## GENERAL

TYPICAL DETAILS AND GENERAL NOTES SHALL APPLY IN ALL CASES UNLESS SPECIFICALLY SHOWN OTHERWISE ON THE DRAWINGS. WHERE NO DETAIL IS SHOWN, CONSTRUCTION SHALL BE AS SHOWN FOR OTHER SIMILAR WORK. NO DEVIATIONS FROM THE DRAWINGS SHALL BE PERMITTED WITHOUT THE PERMISSION OF THE ENGINEER.

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SLAB DEPRESSIONS, SLOPES, CURBS, DRAINS, OPENINGS, ETC. NOT SHOWN ON THE STRUCTURAL DRAWINGS. ALL MECH. & ELECT. EQUIP. SHALL BE BRACED & ANCHORED ADEQUATELY FOR SEISMIC LOADS PER TITLE 24, SECTION 2312 (g), & TABLE 23 P

WHERE CONSTRUCTION MATERIALS ARE TEMPORARILY STORED ON THE ROOF FRAMING, THEY SHALL BE DISTRIBUTED SO THAT THE LOAD DOES NOT EXCEED 20 LBS/SF

THE CONTRACTOR SHALL:

1. VERIFY ALL (E) EXISTING CONDITIONS AND DIMENSIONS AND REPORT ANY DIFFERENCES IN ASSUMED CONDITIONS TO THE ARCHITECT PRIOR TO PROCEEDING.
2. PROVIDE & BE SOLELY RESPONSIBLE FOR ALL TEMPORARY SHORING, GUYS AND BRACING NECESSARY FOR STRUCTURAL WORK SHOWN ON THESE DRAWINGS.
3. PERFORM ALL WORK AND RECEIVE ALL TESTS AND INSPECTIONS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, DRAWINGS, THE 1985 U.B.C., TITLE 24, PART 2 OF THE CALIFORNIA CODE OF REGULATIONS AND THE "STRUCTURAL TESTS AND INSPECTIONS" SCHEDULE.
4. BE SOLELY RESPONSIBLE FOR CONDITIONS AT THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY.
5. PERFORM ALL DEMOLITION, REMOVAL AND DISPOSAL IN CONFORMANCE WITH ALL APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS. EXCESS MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF OFF SITE UNLESS OTHERWISE DIRECTED BY THE ARCHITECT.
6. PERFORM ALL WORK UNDER CONTINUOUS INSPECTION OF OSA APPROVED INSPECTOR.

ALL SUPPORT SERVICES PERFORMED BY THE ENGINEER DURING CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ENGINEER, ARE PERFORMED SOLELY FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS. THESE SUPPORT SERVICES DO NOT GUARANTEE THE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.

REMOVE (E) ROOFING & EXPOSE (E) ROOF SHTG BELOW WHERE EQUIPMENT PLATFORMS,

ALL ITEMS SHOWN ON THESE DRAWINGS ARE NEW CONSTRUCTION UNLESS IDENTIFIED AS (E) EXISTING.

ALL (E) EXISTING DIMENSIONS ARE APPROXIMATE AND ARE GIVEN FOR CONTRACTORS CONVENIENCE ONLY. ALL DIMENSIONS AND (E) CONDITIONS SHALL BE VERIFIED AT THE SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

## WOOD

FRAMING LUMBER SHALL BE GRADE MARKED AS FOLLOWS
- 2X4 & SMALLER (DOUGLAS FIR).....CONSTRUCTION OR BETTER
- 2X6 & DEEPER (DOUGLAS FIR).....NO. 2
- 3X & LARGER (DOUGLAS FIR).....NO. 1
- SILLS (HEM-FIR OR DOUGLAS FIR).....PRESSURE TREATED PER U.B.C. STANDARD 25-12 & AMERICAN WOOD PRESERVATIVE ASSOC. (AWPB).

STANDARD CUT WASHERS SHALL BE USED UNDER BOLT HEADS AND NUTS THAT WOULD OTHERWISE BEAR ON WOOD SURFACES. ALL LIGHT GAGE METAL CONNECTORS SHALL BE MANUFACTURED BY "SIMPSON STRONG-TIE CO., INC.". ALL "HD" CONNECTORS SHALL BE INSTALLED WITH WASHERS AS PER MANUFACTURERS RECOMMENDATIONS. RETIGHTEN BOLTS BEFORE CLOSING IN.

