WITH THE APPROPRIATE REQUIRED SIGNATURES AND STATEMENT AS FOLLOWS: TRUSS CALCULATIONS SHALL INCLUDE THE WET-STAMP AND SIGNATURE OF THE TRUSS DESIGN ENGINEER. IN ADDITION, THEY SHALL INCLUDE ON THE COVER SHEET A WET- SIGNED STATEMENT FROM THE PROJECT'S DESIGN ENGINEER THAT TRUSS CALCULATIONS AND LAYOUTS ARE IN SUBSTANTIAL CONFORMANCE WITH THE STRUCTURAL DESIGN AND INTENT OF THE STRUCTURE. FAILURE TO PROVIDE THEM AS STATED WILL RESULT IN A CORRECTION AND A FAILURE TO PASS FRAMING INSPECTION. [BSP]
19. VERIFY LOCATION OF ALL UTILITY TIE-INS AT STREET AND POINT OF CONNECTIONS AT BUILDING PRIOR TO CONSTRUCTION.
20. A COPY OF SOILS REPORT SHALL BE ON SITE DURING FOUNDATION INSPECTION.
21. ALL PROPERTY CORNERS SHOULD BE ESTABLISHED AT THE TIME OF FOUNDATION INSPECTION WITH THE MARK OF A LICENSED SURVEYOR.

JB DRAFTING & DESIGN
CAD DESIGN - AS BUILTS
RESIDENTIAL PLANS
610 10TH ST. SUITE "D"
PASO ROBLES, CA
93446
BUS.#(805)237-0850
FAX #(805)237-0480

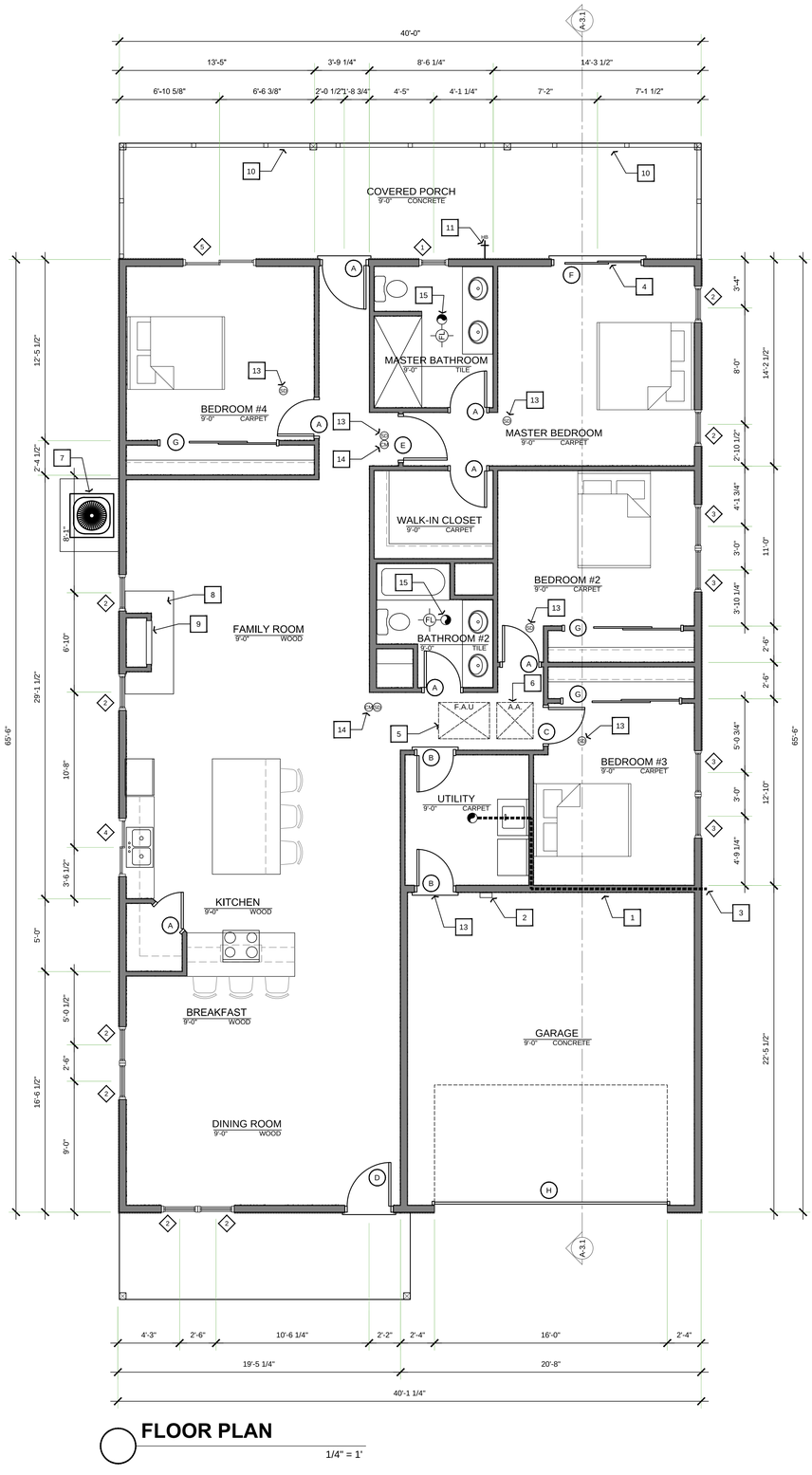
PLAN PREPARED FOR:
RCH CONSTRUCTION
22507 H-STREET
SANTA MARGARITA, CA 93453

REVISION LOG

REV.	DESCRIPTION	DATE

PROJECT NO. ----
FILE NAME A-1.1 SITE PLAN.DWG
DRAWN BY JMB II C.D.
DATE 7/23/2018 9:45 AM
SHEET TITLE:
SITE PLAN

SHEET NUMBER:
A-1.1



FLOOR PLAN

1/4" = 1'

FLOOR PLAN CALLOUTS

1. 5/8" TYPE "X" GYPSUM BOARD ON GARAGE SIDE OF COMMON WALL AND CEILING OF GARAGE AND HOUSE. DRYWALL GARAGE COMPLETE (CBC 406.1.4) WHEN THE CEILING IN THE GARAGE IS REQUIRED TO BE ENTIRELY PROTECTED, THE WALLS AND / OR BEAMS SUPPORTING THE CEILING ARE TO BE PROTECTED WITH THE EQUIVALENT FIRE RESISTIVE CONSTRUCTION (CBC 714)
2. PROVIDE 50 GALLON OR LESS GAS WATER HEATER WITH SEISMIC STRAPPING WITHIN THE UPPER AND LOWER ⅓ OF THE VERTICAL DIMENSION OF THE WATER HEATER WITH THE LOWER STRAP TO BE NO LESS THAN 4" ABOVE THE CONTROLS PER CPC 51.05. AND PRESSURE RELIEF VALVE W/ A FULL SIZED DRAIN OF GALVANIZED STEEL, HARD DRAWN COPPER, CPVC, PB OR LISTED RELIEF VALVE DRAIN TUBE WITH FITTINGS TO THE EXTERIOR OF THE BUILDING WITH THE END OF PIPE NOT MORE THAN 2 FEET NOR LESS THAN 6" ABOVE THE GRADE, POINTING DOWNWARD. THE THERMAL END BEING UNTHREADED. UPC SEC. 608.5. WATER HEATER SHALL BE SET ON AN 18" RAISED PLATFORM. PROVIDE RECIRCULATION PUMP FOR HOT WATER.
3. VENT DRYER TO EXTERIOR. MAXIMUM ALLOWABLE RUN SHALL NOT EXCEED 14'-0"\ WITH A MAXIMUM OF (2)-TWO 90° TURNS.
4. SAFETY GLAZING REQUIRED BUT NOT LIMITED TO GLAZING IN FIXED PANELS ADJACENT TO A DOOR WHERE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN A 24" ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60" ABOVE WALKING SURFACE. CBC SECTION 2406.3 ALSO WITHIN 18" OF FLOORS, WITHIN TUB - SHOWER ENCLOSURES, WITHIN HOT - TUB WHIRLPOOL, SAUNA AND STEAM ROOM AND GLAZING IN ANY PORTION OF A BUILDING WALL ENCLOSING THESE COMPARTMENTS WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60" ABOVE A STANDING SURFACE AND DRAIN INLET.
5. F.A.U. IN ATTIC ON PLATFORM. PROVIDE SWITCH, LIGHT, AND OUTLET NEAR ACCESS AND UNIT.
6. PROVIDE 30" X 30" ATTIC ACCESS TO MECHANICAL UNIT. A 22" X 30" ACCESS OPENING CAN BE USED IF A LETTER FROM THE MANUFACTURER STATING THAT ALL COMPONENTS OF F.A.U. UNIT CAN FIT THROUGH AN OPENING OF THAT SIZE. ACCESS TO BE WITHIN 20' OF F.A.U. AND HAVE A CONTINUOUS 24" WIDE WALKWAY. ALSO PROVIDE 30" CLEAR UNOBSTRUCTED WORKING SPACE IN FRONT OF F.A.U.
7. AIR CONDENSING UNIT ON CONCRETE PAD. PROVIDE 5'-0" MINIMUM CLEAR PASSAGE AROUND UNIT.
8. 18" DEEP NON-COMBUSTIBLE HEARTH IN FRONT OF AND 12" BEYOND FIREPLACE OPENING.
9. 42" ZERO-CLEARANCE FIREPLACE (EPA PHASE II CERTIFIED) HEATILATOR MODEL OR EQUAL TO BE DETERMINED BY OWNER (CSID #1140) WITH APPROVED GLASS DOORS (TYP).
10. GUARD @ 42" ABOVE FINISHED FLOOR. PROVIDE 2X2 PICKETS SPACED PER CBC 1013.3.
11. ALL HOSE BIBS TO HAVE NON REMOVABLE BACKFLOW PREVENTION DEVICES PER CPC 603.3.7
12. GARAGE DOOR SHALL BE PROTECTED BY A 1-3/8" SELF-CLOSING, SELF-LATCHING SOLID CORE DOOR, OR A SELF-CLOSING DOOR HAVING A FIRE-PROTECTION RATING OF NOT LESS THAN 20 MINUTES. CBC406.1.4
13. SMOKE DETECTORS HARDWIRED AND INTERCONNECTED TO ONE ANOTHER. PROVIDE BATTERY BACKUP TO ALL SMOKE DETECTOR UNITS (TYP). CBC 907.2.10.2 A SINGLE ALARM SHALL ACTIVATE ALL ALARMS AND BE CLEARLY AUDIBLE. CBC 907.2.10.3
14. AN APPROVED CARBON MONOXIDE ALARM SHALL BE INSTALLED IN DWELLING UNITS AND IN SLEEPING UNITS WITHIN WHICH FUEL-BURNING APPLIANCES ARE INSTALLED AND IN DWELLING UNITS THAT HAVE ATTACHED GARAGES. DETECTOR SHALL BE HARDWIRED WITH A BATTERY BACKUP. CRC R315.1.1
15. ROOMS CONTAINING BATHTUBS, SHOWERS, SPAS AND SIMILAR BATHING FIXTURES SHALL BE MECHANICALLY VENTILATED IN ACCORDANCE WITH THE CMC 403.7 & T-4.4

WINDOW SCHEDULE

SYM.	QTY.	SIZE	NOTES	
1	1	2040	SH	
2	8	2650	SH	
3	4	3050	SH	
4	1	4040	SL	
5	1	5050	SL	

EXTERIOR WINDOWS, WINDOW WALLS, GLAZED DOORS AND GLAZED OPENING WITHIN EXTERIOR DOORS SHALL BE INSULATING-GLASS UNITS WITH A MINIMUM OF ONE TEMPERED PANE OR GLASS BLOCK UNITS OR HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 20 MINUTES

DOOR SCHEDULE

SYM.	QTY.	SIZE	NOTES	
A	6	2668	INT. SINGLE	
B	2	2668	EXT. SINGLE	
C	1	2680	EXT. SINGLE	
D	1	3080	EXT. SINGLE	
E	1	3068	INT. SINGLE	
F	1	6080	SLIDER GLASS DOOR	
G	3	8080	CLOSET	
H	1	16080	METAL SECTIONAL	

CONT. WHOLE BUILDING VENTILATION RATE

PER TABLE 4-7 2008 RESIDENTIAL COMPLIANCE MANUAL
2155 SQ. FT. WITH 4 BDRMS
Qfan = 0.01(2155) + 7.5(4+1)
Qfan = 21.55 + 7.5(5)
Qfan = 21.55 + 37.5
Qfan = 59.05 CFM
CONTINUOUS FAN FLOW REQUIRED (CFM) = 65.42 CFM
USE 4"Ø MIN DUCT, 70' ALLOWED FOR FLEX DUCT - 105' ALLOWED FOR SMOOTH DUCT. DEDUCT 15' OF ALLOWABLE DUCT LENGTH FOR EACH TURN, ELBO, OR FITTING.

BATH FAN NOTE:
A BATHROOM IS DEFINED AS ANY ROOM CONTAINING A BATHTUB, A SHOWER, A SPA, OR SIMILAR SOURCE OF MOISTURE. EACH BATHROOM IS REQUIRED TO HAVE AN EXHAUST FAN DUCTED TO THE OUTSIDE WITH A MINIMUM VENTILATION RATE OF 50 CFM. THE DUCTING FOR THE EXHAUST FAN SHALL BE SIZED ACCORDING TO ASHRAE STANDARD 62.2, TABLE 7.1.

SOUND RATING AND CONTINUOUS OPERATION:
THE WHOLE BUILDING VENTILATION EXHAUST FAN WILL OPERATE CONTINUOUSLY, AND IS REQUIRED TO BE RATED FOR SOUND AT A MAXIMUM OF 1 SONE. THIS EXHAUST FAN CAN BE CONTROLLED BY A STANDARD ON/OFF SWITCH, BUT THE SWITCH MUST BE LABELED TO INFORM THE HOME OCCUPANT THAT THE EXHAUST FAN IS THE WHOLE-BUILDING VENTILATION EXHAUST FAN THAT IS INTENDED TO RUN CONTINUOUSLY. NO SPECIFIC WORDING IS MANDATED, BUT THE WORDING NEEDS TO MAKE CLEAR WHAT THE CONTROL IS FOR AND THE IMPORTANCE OF OPERATING THE SYSTEM THIS MAY BE AS SIMPLE AS "VENTILATION CONTROL" OR MIGHT INCLUDE WORDING SUCH AS: "OPERATE WHEN THE HOUSE IS IN USE" OR :KEEP ON EXCEPT WHEN GONE OVER 7 DAYS" OR FAN IS TO BE LEFT ON TO INSURE INDOOR AIR QUALITY".

JB DRAFTING & DESIGN
CAD DESIGN - AS BUILTS
RESIDENTIAL PLANS
610 10TH ST. SUITE "D"
PASO ROBLES, CA
93446
BUS.#(805)237-0850
FAX #(805)237-0480

PLAN PREPARED FOR:
RCH CONSTRUCTION
22507 H-STREET
SANTA MARGARITA, CA 93453

REVISION LOG

REV.	DESCRIPTION	DATE

PROJECT NO. ---

FILE NAME A-2.1 FLOOR PLAN.DWG

DRAWN BY JMB II C.D.

DATE 7/23/2018 9:45 AM

SHEET TITLE:
FLOOR PLAN

SHEET NUMBER:
A-2.1

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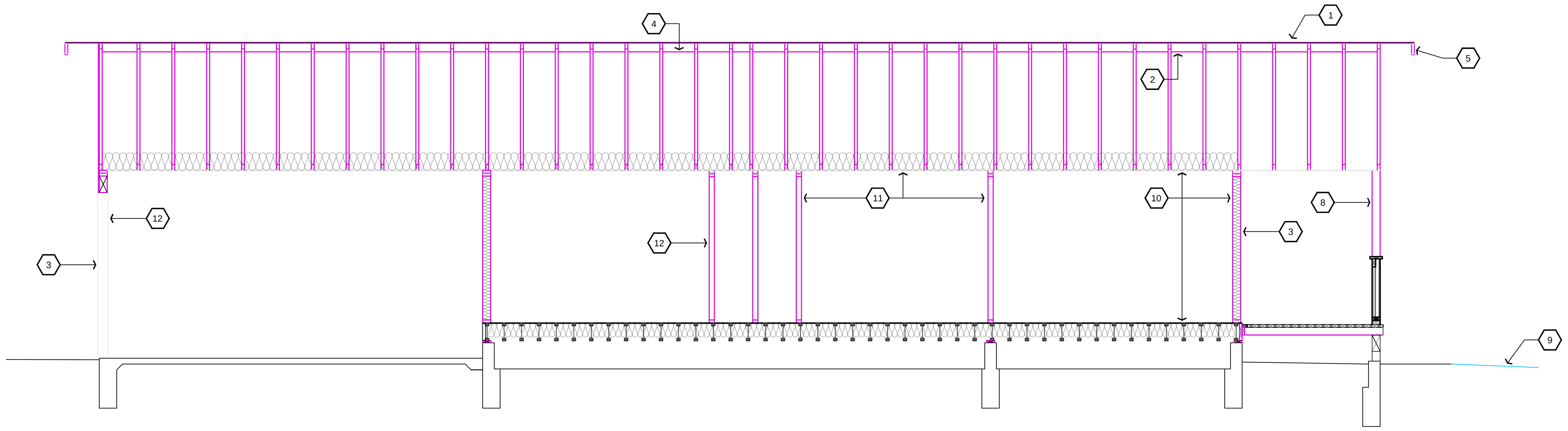
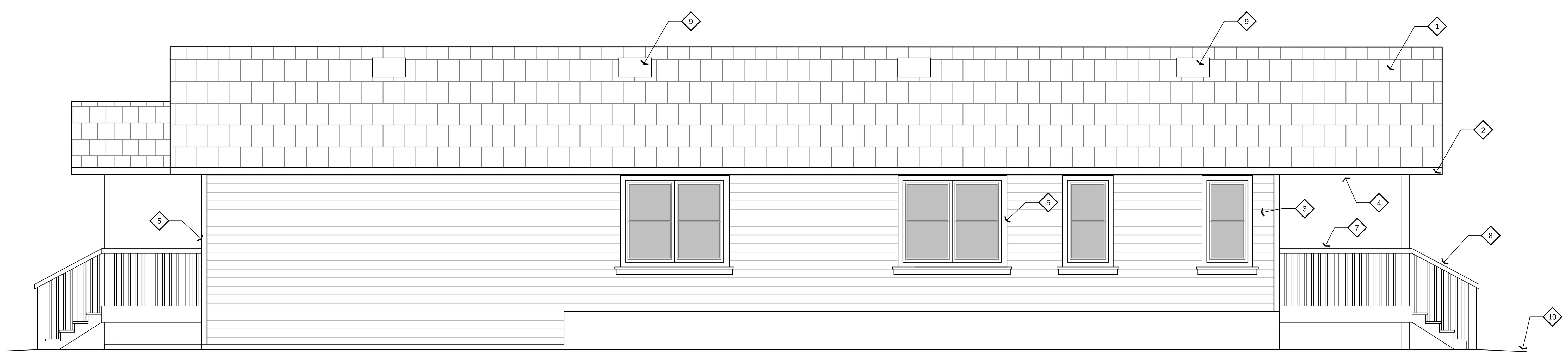


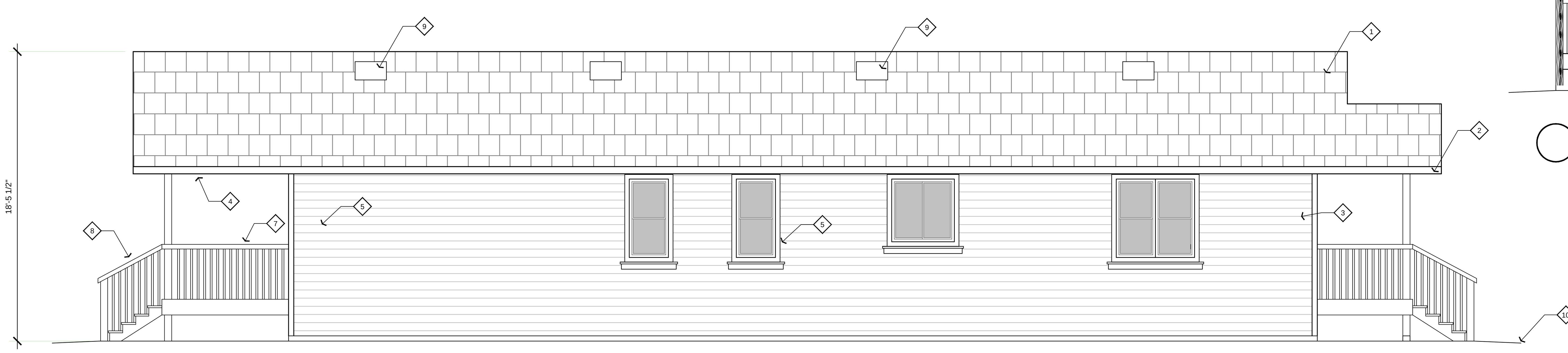
SECTION PLAN

1/4" = 1'



RIGHT ELEVATION

1/4" = 1'



LEFT ELEVATION

1/4" = 1'

ELEVATION CALLOUTS

1. COMPOSITION SHINGLE ROOFING OF MIN OF CLASS A OVER 30 LB MINIMUM ROOFING FELT (TYP)
2. 2 X 8 HEM FIR FASCIA (TYP) FIRE-RETARDANT-TREATED
3. HARDIPLANK SIDING OVER APPROVED MOISTER BARRIER
4. NONCOMBUSTIBLE OR IGNITION RESISTANT MATERIAL ON EXPOSED UNDERSIDE. WHERE EXPOSED, WOOD SHALL BE FIRE RETARDANT-TREATED
5. 2X TRIM AROUND ALL DOORS AND WINDOWS AND AT ALL CORNERS (TYP)
6. 24 GAUGE GI. FLASHING @ ALL ROOF TO WALL CONNECTIONS (TYP)
7. GUARD @ 42" ABOVE FINISHED FLOOR. PROVIDE 2X2 PICKETS SPACED PER CBC 1013.3.
8. HANDRAILS PER CBC 1009.10 AND 1012. TOP OF HANDRAILS SHALL BE MOUNTED +34" ABOVE THE NOSING OF TREADS AND LANDINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF STAIRS AND EXTEND 12" BEYOND TOP AND BOTTOM RISERS. ENDS SHALL BE RETURNED OR SHALL TERMINATE IN NEWEL POSTS OR SAFETY TERMINALS. HANDGRIP PORTION OF HANDRAILS SHALL NOT BE LESS THAN 1-1/4" NOR MORE THAN 2" IN CROSS SECTIONAL DIMENSION
9. ATTIC VENTILATION CALCULATIONS: ATTIC AREA = 2157 SQ FT
   REQUIRED ATTIC VENTILATION =2157 / 300 = 7.19 SQ. FT. = 1035.36 SQ. IN.
   USE (2) 14" x 24" GABLE END VENT (OR EQUAL) (NFVA = 150) = 300 SQ. IN.
   USE (8) LOMANCO DORMER VENTS (NFVA = 78.8) = 630.40
   USE (10) 22"x3.5" UNDER EAVE VENTS (NFVA = 41) = 410 SQ. IN.
   VENTS OPENING INTO THE ATTIC OR SUBFLOOR IN EXTERIOR WALLS SHALL BE DESIGNED TO RESIST THE INTRUSION OF FLAME AND EMBERS, OR THE VENTS SHALL BE SCREENED WITH CORROSION-RESISTANT, NON-COMBUSTIBLE WIRE MESH. THE SIZE OF THE OPENINGS IN THE MESH SHALL BE A MINIMUM OF $\frac{1}{16}$TH INCH AND SHALL NOT EXCEED $\frac{1}{8}$TH INCH.
10. SLOPE AWAY FROM BUILDING 5% FOR 10'-0" MINIMUM (TYP)

SECTION CALLOUTS

1. COMPOSITION SHINGLE ROOFING OF MIN OF CLASS A OVER 30 LB MINIMUM ENGINEERED ROOF TRUSSES @ 24" O/C. MAX. SEE FRAMING PLAN
2. ALL ROOF PLY MUST HAVE RADIANT BARRIER
3. HARDIPLANK SIDING OVER APPROVED MOISTER BARRIER
4. 2X SOLID BLOCKING @ RIDGE (TYP)
5. 2 X 8 HEM FIR FASCIA (TYP) FIRE-RETARDANT-TREATED
6. 36" HIGH MIN. GUARD W/ 2" PICKETS @ 5" O/C. SEE DETAIL ___/___
7. FLOOR JOISTS PER PLAN
8. 6x6 POST PER PLAN
9. SLOPE AWAY FROM BUILDING 5% FOR 10'-0" MIN (TYP)

10. BUILDING INSULATION:

EXTERIOR WALL:	R-15 MINIMUM(TYP)
CEILING:	R-38 MINIMUM(TYP)
FLOOR:	R-30 MINIMUM(TYP)

13. INTERIOR FINISH MATERIAL:

WALLS:	1/2" GYPSUM BOARD
CEILING:	5/8" GYPSUM BOARD (GARAGE WALLS & CEILING USE 5/8" TYPE "X" BOARD AND FOR USABLE AREA UNDER STAIRS)

14. WALL FRAMING:

EXTERIOR WALLS:	2X4 STUD WALLS @ 16" O/C
INTERIOR WALLS:	2X4 STUD WALLS @ 16" O/C

15. HEADERS UNLESS OTHERWISE NOTED:

EXTERIOR BEARING:	6X12 D.F. #1 (U.O.N.)
EXTERIOR NON-BEARING:	6X12 D.F. #1 (U.O.N.)
INTERIOR BEARING:	4X12 D.F. #2 (U.O.N.)
INTERIOR NON-BEARING:	4X8 D.F. #2 (U.O.N.)

REAR ELEVATION

1/4" = 1'

FRONT ELEVATION

1/4" = 1'

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CAD DESIGN - AS BUILTS
RESIDENTIAL PLANS
610 10TH ST. SUITE "D"
PASO ROBLES, CA
93446
BUS.#(805)237-0850
FAX #(805)237-0480

PLAN PREPARED FOR:
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22507 H-STREET
SANTA MARGARITA, CA 93453

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FILE NAME A-3.1 ELEVATIONS.DWG

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ELEVATIONS

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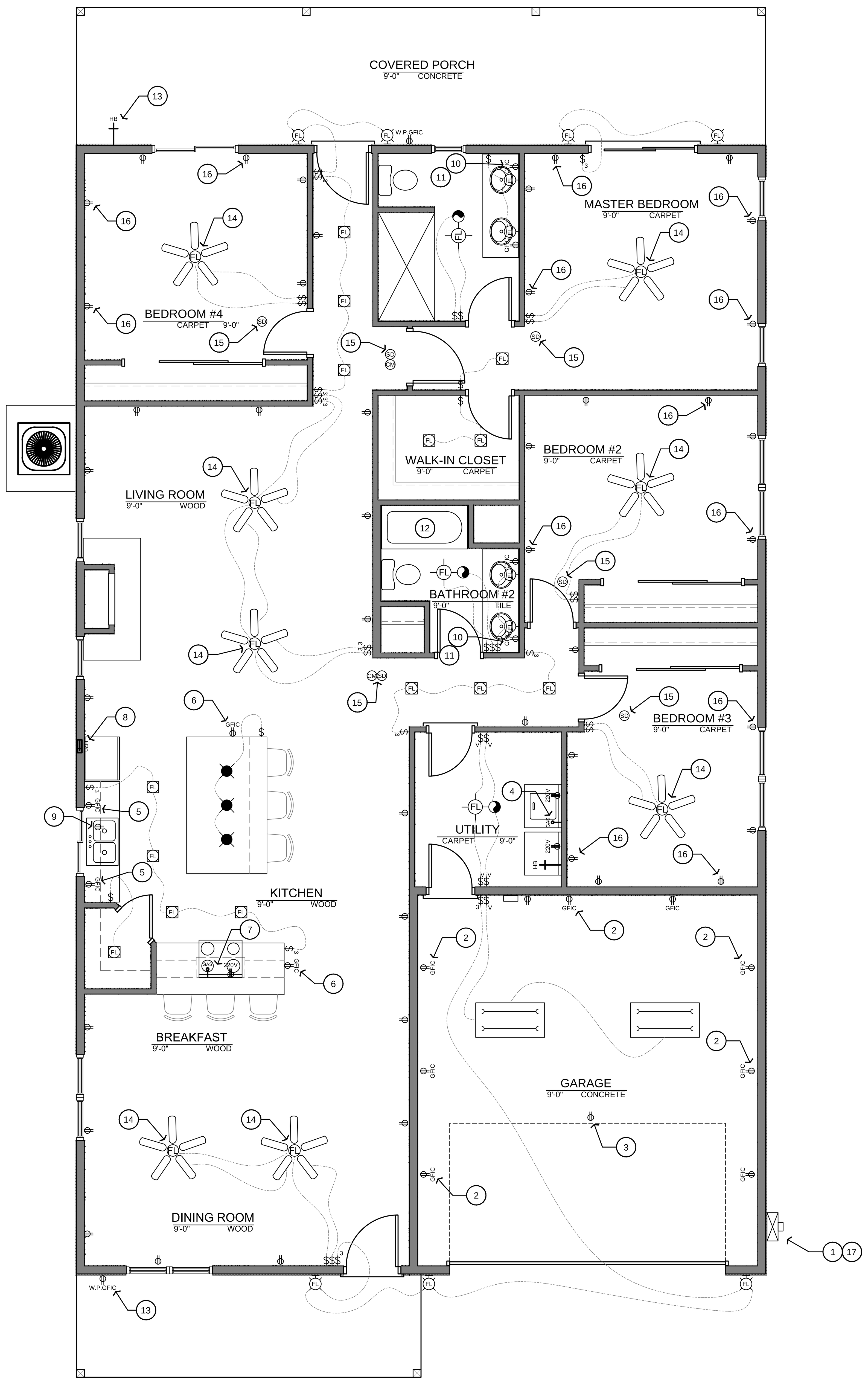


ELECTRICAL PLAN

1/4" = 1'

ELECTRICAL CALLOUTS

1. PROVIDE A 200 AMP MINIMUM ELECTRIC SUB-PANEL WITH #4 UPPER GROUND TO FOUNDATION
2. GFIC OUTLETS ON ALL ABOVE COUNTER OUTLETS IN GARAGE MOUNTED AT 44" ABOVE FINISH FLOOR (TYP)
3. CEILING MOUNTED OUTLET FOR GARAGE DOOR OPENER. PROVIDE AND INSTALL APPROVED GARAGE DOOR OPENER WITH REMOTE CONTROL
4. PROVIDE GAS, 220V OUTLET, AND 110V OUTLET TO WASHER AND DRYER
5. GFIC OUTLETS ON ALL ABOVE COUNTER OUTLETS IN KITCHEN MOUNTED AT +44"ABOVE FINISH FLOOR (TYP). OUTLETS SHALL BE LOCATED NO FARTHER THAN 24" AWAY FROM ANY POINT ALONG COUNTER AND ON ALL COUNTER AREAS WIDER THAN 12"
6. ON ANY PENINSULA, EATING BAR, OR ISLAND, GFIC OUTLETS SHALL BE LOCATED AT +27" ABOVE FINISH FLOOR AND SHALL BE LOCATED NO FARTHER THAN 24" AWAY FROM ANY POINT ALONG PENINSULA, EATING BAR OR ISLAND (TYP)
7. PROVIDE GAS, 220V OUTLET, AND 110V OUTLET TO STOVE, COOKTOP, AND/OR OVENS (TYP). ALSO PROVIDE ELECTRICAL FOR EXHAUST HOOD ABOVE COOKTOP (TYP)
8. PROVIDE 110V OUTLET AT +42" ABOVE FINISHED FLOOR AND WATER FOR ICE MAKER AT REFRIGERATOR
9. PROVIDE OUTLET AND SWITCH FOR DISPOSAL
10. GFIC OUTLETS ON ALL ABOVE COUNTER OUTLETS IN BATHROOMS MOUNTED AT 42" ABOVE FINISH FLOOR (TYP)
11. BATHROOM RECEPTACLES SHALL BE ON A SEPARATE 20AMP CIRCUIT WITH NO OTHER OUTLETS. BOTH OUTLETS MAY BE ON THE SAME CIRCUIT. 1996 NEC 210-52 (D)
12. PENDENT LIGHTS, CEILING FANS & TRACK LIGHTING ARE PROHIBITED IN THE AREA ABOVE BATHTUBS.
13. WATER-PROOF GFIC OUTLETS AT 18" ABOVE FINISH FLOOR IN FRONT AND REAR OF BUILDING (TYP).
14. PROVIDE BLOCKING AT CEILING FAN AND LIGHTS. PROVIDE SEPARATE SWITCH FOR LIGHTS & FAN. USE AN APPROVED ELECTRICAL BOX DESIGNED TO SUPPORT CEILING FAN. CEILING FANS WEIGHING IN EXCESS OF 35 POUNDS SHALL BE SUPPORTED AS REQUIRED BY SEC 370-23. 422-18.
15. APPROVED SMOKE DETECTOR INSTALLED AS REQUIRED AND AS INDICATED. SMOKE DETECTOR SHALL BE HARDWIRED WITH BATTERY BACK-UP.
16. ALL 120-VOLT, 15- AND 20-AMPERE BRANCH CIRCUITS SUPPYLING OUTLETS IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, BEDROOMS, KITCHENS, SUNROOMS, RECREATION ROOM, CLOSETS, HALLWAYS, PARLORS, LIBRARIES OR OTHER SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE DEVICE.
17. PROVIDE SCHEDULE 40 PVC CONDUIT FROM THE LOAD SIDE OF THE NEW ELECTRICAL PANEL DISCONNECT TO ATTIC AREA. CONDUIT SIZE SHALL BE AS FOLLOWS:
    - 100A 20 AMPS @ 120 VOLTS (1) ¾" CONDUIT
    - 120A 24 AMPS @ 120 VOLTS (1) ¾" CONDUIT
    - 150A 30 AMPS @ 120 VOLTS (1) ¾" CONDUIT
    - 200A 40 AMPS @ 120 VOLTS (1) 1" CONDUIT
    - 400A 80 AMPS @ 120 VOLTS (1) 1¼" CONDUIT

LIGHTING NOTES

FOR RESIDENTIAL BUILDINGS AND SPACES, ALL OF THE LIGHTING REQUIREMENTS ARE MANDATORY MEASURES. THERE ARE NO TRADEOFFS BETWEEN LIGHTING AND OTHER BUILDING FEATURES AND LIGHTING IS NOT PART OF ANY COMPONENT PACKAGE UNDER THE PRESCRIPTIVE METHOD. THE RESIDENTIAL LIGHTING ENERGY STANDARDS APPLY ONLY TO PERMANENTLY INSTALLED LUMINAIRES, INCLUDING LUMINAIRES WITH EASILY INTERCHANGEABLE LAMPS, BUT DO NOT APPLY TO PORTABLE LUMINAIRES SUCH AS TABLE LAMPS OR FREESTANDING FLOOR LAMPS. ALL SECTION (§) AND TABLE REFERENCES IN THIS CHAPTER REFER TO SECTIONS AND TABLES CONTAINED IN TITLE 24 CALIFORNIA CODE OF REGULATIONS, PART 6, ALSO KNOWN AS THE ENERGY STANDARDS OR CALIFORNIA ENERGY CODE.

THE NEW REQUIREMENTS MAY BE SUMMARIZED AS FOLLOWS:
THE 2016 ENERGY STANDARDS HAVE SIMPLIFIED THE RESIDENTIAL LIGHTING REQUIREMENTS THROUGH THE FOLLOWING IMPORTANT CHANGES:

- ALL LUMINAIRES INSTALLED IN RESIDENTIAL CONSTRUCTION MUST QUALIFY AS "HIGH EFFICACy LUMINAIRES." THIS ELIMINATES VARYING REQUIREMENTS BY ROOM AND TYPE OF CONTROLS. THIS ALSO ELIMINATES THE NEED TO CALCULATE THE WATTAGE OF LOW VERSUS HIGH EFFICACY LUMINAIRES IN THE KITCHEN.
- THE DEFINITION OF "HIGH EFFICACY LUMINAIRES" HAS BEEN EXPANDED. IT INCLUDES THE LIGHT SOURCES IDENTIFIED AS EFFICIENT IN 2013 (LINEAR FLUORESCENT, PIN BASED COMPACT FLUORESCENT, GU-24 BASE CFL, HID, AND INDUCTION LIGHTING), AND NOW ALSO INCLUDES ANY LUMINAIRE THAT CONTAINS A JA8 COMPLIANT LAMP OR OTHER LIGHT SOURCE THAT IS APPROPRIATELY MARKED. JA8 CONTAINS REQUIREMENTS THAT ENSURE THAT LIGHT SOURCES, INCLUDING LAMPS AND LUMINAIRES, PROVIDE SUFFICIENT COLOR QUALITY, LIFE, AND ENERGY EFFICIENCY. TABLE 150.0-A OF §150.0 CONTAINS THE DEFINITION.
- ALL PERMANENTLY INSTALLED LUMINAIRES WITH INTERCHANGEABLE LAMPS MUST CONTAIN LAMPS THAT COMPLY WITH THE REQUIREMENTS OF JOINT APPENDIX 8 (JA8) AND BE APPROPRIATELY MARKED TO BE CONSIDERED "HIGH EFFICACY LUMINAIRES."
- THE MARKING "JA8-2016" IS REQUIRED FOR COMPLIANCE AND SHALL ONLY BE USED ON LAMPS THAT MEET THE REQUIREMENTS OF JOINT APPENDIX 8 AND ARE LISTED IN THE ENERGY COMMISSION JA8 DATABASE.
- THE MARKING "JA8-2016-E" INDICATES THAT IN ADDITION TO THE REQUIREMENTS ABOVE FOR A JA8-2016 LIGHT SOURCE, THE LIGHT SOURCE HAS BEEN TESTED TO PROVIDE LONG LIFE AT ELEVATED TEMPERATURES. LIGHT SOURCES MUST BE MARKED "JA 8-2016-E" IF THEY ARE TO BE USED IN ENCLOSED OR RECESSED LUMINAIRES.
- RECESSED DOWNLIGHT LUMINAIRES AND ENCLOSED LUMINAIRES ARE REQUIRED TO CONTAIN A JA8 COMPLIANT LAMP THAT MEETS THE ELEVATED TEMPERATURE REQUIREMENT. RECESSED DOWNLIGHT LUMINAIRES WITH SCREW BASED SOCKETS ARE NO LONGER PERMITTED TO BE INSTALLED.
- THE BUILDER MUST PROVIDE THE NEW HOMEOWNER WITH A LUMINAIRE SCHEDULE (AS REQUIRED IN TITLE 24 CALIFORNIA CODE OF REGULATIONS, PART 1, §10-103(B)) THAT INCLUDES A LIST OF LAMPS INSTALLED IN THE LUMINARIES SO THAT THE HOMEOWNER KNOWS WHAT LIGHT SOURCES THEY ARE ENTITLED TO WHEN THEY TAKE POSSESSION OF THE NEW HOME.
- INSPECTIONS FOR LIGHTING ARE MORE STRAIGHTFORWARD AS ALL LUMINARIES HAVE A HIGH EFFICACY LIGHT SOURCE AND THERE IS A COMPLETED LUMINAIRE SCHEDULE FOR THE INSPECTOR TO REVIEW.

IN ADDITION TO THESE CHANGES, THE 2016 ENERGY STANDARDS INCLUDE MINOR MODIFICATIONS TO THE LIGHTING CONTROLS REQUIREMENTS TO MAINTAIN CONSISTENCY WITH THE REQUIREMENTS FOR DIMMERS AND/OR VACANCY SENSORS.

6.2 INDOOR LUMINAIRE REQUIREMENTS - ALL HIGH EFFICACY

A "LUMINAIRE" IS THE LIGHTING INDUSTRY'S TERM FOR A LIGHT FIXTURE, AND IS DEFINED BY §100.1 AS A COMPLETE LIGHTING UNIT CONSISTING OF A LIGHT SOURCE SUCH AS A LAMP OR LAMPS, TOGETHER WITH THE PARTS THAT DISTRIBUTE THE LIGHT, POSITION AND PROTECT THE LIGHT SOURCE AND CONNECT IT TO THE POWER SUPPLY. A "LAMP" IS THE LIGHTING INDUSTRY'S TERM FOR A LIGHT BULB OR SIMILAR SEPARABLE LIGHTING COMPONENT, AND IS DEFINED BY §100.1 AS AN ELECTRICAL APPLIANCE THAT PRODUCES OPTICAL RADIATION FOR THE PURPOSE OF VISUAL ILLUMINATION, DESIGNED WITH A BASE TO PROVIDE AN ELECTRICAL CONNECTION BETWEEN THE LAMP AND A LUMINAIRE, AND DESIGNED TO BE INSTALLED INTO A LUMINAIRE BY MEANS OF A LAMP-HOLDER INTEGRAL TO THE LUMINAIRE.

THE 2016 ENERGY STANDARDS REQUIRE ALL PERMANENTLY INSTALLED LUMINAIRES TO BE "HIGH EFFICACY," AS SPECIFIED IN §150.0(K). PERMANENTLY INSTALLED LIGHTING IS DEFINED IN §100.1 AND EXAMPLES OF PERMANENTLY INSTALLED LIGHTING INCLUDE:

- LIGHTING ATTACHED TO WALLS, CEILINGS, OR COLUMNS.
- TRACK AND FLEXIBLE LIGHTING SYSTEMS.
- LIGHTING INSIDE PERMANENTLY INSTALLED CABINETS.
- LIGHTING ATTACHED TO THE TOP OR BOTTOM OF PERMANENTLY INSTALLED CABINETS.
- LIGHTING ATTACHED TO CEILING FANS.
- LIGHTING INTEGRAL TO EXHAUST FANS.
- LIGHTING THAT IS INTEGRAL TO GARAGE DOOR OPENERS IF IT IS DESIGNED TO BE USED AS GENERAL LIGHTING, IS SWITCHED INDEPENDENTLY FROM THE GARAGE DOOR OPENER, AND DOES NOT AUTOMATICALLY TURN OFF AFTER A PRE-DETERMINED AMOUNT OF TIME.

THE FOLLOWING ARE EXAMPLES OF WHAT ARE NOT CONSIDERED TO BE PERMANENTLY INSTALLED LIGHTING:

- PORTABLE LIGHTING AS DEFINED BY §100.1 (INCLUDING, BUT NOT LIMITED TO, TABLE AND FREESTANDING FLOOR LAMPS WITH PLUG-IN CONNECTIONS).
- LIGHTING INSTALLED BY THE MANUFACTURER IN REFRIGERATORS, STOVES, MICROWAVE OVENS, EXHAUST HOODS FOR COOKING EQUIPMENT, REFRIGERATED CASES, VENDING MACHINES, FOOD PREPARATION EQUIPMENT, AND SCIENTIFIC AND INDUSTRIAL EQUIPMENT.
- LIGHTING IN GARAGE DOOR OPENERS WHICH CONSISTS OF NO MORE THAN TWO SCREW-BASED SOCKETS INTEGRATED INTO THE GARAGE DOOR OPENER BY THE MANUFACTURER, WHERE THE LIGHTS AUTOMATICALLY TURN ON WHEN THE GARAGE DOOR IS ACTIVATED, AND AUTOMATICALLY TURN OFF AFTER A PRE-DETERMINED AMOUNT OF TIME.

6.2.1 HIGH EFFICACY LUMINAIRES

"EFFICACY" IS A TERM USED IN THE LIGHTING INDUSTRY TO DESCRIBE THE OVERALL EFFECTIVENESS OF A LAMP OR LUMINAIRE, INCLUDING ITS ENERGY EFFICIENCY (EXPRESSED AS LUMENS/WATT). IN ORDER TO SIMPLIFY THE RESIDENTIAL LIGHTING REQUIREMENTS, THE ENERGY STANDARDS DEFINE CERTAIN LUMINAIRE TYPES AS "HIGH EFFICACY," MEANING THAT THEY POSSESS A HIGH LUMENS PER WATT EFFICIENCY AND DO NOT HAVE ANY ATTRIBUTES THAT WOULD MAKE THE LIGHT LESS EFFECTIVE OR LESS SUITABLE FOR RESIDENTIAL ILLUMINATION.

AS NOTED ABOVE, THE 2016 ENERGY STANDARDS REQUIRE THAT ALL PERMANENTLY INSTALLED RESIDENTIAL LUMINAIRES MUST BE HIGH EFFICACY. HOWEVER, THE TYPES OF LUMINAIRES THAT CAN BE CONSIDERED HIGH EFFICACY HAVE ALSO BEEN REDEFINED.

CERTAIN TYPES OF LIGHT SOURCES ARE AUTOMATICALLY CLASSIFIED AS HIGH EFFICACY, UNLESS THEY ARE IN RECESSED DOWNLIGHT LUMINAIRES. LUMINAIRES IN ANY OF THE FOLLOWING CATEGORIES ARE AUTOMATICALLY CLASSIFIED AS HIGH EFFICACY:

- PIN-BASED LINEAR FLUORESCENT LUMINAIRES USING ELECTRONIC BALLASTS.
- PIN-BASED COMPACT FLUORESCENT LUMINAIRES USING ELECTRONIC BALLASTS.
- PULSE-START METAL HALIDE LUMINAIRES.
- HIGH PRESSURE SODIUM LUMINAIRES.
- LUMINAIRES WITH GU-24 SOCKETS OTHER THAN LEDS.
- LUMINAIRES WITH HARDWIRED HIGH FREQUENCY GENERATOR AND INDUCTION LAMP.
- INSEPARABLE SSL LUMINAIRES INSTALLED OUTDOORS.
- INSEPARABLE SSL LUMINARIES WITH COLORED LIGHT SOURCES FOR DECORATIVE LIGHTING PURPOSE.

THE LUMINAIRE TYPES LISTED HERE ARE THE ONLY TYPES THAT ARE AUTOMATICALLY CLASSIFIED AS HIGH EFFICACY. ALL OTHER LUMINAIRE TYPES MUST HAVE A LIGHT SOURCE OR LAMP INSTALLED IN THEM AT THE TIME OF INSPECTION THAT MEETS THE REQUIREMENTS OF REFERENCE JOINT APPENDIX JA8.
NOTE: LUMINAIRES DO NOT NEED TO BE SHIPPED BY MANUFACTURERS WITH A JA8 SOURCE INSTALLED.

