ABBREVIATIONS

NOTIFY THE OWNER'S REPRESENTATIVE AT LEAST ONE DAY IN ADVANCE OF CONCRETE PLACEMENT.

DESIGN FORMWORK IN ACCORDANCE WITH ACI 347 "GUIDE TO FORMWORK FOR CONCRETE". USE BOND BREAKER OR FORM RELEASE AGENT FOR EASE OF REMOVAL FROM THE PLACED CONCRETE.

CHAMFER ALL CORNERS TO PREVENT DAMAGE USE VIBRATORS TO CONSOLIDATE CONCRETE. DO NOT USE VIBRATORS TO MOVE CONCRETE. DO NOT VIBRATE FORMS OR USE FORM VIBRATORS.

FINISH FLATWORK TO STEEL TROWEL FINISH UNLESS INDICATED OTHERWISE ON THE DRAWINGS OR INSTRUCTED BY THE OWNER'S REPRESENTATIVE. ELEVATION OF FINISHED SLABS MAY VARY NO MORE THAN 1/8" IN 10'. REMOVE FINS AND FILL VOIDS WITH APPROVED PATCHING MIX ON WALLS AND COLUMNS AND EXPOSED SURFACES.

REPAIR STRUCTURAL AND FINISH DEFECTS AS DIRECTED BY THE OWNER'S REPRESENTATIVE.

USE ASTM C1107 GRADE C NON-SHRINK GROUT UNDER COLUMN BASE.

EXPANSION ANCHORS

GENERAL NOTES

SEISMIC DESIGN CRITERIA: SEISMIC ZONE:

WORK REQUIRES SEQUENTIAL OPERATIONS.

FLOOR ELEVATION: EL. = 100'-0", U.O.N.

DATUM ELEVATION = +656.5

INCORPORATING INTO THE WORK.

REDUNDANCY FACTOR:

WIND DESIGN CRITERIA:

APPROVED ISSUE.

DIMENSIONS AND DATUM

EXISTING CONSTRUCTION:

FOUNDATION:

DESIGN CODE: CALIFORNIA BUILDING CODE [CBC], TITLE 24,

PART 2; 2001 EDITION. VOLUME

EXPOSURE:

IMPORTANCE FACTOR:

Na = 1.5, Nv = 2.0

BASIC WIND SPEED:

PERFORM THE WORK IN THE ORDER INDICATED ON THE DRAWINGS WHERE

WHEN REQUESTING SUBSTITUTIONS FOR PRODUCTS, PROCEDURES, METHODS

ESTABLISHING EQUIVALENCE AND ICBO ACCEPTANCE NUMBER. IF APPLICABLE.

OR MATERIALS SPECIFIED FOR THE PROJECT, SUBMIT ENGINEERING DATA

FOR REVIEW BY THE ARCHITECT AND APPROVAL BY DSA PRIOR TO

WHERE STANDARDS ARE LISTED, USE THE LATEST DSA ACCEPTED AND

DIMENSIONS ARE GIVEN TO CENTERLINE OF COLUMNS AND BEAMS OR FACE

OF WALLS AND ROUGH CONCRETE SURFACES, UNLESS OTHERWISE NOTED.

DETAILS AND DIMENSIONS FOR EXISTING CONSTRUCTION HAVE BEEN TAKEN

PROCEED ONLY AFTER RECEIVING INSTRUCTIONS FROM THE ARCHITECT.