ALL NAILS SHALL BE UNCOATED AND HAVE FULL HEADS. WHERE DRIVING NAILS CAUSES SPLITTING, LEAD HOLES WITH A DIAMETER EQUALING 60 TO 75 PERCENT OF THE NAIL DIAMETER SHALL BE PROVIDED.

LAG SCREWS OR LAG BOLTS SHALL BE INSERTED IN LEAD HOLES AS FOLLOWS:
1. THE CLEARANCE HOLE FOR THE SHANK SHALL HAVE THE SAME DIAMETER AS THE SHANK AND THE SAME DEPTH OF PENETRATION AS THE LENGTH OF UNTHREADED SHANK.
2. THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 60 PERCENT TO 75 PERCENT OF THE SHANK DIAMETER AND A LENGTH EQUAL TO AT LEAST THE LENGTH OF THE THREADED PORTION.
3. THE THREADED PORTION OF THE SCREW SHALL BE INSERTED IN ITS LEAD HOLE BY TURNING WITH A WRENCH, NOT BY DRIVING WITH A HAMMER.

NAILING SCHEDULE:
- JOISTS OR RAFTERS TO SIDES OF STUDS
  - EIGHT (8) INCH JOISTS OR LESS.....3-16d
  - FOR EACH ADDITIONAL FOUR (4) INCHES IN DEPTH OF JOIST.....1-16d
- JOISTS OR RAFTERS AT ALL BEARINGS (T.N., EA. SIDE).....2-10d
- CEILING JOISTS, LAPS OVER PARTITIONS (F.N.).....3-16d
- CEILING JOISTS TO PARALLEL RAFTERS (F.N.).....3-16d
- BLOCKING BETWEEN JOISTS OR RAFTERS
  - TO JOIST OR RAFTERS (T.N. EA. SIDE, EA. END).....2-10d
  - TO JOIST OR RAFTER BEARINGS (T.N., EA. SIDE).....3-10d
- BLOCKING BETWEEN STUDS (BA. END).....2-10d TOE NAILS OR 2-16d
- BRIDGING TO JOIST (T.N., EA. END).....2-8d
- SOLE PLATE TO JOIST OR BLOCKING (F.N.).....16d @ 16" O.C.
- TOP PLATE TO STUD (END NAIL).....2-16d
- STUD TO SOLE PLATE (T.N.).....4-8d
- DOUBLED STUDS (F.N.).....16d @ 24" O.C.
- TOP PLATES, LAPS AND INTERSECTIONS (F.N.).....2-16d
- DOUBLE TOP PLATES (F.N.).....16d @ 12" O.C. U.N.O.
- BUILT-UP CORNER STUDS.....16d @ 24" O.C.
- RIBBONS TO STUDS - ONE (1) INCH RIBBONS.....2-8d
- RIBBONS TO STUDS - TWO (2) INCH RIBBONS.....2-16d
- CONTINUOUS HEADER, TWO PIECES.....16d @ 16" O.C. ALONG EACH EDGE
- CONTINUOUS HEADER TO STUD (T.N.).....4-8d
- 1" BRACE TO EACH STUD AND PLATE (F.N.).....3-8d
- BUILT-UP GIRDER AND BEAMS.....20d @ 24" O.C. @ TOP & BOTTOM & STAGGERED PLUS 3-20d @ ENDS & EA. SPLICE PLUS 2-16d & EA. BEARING

NAILING SCHEDULE NOTES:
1. NAILS SHALL BE THE FOLLOWING SIZES (COMMON NAILS)
   - 8d = .131" DIA. X 2-1/2" LONG W/.281" DIA. HEAD
   - 10d = .148" DIA. X 3" LONG W/.312" DIA. HEAD
   - 16d = .162" DIA. X 3-1/2" LONG W/.344" DIA. HEAD
   - 20d = .192" DIA. X 4" LONG W/.406" DIA. HEAD AND WITH A 1/8" PREBORED HOLE
2. TOE NAILS MAY ONLY BE USED WHERE SHOWN.
3. ABBREVIATIONS: (T.N.) = TOE NAIL, (F.N.) = FACE NAIL.
4. PLYWOOD NAILS SHALL BE AS NOTED ON THE "PLYWOOD SHTG & ANCHORAGE SCHEDULE".