6.2.1.2 **HIGH EFFICACY LIGHTING**

LUMINAIRES NOT LISTED IN THE PREVIOUS SECTION MUST HAVE AN INTEGRAL LIGHT SOURCE OR REMOVABLE LAMP THAT MEETS THE PERFORMANCE REQUIREMENTS OF REFERENCE JOINT APPENDIX JA8. THE REQUIREMENTS IN JA8 ARE DESIGNED TO ENSURE THAT NEW LIGHTING TECHNOLOGIES LIKE LED PROVIDE ENERGY EFFICIENT LIGHT, WHILE ALSO MAINTAINING PERFORMANCE CHARACTERISTICS THAT RESIDENTIAL CUSTOMERS EXPECT. IN ADDITION TO SETTING MINIMUM EFFICACY REQUIREMENTS, JA8 ESTABLISHES PERFORMANCE REQUIREMENTS THAT ENSURE ACCURATE COLOR RENDITION, DIMMABILITY, AND REDUCED NOISE AND FLICKER DURING OPERATION.

LUMINAIRES WITH INTEGRAL SOURCES, SUCH AS LED LUMINAIRES, MUST BE CERTIFIED BY THE ENERGY COMMISSION AS MEETING THE REQUIREMENTS OF JA8. LUMINAIRES THAT HAVE CHANGEABLE LAMPS (SUCH AS SCREW BASE LUMINAIRES) MUST BE INSTALLED WITH LAMPS THAT HAVE BEEN CERTIFIED BY THE ENERGY COMMISSION AS MEETING THE REQUIREMENTS OF JA8. LUMINAIRES AND LAMPS THAT HAVE BEEN CERTIFIED BY THE ENERGY COMMISSION MUST BE MARKED WITH "JA8-2016" OR "JA8-2016-E" ON THE PRODUCT ITSELF. THE "JA8-2016-E" MARKING INDICATES THAT THE PRODUCT MEETS THE ELEVATED TEMPERATURE REQUIREMENT OF REFERENCE JOINT APPENDIX JA8 AND IS SUITABLE FOR ELEVATED TEMPERATURE APPLICATIONS SUCH AS ENCLOSED AND RECESSED FIXTURES.

EXAMPLES OF LUMINAIRES THAT CAN BE CLASSIFIED AS HIGH EFFICACY BY MEETING THE REQUIREMENTS OF JA8 INCLUDE:

- LED LUMINAIRES WITH INTEGRAL LIGHT SOURCES THAT ARE CERTIFIED TO THE ENERGY COMMISSION
- SCREW-BASED LUMINAIRES WITH JA8-CERTIFIED LAMPS
- LOW-VOLTAGE PIN-BASED LUMINAIRES WITH JA8-CERTIFIED LAMPS

IN SHORT, ALMOST ANY LUMINAIRE CAN BE CLASSIFIED AS HIGH EFFICACY, AS LONG AS THE LUMINAIRE IS INSTALLED WITH A JA8 COMPLIANT LAMP. THE EXCEPTION IS RECESSED DOWNLIGHT LUMINAIRES IN CEILINGS, WHICH MUST MEET ADDITIONAL REQUIREMENTS.

*** ALL AREAS SPECIFIED IN 210.52. ALL 125-VOLT, 15-AND 20- AMPERE RECEPTACLES C=SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES ***

TABLE 6-1: SUMMARY OF COMPLIANT LUMINAIRE TYPES

HIGH EFFICACY LUMINAIRES*	JA8 HIGH EFFICACY LIGHTING - LAMPS AND LIGHT SOURCES THAT MUST BE JA8-CERTIFIED	*RECESSED DOWNLIGHT LUMINAIRES IN CEILINGS
• PIN-BASED LINEAR FLUORESCENT • PIN-BASED COMPACT FLUORESCENT • PULSE-START METAL HALIDE • HIGH PRESSURE SODIUM • GU-24 OTHER THAN LEDS • INSEPARABLE SSL LUMINAIRES • INSTALLED OUTDOORS • INSEPARABLE SSL LUMINAIRES WITH COLORED LIGHT SOURCES FOR DECORATIVE LIGHTING PURPOSE	• LIGHT SOURCES IN CEILING RECESSED DOWNLIGHT LUMINAIRES.* • LED LUMINAIRES WITH INTEGRAL SOURCES • SCREW-BASED LED LAMPS (A-LAMPS, PAR LAMPS, ETC.) • PIN-BASED LED LAMPS (MR-16, AR-111, ETC.) • GU-24 BASED LED LIGHT SOURCE • ANY SOURCE OR LUMINAIRE NOT LISTED ELSEWHERE ON THIS TABLE	• SHALL NOT HAVE SCREW BASED SOCKETS • SHALL CONTAIN JA8-CERTIFIED LIGHT SOURCES • SHALL MEET ALL PERFORMANCE REQUIREMENTS IN §150.0(K)1C

LEGEND

- CEILING MOUNTED EXHAUST FAN TO EXTERIOR
- PHONE
- CATV
- 115 V DUPLEX RECEPTACLE @ +18" AFF. U.O.N.
- 115 V GFIC DUPLEX RECEPTACLE
- 115 V WATER PROOF GFIC OUTLET
- 115 V ARCH FAULT CIRCUIT INTERRUPTER OUTLET
- 3-WAY SWITCH
- 4- WAY SWITCH
- SINGLE POLE SWITCH
- SWITCH w/ DIMMER CONTROL
- SWITCH w/ OCCUPANT SENSOR
- SMOKE DETECTOR, HARD-WIRED TOGETHER
- GAS STUB (SIZE AS REQ'D)
- ELECTRIC SUB-PANEL
- FAN
- HOSE BIB
- FLOOD LIGHT
- RECESSED CAN LIGHT FIXTURE, FLUORESCENT
- RECESSED CAN LIGHT FIXTURE, STD RECESSED
- WALL MOUNTED LIGHT FIXTURE
- WALL MOUNTED EXTERIOR FIXTURE, DOWNCAST
- CEILING MOUNTED PENDANT FIXTURE
- CEILING MOUNTED LIGHT FIXTURE
- CEILING MOUNTED FAN w/ LIGHT FIXTURE PROVIDE SEPARATE SWITCH FOR FAN & LIGHT
- FLUORESCENT BAR LIGHT
- CARBON MONOXIDE DETECTOR
- EMERGENCY LIGHT
- EXIT SIGN
- 2X4 FLUORESCENT LIGHT

DRAFTING & DESIGN
CAD DESIGN - AS BUILTS
RESIDENTIAL PLANS
610 10TH ST. SUITE "D"
PASO ROBLES, CA
93446
BUS.#(805)237-0850
FAX #(805)237-0480

PLAN PREPARED FOR:
RCH CONSTRUCTION
22507 H-STREET
SANTA MARGARITA, CA 93453

REVISION LOG

REV.	DESCRIPTION	DATE

PROJECT NO. ----
FILE NAME E-1.1 ELECTRICAL PLAN.DWG
DRAWN BY JMB II C.D.
DATE 7/23/2018 9:45 AM

SHEET TITLE:
ELECTRICAL PLAN

SHEET NUMBER:
E-1.1

2016 CAL GREEN BUILDING STANDARD CODES: RESIDENTIAL MANDATORY MEASURES

SITE DEVELOPEMENT:

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.

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.

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 FOLLOWING:

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 WATER SENSE 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 URINALS SHALL NOT EXCEED 0.5 GALLONS PER FLUSH.

4.303.1.3 SHOWERHEADS:

4.303.1.3.1 SINGLE SHOWERHEAD. SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 2.0 GALLONS PER MINUTE AT 80 PSI. SHOWERHEADS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATER SENSE 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 SHOWERHEADS AND/OR OTHER SHOWER OUTLETS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED 2.0 GALLONS PER MINUTE AT 80 PSI, OR THE SHOWER SHALL BE DESIGNED TO ALLOW ONLY 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 0.25 GALLONS PER CYCLE.

4.303.1.4.4 KITCHEN FAUCETS. THE MAXIMUM FLOW RATE OF KITCHEN FAUCETS SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTE AT 60 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI. NOTE: WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION.

4.303.2 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. PLUMBING FIXTURES AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE, AND SHALL MEET THE APPLICABLE STANDARDS REFERENCED IN TABLE 1401.1 OF THE CALIFORNIA PLUMBING CODE. SEC"NON 4.304

OUTDOOR WATER USE:

4.304.1 IRRIGATION CONTROLLERS. AUTOMATIC IRRIGATION SYSTEM CONTROLLERS FOR LANDSCAPING PROVIDED BY THE BUILDER AND INSTALLED AT THE TIME OF FINAL INSPECTION SHALL COMPLY WITH THE FOLLOWING:

1. CONTROLLERS SHALL BE WEATHER- OR SOIL MOISTURE-BASED CONTROLLERS THAT AUTOMATICALLY ADJUST IRRIGATION IN RESPONSE TO CHANGES IN PLANTS' NEEDS AS WEATHER CONDITIONS CHANGE.
2. WEATHER-BASED CONTROLLERS WITHOUT INTEGRAL RAIN SENSORS OR COMMUNICATION SYSTEMS THAT ACCOUNT FOR LOCAL RAINFALL SHALL HAVE A SEPARATE WIRED OR WIRELESS RAIN SENSOR WHICH CONNECTS OR COMMUNICATES WITH THE CONTROLLER(S). SOIL MOISTURE-BASED CONTROLLERS ARE NOT REQUIRED TO HAVE RAIN SENSOR INPUT.

NOTE: MORE INFORMATION REGARDING IRRIGATION CONTROLLER FUNCTION AND SPECIFICATIONS IS AVAILABLE FROM THE IRRIGATION ASSOCIATION.

ENHANCED DURABILITY AND REDUCED MAINTENANCE:

4.406.1 RODENT PROOFING. ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS OR OTHER OPENINGS IN-SOLEBOTTOM 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.

CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING:

4.408.1 CONSTRUCTION WASTE MANAGEMENT. RECYCLE AND/OR SALVAGE FOR REUSE A MINIMUM OF 75 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 JOB-SITES ARE LOCATED IN AREAS BEYOND THE HAUL BOUNDARIES OF THE DI VERSION 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 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. 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 75 PERCENT CONSTRUCTION WASTE REDUCTION REQUIREMENT IN SECTION 4.408.1.

4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. [HR] PROJECTS THAT GENERATE A TOTAL COMBINED WEIGHT OF CONSTRUCTION AND DEMOLITION WASTE DISPOSED OF IN LANDFILLS, WHICH DO NOT EXCEED TWO (2) POUNDS PER SQUARE FOOT OF THE BUILDING AREA, SHALL MEET THE MINIMUM 75-PERCENT 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).

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, HV AC SYSTEMS, 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 INSPECTION VERIFICATIONS REQUIRED BY THE ENFORCING AGENCY OR THIS CODE. FIREPLACES

4.503.1 GENERAL. ANY INSTALLED GAS FIREPLACE SHALL BE A DIRECT-VENT SEALED-COMBUSTION TYPE. ANY INSTALLED WOOD-STOVE OR PELLET STOVE SHALL COMPLY WITH U.S. EPA PHASE II EMISSION LIMITS WHERE APPLICABLE. WOOD-STOVES, PELLET STOVES AND FIREPLACES SHALL ALSO COMPLY WITH APPLICABLE LOCAL ORDINANCES.

SECTION 4.504 POLLUTANT CONTROL:

4.504.1 COVERING OF DUCT OPENINGS AND 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 AND 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, SEALANTS AND CAULKS USED ON THE PROJECT SHALL MEET THE REQUIREMENTS OF THE FOLLOWING STANDARDS UNLESS MORE STRIN-GENT 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 QUALITYMANAGEMENT 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 LOCALLIMITS 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 4.3 7 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)(3) AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS AND OZONE DEPLETING SUBSTANCES, IN SECTIONS 94522(C)(2) AND (D)(2) OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94520; AND IN AREAS UNDER THE JURISDICTION OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT ADDITIONALLY COMPLY WITH THE PERCENT VOC BY WEIGHT OF PRODUCT LIMITS OF REGULATION 8, RULE 49.

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.

4.504.3 CARPET SYSTEMS. ALL CARPET INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE TESTING AND PRODUCT REQUIREMENTS OF 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 U SING 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. WHERE RESILIENT FLOORING IS I I INSTALLED, AT LEAST 80 PERCENT OF FLOOR AREA RECEIVING RESILIENT FLOORING SHALL COMPLY WITH ONE OR MORE OF THE FOLLOWING:

1. VOC EMISSION LIMITS DEFINED IN THE COLLABORATIVE FOR HIGH PERLORMANCE SCHOOLS (CHPS) HIGH PERLORMANCE PRODUCTS DATABASE.
2. PRODUCTS COMPLIANT WITH CHPS CRITERIA CERTIFIED UNDER THE GREENGUARD CHILDREN & SCHOOLS PROGRAM.
3. CERTIFICATION UNDER THE RESILIENT FLOOR COVERING INSTITUTE (RFCI) FLOORSCORE PROGRAM.
4. MEET THE CALIFOMIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES U SING ENVIRONMENTAL CHAMBERS," VERSION 1.1, FEBRUARY 2010 (ALSO KNOWN AS SPECIFICATION 01350).

4.504.5 COMPOSITE WOOD PRODUCTS. HARDWOOD PLYWOOD, PARTICLEBOARD AND MEDIUM DENSITY FIBERBOARD COMPOSITE WOOD PRODUCTS USED ON THE INTERIOR OR EXTERIOR OF THE BUILDING SHAH 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 ASINZS 2269 OR EUROPEAN 636 3S STANDARDS.
5. OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY. SECTION 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 THE 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-THICK (101.6 RNRN) BASE OF L/ZINCH (12.7 MM) OR LARGER CLEAN AGGREGATE SHALL BE PROVIDED WITH A VAPOR RETARDER 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 TO BE 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.

SECTION 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 OF:C:; 50 PERCENT TO A MAXIMUM OF 80 PERCENT. 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.

SECTION 4.507 ENVIRONMENTAL COMFORT: I I 4.507.1 RESERVED

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: 30

1. THE HEAT LOSS AND HEAT GAIN IS ESTABLISHED ACCORDING TO ANSI! ACCA 2 MANUAL J-2004 (RESIDENTIAL LOAD CALCULATION), ASHRAE HANDBOOKS OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS.
2. DUCT SYSTEMS ARE SIZED ACCORDING TO ANSI! ACCA 1 MANUAL D-2009 (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-2004 (RESIDENTIAL EQUIPMENT SELECTION) OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS.
   EXCEPTION: USE OF ALTERNATE DESIGN TEMPERATURES NECESSARY TO ENSURE THE SYSTEMS FUNCTION ARE ACCEPTABLE.

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 adhesive	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50
Drywall and panel adhesives	50
Cove base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single-ply roof membrane adhesives	250
Other adhesives not specifically listed	50
SPECIALTY APPLICATIONS	
PVC welding	510
CPVC welding	490
ABS welding	325
Plastic cement welding	250
Adhesive primer for plastic	550
Contact adhesive	80
Special purpose contact adhesive	250
Structural wood member adhesive	140
Top and 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 Nonporous Porous	 250 775
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 and Less Exempt Compounds

COATING CATEGORY	VOC LIMIT
Flat coatings	50
Nonflat coatings	100
Nonflat-high gloss coatings	150
SPECIALTY COATINGS	
Aluminum roof coatings	400
Basement specialty coatings	400
Bituminous roof coatings	50
Bituminous roof primers	350
Bond breakers	350
Concrete curing compounds	350
Concrete/masonry sealers	100
Driveway sealers	50
Dry fog coatings	150
Faux finishing coatings	350
Fire resistive coatings	350
Floor coatings	100
Form-release compounds	250
Graphic arts coatings (sign paints)	500
High temperature coatings	420
Industrial maintenance coatings	250
Low solids coatings^1	120
Magnesite cement coatings	450
Mastic texture coatings	100
Metallic pigmented coatings	500
Multicolor coatings	250
Pretreatment wash primers	420
Primers, sealers, and undercoaters	100
Reactive penetrating sealers	350
Recycled coatings	250
Roof coatings	50
Rust preventative coatings	250
Shellacs Clear Opaque	 730 550
Specialty primers, sealers and undercoaters	100
Stains	250
Stone consolidants	450
Swimming pool coatings	340
Traffic marking coatings	100
Tub and 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 and including 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, February 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
Particleboard	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 California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E1333. For additional information, see *California Code of Regulations*, Title 17, Sections 93120 through 93120.12.
2. Thin medium density fiberboard has a maximum thickness of $^{5}/_{16}$ inch (8 mm).

SLO CO 19.08.040 GREEN BUILDING STANDARDS

C. HOME ENERGY RATING
  1. ALTERATIONS OR ADDITIONS WITH A CONSTRUCTION VALUE OVER $10,000.00 SHALL HAVE A HOME ENERGY RATING OR BPI ENERGY AUDIT AT CONSTRUCTION COMPLETION, AND THE INITIAL ENERGY AUDIT SHALL BE COMPLETED PRIOR TO PERMIT ISSUANCE.
  2. A COPY OF THE HOME ENERGY RATINGS/ENERGY AUDIT WILL BE GIVEN TO THE BUILDING DIVISION AND FILED PRIOR TO FINAL INSPECTION FOR PUBLIC ACCESS.
  3. RATING SHALL BE COMPLETED BY A CERTIFIED HERS RATER, CERTIFIED BPI ENERGY OR AS DETERMINED BY THE JURISDICTION. THE RATING SHALL BE VALID FOR 5 YEARS.

D. NEW HOMES 2,500 SF OR LESS, SHALL SUBMIT A GREEN BUILDING CHECKLIST ON THE BUILDING PLANS (NO ADDITIONAL THIRD PARTY INSPECTION IS REQUIRED FOR SECTION 19.08.040 C, VERIFICATION OF THESE REQUIREMENTS SHALL BE COMPLETED BY THE COUNTY PLANNING AND BUILDING DEPARTMENT)

E. NEW HOMES GREATER THAN 2,500 SF SHALL PROVIDE THIRD PARTY VERIFIED. VERFIFICATION SHALL INCLUDE ONE OF THE FOLLOWING:
  1. GREEN POINT RATED WITH 75 POINTS MINIMUM; OR
  2. LEED FOR HOMES “CERTIFIED”.

THE PROJECT SHALL INCLUDE THE ABOVE PROGRAM'S PREREQUISITES EXCEPT IN REGARDS TO ENERGY EFFICIENCY; THE PROJECT IS NOT REQUIRED TO EXCEED CURRENT TITLE 24 PART 6 ENERGY REQUIREMENTS AS A PART OF THE ABOVE CHECKLISTS. EXCEEDING CURRENT TITLE 24 PART 6 ENERGY REQUIREMENTS IS VOLUNTARY AND NOT A REQUIREMENT OF THIS CODE.

AN APPROVED THIRD PARTY VERIFIER SHALL BE NOTED ON THE PLANS PRIOR TO PERMIT ISSUANCE.

F. INDOOR WATER: FOR ALTERATIONS OR ADDITIONS WITH A VALUATION OVER $10,000.00: ANY EXISTING FIXTURES THAT EXCEED THE THRESHOLDS IN THE WATER USE BASELINE TABLE BELOW SHALL BE BROUGHT UP TO CAL GREEN MANDATORY REQUIREMENTS

Fixture Type	Maximum Flow Rate
Showerheads	2.0 gpm @ 80 psi
Lavatory faucets nonresidential	0.5 gpm @ 60 psi
Lavatory faucets residential	1.2 gpm @ 60 psi
Kitchen faucets	1.8 gpm @ 60 psi
Water Closets	1.28 gallons/flush
Urinals	0.5 gallons/flush

G. HOT WATER RECIRCULATING SYSTEMS: FOR NEW CONSTRUCTION OR WHEN ALTERATIONS OR ADDITIONS EXCEED 50% OF HABITABLE SPACE, AN ON-DEMAND RECIRCULATING SYSTEM SHALL BE INSTALLED.

H. OUTDOOR FIREPLACES AND SPACE HEATERS CONNECTED TO NATURAL GAS, PROPANE OR ELECTRICITY. ALL OUTDOOR NON-RENEWABLE SOURCES OF HEAT SHALL BE ON MECHANICAL TIMERS WITH A MAXIMUM OF 4 HOURS’ TIME LIMIT. EXCEPTION: PORTABLE PROPANE HEATERS WITH TANKS 5 GALLONS OR LESS.

I. OUTDOOR WATER: NEW CONSTRUCTION SHALL COMPLY WITH CAL GREEN TIER 1 FOR OUTDOOR WATER REQUIREMENTS.

J. RENEWABLE ENERGY

1. **NEW CONSTRUCTION**: PLANS SHALL IDENTIFY A CONDUIT SYSTEM FROM THE MAIN ELECTRICAL PANEL TO AN ACCESSIBLE LOCATION. LOCATION MAY BE EITHER ATTIC SPACE, ROOF STRUCTURE, OR AN AREA ONSITE DESIGNATED FOR FUTURE RENEWABLE ENERGY GENERATION TO ACCOMMODATE A POINT OF CONNECTION ON THE LOAD SIDE OF THE ELECTRICAL SERVICE DISCONNECTING MEANS. THE CONDUIT SYSTEM SHALL BE SIZED PER TABLE 19.08.040(H)(1). THE COUNTY RECOGNIZES THERE ARE MULTIPLE SERVICE CONFIGURATIONS AND OPTIONS CURRENTLY AVAILABLE. SERVICE OPTIONS NOT LISTED IN TABLE 19.08.040(H)(1) SHALL DEFAULT TO CEC ARTICLE 690 AND 705 REQUIREMENTS, WHERE CONDUIT SHALL BE SIZED TO ACCOMMODATE A BRANCH CIRCUIT SIZED AT 20% OF THE RATING OF THE RENEWABLE ENERGY CONNECTIONS INSTALLED ON THE SUPPLY OF THE SERVICE DISCONNECTING MEANS ARE PERMITTED AS ALLOWED PER THE CEC, HOWEVER, SHALL MEET ALL LOCAL UTILITY REQUIREMENTS, IN ADDITION, SHALL MAINTAIN THE GEAR'S PRODUCT LISTING (I.E. UL OR EQUIVALENT LISTING AGENCY).

Table 19.08.040(H)(1)
Minimum Conduit Size Requirements for a Future Renewable energy System

Service Rating	Renewable Capacity	Conduit Size Required
100A	20 Amps @ 120 Volts	(1) 3/4” Conduit
120A	24 Amps @ 120 Volts	(1) 3/4” Conduit
150A	30 Amps @ 120 Volts	(1) 3/4” Conduit
200A	40 Amps @ 120 Volts	(1) 1” Conduit
400A	80 Amps @ 120 Volts	(1) 1-1/4” Conduit

DUCT DYNASTY
Title 24 | HERS Rating | Duct Plans & Testing
ID# CC208221

PLAN PREPARED FOR:
RCH CONSTRUCTION
22507 H-STREET
SANTA MARGARITA, CA 93453

REVISION LOG

REV.	DESCRIPTION	DATE

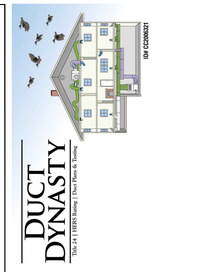
These drawings are the exclusive property of DUCT DYNASTY and shall be used solely for the purpose of this project on this site. Any use other than the project upon which it is intended for without the written consent of DUCT DYNASTY and Jim Reed is prohibited.

PROJECT NO. ----
FILE NAME GC-1 RESIDENTIAL MANDATORY MEASURES.DWG
DRAWN BY JMB II C.D.
DATE 7/23/2018 9:45 AM

SHEET TITLE:
RESIDENTIAL MANDATORY MEASURES

SHEET NUMBER:
GC-1

P:\RCH Construction\H-Street Plans\H-Street\H STREET 31-32\Correspondance\2016 Green Code\GC-1 RESIDENTIAL MANDATORY MEASURES.dwg Nick Sowerby 7/18/2018 1:50:55 PM



GENERAL INFORMATION					
01	Project Name	RCH CONSTRUCTION			
02	Calculation Description	Title 24 Analysis			
03	Project Location	31-32 H STREET			
04	City	SANTA MARGARITA	05	Standards Version	Compliance 2017
06	Zip Code	93453	07	Compliance Manager Version	BEMCmpMgr 2016.3.0 (1016 SP2)
08	Climate Zone	CZ4	09	Software Version	EnergyPro 7.2
10	Building Type	Single Family	11	Front Orientation (deg/Cardinal)	315
12	Project Scope	Newly Constructed	13	Number of Dwelling Units	1
14	Total Cond. Floor Area (ft²)	2155	15	Number of Zones	1
16	Slab Area (ft²)	2155	17	Number of Stories	1
18	Addition Cond. Floor Area(ft²)	n/a	19	Natural Gas Available	Yes
20	Addition Slab Area (ft²)	n/a	21	Glazing Percentage (%)	11.9%

COMPLIANCE RESULTS	
01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	This building incorporates one or more Special Features shown below

ENERGY USE SUMMARY

04	05	06	07	08
Energy Use (kTDV/ft²-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	14.59	13.37	1.22	8.4%
Space Cooling	0.25	0.28	-0.03	-12.0%
IAQ Ventilation	1.31	1.31	0.00	0.0%
Water Heating	9.42	8.49	0.93	9.9%
Photovoltaic Offset	----	0.00	0.00	----
Compliance Energy Total	25.57	23.45	2.12	8.3%

ENERGY DESIGN RATING

Energy Design Rating (EDR) is an alternate way to express the energy performance of a building using a scoring system where 100 represents the energy performance of the Residential Energy Services (RESNET) reference home characterization of the 2006 International Energy Conservation Code (IECC) with California modeling assumptions. A score of zero represents the energy performance of a building that combines high levels of energy efficiency with renewable generation to"zero out" its TDV energy. Because EDR includes consideration of components not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics), it is not used to show compliance with Part 6 but may instead be used by local jurisdictions pursuing local ordinances under Title 24, Part 11 (CALGreen).
As a Standard Design building under the 2016 Building Energy Efficiency Standards is significantly more efficient than the baseline EDR building, the EDR of the Standard Design building is provided for Information. Similarly, the EDR score of the Proposed Design is provided separately from the EDR value of installed PV so that the effects of efficiency and renewable energy can both be seen

EDR of Standard Efficiency	EDR of Proposed Efficiency	EDR Value of Proposed PV + Battery	Final Proposed EDR
52.3	50.7	0.0	50.7

- ☐ Design meets Tier 1 requirement of 15% or greater code compliance margin (CALGreen A4.203.1.2.1) and QII verification prerequisite.
- ☐ Design meets Tier 2 requirement of 30% or greater code compliance margin (CALGreen A4.203.1.2.2) and QII verification prerequisite.
- ☐ Design meets Zero Net Energy (ZNE) Design Designation requirement for Single Family in climate zone CZ4 (San Jose) (CALGreen A4.203.1.2.3) including on-site photovoltaic (PV) renewable energy generation sufficient to achieve a Final Energy Design Rating (EDR) of zero or less. The PV System must be verified.

Notes:
- Excess PV Generation EDR Credit: Bypassing PV size limit may violate Net Energy Metering (NEM) rules

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.
- Insulation below roof deck

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 components tables below.

Building-level Verifications:
- IAQ mechanical ventilation

Cooling System Verifications:
- Minimum Airflow
- Verified EER
- Verified SEER
- Fan Efficacy Watts/CFM

HVAC Distribution System Verifications:
- Duct Sealing

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

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
RCH CONSTRUCTION	2155	1	4	1	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
Living Area	Conditioned	Split System1	2155	9	DHW Sys 1	n/a

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window & Door Area (ft²)	Tilt (deg)
Southeast Wall	Living Area	R-21 Wall	135	Back	360	97.75	90
Northwest Wall	Living Area	R-21 Wall	315	Front	175.5	49	90
Northeast Wall	Living Area	R-21 Wall	45	Left	387	85	90
Southwest Wall	Living Area	R-21 Wall	225	Right	589.5	66	90
Interior Surface	Living Area>>__Garage__	R-21 Wall1	n/a	n/a	202.5	0	n/a
Interior Surface 2	Living Area>>__Garage__	R-21 Wall1	n/a	n/a	187.2	0	n/a
Roof	Living Area	R-38 HP Attic Option B	n/a	n/a	2155	n/a	n/a
Northwest Wall 2	__Garage__	R-0 Wall	315	Front	187.2	128	90
Northeast Wall 2	__Garage__	R-0 Wall	45	Left	202.5	0	90
Roof 2	__Garage__	R-0 Roof Attic	n/a	n/a	383	n/a	n/a

ATTIC

01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic Living Area	Attic RoofLiving Area	Ventilated	0	0.1	0.85	No	No
Attic __Garage__	Attic Garage Roof Cons	Ventilated	0	0.1	0.85	No	No

---

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10
Name	Type	Surface (Orientation-Azimuth)	Width (ft)	Height (ft)	Multiplier	Area (ft²)	U-factor	SHGC	Exterior Shading
SLDR	Window	Southeast Wall (Back-135)	----	----	1	48.0	0.32	0.25	Insect Screen (default)
Window	Window	Southeast Wall (Back-135)	----	----	1	8.0	0.32	0.25	Insect Screen (default)
Window 2	Window	Southeast Wall (Back-135)	----	----	1	25.0	0.32	0.25	Insect Screen (default)
Window 3	Window	Northwest Wall (Front-315)	----	----	1	12.5	0.32	0.25	Insect Screen (default)
Window 4	Window	Northwest Wall (Front-315)	----	----	1	12.5	0.32	0.25	Insect Screen (default)
Window 5	Window	Northeast Wall (Left-45)	----	----	1	12.5	0.32	0.25	Insect Screen (default)
Window 6	Window	Northeast Wall (Left-45)	----	----	1	12.5	0.32	0.25	Insect Screen (default)
Window 7	Window	Northeast Wall (Left-45)	----	----	1	15.0	0.32	0.25	Insect Screen (default)
Window 8	Window	Northeast Wall (Left-45)	----	----	1	15.0	0.32	0.25	Insect Screen (default)
Window 9	Window	Northeast Wall (Left-45)	----	----	1	15.0	0.32	0.25	Insect Screen (default)
Window 10	Window	Northeast Wall (Left-45)	----	----	1	15.0	0.32	0.25	Insect Screen (default)
Window 11	Window	Southwest Wall (Right-225)	----	----	1	12.5	0.32	0.25	Insect Screen (default)
Window 12	Window	Southwest Wall (Right-225)	----	----	1	12.5	0.32	0.25	Insect Screen (default)
Window 13	Window	Southwest Wall (Right-225)	----	----	1	16.0	0.32	0.25	Insect Screen (default)
Window 14	Window	Southwest Wall (Right-225)	----	----	1	12.5	0.32	0.25	Insect Screen (default)
Window 15	Window	Southwest Wall (Right-225)	----	----	1	12.5	0.32	0.25	Insect Screen (default)

OPAQUE DOORS

01	02	03	04
Name	Side of Building	Area (ft²)	U-factor
Door	Southeast Wall	16.8	0.50
Door 2	Northwest Wall	24.0	0.50
Garage Door	Northwest Wall 2	128.0	0.50

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Winter Design U-factor	Assembly Layers
R-0 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	none	0.361	• *Inside Finish: Gypsum Board* • *Cavity / Frame: no insul. / 2x4* • *Exterior Finish: 3 Coat Stucco*
R-0 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O.C.	none	0.481	• *Inside Finish: Gypsum Board* • *Cavity / Frame: no insul. / 2x4*
Attic Garage Roof Cons	Attic Roofs	Wood Framed Ceiling	2x4 Top Chord of Roof Truss @ 24 in. O.C.	none	0.644	• *Cavity / Frame: no insul. / 2x4 Top Chrd* • *Roof Deck: Wood Siding/sheathing/decking* • *Roofing: Light Roof (Asphalt Shingle)*
Attic RoofLiving Area	Attic Roofs	Wood Framed Ceiling	2x4 Top Chord of Roof Truss @ 24 in. O.C.	R 13	0.078	• *Around Roof Joists: R-0.0 insul.* • *Cavity / Frame: R-13.0 / 2x4 Top Chrd* • *Roof Deck: Wood Siding/sheathing/decking* • *Roofing: Light Roof (Asphalt Shingle)*
R-21 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O.C.	R 21	0.069	• *Inside Finish: Gypsum Board* • *Cavity / Frame: R-21 / 2x6* • *Exterior Finish: 3 Coat Stucco*
R-38 HP Attic Option B	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R 38	0.025	• *Inside Finish: Gypsum Board* • *Cavity / Frame: R-9.1 / 2x4* • *Over Ceiling Joists: R-28.9 insul.*
R-21 Wall1	Interior Walls	Wood Framed Wall	2x6 @ 16 in. O.C.	R 21	0.064	• *Inside Finish: Gypsum Board* • *Cavity / Frame: R-21 / 2x6* • *Other Side Finish: Gypsum Board*

SLAB FLOORS

01	02	03	04	05	06	07
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value & Depth	Carpeted Fraction	Heated
Slab-on-Grade	Living Area	2155	0.1	None	0.8	No
Slab-on-Grade 2	__Garage__	383	0.1	None	0	No

BUILDING ENVELOPE - HERS VERIFICATION

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

WATER HEATING SYSTEMS

01	02	03	04	05	06
Name	System Type	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)
DHW Sys 1	DHW	Standard	DHW Heater 1 (1)	1	.0%

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12
Name	Heater Element Type	Tank Type	Number of Units	Tank Volume (gal)	Uniform Energy Factor / Energy Factor / Efficiency	Input Rating / Pilot / Thermal Efficiency	Tank Insulation R-value (Int/Ext)	Standby Loss / Recovery Eff	First Hour Rating / Flow Rate	NEEA Heat Pump Brand / Model / Other	Tank Location or Ambient Condition
DHW Heater 1	Gas	Small Instantaneous	1	0	0.91 EF	199,000 Btu/hr	R-0/R-0	n/a	n/a	n/a	n/a

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06
SC Sys Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name
Split System1	Other Heating and Cooling System	Heating Component 1	Cooling Component 1	HVAC Fan 1	Air Distribution System 1

HVAC - HEATING UNIT TYPES

01	02	03	04
Name	System Type	Number of Units	Efficiency
Heating Component 1	CntrlFurnace	1	95 AFUE

HVAC - COOLING UNIT TYPES

01	02	03	04	05	06	07	08
			Efficiency				
Name	System Type	Number of Units	EER	SEER	Zonally Controlled	Compressor Type	HERS Verification
Cooling Component 1	SplitAirCond	1	12	15	Not Zonal	Single Speed	Cooling Component 1-hers-cool

HVAC COOLING - HERS VERIFICATION

01	02	03	04	05	06
Name	Verified Airflow	Airflow Target	Verified EER	Verified SEER	Verified Refrigerant Charge
Cooling Component 1-hers-cool	Required	350	Required	Required	Not Required

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HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07
Name	Type	Duct Leakage	Insulation R-value	Duct Location	Bypass Duct	HERS Verification
Air Distribution System 1	DuctsAttic	Sealed and tested	8	Attic	None	Air Distribution System 1-hers-dist

HVAC DISTRIBUTION - HERS VERIFICATION

01	02	03	04	05	06	07	08
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler
Air Distribution System 1-hers-dist	Required	5.0	Not Required	Not Required	Not Required	Not Required	n/a

HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	HERS Verification
HVAC Fan 1	Single Speed PSC Furnace Fan	0.58	HVAC Fan 1-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficiency (Watts/CFM)
HVAC Fan 1-hers-fan	Required	0.58

IAQ (Indoor Air Quality) FANS

01	02	03	04	05	06
Dwelling Unit	IAQ CFM	IAQ Watts/CFM	IAQ Fan Type	IAQ Recovery Effectiveness(%)	HERS Verification
SFam IAQVentRpt	59	0.25	Default	0	Required

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Jim M Reed	Documentation Author Signature: Jim M Reed
Company: Jim Reed	Signature Date: 2018-07-18 14:48:25
Address: 610 10th St Unit C	CEA/HERS Certification Identification (If applicable): CC2006321
City/State/Zip: Paso Robles, CA 93446	Phone: 805-239-8670

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: John M Butler II	Responsible Designer Signature: John M Butler II
Company: J.B. Drafting & Design (Paso Robles)	Date Signed: 2018-07-18 14:49:06
Address: 610 10th Street, Ste D	License: Owner
City/State/Zip: Paso Robles, CA 93446	Phone: 805-237-0850

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

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RESIDENTIAL MEASURES SUMMARY RMS-1

Project Name *RCH CONSTRUCTION*	Building Type ☑ Single Family ☐ Addition Alone ☐ Multi Family ☐ Existing+ Addition/Alteration				Date *6/18/2018*
Project Address *31-32 H STREET SANTA MARGARITA*	California Energy Climate Zone *CA Climate Zone 04*	Total Cond. Floor Area *2,155*	Addition *n/a*	# of Units *1*	

INSULATION

Construction	Type	Cavity	Area (ft²)	Special Features	Status
Wall	*Wood Framed*	*R 21*	*1,604*		*New*
Door	*Opaque Door*	*- no insulation*	*41*		*New*
Slab	*Unheated Slab-on-Grade*	*- no insulation*	*2,155*	*Perim = 0'*	*New*
Roof	*Wood Framed Attic*	*R 38*	*2,155*	*Add=R-13.0*	*New*

FENESTRATION Total Area: 257 Glazing Percentage: 11.9% New/Altered Average U-Factor: 0.32

Orientation	Area(ft²)	U-Fac	SHGC	Overhang	Sidefins	Exterior Shades	Status
Rear (SE)	*81.0*	*0.320*	*0.25*	*none*	*none*	*Bug Screen*	*New*
Front (NW)	*25.0*	*0.320*	*0.25*	*none*	*none*	*Bug Screen*	*New*
Left (NE)	*85.0*	*0.320*	*0.25*	*none*	*none*	*Bug Screen*	*New*
Right (SW)	*66.0*	*0.320*	*0.25*	*none*	*none*	*Bug Screen*	*New*

HVAC SYSTEMS

Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status
1	*Central Furnace*	*95% AFUE*	*Split Air Conditioner*	*15.0 SEER*	*Setback*	*New*

HVAC DISTRIBUTION

Location	Heating	Cooling	Duct Location	Duct R-Value	Status
Split System	*Ducted*	*Ducted*	*Attic*	*8.0*	*New*

WATER HEATING

Qty.	Type	Gallons	Min. Eff	Distribution	Status
1	*Small Instantaneous Gas*	*0*	*0.91*	*Standard*	*New*

P:\RCH Construction\H-Street Plans\H STREET 31-32\Structural\dwg\H-STREET 31-32\Sheets\T-24 ENERGY COMPLIANCE.dwg Nick Sowerby 7/19/2018 8:58:22 AM

2016 Low-Rise Residential Mandatory Measures Summary

*NOTE: Low-rise residential buildings subject to the Energy Standards must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. *Exceptions may apply.*
(Revised 04/2017)

Building Envelope Measures:	
§ 110.6(a)1:	**Air Leakage.** Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 cfm/ft² or less when tested per NFRC-400 or ASTM E283 or AAMA/WDMA/CSA 101/I.S.2/A440-2011.*
§ 110.6(a)5:	**Labeling.** Fenestration products must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	**Field fabricated exterior doors and fenestration** products must use U-factors and solar heat gain coefficient (SHGC) values from TABLES 110.6-A and 110.6-B for compliance and must be caulked and/or weatherstripped.*
§ 110.7:	**Air Leakage.** All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	**Insulation Certification by Manufacturers.** Insulation specified or installed must meet Standards for Insulating Material.
§ 110.8(g):	**Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	**Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	**Radiant Barrier.** A radiant barrier must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	**Ceiling and Rafter Roof Insulation.** Minimum R-22 insulation in wood-frame ceiling; or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.*
§ 150.0(b):	**Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	**Above Grade Wall Insulation.** Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less (R-19 in 2x6 or U-factor of 0.074 or less). Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102, equivalent to an installed value of R-13 in a wood framed assembly.*
§ 150.0(d):	**Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.*
§ 150.0(f):	**Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3%; have a water vapor permeance no greater than 2.0 perm/inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	**Vapor Retarder.** In Climate Zones 1-16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).
§ 150.0(g)2:	**Vapor Retarder.** In Climate Zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	**Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.*
Fireplaces, Decorative Gas Appliances, and Gas Log Measures:	
§ 150.0(e)1A:	**Closable Doors.** Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)1B:	**Combustion Intake.** Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device.*
§ 150.0(e)1C:	**Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.*
§ 150.0(e)2:	**Pilot Light.** Continuous burning pilot lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the outside of the building, are prohibited.
Space Conditioning, Water Heating, and Plumbing System Measures:	
§ 110.0-§ 110.3:	**Certification.** Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the Energy Commission.*
§ 110.2(a):	**HVAC Efficiency.** Equipment must meet the applicable efficiency requirements in TABLE 110.2-A through TABLE 110.2-K.*
§ 110.2(b):	**Controls for Heat Pumps with Supplementary Electric Resistance Heaters.** Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.*
§ 110.2(c):	**Thermostats.** All unitary heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.*
§ 110.3(c)5:	**Water Heating Recirculation Loops Serving Multiple Dwelling Units.** Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)5.
§ 110.3(c)7:	**Isolation Valves.** Instantaneous water heaters with an input rating greater than 6.8 kBTU/hr (2 kW) must have isolation valves with hose bibbs or other fittings on both cold water and hot water lines of water heating systems to allow for water tank flushing when the valves are closed.
§ 110.5:	**Pilot Lights.** Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt); and pool and spa heaters.*
§ 150.0(h)1:	**Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; SMACNA Residential Comfort System Installation Standards Manual; or ACCA Manual J using design conditions specified in § 150.0(h)2.

2016 Low-Rise Residential Mandatory Measures Summary

2016 Low-Rise Residential Mandatory Measures Summary

2016 Low-Rise Residential Mandatory Measures Summary

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name RCH CONSTRUCTION	Date 6/18/2018
System Name Split System	Floor Area 2,155

ENGINEERING CHECKS	
Number of Systems	1
Heating System	
Output per System	36,000
Total Output (Btuh)	36,000
Output (Btuh/sqft)	16.7
Cooling System	
Output per System	24,000
Total Output (Btuh)	24,000
Total Output (Tons)	2.0
Total Output (Btuh/sqft)	11.1
Total Output (sqft/Ton)	1,077.5
Air System	
CFM per System	0
Airflow (cfm)	0
Airflow (cfm/sqft)	0.00
Airflow (cfm/Ton)	0.0
Outside Air (%)	0.0%
Outside Air (cfm/sqft)	0.00

Note: values above given at ARI conditions

SYSTEM LOAD

	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	663	13,562	1,009	355	13,540
Return Vented Lighting		0			
Return Air Ducts		529			642
Return Fan		0			0
Ventilation	0	0	0	0	0
Supply Fan		0			0
Supply Air Ducts		529			642
TOTAL SYSTEM LOAD		14,621	1,009		14,823

HVAC EQUIPMENT SELECTION

	Sensible	Latent	Sensible
High Efficiency Fau/AC	22,999	0	36,000
Total Adjusted System Output (Adjusted for Peak Design conditions)	22,999	0	36,000
TIME OF SYSTEM PEAK		Aug 3 PM	Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)

COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)

ID# CC2006321

DUCT DYNASTY
Title 24 | HERS Rating | Duct Plans & Testing

PLAN PREPARED FOR:
RCH CONSTRUCTION
22507 H-STREET
SANTA MARGARITA, CA 93453

REVISION LOG

REV.	DESCRIPTION	DATE

PROJECT NO. ----
FILE NAME T-24 ENERGY COMPLIANCE.DWG
DRAWN BY JMB II C.D.
DATE 7/23/2018 9:45 AM
SHEET TITLE:

ENERGY COMPLIANCE

SHEET NUMBER:

T-24

NEW HOME RATING SYSTEM, VERSION 7.0

SINGLE FAMILY CHECKLIST

GreenPointRATED — A PROGRAM OF BUILD IT GREEN

The GreenPoint Rated checklist tracks green features incorporated into the home. GreenPoint Rated is administered by Build It Green, a non-profit whose mission is to promote healthy, energy and resource efficient buildings in California.

The minimum requirements of GreenPoint Rated are: verification of 50 or more points; Earn the following minimum points per category: Commuity (2) Energy (25), Indoor Air Quality/Health (6), Resources (6), and Water (6); and meet the prerequisites CALGreen Mandatory, E5.2 , H6.1, J5.1, O1, O7.

Directions for Use: Column A is a dropdown menu with the options of "Yes", "No", or "TBD" or a range of percentages to allocate points appropriate dropdown and the appropriate points will appear in the blue "points achieved" column.

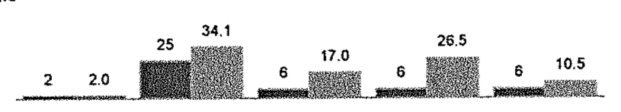
The criteria for the green building practices listed below are described in the GreenPoint Rated New Home Rating Manual. For more info please visit www.builditgreen.org/greenpointrated
Build It Green is not a code enforcement agency.

A home is only GreenPoint Rated if all features are verified by a Certified GreenPoint Rater through Build It Green.

