

**STRUCTURAL SPECIFICATIONS**

**FOUNDATIONS:**  
 GEOTECHNICAL INVESTIGATIONS SHALL BE CONDUCTED IN ACCORDANCE WITH SECTIONS 1803A.3 THROUGH 1803A.6, EXCEPTION, GEOTECHNICAL REPORTS ARE NOT REQUIRED FOR ONE-STORY, WOOD-FRAME AND LIGHT-BUILDING BUILDINGS OF TYPE II OR TYPE IV CONSTRUCTION AND 4,000 SQUARE FEET OR LESS IN FLOOR AREA, NOT LOCATED WITHIN EARTHQUAKE FAULT ZONES OR SEISMIC HAZARD ZONES AS SHOWN IN THE MOST RECENTLY PUBLISHED MAPS FROM THE CALIFORNIA GEOLOGICAL SURVEY (CGS). ALLOWABLE FOUNDATION AND LATERAL SOIL PRESSURE VALUES MAY BE DETERMINED FROM TABLE 1806A.2 PER CBC SECTION 1803A.2

**CONCRETE**

PROVIDE NECESSARY SHIMS ON FOOTINGS NOT LEVEL WITHIN THE 1/2" ALLOWABLE TOLERANCE. THE DISTRICT SHALL PROVIDE CLEAR AND UNOBSTRUCTED ACCESS TO THE SITE. THE DISTRICT IS RESPONSIBLE FOR ALL SURVEYING, STAKING THE BUILDING CORNERS, SETTING THE FINISH FLOOR ELEVATION, RIGGING, CRAMMING, EXCAVATION, SPOIL REMOVAL, AND BACKFILL.

THE FOUNDATION AND THE METHOD OF FASTENING THE UNITS SHALL BE AS SHOWN ON DRAWINGS WHERE APPLICABLE. HIGH STRENGTH GROUT SHALL BE EMBECO 885 NON-SHRINK, METALLIC AGGREGATE GROUT OR A DSA APPROVED EQUAL.

THE DESIGN OF CONCRETE FOUNDATIONS WILL BE AS FOLLOWS:

- FURNISH AND INSTALL ALL CONCRETE WORK AS SHOWN ON THE DRAWINGS AND AS SPECIFIED.
- EXCEPT AS MODIFIED BY THE REQUIREMENTS SPECIFIED HEREIN AND / OR THE DETAILS ON THE DRAWINGS, ALL WORK INCLUDED IN THIS SECTION SHALL CONFORM TO THE APPLICABLE PROVISIONS OF CODES AND STANDARDS.
  - ALL WORK AND MATERIALS SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS, AND CHAPTER 19.
  - AMERICAN CONCRETE INSTITUTE (ACI): BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, AC308.4S.
  - SOCIETY FOR TESTING AND MATERIALS (ASTM): THE SPECIFICATIONS AND STANDARDS HEREINAFTER REFERENCED TO SHALL BE OF THE LATEST EDITION.
- CONCRETE FOUNDATION TESTS AND INSPECTIONS SHALL BE THE RESPONSIBILITY OF THE ARCHITECT AND OR INSPECTOR.
- DESIGN MIXES SHALL BE AS SPECIFIED IN TITLE 24. CONCRETE STRENGTH AT 28 DAYS SHALL BE AS FOLLOWS:
  - CONCRETE COMPRESSIVE STRENGTH FC<sub>c</sub> 3000 PSI
  - WATER-CEMENT RATIO SHALL NOT EXCEED 0.60 BY WEIGHT
  - PORTLAND CEMENT TYPE I
  - FINISH SHALL BE AS NOTED
- FORMS SHALL BE SUBSTANTIAL, PLUMB, LEVEL, SQUARE, TRUE TO LINE, WATER TIGHT AND ACCURATE TO THE DIMENSIONS REQUIRED.
- THE ARCHITECT SHALL APPROVE LOCATION OF:
  - OPENINGS FOR MECHANICAL AND ELECTRICAL: PROVIDE FOR OPENINGS IN THE CONCRETE WITH THE TRADE(S) INVOLVED AND INSTALL SLEEVES AS MAY BE REQUIRED.
  - OPENINGS FOR VENT WELLS FOR UNDER FLOOR VENTILATION: PROVIDE FOR ALL OPENINGS IN THE CONCRETE WITH THE TRADE(S) INVOLVED. INSTALL ALL SLEEVES AS MAY BE REQUIRED.
- VARIANCE IN CONCRETE SLAB SURFACE SHALL BE NO MORE THAN 1/16" IN 10 FEET
- ALL CEMENT SHALL BE TYPE 1 OR 11 PER ASTM C-150. (UNLESS REQUIRED OTHERWISE PER CBC 1802A.2.3 OTHERWISE PER ACI 318-08 TABLE 4.3.1.)
- AGGREGATE SHALL BE 3/4" TO 1 1/2" MAXIMUM SIZE BUT NOT MORE THAN 3/4" OF MINIMUM CLEAR BAR SPACING
- ANCHOR BOLTS, DOWELS, REINFORCING STEEL, AND EMBEDDED ITEMS ARE TO BE SECURELY TIED IN PLACE BEFORE CONCRETE IS POURED.
- REFER TO ARCHITECTURAL, ELECTRICAL, AND MECHANICAL PLANS FOR SLEEVES, INSERTS CURBS, DEPRESSED AREAS, AND ETC.
- CONCRETE MIX REQUIRED: CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGN FOR FOOTINGS TO PROFESSIONAL OF RECORD FOR APPROVAL PRIOR TO POURING CONCRETE.