POWER DRIVEN CONCRETE FASTENERS

THE USE OF POWER DRIVEN CONCRETE FASTENERS FOR TENSION LOADS IS LIMITED TO SUPPORT OF MINOR LOADS LIKE ACOUSTICAL CEILINGS, DUCT WORK AND CONDUIT.

ALLOWABLE LOADS - LOADS SHALL BE LIMITED TO LESS THAN 100 LBS.

TESTING - THE OPERATOR, TOOL, AND FASTENER SHALL BE PREQUALIFIED BY THE PROJECT INSPECTOR. HE SHALL OBSERVE THE TESTING OF THE FIRST 10 FASTENER INSTALLATIONS. A TEST "PULL-OUT" LOAD OF NOT LESS THAN TWICE THE DESIGN LOAD, OR 200 LBS., WHICHEVER IS GREATER, SHALL BE APPLIED TO THE PIN IN SUCH A MANNER AS NOT TO RESIST THE SPALLING TENDENCY OF THE CONCRETE SURROUNDING THE PIN. THEREAFTER, RANDOM TESTS UNDER THE PROJECT INSPECTOR'S SUPERVISION SHALL BE MADE OF APPROXIMATELY 1 IN 10 PINS. SHOULD FAILURE OCCUR ON ANY PIN TESTED, ALL INSTALLATIONS MUST BE TESTED AND UNFAIR PINS REPLACED.

## FOUNDATIONS

FOOTINGS & SLABS SHALL BE PLACED ONLY ON FIRM BEARING AND NOT ON LOOSE SOIL OR UNCOMPACTED FILL

BASIC ALLOWABLE BEARING PRESSURE = 1000 PSF

SOIL TYPE: SILTY SAND.

## REINFORCING STEEL

MATERIALS SHALL BE GRADE 40, CONTINUOUS, DEFORMED BARS, CONFORMING TO ASTM A615. SPLICE CONTINUOUS BARS WITH A MINIMUM LAP OF 40 BAR DIAMETERS (2'0" MIN.) CONCRETE COVERAGE FOR REINFORCEMENT CAST AGAINST EARTH AND PERMANENTLY EXPOSED TO EARTH SHALL BE 3".