Points Achieved: 90

Certification Level: Silver

POINTS REQUIRED



New Home Single Family Version 7.0

31-32 H STREET SANTA MARARITA	MEASURES	Points Achieved	Community	Energy	IAQ/Health	Resources	Water	NOTES
			Possible Points					
CALGreen								
Yes	**CALGreen Res (REQUIRED)**	4		1	1	1	1	
A. SITE								
TBD	**A1. Construction Footprint**					1		
	A2. Job Site Construction Waste Diversion							
Yes	A2.1 75% C&D Waste Diversion (**Including** Alternative Daily Cover)	2				2		
TBD	A2.2 65% C&D Waste Diversion (**Excluding** Alternative Daily Cover)					2		
TBD	A2.3 Recycling Rates from Third-Party Verified Mixed-Use Waste Facility					1		
TBD	**A3. Recycled Content Base Material**					1		
TBD	**A4. Heat Island Effect Reduction (Non-Roof)**			1				
TBD	**A5. Construction Environmental Quality Management Plan Including Flush-Out**				1			
	A6. Stormwater Control: Prescriptive Path							
TBD	A6.1 Permeable Paving Material						1	
TBD	A6.2 Filtration and/or Bio-Retention Features						1	
TBD	A6.3 Non-Leaching Roofing Materials						1	
TBD	A6.4 Smart Stormwater Street Design		1					
Yes	**A7. Stormwater Control: Performance Path**	3					3	
B. FOUNDATION								
TBD	**B1. Fly Ash and/or Slag in Concrete**					1		
TBD	**B2. Radon-Resistant Construction**				2			
TBD	**B3. Foundation Drainage System**					2		
TBD	**B4. Moisture Controlled Crawlspace**				1			
	B5. Structural Pest Controls							
TBD	B5.1 Termite Shields and Separated Exterior Wood-to-Concrete Connections					1		
TBD	B5.2 Plant Trunks, Bases, or Stems at Least 36 Inches from the Foundation					1		
C. LANDSCAPE								
0.00%	Enter the landscape area percentage							
TBD	**C1. Plants Grouped by Water Needs (Hydrozoning)**						1	
TBD	**C2. Three Inches of Mulch in Planting Beds**						1	
	C3. Resource Efficient Landscapes							
TBD	C3.1 No Invasive Species Listed by Cal-IPC					1		
TBD	C3.2 Plants Chosen and Located to Grow to Natural Size					1		
TBD	C3.3 Drought Tolerant, California Native, Mediterranean Species, or Other Appropriate Species						3	
	C4. Minimal Turf in Landscape							
TBD	C4.1 No Turf on Slopes Exceeding 10% and No Overhead Sprinklers Installed in Areas Less Than Eight Feet Wide						2	
TBD	C4.2 Turf on a Small Percentage of Landscaped Area						2	
TBD	**C5. Trees to Moderate Building Temperature**			1	1		1	
TBD	**C6. High-Efficiency Irrigation System**						2	
TBD	**C7. One Inch of Compost in the Top Six to Twelve Inches of Soil**						2	
TBD	**C8. Rainwater Harvesting System**						3	
TBD	**C9. Recycled Wastewater Irrigation System**						1	
TBD	**C10. Submeter or Dedicated Meter for Landscape Irrigation**						2	
TBD	**C11. Landscape Meets Water Budget**						1	

New Home Single Family Version 7.0

		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	NOTES
	C12. Environmentally Preferable Materials for Site							
TBD	C12.1 Environmentally Preferable Materials for 70% of Non-Plant Landscape Elements and Fencing					1		
Yes	**C13. Reduced Light Pollution**	1	1					
Yes	**C14. Large Stature Tree(s)**	1	1					
TBD	**C15. Third Party Landscape Program Certification**						1	
TBD	**C16. Maintenance Contract with Certified Professional**						1	
D. STRUCTURAL FRAME AND BUILDING ENVELOPE								
	D1. Optimal Value Engineering							
TBD	D1.1 Joists, Rafters, and Studs at 24 Inches on Center			1		2		
TBD	D1.2 Non-Load Bearing Door and Window Headers Sized for Load					1		
TBD	D1.3 Advanced Framing Measures					2		
TBD	**D2. Construction Material Efficiencies**					1		
	D3. Engineered Lumber							
TBD	D3.1 Engineered Beams and Headers					1		
TBD	D3.2 Wood I-Joists or Web Trusses for Floors					1		
TBD	D3.3 Engineered Lumber for Roof Rafters					1		
TBD	D3.4 Engineered or Finger-Jointed Studs for Vertical Applications					1		
TBD	D3.5 OSB for Subfloor					0.5		
Yes	D3.6 OSB for Wall and Roof Sheathing	0.5				0.5		
TBD	**D4. Insulated Headers**			1				
	D5. FSC-Certified Wood							
TBD	D5.1 Dimensional Lumber, Studs, and Timber					6		
TBD	D5.2 Panel Products					3		
	D6. Solid Wall Systems							
TBD	D6.1 At Least 90% of Floors					1		
TBD	D6.2 At Least 90% of Exterior Walls			1		1		
TBD	D6.3 At Least 90% of Roofs			1		1		
TBD	**D7. Energy Heels on Roof Trusses**			1				
16 inches	**D8. Overhangs and Gutters**	1		1		1		
	D9. Reduced Pollution Entering the Home from the Garage							
TBD	D9.1 Detached Garage				2			
TBD	D9.2 Mitigation Strategies for Attached Garage				1			
	D10. Structural Pest and Rot Controls							
TBD	D10.1 All Wood Located At Least 12 Inches Above the Soil					1		
TBD	D10.2 Wood Framing Treated With Borates or Factory-Impregnated, or Wall Materials Other Than Wood					1		
TBD	**D11. Moisture-Resistant Materials in Wet Areas (such as Kitchen, Bathrooms, Utility Rooms, and Basements)**				1	1		
E. EXTERIOR								
TBD	**E1. Environmentally Preferable Decking**					1		
TBD	**E2. Flashing Installation Third-Party Verified**					2		
TBD	**E3. Rain Screen Wall System**					2		
Yes	**E4. Durable and Non-Combustible Cladding Materials**	1				1		
	E5. Durable Roofing Materials							
Yes	E5.1 Durable and Fire Resistant Roofing Materials or Assembly	1				1		
TBD	**E6. Vegetated Roof**		2	2				
F. INSULATION								
	F1. Insulation with 30% Post-Consumer or 60% Post-Industrial Recycled Content							
Yes	F1.1 Walls and Floors	1				1		
Yes	F1.2 Ceilings	1				1		
	F2. Insulation that Meets the CDPH Standard Method—Residential for Low Emissions							
Yes	F2.1 Walls and Floors	1			1			
Yes	F2.2 Ceilings	1			1			
	F3. Insulation That Does Not Contain Fire Retardants							
TBD	F3.1 Cavity Walls and Floors				1			
TBD	F3.2 Ceilings				1			
TBD	F3.3 Interior and Exterior				1			
G. PLUMBING								
	G1. Efficient Distribution of Domestic Hot Water							
Yes	G1.1 Insulated Hot Water Pipes	1		1				

New Home Single Family Version 7.0

		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	NOTES
TBD	G1.2 WaterSense Volume Limit for Hot Water Distribution						1	
TBD	G1.3 Increased Efficiency in Hot Water Distribution						2	
	G2. Install Water-Efficient Fixtures							
Yes	G2.1 WaterSense Showerheads 1.8gpm with Matching Compensation Valve	2					2	
Yes	G2.2 WaterSense Bathroom Faucets 1.0 gpm	1					1	
≤1.28 gpf	G2.3 WaterSense Toilets with a Maximum Performance (MaP) Threshold of No Less Than 500 Grams 1.28gpf OR 1.1 gpf	1					2	
TBD	**G3. Pre-Plumbing for Graywater System**						1	
TBD	**G4. Operational Graywater System**						3	
TBD	**G6. Thermostatic Shower Valve or Auto-Diversion Tub Spout**						1	
H. HEATING, VENTILATION, AND AIR CONDITIONING								
	H1. Sealed Combustion Units							
TBD	H1.1 Sealed Combustion Furnace				1			
TBD	H1.2 Sealed Combustion Water Heater				2			
TBD	**H2. High Performing Zoned Hydronic Radiant Heating System**			1	1			
	H3. Effective Ductwork							
TBD	H3.1 Duct Mastic on Duct Joints and Seams			1				
TBD	H3.2 Pressure Balance the Ductwork System			1				
Yes	**H4. ENERGY STAR® Bathroom Fans Per HVI Standards with Air Flow Verified**	1			1			
	H5. Advanced Practices for Cooling							
Yes	H5.1 ENERGY STAR Ceiling Fans in Living Areas and Bedrooms	1		1				
	H6. Whole House Mechanical Ventilation Practices to Improve Indoor Air Quality							
Yes	H6.1 Meet ASHRAE 62.2-2010 Ventilation Residential Standards	Y	R	R	R	R	R	
TBD	H6.2 Advanced Ventilation Standards				2			
TBD	H6.3 Outdoor Air is Filtered and Tempered				1			
	H7. Effective Range Hood Design and Installation							
TBD	H7.1 Effective Range Hood Ducting and Design				1			
TBD	H7.2 Automatic Range Hood Control				1			
TBD	**H8. High Efficiency HVAC Filter (MERV 13+)**				1			
TBD	**H9 Advanced Refrigerants**				1			
Yes	**H10. No Fireplace or Sealed Gas Fireplace**	1			1			
TBD	**H11. Humidity Control Systems**				1			
Yes	**H12. Register Design Per ACCA Manual T**	1		1				
I. RENEWABLE ENERGY								
Yes	**I1. Pre-Plumbing for Solar Water Heating**	1		1				
Yes	**I2. Preparation for Future Photovoltaic Installation**	1		1				
0.00%	**I3. Onsite Renewable Generation (Solar PV, Solar Thermal, and Wind)**	0		25				
	I4. Net Zero Energy Home							
TBD	I4.1 Near Zero Energy Home			2				
TBD	I4.2 Net Zero Electric			4				
TBD	**I5. Energy Storage System**			1				
J. BUILDING PERFORMANCE AND TESTING								
TBD	**J1. Third-Party Verification of Quality of Insulation Installation**				1			
Yes	**J2. Supply and Return Air Flow Testing**	2		1	1			
Yes	**J3. Mechanical Ventilation Testing**	1			1			
TBD	**J4. Combustion Appliance Safety Testing**				1			
	J5. Building Energy Performance							
8.30%	J5.1 Home Meets or Exceeds Energy Compliance Pathway	21.6		60				
Yes	**J6. Title 24 Prepared and Signed by a CABEC Certified Energy Analyst**	1		1				
TBD	**J7. Participation in Utility Program with Third-Party Plan Review**			1				
TBD	**J8. ENERGY STAR for Homes**			1				
No	**J9. EPA Indoor airPlus Certification**	0			2			
TBD	**J10. Blower Door Testing**				3			
K. FINISHES								
	K1. Entryways Designed to Reduce Tracked-In Contaminants							
TBD	K1.1 Individual Entryways				1			
Yes	**K2. Zero-VOC Interior Wall and Ceiling Paints**	2			2			
Yes	**K3. Low-VOC Caulks and Adhesives**	1			1			
	K4. Environmentally Preferable Materials for Interior Finish							
≥80%	K4.1 Cabinets	2				2		
≥80%	K4.2 Interior Trim	2				2		

New Home Single Family Version 7.0

		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	NOTES
≥80%	K4.3 Shelving	2				2		
≥80%	K4.4 Doors	2				2		
Yes	K4.5 Countertops	1				1		
	K5. Formaldehyde Emissions in Interior Finish Exceed CARB							
Yes	K5.1 Doors	1			1			
Yes	K5.2 Cabinets and Countertops	2			2			
Yes	K5.3 Interior Trim and Shelving	2			2			
Yes	**K6. Products That Comply With the Health Product Declaration Open Standard**	2			2			
TBD	**K7. Indoor Air Formaldehyde Level Less Than 27 Parts Per Billion**				2			
No	**K8. Comprehensive Inclusion of Low Emitting Finishes**	0			1			
L. FLOORING								
≥75%	**L1. Environmentally Preferable Flooring**	3				3		
TBD	**L2. Low-Emitting Flooring Meets CDPH 2010 Standard Method—Residential**				3			
Yes	**L3. Durable Flooring**	1				1		
TBD	**L4. Thermal Mass Flooring**			1				
M. APPLIANCES AND LIGHTING								
Yes	**M1. ENERGY STAR® Dishwasher**	1					1	
	M2. Efficient Laundry Appliances							
CEE Tier 2	M2.1 CEE-Rated Clothes Washer	2		1			2	
Yes	M2.2 Energy Star Dryer	2		2				
TBD	M2.3 Solar Dryer/ Laundry Lines			0.5				
<25 cubic feet	**M3. Size-Efficient ENERGY STAR Refrigerator**	1		2				
	M4. Permanent Centers for Waste Reduction Strategies							
Yes	M4.1 Built-In Recycling Center	1				1		
TBD	M4.2 Built-In Composting Center					1		
	M5. Lighting Efficiency							
TBD	M5.1 High-Efficacy Lighting			2				
TBD	M5.2 Lighting System Designed to IESNA Footcandle Standards or Designed by Lighting Consultant			2				
TBD	**M6. Electric Vehicle Charging Stations and Infrastructure**		1					
N. COMMUNITY								
	N1. Smart Development							
TBD	N1.1 Infill Site		1			1		
TBD	N1.2 Designated Brownfield Site		1			1		
TBD	N1.3 Conserve Resources by Increasing Density			2		2		
TBD	N1.4 Cluster Homes for Land Preservation		1			1		
	N1.5 Home Size Efficiency	3				9		
2155	Enter the area of the home, in square feet							
4	Enter the number of bedrooms							
	N2. Home(s)/Development Located Near Transit							
TBD	N2.1 Within 1 Mile of a Major Transit Stop		1					
TBD	N 2.2. Within 1/ 2 mile of a Major Transit Stop		2					
	N3. Pedestrian and Bicycle Access							
	N3.1 Pedestrian Access to Services Within 1/2 Mile of Community Services		2					
	Enter the number of Tier 1 services							
	Enter the number of Tier 2 services							
TBD	N3.2 Connection to Pedestrian Pathways		1					
TBD	N3.3 Traffic Calming Strategies		2					
	N4. Outdoor Gathering Places							
TBD	N4.1 Public or Semi-Public Outdoor Gathering Places for Residents		1					
TBD	N4.2 Public Outdoor Gathering Places with Direct Access to Tier 1 Community Services		1					
	N5. Social Interaction							
TBD	N5.1 Residence Entries with Views to Callers		1					
TBD	N5.2 Entrances Visible from Street and/or Other Front Doors		1					
TBD	N5.3 Porches Oriented to Street and Public Space		1					
	N6. Passive Solar Design							
TBD	N6.1 Heating Load			2				
TBD	N6.2 Cooling Load			2				
	N7. Adaptable Building							
TBD	N7.1 Universal Design Principles in Units		1		1			

New Home Single Family Version 7.0

		Points Achieved	Community	Energy	IAQ/Health	Resources	Water	NOTES
TBD	N7.2 Full-Function Independent Rental Unit		1					
	N8. Resiliency							
TBD	N8.1 Assessment		1		1	1		
TBD	N8.2 Strategies to Address Assessment Findings		1		1	1		
	N9. Social Equity in Community		1					
TBD	N9.1 Diverse Workforce		1			1		
TBD	N9.2 Community Location		1		1			
O. OTHER								
Yes	**O1. GreenPoint Rated Checklist in Blueprints**	Y	R	R	R	R	R	
Yes	**O2. Pre-Construction Kickoff Meeting with Rater and Subcontractors**	2		0.5		1	0.5	
TBD	**O3. Orientation and Training to Occupants—Conduct Educational Walkthroughs**			0.5	0.5	0.5	0.5	
TBD	**O4. Builder's or Developer's Management Staff are Certified Green Building Professionals**			0.5	0.5	0.5	0.5	
	O5. Home System Monitors							
TBD	O5.1 Energy Home System Monitors			1				
TBD	O5.2. Water Home System Monitors						1	
	O6. Green Building Education							
TBD	O6.1 Marketing Green Building		2					
TBD	O6.2 Green Building Signage			0.5			0.5	
Yes	**O7. Green Appraisal Addendum**	Y	R	R	R	R	R	
TBD	**O8. Detailed Durability Plan and Third-Party Verification of Plan Implementation**					1		

Summary						
Total Available Points in Specific Categories	361.5	31	134.5	60	87	49
Minimum Points Required in Specific Categories	50	2	25	6	6	6
Total Points Achieved	90.1	2.0	34.1	17.0	26.5	10.5

P:\RCH Construction\H-Street Plans\H-Street\H STREET 31-32\Structural\dwg\H-STREET 31-32\Sheets\GP-1 GREENPOINT CHECKLIST.dwg Nick Sowerby 7/19/2018 8:55:28 AM

DUCT DYNASTY
Title 24 | HERS Rating | Duct Plans & Testing
ID# CC206321

PLAN PREPARED FOR:
RCH CONSTRUCTION
22507 H-STREET
SANTA MARGARITA, CA 93453

REVISION LOG

REV.	DESCRIPTION	DATE

PROJECT NO. ----
FILE NAME GP-1 GREENPOINT CHECKLIST.DWG
DRAWN BY JMB II C.D.
DATE 7/23/2018 9:46 AM
SHEET TITLE:
GREENPOINT CHECKLIST

SHEET NUMBER:
GP-1

Manual S Compliance Report
Entire House

Jim Reed CAD Service

Job:
Date: 6/22/17
By: Jim Reed

610 10th Street, Paso Robles, Ca 93446 Phone: 805 239 8670 Email: reed708@sbcglobal.net

Project Information

For: RCH CONSTRUCTION
31-32 H STEET, Santa Margarita, Ca 93453

Cooling Equipment

Design Conditions

Outdoor design DB:	88.0°F	Sensible gain:	18831 Btuh	Entering coil DB:	76.3°F
Outdoor design WB:	67.0°F	Latent gain:	2006 Btuh	Entering coil WB:	52.8°F
Indoor design DB:	75.0°F	Total gain:	20837 Btuh		
Indoor RH:	17%	Estimated airflow:	820 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split AC		
Manufacturer:	Trane	Model:	4TTR4024L1+4PX*BD30AC3+*UD2B080G9V3+HORIZ-RT
Actual airflow:	820 cfm		
Sensible capacity:	17220 Btuh	91% of load	
Latent capacity:	7380 Btuh	368% of load	
Total capacity:	24600 Btuh	118% of load	SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	32.0°F	Heat loss:	22204 Btuh	Entering coil DB:	66.7°F
Indoor design DB:	68.0°F				

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Gas furnace		
Manufacturer:	Trane	Model:	TUH1B040A9H21B*
Actual airflow:	712 cfm		
Output capacity:	38000 Btuh	171% of load	Temp. rise: 50 °F

Meets are all requirements of ACCA Manual S.

Load Short Form
Entire House

Jim Reed CAD Service

Job:
Date: 6/22/17
By: Jim Reed

610 10th Street, Paso Robles, Ca 93446 Phone: 805 239 8670 Email: reed708@sbcglobal.net

Project Information

For: RCH CONSTRUCTION
31-32 H STEET, Santa Margarita, Ca 93453

Design Information

	Htg	Clg
Outside db (°F)	32	88
Inside db (°F)	68	75
Design TD (°F)	36	13
Daily range	-	H
Inside humidity (%)	17	17
Moisture difference (gr/lb)	-4	46

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

HEATING EQUIPMENT

Make	Trane
Trade	TRANE
Model	TUH1B040A9H21B*
AHRI ref	5722413
Efficiency	95 AFUE
Heating input	40000 Btuh
Heating output	38000 Btuh
Temperature rise	50 °F
Actual air flow	712 cfm
Air flow factor	0.032 cfm/Btuh
Static pressure	0.60 in H2O
Space thermostat	

COOLING EQUIPMENT

Make	Trane
Trade	TRANE
Cond	4TTR4024L1
Coil	4PX*BD30AC3+*UD2B080G9V3+HORIZ-RT
AHRI ref	7581375
Efficiency	12.5 EER, 15 SEER
Sensible cooling	17220 Btuh
Latent cooling	7380 Btuh
Total cooling	24600 Btuh
Actual air flow	820 cfm
Air flow factor	0.044 cfm/Btuh
Static pressure	0.60 in H2O
Load sensible heat ratio	0.90

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
M. BEDROOM	198	4054	4858	130	212
M. BATH	88	1293	847	41	37
HALL	89	0	0	0	0
BEDROOM 4	200	3100	2339	99	102
W.I.C.	55	0	0	0	0
BEDROOM 2	191	2030	1701	65	74
BATHROOM 2	75	208	63	7	3
BEDROOM 3	172	2068	1699	66	74
UTILITY	89	190	58	6	3
DINING/KITCHEN	992	9260	7265	297	316
Entire House d	2149	22204	18831	712	820
Other equip loads		0	0		
Equip. @ 1.00 RSM			18831		
Latent cooling			2006		
TOTALS	2149	22204	20837	712	820

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Building Analysis
Entire House

Jim Reed CAD Service

Job:
Date: 6/22/17
By: Jim Reed

610 10th Street, Paso Robles, Ca 93446 Phone: 805 239 8670 Email: reed708@sbcglobal.net

Project Information

For: RCH CONSTRUCTION
31-32 H STEET, Santa Margarita, Ca 93453

Design Conditions

Location:
Atascadero, CA, US
Elevation: 837 ft
Latitude: 36°N

Outdoor:	Heating	Cooling
Dry bulb (°F)	32	88
Daily range (°F)	-	42 (H)
Wet bulb (°F)	-	67
Wind speed (mph)	15.0	7.5

Indoor:	Heating	Cooling
Indoor temperature (°F)	68	75
Design TD (°F)	36	13
Relative humidity (%)	17	17
Moisture difference (gr/lb)	-4.1	46.3

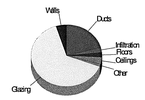
Infiltration:
Method: Simplified
Construction quality: Semi-tight
Fireplaces: 0

Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.3	3943	17.8
Glazing	20.5	5342	24.1
Doors	14.0	674	3.0
Ceilings	0.9	2011	9.1
Floors	0.6	1314	5.9
Infiltration	1.8	2724	12.3
Ducts		6195	27.9
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	
Total		**22204**	**100.0**

Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.8	931	4.9
Glazing	46.5	12110	64.3
Doors	5.3	253	1.3
Ceilings	0.3	670	3.6
Floors	0.2	475	2.5
Infiltration	0.3	492	2.6
Ducts		3900	20.7
Ventilation		0	0
Internal gains		0	0
Blower		0	0
Adjustments		0	
Total		**18831**	**100.0**



Latent Cooling Load = 2006 Btuh
Overall U-value = 0.075 Btuh/ft²-°F

Data entries checked.

Project Summary
Entire House

Jim Reed CAD Service

Job:
Date: 6/22/17
By: Jim Reed

610 10th Street, Paso Robles, Ca 93446 Phone: 805 239 8670 Email: reed708@sbcglobal.net

Project Information

For: RCH CONSTRUCTION
31-32 H STEET, Santa Margarita, Ca 93453

Notes:

Design Information

Weather: Atascadero, CA, US

Winter Design Conditions

Outside db	32 °F
Inside db	68 °F
Design TD	36 °F

Summer Design Conditions

Outside db	88 °F
Inside db	75 °F
Design TD	13 °F
Daily range	H
Relative humidity	17 %
Moisture difference	46 gr/lb

Heating Summary

Structure	16009 Btuh
Ducts	6195 Btuh
Central vent (0 cfm) (none)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	22204 Btuh

Sensible Cooling Equipment Load Sizing

Structure	14930 Btuh
Ducts	3900 Btuh
Central vent (0 cfm) (none)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	y
Rate/swing multiplier	1.00
Equipment sensible load	18831 Btuh

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

	Heating	Cooling
Area (ft²)	2149	2149
Volume (ft³)	19340	19340
Air changes/hour	0.22	0.11
Equiv. AVF (cfm)	71	35

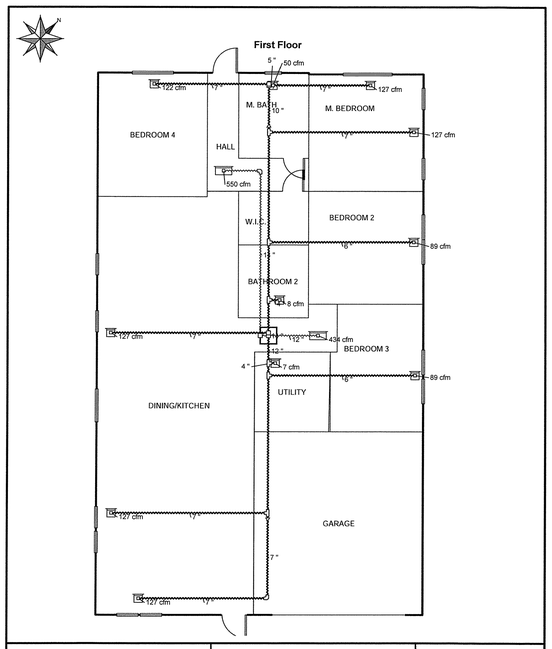
Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	TUH1B040A9H21B*
AHRI ref	5722413
Efficiency	95 AFUE
Heating input	40000 Btuh
Heating output	38000 Btuh
Temperature rise	50 °F
Actual air flow	712 cfm
Air flow factor	0.032 cfm/Btuh
Static pressure	0.60 in H2O
Space thermostat	

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	4TTR4024L1
Coil	4PX*BD30AC3+*UD2B080G9V3+HORIZ-RT
AHRI ref	7581375
Efficiency	12.5 EER, 15 SEER
Sensible cooling	17220 Btuh
Latent cooling	7380 Btuh
Total cooling	24600 Btuh
Actual air flow	820 cfm
Air flow factor	0.044 cfm/Btuh
Static pressure	0.60 in H2O
Load sensible heat ratio	0.90

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Job #:
Performed by Jim Reed for:
RCH CONSTRUCTION
31-32 H STEET
Santa Margarita, Ca 93453

Jim Reed CAD Service
610 10th Street
Paso Robles, Ca 93446
Phone: 805 239 8670
reed708@sbcglobal.net

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Duct System Summary
Entire House

Jim Reed CAD Service

Job:
Date: 6/22/17
By: Jim Reed

610 10th Street, Paso Robles, Ca 93446 Phone: 805 239 8670 Email: reed708@sbcglobal.net

Project Information

For: RCH CONSTRUCTION
31-32 H STEET, Santa Margarita, Ca 93453

	Heating	Cooling
External static pressure	0.60 in H2O	0.60 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0.60 in H2O	0.60 in H2O
Supply / return available pressure	0.464 / 0.136 in H2O	0.464 / 0.136 in H2O
Lowest friction rate	0.211 in/100ft	0.211 in/100ft
Actual air flow	712 cfm	820 cfm
Total effective length (TEL)	284 ft	

Supply Branch Detail Table

Name		Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
BATHROOM 2	h	208	8	3	0.439	4.0	0x0	VlFx	5.7	100.0	st2
BEDROOM 2	c	1701	78	89	0.322	6.0	0x0	VlFx	29.0	115.0	st2
BEDROOM 3	c	1699	80	89	0.378	6.0	0x0	VlFx	22.7	100.0	st1
BEDROOM 4	c	2339	119	122	0.211	7.0	0x0	VlFx	44.5	175.0	st2B
DINING/KITCHEN	c	2422	119	127	0.254	7.0	0x0	VlFx	47.5	135.0	st1A
DINING/KITCHEN-A	c	2422	119	127	0.444	7.0	0x0	VlFx	19.5	85.0	st2
DINING/KITCHEN-B	c	2422	119	127	0.298	7.0	0x0	VlFx	40.5	115.0	st1
M. BATH	h	1293	50	44	0.250	5.0	0x0	VlFx	30.8	155.0	st2A
M. BEDROOM	c	2429	78	127	0.235	7.0	0x0	VlFx	42.7	155.0	st2A
M. BEDROOM-A	c	2429	78	127	0.269	7.0	0x0	VlFx	42.3	130.0	st2
UTILITY	h	190	7	3	0.520	4.0	0x0	VlFx	4.2	85.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1A	Peak AVF	119	127	0.254	473	7.0	0 x 0	VinlFlx	st1
st1	Peak AVF	324	345	0.254	439	12.0	0 x 0	VinlFlx	
st2	Peak AVF	530	639	0.211	598	14.0	0 x 0	VinlFlx	
st2A	Peak AVF	247	293	0.211	538	10.0	0 x 0	VinlFlx	st2
st2B	Peak AVF	119	122	0.211	457	7.0	0 x 0	VinlFlx	st2A

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x0	403	434	37.0	0.368	552	12.0	0x 0		VlFx	
rb2	0x0	452	550	64.5	0.211	515	14.0	0x 0		VlFx	

PLAN PREPARED FOR:

RCH CONSTRUCTION
22507 H-STREET
SANTA MARGARITA, CA 93453

REVISION LOG

REV.	DESCRIPTION	DATE

PROJECT NO. —

FILE NAME MP-1 MECHANICAL DUCT PLAN.DWG

DRAWN BY JMB II C.D.

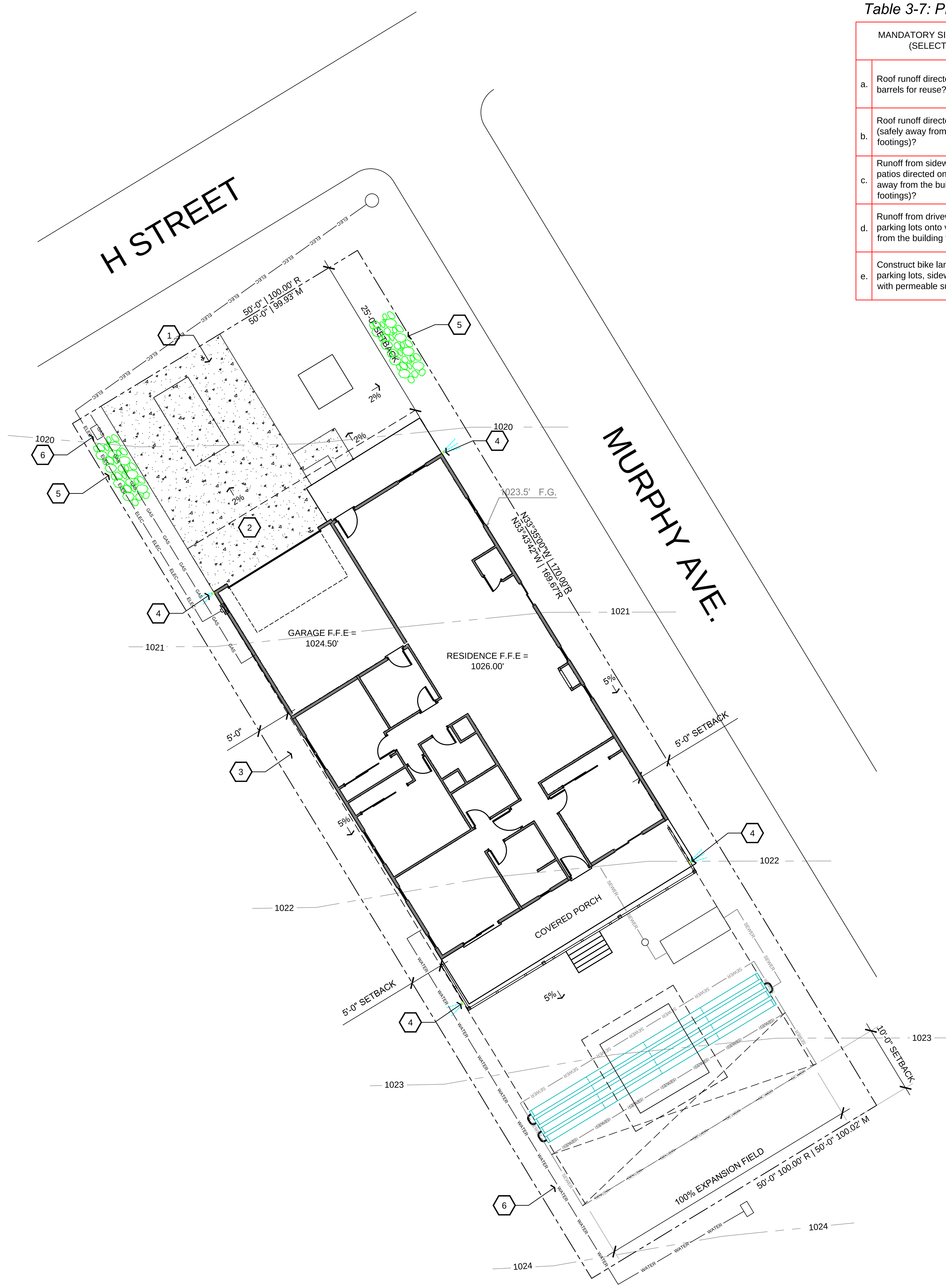
DATE 7/23/2018 9:46 AM

SHEET TITLE:

MECHANICAL
DUCT PLAN

SHEET NUMBER:

MP-1



GRADING PLAN

1" = 10'-0"

Table 3-7: PR1 Mandatory Site Design Measures

MANDATORY SITE DESIGN MEASURES (SELECT AT LEAST ONE)		SELECTED	REASON, IF NOT SELECTED	RELEVANT HANDBOOK SECTION
a.	Roof runoff directed into cisterns or rain barrels for reuse?	No	No Room for Cisterns	5.2.1
b.	Roof runoff directed into vegetated areas (safely away from building foundations and footings)?	Yes	Lot Drains to Vegetated areas	5.2.2
c.	Runoff from sidewalks, walkways, and/or patios directed onto vegetated areas (safely away from the building foundation and footings)?	Yes	Lot Drains to Vegetated areas	5.2.3
d.	Runoff from driveways and/or uncovered parking lots onto vegetated areas (safely away from the building foundation and footings)?	Yes	Lot Drains to Vegetated areas	5.2.4
e.	Construct bike lanes, driveways, uncovered parking lots, sidewalks, walkways, and patios with permeable surfaces?	No	Not Obtainable	5.2.5

CONSTRUCTION NOTES

1. CONSTRUCT RURAL DRIVEWAY APPROACH PER CO STD DWG B-1b. AN ENCROACHMENT PERMIT SHALL BE REQUIRED FOR ALL WORK PERFORMED IN THE COUNTY RIGHT OF WAY, (TYP).
2. CONSTRUCT PAVED DRIVEWAY PER DETAILS 1 AND 2, SHEET C-2.1, INSTALL TYPE 'A' HMA DIKE ON GARAGE DRIVEWAY, PER CO STD DWG C-3, (TYP).
3. CONSTRUCT 3' WIDE DRAINAGE SWALE PER DETAIL 3, SHEET C-2.1, (TYP).
4. INSTALL DRAIN DOWN SPOUT WITH CONCRETE SPLASH BLOCKS, AND DIRECT DRAINAGE TO DRAINAGE SWALES, (TYP).
5. INSTALL ROCK SLOPE PROTECTION PER SLO CO DRAWING DETAIL H-5, SEE DETAIL 5, SHEET C-2.1, AND INSTALL GEOTECH FABRIC UNDER RIPRAP. (TYP)
6. INSTALL UTILITIES TO RESIDENCE PER UTILITY SERVICES DETAIL, SHEET C-3.1, (TYP).

SURFACE DRAINAGE NOTE

SURFACE DRAINAGE SHALL BE GRADED TO A DRAIN SURFACE WATER AWAY FROM FOUNDATION WALL. THE GRADE SHALL FALL A MINIMUM OF 6" WITH THE FIRST 10'. EXCEPTION: WHERE LOT LINES, WALL, SLOPES, OR OTHER PHYSICAL BARRIERS PROHIBIT 6" OF FALL WITHIN 10', DRAINS OR SWALES SHALL BE CONSTRUCTED TO ENSURE DRAINAGE AWAY FROM STRUCTURE. IMPERVIOUS SURFACES WITHIN 10' OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF 2% AWAY FROM BUILDING (CRC R401.3 DRAINAGE, EXCEPTIONS)

* EXTERIOR SURFACES

EXTERIOR SERVICES (PROPANE TANK, AIR CONDITIONING UNIT, ETC.), IF APPLICABLE, SHALL BE HIDDEN WITH DECORATIVE BLINDS IN COMPLIANCE WITH LOCAL BUILDING REQUIREMENTS.

PROPANE TANK SPECIFICATIONS:
250 GALLON CAPACITY
31.5"W X 7'-2.5"L X 4'=0.625"H
10' OFFSET FROM STRUCTURES, PL

J.K. ENGINEERING
239-4151
John A. Kudla
Civil Engineering & Structural Design
R.C.E. #50652
610 10th ST. UNIT 'A' PASO ROBLES, CA.

PLAN PREPARED FOR:
RCH CONSTRUCTION
22507 H-STREET
SANTA MARGARITA, CA 93453

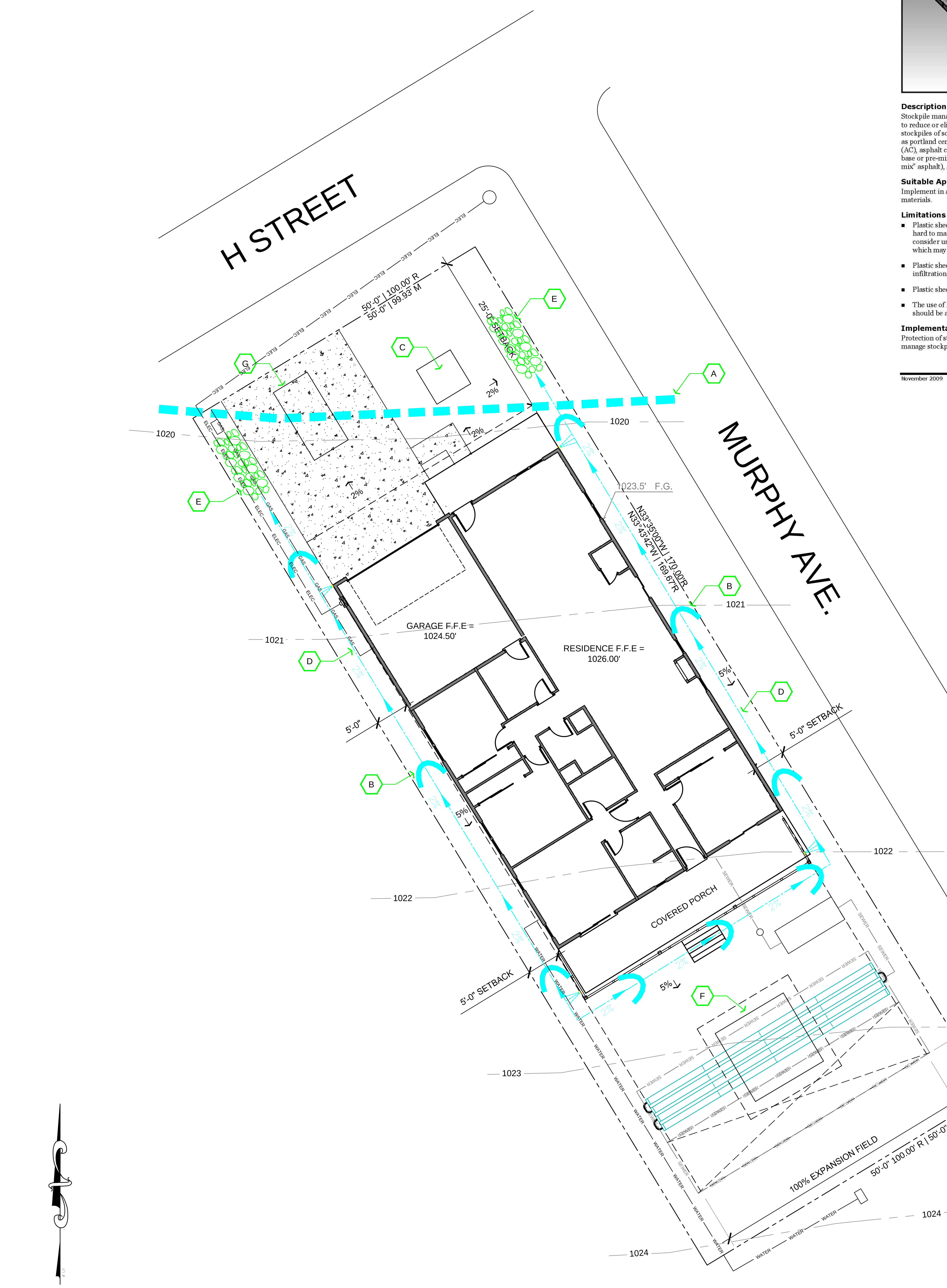
REVISION LOG

REV.	DESCRIPTION	DATE

PROJECT NO. —
FILE NAME JB CIVIL SHEETS.DWG
DRAWN BY JMB II C.D.
DATE 7/23/2018 9:46 AM

SHEET TITLE:
GRADING PLAN

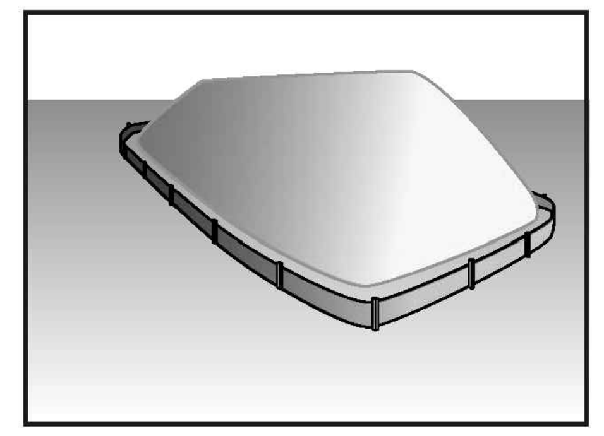
SHEET NUMBER:
C-1.1



EROSION CONTROL PLAN

1" = 10'-0"

Stockpile Management — WM-3



Categories

EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☒
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ Primary Category
☒ Secondary Category

Description and Purpose

Stockpile management procedures and practices are designed to reduce or eliminate air and stormwater pollution from stockpiles of soil, soil amendments, sand, paving materials such as portland cement concrete (PCC) rubble, asphalt concrete (AC), asphalt concrete rubble, aggregate base, aggregate sub base or pre-mixed aggregate, asphalt minder (so called "cold mix" asphalt), and pressure treated wood.

Suitable Applications

Implement in all projects that stockpile soil and other loose materials.

Limitations

- Plastic sheeting as a stockpile protection is temporary and hard to manage in windy conditions. Where plastic is used, consider use of plastic tarps with nylon reinforcement which may be more durable than standard sheeting.
- Plastic sheeting can increase runoff volume due to lack of infiltration and potentially cause perimeter control failure.
- Plastic sheeting breaks down faster in sunlight.
- The use of Plastic materials and photodegradable plastics should be avoided.

Implementation

Protection of stockpiles is a year-round requirement. To properly manage stockpiles:

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

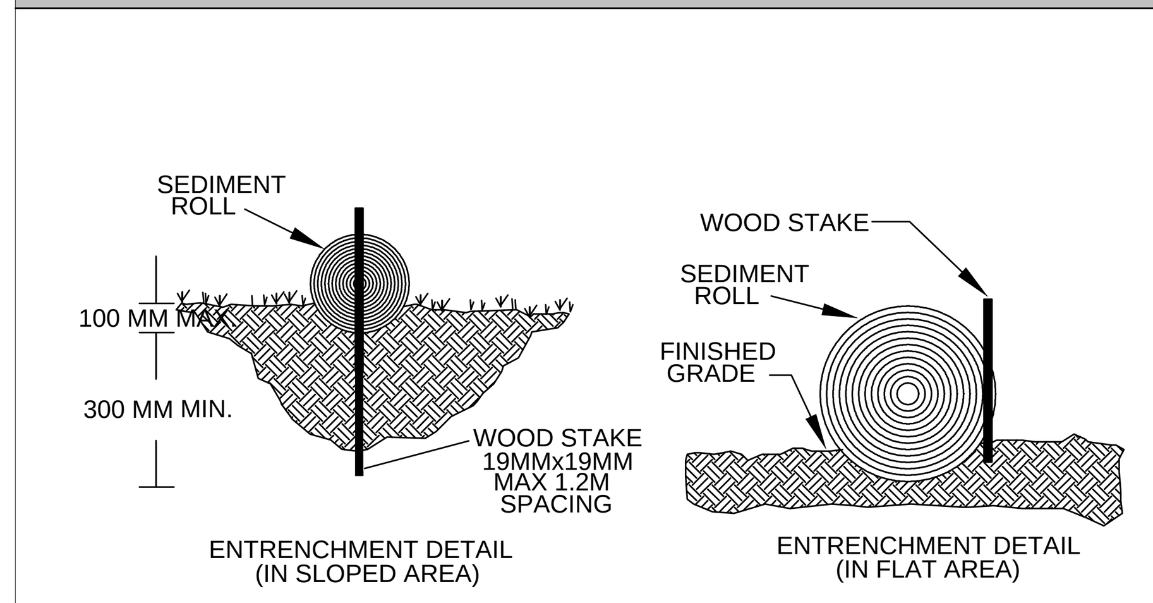
Potential Alternatives

None

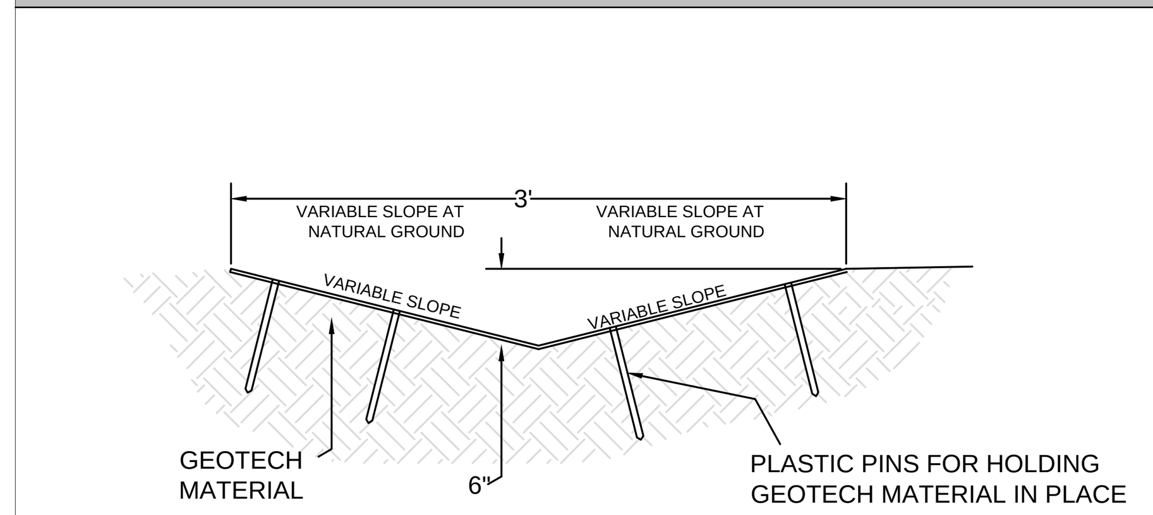
CASQA California Stormwater Quality Association

November 2009 — California Stormwater BMP Handbook Construction www.casqa.org — 1 of 3

FIBER ROLLS (SE-5)

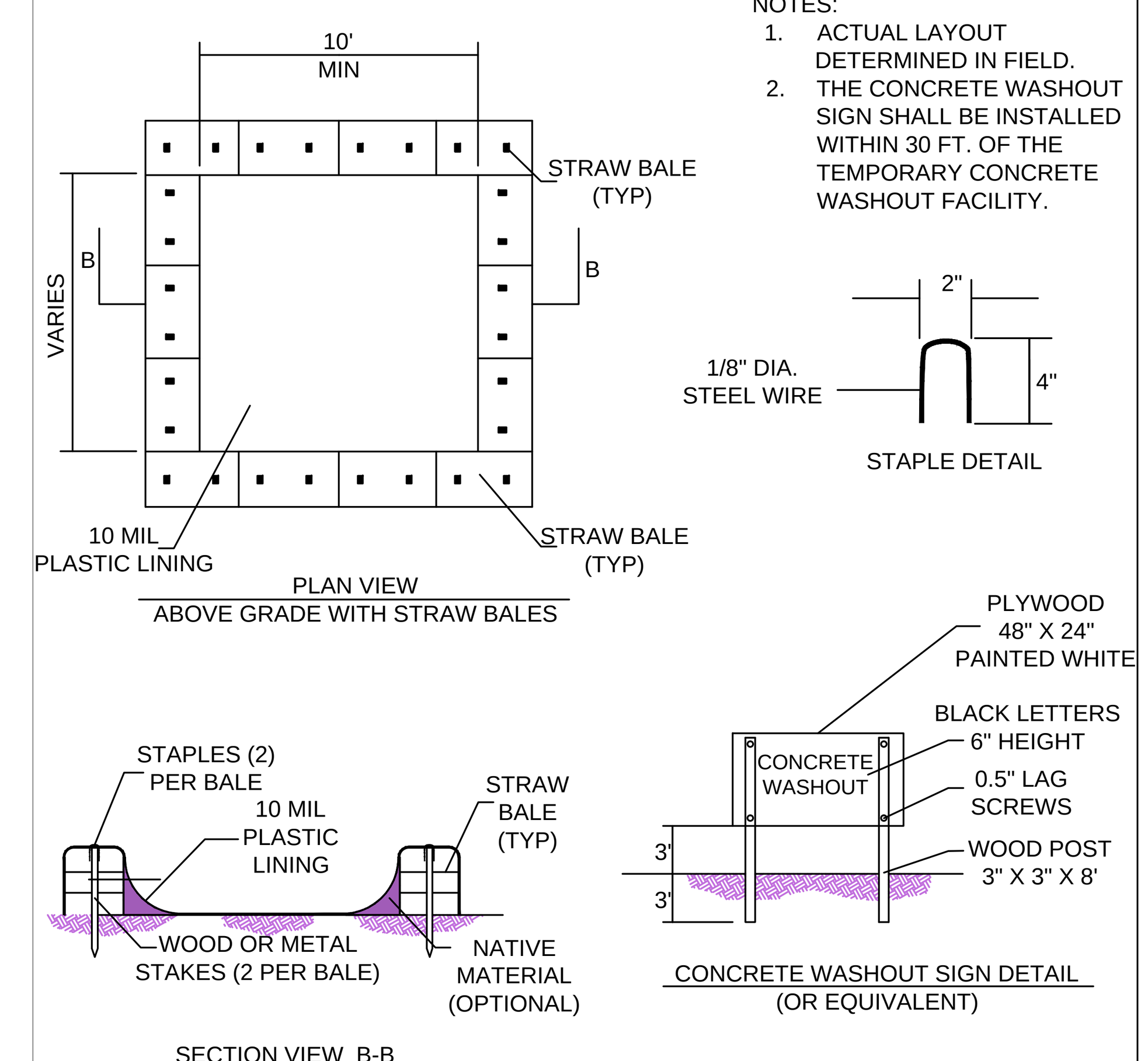


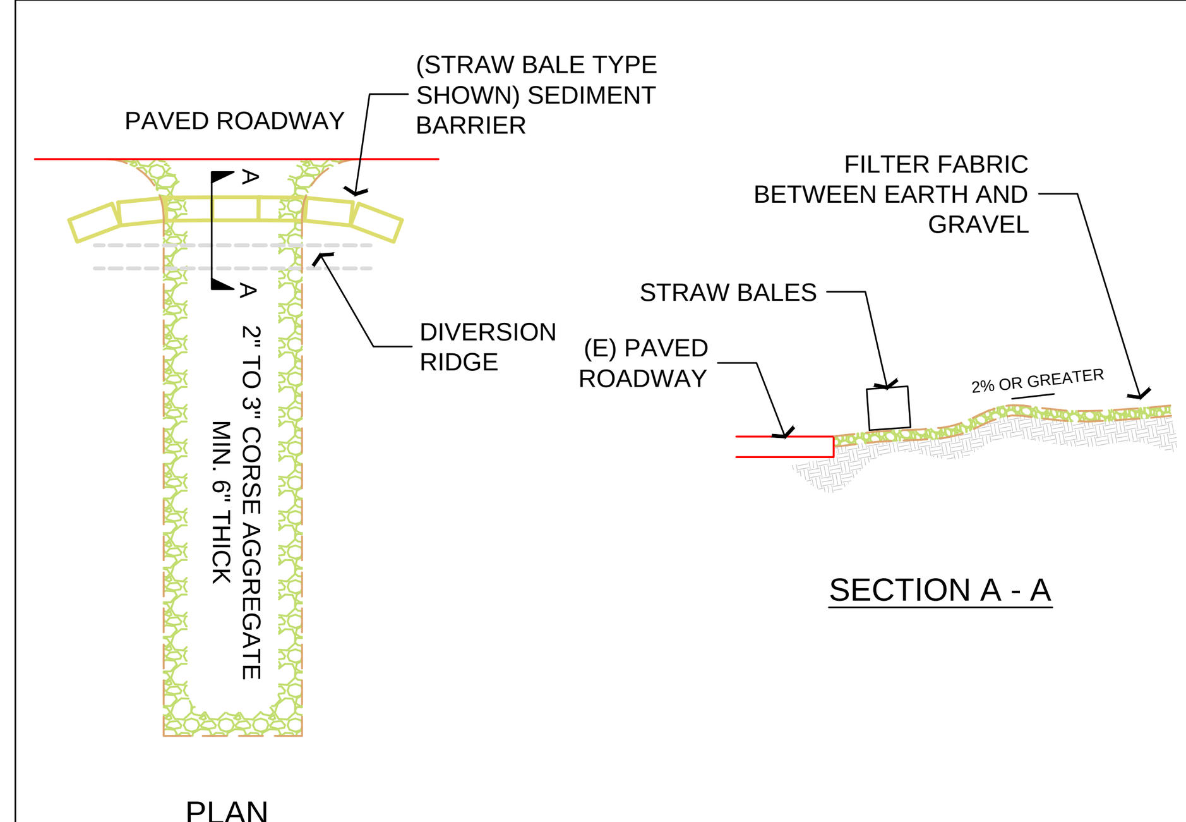
GEOTECH LINED SWALE (EC-9)



CONCRETE WASTE MANAGEMENT (WM-8)

NOTES:
1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.