**1704A.4.3. WAIVER OF BATCH PLAN INSPECTION.**

- WHEN BATCH PLAN INSPECTION IS WAIVED, THE FOLLOWING REQUIREMENTS SHALL APPLY:
  - QUALIFIED TECHNICIAN OF THE TESTING LABORATORY SHALL CHECK THE FIRST BATCHING AT THE START OF DAY.
  - LICENSED WEIGHMASTER TO POSITIVELY IDENTIFY MATERIALS AS TO QUANTITY AND CERTIFY TO EACH LOAD BY A TICKET.
  - BATCH TICKETS, INCLUDING ACTUAL MATERIAL QUANTITIES AND WEIGHTS SHALL ACCOMPANY THE LOAD AND SHALL BE TRANSMITTED TO THE INSPECTOR OF RECORD BY A TRUCK DRIVER WITH LOAD IDENTIFIED THEREON. THE LOAD SHALL NOT BE PLACED WITHOUT A BATCH TICKET IDENTIFYING THE MIX. THE INSPECTOR WILL KEEP A DAILY RECORD OF PLACEMENTS, IDENTIFYING EACH TRUCK, ITS LOAD, TIME OF RECEIPT AND APPROXIMATE LOCATION OF DEPOSIT IN THE STRUCTURE AND WILL TRANSMIT A COPY OF THE DAILY RECORD TO THE ENFORCEMENT AGENCY.
  - AT THE END OF THE PROJECT, THE WEIGHMASTER SHALL FURNISH AN AFFIDAVIT TO THE ENFORCEMENT AGENCY CERTIFYING THAT ALL CONCRETE FURNISHED CONFORMS IN EVERY PARTICULAR TO PROPORTIONS ESTABLISH BY MIX DESIGNS.

**REINFORCING STEEL:**

- MATERIAL: ALL REINFORCING STEEL SHALL BE BILLET STEEL PER ASTM A-615 GRADE 40. EXCEPT #3 ANCHOR REINFORCEMENT SHALL BE GRADE 60.
- SPLICES: ALL SPLICES SHALL BE LAPPED A MINIMUM 48" #5 BARS AND 30" #4 BARS UNLESS OTHERWISE DETAILED.
- REINFORCING FABRICATION AND PLACEMENT: FABRICATION AND PLACING OF REINFORCING SHALL CONFORM TO THE "CODE OF STANDARD PRACTICE AND SPECIFICATIONS FOR PLACING REINFORCEMENT OF THE CONCRETE REINFORCING STEEL INSTITUTE".
- MINIMUM COVERAGE: ALL REINFORCING SHALL HAVE THE FOLLOWING MINIMUM COVERAGE WITH CONCRETE:

LOCATION	AMOUNT
FORMED EARTH	2"
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
WALL-EXPOSED FACE	
#5 OR SMALLER	2"
#6 OR LARGER	2"
WALL-UNEXPOSED FACE	3/4"

**STRUCTURAL STEEL:**

- ALL STRUCTURAL STEEL OTHER THAN TUBE AND PIPE COLUMNS SHALL CONFORM TO ASTM A-36.
- TUBE COLUMNS SHALL CONFORM TO ASTM A500 GRADE B
- PIPE COLUMNS SHALL CONFORM TO ASTM A501 OR ASTM A53, TYPE E OR S, GRADE B.