VERIFY THAT DISCONNECTING. REMOVING OR DEMOLISHING ANY EXISTING

CONSTRUCTION WILL NOT CAUSE INSTABILITY IN ADJACENT CONSTRUCTION

COULD POSE A DANGER TO THE SAFETY OF THE BUILDING, WORKPLACE,

WHERE NEW PENETRATIONS ARE TO BE CUT INTO EXISTING CONCRETE

DRILL OR CORE HOLES AT THE CORNERS OF NEW PENETRATIONS AND

WHERE PRACTICABLE, MAKE EXCAVATIONS AS NEAR AS POSSIBLE TO THE

WHERE EXCAVATIONS CANNOT BE MAINTAINED FOR A NEAT POUR. FORM THE

ELEVATIONS OF BOTTOMS OF FOOTINGS HAVE BEEN ESTABLISHED TO REACH

AS EXCAVATION PROGRESSES, CONDITIONS MAY DEVELOP REQUIRING CHANGES

. THIS MATERIAL IS CAPABLE OF

COMPETENT NATURAL SOILS OR ENGINEERED FILL AS DETERMINED FROM

GEOTECHNICA REPORT BY DAMES AND MOORE, DATED JULY 9, 1959 AND

3,000 PSF

IN ELEVATIONS OF FOOTINGS SHOWN ON THE DRAWINGS. MAKE SUCH

WHERE BACKFILL IS TO BE PLACED AGAINST WALLS BEFORE THEY HAVE

PLACE BACKFILL AS DIRECTED IN THE GEOTECHNICAL REPORT. IN THE

IN LAYERS NOT EXCEEDING 6" IN DEPTH. MOISTEN EACH LAYER AND

FOR CONSTRUCTION JOINTS IN GENERAL, SEE SPECIFICATIONS.

THOROUGHLY COMPACT THE SOIL PRIOR TO PLACING THE NEXT LAYER.

THOROUGHLY SANDBLAST WITH COARSE SILICA SAND ALL CONSTRUCTION

SEE DRAWINGS FOR SLAB CONSTRUCTION AND CONTROL JOINT LOCATIONS.

WHERE THE SPACING AND/OR LOCATION OF JOINTS IS NOT OTHERWISE

3600 SQ. FT. WITH MAXIMUM DIMENSION OF 60 FT., PLACE IN LANE OR

FT. OR 15 FT. FOR EXPOSED CONCRETE SURFACE IN ANY DIRECTION. AT

STRIP FASHION WITH INTERMEDIATE CONTROL JOINTS AT APPROXIMATELY 20

CONSTRUCTION JOINTS, USE PREFORMED METAL JOINT FORMS WITH DEVICES TO PREVENT DISPLACEMENT BY OPERATIONS BEFORE AND DURING CONCRETE

PLACEMENT. AT CONTROL JOINTS, USE ZIPSTRIP OR SAWCUT NO MORE THAN

" DEEP. USE EXPANSION JOINT MATERIAL ONLY WHERE EXPLICITLY SHOWN

PLACE CONCRETE IN WALLS, COLUMNS AND BEAMS IN CONTINUOUS POURS

CONSTRUCTION JOINT DETAILS, LOCATIONS AND POUR SCHEDULES FOR

APPROVAL BY THE OWNER'S REPRESENTATIVE, PRIOR TO COMMENCING

COMPLY WITH THE PROVISIONS OF CHAPTER 19A AND ACI 318-95

ASTM C330, LIGHTWEIGHT CONCRETE.

F'c=3,000 PSI FOR ALL CONCRETE

SUBMIT FOR REVIEW BY THE ARCHITECT AND APPROVAL BY DSA THE

TESTING LABORATORY, CONCRETE MIX DESIGNS FOR EACH TYPE AND

REINFORCE WALLS WITH THE FOLLOWING MINIMUM REINFORCEMENT:

COORDINATE WITH THE TESTING AGENCY; DESIGNATED BY THE OWNER'S

BY THE OWNER. COST OF TESTING, REMOVAL AND REPAIR OF

NONCONFORMING CONCRETE TO BE PAID BY THE CONTRACTOR.

REPRESENTATIVE. FOR STRENGTH AND SLUMP TESTING AS SCHEDULED IN

COORDINATE WITH THE INSPECTION AGENCY DESIGNATED BY THE OWNER'S

REPRESENTATIVE FOR INSPECTION OF REINFORCEMENT PLACEMENT AND PLACING OF CONCRETE AS SCHEDULED IN TESTING AND INSPECTION.

TESTING AND INSPECTION. COST OF TESTING AS SCHEDULED WILL BE PAID

PROPOSED MIX DESIGNS. REVIEWED AND APPROVED BY AN INDEPENDENT

USE NO ADDITIVES OR ADMIXTURES UNLESS APPROVED BY THE ARCHITECT

REINFORCE ALL CONCRETE UNLESS SPECIFICALLY MARKED "NOT REINFORCED". WHERE REINFORCEMENT IS NOT OTHERWISE INDICATED ON THE DRAWINGS.

REINFORCING EACH WAY #4 @ 12", CENTERED

#4 @ 12", EACH FACE

#5 @ 12", EACH FACE

#4 @ 9". CENTERED

"BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".