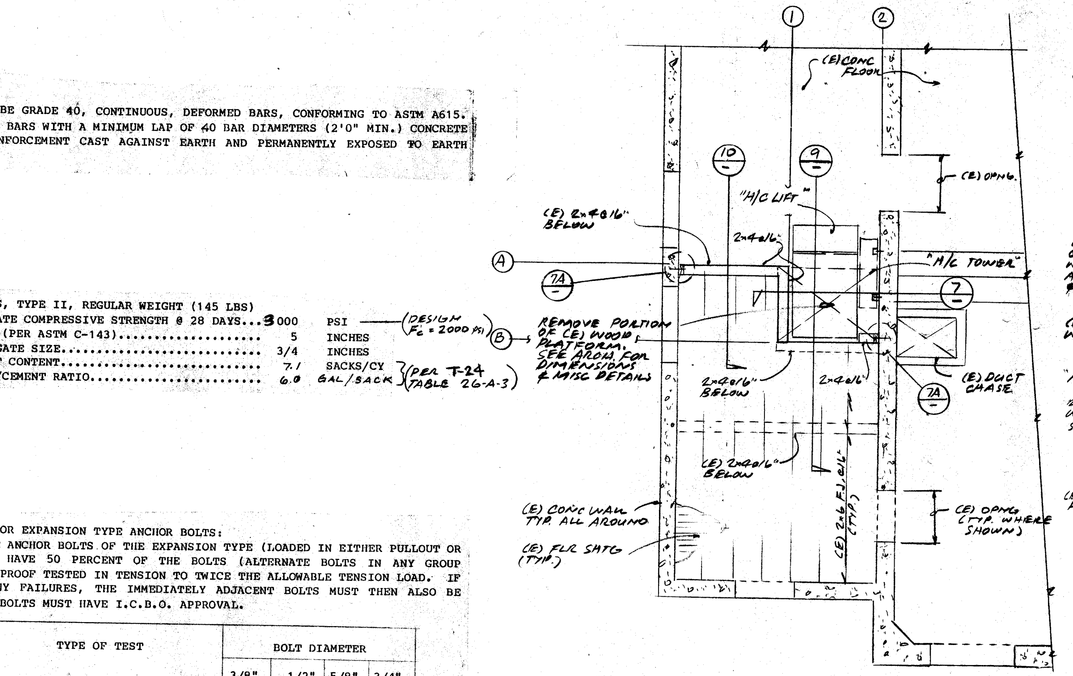
## CONCRETE

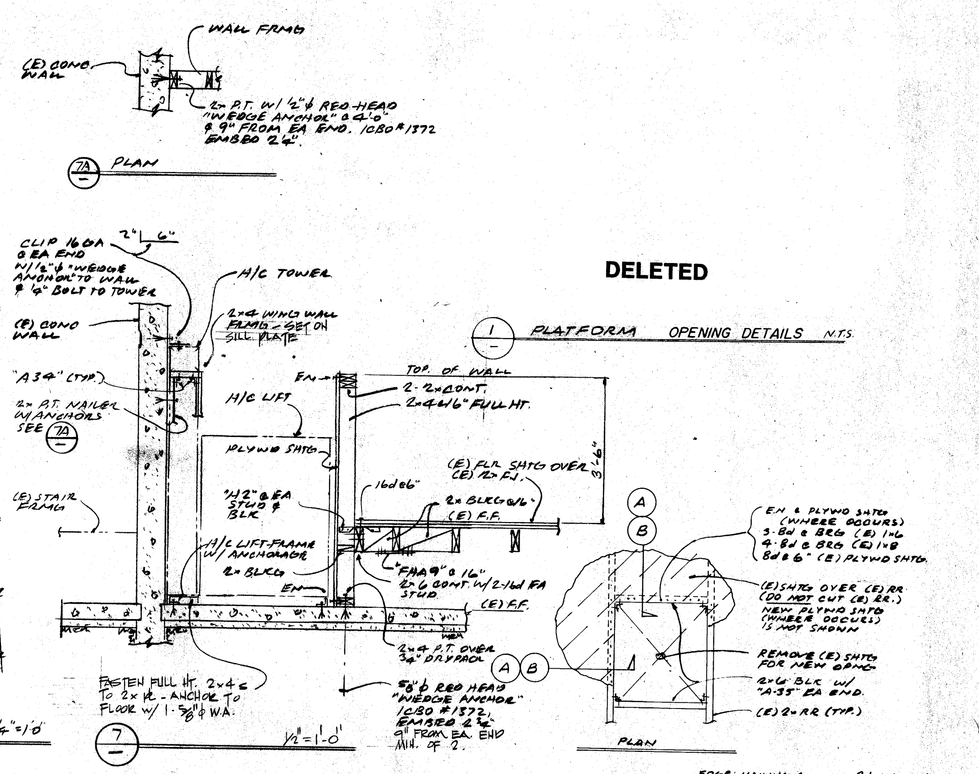
ALL CONCRETE WALLS, TYPE II, REGULAR WEIGHT (145 LBS)