Notes:
1. The entrance shall be maintained in a condition that will prevent tracking or flowing of sediment onto public rights of require top dressing, repair and/or cleanout of any measures to trap sediment.
2. When necessary wheels shall be cleaned prior to entrance onto public right-of-way.
3. When washing is required, it shall be done on an area stabalized with crushed stone that drains onto an approved sediment trap or sediment basin.

1 — TEMPORARY CONSTRUCTION ENTRANCE

EROSION CONTROL CALLOUTS

A. INSTALL FIBER ROLLS (SE-5) PARALLEL TO THE CONTOURS TO PROTECT THE SLOPE BEFORE EROSION CONTROL PLANITNG GERMINATION AND TO SLOW DRAINAGE AND TRAP SEDIMENT, REFER TO SHEET C-6.1 FOR EROSION CONTROL MBP'S (TYP)

B. INSTALL FIBER ROLLS (SE-5) IN A CHEVRON SHAPE TO SLOW DRAINAGE AND TRAP SEDIMENT, REFER TO SHEET C-6.1 FOR EROSION CONTROL MBP'S (TYP)

C. INSTALL CONCRETE WASTE MANAGEMENT (WM-8) PRIOR TO THE PLACEMENT OF CONCRETE AND STUCCO, REFER TO WM-8 DETAIL, HEREON (TYP)

D. INSTALL LINED DRAINAGE SWALES (EC-9), ALL SWALES SHALL BE VEGETATED TO MEET COMPLIANCE OF LOW IMPACT DEVELOPMENT REQUIREMENTS, REFER TO SHEET C-6.1 FOR EROSION CONTROL MBP'S (TYP)

E. INSTALL VELOCITY DISSIPATION DEVICES (EC-10), REFER TO SHEET C-6.1 FOR EROSION CONTROL MBP'S (TYP).

F. STOCKPILE AREA PER DETAIL WM-3 (THIS SHEET) (TYP).

G. CONSTRUCTION ENTRANCE PER DETAIL 1 (THIS SHEET).

EROSION CONTROL NOTES

1. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED OR ALL PROJECTS AND SHALL INCLUDE SOURCE CONTROL, INCLUDING PROTECTION OF STOCKPILES, PROTECTION OF SLOPES, PROTECTION OF ALL DISTURBED AREAS, AND PROTECTION OF ACCESSES. IN ADDITION, PERIMETER CONTAINMENT MEASURES SHALL BE PLACED PRIOR TO THE COMMENCEMENT OF GRADING AND SITE DISTURBANCE ACTIVITIES UNLESS THE PUBLIC WORKS DEPARTMENT TEMPORARY MEASURES TO BE UNNECESSARY BASED UPON LOCATION, SITE CHARACTERISTICS OR TIME OF YEAR. THE INTENT OF EROSION CONTROL MEASURES SHALL BE TO KEEP ALL SEDIMENT FROM ENTERING A SWALE, DRAINAGE WAY, WATERCOURSE, OR ONTO ADJACENT PROPERTIES.

2. SITE INSPECTIONS AND APPROPRIATE MAINTENANCE OF EROSION CONTROL DEVICES SHALL BE CONDUCTED AND DOCUMENTED PRIOR TO, DURING, AND AFTER RAIN EVENTS.

3. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE PLACEMENT AND MAINTENANCE OF ALL EROSION CONTROL DEVICES AS SPECIFIED BY THE APPROVED PLAN UNTIL SUCH TIME THAT THE PROJECT IS ACCEPTED AS COMPLETE BY THE PUBLIC WORKS DEPARTMENT. EROSION CONTROL DEVICES MAY BE RELOCATED, DELETED OR ADDITIONAL ITEMS MAY BE REQUIRED DEPENDING ON THE ACTUAL SOIL CONDITIONS DISCRETION OF THE ENGINEER OF WORK, COUNTY INSPECTOR, SWPPP MONITOR, OR RWQCB INSPECTOR. GUIDELINES FOR DETERMINING APPROPRIATE EROSION CONTROL DEVICES ARE INCLUDED IN THE APPENDIX OF THE PUBLIC IMPROVEMENT STANDARDS.

4. ALL EROSION CONTROL DEVICES SHALL BE THE FIRST ORDER OF WORK AND SHALL BE IN PLACE PRIOR TO THE START OF CONSTRUCTION AND/OR ANYTIME WHEN THE RAIN PROBABILITY EXCEEDS 30%. THIS WORK SHALL BE INSTALLED OR APPLIED AFTER EACH AREA IS GRADED AND NO LATER THAN FIVE (5) WORKING DAYS AFTER COMPLETION OF EACH AREA.

5. THE ENGINEER OF WORK AND THE PUBLIC WORKS DEPARTMENT SHALL BE NOTIFIED FOR INSPECTION OF INSTALLED EROSION CONTROL DEVICES.

6. A STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE PHASE OF CONSTRUCTION. NECESSARY MATERIALS SHALL BE AVAILABLE AND STOCK PILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OR MAINTENANCE OF TEMPORARY DEVICES WHEN RAIN IN IMMINENT.

7. PERMANENT EROSION CONTROL SHALL BE PLACED AND ESTABLISHED WITH 90% COVERAGE ON ALL DISTURBED SURFACES OTHER THAN PAVED OR GRAVEL SURFACES, PRIOR TO FINAL INSPECTION. PERMANENT EROSION CONTROL SHALL BE FULLY ESTABLISHED PRIOR TO FINAL ACCEPTANCE. TEMPORARY EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL PERMANENT MEASURES ARE ESTABLISHED.

8. IN THE EVENT OF A FAILURE, THE DEVELOPER AND/OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR CLEANUP AND ALL ASSOCIATED COSTS OR DAMAGES. IN THE EVENT THAT DAMAGE OCCURS WITHIN THE RIGHT OF WAY AND THE COUNTY IS REQUIRED TO PERFORM CLEANUP, ALL WORK SHALL CEASE ON THE PROJECT UNTIL CLEANUP COSTS ARE FULLY PAID.

9. IF ANY WORK IS NOT IN COMPLIANCE WITH THE PLANS OR PERMITS APPROVED FOR THE PROJECT, THE DEPARTMENT SHALL REVOKE ALL ACTIVE PERMITS AND RECOMMEND THE COUNTY CODE ENFORCEMENT PROVIDE A WRITTEN NOTICE OR STOP WORK ORDER IN ACCORDANCE WITH SECTION 22.52.140 [23.10] OF THE LAND USE ORDINANCE.

10. ALL PROJECTS INVOLVING SITE DISTURBANCE OF ONE ACRE OR GREATER SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (HPDES). THE DEVELOPER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO COMPLY WITH THE GENERAL PERMIT FOR CONSTRUCTION ACTIVITY WITH THE REGIONAL WATER QUALITY CONTROL BOARD (RWQCB). THE DEVELOPER SHALL PROVIDE THE COUNTY WITH THE WASTE DISCHARGE IDENTIFICATION NUMBER (WDID #) OR WITH VERIFICATION THAT AN EXEMPTION HAS BEEN GRANTED BY RWQCB.WDID NUMBER:

11. PERSON TO CONTACT 24 HOURS A DAY IN THE EVENT THERE IS AN EROSION CONTROL/SEDIMENTATION PROBLEM (STORM WATER COMPLIANCE OFFICER):

NAME: RYAN HALSEY
LOCAL PHONE NUMBER: (805) 423-2920
PROJECT IS EXEMPT FROM WDID REQUIREMENTS

BEST MANAGEMENT PRACTICES

1. TEMPORARY SOIL STABILIZATION (EROSION CONTROL)

SCHEDULING	EC-1
PRESERVATION OF EXISTING VEGETATION	EC-2
HYDRAULIC MULCH	EC-3
HYDROSEEDING	EC-4
SOIL BINDERS	EC-5
STRAW MULCH	EC-6
GEOTEXTILES, PLASTIC COVERS, AND EROSION CONTROL BLANKETS/MATS	EC-7
WOOD MULCHING	EC-8
EARTH DIKES/DRAINAGE SWALES AND LINED DITCHES	EC-9
OUTLET PROTECTION/VELOCITY DISSIPATION DEVICES	EC-10
SLOPE DRAINS	EC-11
STREAMBANK STABILIZATION	EC-12
POLYACRYLAMIDE	EC-13

2. TEMPORARY SEDIMENT CONTROL

SILT FENCE	SE-1
SEDIMENT/DESILTING BASIN	SE-2
SEDIMENT TRAP	SE-3
CHECK DAM	SE-4
FIBER ROLLS	SE-5
GRAVEL BAG BERM	SE-6
STREET SWEEPING AND VACUUMING	SE-7
SANDBAG BARRIER	SE-8
STRAW BALE BARRIER	SE-9
STORM DRAIN INLET PROTECTION	SE-10
CHEMICAL TREATMENT	SE-11

3. WIND EROSION CONTROL

WIND EROSION CONTROL	WE-1

4. TRACKING CONTROL

STABILIZED CONSTRUCTION ENTRANCE/EXIT	TC-1
STABILIZED CONSTRUCTION ROADWAY	TC-2
ENTRANCE/OUTLET TIRE WASH	TC-3

JK ENGINEERING
239-4151
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PLAN PREPARED FOR:
RCH CONSTRUCTION
22507 H-STREET
SANTA MARGARITA, CA 93453

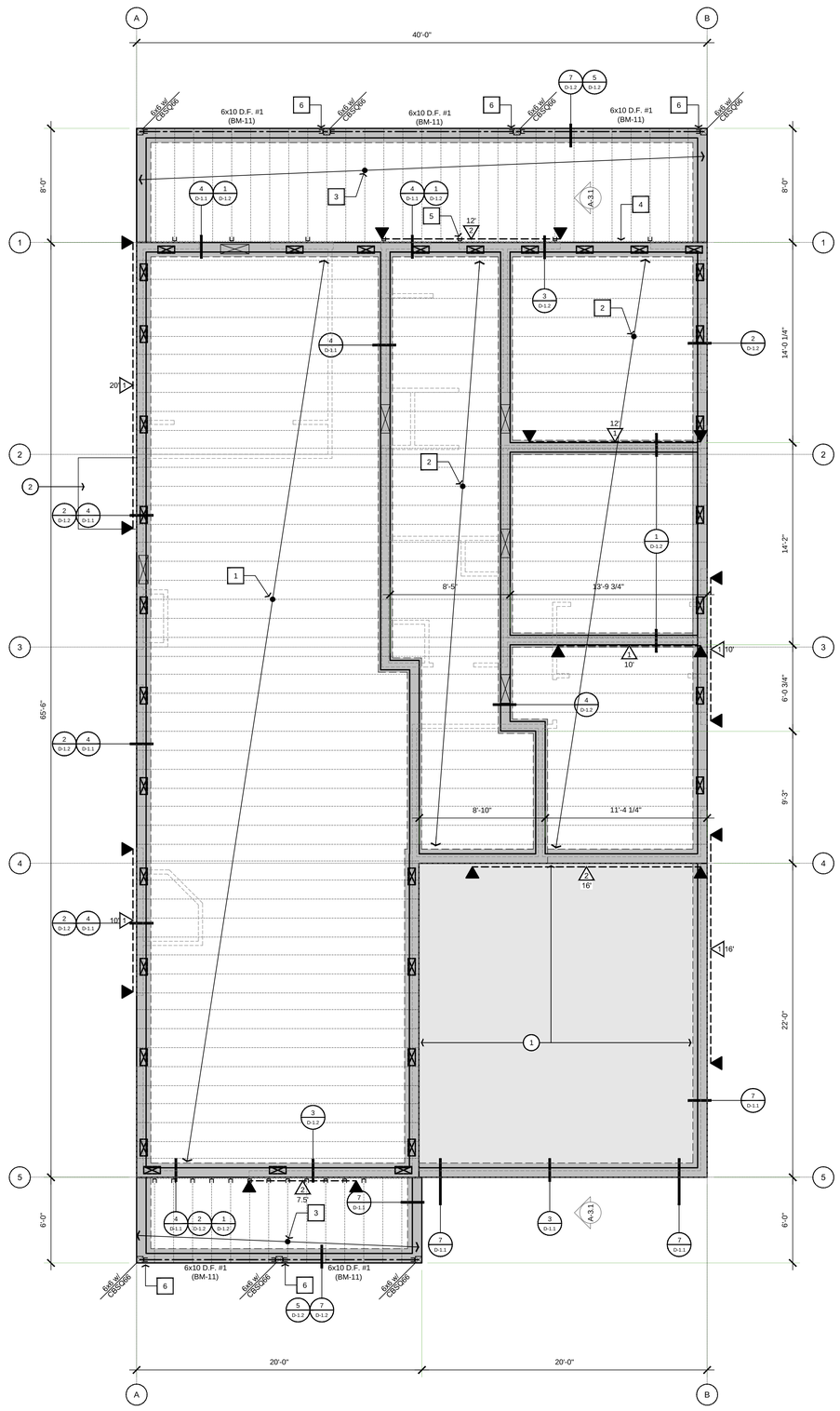
REVISION LOG

REV.	DESCRIPTION	DATE

PROJECT NO. ----
FILE NAME JB CIVIL SHEETS.DWG
DRAWN BY JMB II C.D.
DATE 7/23/2018 9:46 AM

SHEET TITLE:
EROSION CONTROL PLAN

SHEET NUMBER:
C-2.1



FOUNDATION PLAN

1/4" = 1'

FOUNDATION CALLOUTS

1. 24" HIGH x 8" WIDE CONCRETE CURB AROUND GARAGE PERIMETER (TYP)
2. CONCRETE PAD FOR A/C UNIT. 4" CONCRETE PAD OVER 4" CLEAN COMPACTED FILL SAND. THICKEN CONCRETE PAD AT PERIMETER.
3. FLOOR VENTILATION CALCULATIONS:
   CRAWL-SPACE AREA = 2175 SQ FT

   REQUIRED UNDER-FLOOR VENTILATION :
   2175 / 150 = 14.50 SQ. FT. = 2088 SQ. IN.

   USE (34) 14"x6" FOUNDATION VENTS (NFVA = 62) = 2108 SQ. IN.
   USE BRANDGUARD VENTS OR APPROVED EQUAL TO RESIST INTRUSION OF FLAME & EMBER INTO UNDER-FLOOR AREA.

FRAMING CALLOUTS

1. 11 7/8" TJI 560 @ 16" o/c
2. 11 7/8" TJI 210 @ 16" o/c
3. 2x6 D.F. #2 JOISTS @ 16" o/c
4. 2x6 P.T. D.F. #2 LEDGER w/ (2) 1/2" x 4" SDS SCREWS @ 16" o/c
5. LUS26 (TYP)
6. HUC610 (TYP)

LEGEND

18" x 24" UNDER-FLOOR ACCESS

14" x 6" FOUNDATION VENT

FOUNDATION NOTES

1. CONCRETE TO WITHSTAND 2500 PSI WITHIN 28 DAYS
2. REFER TO FRAMING PLAN FOR EXACT PLACEMENT OF HOLDOWNS
3. ALL HOLDOWNS TO BE PLACED IN CONCRETE PRIOR TO INSPECTION
4. FOUNDATION EXCAVATIONS SHOULD BE OBSERVED BY THE GEOTECH ENGINEER OF RECORD AFTER EXCAVATION, BUT PRIOR TO PLACING REINFORCING STEEL OR FORMS
5. ALL CONSTRUCTION DIMENSIONS SHOULD BE VERIFIED WITH THE ARCHITECTURAL SET OF PLANS
6. INTERIOR, NON-BEARING, NON-SHEAR WALLS SHALL BE ANCHORED WITH HILTI SHOT PINS (ESR# 2379) @ 24" O/C MAX TO SLABS OR NAILED WITH 16d @ 12" O/C MAX TO WOOD FLOORS. ANCHORS SHALL BE CENTERED ON PLATE

SOIL NOTE

SOILS EXPANSION INDEX IS HIGH
REPORT: 18364
BY: MID-COAST GEOTECHNICAL, INC.
DATED: MAY 24, 2018

FRAMING NOTES

1. ALL HEADERS ABOVE OPENINGS AT BEARING WALLS ARE DEPICTED WITH LINEWORK AND SHALL BE A MINIMUM (U.O.N.):
   4 X 12 DF # 2 AT 2 X 4 STUD WALLS
   6 X 12 DF # 1 AT 2 X 6 STUD WALLS
2. ALL TOP PLATES TO HAVE 60" MIN. LAP AT SPLICES WITH (32) 16d NAILS STAGGERED PER CONNECTION. (U.O.N.)
3. USE 7/16" OSB PLYWOOD FLOOR SHEATHING (SPAN INDEX 40/20) GLUED AND NAILED WITH 10d AT 6-6-12 " O.C. CASE 1 LAYOUT.
4. ALL LUMBER SHALL BE IDENTIFIED WITH THE GRADE MARK AND STAMP OF THE GRADING ASSOCIATION COVERING THE SPECIES AND UNDER WHOSE GRADING RULES THE LUMBER WAS PRODUCED.
5. THE MANUFACTURERS A.I.T.C. CERTIFICATION OF COMPLIANCE FOR GLU-LAM BEAMS OR MICRO-LAM BEAMS IS TO BE PROVIDED AT THE TIME OF FRAMING INSPECTION AND PROPERLY INDICATE THE FIBER BENDING AND GRADE SPECIFICATION.
6. PLACE SHEAR PANEL ON SHEAR WALLS PRIOR TO THE CONSTRUCTION OF INTERSECTING WALLS.
7. PROVIDE FIRE STOPS IN CONCEALED SPACES OF STUD WALLS INCLUDING SPACES AT CEILING AND FLOORS & IN OPENINGS AROUND DUCTS, PIPES, CHIMNEYS, AND SIMILAR OPENINGS WHICH ALLOW PASSAGE OF FIRE.
8. SHOWER AREA WALLS SHALL BE FINISHED WITH A SMOOTH NON-ABSORBENT, HARD SURFACE TO A HEIGHT OF 70" ABOVE DRAIN INLET. (CBC 1210.3)
9. ALL INT. NON-BEARING WALLS = 2X4 AT 16" O.C. (U.O.N.)
10. ALL EXTERIOR AND PLUMBING WALLS = 2 X 6 STUDS AT 16" O.C. (U.O.N.)

ANCHOR BOLT NOTE

2 X SILL PLATE ----------> USE 5/8" DIAMETER X 10" MIN. ANCHOR BOLTS
3 X SILL PLATE ----------> USE 5/8" DIAMETER X 12" MIN. ANCHOR BOLTS

ANCHOR BOLTS SHALL BE EMBEDDED 7" MINIMUM INTO PERIMETER FOOTING AND SPACED AT 4 FEET MAX. ON CENTER UNLESS NOTED OTHERWISE ON SHEAR WALL SCHEDULE. BOLTS SHALL BE A MAXIMUM OF 12" FROM SILL ENDS AND SPLICES WITH A MINIMUM OF 2 BOLTS PER SPLICE. USE 3" X 3" X 0.229" THICK FLAT PLATE WASHERS AT EACH ANCHOR BOLT.

CONCRETE NOTE

CONCRETE SLAB SHALL BE 4" THICK MINIMUM WITH #3 BARS @ 18" O/C. EACH WAY OVER 2" CLEAN COMPACTED FREE DRAINING SAND OVER A VAPOR RETARDER CONFORMING TO ASTM E 1643-11 (10 MIL VISQUEEN OR APPROVED EQUAL) . VAPOR RETARDER TO BE PLACED OVER 6" CLEAN FREE DRAINING MATERIAL. SET REINFORCEMENT AT MID-DEPTH OF SLAB. FOOTINGS SHALL BE DIMENSIONED AND REINFORCED PER TABLE BELOW, UNLESS NOTED OTHERWISE ON FOUNDATION PLANS. DEPTH OF FOOTINGS SHALL BEGIN AT COMPETENT MATERIAL, WHICH MAY NOT BE THE SAME AS FINISHED GRADE. REINFORCEMENT SHALL BE CONTINUOUS TOP AND BOTTOM. USE #3 REINFORCEMENT BAR SET 3" MINIMUM ABOVE BOTTOM OF FOOTING AND BENT 3'-0" MINIMUM INTO SLAB.

PREMOISTENING CONTROL FOR SOILS UNDER FOOTINGS AND SLABS SHALL BE TO 140% OF OPTIMUM MOISTURE CONTENT TO A DEPTH OF 30" BELOW LOWEST GRADE. TESTING REQUIRED. AFTER PREMOISTENING, THE SPECIFIED MOISTURE CONTENT OF THE SOILS SHALL BE MAINTAINED UNTIL CONCRETE IS PLACED. REQUIRED MOISTURE CONTENT SHALL BE VERIFIED BY AN APPROVED TESTING LABORATORY NOT MORE THAN 24 HOURS PRIOR TO PLACEMENT OF CONCRETE. CONCRETE SLABS SHALL BE SAW CUT 3/4" DEEP @ 15' O/C. GRIDS WITHIN 24 HOURS OF SLAB POUR.

FTG DIMENSIONS & REINFORCEMENT

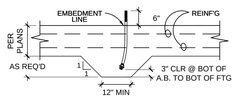
NO. STORIES	WIDTH, W	DEPTH, TH	BARS TOP	BARS BOT
1	12"	27"	(1) #5	(1) #5
2	15"	27"	(1) #5	(1) #5
3	18"	27"	(2) #5	(2) #5

HOLDOWN KEY

- ▼ = HDU2 W/ SB5/8x24 USE 4X POST MIN. (UON)
- ■ = HDU4 W/ SB5/8x24 USE 4X POST MIN. (UON)
- ● = HDU5 W/ SB5/8x24 OR HDU8 W/ SB7/8x24 USE 4X POST MIN. (UON)
- ⬢ = HDU11 OR HDU14 W/ SB1x30 USE 4X POST MIN. (UON)

SEE DTLS. 12 / S-1.1

SB HOLDOWN ANCHOR DETAIL



INCREASED FOOTING DEPTH AT SSTB HOLDOWN ANCHOR (WHERE APPLICABLE)

LEGEND

- CONC. SLAB SEE CONC. NOTE THIS PAGE
- PROVIDE (2) #5 BARS TOP & BOTTOM INTO 12" WIDE x 18" DEEP FOOTING
- PROVIDE (2) #4 BARS TOP & BOTTOM INTO 12" WIDE x 18" DEEP FOOTING
- PROVIDE (3) #5 BARS TOP & BOTTOM INTO 12" WIDE x 18" DEEP FOOTING

FLYASH AND/OR SLAG

PER GREEN BUILD CHECKLIST, NO LESS THAN 30% OF PORTLAND CEMENT IN CONCRETE MIX DESIGN SHALL BE REPLACED WITH FLYASH AND/OR SLAG.

SHEAR WALL SCHEDULE

	SHEAR (plf)	MATERIAL	2 SIDES	NAILING (E.N. F.N.)	TOP PLATE CONNECTOR 3,5,7,11	SILL PLATE NAILS 6 @ SUB-FLR	5/8" ø A.B. 4,5 @ FND
1	280	15/32" OSB (ID# 24/0)	N	8d @ 6 - 12	RBC @ 18" o/c or LPT4 @ 24" o/c	16d @ 6" o/c	48" o/c
2	430	15/32" OSB (ID# 24/0)	N	8d @ 4 - 12	RBC @ 12" o/c or LPT4 @ 16" o/c	16d @ 4.5" o/c	40" o/c
3	550	15/32" OSB (ID# 24/0)	N	8d @ 3 - 12	RBC @ 8" o/c or LPT4 @ 12" o/c	16d @ 3.5" o/c	32" o/c
4	665	15/32" OSB (ID# 24/0)	N	10d @ 3 - 12	RBC @ 8" o/c or LPT4 @ 10" o/c	16d @ 3.0" o/c	26" o/c
5	870	15/32" OSB (ID# 24/0)	N	10d @ 2 - 12	RBC @ 6" o/c or LPT4 @ 8" o/c	SDWS22600DB @ 6.0" o/c	20" o/c
6	1330	15/32" OSB (ID# 24/0)	Y	10d @ 3 - 12	LTP4 @ 5" o/c	(2) SDWS22600DB @ 6.0" o/c	12" o/c
7	1740	15/32" OSB (ID# 24/0)	Y	10d @ 2 - 12	LTP4 @ 4" o/c	(2) SDWS22600DB @ 6.0" o/c	10" o/c

FOOTNOTES:

1. All sheathing to be Struct I panel grade and fully blocked.
2. Refer to "Vertical Diaphragm Notes" for material and application specifications.
3. All nails specified are common. Where "air-gun" nailing is used, care shall be taken to use true common nail equivalents.
4. Provide 0.229" thick x 3" square, flat plate washers at all 5/8" diameter anchor bolts.
5. For walls which bear trusses; one H-1 clip, from truss to top plate, may be used in place of one A35 top plate connector.
6. Use RBC @ 3x sill plate to rim joist or solid blocking with spacing per "Top Plate Connector".
7. Ok to use (1) A35 clip in lieu of (1) RBC as needed.
8. Studs shall be 3x minimum @ panel edges. Use 3x P.T.D.F. bottom plate for Shear Panel 5 and above. Use 2x P.T.D.F. bottom plate for Shear Panels 1-4. Stagger nails @ double top plate and panel edges.
9. Stagger nails at opposite sides of wall.
10. Provide a double rim joist and stagger SDWS screws by 3".
11. Install LTP4 with 8d common nails only.

ENGINEERING
239-4151
John A. Kudla
Civil Engineering &
Structural Design
R.C.E. #50652
610 10th ST. UNIT 'A' PASO
ROBLES, CA.

PLAN PREPARED FOR:

RCH CONSTRUCTION
22507 H-STREET
SANTA MARGARITA, CA 93453

REVISION LOG

REV.	DESCRIPTION	DATE

PROJECT NO. —

FILE NAME S-1.1 FOUNDATION PLAN.DWG

DRAWN BY JMB II C.D.

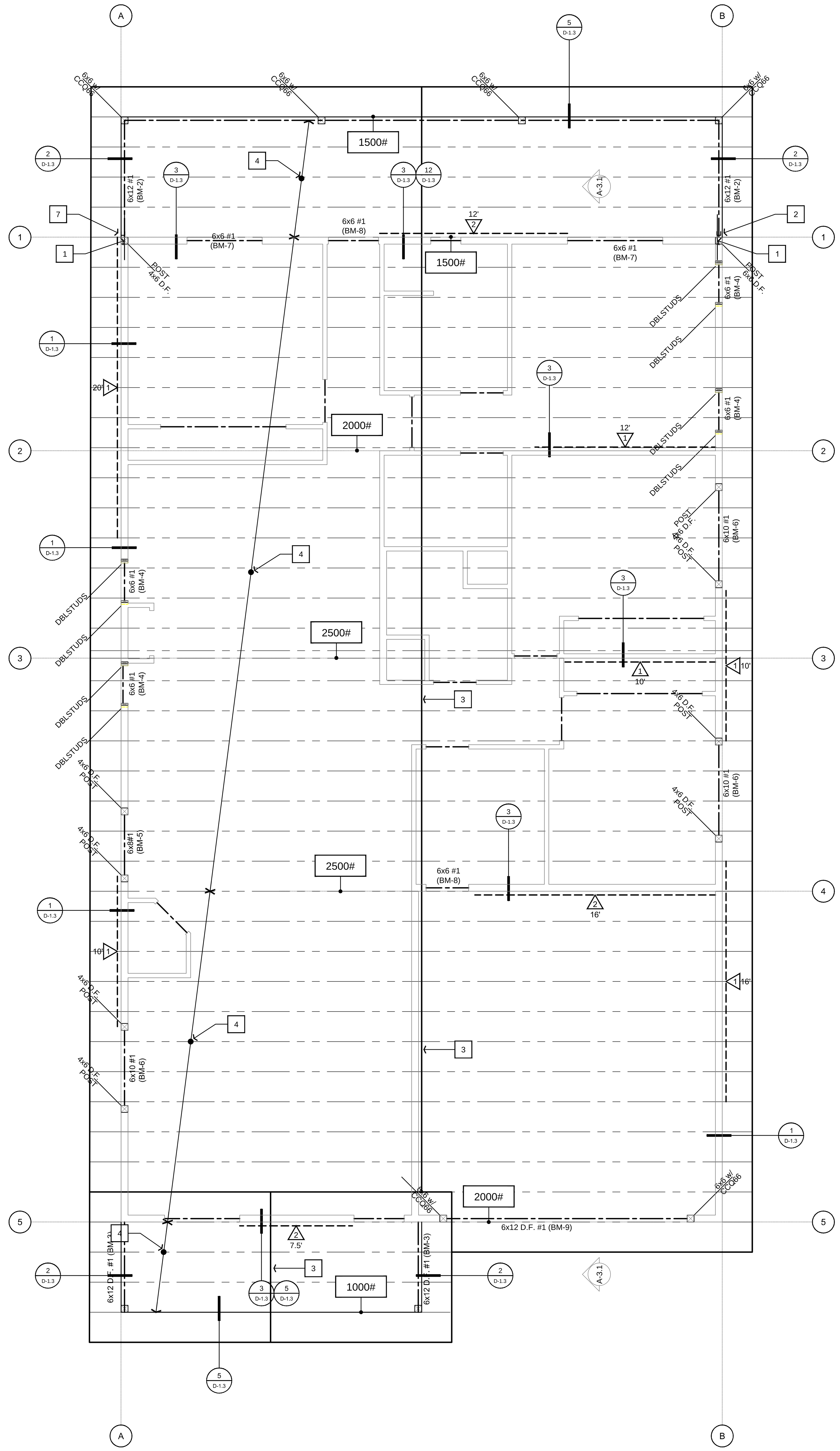
DATE 7/23/2018 9:46 AM

SHEET TITLE:

FOUNDATION PLAN

SHEET NUMBER:

S-1.1



FRAMING PLAN

1/4" = 1'

FRAMING CALLOUTS

1. CS16x36" STRAP BEAM TO TOP PLATE
2. HUC 610
3. SOLID BLOCKING @ RIDGE
4. REMANUFACTURED TRUSSES @24" o/c

FRAMING NOTES

1. ALL HEADERS ABOVE OPENINGS AT BEARING WALLS ARE DEPICTED WITH LINEWORK AND SHALL BE A MINIMUM (U.O.N.):
   4 X 12 DF # 2 AT 2 X 4 STUD WALLS
   6 X 12 DF # 1 AT 2 X 6 STUD WALLS
2. ALL TOP PLATES TO HAVE 48" MIN. LAP AT SPLICES WITH (18) 16d NAILS STAGGERED PER CONNECTION. (U.O.N.)
3. USE ¾" OSB PLYWOOD FLOOR SHEATHING (SPAN INDEX 40/20) GLUED AND NAILED WITH 10d AT 6-6-12 " O.C. CASE 1 LAYOUT.
4. ALL LUMBER SHALL BE IDENTIFIED WITH THE GRADE MARK AND STAMP OF THE GRADING ASSOCIATION COVERING THE SPECIES AND UNDER WHOSE GRADING RULES THE LUMBER WAS PRODUCED.
5. THE MANUFACTURERS A.I.T.C. CERTIFICATION OF COMPLIANCE FOR GLU-LAM BEAMS OR MICRO-LAM BEAMS IS TO BE PROVIDED AT THE TIME OF FRAMING INSPECTION AND PROPERLY INDICATE THE FIBER BENDING AND GRADE SPECIFICATION.
6. PLACE SHEAR PANEL ON SHEAR WALLS PRIOR TO THE CONSTRUCTION OF INTERSECTING WALLS.
7. PROVIDE FIRE STOPS IN CONCEALED SPACES OF STUD WALLS INCLUDING SPACES AT CEILING AND FLOORS & IN OPENINGS AROUND DUCTS, PIPES, CHIMNEYS, AND SIMILAR OPENINGS WHICH ALLOW PASSAGE OF FIRE.
8. SHOWER AREA WALLS SHALL BE FINISHED WITH A SMOOTH NON-ABSORBENT, HARD SURFACE TO A HEIGHT OF 70" ABOVE DRAIN INLET. (CBC 1210.3)
9. ALL INT. NON-BEARING WALLS = 2X4 AT 16" O.C. (U.O.N.)
10. ALL EXTERIOR AND PLUMBING WALLS = 2 X 6 STUDS AT 16" O.C. (U.O.N.)

ROOF FRAMING NOTES

1. USE H-1 CLIPS AT EACH TRUSS TO TOP PLATE CONNECTION
2. PROVIDE EAVE BLOCKS BETWEEN EACH TRUSS W/ 8d AT 6" O.C. AND PROVIDE VENT BLOCKS AT EVERY THIRD TRUSS IF APPLIES.
3. ROOF SHEATHING TO BE ⅝" OSB PLY INDEX #32/16 W/ 8d AT 6" O.C. EDGES AND 12" O.C. FIELD. CASE 1 LAYOUT
4. USE ⅝" T1-11 OR EQUIVALENT AT EAVES W/ 6-6-12 NAILING AND CASE 1 LAYOUT. USE EXTERIOR GLUE AT ALL EXPOSED EAVES.
5. ALL ROOF PLY MUST HAVE RADIANT BARRIER .
6. ROOF UNDER LAYMENT SHALL COMPLY WITH CBC 1507 AND APPLICABLE TABLES. USE 30# FELT UNDERNEATH ALL ROOF MATERIALS.
7. VALLEY FILL W/ 2X6 DF #2 AT 24" O.C. & 2X8 AT RIDGE.
8. FASCIA TO BE 2X8 HEM FIR.
9. PROVIDE FLASHING AND COUNTER FLASHINGS AT ROOF TO WALL CONNECTIONS AND BASE OF CHIMNEY TO DIVERT RUNOFF.
10. ALL TRUSS ENGINEERING, DRAWINGS, TRUSS TYPES, AND DETAILS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT. FOR APPROVAL PRIOR TO INSTALLATION.
11. PROVIDE DIAGONAL BRACING AT GABLE ENDS AS PER TRUSS MANUFACTURER SPECIFICATIONS.

AXIAL LOADED TRUSSES

ALL ROOF PLY AT AXIAL LOADED TRUSSES IN LINE WITH SHEAR PANELS OR LATERAL RESISTING ELEMENTS AS SHOWN ON FRAMING PLAN TO BE NAILED WITH 8d NAILS @ 6 O.C.

LEGEND

??????# — AXIALLY LOADED TRUSS / GIRDER TRUSS / JACK TRUSS IN LINE GOOD FOR NUMBER OF POUNDS NOTED

SOLID BLOCKED ROOF DIAPHRAGM WITH 8d @ 6-6-12 NAILING WITH 3X BLOCKING AT ALL PANEL EDGES. PROVIDE A35 CLIPS AT EAVE BLOCKING TO TOP PLATE AT 24" O/C

MANUFACTURED TRUSSES

ALL TRUSS DIMENSIONS TO BE VERIFIED BY CONTRACTOR PRIOR TO TRUSSES BEING ORDERED

ALL TRUSS ENGINEERING, DRAWINGS, TRUSS TYPES, AND DETAILED SHOP DRAWINGS SHALL BE APPROVED BY THE PROJECT ENGINEER PRIOR TO THE INSTALLATION OF THE TRUSSES.

SHEAR WALL SCHEDULE

	SHEAR (plf)	MATERIAL	2 SIDES	NAILING (E.N. F.N.)	TOP PLATE CONNECTOR [3,5,7,11]	SILL PLATE NAILS [6] @ SUB-FLR	⅝" Ø A.B. [4,8] @ FND
1	280	15/32" OSB (ID# 24/0)	N	8d @ 6 - 12	RBC @ 18" o/c or LPT4 @ 24" o/c	16d @ 6" o/c	48" o/c
2	430	15/32" OSB (ID# 24/0)	N	8d @ 4 - 12	RBC @ 12" o/c or LPT4 @ 16" o/c	16d @ 4.5" o/c	40" o/c
3	550	15/32" OSB (ID# 24/0)	N	8d @ 3 - 12	RBC @ 8" o/c or LPT4 @ 12" o/c	16d @ 3.5" o/c	32" o/c
4 [8]	665	15/32" OSB (ID# 24/0)	N	10d @ 3 - 12	RBC @ 8" o/c or LPT4 @ 10" o/c	16d @ 3.0" o/c	26" o/c
5 [8]	870	15/32" OSB (ID# 24/0)	N	10d @ 2 - 12	RBC @ 6" o/c or LPT4 @ 8" o/c	SDWS22600DB @ 6.0" o/c	20" o/c
6 [8,9,10]	1330	15/32" OSB (ID# 24/0)	Y	10d @ 3 - 12	LTP4 @ 5" o/c	(2) SDWS22600DB @ 6.0" o/c	12" o/c
7 [8,9,10]	1740	15/32" OSB (ID# 24/0)	Y	10d @ 2 - 12	LTP4 @ 4" o/c	(2) SDWS22600DB @ 6.0" o/c	10" o/c

FOOTNOTES:

1. All sheathing to be Struct I panel grade and fully blocked.
2. Refer to "Vertical Diaphragm Notes" for material and application specifications.
3. All nails specified are common. Where "air-gun" nailing is used, care shall be taken to use true common nail equivalents.
4. Provide 0.229" thick x 3" square, flat plate washers at all 5/8" diameter anchor bolts.
5. For walls which bear trusses; one H-1 clip, from truss to top plate, may be used in place of one A35 top plate connector.
6. Use RBC @ 3x sill plate to rim joist or solid blocking with spacing per "Top Plate Connector".
7. Ok to use (1) A35 clip in lieu of (1) RBC as needed.
8. Studs shall be 3x minimum @ panel edges. Use 3x P.T.D.F. bottom plate for Shear Panel 5 and above. Use 2x P.T.D.F. bottom plate for Shear Panels 1-4. Stagger nails @ double top plate and panel edges.
9. Stagger nails at opposite sides of wall.
10. Provide a double rim joist and stagger SDWS screws by 3".
11. Install LTP4 with 8d common nails only.