STEEL FRAME BUILDING/STEEL FRAME CONSTRUCTION SHALL MEET THE MINIMUM DESIGN REQUIREMENTS OF STEEL FRAMING, ETC. PER LATEST EDITION OF 2010 CALIFORNIA BUILDING CODE. ALL WORK AND MATERIALS SHALL CONFORM TO THE "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" AND "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES," AMERICAN INSTITUTE OF STEEL CONSTRUCTION: TITLE 24, CCR, AND UNIFORM BUILDING CODE. STRUCTURAL STEEL SHALL BE MADE EITHER THE OPEN-HEARTH OR ELECTRIC FURNACE PROCESS ONLY AND SHALL CONFORM TO THE "SPECIFICATION FOR STRUCTURAL STEEL" ASTM DESIGNATION A36, CURRENT EDITION.

ROOF FRAMING, FLOOR FRAMING, AND WALL FRAMING SHALL BE PER MANUFACTURER'S PC PLANS AND PER APPLICABLE CODES.

ALL STRUCTURAL MEMBERS BELOW THE SUB-FLOOR, IE, GIRDERS, JOISTS, HEADERS, BLOCKING, SHALL BE STEEL. MINIMUM JOIST SPACING SHALL BE PER PLAN.

ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE AISC STANDARD SPECIFICATIONS, THE APPLICABLE REGULATORY AGENCY AND THE AMERICAN IRON AND STEEL INSTITUTE SPECIFICATIONS FOR DESIGN OR LIGHT GAUGE STEEL STRUCTURAL MEMBERS. WELDING SHALL COMPLY WITH THE PERTINENT PROVISIONS OF THE APPLICABLE REGULATORY AGENCY. ALL WELDING SHALL BE DONE BY OPERATORS WHO ARE QUALIFIED AS PRESCRIBED IN THE "QUALIFICATION PROCEDURE" OF THE AMERICAN WELDING SOCIETY TO PERFORM THE TYPE OF WORK REQUIRED.

STEEL SHALL BE COATED WITH ONE SHOP COAT OF MANUFACTURER'S STANDARD CHASSIS PAINT OR EQUAL.

**BOLTS:**

ALL COMMON BOLTS AND ANCHOR BOLTS SHALL CONFORM TO ASTM A-307.

**STRUCTURAL WELDING: SPECIAL INSPECTOR REQUIRED.**

GENERAL: DURING THE WELDING OF ANY MEMBER OR CONNECTION THAT IS DESIGNED TO RESIST LOADS AND FORCES REQUIRED BY THIS CODE.

ALL WELDS USED IN PRIMARY MEMBERS AND CONNECTIONS IN THE LATERAL FORCE-RESISTING SYSTEMS SHALL BE MADE WITH A FILLER METAL THAT HAS A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT LBS AT MINUS 20 DEGREES F AS DETERMINED BY AWS CLASSIFICATION OR MANUFACTURER CERTIFICATION.

ALL STRUCTURAL WELDING SHALL BE BY "ELECTRIC ARC PROCESS" PER AWS STANDARD CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION. ALL LIGHT GAUGE STEEL (SHEET STEEL) SHALL BE WELDED PER AWS D1.3. ALL REINFORCING STEEL SHALL BE WELDED WITH LOW HYDROGEN RODS PER AWS D1.4, OR REINFORCING STEEL SHALL CONFORM TO ASTM A-706. ALL SHOP WELDED MUST BE PERFORMED BY "APPROVED" WELDERS IN A SHOP OF A LICENSED FABRICATOR. ALL FIELD WELDING SHALL BE PERFORMED BY "APPROVED" WELDERS. ELECTRODES SHALL BE E70XX FOR STRUCTURAL STEEL AND REBAR AND SHALL BE E60XX FOR LIGHT GAUGE STEEL.

THE SPECIAL INSPECTOR NEED NOT BE CONTINUOUSLY PRESENT DURING WELDING OF THE FOLLOWING ITEMS, PROVIDED THE MATERIALS, WELDING PROCEDURES AND QUALIFICATION OF WELDERS ARE VERIFIED PRIOR TO THE START OF WORK: PERIODIC INSPECTIONS ARE MADE OF WORK IN PROGRESS, AND A VISUAL INSPECTION OF ALL WELDS IS MADE PRIOR TO SHIPMENT OF SHOP WELDING.