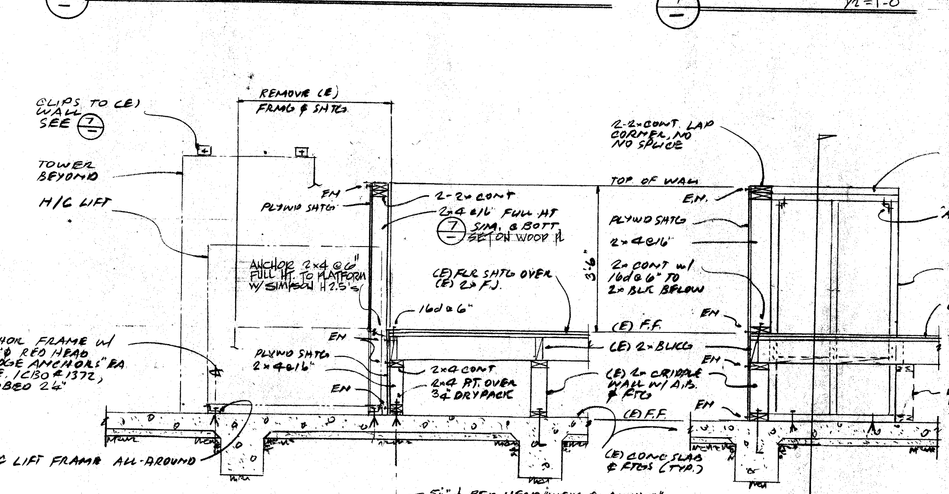
| | | |
|---|---|---|
| MINIMUM ULTIMATE COMPRESSIVE STRENGTH @ 28 DAYS | 3000 | PSI (DESIGN $F_c$ = 2000 PSI) |
| MAXIMUM SLUMP (PER ASTM C-143) | 5 | INCHES |
| MAXIMUM AGGREGATE SIZE | 3/4 | INCHES |
| MINIMUM CEMENT CONTENT | 7.1 | SACKS/CY (PER T-24 TABLE 26-A-3) |
| MAXIMUM WATER/CEMENT RATIO | 6.9 | GAL/SACK |

PROOF LOAD TESTS FOR EXPANSION TYPE ANCHOR BOLTS:
ALL CONCRETE ANCHOR BOLTS OF THE EXPANSION TYPE (LOADED IN EITHER PULLOUT OR SHEAR) SHALL HAVE 50 PERCENT OF THE BOLTS (ALTERNATE BOLTS IN ANY GROUP ARRANGEMENT) PROOF TESTED IN TENSION TO TWICE THE ALLOWABLE TENSION LOAD. IF THERE ARE ANY FAILURES, THE IMMEDIATELY ADJACENT BOLTS MUST THEN ALSO BE TESTED. ALL BOLTS MUST HAVE I.C.B.O. APPROVAL.

| TYPE OF MATERIALS | TYPE OF TEST | BOLT DIAMETER 3/8" | 1/2" | 5/8" | 3/4" |
|---|---|---|---|---|---|
| HARD ROCK CONCRETE | DIRECT PULL-TENSION, LBS. | 1300 | 2000 | 2900 | 4300 |
| | TORQUE WRENCH-TORQUE, FT. LBS. | 25 | 50 | 110 | 150 |

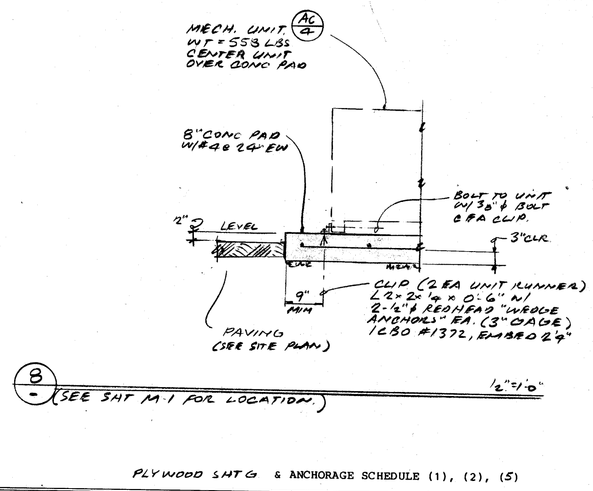









PLYWOOD SHTG & ANCHORAGE SCHEDULE (1), (2), (5)

| IDENT. | MATERIAL DESCRIPTION | NAILING (3), (7), (8) | ANCHORAGE | REMARKS |
|---|---|---|---|---|
| HORIZ SHTG @ MECH PLATFORMS | 5/8" PLYWD., APA RATED SHTG., 40/20, EXPOSURE I, STRUCT. I T&G | 10d @ 6" EDGES 10d @ 12" INTERM. | NOT APPLICABLE | |
| VERT SHTG @ MECH PLATFORMS & OTHER VERT SHTG. | 3/8" PLYWD., APA RATED SHTG., 24/0, EXPOSURE I, STRUCT. I | 8d @ 6" EDGES 8d @ 12" INTERM. | SEE SECTIONS | NOTE (4) |
| REPAIR OR REPLACEMENT OF (E) H SHTG | 3/8" PLYWD., APA RATED SHTG., 40/20 EXPOSURE I, STRUCT. I | 10d @ 6" EDGES 10d @ 12" INTERM. | NOT APPLICABLE | ALL PLYWD EDGES SHALL BE BACKED w/ 2x OR LARGER |
| REPAIR OR REPLACEMENT OF (E) 4" THICK PLYWD SHEAR WALL | 1/2" PLYWD APA RATED SHTG. 32/16, EXPOSURE I, STRUCT I. | 10d @ 4" EDGES 10d @ 12" INTERM. | SEE SW 7.6 | |
| | | | | |