A.S.T.M. C150, TYPE II

STRENGTH OF CONCRETE, INCLUDING SHRINKAGE HISTORY.

AND DSA. USE NO OTHER CEMENTITIOUS MATERIALS.

3.5" MAX.

LESS THAN 0.05%.

UNLESS APPROVED BY THE ARCHITECT IN ADVANCE OF PLACEMENT. SUBMIT

GRANITE OR LIMESTONE ONLY. ASTM C33, NORMAL WEIGHT.

INDICATED ON THE DRAWINGS, SIZE OF CONCRETE POURS BETWEEN

CONSTRUCTION JOINTS FOR SLAB-ON-GRADE SHALL BE LIMITED TO

EXPOSING CLEAN COARSE AGGREGATE SOLIDLY EMBEDDED IN MORTAR MATRIX.

JOINTS TO CLEAN AND ROUGHEN THE ENTIRE SURFACE OF THE JOINT,

ATTAINED THEIR DESIGN STRENGTH. SHORE THE WALLS TO SUPPORT THE

SOIL LOADING. THE SHORING IS TO REMAIN IN PLACE UNTIL THE WALL HAS

ATTAINED ITS DESIGN STRENGTH AND/OR OTHER CONSTRUCTION INTENDED TO

BRACE THE WALLS IS INSTALLED AND ADEQUATELY STRONG TO SUPPORT THE

ABSENCE OF A GEOTECHNICAL REPORT FOR THE PROJECT, PLACE BACKFILL

NEAT LINES REQUIRED BY THE SIZE AND SHAPE OF THE STRUCTURE.

SIDES. WHEN POURING FOOTINGS NEAT, ADD ONE INCH EACH SIDE OF

WORKERS OR OCCUPANTS, NOTIFY THE OWNER'S REPRESENTATIVE.

TAKING CARE NOT TO DAMAGE PARTS TO REMAIN.

COMPLY WITH THE PROVISIONS OF CHAPTER 18A

FOOTINGS TO THE SIZES SHOWN ON THE DRAWINGS.

EXCAVATE NO MATERIAL UNNECESSARILY.

UPDATED REPORT BY DATED

DEAD LOAD + LIVE LOAD

SOIL TYPE: SILTY CLAY

ON THE DRAWINGS.

PLACEMENT

MATERIALS:

AGGREGATE:

CONCRETE:

SHRINKAGE:

8" TO LESS THAN 10"

MORE THAN 16"

10" TO LESS THAN 16"

CONSTRUCTION JOINTS:

SUPPORTING LOADS AS INDICATED BELOW:

TOTAL LOAD INCL. SEISMIC 4,000 PSF

CHANGES ONLY AS DIRECTED BY THE ARCHITECT.

CLEAN EXCAVATIONS JUST PRIOR TO PLACING CONCRETE.

FROM DRAWINGS. VERIFY THAT THE EXISTING CONDITIONS AFFECTED BY THE

WORK ARE AS INDICATED ON THE DRAWINGS AND, IN CASE OF DISCREPANCY,

PRIOR TO COMMENCING WORK. SHOULD CONDITIONS BECOME EVIDENT WHICH

SAWCUT BETWEEN HOLES. DO NOT OVERCUT BEYOND THE LIMITS OF THE NEW

PENETRATION. IF NECESSARY, REMOVE THE REMAINDER TO SQUARE CORNERS

ELEVATIONS ARE GIVEN WITH REFERENCE TO EXISTING FINISHED GROUND

IMPORTANCE FACTOR:

GENERAL:

COMPLY WITH THE PROVISIONS OF SECTION 1923A.3.4. EXPANSION ANCHORS SHALL BE CARBON STEEL HILTI KWIK BOLT II [ICBO REPORT NO. 4627] OR ITW RAMSET/RED HEAD TRUBOLT WEDGE ANCHORS [ICBO REPORT NO. 1372].

ANCHOR SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN THE ICBO RESEARCH COMMITTEE RECOMMENDATIONS FOR THE SPECIFIC

THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SUCH THAT INTERFERENCE OF REINFORCING STEEL WITH CONCRETE ANCHOR PLACEMENT DOES NOT OCCUR. IF REINFORCING STEEL IS ENCOUNTERED DURING DRILLING, ADJUST THE ANCHOR LOCATION IF POSSIBLE AND NOTIFY THE OWNER'S REPRESENTATIVE. ABANDONED HOLES SHALL BE FILLED WITH GROUT ANCHORS SHALL BE SET WITHIN 3 INCHES OF THEIR SPECIFIED LOCATION, BUT AT LEAST 1 INCH FROM ANY ABANDONED HOLE. CARE SHALL BE TAKEN NOT TO BREAK OR DAMAGE REINFORCING STEEL DURING DRILLING, UNLESS OTHERWISE DIRECTED BY THE OWNER'S REPRESENTATIVE.