- FLOOR AND ROOF DECK WELDING.
- WELDED STUDS WHEN USED FOR STRUCTURAL DIAPHRAGM OR COMPOSITE SYSTEMS.
- WELDED SHEET STEEL FOR COLD-FRAMED STEEL FRAMING MEMBERS SUCH AS STUDS AND JOISTS WHICH ARE NOT PART OF AN ORDINARY MOMENT FRAME.
- SINGLE PASS FILLET WELDS NOT EXCEEDING 5/16".

MATERIAL SHALL BE IDENTIFIED BY MARKING OR STAMPING THE I.D. NUMBER ON STRUCTURAL STEEL COMPONENTS BY LICENSED FABRICATION SHOP.

ALL BUTT, BEVEL, GROOVE, VEE, U AND J WELDS SHALL BE PREQUALIFIED COMPLETE PENETRATION WELDS.

FILLER MATERIAL FOR WELDING: SHIELDED METAL-ARC: AWS A5.1 OR 15.5 E70XX ELECTRODES.

HOLES IN STRUCTURAL STEEL SHALL NOT BE PERMITTED UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS.

STRUCTURAL STEEL SHALL BE THOROUGHLY CLEANED BY SCRAPING OR WIRE BRUSHING AND SHOP PRIMED.

ALL STEEL WORK, INCLUDING WELD AND CONNECTIONS EXCEPT WHERE ENTIRELY ENCASED IN CONCRETE SHALL BE GIVEN COAT OF ACCEPTABLE METAL PROTECTION WELL WORKED INTO JOINTS AND OPEN SPACES.

**COLD-FORMED STEEL FRAMING:**

STRUCTURAL LIGHT GAUGE STEEL FRAMING AND ACCESSORIES SHALL BE FABRICATED IN ACCORDANCE WITH ASTM A-1011/A GRADE AS LISTED BELOW, SEE PLAN FOR MINIMUM YIELD.

MATERIAL THICKNESS 0.120" OR LESS: ASTM A-1011/A GRADE 33 (UNO)  
 MATERIAL THICKNESS 0.135" : ASTM A-1011/A GRADE 40

DESIGNATION THICKNESS (INCHES)	MINIMUM DELIVERED THICKNESS (INCHES)
0.018	0.017
0.030	0.029
0.036	0.034
0.048	0.046
0.060	0.057
0.075	0.071
0.105	0.100
0.120	0.114
0.135	0.128

ALL WELDING SHALL BE IN CONFORMANCE WITH AWS D1.3, "STRUCTURAL WELDING CODE - SHEET STEEL". QUALIFICATION OF WELDERS SHALL BE IN ACCORDANCE WITH AWS D1.1, CHAPTER 5, PART C, "WELDER QUALIFICATIONS".

BOLTS, SCREWS, ETC. EXPOSED TO THE EXTERIOR SHALL BE GALVANIZED

MACHINE BOLTS USED SHALL CONFORM TO SPECIFICATIONS OF ASTM STANDARD A-307.

**NTD:**

(b) C/P GROOVE WELD NDT  
 ULTRASONIC TESTING SHALL BE PERFORMED ON 100 PERCENT OF C/P GROOVE WELDS IN MATERIALS 5/16 IN. (8mm) THICK OR GREATER. ULTRASONIC TESTING IN MATERIALS LESS THAN 5/16 IN. (8mm) THICK IS NOT REQUIRED. MAGNETIC PARTICLE TESTING SHALL BE PERFORMED ON 25 PERCENT OF ALL BEAM-TO-COLUMN C/P GROOVE WELDS.

**WOOD:**

FRAMING: ALL FRAMING LUMBER SHALL BE GRADE MARKED BY AN APPROVED GRADING AGENCY AND SHALL BE OF THE FOLLOWING MINIMUM GRADES OR BETTER, PER WCLB RULES #16.  
 PLATES AND BLOCKING - STANDARD GRADE OR BETTER  
 STUDS AND HEADER - #2 OR BETTER

**SHEATHING:**

AMERICAN PLYWOOD ASSOCIATION PS-146. EACH SHEET SHALL BE GRADE MARKED BY THE AMERICAN PLYWOOD ASSOCIATION, AND SHALL CONFORM TO THE REQUIREMENTS OF STANDARD GRADE GROUP 1 OR BETTER GRADE STAMPED AND IDENTIFIED UNDER THE PROCEDURES AND QUALIFICATIONS SET FORTH BY PS-146.