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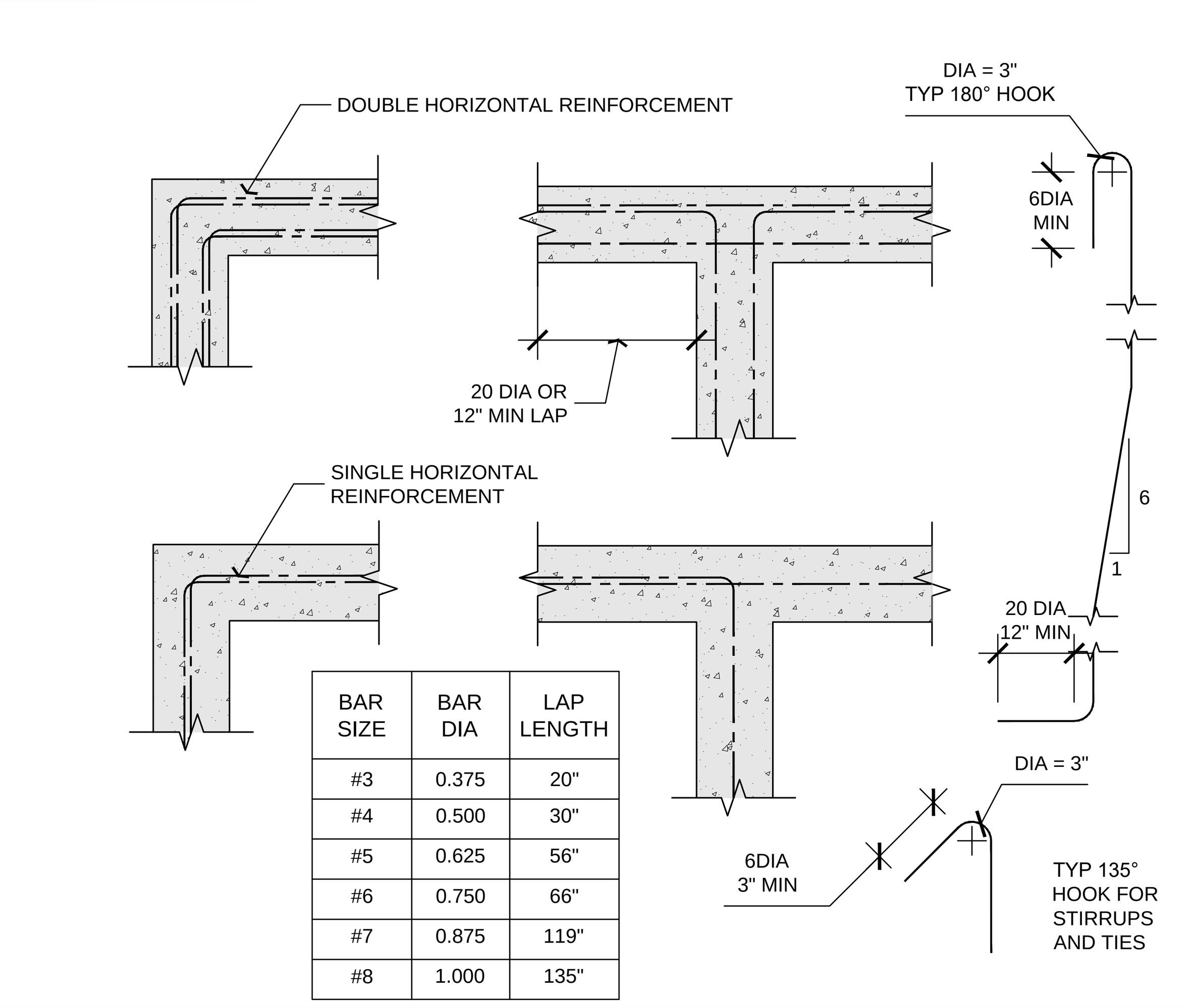
REV.	DESCRIPTION	DATE

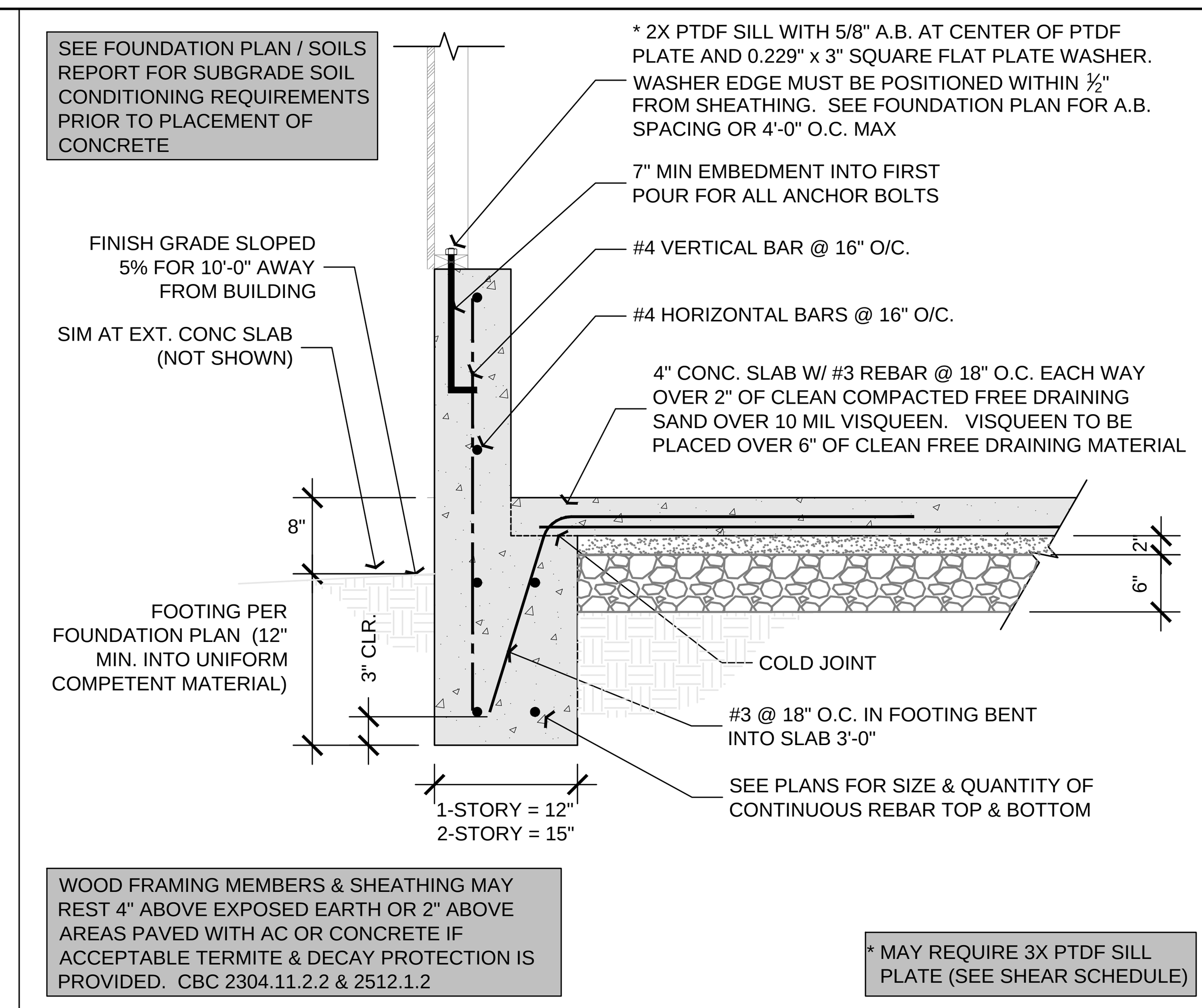
PROJECT NO. ----
FILE NAME S-2.1 FRAMING PLAN.DWG
DRAWN BY JMB II C.D.
DATE 7/23/2018 9:46 AM
SHEET TITLE:
FRAMING PLAN

SHEET NUMBER:
S-2.1



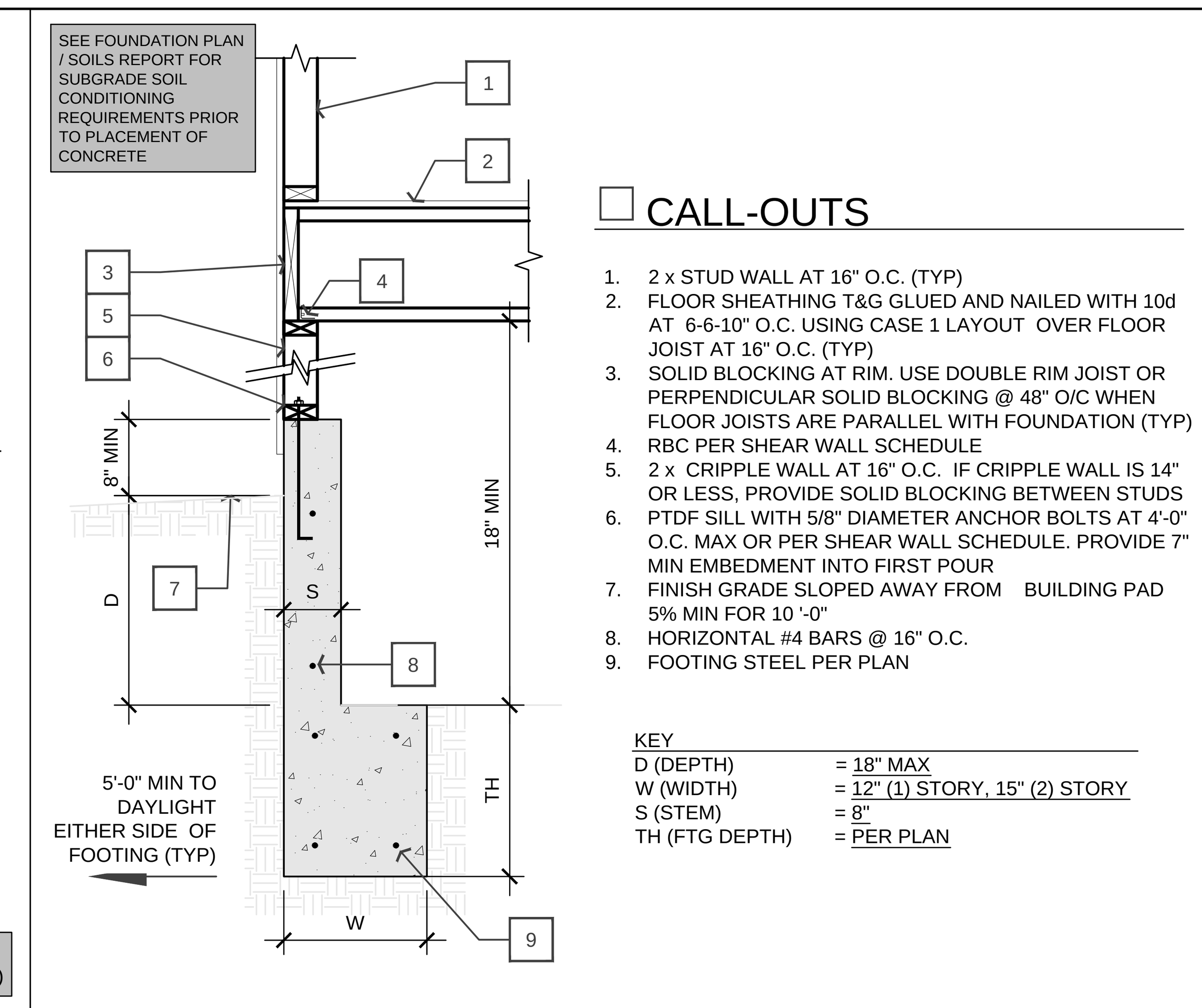
BAR SIZE	BAR DIA	LAP LENGTH
#3	0.375	20"
#4	0.500	30"
#5	0.625	56"
#6	0.750	66"
#7	0.875	119"
#8	1.000	135"

10 TYPICAL HORIZONTAL REINFORCING



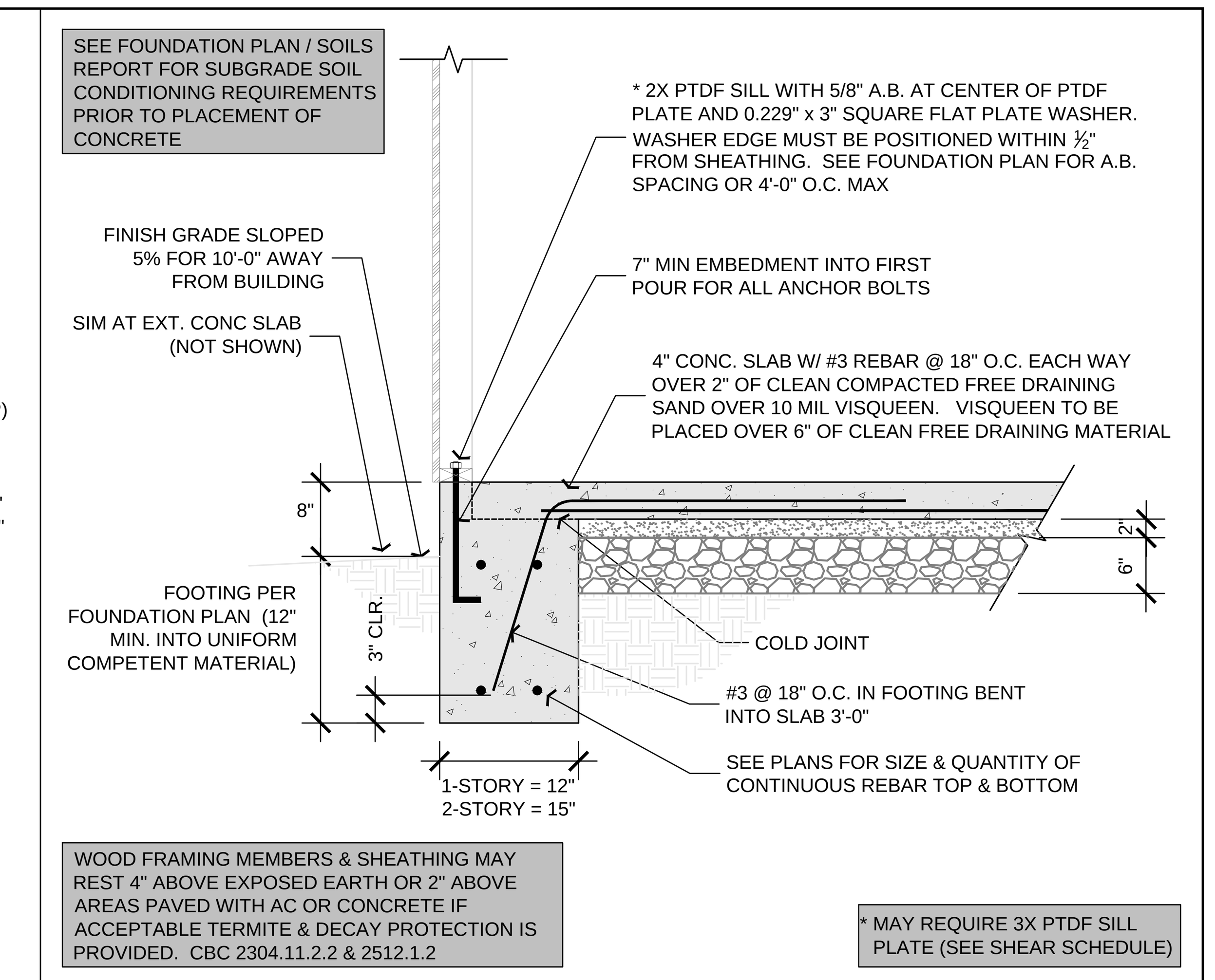
SEE FOUNDATION PLAN / SOILS REPORT FOR SUBGRADE SOIL CONDITIONING REQUIREMENTS PRIOR TO PLACEMENT OF CONCRETE
* 2X PTDF SILL WITH 5/8" A.B. AT CENTER OF PTDF PLATE AND 0.229" x 3" SQUARE FLAT PLATE WASHER. WASHER EDGE MUST BE POSITIONED WITHIN ½" FROM SHEATHING. SEE FOUNDATION PLAN FOR A.B. SPACING OR 4'-0" O.C. MAX
7" MIN EMBEDMENT INTO FIRST POUR FOR ALL ANCHOR BOLTS
FINISH GRADE SLOPED 5% FOR 10'-0" AWAY FROM BUILDING
#4 VERTICAL BAR @ 16" O/C.
SIM AT EXT. CONC SLAB (NOT SHOWN)
#4 HORIZONTAL BARS @ 16" O/C.
4" CONC. SLAB W/ #3 REBAR @ 18" O.C. EACH WAY OVER 2" OF CLEAN COMPACTED FREE DRAINING SAND OVER 10 MIL VISQUEEN. VISQUEEN TO BE PLACED OVER 6" OF CLEAN FREE DRAINING MATERIAL
8"
2"
6"
FOOTING PER FOUNDATION PLAN (12" MIN. INTO UNIFORM COMPETENT MATERIAL)
3" CLR.
COLD JOINT
#3 @ 18" O.C. IN FOOTING BENT INTO SLAB 3'-0"
SEE PLANS FOR SIZE & QUANTITY OF CONTINUOUS REBAR TOP & BOTTOM
1-STORY = 12"
2-STORY = 15"
WOOD FRAMING MEMBERS & SHEATHING MAY REST 4" ABOVE EXPOSED EARTH OR 2" ABOVE AREAS PAVED WITH AC OR CONCRETE IF ACCEPTABLE TERMITE & DECAY PROTECTION IS PROVIDED. CBC 2304.11.2.2 & 2512.1.2
* MAY REQUIRE 3X PTDF SILL PLATE (SEE SHEAR SCHEDULE)

7 STEM WALL @ GARAGE



SEE FOUNDATION PLAN / SOILS REPORT FOR SUBGRADE SOIL CONDITIONING REQUIREMENTS PRIOR TO PLACEMENT OF CONCRETE
1
2
3
4
5
6
8" MIN
18" MIN
D
S
7
8
TH
5'-0" MIN TO DAYLIGHT EITHER SIDE OF FOOTING (TYP)
W
9
CALL-OUTS
1. 2 x STUD WALL AT 16" O.C. (TYP)
2. FLOOR SHEATHING T&G GLUED AND NAILED WITH 10d AT 6-6-10" O.C. USING CASE 1 LAYOUT OVER FLOOR JOIST AT 16" O.C. (TYP)
3. SOLID BLOCKING AT RIM. USE DOUBLE RIM JOIST OR PERPENDICULAR SOLID BLOCKING @ 48" O/C WHEN FLOOR JOISTS ARE PARALLEL WITH FOUNDATION (TYP)
4. RBC PER SHEAR WALL SCHEDULE
5. 2 x CRIPPLE WALL AT 16" O.C. IF CRIPPLE WALL IS 14" OR LESS, PROVIDE SOLID BLOCKING BETWEEN STUDS
6. PTDF SILL WITH 5/8" DIAMETER ANCHOR BOLTS AT 4'-0" O.C. MAX OR PER SHEAR WALL SCHEDULE. PROVIDE 7" MIN EMBEDMENT INTO FIRST POUR
7. FINISH GRADE SLOPED AWAY FROM BUILDING PAD 5% MIN FOR 10'-0"
8. HORIZONTAL #4 BARS @ 16" O.C.
9. FOOTING STEEL PER PLAN
KEY
D (DEPTH) = 18" MAX
W (WIDTH) = 12" (1) STORY, 15" (2) STORY
S (STEM) = 8"
TH (FTG DEPTH) = PER PLAN

4 FOOTING @ RAISED FLOOR

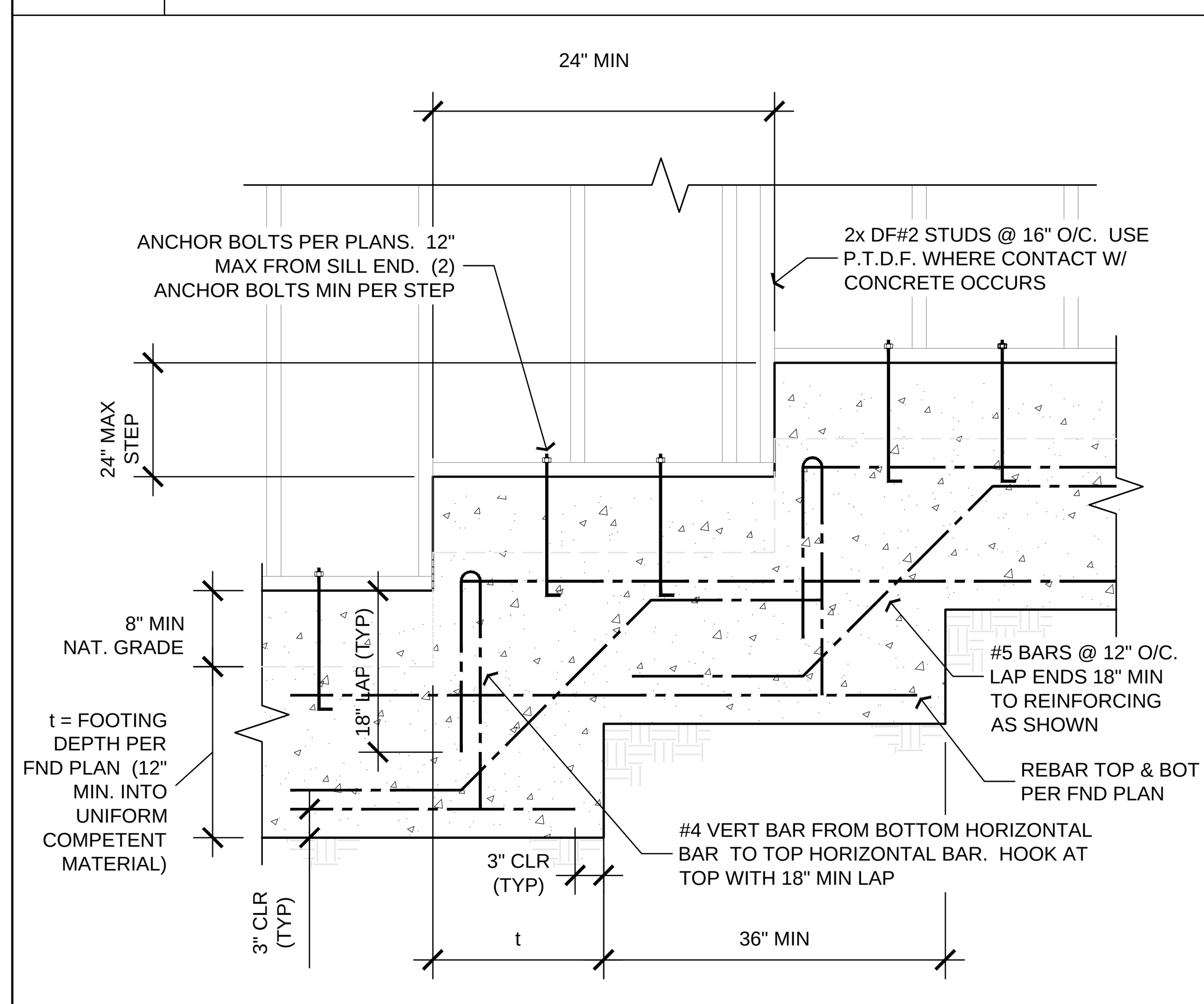


SEE FOUNDATION PLAN / SOILS REPORT FOR SUBGRADE SOIL CONDITIONING REQUIREMENTS PRIOR TO PLACEMENT OF CONCRETE
* 2X PTDF SILL WITH 5/8" A.B. AT CENTER OF PTDF PLATE AND 0.229" x 3" SQUARE FLAT PLATE WASHER. WASHER EDGE MUST BE POSITIONED WITHIN ½" FROM SHEATHING. SEE FOUNDATION PLAN FOR A.B. SPACING OR 4'-0" O.C. MAX
FINISH GRADE SLOPED 5% FOR 10'-0" AWAY FROM BUILDING
7" MIN EMBEDMENT INTO FIRST POUR FOR ALL ANCHOR BOLTS
SIM AT EXT. CONC SLAB (NOT SHOWN)
4" CONC. SLAB W/ #3 REBAR @ 18" O.C. EACH WAY OVER 2" OF CLEAN COMPACTED FREE DRAINING SAND OVER 10 MIL VISQUEEN. VISQUEEN TO BE PLACED OVER 6" OF CLEAN FREE DRAINING MATERIAL
8"
2"
6"
FOOTING PER FOUNDATION PLAN (12" MIN. INTO UNIFORM COMPETENT MATERIAL)
3" CLR.
COLD JOINT
#3 @ 18" O.C. IN FOOTING BENT INTO SLAB 3'-0"
SEE PLANS FOR SIZE & QUANTITY OF CONTINUOUS REBAR TOP & BOTTOM
1-STORY = 12"
2-STORY = 15"
WOOD FRAMING MEMBERS & SHEATHING MAY REST 4" ABOVE EXPOSED EARTH OR 2" ABOVE AREAS PAVED WITH AC OR CONCRETE IF ACCEPTABLE TERMITE & DECAY PROTECTION IS PROVIDED. CBC 2304.11.2.2 & 2512.1.2
* MAY REQUIRE 3X PTDF SILL PLATE (SEE SHEAR SCHEDULE)

1 EXTERIOR FOOTING

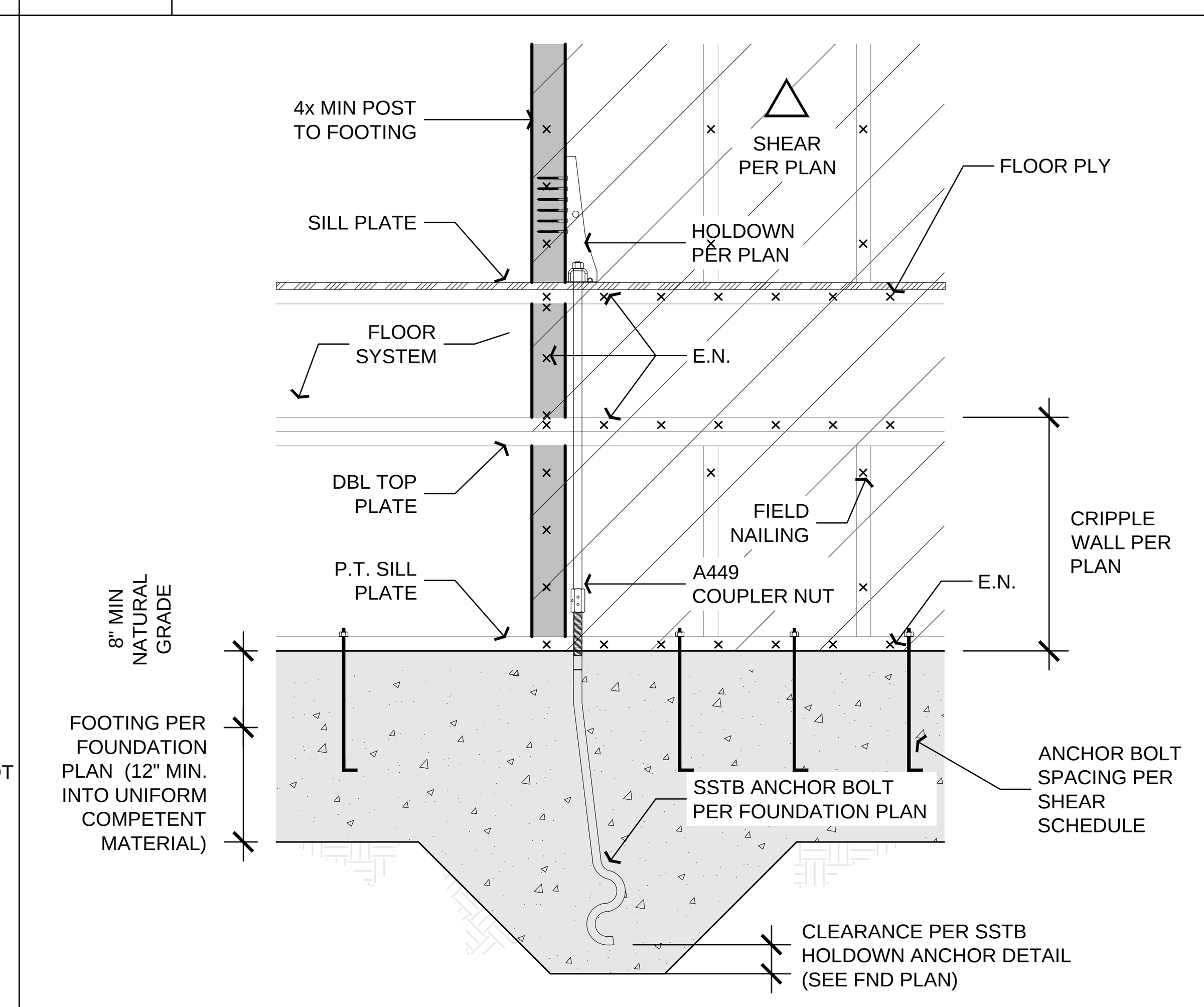
J.K. ENGINEERING
239-4151

John A. Kudla
Civil Engineering & Structural Design
R.C.E. #50652
610 10th ST. UNIT 'A' PASO ROBLES, CA.



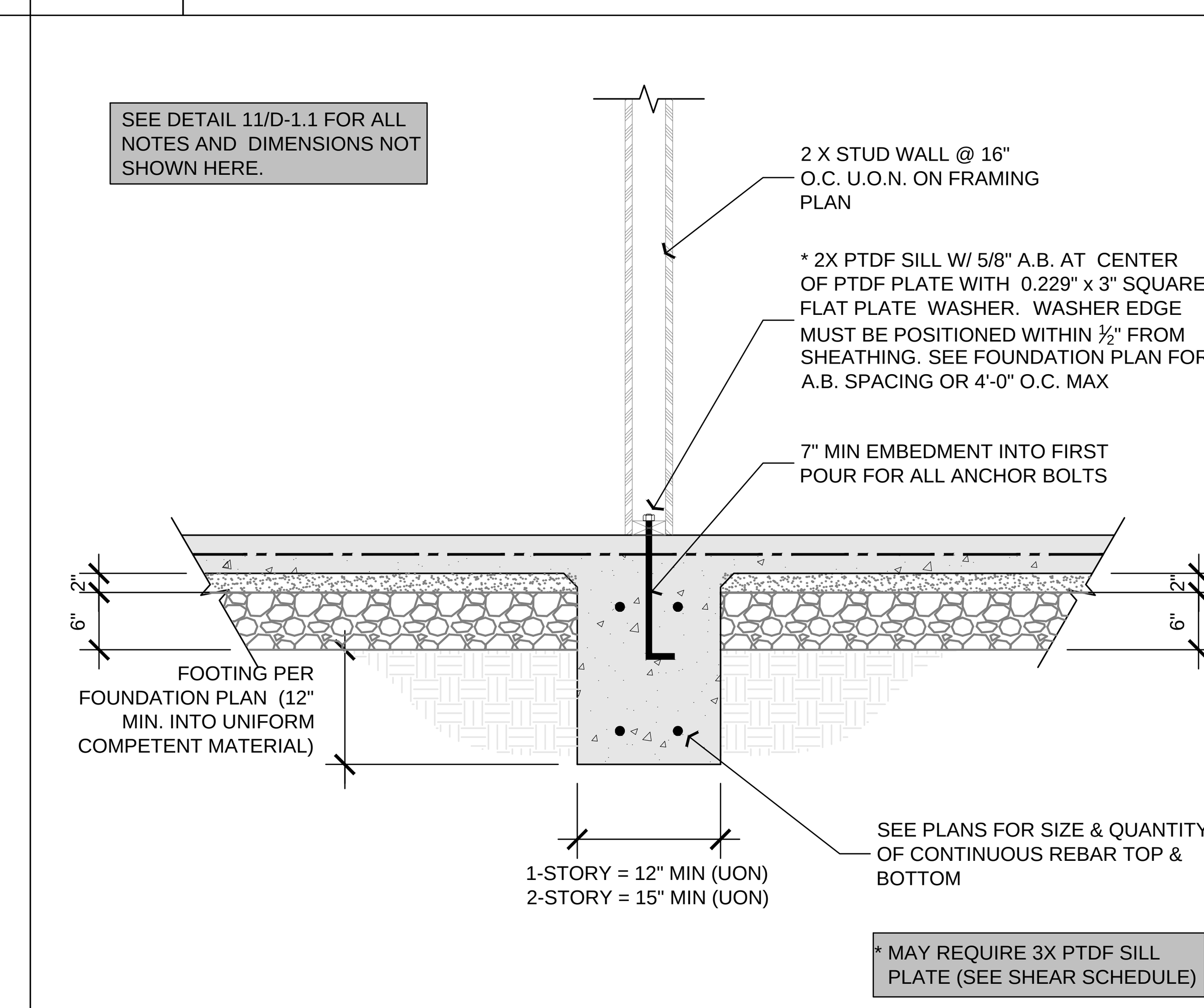
24" MIN
ANCHOR BOLTS PER PLANS. 12" MAX FROM SILL END. (2) ANCHOR BOLTS MIN PER STEP
2x DF#2 STUDS @ 16" O/C. USE P.T.D.F. WHERE CONTACT W/ CONCRETE OCCURS
24" MAX STEP
8" MIN NAT. GRADE
18" LAP (TYP)
#5 BARS @ 12" O/C. LAP ENDS 18" MIN TO REINFORCING AS SHOWN
REBAR TOP & BOT PER FND PLAN
t = FOOTING DEPTH PER FND PLAN (12" MIN. INTO UNIFORM COMPETENT MATERIAL)
#4 VERT BAR FROM BOTTOM HORIZONTAL BAR TO TOP HORIZONTAL BAR. HOOK AT TOP WITH 18" MIN LAP
3" CLR (TYP)
3" CLR (TYP)
t
36" MIN

11 STEPPED FOOTING



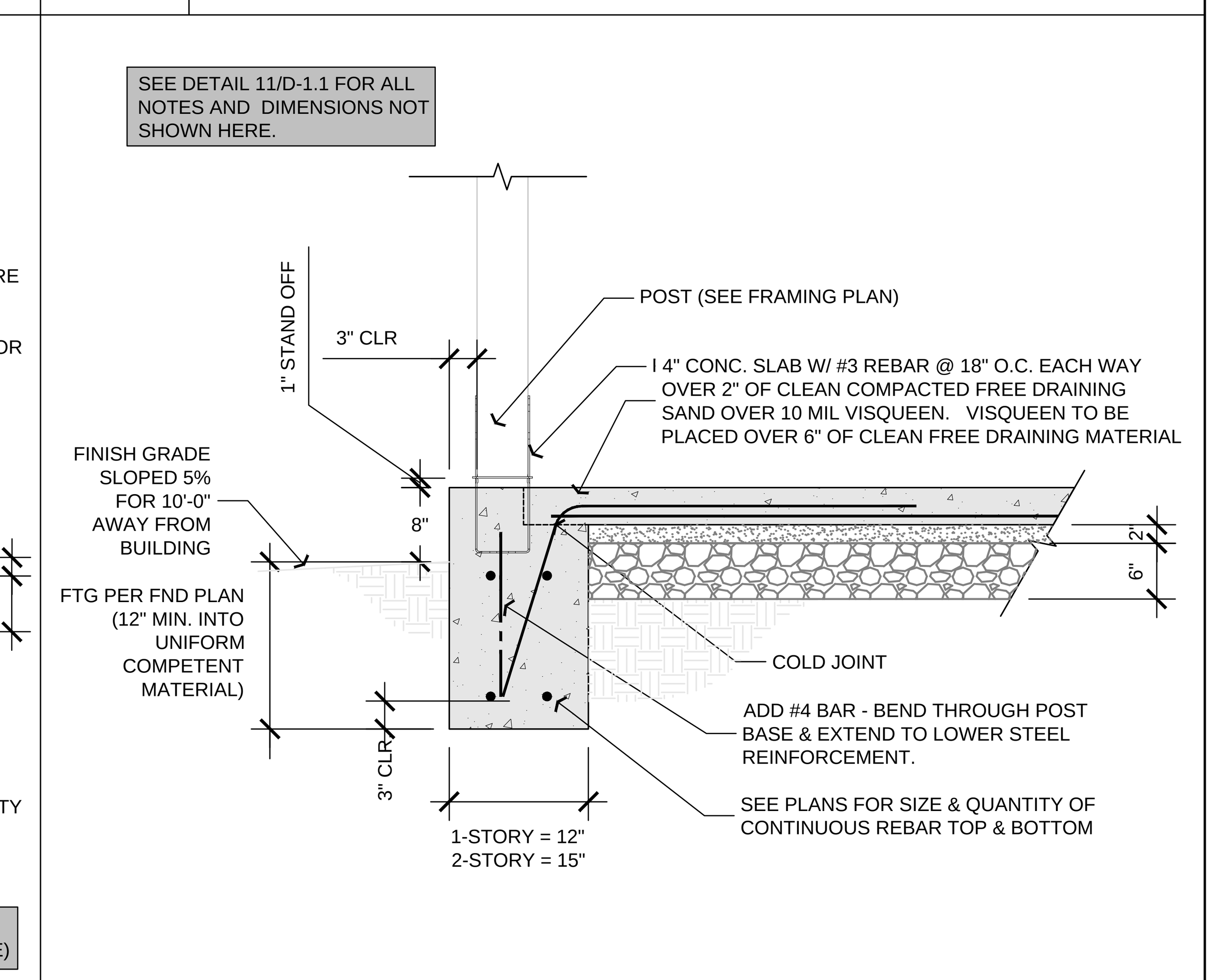
4x MIN POST TO FOOTING
SHEAR PER PLAN
FLOOR PLY
SILL PLATE
HOLDOWN PER PLAN
FLOOR SYSTEM
E.N.
DBL TOP PLATE
FIELD NAILING
CRIPPLE WALL PER PLAN
P.T. SILL PLATE
A449 COUPLER NUT
E.N.
8" MIN NATURAL GRADE
FOOTING PER FOUNDATION PLAN (12" MIN. INTO UNIFORM COMPETENT MATERIAL)
SSTB ANCHOR BOLT PER FOUNDATION PLAN
ANCHOR BOLT SPACING PER SHEAR SCHEDULE
CLEARANCE PER SSTB HOLDOWN ANCHOR DETAIL (SEE FND PLAN)

8 HOLD DOWN DETAIL (RAISED FLOOR)



SEE DETAIL 11/D-1.1 FOR ALL NOTES AND DIMENSIONS NOT SHOWN HERE.
2 X STUD WALL @ 16" O.C. U.O.N. ON FRAMING PLAN
* 2X PTDF SILL W/ 5/8" A.B. AT CENTER OF PTDF PLATE WITH 0.229" x 3" SQUARE FLAT PLATE WASHER. WASHER EDGE MUST BE POSITIONED WITHIN ½" FROM SHEATHING. SEE FOUNDATION PLAN FOR A.B. SPACING OR 4'-0" O.C. MAX
7" MIN EMBEDMENT INTO FIRST POUR FOR ALL ANCHOR BOLTS
2"
6"
FOOTING PER FOUNDATION PLAN (12" MIN. INTO UNIFORM COMPETENT MATERIAL)
SEE PLANS FOR SIZE & QUANTITY OF CONTINUOUS REBAR TOP & BOTTOM
1-STORY = 12" MIN (UON)
2-STORY = 15" MIN (UON)
* MAY REQUIRE 3X PTDF SILL PLATE (SEE SHEAR SCHEDULE)

5 INTERIOR FOOTING (SLAB)



SEE DETAIL 11/D-1.1 FOR ALL NOTES AND DIMENSIONS NOT SHOWN HERE.
POST (SEE FRAMING PLAN)
1" STAND OFF
3" CLR
I 4" CONC. SLAB W/ #3 REBAR @ 18" O.C. EACH WAY OVER 2" OF CLEAN COMPACTED FREE DRAINING SAND OVER 10 MIL VISQUEEN. VISQUEEN TO BE PLACED OVER 6" OF CLEAN FREE DRAINING MATERIAL
FINISH GRADE SLOPED 5% FOR 10'-0" AWAY FROM BUILDING
8"
2"
6"
FTG PER FND PLAN (12" MIN. INTO UNIFORM COMPETENT MATERIAL)
COLD JOINT
ADD #4 BAR - BEND THROUGH POST BASE & EXTEND TO LOWER STEEL REINFORCEMENT.
3" CLR
SEE PLANS FOR SIZE & QUANTITY OF CONTINUOUS REBAR TOP & BOTTOM
1-STORY = 12"
2-STORY = 15"

2 FOOTING @ POST

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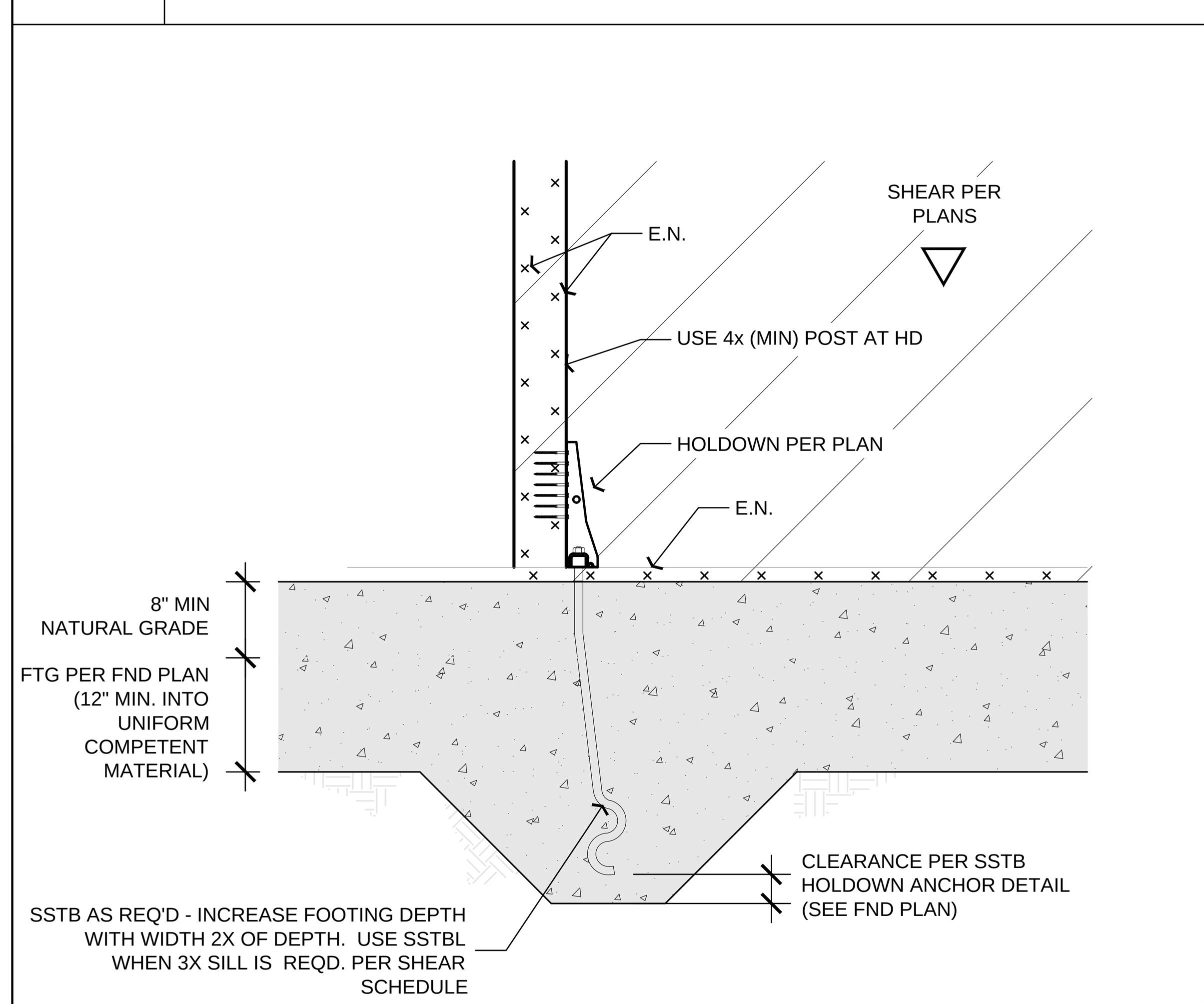
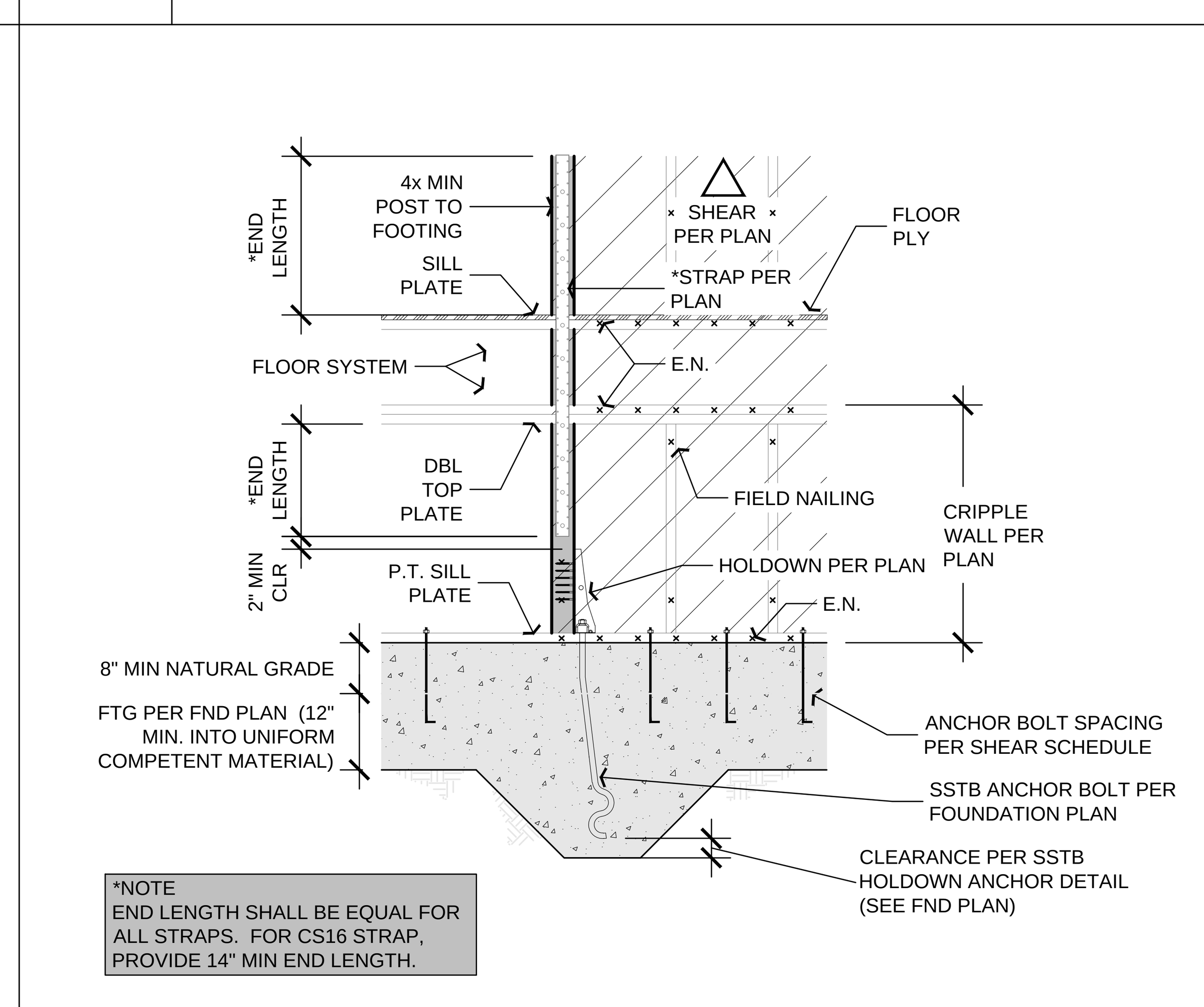


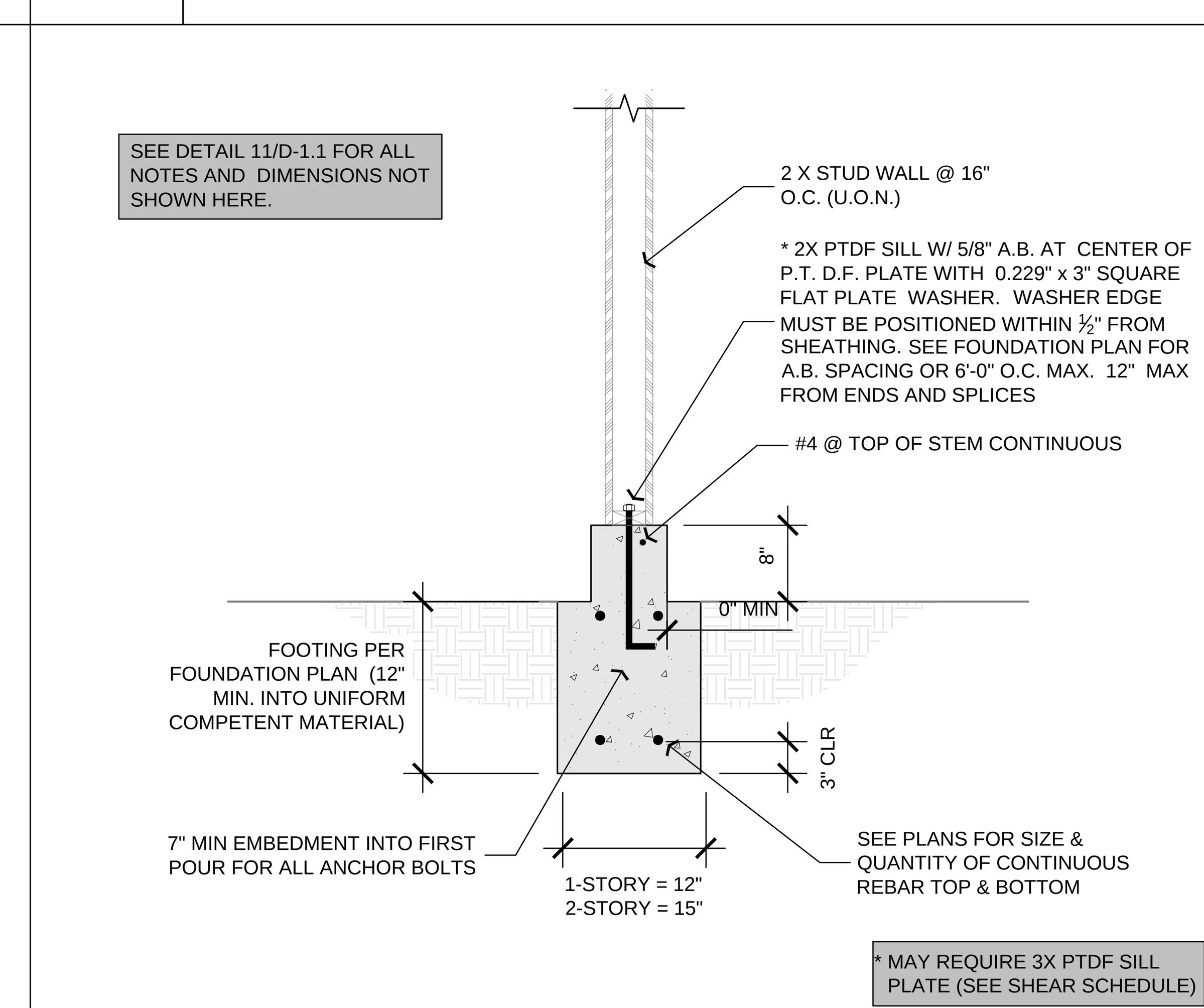
E.N.
SHEAR PER PLANS
USE 4x (MIN) POST AT HD
HOLDOWN PER PLAN
E.N.
8" MIN NATURAL GRADE
FTG PER FND PLAN (12" MIN. INTO UNIFORM COMPETENT MATERIAL)
CLEARANCE PER SSTB HOLDOWN ANCHOR DETAIL (SEE FND PLAN)
SSTB AS REQ'D - INCREASE FOOTING DEPTH WITH WIDTH 2X OF DEPTH. USE SSTBL WHEN 3X SILL IS REQD. PER SHEAR SCHEDULE

12 HOLDOWN DETAIL



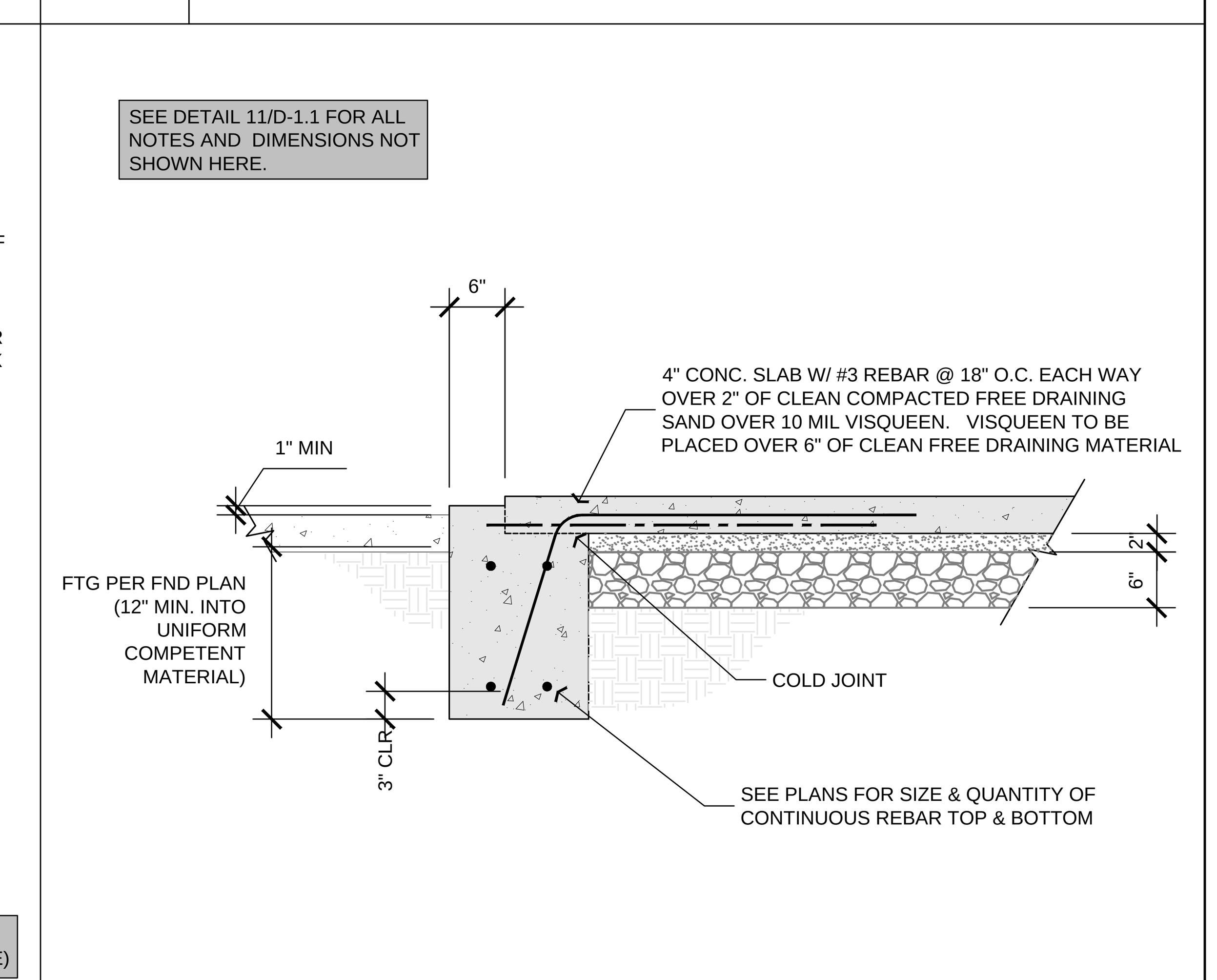
*END LENGTH
4x MIN POST TO FOOTING
SHEAR PER PLAN
FLOOR PLY
SILL PLATE
*STRAP PER PLAN
FLOOR SYSTEM
E.N.
*END LENGTH
DBL TOP PLATE
FIELD NAILING
CRIPPLE WALL PER PLAN
2" MIN CLR
P.T. SILL PLATE
HOLDOWN PER PLAN
E.N.
8" MIN NATURAL GRADE
FTG PER FND PLAN (12" MIN. INTO UNIFORM COMPETENT MATERIAL)
ANCHOR BOLT SPACING PER SHEAR SCHEDULE
SSTB ANCHOR BOLT PER FOUNDATION PLAN
CLEARANCE PER SSTB HOLDOWN ANCHOR DETAIL (SEE FND PLAN)
*NOTE
END LENGTH SHALL BE EQUAL FOR ALL STRAPS. FOR CS16 STRAP, PROVIDE 14" MIN END LENGTH.