TESTS SHALL BE IN THE PRESENCE OF THE OWNER'S PROJECT INSPECTOR OR TESTING LABORATORY AND THE TEST RESULTS SUBMITTED TO THE PROJECT ENGINEER. TEST REQUIREMENTS FOR EXPANSION ANCHORS USED IN METAL SUSPENSION SYSTEM FOR LAY IN PANEL CEILINGS SHALL BE IN ACCORDANCE WITH THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS. TEST VALUES LISTED ARE FOR A TORQUE WRENCH TEST. THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN ONE-HALF TURN OF THE NUT.

IN THE EVENT OF ANY TEST FAILURE, TEST ALL ANCHORS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL TWENTY CONSECUTIVE PASS. THEN RESUME INITIAL TESTING FREQUENCY. PATCH ALL HOLES WHERE FASTENERS ARE REMOVED USING GROUT, PACKED SOLIDLY.

ALLOWABLE LOADS LISTED ARE 80% OF THE ICBO REPORT VALUES. REDUCE VALUES AS SPECIFIED BY THE APPLICABLE ICBO REPORT WHEN INSTALLED WITH EDGE DISTANCES OR ANCHOR SPACING LESS THAN DIMENSIONS NOTED.

TENSION TEST LOAD FOR ANCHORS SHALL BE TWICE THE TABULATED VALUES FOR EACH SIZE.

ANCHORS INSTALLED IN REGULAR CONCRETE, MINIMUM CONCRETE STRENGTH IS 3000 PSI.

BOLT DIAMETER	MIN. EMBEDMENT U.N.O.	ALLOWABLE SHEAR	ALLOWABLE TENSION	EDGE DISTANCE	SPACING	TORQUE TEST
(INCHES)	(INCHES)	(POUNDS)	(POUNDS)	(INCHES)	(INCHES)	(FT-LBS)
HILTI KWIK BOLT II:						
1/4	2	320	440	3 5/8	4	7
3/8	3	880	968	4 7/8	5	25
1/2	4	1472	1600	6 3/4	7	45
5/8	5	2500	2136	8 1/4	8	95
3/4	6	3380	2900	9 3/4	9 1/2	225
ITW RAMSET/RED HEAD TRUBOLT:						
1/4	2	336	540	1 15/16	3 7/8	8
3/8	3	814	942	3 3/4	6	25
1/2	4 1/8	1448	1430	5 3/16	6 3/16	55
5/8	5 1/8	2150	2150	6 7/16	7 11/16	90
3/4	6 5/8	4406	2868	8 5/16	9 15/16	175
ANCHOR DIAMETER REFERS TO THE THREAD SIZE FOR THE WEDGE						

AND TO THE ANCHOR OUTSIDE DIAMETER FOR THE SLEEVE CATEGORY

APPLY PROOF TEST LOADS TO WEDGE & SLEEVE ANCHORS WITHOUT REMOVING THE NUT IF POSSIPLE. IF NOT, REMOVE NUT & INSTALL A THREADED COUPLER TO THE SAME TIGHTNESS OF THE ORIGINAL NUT USING A TORQUE WRENCH & APPLY LOAD.

FOR SLEEVE INTERNALLY THREADED CATEGORIES, VERIFY THAT THE ANCHOR IS NOT PREVENTED FROM WITHDRAWING BY A BASE PLATE OR OTHER FIXTURES. IF RESTRAINT IS FOUND, LOOSEN AND SHIM OR REMOVE FIXTURE(S) PRIOR

REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY THE FIXTURE(S)

TEST EQUIPMENT IS TO BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.

TESTING SHOULD OCCUR 24 HOURS MINIMUM AFTER INSTALLATION OF THE SUBJECT ANCHORS.

ALL EXPANSION ANCHORS SHALL BE TENSION TESTED. WHERE ANCHORS ARE USED FOR EQUIPMENT ANCHORAGE, 50% OR ALTERNATE BOLTS IN A GROUP SHALL BE TENSION TESTED.