- PLYWOOD SUB FLOOR: 1 1/8" T&G UNBLOCKED PLYWOOD. PROVIDE SEAMLESS WOVEN POLYFLEX BOTTOM BOARD FOR MOISTURE PROTECTION
- OPTIONAL PLYWOOD ROOF DECK: APA RATED 3/4" T&G OSB OR EQUIVALENT RATED SHEATHING WITH APPROVAL FROM DSA
- EXTERIOR WALL SIDING:
  - STANDARD: 5/8" DURATEMP OR 5/8" SMART PANEL
  - OPTIONAL: 5/8" MDO
  - OPTIONAL: 1/2" OSB OR CDX PLYWOOD FOR PLASTER/TUCCO FINISH
- EXTERIOR WALL SIDING ATTACHMENT:  
 FASTENERS USED FOR THE ATTACHMENT OF EXTERIOR WALL COVERINGS SHALL BE HOT-DIPPED GALVANIZED, MECHANICALLY DEPOSITED ZINC-COATED, STAINLESS STEEL, SILICON BRONZE OR COPPER PER CBC SECTION 2304.9.1.1

IDENTIFICATION STAMP  
 DIV. OF THE STATE ARCHITECT

AP03 117549  
 ACW FLS -SS TN  
 Date: 4/11/2016

IDENTIFICATION STAMP  
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AP03 116979  
 ACW FLS -SS TN  
 Date: 4/13/16

**TREATED WOOD:**

ALL WOOD INCLUDING WOOD SHEATHING IN CONTACT WITH CONCRETE OR MASONRY AND LOCATED WITHIN 8" OF GROUND LEVEL SHALL BE "PRESSURE TREATED" BY AND "APPROVED PROCESS" OR SHALL BE "FOUNDATION GRADE" MATERIAL (CBC SECTION 2304.11.2.2).

- ALL ROUGH LUMBER SHALL BE #2 OR BETTER.
- FASTEN WOOD BESIDES USING SCREWS.  
 ALL POWER DRIVEN FASTENERS SHALL BE HILTI FASTENERS ICC® ESR-1663, AND RAMSET POWER DRIVEN FASTENERS (ICCF ESR-1799), OR SIMPSON POWER DRIVEN FASTENERS ICC® ESR-2138, OR OTHER EQUIVALENT PRODUCTS WITH ICC REPORTS AND APPROVED BY DSA.

**CONTINUOUS INSPECTION:**

INSPECTOR TO PROVIDE CONTINUOUS FIELD INSPECTION.

IN-PLANT INSPECTOR SHALL PROVIDE CONTINUOUS INSPECTION IN-PLANT

**METALS, STRUCTURAL, AND MISC. STEEL:**

CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, AND SERVICES REQUIRED FOR STRUCTURES AND MISCELLANEOUS STEEL AS SPECIFIED AND INDICATED IN THE DRAWINGS.

MATERIALS: ALL STRUCTURAL STEEL TESTING SHALL COMPLY WITH TITLE 24, SECTION 2212A.1.

STEEL SHAPES: ALL STRUCTURAL STEEL SHAPES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-36, OPEN HEARTH OR ELECTRIC FURNACE ONLY.

STEEL TUBES: ALL STRUCTURAL TUBER SHALL CONFORM TO REQUIREMENTS OF ASTM A-500 GRADE B (F<sub>y</sub>=48ksi) OR ASTM A53, TYPICAL.

STEEL SHEETS: STEEL SHEETS FOR LIGHT GAUGE STEEL SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-1011/A, GRADE 40 U.O.N. SHEET METAL GRAVEL STOPS AND FLASHINGS SHALL BE MINIMUM 0.030 THICKNESS AND SHALL BE GALVANIZED.

**ERECTION:**

ALL STRUCTURAL STEEL SHALL BE ERECTED TRUE, STRAIGHT, PLUMB AND TO ITS DESIGNED LOCATION. TEMPORARY BRACING OR SHORING SHALL BE INSTALLED WHEREVER NECESSARY TO TAKE CARE OF LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING ERECTION EQUIPMENT AND THE OPERATION OF SAME. CONNECTIONS SHALL BE ADEQUATE TO WITHSTAND STRESSES TO WHICH THEY ARE NORMALLY SUBJECTED. CONNECTIONS SHALL BE STEEL, EXCEPT AS OTHERWISE NOTED. FIELD CONNECTIONS SHALL BE BOLTED OR WELDED AS SHOWN ON THE DRAWINGS.