9 HOLD DOWN DETAIL (RAISED FLOOR)



SEE DETAIL 11/D-1.1 FOR ALL NOTES AND DIMENSIONS NOT SHOWN HERE.
2 X STUD WALL @ 16" O.C. (U.O.N.)
* 2X PTDF SILL W/ 5/8" A.B. AT CENTER OF P.T. D.F. PLATE WITH 0.229" x 3" SQUARE FLAT PLATE WASHER. WASHER EDGE MUST BE POSITIONED WITHIN ½" FROM SHEATHING. SEE FOUNDATION PLAN FOR A.B. SPACING OR 6'-0" O.C. MAX. 12" MAX FROM ENDS AND SPLICES
#4 @ TOP OF STEM CONTINUOUS
8"
0" MIN
FOOTING PER FOUNDATION PLAN (12" MIN. INTO UNIFORM COMPETENT MATERIAL)
3" CLR
7" MIN EMBEDMENT INTO FIRST POUR FOR ALL ANCHOR BOLTS
SEE PLANS FOR SIZE & QUANTITY OF CONTINUOUS REBAR TOP & BOTTOM
1-STORY = 12"
2-STORY = 15"
* MAY REQUIRE 3X PTDF SILL PLATE (SEE SHEAR SCHEDULE)

6 INTERIOR FOOTING (NO SLAB)



SEE DETAIL 11/D-1.1 FOR ALL NOTES AND DIMENSIONS NOT SHOWN HERE.
6"
4" CONC. SLAB W/ #3 REBAR @ 18" O.C. EACH WAY OVER 2" OF CLEAN COMPACTED FREE DRAINING SAND OVER 10 MIL VISQUEEN. VISQUEEN TO BE PLACED OVER 6" OF CLEAN FREE DRAINING MATERIAL
1" MIN
2"
6"
FTG PER FND PLAN (12" MIN. INTO UNIFORM COMPETENT MATERIAL)
COLD JOINT
3" CLR
SEE PLANS FOR SIZE & QUANTITY OF CONTINUOUS REBAR TOP & BOTTOM

3 FOOTING AT GARAGE DOOR

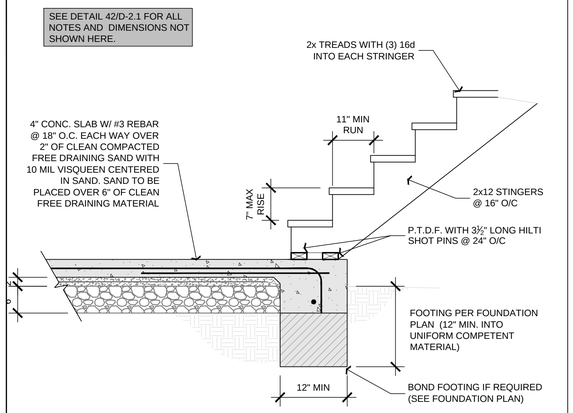
REVISION LOG

REV.	DESCRIPTION	DATE

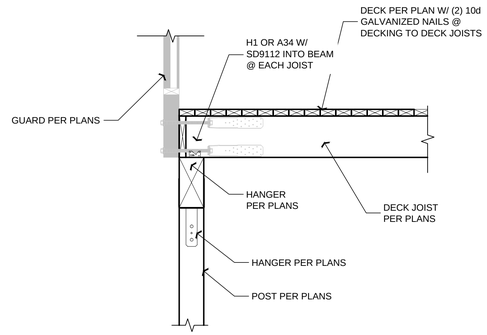
PROJECT NO. —
FILE NAME DETAILS.DWG
DRAWN BY JMB II C.D.
DATE 7/23/2018 9:47 AM

SHEET TITLE:
DETAIL SHEET ONE

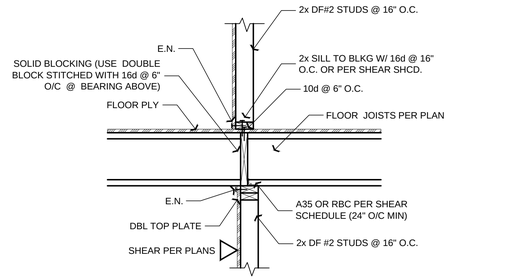
SHEET NUMBER:
D-1.1



9	STAIRS @ CONCRETE LANDING

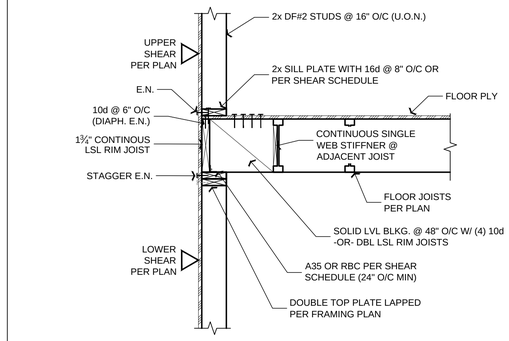


7	DECK JOIST @ BEAM



SEE TJI SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

4	JOIST @ INTERIOR SHEAR WALL



SEE TJI SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

1	FLOOR JOIST TO WALL (PARALLEL)

10	STAIRS

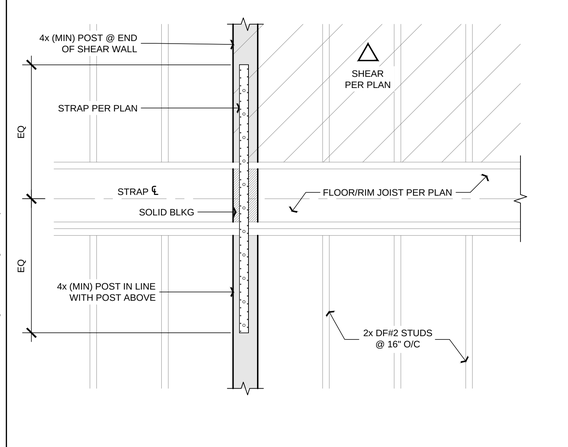
8	HOLES IN JOIST AND STUDS TO 2x FLOOR / ROOF FRAMING

DECK JOIST SHALL BE 2x8 MINIMUM DEPTH

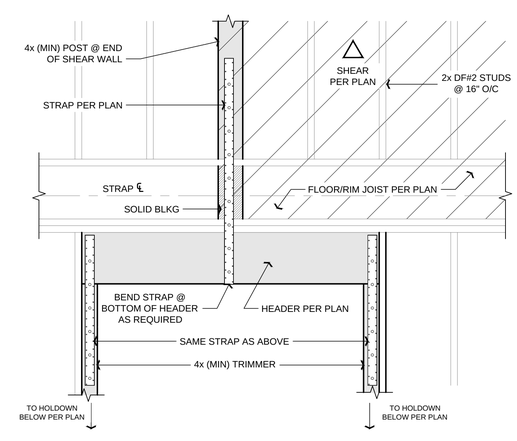
5	GUARD DETAIL (PERPENDICULAR)

SEE TJI SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

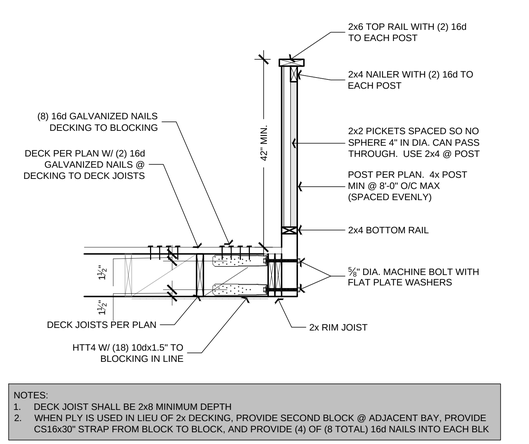
2	FLOOR JOIST TO WALL (PERPENDICULAR)



11	HOLDOWNS BETWEEN FLOORS

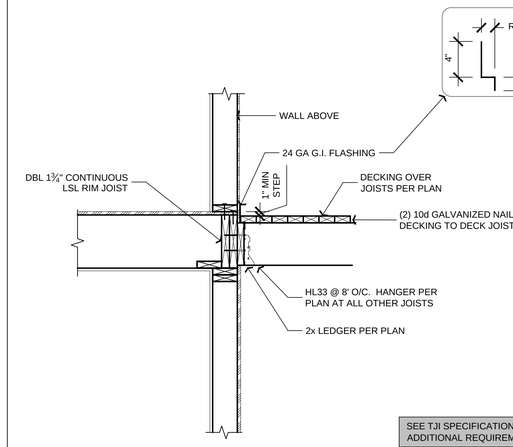


6	GUARD DETAIL (PARALLEL)



NOTES:
1. DECK JOIST SHALL BE 2x8 MINIMUM DEPTH
2. WHEN PLY IS USED IN LIEU OF 2x DECKING, PROVIDE SECOND BLOCK @ ADJACENT BAY, PROVIDE CS16x30" STRAP FROM BLOCK TO BLOCK, AND PROVIDE (4) OF (8 TOTAL) 16d NAILS INTO EACH BLK

3	DECK @ BUILDING



SEE TJI SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

ENGINEERING
239-4151
John A. Kudla
Civil Engineering &
Structural Design
R.C.E. #50652
610 10th ST. UNIT 'A' PASO
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PLAN PREPARED FOR:

RCH CONSTRUCTION
22507 H-STREET
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REVISION LOG

REV.	DESCRIPTION	DATE

PROJECT NO. ---
FILE NAME DETAILS.DWG
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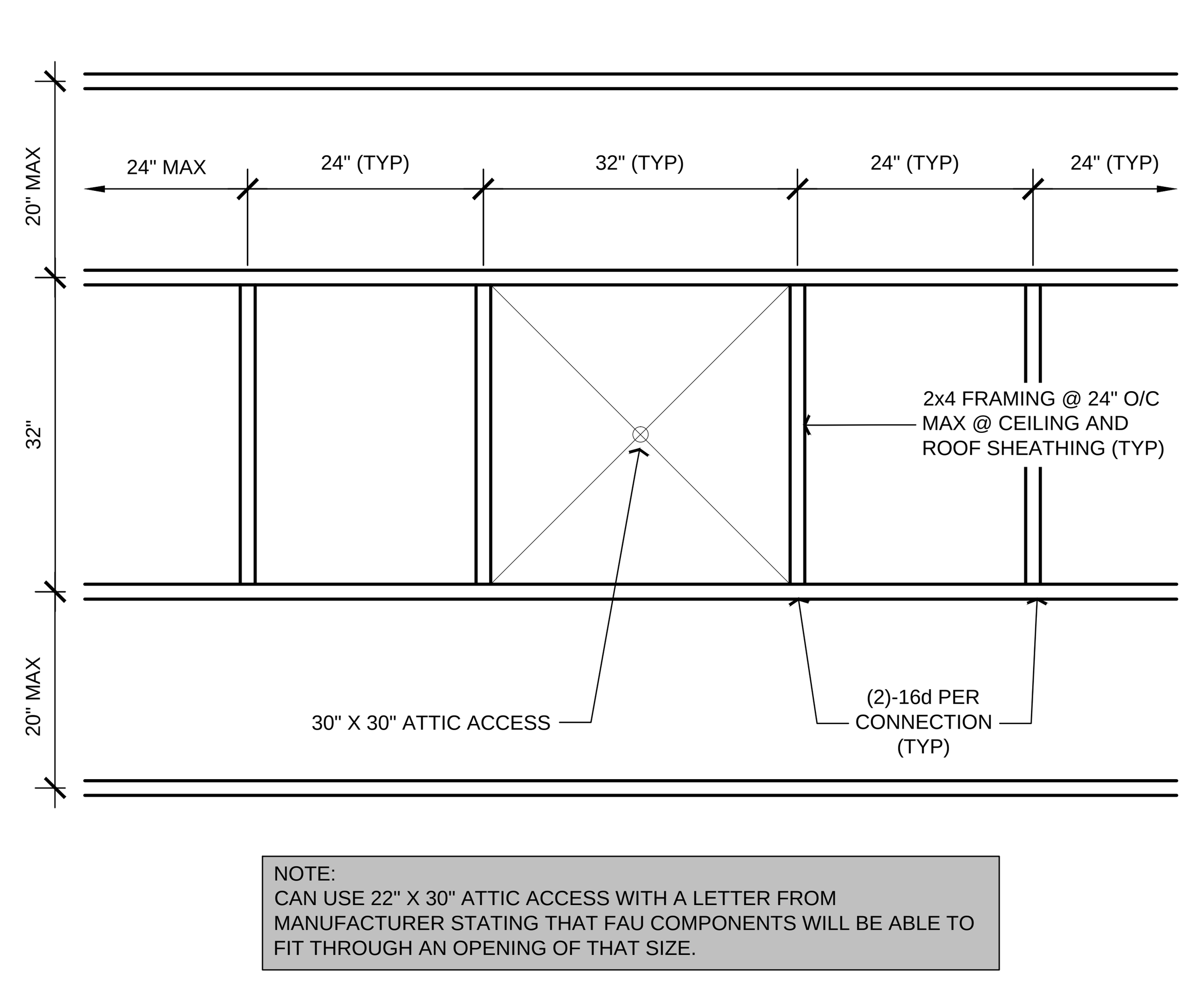
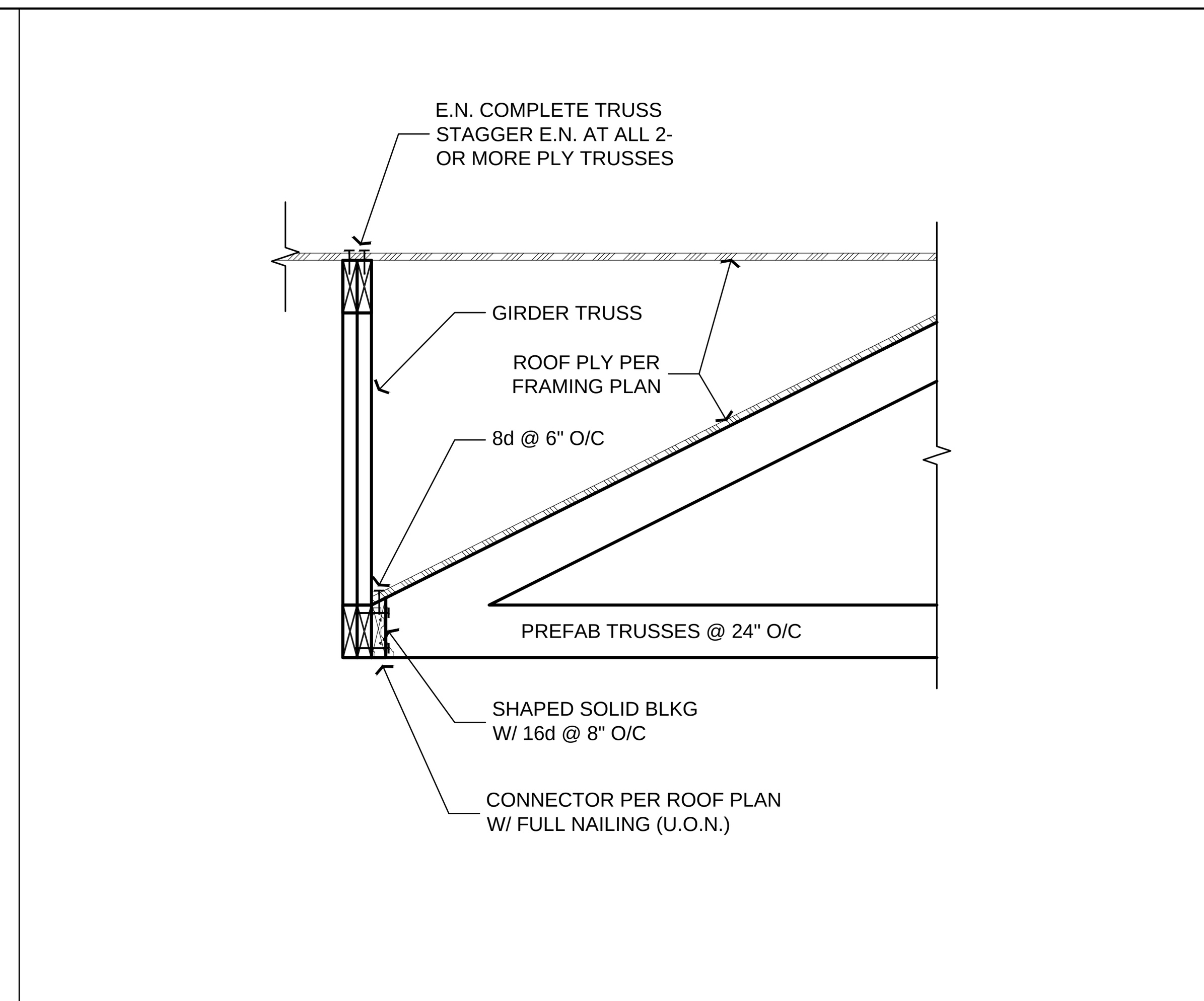
DATE 7/23/2018 9:47 AM