STEEL REINFORCEMENT:

COMPLY WITH THE PROVISIONS OF CHAPTERS 19A AND 21A AND ACI 318-95 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

MATERIALS:

A.S.T.M. A-615, GRADE 60 EXCEPT STIRRUPS AND TIES #4 AND SMALLER MAY BE GRADE 40. A.S.T.M. A-185.

PLACE REINFORCEMENT CONTINUOUS WITH SPLICES STAGGERED. UNLESS OTHERWISE DETAILED. LAP BARS AS FOLLOWS: CONCRETE: SECTION 1912A & 1921A.5.4

HOLD REINFORCEMENT IN ITS TRUE POSITION WITH DEVICES SUFFICIENTLY NUMEROUS TO PREVENT DISPLACEMENT BY OPERATIONS BEFORE AND DURING CONCRETE PLACEMENT.

USE CBC STANDARD HOOKS, BENDS AND CLEARANCES BETWEEN BARS, UNLESS OTHERWISE DETAILED.

MINIMUM CONCRETE COVER AROUND REINFORCEMENT: CONCRETE PLACED AGAINST EARTH .. FORMED, EXPOSED TO WEATHER OR EARTH. WALLS, BEAMS, COLUMN TIES OR SPIRALS. INTERIOR SUSPENDED SLABS AND JOISTS.. CONCRETE MASONRY FROM INSIDE SHELL

SUBMIT HEAT NUMBERS FOR ALL REINFORCEMENT INCLUDED IN THE WORK. WHERE WELDING OF REINFORCEMENT IS DETAILED ON THE DRAWINGS, SUBMIT QUALIFICATIONS AND CERTIFICATES FOR ALL WELDERS. SUBMIT WELDING PROCEDURES FOR APPROVAL BY THE ARCHITECT AND DSA.

FIELD BENDING OF REINFORCEMENT IS NOT PERMITTED.

CONNECTION TO NEW OR EXISTING CONCRETE:

THOROUGHLY SANDBLAST WITH COARSE SILICA SAND ALL CONSTRUCTION JOINTS TO CLEAN AND ROUGHEN THE ENTIRE JOINT, EXPOSING CLEAN COARSE AGGREGATE SOLIDLY EMBEDDED IN MORTAR MATRIX AND PAINT WITH A BONDING AGENT PRIOR TO PLACING NEW CONCRETE. COMPLY WITH THE PROVISIONS OF SECTION 1906A.4 AND 1911A.7.9.

SUBMIT MANUFACTURER'S DATA, INCLUDING ICBO ACCEPTANCE REPORTS, TO THE ARCHITECT AND DSA FOR APPROVAL.

INSTALL ALL FASTENERS PER THE MANUFACTURER'S RECOMMENDATIONS OR CBC REQUIREMENTS FOR PENETRATION, EMBEDMENT, SPACING, EDGE DISTANCE AND END DISTANCE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

POWDER DRIVEN FASTENER DESIGNATIONS SHOWN ON THE DRAWINGS REFER HILTI PRODUCTS UNLESS OTHERWISE NOTED. [ICBO REPORT #2388] WHERE I IS NOT OTHERWISE INDICATED ON THE DRAWINGS, PENETRATE 1-1/2" MINIMUM

INTO CONCRETE AND 1/2" MINIMUM INTO STEEL

THE OPERATOR, TOOL AND FASTENER SHALL BE PRE-QUALIFIED BY THE 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 POUNDS. 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 IN 10 PINS, EXCEPT THAT WHEN THE DESIGN LOAD EXCEEDS 100 POUNDS, ONE HALF OF THE PINS SHALL BE TESTED. SHOULD FAILURE OCCUR ON ANY PIN TESTED, ALL INSTALLATIONS MUST BE TESTED AND FAILED PINS REPLACED.

EXPANSION ANCHOR DESIGNATIONS SHOWN ON THE DRAWINGS REFER TO HILTI KWIK BOLT II PRODUCTS UNLESS OTHERWISE NOTED. [ICBO REPORT #4627] TIGHTEN NUTS OR BOLTS TO THE MANUFACTURER'S RECOMMENDED TORQUE.