**SHOP PAINT:**

- \* EXPOSED STEEL COATED WITH ONE SHOP COAT OF PRIMER.
- \* NON-EXPOSED STEEL COATED WITH ON SHOP COAT OF PRIMER.
- \* ALL SURFACES THOROUGHLY CLEANED BY EFFECTIVE MEANS PRIOR TO APPLICATION OF SHOP COATS.

**POWER DRIVEN FASTENERS FOR SILL PLATE, WOOD NAILERS TO STEEL COLUMNS, AND SHEET METAL TO STRUCTURAL STEEL:**

ALL POWER DRIVEN FASTENERS SHALL BE HILTI FASTENERS ICC® ESR-1663, OR RAMSET POWER DRIVEN FASTENERS (ICCF ESR-1799), OR SIMPSON POWER DRIVEN FASTENERS ICC® ESR-2138, OR OTHER EQUIVALENT PRODUCTS WITH ICC REPORTS AND APPROVED BY DSA.

**WOOD ROUGH CARPENTRY:**

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS AND STEPS NECESSARY TO PROTECT ALL COMPLETED, SEMI-COMPLETED, AND TEMPORARY WORK FROM COMMENCEMENT OF PROJECT TO COMPLETE, SEMI-COMPLETION OF SAME ANY PORTION OF THE WORK DAMAGED OR DISFIGURED SHALL BE SATISFACTORILY REPAIRED OR REPLACED AND THE WORK AS A WHOLE LEFT WITHOUT BLEMISH AT FINAL ACCEPTANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING ALL NECESSARY MEASUREMENTS AT THE BUILDING, THE ACCURATE FITTING OF ALL WORK AND PROPER ACCOMMODATION OF OTHER TRADES.

DESCRIPTION OF WORK:  
 THIS SECTION INCLUDES FURNISHING OF ALL LABOR, MATERIAL, TOOLS, EQUIPMENT, TRANSPORTATION, AND FACILITIES TO COMPLETE ROUGH CARPENTRY AS INDICATED IN THE DRAWINGS AND AS SPECIFIED HEREIN.

**ROOF FRAMING:**

PLYWOOD SHEATHING APA, PS-95 RATED SHEATHING, CD EXPOSURE 1 P.I.I. = 4824 (5 PLY) T&G EDGES

**WORKMANSHIP:**

ALL WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE BEST PRACTICE. SHALL BE ACCURATE AS TO MEASUREMENT AND SHALL BE CAREFULLY DONE. PLYWOOD SHEATHING SUBFLOOR SHALL PROVIDE A SMOOTH UNIFORM SURFACE CAPABLE PROPERLY ACCEPTING A CARPET FINISH.

**ROOF DIAPHRAGM:**

3/4" T&G OSB OR APA RATED SHEATHING - STRUCTURE 1 EXPOSURE 1  
 SPAN RATING 48/24 MIN.  
 FASTEN TO SHEET METAL SUPPORTS W#10 x 1 1/4" LG. SELF-DRILLING SELF-TAPPING PHILLIPS FLAT-HEAD ZINC COATED TEXS SCREWS OR 0.145 P/CAFST PREFERRED FASTENERS (ICC ESR-2961) ISSUED SEPTEMBER 1 2010 AT 4" OC AT BOUNDARIES, 6" OC AT EDGES, AND 12" OC FIELD NAILS. MIN. 3/8" EDGE DISTANCE FOR FASTENERS TO PLYWOOD EDGE PER CBC SECTION 2306.2. // NOTE: 0.145 PNEUMATIC FASTENER OPTION IS NOT ALLOWED ON PARAPET APPLICATIONS (PARAPET HEIGHT) HIGHER THAN 24" OR AT STRUCTURAL STEEL I.F. FLOOR CHANNELS