SHEET TITLE:
DETAIL SHEET TWO

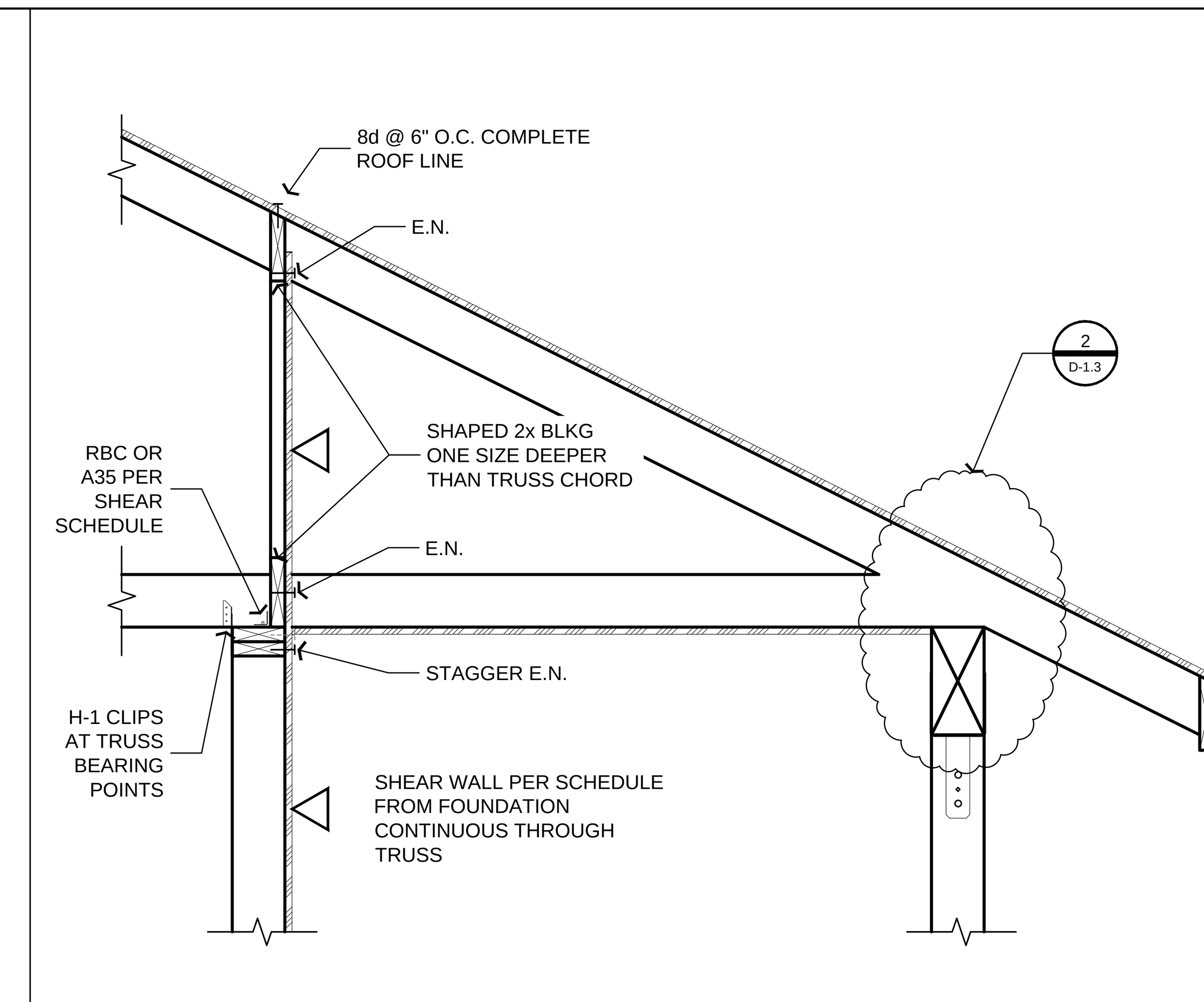
SHEET NUMBER:
D-1.2



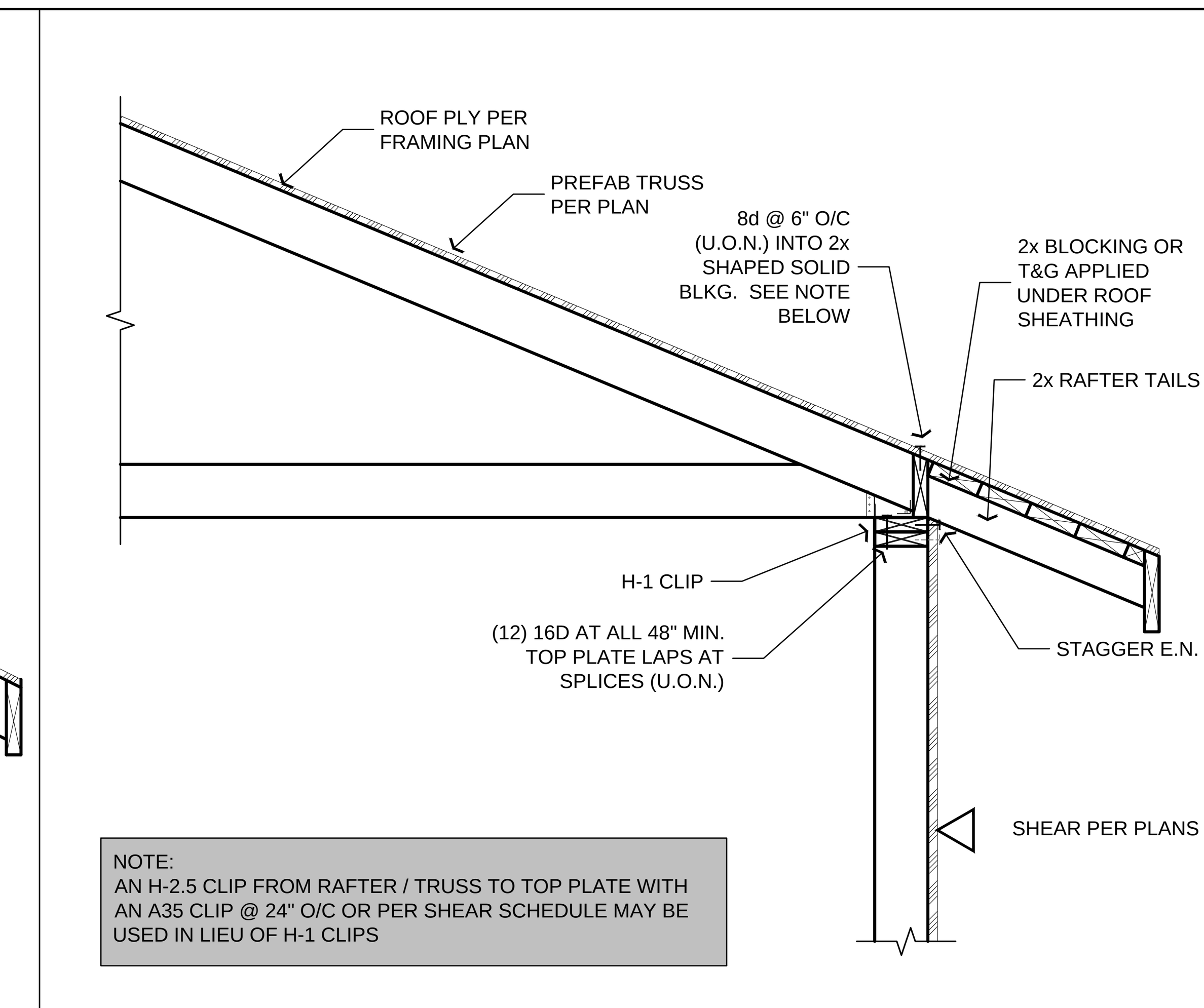
10 | 30" OPENING @ TRUSS



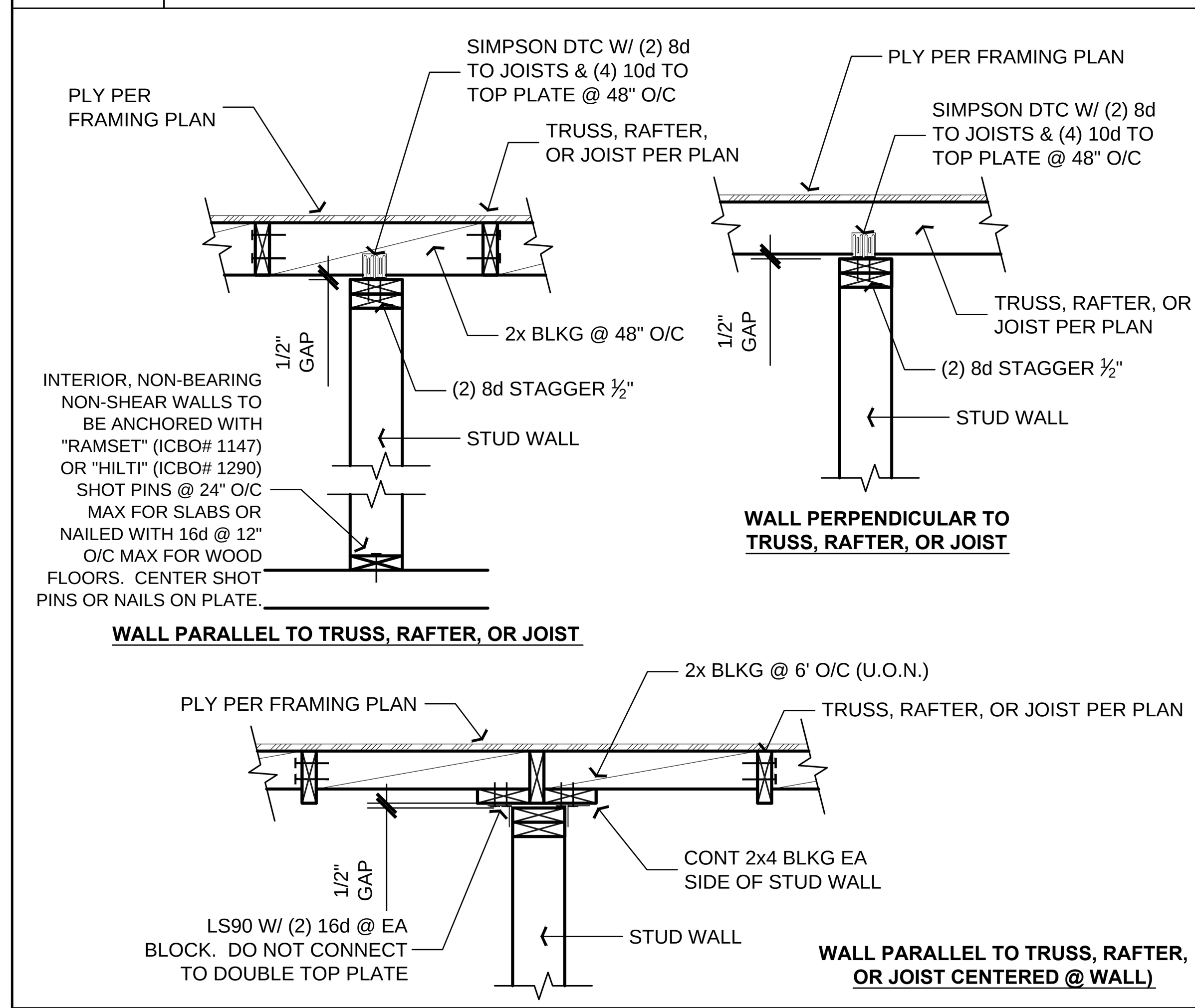
7 | G.T. CONNECTION



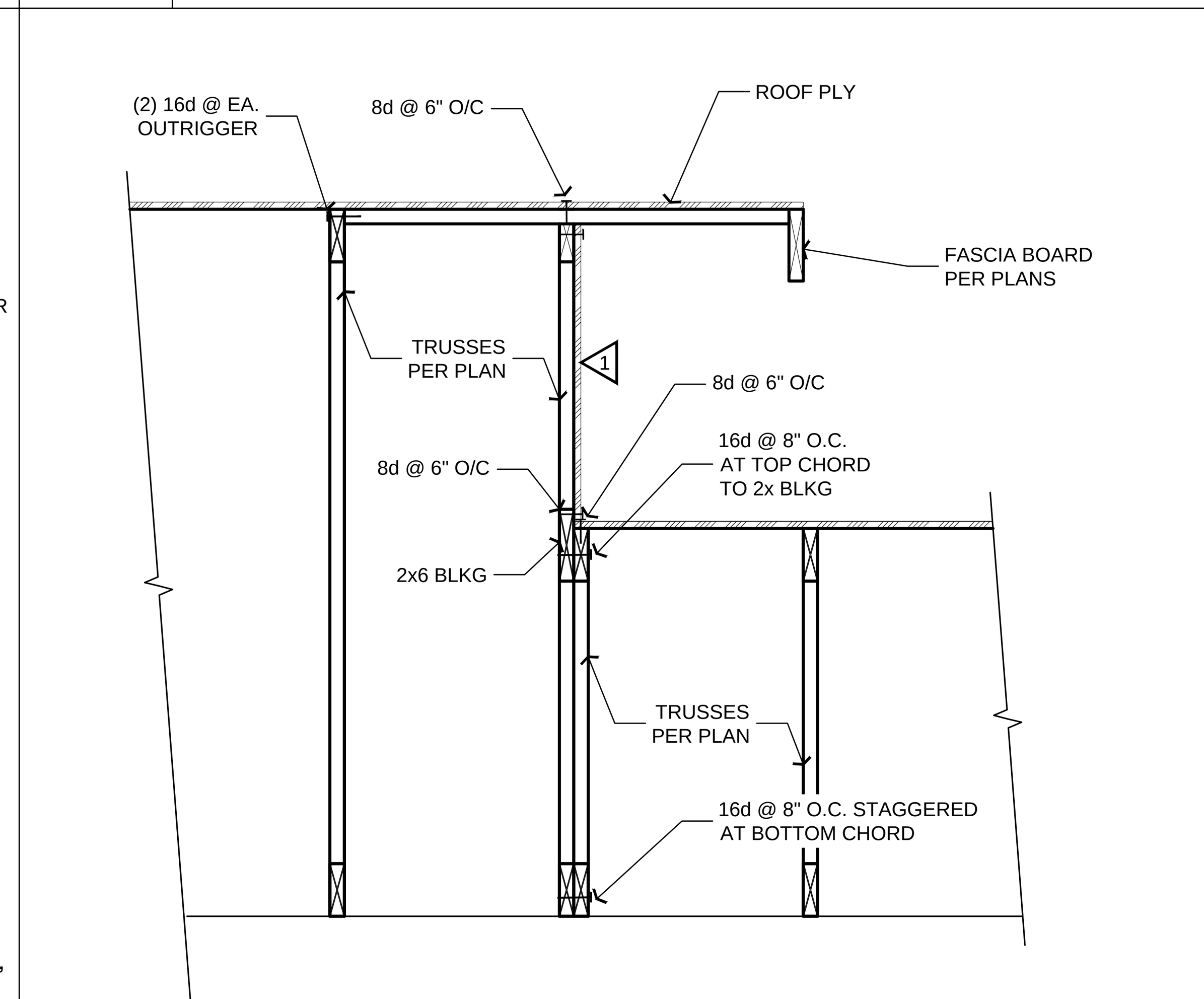
4 | SHEAR TRANSFER DEEP TRUSS BLOCKING



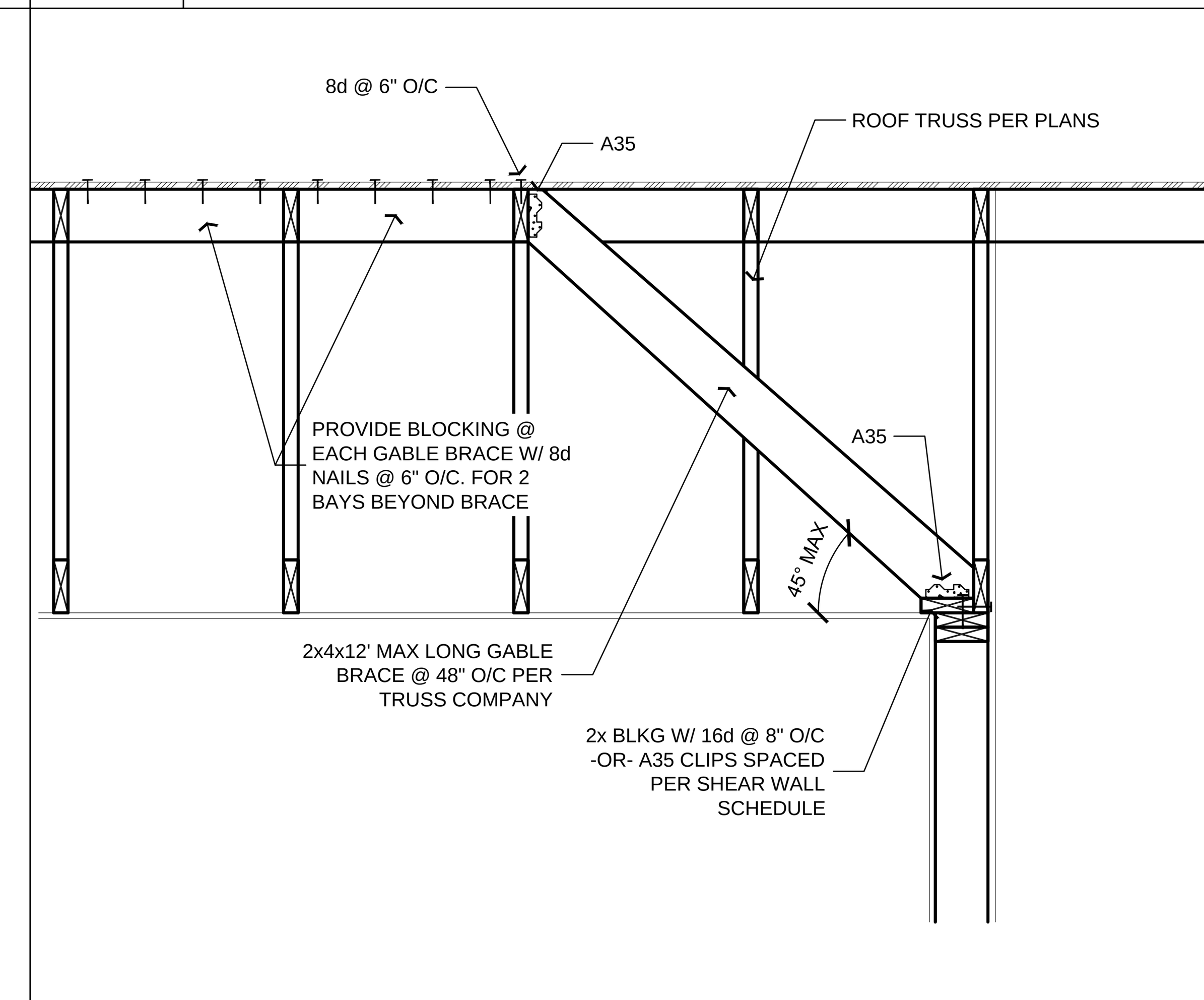
1 | EAVE @ SHEAR PANEL



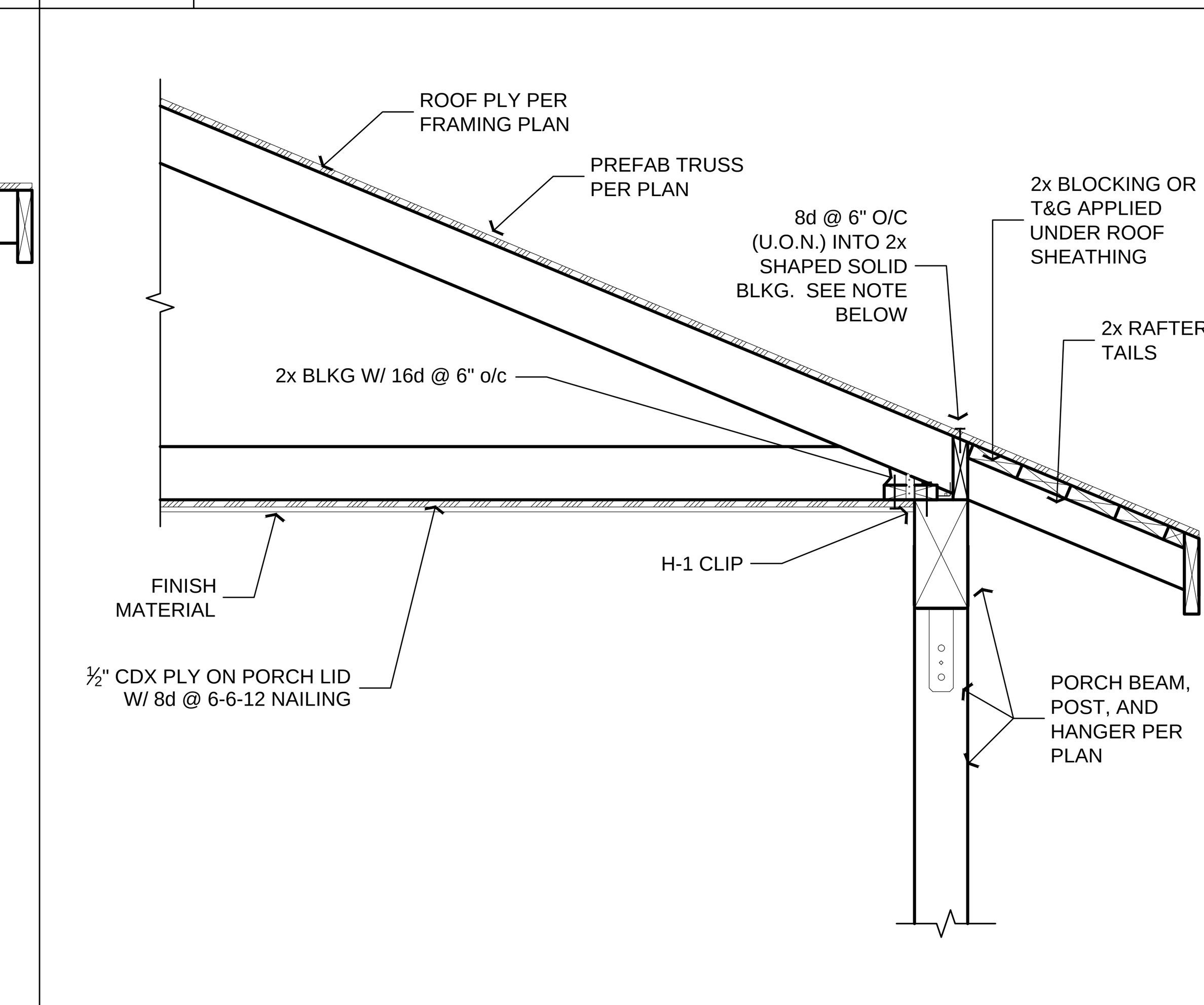
11 | NON-BEARING WOOD STUD WALL



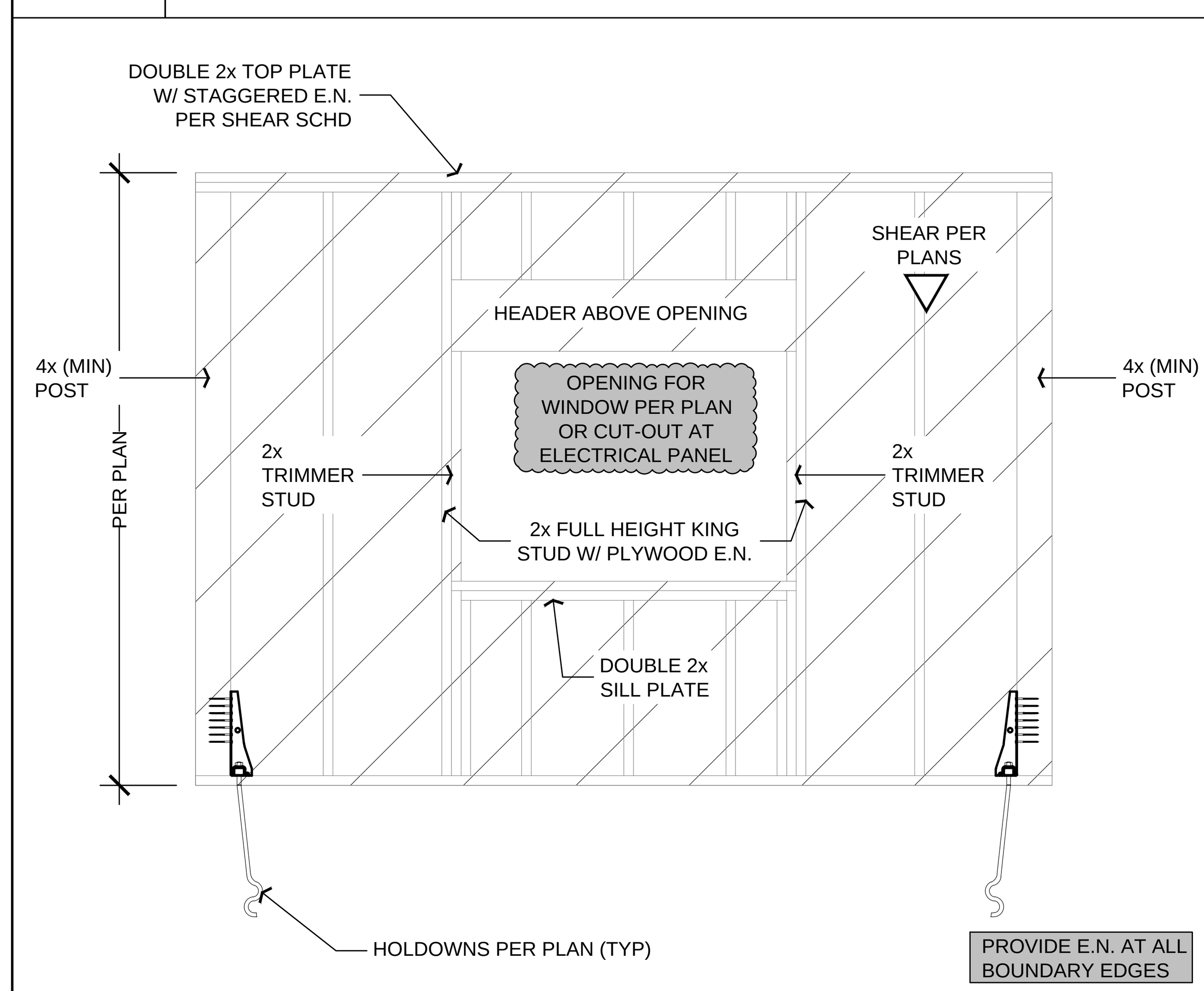
8 | SHEAR TRANSFER



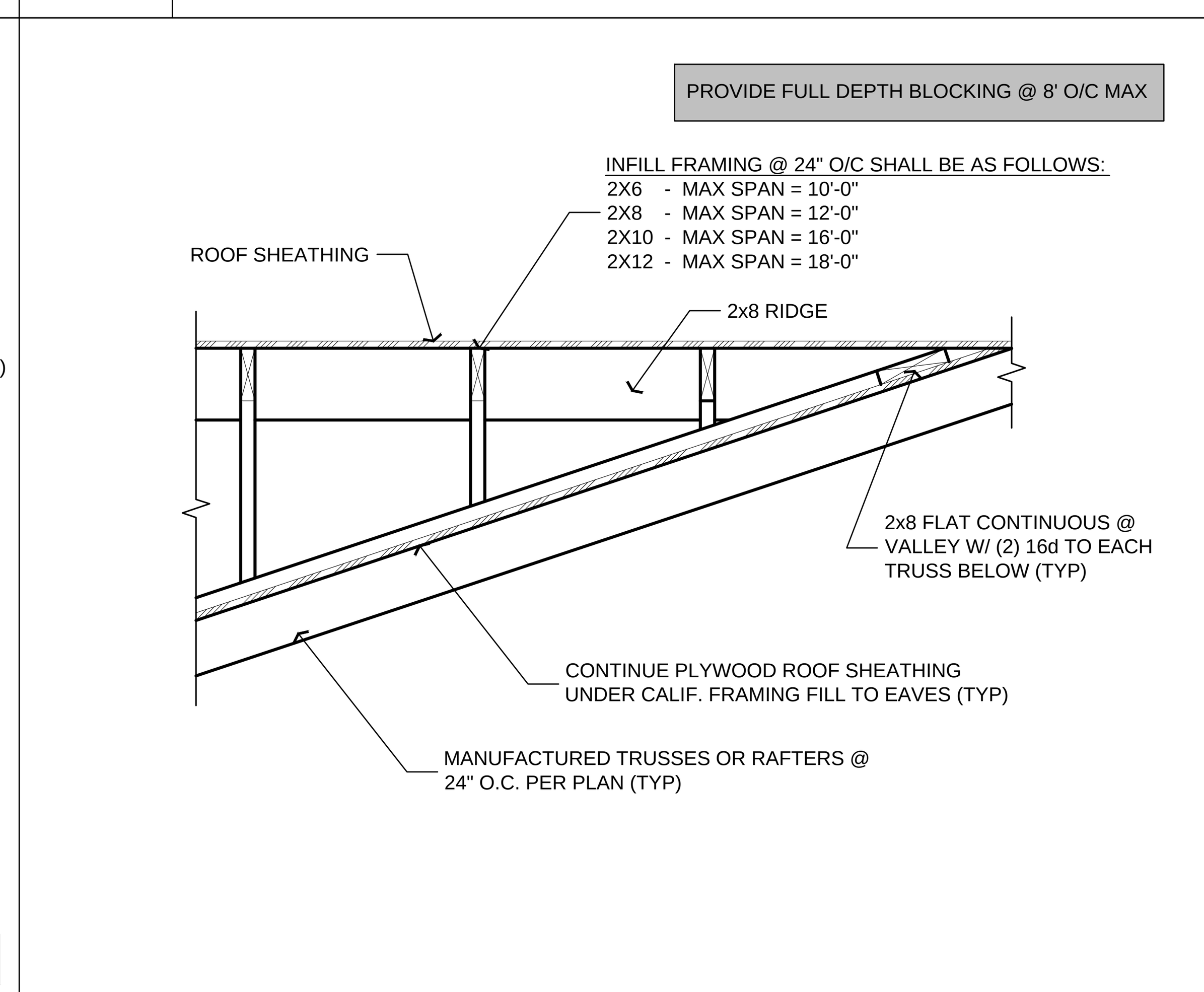
5 | CROSS BRACING @ 48" O/C



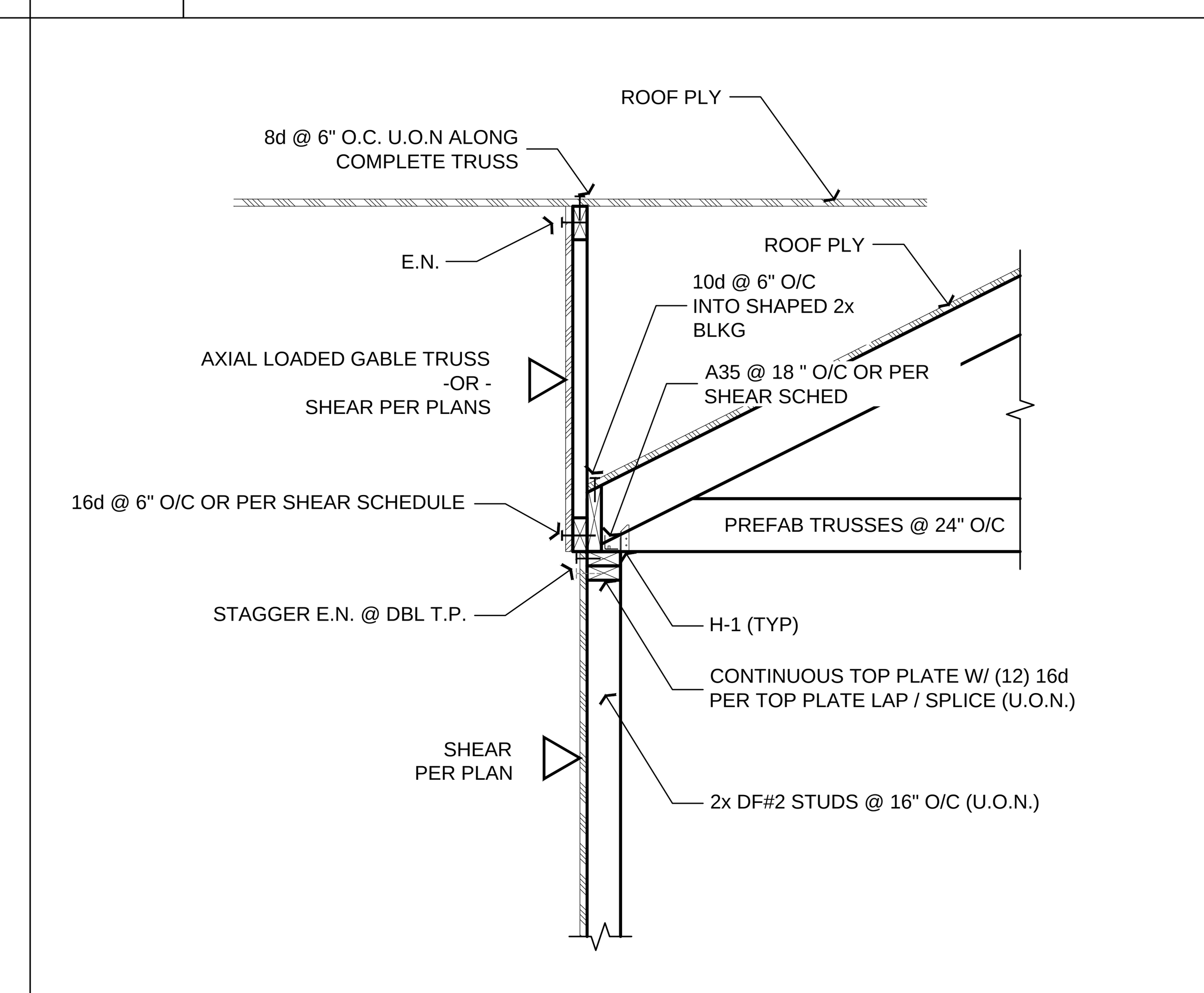
2 | EAVE @ PORCH



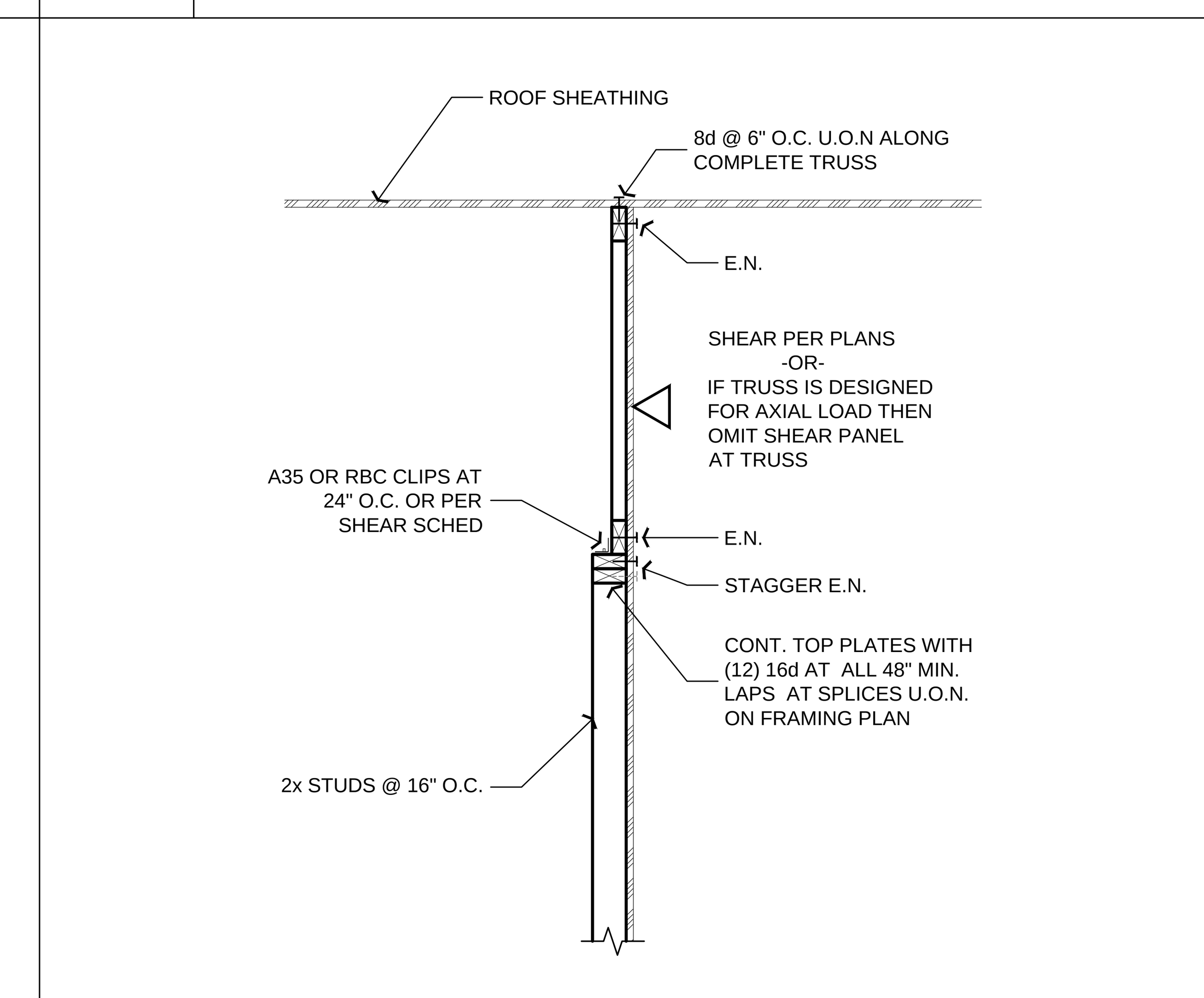
12 | PERFORATED SHEAR WALL



9 | CALIFORNIA FILL



6 | SHEAR TRANSFER



3 | SHEAR TRANSFER

J.K. ENGINEERING
239-4151
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SHEET TITLE:
DETAIL SHEET THREE

SHEET NUMBER:
D-1.3

GENERAL NOTES

1. THE FOLLOWING NOTES, DETAILS, SCHEDULES & SPECIFICATIONS SHALL APPLY TO ALL PHASES OF THIS PROJECT UNLESSSS SPECIFICALLY OTHERWISE NOTED (UON). NOTES AND DETAILS ON THE STRUCTURAL PLANS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK
2. ALL DRAWINGS ARE CONSIDERED TO BE PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY APPLICABLE CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER OR ENGINEER.
3. REFER TO THE ARCHITECTURAL PLANS FOR THE FOLLOWING:
    - 3.1. DIMENSIONS
    - 3.1. SIZE AND LOCATION OF ALL INTERIOR AND EXTERIOR WALL LOCATIONS.
    - 3.2. SIZE AND LOCATION OF ALL FLOOR, ROOF AND WALL OPENINGS
    - 3.3. SIZE AND LOCATION OF ALL DRAINS, SLOPES, DEPRESSIONS, STEPS, ETC.
    - 3.4. SPECIFICATION OF ALL FINISHES & WATERPROOFING
    - 3.5. ALL OTHER NON-STRUCTURAL ELEMENTS
4. REFER TO THE MECHANICAL, ELECTRICAL AND PLUMBING PLANS FOR THE FOLLOWING:
    - 4.1. SIZE AND LOCATION OF ALL EQUIPMENT
    - 4.2. PIPE RUNS, SLEEVES, HANGERS AND TRENCHES
    - 4.3. ALL OTHER MECHANICAL, ELECTRICAL OR PLUMBING RELATED ELEMENTS
5. DO NOT SCALE STRUCTURAL PLANS. CONTRACTOR SHALL USE ALL WRITTEN DIMENSIONS ON ARCHITECTURAL PLANS.
6. CONSTRUCTION MATERIALS SHALL BE UNIFORMLY SPREAD OUT IF PLACED ON FLOOR OR ROOF SO AS TO NOT OVERLOAD THE FRAMING. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE SHORING AND/OR BRACING AS REQUIRED.
7. SPECIFICATIONS AND DETAILING OF ALL WATERPROOFING AND DRAINAGE ITEMS, WHILE SOMETIMES SHOWN ON THE STRUCTURAL PLANS FOR GENERAL INFORMATION PURPOSES ONLY, ARE SOLELY THE DESIGN RESPONSIBILITY OF OTHERS.
8. THE ENGINEER WILL NOT BE RESPONSIBLE FOR AND WILL NOT HAVE CONTROL OR CHARGE OF CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION DELINEATED BY THESE PLANS. IT SHOULD BE UNDERSTOOD THAT THE CONTRACTOR OR HIS/HER AGENT(S) SHALL SUPERVISE AND DIRECT ALL WORK AND SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES AND CONDITIONS ON THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. PERIODIC OBSERVATIONS BY THE ENGINEER, HIS STAFF OR REPRESENTATIVES ARE NOT INTENDED TO INCLUDE VERIFICATION OF DIMENSIONS OR REVIEW THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES ON OR NEAR THE CONSTRUCTION SITE.
9. MODIFICATIONS OF THE PLANS, NOTES, DETAILS AND SPECIFICATIONS SHALL NOT BE PERMITTED WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
10. ALL WORKMANSHIP SHALL CONFORM TO THE BEST PRACTICE PREVAILING IN THE VARIOUS TRADES PERFORMING THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES.
11. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ONLY APPROVED STRUCTURAL PLANS ARE USED DURING THE COURSE OF CONSTRUCTION. THE USE OF UNAPPROVED DOCUMENTS SHALL BE AT THE CONTRACTOR'S OWN RISK. CORRECTIONS OF ALL WORK BASED ON SUCH DOCUMENTS SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.
12. THESE PLANS AND SPECIFICATIONS REPRESENT THE STRUCTURAL DESIGN ONLY. NO INFORMATION NOR WARRANTY IS PROVIDED FOR THE WORK OF ANY OTHER CONSULTANT (ARCHITECT, MECHANICAL, ELECTRICAL, ETC.). THIS INCLUDES, BUT IS NOT LIMITED TO, WATERPROOFING, DRAINAGE, VENTILATION, ACCESSIBILITY, OR DIMENSIONS.

FOUNDATIONS

1. REFER TO STRUCTURAL DESIGN PARAMETERS SECTION ON SHEET S-1.1 FOR ALL SOIL DESIGN VALUES USED IN CALCULATIONS.
2. SOILS VALUES PER GEOLOGIC/GEOTECHNICAL REPORT REFERENCED ON FOUNDATION PLAN. THIS REPORT AND ALL RECOMMENDATIONS CONTAINED THEREIN ARE TO BE CONSIDERED A PART OF THESE PLANS.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF THE SOILS REPORT FROM THE OWNER. A COPY OF THE SOILS REPORT SHALL BE ON THE JOB SITE DURING THE COURSE OF CONSTRUCTION.
4. UNEXPECTED SOIL CONDITIONS: ALLOWABLE VALUES AND SUBSEQUENT FOUNDATION DESIGNS ARE BASED ON SOIL CONDITIONS WHICH ARE SHOWN BY TEST BORINGS. ACTUAL SOIL CONDITIONS WHICH DEVIATE APPRECIABLY FROM THAT SHOWN IN THE TEST BORINGS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
5. ALL COMPACTION, FILL, BACKFILLING AND SITE PREPARATION SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SOILS REPORT OR CBC APPENDIX CHAPTER J. ALL SUCH WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF THE PROJECT SOILS ENGINEER.
6. EXCAVATE TO REQUIRED DEPTHS AND DIMENSIONS (AS INDICATED IN THE DRAWINGS), CUT SQUARE AND SMOOTH WITH FIRM LEVEL BOTTOMS. CARE SHALL BE TAKEN NOT TO OVER-EXCAVATE FOUNDATION AT LOWER ELEVATION AND PREVENT DISTURBANCE OF SOILS AROUND HIGH ELEVATION.
7. FOUNDATIONS SHALL BE POURED IN NEAT EXCAVATIONS.
8. EXCAVATE ALL FOUNDATIONS TO REQUIRED DEPTHS INTO COMPACTED FILL (AS PER PLANS AND DETAILS) AND AS VERIFIED BY THE BUILDING OFFICIAL AND/OR SOILS ENGINEER.
9. ALL FOUNDATIONS SHALL BE INSPECTED AND APPROVED BY THE APPROPRIATE BUILDING OFFICIAL AND/OR A REPRESENTATIVE OF THE SOILS ENGINEER PRIOR TO FORMING AND PLACEMENT OF REINFORCING OR CONCRETE.
10. FOUNDATIONS SHALL NOT BE POURED UNTIL ALL REQUIRED REINFORCING STEEL, FRAMING HARDWARE, SLEEVES, INSERTS, CONDUITS, PIPES, ETC. AND FORMWORK IS PROPERLY PLACED AND INSPECTED BY THE APPROPRIATE BUILDING OFFICIAL/INSPECTOR(S).
11. IT IS THE RESPONSIBILITY OF THE CONTRACTOR IN CHARGE OF FRAMING TO PROPERLY POSITION ALL HOLDOWN BOLTS, ANCHOR BOLTS, COLUMN BASES, AND ALL OTHER CAST-IN-PLACE HARDWARE. REFER TO TYPICAL DETAILS. ALL HARDWARE TO BE SECURED PRIOR TO FOUNDATION INSPECTIONS.
12. THE SIDES AND BOTTOMS OF DRY EXCAVATIONS MUST BE MOISTENED JUST PRIOR TO PLACING CONCRETE; CONVERSELY, DE-WATER FOOTINGS AS REQUIRED TO REMOVE STANDING WATER AND TO MAINTAIN OPTIMUM WORKING CONDITIONS.
13. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING, AND THE PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS, AND UTILITIES IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL SAFETY ORDINANCES. THE CONTRACTOR SHALL PROVIDE FOR THE DESIGN AND INSTALLATION OF ALL CRIBBING, BRACING AND SHORING REQUIRED.

CONCRETE

1. ALL CONCRETE SHALL HAVE:
    - 1.1. AN ULTIMATE COMPRESSIVE STRENGTH (F'C) OF 2500 PSI AT 28 DAYS (UON).
    - 1.2. A MAXIMUM SLUMP OF 5” AT POINT OF PLACEMENT FOR SLABS AND FOOTINGS. CAISSONS SHALL HAVE A 4" TO 6" SLUMP AT "DRY" HOLES AND A 6" - 8" SLUMP AT "WET" HOLES.
    - 1.3. A W/C RATIO OF 0.55 OR LESS FOR ALL SLABS, WALLS, AND COLUMNS, AND 0.60 OR LESS FOR ALL FOUNDATIONS.
    - 1.4. A NORMAL DRY-WEIGHT DENSITY (UON)
2. SPECIAL INSPECTION IS NOT REQUIRED, EXCEPT WHERE SPECIFIED HEREIN, ON THE STRUCTURAL PLANS, OR BY THE BUILDING DEPARTMENT. AS A MINIMUM, SPECIAL INSPECTION IS ALWAYS REQUIRED ON:
    - 2.1. STRUCTURAL SLABS, FLAT PLATES
    - 2.2. WALLS, COLUMNS, BEAMS
    - 2.3. PILES, CAISSONS
    - 2.4. WELDING OF REINFORCEMENT, INSTALLATION OF MECHANICAL BAR SPLICE DEVICES, EPOXY APPLICATIONS

    WHEN REQUIRED OR SPECIFIED, SPECIAL INSPECTION SERVICES SHALL CONFORM TO CBC CHAPTER 17 AND SHALL BE PROVIDED BY AN ICC CERTIFIED INSPECTOR OR BUILDING DEPARTMENT APPROVED ENGINEER.

    THE BUILDING DEPARTMENT RESERVES THE RIGHT TO WAIVE OR REQUIRE THE SPECIAL INSPECTION REQUIREMENTS [CBC 1704.1 AND 1704.4] . NOTHING IN THESE PLANS WAIVES THE BUILDING DEPARTMENT RIGHT TO REQUIRE SPECIAL INSPECTION ON AT ANY POINT AND ON ANY MATERIAL.
3. TESTING OF MATERIALS USED IN CONCRETE CONSTRUCTION MUST BE PERFORMED AS NOTED ON STRUCTURAL PLANS OR AT THE REQUEST OF THE BUILDING DEPARTMENT TO DETERMINE IF MATERIALS ARE QUALITY SPECIFIED. TESTS OF MATERIALS AND OF CONCRETE SHALL BE MADE BY AN APPROVED AGENCY AND AT THE EXPENSE OF THE OWNER; SUCH TESTS SHALL BE MADE IN ACCORDANCE WITH THE STANDARDS LISTED IN CBC TABLE 1705.3.

    WHEN TESTING OF CONCRETE IS REQUIRED, FOUR (4) TEST CYLINDERS SHALL BE TAKEN FROM EACH 150 YARDS, OR FRACTION THEREOF, POURED IN ANY ONE DAY. ONE (1) CYLINDER SHALL BE TESTED AT SEVEN (7) DAYS; TWO (2) AT 28 DAYS; ONE (1) SHALL BE HELD IN RESERVE. IF CONTRACTOR ELECTS TO HAVE ADDITIONAL TESTS PERFORMED FOR “EARLY-BREAK” RESULTS, ADDITIONAL TEST CYLINDERS MUST BE TAKEN. AT NO TIME SHALL THE CONTRACTOR INSTRUCT THE TESTING AGENCY TO PERFORM TESTS ON A SCHEDULE DIFFERENT THAT ABOVE WITHOUT THE PRIOR AUTHORIZATION OF THE ENGINEER.

    CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH APPLICABLE TESTING REQUIREMENTS OF THE BUILDING DEPARTMENT. COPIES OF ALL TEST REPORTS SHALL BE PROVIDED TO ENGINEER AND BUILDING DEPARTMENT FOR REVIEW IN A TIMELY MANNER.
4. THE CONTRACTOR SHALL REMOVE AND REPLACE ANY CONCRETE WHICH FAILS TO ATTAIN SPECIFIED 28 DAY COMPRESSIVE STRENGTH IF SO DIRECTED BY THE ENGINEER. ANY DEFECTS IN THE HARDENED CONCRETE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AND/OR ARCHITECT OR THE HARDENED CONCRETE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
5. ALL CONCRETE WORK SHALL CONFORM WITH CBC CHAPTER 19.
6. ALL CEMENT SHALL BE PORTLAND CEMENT TYPE I OR II AND SHALL CONFORM TO ASTM C 150.
7. ALL AGGREGATES SHALL CONFORM TO ASTM C33. MAXIMUM AGGREGATE SIZES:
    - 7.1. FOOTINGS: 1-1/2”
    - 7.2. ALL OTHER WORK: 1”
8. WHERE NOT SPECIFICALLY DETAILED, THE MINIMUM CONCRETE COVER ON REINFORCING STEEL SHALL BE:
    - 8.1. PERMANENTLY EXPOSED TO EARTH OR WEATHER
        - 8.1.1. CAST AGAINST EARTH: 3”
        - 8.1.2. CAST AGAINST FORMS: 2”
    - 8.2. NOT EXPOSED TO EARTH OR WEATHER
        - 8.2.1. SLABS, WALLS, JOISTS: 3/4”
        - 8.2.2. BEAMS, GIRDERS, COLUMNS: 1-1/2”
9. MINIMUM LAP SPLICE LENGTH FOR ALL REINFORCING STEEL SHALL BE 48 BAR DIAMETER (UON) ON THE STRUCTURAL PLANS AND/OR DETAILS. ALL LAP SPLICES TO BE STAGGERED.
10. ALL ANCHOR BOLTS USED IN CONCRETE CONSTRUCTION SHALL HAVE A MINIMUM TOTAL EMBEDMENT AS FOLLOWS (UON):
    - 10.1. 5/8” DIA.: 7”
    - 10.2. 3/4” DIA.: 8”
    - 10.3. 7/8” DIA.: 9”
    - 10.4. 1” DIA.: 10”

    OVERALL LENGTH OF ANCHOR BOLTS SHALL BE COORDINATED WITH SILL PLATE REQUIREMENTS AS INDICATED ELSEWHERE IN THESE SPECIFICATIONS. ALL ANCHOR BOLTS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT DIPPED ZINC GALVANIZED OR STAINLESS STEEL.
11. ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS, INSERTS, AND ANY OTHER HARDWARE TO BE CAST IN CONCRETE SHALL BE WELL SECURED IN POSITION PRIOR TO FOUNDATION INSPECTION. ALL HARDWARE TO BE INSTALLED IN ACCORDANCE WITH RESPECTIVE MANUFACTURER'S SPECIFICATIONS. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR LOCATIONS OF EMBEDDED ITEMS.
12. LOCATIONS OF ALL CONSTRUCTION JOINTS, OTHER THAN SPECIFIED ON THE STRUCTURAL PLANS, SHALL BE APPROVED BY THE ARCHITECT AND ENGINEER PRIOR TO FORMING. CONSTRUCTION JOINTS SHALL BE THOROUGHLY AIR AND WATER CLEANED AND HEAVILY ROUGHENED SO AS TO EXPOSE COARSE AGGREGATES. ALL SURFACES TO RECEIVE FRESH CONCRETE SHALL BE MAINTAINED CONTINUOUSLY WET AT LEAST THREE (3) HOURS IN ADVANCE OF CONCRETE PLACEMENT.

    UNLESSSS SPECIFICALLY DETAILED OR OTHERWISE NOTED, CONSTRUCTION AND CONTROL JOINTS SHALL BE PROVIDED IN ALL CONCRETE SLABS-ON-GRADE. JOINTS SHALL BE LOCATED SUCH THAT THE AREA DOES NOT EXCEED 400 SQ. FEET.
13. THE ARCHITECT, ENGINEER AND APPROPRIATE INSPECTORS SHALL BE NOTIFIED IN A TIMELY MANNER FOR A REINFORCEMENT INSPECTION PRIOR TO THE PLACEMENT OF ANY CONCRETE.
14. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ARCHITECT AND THE ENGINEER PRIOR TO PLACING SLEEVES,PIPES, DUCTS, CHASES, CORING AND OPENING ON OR THROUGH STRUCTURAL CONCRETE BEAMS, WALLS, FLOORS, AND ROOF SLABS UNLESSSS SPECIFICALLY DETAILED OR NOTED ON THE PLANS. ALL PILES OR CONDUITS PASSING THROUGH CONCRETE MEMBERS SHALL BE SLEEVED WITH STANDARD STEEL PIPE SECTIONS.
15. THE CONTRACTOR IS RESPONSIBLE FOR DESIGN, INSTALLATION, MAINTENANCE AND REMOVAL OF ALL FORMWORK. FORMS SHALL BE PROPERLY CONSTRUCTED, SUFFICIENTLY TIGHT TO PREVENT LEAKAGE, SUFFICIENTLY STRONG, AND BRACED TO MAINTAIN THEIR SHAPE AND ALIGNMENT UNTIL NO LONGER NEEDED FOR CONCRETE SUPPORT. JOINTS IN FORMWORK SHALL BE TIGHTLY FITTED AND BLOCKED, AND SHALL PRODUCE A FINISHED CONCRETE SURFACE THAT IS TRUE AND FREE FROM BLEMISHES. FORMS FOR EXPOSED CONCRETE SHALL BE PRE-APPROVED BY THE ARCHITECT TO ENSURE CONFORMANCE WITH DESIGN INTENT.
16. REMOVE FORM WORK IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:
    - 16.1. FORMS AT SLAB EDGE: 1 DAY
    - 16.2. SIDE FORMS AT FOOTINGS: 2 DAYS
    - 16.3. ALL OTHER VERTICAL SURFACES: 7 DAYS
    - 16.4. BEAMS, COLUMNS, GIRDERS: 15 DAYS
    - 16.5. ELEVATED SLABS: 28 DAYS

    ENGINEER RESERVES THE RIGHT TO MODIFY REMOVAL SCHEDULE ABOVE BASED ON FIELD OBSERVATIONS, CONCRETE CONDITIONS, AND/OR CONCRETE TEST RESULTS.
17. ALL CONCRETE (EXCEPT SLABS-ON-GRADE 6” OR LESS) SHALL BE MECHANICALLY VIBRATED AS IT IS PLACED. VIBRATOR TO BE OPERATED BY EXPERIENCED PERSONNEL. THE VIBRATOR SHALL BE USED TO CONSOLIDATE THE CONCRETE. THE VIBRATOR SHALL NOT BE USED TO CONVEY CONCRETE, NOR SHALL IT BE PLACED ON REINFORCING AND/OR FORMS. CONCRETE IN CAISSONS SHALL BE PLACED AND CONSOLIDATED IN AN APPROVED MANNER.
18. CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR A MINIMUM OF FIVE (5) DAYS AFTER PLACEMENT.
19. CONCRETE SHALL NOT BE PERMITTED TO FREE FALL MORE THAN SIX (6) FEET. FOR HEIGHTS GREATER THAN SIX (6) FEET, USE TREMIE, PUMP OR OTHER METHOD CONSISTENT WITH APPLICABLE STANDARDS.
20. CONTRACTOR SHALL SUBMIT MIX DESIGNS FOR ALL CONCRETE WITH ULTIMATE COMPRESSIVE STRENGTH GREATER THAN 2500 PSI TO ARCHITECT AND ENGINEER FOR APPROVAL SEVEN (7) DAYS PRIOR TO PLACEMENT. MIX DESIGNS SHALL BE PREPARED B AN APPROVED TESTING LABORATORY. SUFFICIENT DATA MUST BE PROVIDED FOR ALL ADMIXTURES.
21. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF ALL DIMENSIONS, SLAB DEPRESSIONS, SLOPES, DRAINS, CURBS, AND CONTROL JOINTS.

REINFORCEMENT

1. REINFORCING STEEL SHALL BE TO DEFORMED, CLEAN, FREE OF RUST, GREASE OR ANY OTHER MATERIAL LIKELY TO IMPAIR CONCRETE BOND.
2. ALL BARS SHALL CONFORM TO ASTM A615, GRADE 60 MINIMUM (UON ON STRUCTURAL PLANS), EXCEPT THAT #3 & #4 BARS MAY BE GRADE 40. ALL WELD WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185.
3. REINFORCING STEEL THAT IS TO BE WELDED SHALL CONFORM TO ASTM A706. ALL WELDING OF REINFORCEMENT SHALL BE SUBJECT TO SPECIAL INSPECTION.
4. 4. CONTRACTOR SHALL TAKE NECESSARY STEPS (STANDARD TIES, ANCHORAGE DEVICES, ETC.) TO SECURE ALL REINFORCING STEEL IN THEIR TRUE POSITION AND PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT.
5. FABRICATION, PLACEMENT AND INSTALLATION OF REINFORCING STEEL SHALL CONFORM TO:
    - 5.1. CONCRETE REINFORCING STEEL INSTITUTE (CRSI) MANUAL OF STANDARD PRACTICE
6. SHOP DRAWINGS FOR FABRICATION OF REINFORCING STEEL SHALL BE APPROVED BY THE CONTRACTOR AND SUBMITTED TO THE ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. SHOP DRAWINGS ARE NOT REQUIRED FOR SLABS-ON-GRADE OR FOUNDATIONS UON ON THE STRUCTURAL PLANS.
7. HEATING OF REINFORCING STEEL TO AID IN BENDING AND SHAPING OF BARS IS NOT PERMITTED. ALL BENDS IN REINFORCING STEEL ARE TO BE MADE COLD. ALL BEND RADII SHALL CONFORM TO CRSI MANUAL OF STANDARD PRACTICE.
8. REFER TO CONCRETE AND MASONRY NOTES FOR SPECIFIC MINIMUM SPLICE LENGTH AND SPLICE STAGGERING REQUIREMENTS. LAP WELDED WIRE FABRIC (WWF) REINFORCEMENT TWO (2) MODULES MINIMUM (UON). ALL SPLICES ARE TO BE STAGGERED.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL AND CONNECTIONS SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS, SEISMIC PROVISIONS SUPPLEMENTS NO. 1 AND 2, AND CODE OF STANDARD PRACTICE AS AMENDED TO DATE.
2. STEEL FABRICATION SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BY THE ARCHITECT AND ENGINEER PRIOR TO FABRICATION.
3. MATERIALS:
    - 3.1. TUBE SECTIONS (“TS” OR “HSS”) SHALL CONFORM TO ASTM A500 GR. B.
    - 3.2. PIPE SECTIONS SHALL BE WELDED SEAMLESS PIPE CONFORMING TO ASTM A53 GR. B OR ASTM A501.
        - 3.2.1. STD INDICATES STANDARD WALL
        - 3.2.2. EXT INDICATES EXTRA STRONG
        - 3.2.3. DBL INDICATES DOUBLE EXTRA STRONG
    - 3.3. ALL OTHER MATERIAL (PLATE, BARS, ETC.) SHALL CONFORM TO ASTM A36 (UON)
4. BOLTS:
    - 4.1. ALL BOLTS SHALL BE ASTM F1554 GRADE 36 (UON) ON THE STRUCTURAL PLANS.
    - 4.2. HIGH STRENGTH BOLTS COMPLYING WITH ASTM A325 AND A490, WHEN SPECIFIED, SHALL REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CBC SECTION 1705.2.
    - 4.3. THREADED ROD, WHERE SPECIFIED, SHALL CONFORM WITH ASTM F1554 GRADE 36 (UON) ON THE STRUCTURAL PLANS.
5. BOLT HOLES SHALL BE DRILLED 1/32” TO 1/16” LARGER THAN THE SPECIFIED BOLT DIAMETER.
    - 5.1. WELDING:
    - 5.2. ALL WELDING SHALL BE PERFORMED USING SMAW, GMAW OR FCAW PROCESSES.
    - 5.3. ALL WELDED CONNECTIONS TO BE WELDED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS D1.1.
    - 5.4. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS.
    - 5.5. ALL WELDING SHALL BE PERFORMED WITH E70XX ELECTRODES WITH A MINIMUM CVN TOUGHNESS OF 20 FTLB AT -20OF.
    - 5.6. WELD LENGTHS SPECIFIED ON THE PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE THE MINIMUM SIZE WELDS AS SPECIFIED IN SECTION 1.17.2 OF THE AISC MANUAL OF STEEL CONSTRUCTION 9TH EDITION.
    - 5.7. NO FIELD WELDING SHALL BE PERMITTED UON ON THE PLANS OR DETAILS.
6. NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. BURNING OR TORCHING OF HOLES IS NOT PERMITTED UNDER ANY CIRCUMSTANCES.
7. ALL STRUCTURAL STEEL SHALL BE PAINTED ONE SHOP COAT AND TOUCHED-UP IN THE FIELD WITH READ LEAD (OR APPROVED ZINC CHROMATE PRIMER) AS NECESSARY.
8. ANY STEEL MEMBER INTERFACING WITH WOOD FRAMING SHALL HAVE 1/2” DIAMETER STUDS WELDED AT 24” O.C. FOR ATTACHMENT OF WOOD NAILERS. THRU-BOLTING OF NAILERS SHALL NOT BE PERMITTED UON ON THE PLANS OR DETAILS.
9. PROVIDE HOT DIP GALVANIZING OR 3” MINIMUM CONCRETE COVER AROUND ALL STRUCTURAL STEEL BELOW GRADE.

MASONRY

1. SPECIAL INSPECTION IS REQUIRED FOR MASONRY WALLS PER CBC 1704.5
2. MASONRY UNITS: SHALL CONFORM TO ASTM C90, GRADE N, TYPE I, MEDIUM-WEIGHT. THE COMPRESSIVE STRENGTH OF THE MASONRY, F’M, SHALL BE 1500 PSI MINIMUM. REFER TO CBC 2103.
3. MORTAR: SHALL BE TYPE S, WITH A STRENGTH OF 1800 PSI MINIMUM @ 28 DAYS, PROPORTIONED IN CONFORMANCE WITH CBC TABLE 21-A. WHEN THE SPECIFIED MASONRY STRENGTH, F’M, IS GREATER THAN 2000 PSI, THEN THE MORTAR SHALL BE TYPE M. MORTAR STRENGTH SHALL BE EQUAL TO OR GREATER THAN THE MASONRY STRENGTH, F’M. NO MORTARS SHALL BE USED THAT HAVE STOOD FOR MORE THAN ONE-HOUR.
4. GROUT: STRENGTH SHALL BE NO LESS THAN 2500 PSI@ 28 DAYS. CEMENT CONTENT OF THE GROUT SHALL BE INCREASED, AS NECESSARY, TO ACHIEVE THE SPECIFIED MASONRY ASSEMBLY STRENGTH, F’M, AND ADEQUATE WORKABILITY. GROUT COMPRESSIVE STRENGTH, WHEN TESTED PER UBC STANDARD NO. 21-18 SHALL EQUAL OR EXCEED THE CONCRETE MASONRY UNIT STRENGTH. ALL GROUT ADDITIVES SHALL RECEIVE THE PRIOR APPROVAL OF THE ENGINEER AND THE BUILDING OFFICIAL.
5. ADMIXTURES: SHALL NOT BE PERMITTED IN MORTAR OR GROUT UNLESS SUSTAINING DATA HAS BEEN SUBMITTED TO AND APPROVED BY THE ENGINEER. FIRE CLAY, DIRT AND OTHER DELETERIOUS MATERIALS ARE PROHIBITED.
6. AGGREGATES: SAND FOR MORTAR SHALL CONFORM TO ASTM C144 EXCEPT THAT NOT LESS THAN 3% OF THE SAND SHALL PASS THE NUMBER 100 SIEVE. SAND AND PEA GRAVEL FOR GROUT SHALL CONFORM TO ASTM C404, TABLE 1, COARSE AGGREGATE, EXCEPT WHEN OTHER GRADINGS ARE SPECIFICALLY APPROVED BY THE ENGINEER.
7. WATER USED FOR MORTAR AND GROUT SHALL BE CLEAN AND FREE FROM DELETERIOUS AMOUNTS OF ACIDS, SALTS, ALKALI, AND ORGANIC MATERIALS.
8. STEEL REINFORCING: SHALL CONFORM TO ASTM A615, GRADE 60, CLEAN AND FREE OF RUST, EXCEPT THAT #3 BARS MAY BE GRADE 40. REINFORCING STEEL THAT IS TO BE WELDED SHALL CONFORM TO ASTM A706, AND THE WELDING SHALL BE SPECIAL INSPECTED.
9. ANCHOR BOLTS: SEE THE “STRUCTURAL STEEL” SPECIFICATIONS SECTION HEREIN.
10. ALL CELLS SHALL BE SOLID GROUTED (OR “FULLY” GROUTED). MASONRY UNITS SHALL BE LAID IN RUNNING BOND. SURFACES TO BE CLEANED OF ALL LOOSE DEBRIS PRIOR TO SETTING BLOCK. CELLS TO BE IN VERTICAL ALIGNMENT SUCH THAT MINIMUM VERTICAL UNOBSTRUCTED CORE (EXCLUDING HORIZONTAL BARS) IS 2½”X 3" FOR GROUT POURS UP TO 4 FEET AND 3”X3” FOR GROUT POURS UP TO 6 FEET.
11. ALL BED JOINTS ARE TO BE FULL-BEDDED IN MORTAR. END WALLS AND CROSS WEBS FORMING CELLS TO BE FILLED SHALL BE FULL-BEDDED IN MORTAR TO PREVENT LEAKAGE OF GROUT. ALL HEAD JOINTS ARE TO BE SOLIDLY FILLED AT LEAST 1½” BELOW TOP OF MASONRY. HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1½” BELOW TOP OF MASONRY.
12. GROUT LIFTS SHALL NOT EXCEED 5 FEET 4 INCHES. GROUT SHALL BE CONSOLIDATED BY MECHANICAL VIBRATION IMMEDIATELY AFTER PLACING TO HELP ENSURE FILLING OF ALL VOIDS. RECONSOLIDATION BY VIBRATION MUST BE DONE AFTER THE INITIAL WATER LOSS AND BEFORE INITIAL SET. FOR GROUT POURS EXCEEDING 5 FEET 4 INCHES, CLEANOUT OPENINGS SHALL BE PROVIDED AT THE BOTTOM OF EACH CELL WITH A VERTICAL BAR FOR EACH POUR, CONFORMING TO MSJC 3.2 F. CLEANOUTS SHALL BE SEALED AFTER INSPECTION AND BEFORE GROUTING. WHERE CLEANOUTS ARE NOT PROVIDED, SPECIAL PROVISIONS MUST BE MADE TO KEEP THE BOTTOM AND SIDES OF THE GROUT SPACES, AS WELL AS THE MINIMUM TOTAL CLEAR AREA REQUIRED, CLEAN AND CLEAR PRIOR TO GROUTING. FOR GROUT POURS EXCEEDING 4 FEET, CONFORM TO CBC HIGH-LIFT GROUTING REQUIREMENTS.
13. REINFORCEMENT PLACEMENT:
    - 13.1. REINFORCING SHALL BE HELD SECURELY IN POSITION. VERTICAL BARS SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT MORE THAN 200 BAR DIAMETERS
    - 13.2. LAP SPLICES SHALL BE 40 BAR DIAMETERS MINIMUM (UON). ADJACENT BAR LAPS SHALL BE STAGGERED 3’-0” MINIMUM. HOOKS SHALL BE 16 BAR DIAMETERS (UON)
    - 13.3. REINFORCING BARS TO HAVE GROUT COVERAGE OF AT LEAST ONE BAR DIAMETER (½” MINIMUM) FROM INSIDE FACE OF SHELL, HOWEVER THE CLEAR DISTANCE FROM OUTSIDE FACE OF MASONRY TO THE REINFORCING SHALL NOT BE LESS THAN 2” WHEN MASONRY IS EXPOSED TO SOIL OR 1½” FOR OTHER CONDITIONS.
    - 13.4. THE CLEAR DISTANCE BETWEEN PARALLEL BARS IS 1” MINIMUM AND (AND SHALL NOT BE LESS THAN 1 BAR DIAMETER), EXCEPT THAT THE TWO BARS IN A CONTACT SPLICE SHALL BE IN CONTACT. THIS CLEAR DISTANCE REQUIREMENT ALSO APPLIES TO THE CLEAR DISTANCE BETWEEN A CONTACT SPLICE AND ADJACENT SPLICES OR BARS. [EXCEPTION: THE MINIMUM CLEAR DISTANCE BETWEEN PARALLEL BARS IN COLUMNS AND PILASTERS IS 2.5 BAR DIAMETERS.
14. REFER TO THE STRUCTURAL DETAILS FOR WALL REINFORCING. AT A MINIMUM, BLOCK WALL VERTICAL REINFORCING SHALL BE #4 @ 18” O.C. AND HORIZONTAL REINFORCING SHALL BE #4 @ 16” O.C. AT LEAST ONE CONTINUOUS HORIZONTAL #4 BAR OR LARGER SHALL BE PLACED IN BOTH THE BOTTOM AND THE TOP COURSE OF MASONRY WALL, (UON).
15. SEE STRUCTURAL SHEETS FOR TYPICAL WALL DETAILS. AT A MINIMUM, DOOR AND WINDOW JAMBS SHALL HAVE 2 - #5 BARS, AND HEADERS (OR “LINTELS”) SHALL HAVE 2 - #5 BARS, UON ON THE PLANS. JAMB AND LINTEL BARS SHALL EXTEND A MINIMUM OF 40 BAR DIAMETERS PAST THE OPENING.
16. JAMB REINFORCING STEEL SHALL EXTEND INTO THE FOUNDATION (OR DECK) BELOW WITH LAP BARS OF THE SAME DIAMETER BENT WITH 90-DEGREE STANDARD HOOKS INTO THE FOOTING OR DECK. JAMB STEEL SHALL CONTINUE TO THE TOP OF THE WALL, UNLESS DETAILED OTHERWISE ON THE PLANS, BUT SHALL NOT EXTEND LESS THAN 40 BAR DIAMETERS PAST THE OPENING.
17. MASONRY COLUMNS & PILASTERS: REFER TO THE STRUCTURAL DETAILS FOR REINFORCEMENT REQUIREMENTS. PROVIDE AT LEAST 4 - #3 TIES IN THE TOP 5” OF THE COLUMN, AND ENGAGE AT LEAST FOUR VERTICAL BARS AND/OR ANCHOR BOLTS WITH THE TIES. THE UPPERMOST TIE SHALL BE WITHIN 2” OF THE TOP OF THE COLUMN. BARS SHALL BE PLACED NOT LESS THAN 1½” AND NOT MORE THAN 5” FROM THE SURFACE OF THE COLUMN.
18. ANCHOR BOLT INSTALLATION: SECURE IN PLACE PRIOR TO GROUTING. PROVIDE 1” MINIMUM GROUT COVERAGE.
19. CONDUIT SLEEVES SHALL NOT BE SPACED CLOSER THAN THREE SLEEVE DIAMETERS CENTER-TO-CENTER. CONDUIT AND OTHER OBSTRUCTIONS SHALL BE STRATEGICALLY LOCATED SO AS TO AVOID CONFLICT WITH WALL REINFORCING AND CELL GROUT SPACES AND THE REQUIRED CLEARANCES.
20. WATERPROOFING SHALL TO BE PROVIDED ON THE FACE OF ALL MASONRY WALLS EXPOSED TO EARTH, PER THE ARCHITECTURAL PLANS AND SPECIFICATIONS.
21. THE CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES WHOSE WORK RELATES TO THE MASONRY INSTALLATION FOR PLACING OF ALL REQUIRED FRAMING. THIS INCLUDES, BUT IS NOT LIMITED TO, PLACING ANCHORS, BOLTS, PIPES, SLEEVES, NAILERS, BLOCKOUTS, REGLETS, FITTINGS, CONDUITS, ETC., PROVIDED BY OTHER TRADES WITHIN THE MASONRY CONSTRUCTION.
22. RETAINING WALLS SHALL NOT BE BACKFILLED UNTIL GROUT HAS SET A MINIMUM OF 14 DAYS (28 DAYS PREFERRED). ALL WALLS ARE TO BE FULLY BACKFILLED PRIOR TO FRAMING BEING PLACED ON OR AGAINST THE WALL. PER THE SOILS REPORT, ALL BACKFILL IS TO BE INSPECTED BY THE SOILS/GEOTECHNICAL ENGINEER AT THE TIME OF PLACEMENT.
23. HOT WEATHER CONSTRUCTION: MASONRY CONSTRUCTION IS NOT PERMITTED WHEN THE AMBIENT AIR TEMPERATURE EXCEEDS 100°F, OR IF IT EXCEEDS 90°F WITH A WIND VELOCITY OF 8 MPH OR GREATER. (EXCEPTION: IF PRECISE AND PROPER HOT WEATHER CONSTRUCTION AND PROTECTION REQUIREMENTS OF THE APPROPRIATE PRACTICE ARE IMPLEMENTED WHEN TEMPERATURES ARE FORECASTED TO REACH OR DO REACH THE LIMITS FOR NORMAL CONSTRUCTION. IF SUCH CONSTRUCTION IS NECESSARY, CONTACT THE ENGINEER FOR REQUIREMENTS.) CHECK LOCAL WEATHER REPORTS BEFORE THE START OF EACH DAY AND PERIODICALLY MEASURE AIR TEMPERATURE AND WIND SPEED DURING THE DAY. FOG SPRAY ALL NEWLY CONSTRUCTED MASONRY UNTIL DAMP, AT LEAST THREE TIMES A DAY UNTIL THE MASONRY IS THREE DAYS OLD.
24. COLD WEATHER CONSTRUCTION: COMPLY WITH CBC SECTION 2104.1.