NOTES

(1) SEE THIS SHT FOR GENERAL NOTES AND TYPICAL DETAILS.

(2) SEE FRAMING PLANS & SECTIONS FOR LOCATIONS OF SHTG.

(3) NAILS SHALL HAVE FULL HEADS AND BE OF THE FOLLOWING SIZES:
8d = .131" DIA. X 2-1/8" LONG
10d = .148" DIA. X 2-3/8" LONG

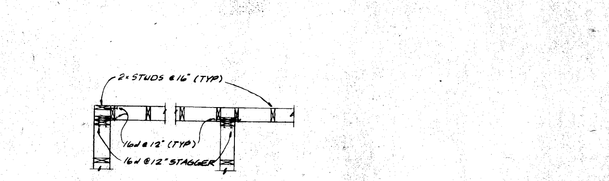
(4) 2 LAYERS OF PAPER SHALL BE PLACED BETWEEN ALL PLYWOOD SHEETING AND CEMENT PLASTER (WHERE OCCURS) FOR MOISTURE PROTECTION OF PLYWOOD.

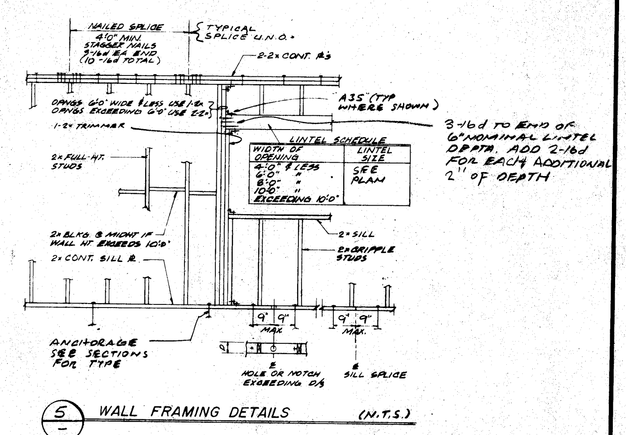
(5) NAILHEADS SHALL NOT PENETRATE THE OUTER PLY OF PLYWOOD MORE THAN WOULD BE NORMAL FOR A HAND-HAMMER.

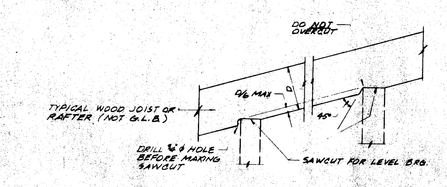
(6) DELETE

(7) THE EDGE DISTANCE FOR A 3 INCH NOMINAL (2-1/2 INCHES MINIMUM NET) WIDE MEMBERS ON WHICH SHEETS ARE SPLICED SHALL BE 3/4 INCH MINIMUM. THE EDGE DISTANCE FOR 2 INCH NOMINAL (1-1/2 INCHES MINIMUM NET) WIDE MEMBERS ON WHICH SHEETS ARE SPLICED SHALL BE 3/8 INCH MINIMUM. THE EDGE DISTANCE FOR PLYWOOD SHEETS SHALL BE NOT LESS THAN 3/8 INCH. NAILS MAY BE SLANT DRIVEN TO MAINTAIN MINIMUM EDGE DISTANCE IN FRAMING MEMBERS.

(8) USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOBSITE DEMONSTRATION AND THE APPROVAL BY THE PROJECT ARCHITECT OR STRUCTURAL ENGINEER AND THE OFFICE OF THE STATE ARCHITECT. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE. IF NAILHEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.

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