**FLOOR DIAPHRAGM:**

1 1/8" PLYWOOD - STURD-FLOOR  
 EXTERIOR - TONGUE AND GROOVE EDGES  
 SPAN RATING: 48"  
 FASTEN TO SHEET METAL SUPPORTS W#10 - 24 x 1 3/4 LG. SELF-DRILLING, SELF-TAPPING PHILLIPS FLAT-HEAD ZINC COATED TEXS SCREWS OR 0.145 P/CAFST PREFERRED FASTENERS (ICC ESR-2961) ISSUED SEPTEMBER 1 2010 AT 6" OC AT BOUNDARIES, AT 6" OC AT EDGES, AND 12" OC AT INTERMEDIATE SUPPORTS. MIN. 3/8" EDGE DISTANCE FOR FASTENERS TO PLYWOOD EDGE PER CBC SECTION 2306.2. // NOTE: 0.145 PNEUMATIC FASTENER OPTION (P/CAFST PREFERRED FASTENERS) IS NOT ALLOWED FOR APPLICATIONS AT STRUCTURAL STEEL I.F. FLOOR CHANNELS  
 CONCRETE FLOOR DATA: LIGHTWEIGHT CONCRETE FLOOR  
 STRENGTH: 3500 PSI OR 4000 PSI  
 TYPE: I OR II  
 DENSITY: 110 PCF - MAX

**DIMENSION LUMBER ATTACHMENT TO STEEL FRAMING:**

2 x STUDS AT CORNER STEEL COLUMN (NAILING STUD)  
 USE: #10 - 24 x 2 1/2" LG. SELF-DRILLING SELF-TAPPING PHILLIPS FLAT-HEAD WITH WASHER ZINC COATED TEX SCREWS AT 24" O.C.  
 REFERENCE STANDARDS NOTES:

INTENT OF DRAWINGS AND SPECIFICATIONS IS TO CONSTRUCT THE BUILDING IN ACCORDANCE WITH THE STATE OF CALIFORNIA, CALIFORNIA CODE OF REGULATIONS, PART 1, 2, 3, 4, 5, 8, 9, AND 12, SUB-CHAPTER 1, CALIFORNIA BUILDING CODE, 2010 EDITION; MANUAL OF STEEL CONSTRUCTION, (AISC) 13TH EDITION, AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE, AWS D1.1, AMERICAN INSTITUTE OF TIMBER CONSTRUCTION STANDARD, (AITC) 109 ARCHITECTURAL SHEET METAL MANUAL, AIA FILE NO. 12-L (SMACNA) LATEST EDITION UNLESS OTHERWISE NOTED.

**WORKMANSHIP:**

WORKMANSHIP AND MATERIALS SHALL BE SUCH THAT BUILDING WILL BE WEATHERTIGHT AND WATERTIGHT.

**INSPECTIONS:**

A PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.

**CHANGES:**

CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDA OR A CHANGE ORDER APPROVED BY THE DIVISION OF THE STATE ARCHITECT AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.

**NAILING NOTES:**

- ALL NAILS SHALL BE COMMON UNLESS OTHERWISE NOTED
- MACHINE APPLIED 16d FASTENERS SHALL HAVE AN EMBEDMENT OF NOT LESS THAN 1 1/2" INTO THE SECOND MEMBER, AND SHALL BE NOT LESS THAN 3" IN OVERALL LENGTH. THE ABOVE NAILS SHALL ALSO BE ACCEPTABLE FOR HAND NAILING, PROVIDED THE REQUIRED EMBEDMENT IS MAINTAINED.
- CONNECTION AND FASTENERS: ALL CONNECTIONS AND FASTENERS AS STATED ON THESE DRAWINGS CAN BE SUBSTITUTED BY AN EQUIVALENT PRODUCT WITH ICC REPORTS AND APPROVAL BY DSA.
- CONNECTION OF LAG SCREWS: AS REQUIRED PER ANSI/AIAA NDS-3005, LAG SCREWS MUST BE INSTALLED INTO A PRE-DRILLED PILOT HOLE WITH A STANDARD WASHER AND TURNED WITH A WRENCH. DO NOT DRIVE WITH A HAMMER. OVER-TORQUING CAN SIGNIFICANTLY REDUCE THE LATERAL RESISTANCE OF THE LAG SCREW AND SHOULD BE AVOIDED.