TIMBER / LUMBER

1. ALL STRUCTURAL LUMBER SHALL BE DOUGLAS FIR-LARCH, S4S AND SHALL CONFORM TO CBC SECTION 2303.1.
2. THE MINIMUM LUMBER GRADE OF EACH MEMBER SHALL BE AS FOLLOWS UON ON PLANS AND DETAILS:
    - 2.1. 2X STUDS, BLOCKING, PLATES: STUD
    - 2.2. 2X JOISTS #2 OR BETTER
    - 2.3. 4X4 BEAMS OR POSTS #2 OR BETTER
    - 2.4. 4X6 OR LARGER BEAMS OR POSTS #1 OR BETTER

    IT IS RECOMMENDED (BUT NOT REQUIRED) THAT ALL EXPOSED MEMBERS BE SELECT STRUCTURAL OR BETTER AND FREE OF HEART CENTER DUE TO VISUAL CHARACTERISTICS.
3. ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY SHALL BE REDWOOD OR PRESSURE TREATED DOUGLAS FIR. CONTRACTOR SHALL COORDINATE WITH EOR IF PRESSURE TREATED MATERIAL UTILIZES A CORROSIVE TREATMENT GREATER THAN "DOT" PRIOR TO INSTALLATION. WHENEVER IT IS NECESSARY TO CUT, NOTCH, BORE OR SPLICE PRESSURE TREATED MATERIAL, ALL NEWLY CUT SURFACES SHALL BE THOROUGHLY PAINTED WITH THE SAME PRESERVATIVE.
4. MAXIMUM MOISTURE CONTENT FOR ALL STRUCTURAL MEMBERS SHALL NOT EXCEED 19%.

ALL PLYWOOD SHEATHING SHALL BE CDX GRADE (OR BETTER) DOUGLAS FIR WITH EXTERIOR GLUE. ALL SHEATHING SHALL CONFORM TO CBC STANDARD 23-2 AND GRADE-MARKED BY THE AMERICAN PLYWOOD ASSOCIATION (APA). PANEL INDEX TO BE 40/20 FOR FLOORS AND 24/0 FOR ROOFS (UON) ON THE PLANS AND DETAILS.

FASTENERS

1. NAILS:
    - 1.1. SHALL BE WITH “COMMON” NAILS (UON).
    - 1.2. SHALL NOT BE DRIVEN CLOSER THAN ½ THEIR LENGTH NOR CLOSER THAN ¼ OF THEIR LENGTH TO THE EDGE OR END OF A MEMBER, EXCEPT FOR SHEATHING.
    - 1.3. SHALL BE INSTALLED IN PRE-DRILLED LEAD HOLES IF NECESSARY TO AVOID SPLITTING.
    - 1.4. IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT DIPPED ZINC GALVANIZED OR STAINLESS STEEL.
    - 1.5. ALL NAILING CONFORM TO 2016 CBC TABLE 2304.10.1.
2. LAG SCREWS:
    - 2.1. SHALL BE INSTALLED INTO PRE-DRILLED LEAD HOLES. LUBRICANT (OR SOAP) SHALL BE USED TO FACILITATE INSTALLATION AND PREVENT DAMAGE TO THE SCREWS.
    - 2.2. IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT DIPPED ZINC GALVANIZED OR STAINLESS STEEL.
3. BOLTS:
    - 3.1. SHALL CONFORM TO ASTM F1554 GRADE 36 (UON) ON PLANS AND DETAILS.
    - 3.2. SHALL BE INSTALLED IN PRE-DRILLED HOLES A MAXIMUM OF 1/16” LARGER THAN THE SPECIFIED BOLT DIAMETER.
    - 3.3. WHEN INSTALLED AGAINST WOOD SURFACES, SHALL HAVE STANDARD WASHERS UNDER THE HEADS AND NUTS.
    - 3.4. IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT DIPPED ZINC GALVANIZED OR STAINLESS STEEL.
4. ANCHOR BOLTS:
    - 4.1. SHALL BE 5/8” DIAMETER WITH 3X3X0.229” STEEL PLATE WASHERS AT SHEARWALLS.
    - 4.2. SHALL HAVE 7” MINIMUM EMBEDMENT. (CONTRACTOR TO COORDINATE LENGTH OF BOLTS WITH SILL PLATE THICKNESSES)
    - 4.3. SHALL CONFORM TO ASTM F1554 GRADE 36
    - 4.4. SHALL BE HOT DIPPED ZINC GALVANIZED OR STAINLESS STEEL
    - 4.5. SHALL NOT BE SPACED GREATER THAN 72” O.C. REFER TO SHEARWALL SCHEDULE FOR SPECIFIC ANCHOR BOLT SPACING REQUIREMENTS.
    - 4.6. SHALL BE PLACED A MAXIMUM OF 12" FROM WALL CORNERS, WALL ENDS, AND SILL PLATE SPLICES (BUT NOT LESS THAN 7 DIAMETERS), AND A MINIMUM OF TWO BOLTS PER PIECE OF SILL PLATE IS REQUIRED.
    - 4.7. SHALL BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION

CARPENTRY

1. REFER TO 2016 CBC TABLE 2304.10.1. FOR ALL MINIMUM NAILING REQUIREMENTS.
2. REFER TO INDIVIDUAL SECTIONS FOR APPLICABLE MATERIAL SPECIFICATIONS.
3. FABRICATE, SIZE, INSTALL, CONNECT, FASTEN, BORE, NOTCH, AND CUT WOOD AND PLYWOOD WITH JOINTS TRUE, TIGHT, AND WELL-NAILED, SCREWED OR BOLTED AS REQUIRED, ALL MEMBERS TO HAVE SOLID BEARING WITHOUT BEING SHIMMED (UON). SET HORIZONTAL MEMBERS SUBJECT TO BENDING WITH THE CROWN UP. INSTALL FRAMING PLUMB, SQUARE, TRUE AND CUT FOR FULL BEARING. SPLICES ARE NOT PERMITTED BETWEEN BEARINGS. USE FULL LENGTHS (UON)
4. METAL FRAMING ANGLES, ANCHOR, CLIPS, STRAPS, TIES, HOLDOWNS, ETC. SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE CO. NO SUBSTITUTIONS SHALL BE PERMITTED WITHOUT PRIOR APPROVAL OF THE ENGINEER.
5. ALL WALLS ARE TO HAVE CONTINUOUS DOUBLE 2X TOP PLATES SPLICED AS FOLLOWINGS (UON) ON THE PLANS AND DETAILS.
6. WALL STUDS:
    - 6.1. (UON) USE THE FOLLOWING GUIDELINES FOR WALL FRAMING:
    - 6.2. USE 2X4 STUDS AT 16” O.C. FOR WALLS LESS THAN 9’-0” TALL.
    - 6.3. WALLS 9’-0” TO 16’-0” TALL SHALL BE CONSTRUCTED OF 2X6 STUDS AT 16” O.C.
    - 6.4. REQUEST SPECIFICALLY ENGINEERED WALL DETAILS FOR WALLS GREATER THAT 16’-0” TALL.
7. BLOCKING:
    - 7.1. PROVIDE MIN. ONE ROW OF NOMINAL 2" THICK BLOCKING OF SAME WIDTH AS STUD, FITTED SNUGLY AND SPIKED INTO STUDS AT MID-HEIGHT OF PARTITIONS OR WALLS OVER EIGHT FEET HIGH.
    - 7.2. ALL CRIPPLE WALLS (OR “PONY WALLS”) LESS THAN 14" IN HEIGHT SHALL BE SOLID BLOCKING.
    - 7.3. REFER TO SHEARWALL SECTION FOR ADDITIONAL BLOCKING REQUIREMENTS.
8. NOTCHING:
    - 8.1. IS NOT PERMITTED OF ANY STRUCTURAL MEMBER WITHOUT PRIOR APPROVAL
    - 8.2. IN EXTERIOR AND BEARING WALLS, NOTCHES SHALL NOT EXCEED 25% OF THE STUD DEPTH.
    - 8.3. NON-BEARING PARTITION WALLS, NOTCHES SHALL NOT EXCEED 40% OF THE STUD DEPTH.
    - 8.4. SUCCESSIVE NOTCHES IN THE SAME MEMBER SHALL BE SPACED A MINIMUM OF 18” APART.
9. BORING:
    - 9.1. IS NOT PERMITTED OF ANY STRUCTURAL MEMBER WITHOUT PRIOR APPROVAL
    - 9.2. IN EXTERIOR AND BEARING WALLS, HOLES SHALL NOT EXCEED 40% OF THE STUD DEPTH.
    - 9.3. NON-BEARING PARTITION WALLS, SHALL MAY BE DRILLED NOT GREATER THAN 60% OF THE STUD DEPTH.
    - 9.4. SUCCESSIVE HOLES IN THE SAME MEMBER SHALL BE SPACED A MINIMUM OF 18” APART.
10. BEARING:
    - 10.1. PROVIDE A MINIMUM OF 1½" OF BEARING FOR ALL 2X JOISTS AND ALL 4X10 / 6X8 HEADERS & SMALLER.
    - 10.2. PROVIDE A MINIMUM OF 3” OF BEARING FOR ALL BEAMS AND HEADERS 4X12 / 6X10 & LARGER (UON).
    - 10.3. MEMBERS BEARING ON PREFABRICATED HANGERS ARE TO HAVE FULL BEARING AND NAILING PER MANUFACTURER’S SPECIFICATIONS.
11. POSTS:
    - 11.1. POSTS INSIDE WALLS SHALL BEAR ON SILL PLATES AND SHALL BE CONTINUOUS BETWEEN TOP AND BOTTOM PLATES, (UON).
    - 11.2. PROVIDE POSTS UNDER ALL BEAMS, GIRDERS OR DOUBLE JOISTS EQUAL TO THE WIDTH OF THE SUPPORTED MEMBER.
    - 11.3. POSTS ON UPPER LEVELS ARE TO BE STACKED ON POSTS OF EQUAL SIZE AT LEVELS BELOW, UNLESS A LARGER POST IS SPECIFIED ON THE PLANS.
    - 11.4. VERTICAL BLOCKING (“SQUASH BLOCKS”) SHALL BE USED TO FULLY TRANSFER THE POST AREA THROUGH FLOORS TO FOUNDATION. VERTICAL BLOCKING SHALL BE EQUAL TO FLOOR THICKNESS PLUS 1/16”.
    - 11.5. HEADERS FRAMING INTO CONTINUOUS POSTS WITHOUT TRIMMER STUDS SHALL BE SUPPORTED IN SIMPSON HUC HANGERS (UON).
    - 11.6. POSTS WHEN ISOLATED, SHALL BE SEATED IN SIMPSON POST OR COLUMN BASES (UON)
12. FLOOR FRAMING:
    - 12.1. PROVIDE WOOD JOISTS, AS SPECIFIED, LAID WITH THE CROWN UP AND SPACED AS INDICATED.
    - 12.2. PROVIDE A MINIMUM OF 1½" END BEARING UNLESSSS OTHERWISE SHOWN.
    - 12.3. PROVIDE FULL DEPTH SOLID 2X BLOCKING OR CROSS-BRIDGING BETWEEN THE JOISTS AT 8'-0" O.C. MAX. FOR FLOORS FRAMED WITH I JOISTS, REFER TO THE MANUFACTURER'S SPECIFICATIONS FOR BLOCKING REQUIREMENTS.
    - 12.4. PROVIDE FULL DEPTH SOLID 2X BLOCKING BETWEEN THE JOISTS UNDER ALL WALLS AND PARTITIONS WHERE THE WALL OR PARTITION IS PERPENDICULAR TO THE FLOOR FRAMING (INCLUDING FLOORS FRAMED WITH I JOISTS)
    - 12.5. INSTALL 3/4” PLYWOOD SHEATHING WITH THE FACE GRAIN ACROSS SUPPORTS, END SUPPORTS STAGGERED AND THE EDGES OF SHEETS CENTERED OVER SUPPORTS. IF T&G PLYWOOD IS NOT USED, PROVIDE BLOCKING AT ALL PLYWOOD EDGES. GLUE TO JOISTS AND FULLY NAIL WITH COMMON NAILS PER THE PLANS.
13. ROOF FRAMING:
    - 13.1. PROVIDE WOOD JOISTS, AS SPECIFIED, LAID WITH THE CROWN UP AND SPACED AS INDICATED.
    - 13.2. PROVIDE A MINIMUM OF 1½" END BEARING (UON).
    - 13.3. PROVIDE FULL DEPTH SOLID 2X BLOCKING OR CROSS-BRIDGING BETWEEN THE JOISTS AT 8'-0" O.C. MAX.
    - 13.4. PROVIDE ALL CRICKET FRAMING REQUIRED TO ACHIEVE POSITIVE DRAINAGE PER ARCHITECTURAL DRAWINGS.
    - 13.5. INSTALL PLYWOOD PANELS WITH THE FACE GRAIN ACROSS THE FRAMING AND CLOSE JOINTS AND NAIL AT EACH SUPPORT. FULLY NAIL WITH COMMON NAILS PER THE PLANS.
    - 13.6. PROVIDE SIMPSON “PSCL” CLIPS AT ALL PLYWOOD JOINTS PERPENDICULAR TO FRAMING. PROVIDE CLIPS MIDWAY BETWEEN FRAMING MEMBERS AT THE UNSUPPORTED EDGES OF PLYWOOD WHEN MEMBERS ARE SPACED AT 24" O.C. OR GREATER. IF CLIPS ARE NOT USED, PROVIDE SOLID BLOCKING FOR JOINTS PERPENDICULAR TO FRAMING.
14. SHEARWALLS:
    - 1.1. REFER TO PLANS FOR ALL SHEARWALL LOCATIONS, LENGTH TYPE AND NAILING.
    - 1.2. REFER TO SHEARWALL SCHEDULE ON TITLE SHEET FOR ADDITIONAL INFORMATION.
    - 1.3. SHEARWALL LENGTHS SPECIFIED ON PLANS ARE MINIMUM REQUIRED.
    - 1.4. SHEARWALLS TO BE NAILED WITH COMMON NAILS. ALL NAILS TO HAVE MINIMUM 3/8” EDGE DISTANCE TO PANEL OR FRAMING MEMBER.
    - 1.5. IF 3X FRAMING IS REQUIRED, STAGGER EDGE NAILING. 3X FRAMING IS REQUIRED AT:
        - 1.5.1. ALL PANEL JOINTS
        - 1.5.2. ALL SILL PLATES ON CONCRETE OR MASONRY
        - 1.5.3. ALL SILL PLATES AT DOUBLE-SIDED SHEARWALLS
    - 1.6. OSB MAY BE USED IN LIEU OF PLYWOOD.

ENGINEERED LUMBER

1. GLU-LAMINATED BEAMS
    - 1.1. SHALL BE 24F-V4 FOR SIMPLE SPANS AND 24F-V8 FOR BEAMS WITH CANTILEVERS WITH THE FOLLOWING MINIMUM PROPERTIES:
        - 1.1.1. FB = 2400 PSI
        - 1.1.2. FV = 165 PSI
        - 1.1.3. FC = 450 PSI
        - 1.1.4. E = 1800 PSI
    - 1.2. SHALL NOT BE NOTCHED, CUT OR DRILLED WITHOUT PRIOR APPROVAL FROM THE ENGINEER
    - 1.3. SHALL HAVE EXTERIOR GLUE AND WEATHER-TREATMENT PRIOR TO INSTALLATION
    - 1.4. SHALL BE FABRICATED BY AN APPROVED MANUFACTURER. AN A.I.T.C. CERTIFICATE OF COMPLIANCE SHALL BE GIVEN TO THE BUILDING INSPECTOR PRIOR TO INSTALLATION
    - 1.5. SHALL HAVE FACTORY STANDARD CAMBER, EXCEPT WHERE NOTED OTHERWISE ON THE PLANS
2. LAMINATED VENEER LUMBER (LVL):
    - 2.1. SHALL BE 1-3/4” MINIMUM THICKNESS WITH THE FOLLOWING MINIMUM PROPERTIES:
    - 2.2. E = 1900 KSI
    - 2.3. FB = 2600 PSI
    - 2.4. FV = 285 PSI
    - 2.5. FC (PARALLEL) = 2500 PSI
    - 2.6. FC (PERP.) = 750 PSI
    - 2.7. FT (PARALLEL) = 1500 PSI
    - 2.8. SPECIFIC GRAVITY = 0.50
    - 2.9. SHALL BE FABRICATED BY AN APPROVED MANUFACTURER
    - 2.10. SHALL BEAR A MINIMUM OF 3-1/2” ON SPECIFIED SUPPORTS. PROVIDE FULL DEPTH SOLID BLOCKING AT ALL BEARING POINTS
    - 2.11. SHALL BE NAILED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. UNLESSSS OTHERWISE APPROVED, NAILING INTO THE TOP EDGE SHALL NOT BE SPACED ANY CLOSER THAN:
        - 2.11.1. 16D 6”
        - 2.11.2. 10D 4”
        - 2.11.3. 8D 3”
        - 2.11.4. WHEN NAILING MUST BE REDUCED, STAGGER ROWS A MINIMUM OF 1/2” APART WHILE MAINTAINING PROPER EDGE DISTANCES
    - 2.12. SHALL BE, WHEN COMPRISED OF MULTIPLE MEMBERS, CONNECTED WITH 16D NAIL, 1/2” BOLTS OR 1/4” LAG SCREWS IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
    - 2.13. SHALL NOT BE CUT, NOTCHED OR DRILLED WITHOUT SPECIFIC WRITTEN APPROVAL OF THE ENGINEER.
3. PARALLEL STRAND LUMBER (PSL):
    - 3.1. SHALL BE 2-1/2” MINIMUM THICKNESS WITH THE FOLLOWING MINIMUM PROPERTIES:
        - 3.1.1. E = 2000 KSI
        - 3.1.2. FB = 2900 PSI
        - 3.1.3. FV = 290 PSI
        - 3.1.4. FC (PARALLEL) = 2900 PSI
        - 3.1.5. FC (PERP.) = 750 PSI
        - 3.1.6. FT (PARALLEL) = 2025 PSI
        - 3.1.7. SPECIFIC GRAVITY = 0.50
    - 3.2. SHALL BE FABRICATED BY AN APPROVED MANUFACTURER
    - 3.3. SHALL BEAR A MINIMUM OF 3-1/2” ON SPECIFIED SUPPORTS. PROVIDE FULL DEPTH SOLID BLOCKING AT ALL BEARING POINTS
    - 3.4. SHALL BE NAILED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. UNLESS OTHERWISE APPROVED, NAILING SHALL NOT BE SPACED ANY CLOSER THAN:
        - 3.4.1. NARROW FACE: 6” FOR 16D COMMON, 4” FOR 10D COMMON, AND 3” FOR 8D COMMON
        - 3.4.2. WIDE FACE: 8” FOR 16D COMMON, 6” FOR 10D & 8D COMMON
        - 3.4.3. WHEN NAILING MUST BE REDUCED, STAGGER ROWS A MINIMUM OF 1/2” APART WHILE MAINTAINING PROPER EDGE DISTANCES
    - 3.5. SHALL NOT BE CUT, NOTCHED OR DRILLED WITHOUT SPECIFIC WRITTEN APPROVAL OF THE ENGINEER.
4. PLYWOOD I JOISTS:
    - 4.1. TYPE AND MANUFACTURER SHALL BE CLEARLY NOTED ON THE PLANS. SUBSTITUTIONS SHALL NOT BE PERMITTED WITHOUT PRIOR APPROVAL OF THE ENGINEER.
    - 4.2. SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE CODE APPROVALS AND MANUFACTURER'S SPECIFICATIONS.
    - 4.3. SHALL BEAR A MINIMUM OF 1-3/4” AT ALL END SUPPORTS, AND 3-1/2” AT INTERMEDIATE SUPPORTS. PROVIDE FULL DEPTH SOLID BLOCKING AT ALL BEARING POINTS.
    - 4.4. SHALL BE INSTALLED WITH INTERMEDIATE BLOCKING OR BRIDGING AS SPECIFIED BY THE MANUFACTURER. ONLY OMIT INTERMEDIATE BLOCKING WHEN SPECIFICALLY ALLOWED BY THE MANUFACTURER.
    - 4.5. SHALL NOT BE CUT, NOTCHED OR DRILLED WITHOUT SPECIFIC WRITTEN APPROVAL OF THE ENGINEER.

TRUSSES

1. REFER TO THE STRUCTURAL AND ARCHITECTURAL PLANS FOR ADDITIONAL DESIGN LOADS AND CONDITIONS. BOTTOM CHORDS SHALL BE DESIGNED TO RESIST A MINIMUM CEILING LIVE LOAD OF 10 PSF.
2. TRUSS CALCULATIONS AND DETAILS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER AND THE BUILDING DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
3. ALL TRUSSES SHALL BE FABRICATED IN THE SHOP OF A LICENSED FABRICATOR APPROVED BY THE GOVERNING BUILDING DEPARTMENT.
4. EACH TRUSS SHALL BE LEGIBLY BRANDED, MARKED OR OTHERWISE HAVE PERMANENTLY AFFIXED THERETO THE FOLLOWING INFORMATION LOCATED WITHIN 2 FEET OF THE CENTER OF THE SPAN ON THE FACE OF THE BOTTOM CHORD:
    - 4.1. IDENTITY OF THE COMPANY MANUFACTURING THE TRUSS
    - 4.2. THE DESIGN LOAD, AND
    - 4.3. THE SPACING OF THE TRUSSES.
5. WALLS:
    - 5.1. TRUSSES SHALL BEAR ON EXTERIOR WALLS ONLY (UON).
    - 5.2. ALL INTERIOR WALLS SHALL BE NON-BEARING (UON).
    - 5.3. ALL APPROVED INTERIOR BEARING LOCATIONS SHALL BE SPECIFICALLY NOTED ON THE STRUCTURAL PLANS.
6. BEARING:
    - 6.1. SECURING OF BEARING WALLS (UON) TRUSSES SHALL BE SECURED AT ALL BEARING POINTS WITH SIMPSON SEISMIC ANCHORS (E.G. H1).
    - 6.2. INTERIOR NON-BEARING WALLS SHALL BE ISOLATED FROM THE TRUSSES WITH SIMPSON TRUSS CLIPS (E.G. STC, DTC, HTC4) OR APPROVED EQUAL.
    - 6.3. TRUSSES TO BE MANUFACTURED WITH NECESSARY CAMBER TO ACCOUNT FOR DEAD LOAD DEFLECTIONS AND ELIMINATE ACCIDENTAL BEARING ON INTERIOR NON-BEARING WALLS.
7. BLOCKING AND BRACING SHALL BE INSTALLED PER MANUFACTURER’S RECOMMENDATIONS. AS A MINIMUM, THE TRUSSES SHALL BE BLOCKED AT THE FOLLOWING LOCATIONS:
    - 7.1. ALL BEARING POINTS
    - 7.2. ALONG RIDGE
8. ERECT TRUSSES ACCORDING TO THE APPROVED SHOP DRAWINGS. LIFT MEMBERS ONLY AT DESIGNATED LIFT POINTS. PROVIDE ERECTION BRACING TO KEEP THE MEMBERS STRAIGHT AND PLUMB AS REQUIRED TO ASSURE ADEQUATE LATERAL SUPPORT FOR INDIVIDUAL MEMBERS AND THE ENTIRE SYSTEM UNTIL THE SHEATHING IS APPLIED.

SPECIAL INSPECTION REQUIREMENTS

1. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND THE COORDINATION INVOLVED IN THE EXECUTION OF THE FOLLOWING INSPECTIONS. REQUESTS FOR INSPECTIONS SHALL BE MADE NO LATER THAN 48 HOURS PRIOR TO THEIR NECESSITY.
2. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO INSURE THAT THE FOLLOWING ELEMENTS ARE VISIBLE AND AVAILABLE FOR INSPECTION:
    - 2.1. EPOXY ANCHORS
    - 2.2. WELDING (REFER TO STRUCTURAL STEEL SECTION FOR SPECIFIC REQUIREMENTS)
    - 2.3. ALL BOLTED CONNECTIONS EXCEPT F1554 GRADE 36 BOLTS
3. A PRE-CONSTRUCTION MEETING INCLUDING THE SPECIAL INSPECTOR, ENGINEER OF RECORD (EOR), ARCHITECT RESPONSIBLE FOR THE STRUCTURAL OBSERVATIONS, THE CONTRACTOR, AND ALL APPROPRIATE SUBCONTRACTORS SHALL BE HELD TO REVIEW THE DETAILS OF THE STRUCTURAL SYSTEM TO BE STRUCTURALLY OBSERVED.
4. DURING THE COURSE OF CONSTRUCTION THE SPECIAL INSPECTOR SHALL VISUALLY REVIEW THE STRUCTURAL ELEMENTS FOR GENERAL CONFORMANCE WITH THE APPROVED PLANS. ANY OBSERVED DEFICIENCIES SHALL HE REPORTED IN WRITING TO THE OWNER'S REPRESENTATIVE, TO THE CONTRACTOR, AND TO THE BUILDING DEPARTMENT.
5. UPON COMPLETION OF THE APPLICABLE SHEARWALLS AND/OR ANCHORAGE SYSTEM AND PRIOR TO COVERING THE SHEARWALL/ANCHORAGE SYSTEM, THE SPECIAL INSPECTOR SHALL SUBMIT A LETTER TO THE EOR AND BLDG. DEPARTMENT WITH HIS/HER SIGNATURE ATTESTING TO (1) THE DATES ON WHICH VISUAL REVIEWS WERE CONDUCTED, (2) DEFICIENCIES OBSERVED, AND (3) CORRECTIONS TAKEN. THE LETTER SHALL CERTIFY THAT ALL REPORTED DEFICIENCIES WHICH, TO THE BEST OF THE OBSERVER'S KNOWLEDGE, HAVE BEEN RESOLVED.
6. PRIOR TO COVERING THE WORK, THE SHEARWALLS AND/OR ANCHORAGE SYSTEM SHALL BE INSPECTED AND APPROVED BY THE DEPARTMENT INSPECTION STAFF ASSIGNED TO THE PROJECT. SUCH APPROVAL BY THE DEPARTMENT IS REQUIRED PRIOR TO COVERING. THE SPECIAL INSPECTOR IS NOT AUTHORIZED TO APPROVE THE COVERING OF THE SHEARWALLS OR ANCHORAGE SYSTEM. THE OBSERVATIONS OF THE SPECIAL INSPECTOR ARE ADVISORY ONLY AND THEY DO NOT IN ANY WAY BIND THE INSPECTOR OR CONSTITUTE A CERTIFICATION THAT THE SHEARWALLS WILL PASS DEPARTMENT INSPECTION.

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ENGINEERING
239-4151
John A. Kudla
Civil Engineering &
Structural Design
R.C.E. #50652
610 10th ST. UNIT 'A' PASO
ROBLES, CA.

PLAN PREPARED FOR:

RCH CONSTRUCTION
22507 H STREET
SANTA MARGARITA, CA 93451

REVISION LOG

REV.	DESCRIPTION	DATE

PROJECT NO.
FILE NAME DJK
DRAWN BY
DATE STRUCTURAL SP.DWG

SHEET TITLE:

STRUCTURAL NOTES & SPECIFICATIONS

SHEET NUMBER:

SSP-1

WOOD STRUCTURAL PANELS (WSP), SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING[a]

			Edges (inches)	Intermediate supports (inches)
31.	$\frac{3}{8}$" - $\frac{1}{2}$"	6d common or deformed (2″ x 0.113″) (subfloor and wall)	6	12
		8d box or deformed (2 $\frac{1}{2}$″ x 0.113″) (roof)	6	12
		2 $\frac{3}{8}$″ x 0.113″ nail (subfloor and wall)	6	12
		1 $\frac{3}{4}$″ 16 gage staple, $\frac{7}{16}$″ crown (subfloor and wall)	4	8
		2 $\frac{3}{8}$″ x 0.113″ nail (roof)	4	8
		1 $\frac{3}{4}$″ 16 gage staple, $\frac{7}{16}$″ crown (roof)	3	6
32.	$\frac{19}{32}$" - $\frac{3}{4}$"	8d common (2 $\frac{1}{2}$″ x 0.131″); or 6d deformed (2″ × 0.113″)	6	12
		2 $\frac{3}{8}$″ x 0.113″ nail; or 2″ 16 gage staple, $\frac{7}{16}$″ crown	4	8
33.	$\frac{7}{8}$" - 1 $\frac{1}{4}$"	10d common (3″ x 0.148″); or 8d deformed (2 $\frac{1}{2}$″ x 0.131″)	6	12
OTHER EXTERIOR WALL SHEATHING				
34.	$\frac{1}{2}$″ fiberboard sheathing[b]	1 $\frac{1}{2}$″ galvanized roofing nail ($\frac{7}{16}$″ head diameter); or 1 $\frac{1}{4}$″ 16 gage staple with $\frac{7}{16}$″ or 1″ crown	3	6
35.	$\frac{25}{32}$" fiberboard sheathing[b]	1 $\frac{3}{4}$″ galvanized roofing nail ($\frac{7}{16}$″ diameter head); or 1 $\frac{1}{2}$″ 16 gage staple with $\frac{7}{16}$″ or 1″ crown	3	6

WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING

			Edges (inches)	Intermediate supports (inches)
36.	$\frac{3}{4}$" and less	8d common (2 $\frac{1}{2}$″ x 0.131″); or 6d deformed (2″ x 0.113″)	6	12
37.	$\frac{7}{8}$" - 1"	8d common (2 $\frac{1}{2}$″ x 0.131″); or 8d deformed (2 $\frac{1}{2}$″ × 0.131″)	6	12
38.	$\frac{3}{4}$" and less	8d common (2 $\frac{1}{2}$″ x 0.131″); or 6d deformed (2″ x 0.113″)	6	12
PANEL SIDING TO FRAMING				
39.	$\frac{1}{2}$" or less	6d corrosion-resistant siding (1 $\frac{7}{8}$″ x 0.106″); or 6d corrosion-resistant casing (2″ x 0.099″)	6	12
40.	$\frac{5}{8}$"	8d corrosion-resistant siding (2 $\frac{3}{8}$″ x 0.128″); or 8d corrosion-resistant casing (2 $\frac{1}{2}$″ × 0.113″)	6	12
INTERIOR PANELING				
41.	$\frac{1}{4}$"	4d casing (1 $\frac{1}{2}$″ x 0.080″); or 4d finish (1 $\frac{1}{2}$″ x 0.072″)	6	12
42.	$\frac{3}{8}$"	6d casing (2″ x 0.099″); or 6d finish (Panel supports at 24 inches)	6	12

For SI: 1 inch = 25.4 mm.

a. Nails spaced at 6 inches at intermediate supports where spans are 48 inches or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing.
b. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked).
c. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule and the ceiling joist is fastened to the top plate in accordance with this schedule, the number of toenails in the rafter shall be permitted to be reduced by one nail.

ROOF

	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION
1.	Blocking between ceiling joists, rafters or trusses to top plate or other framing below	3-8d common (2 $\frac{1}{2}$" x 0.131"): or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, $\frac{7}{16}$" crown	Each end, toenail
	Blocking between rafters or truss not at the wall top plate, to rafter or truss	2-8d common (2 $\frac{1}{2}$" x 0.131″) 2-3″ x 0.131″ nails 2-3″14 gage staples	Each end, toenail
		2-16 d common (3 $\frac{1}{2}$" × 0.162″) 3-3″ × 0.131″ nails 3-3″ 14 gage staples	End nail
	Flat blocking to truss and web filler	16d common (3 $\frac{1}{2}$" x 0.162″) @ 6″ o.c. 3″ × 0.131″ nails @ 6″ o.c. 3″ × 14 gage staples @ 6″.c	Face nail
2.	Ceiling joists to top plate	3-8d common (2 $\frac{1}{2}$" × 0.131″); or 3-10d box (3″ × 0.128″); or 3-3″ × 0.131″ nails; or 3-3″ 14 gage staples, $\frac{7}{16}$" crown	Each joist, toenail
3.	Ceiling joist not attached to parallel rafter, laps over partitions (no thrust) (see Section 2308.7.3.1, Table 2308.7.3.1)	3-16d common (3 $\frac{1}{2}$" x 0.162″); or 4-10d box (3″ x 0.128″); or 4-3″ x 0.131" nails; or 4-3″ 14 gage staples, $\frac{7}{16}$" crown	Face nail
4.	Ceiling joist attached to parallel rafter (heel joint) (see Section 2308.7.3.1, Table 2308.7.3.1)	Per Table 2308.7.3.1	Face nail
5.	Collar tie to rafter	3-10d common (3" x 0.148″); or 4-10d box (3″ x 0.128″); or 4-3″ x 0.131″ nails; or 4-3″ 14 gage staples, $\frac{7}{16}$″ crown	Face nail
6.	Rafter or roof truss to top plate (See Section 2308.7.5, Table 2308.7.5)	3-10 common (3″ x 0.148″); or 3-16d box (3$\frac{1}{2}$″ x 0.135″); or 4-10d box (3" x 0.128″); or 4-3″ x 0.131 nails; or 4-3″ 14 gage staples, $\frac{7}{16}$″ crown	Toenail [c]
7.	Roof rafters to ridge valley or hip rafters; or roof rafter to 2-inch ridge beam	2-16d common (3$\frac{1}{2}$″ x 0.162″); or 3-10d box (3″ x 0.128″); or 3-3″ x 0.131″ nails; or 3-3″ 14 gage staples, $\frac{7}{16}$″ crown; or	End nail
		3-10d common (3 $\frac{1}{2}$″ x 0.148″); or 3-16d box (3 $\frac{1}{2}$″ x 0.135″); or 4-10d box (3″ x 0.128″); or 4-3″ x 0.131″ nails; or 4-3″ 14 gage staples, $\frac{7}{16}$″ crown	Toenail

WALL

8.	Stud to stud (not at braced wall panels)	16d common (3 $\frac{1}{2}$" x 0.162″)	24" o.c. face nail
		10d box (3″ x 0.128″); or 3″ x 0.131″ nails; or 3-3″ 14 gage staples, $\frac{7}{16}$″ crown	16" o.c. face nail
9.	Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	16d common (3 $\frac{1}{2}$″ x 0.162″); or	16" o.c. face nail
		16d box (3 $\frac{1}{2}$″ x 0.135″); or	12" o.c. face nail
		3″ x 0.131″ nails; or 3-3″ 14 gage staples, $\frac{7}{16}$″ crown	12" o.c. face nail
10.	Built-up header (2" to 2" header)	16d common (3 $\frac{1}{2}$″ x 0.162″); or	16" o.c. each edge, face nail
		16d box (3 $\frac{1}{2}$″ x 0.135")	16" o.c. each edge, face nail
11.	Continuous header to stud	4-8d common (2 $\frac{1}{2}$″ x 0.131″); or 4-10d box (3″ x 0.128″)	Toenail
12.	Top plate to top plate	16d common (3 $\frac{1}{2}$″ × 0.162″); or	16" o.c. face nail
		10d box (3″ × 0.128″); or 3″ x 0.131″ nails; or 3″ 14 gage staples, $\frac{7}{16}$″ crown	12" o.c. face nail
13.	Top plate to top plate, at end joints	8-16d common (3 $\frac{1}{2}$″ x 0.162″); or 12-10d box (3″ x 0.128″); or 12-3″x 0.131″ nails; or 12-3″ 14 gage staples, $\frac{7}{16}$″ crown	Each side of end joint, face nail (minimum 24" lap splice length each side of end joint)
14.	Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels)	16d common (3 $\frac{1}{2}$″ x 0.162″); or	16" o.c. face nail
		16d box (3 $\frac{1}{2}$" x 0.135″); or 3″ x 0.131″ nails; or 3″ 14 gage staples, $\frac{7}{16}$″ crown	12" o.c. face nail
15.	Bottom plate to joist, rim joist, band joist or blocking at braced wall panels	2-16d common (3 $\frac{1}{2}$″× 0.162″); or 3-16d box (3 $\frac{1}{2}$″ x 0.135″); or 4-3″ x 0.131″ nails; or 4-3″ 14 gage staples, $\frac{7}{16}$″ crown	16" o.c. face nail
16.	Stud to top or bottom plate	4-8d common (2 1/2″ x 0.131″); or 4-10d box (3″ x 0.128″); or 4-3″ x 0.131″ nails; or 4-3″ 14 gage staples, $\frac{7}{16}$″ crown; or	Toenail
		2-16d common (3 1/2″ x 0.162″); or 3-10d box (3″ x 0.128″); or 3-3″ x 0.131″ nails; or 3-3″ 14 gage staples, $\frac{7}{16}$″ crown	End nail
17.	Top or bottom plate to stud	2-16d common (3 1/2″ x 0.162″); or 3-10d box (3″ x 0.128″); or 3-3″ x 0.131″ nails; or 3-3″ 14 gage staples, $\frac{7}{16}$″ crown	End Nail
18.	Top plates, laps at corners and intersections	2-16d common (3 $\frac{1}{2}$″ x 0.162″); or 3-10d box (3″ x 0.128″); or 3-3″ x 0.131″ nails; or 3-3″ 14 gage staples, $\frac{7}{16}$″ crown	Face nail
19.	1″ brace to each stud and plate	2-8d common (2 $\frac{1}{2}$″ x 0.131″); or 2-10d box (3″ x 0.128″); or 2-3″ × 0.131″ nails; or 2-3″ 14 gage staples, $\frac{7}{16}$″ crown	Face nail
20.	1″ x 6″ sheathing to each bearing	2-8d common (2 1/2″ x 0.131″); or 2-10d box (3″ x 0.128″)	Face nail
21.	1″ x 8″ and wider sheathing to each bearing	2-8d common (2 1/2″ x 0.131″); or 3-10d box (3″ x 0.128″)	Face nail

FLOOR

22.	Joist to sill, top plate, or girder	3-8d common (2 $\frac{1}{2}$″ x 0.131″); or floor 3-10d box (3″ x 0.128″); or 3-3″ x 0.131″ nails; or 3-3″14 gage staples, $\frac{7}{16}$″ crown	Toenail
23.	Rim joist, band joist, or blocking to top plate, sill or other framing below	8d common (2 $\frac{1}{2}$″ x 0.131″); or 10d box (3″ x 0.128″); or 3″ x 0.131″ nails; or 3″ 14 gage staples, $\frac{7}{16}$″ crown	6" o.c., toenail
24.	1″ x 6″ subfloor or less to each joist	2-8d common (2 $\frac{1}{2}$″ x 0.131″); or 2-10d box (3″ x 0.128″)	Face nail
25.	2″ subfloor to joist or girder	2-16d common (3 $\frac{1}{2}$″ x 0.162″)	Face nail
26.	2″ planks (plank & beam – floor & roof)	2-16d common (3 $\frac{1}{2}$″ x 0.162″)	Each bearing, face nail
27.	Built-up girders and beams, 2″ lumber layers	20d common (4″ x 0.192″	32" o.c., face nail at top and bottom staggered on opposite sides
		10d box (3″ x 0.128″); or 3″ x 0.131″ nails; or 3″ 14 gage staples, $\frac{7}{16}$″ crown	24" o.c. face nail at top and bottom staggered on opposite sides
		And: 2-20d common (4″ x 0.192″); or 3-10d box (3″ x 0.128″); or 3-3″ x 0.131″ nails; or 3-3″ 14 gage staples, $\frac{7}{16}$″ crown	Ends and at each splice, face nail
28.	Ledger strip supporting joists or rafters	3-16d common (3 $\frac{1}{2}$″ x 0.162″); or 4-10d box (3″ x 0.128″); or 4-3″ x 0.131″ nails; or 4-3″ 14 gage staples, $\frac{7}{16}$″ crown	Each joist or rafter, face nail
29.	Joist to band joist or rim joist	3-16d common (3 $\frac{1}{2}$″ x 0.162″); or 4-10d box (3″ x 0.128″); or 4-3″ x 0.131″ nails; or 4-3″ 14 gage staples, $\frac{7}{16}$″ crown	End nail
30.	Bridging or blocking to joist, rafter or truss	2-8d common (2 1/2″ x 0.131″); or 2-10d box (3″ x 0.128″); or 2-3″ x 0.131″ nails; or 2-3″ 14 gage staples, $\frac{7}{16}$″ crown	Each end, toenail

ENGINEERING
239-4151
John A. Kudla
Civil Engineering &
Structural Design
R.C.E. #50652
610 10th ST. UNIT 'A' PASO ROBLES, CA.

PLAN PREPARED FOR:
RCH CONSTRUCTION
22507 H STREET
SANTA MARGARITA, CA 93451

REVISION LOG

REV.	DESCRIPTION	DATE

PROJECT NO. ----
FILE NAME STRUCTURAL SP.DWG
DRAWN BY JMB II C.D.
DATE 7/23/2018 9:47 AM

SHEET TITLE:

FASTENING SCHEDULE (CBC-2016 TABLE2304.10.1)

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SSP-2

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