SELF-DRILLING. SELF-TAPPING SCREWS DESIGNATIONS SHOWN ON THE DRAWINGS REFER TO TEKS PRODUCTS UNLESS OTHERWISE NOTED. USE THE SIZE INDICATED ON THE DRAWINGS AND THE TYPE APPROPRIATE TO THE MATERIALS BEING FASTENED AND THE STRUCTURAL COMPONENT BEING ATTACHED TO.

EPOXY ADHESIVES SHOWN ON THE DRAWINGS REFER TO COVERT INJECTION ADHESIVES BY COVERT OPERATIONS PRODUCTS UNLESS OTHERWISE NOTED. [ICBO REPORT #4846] EMBEDMENT AS NOTED ON THE DRAWINGS.

USE CEMENTITIOUS GROUT FOR ADHESIVE ADHERED ANCHORS OR DOWELS INTO NEW OR EXISTING CONCRETE. THE USE OF EPOXY ADHESIVES DOWELS TO EXISTING CONCRETE IS LIMITED TO INSTALLATIONS COMPLETELY ENCASED IN CONCRETE OR GROUT. SUBMIT SUBSTANTIATING DATA FOR THE EPOXY TO THE ARCHITECT AND DSA FOR APPROVAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. EMBED AS NOTED ON THE DRAWINGS.

FILL ABANDONED HOLES IN CONCRETE AND MASONRY WITH NON-SHRINK GROUT.

WHERE DETAIL NOTES INDICATED THAT EXISTING REINFORCING BARS SHALL NOT BE DAMAGED DURING DEMOLITION, EXISTING CONCRETE SHALL BE DEMOLISHED WITH CARE SUCH THAT EXISTING EMBEDDED CONCRETE REINFORCING SHALL NOT BE CUT AND SHALL REMAIN IN PLACE TO BE PART OF NEW CONSTRUCTION.

PRIOR TO DRILLING IN EXISTING CONCRETE MEMBERS. EXISTING REINFORCING LOCATIONS SHALL BE MAPPED. NOTIFY ENGINEER IF INTERFERENCE BETWEEN EXISTING REINFORCING AND DRILLED HOLES OCCUR. DO NOT CUT OR DAMAGE EXISTING REINFORCING BARS [U.O.N.]

CARPENTRY

COMPLY WITH THE PROVISIONS OF CHAPTER 23A. NFPA "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" 1991 EDITION. AND AITC "TIMBER CONSTRUCTION MANUAL"

LUMBER GRADING TO CONFORM TO WCLIB OR WWPA STANDARDS FOR THE SIZES SHOWN ON THE DRAWINGS. MOISTURE CONTENT NOT TO EXCEED 19% AT TIME OF INSTALLATION. USE PRESSURE TREATED LUMBER FOR SLEEPERS AND BEARING PLATES ON TOP OF ROOF FOR EQUIPMENT SUPPORT AND ROOF CURB, AND MEMBERS IN CONTACT WITH CONCRETE.

MATERIALS:

COMMON WIRE NAILS [U.O.N.] A.S.T.M. A-307 LAG BOLTS: MACHINE BOLTS: A.S.T.M. A-307 ANCHOR BOLTS: A.S.T.M. A-307 OR A.S.T.M. A-36 THREADED ROD: A.S.T.M. A-193, GRADE B7.

USE THE FOLLOWING DOUGLAS FIR-LARCH GRADES WHERE GRADES ARE NOT OTHERWISE INDICATED ON THE DRAWINGS:

STRUCTURAL JOIST AND PLANKS No. BEAMS AND STRINGERS POSTS AND TIMBERS PS-1, STRUCTURAL 1; EXPOSURE I PLYWOOD BLOCKING AND BRIDGING

EACH ANCHOR BOLT. SEE NOTE G.

SILL PLATES USE PRESERVATIVE PRESSURE TREATED DOUGLAS FIR-LARCH BEARING AN AWPB STAMP CONFORMING TO C2 OR C9 FOR WOOD OR PLYWOOD IN CONTACT WITH CONCRETE OR MASONRY. WHERE FASTENERS ARE NOT OTHERWISE INDICATED ON THE DRAWINGS, ANCHOR WITH 5/8"x 12" BOLTS AT 48"o.c.; 2 BOLTS MINIMUM PER PIECE. PLACE ONE BOLT 6" MINIMUM. 9" MAXIMUM FROM THE ENDS OF EACH PIECE. INSTALL SILL PLATES ON 1/2" MIN. LEVELING GROUT AT ALL BEARING AND SHEAR WALLS. USE 3/16 x 2" SQUARE (MIN.) PLATE WASHER AT

NAILING SCHEDULE - ALL MEMBERS THROUGHOUT BUILDING SHALL BE CONNECTED TOGETHER WITH NAILING LISTED IN TABLE NO. 23A-II-B-1 OF CBC, UNLESS A GREATER NUMBER ARE SHOWN OR CALLED FOR ELSEWHERE IN THE DRAWINGS. ALL NAILS SHALL BE COMMON WIRE NAILS.