**FASTENING SCHEDULE** CBC - TABLE 2304.9.1

CONNECTION	FASTENING #,M	LOCATION
1. JOIST TO SILL OR GIRDER	3- 8d COMMON 3- 3" x 0.131" NAILS	TOENAIL
2. BRIDGING TO JOIST	2- 8d COMMON (2 1/2" x 131") 2- 3" x 0.31" NAILS	TOENAIL EACH END
3. 1" x 6" SUBFLOOR OR LESS TO EACH JOIST	2- 8d COMMON (2 1/2" x 131")	FACE NAIL
4. WIDER THAN 1" x 6" SUBFLOOR TO EACH JOIST	3- 8d COMMON (2 1/2" x 131")	FACE NAIL
5. 2" SUBFLOOR TO JOIST OR GIRDER	2- 16d COMMON	BLIND AND FACE NAIL
6. SOLE PLATE TO JOIST OR BRICKING	16d(3 1/2" x 135") AT 16" O.C. 3"x0.131" NAILS AT 8" O.C.	TYPICAL FACE NAIL
SOLE PLATE TO JOIST OR BLKING AT BRACED WALL PANEL	3- 16d(3 1/2" x 135") AT 16" O.C. 4- 3"x0.131" NAILS AT 16" O.C.	BRACED WALL PANELS
7. TOP PLATE TO STUD	2- 16d COMMON (3 1/2" x 0.162") 3- 3"x0.031" NAILS	END NAIL
8. STUD TO SOLE PLATE	4- 8d COMMON (2 1/2"x0.131") 4- 3"x0.131" NAILS	TOENAIL
9. DOUBLE STUDS	2- 16d COMMON (3 1/2"x0.162") 3- 3"x0.131" NAILS	END NAIL
10. DOUBLE TOP PLATES	16d (3 1/2"x0.135") AT 24" O.C. 3"x0.131" NAILS AT 12" O.C.	FACE NAIL
DOUBLE TOP PLATES	8- 16d COMMON (3 1/2"x0.162") 12- 3"x0.131" NAILS	LAP SPlice
11. BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	3- 8d COMMON (2 1/2"x0.131") 3- 3"x0.131" NAILS	TOENAIL
12. RIM JOIST TO TOP PLATE	8d (2 1/2"x0.131") AT 6" O.C. 3"x0.131" NAIL AT 6" O.C.	TOENAIL
13. TOP PLATES, LAPS, AND INTERSECTIONS	2- 16d COMMON (3 1/2"x0.162") 3- 3"x0.131" NAILS	FACE NAIL
14. CONTINUOUS HEADER, TWO PIECES	16d COMMON (3 1/2"x0.162")	16" OC ALONG EDGE
15. CEILING JOISTS TO PLATE	3- 8d COMMON (2 1/2"x0.131") 5- 3"x0.131" NAILS	TOENAIL
16. CONTINUOUS HEADER TO STUD	4- 8d COMMON (2 1/2"x0.131")	TOENAIL
17. CEILING JOISTS, LAPS OVER PARTITIONS (SEE SECTION 2308.10.4.1, TABLE 2308.10.4.1)	3- 16d COMMON (3 1/2"x0.162") MIN TABLE 2308.10.4.1 4- 3"x0.131" NAILS	FACE NAIL
18. CEILING JOISTS TO PARALLEL RAFTERS (SEE SECTION 2308.10.4.1, TABLE 2308.10.4.1)	3- 16d COMMON (3 1/2"x0.162") MIN TABLE 2308.10.4.1 4- 3"x0.131" NAILS	FACE NAIL
19. RAFTER TO PLATE (SEE SECTION 2308.10.1, TABLE 2308.10.1)	3- 8d COMMON (2 1/2"x0.131") 3- 3"x0.131" NAILS	FACE NAIL
20. 1" DIAGONAL BRACE TO EACH STUD AND PLATE	2- 8d COMMON (2 1/2"x0.131") 2- 3"x0.131" NAILS	FACE NAIL
21. 1" x 6" SHEATHING TO EACH BEARING	3- 8d COMMON (2 1/2"x0.131")	FACE NAIL
22. WIDER THAN 1" x 6" SHEATHING TO EACH BEARING	3- 8d COMMON (2 1/2"x0.131")	FACE NAIL
23. BUILT-UP CORNER STUDS	16d COMMON (3 1/2"x0.162") 3"x0.131" NAILS	24" O.C. 16" O.C.
24. BUILT-UP GIRDER AND BEAMS	20d COMMON (4"x0.192") 32" O.C. 3"x0.131" NAIL AT 24" O.C.	FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES FACE NAIL AT ENDS AND AT EACH SPlice
25. 2" PLANKS	16d COMMON (3 1/2"x0.162")	AT EACH BEARING