PREDRILL HOLES FOR FASTENERS TO BE AS FOLLOWS:

HOLE SIZE NAILS: 3/4 DIAMETER IF NECESSARY TO PREVENT SPLITTING. DRILL FOR SHANK AND REDRILL FOR ROOT AT THREADS. LAG BOLTS: M.B. & THRD. RODS:1/16" LARGER THAN SHANK DIAMETER.

PLACE METAL WASHERS UNDER THE HEADS OF MACHINE BOLTS AND LAG BOLTS WHERE THEY WOULD OTHERWISE BEAR DIRECTLY ON WOOD: SQUARE OR ROUND SIZES AS FOLLOWS:

BOLT DIAMETER 2" x 1/4" 1/2" OR LESS 5/8" 2 1/4" x 1/4" 2 1/2" x 5/16" 2 3/4" x 5/16" 3/4" 3" x 3/8" 7/8" 3 1/4" x 3/8" 3 1/2" x 7/16" RETIGHTEN NUTS PRIOR TO CLOSING IN

METAL FRAMING CONNECTORS NUMBERS REFERRED TO ON THE DRAWINGS ARE THOSE OF THE SIMPSON COMPANY, SAN LEANDRO. WHEN SUBMITTING SUBSTITUTIONS, INCLUDE SUBSTANTIATING DATA WITH ITEMIZED COMPARISONS FOR REVIEW BY THE ARCHITECT AND DSA.

INSTALL PLYWOOD WITH SHEETS CENTERED ACCURATELY OVER SUPPORTING MEMBERS. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, LAY FACE GRAIN PERPENDICULAR TO SUPPORTS WITH END JOINTS STAGGERED. USE NO PIECES LESS THAN 24" x 24". USE 3x4 FLAT BLOCKING AT UNSUPPORTED EDGES WHERE INDICATED ON THE DRAWINGS AS BEING BLOCKED. WHERE FASTENING IS NOT OTHERWISE INDICATED ON THE DRAWINGS. FASTEN PLYWOOD WITH 10d COMMON WIRE NAILS PENETRATING THE FRAMING 1 5/8", SPACED AS FOLLOWS:

MIN. THICK **EDGES** 5/8" FLOORS 9"o.c. 6"o.c. 12"o.c. 1/2" 4"o.c. 12"o.c. ROOF 6"o.c.

MINIMUM WIDTH OF PLYWOOD SHEATHING: 24" AT ROOF & FLOOR; 12" AT WALLS. INSTALL STUD DEPTH BLOCKING, 6" NOM. MAX., AT ALL PLYWOOD EDGES IN SHEAR WALLS. USE BLOCKING 1" THICKER THAN SCHEDULED BLOCKING AT CONTINUOUS HORIZONTAL JOINTS. INSTALL 3x4 BLOCKING AT FLOORS AND

INSTALL CONTINUOUS STUD DEPTH BLOCKING BETWEEN STUDS AT 8'-0" o.c. MEASURED VERTICALLY.

PROVIDE 2" MINIMUM BEARING ON SUPPORTING WALLS OR BEAMS FOR ALL JOISTS AND RAFTERS, INSTALL 2" SOLID BLOCKING BETWEEN JOISTS AT SUPPORTS WITHOUT JOIST HANGERS. PROVIDE WOOD OR NAILABLE METAL CROSS BRIDGING BETWEEN JOISTS AND RAFTERS AT 8'-0"o.c. MAX. WHERE CROSS BRIDGING IS USED. THE LOWER ENDS OF SUCH CROSS BRIDGING SHALL BE DRIVEN UP AND NAILED AFTER FLOOR, SUB-FLOOR, OR ROOF HAS BEEN NAILED.

INSTALL ALL MEMBERS CONTINUOUS, WITHOUT SPLICES, BETWEEN SUPPORT POINTS UNLESS SHOWN OTHERWISE ON THE DRAWINGS

WHERE STUD SIZE AND SPACING FOR INTERIOR, NON-BEARING, NON-SHEAR WALLS ARE NOT OTHERWISE INDICATED ON THE DRAWINGS. SPACE STUDS AT 16"o.c. AND USE THE FOLLOWING SIZES:

UNSUPPORTED LENGTH

12'-0" TO LESS THAN 20'-0" UPSET BOLTS ARE NOT PERMITTED.

FASTENERS FOR PRESSURE - PRESERVATIVE TREATED AND FIRE RETARDANT TREATED WOOD SHALL BE OF HOT-DIPPED ZINC COATED GALVANIZED, STAINLESS STEEL, SILICON BRONZE OR COPPER. FASTENERS REQUIRED TO BE CORROSION RESISTANT SHALL BE EITHER ZINC-COATED FASTENERS. ALUMINUM ALLOY WIRE FASTENERS OR STAINLESS STEEL FASTENERS.

MACHINE APPLIED NAILING WILL BE ALLOWED ONLY UPON SUBMITTAL OF REQUEST TO THE ARCHITECT AND APPROVAL BY DSA. USE OF MACHINE APPLIED NAILING IS SUBJECT TO A SATISFACTORY JOB SITE DEMONSTRATION FOR EACH PROJECT AND THE APPROVAL BY THE PROJECT ARCHITECT OR STRUCTURAL ENGINEER AND DSA. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE, MACHINE NAILING IS NOT ALLOWED FOR 5/16" PLYWOOD IF NAIL HEADS PENETRATE THE OUTER PLIES MORE THAN WOULD BE NORMAL FOR A HAND HAMMER, OR IF THE MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED. THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY, MACHINE NAILING IS NOT PERMITTED WHERE PRESENCE OF SHINERS CANNOT BE DETECTED BY VISUAL OBSERVATION.

LIGHT GAGE METAL FRAMING SYSTEMS

COMPLY WITH THE PROVISIONS OF CHAPTER 22A AND AISI "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS"

MATERIALS: A.S.T.M. A-653

GALVANIZING: A.S.T.M. A-123 OR A-153 ALL OTHERS: A.S.T.M. A-570, GRADE 33 A.S.T.M. A-576, GRADE 1015 AND A.S.T.M. A-307 FITTINGS: THREADED RODS: A.S.T.M. A-193, GRADE B7

"UNISTRUT" BY UNISTRUT CORPORATION, WAYNE, MICHIGAN, SUBSTITUTIONS FOR REVIEW BY THE ARCHITECT AND DSA. SUBMIT DATA SUBSTANTIATING CONFORMANCE TO THE SIZES, GAGES AND FITTINGS

PART NUMBERS REFERRED TO ON THE DRAWINGS ARE THOSE OF

NOTED ON THE DRAWINGS.

INSTALL THE SIZE AND NUMBER OF FASTENERS PER MANUFACTURER'S RECOMMENDATIONS FOR EACH CONNECTOR UNLESS OTHERWISE NOTED.

TIGHTEN BOLTS AND NUTS TO STRUTS AND CONNECTORS TO THE FOLLOWING TORQUES:

TORQUE **BOLT OR ROD DIAMETER** 19 LB.-FT. 50 LB.-FT. 100 LB.-FT. 125 LB.-FT.

KL/R FOR SEISMIC BRACES AND RODS IN BRACE ASSEMBLIES MAY NOT EXCEED 200. SEE SCHEDULE FOR MAXIMUM LENGTHS AND STIFFENING REQUIREMENTS.

INSTALL ALL BOLT HEADS, NUTS AND THREADED RODS WITH 1 5/8"x1 5/8"x1/4" PLATE WASHERS UNLESS INSTALLED ON FLAT STEEL SURFACES IN HOLES 1/16" LARGER THAN BOLT DIAMETER.

METAL STUDS AND JOISTS

COMPLY WITH THE PROVISIONS OF CHAPTER 22A AND AISI "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" AND METAL STUD MANUFACTURERS ASSOCIATION ICBO E.R. No. 4943.

MATERIALS:

GALVANIZED STUDS: 14 AND 16 GA.: A.S.T.M. A-446, GRADE A OR D 18 GA. AND THINNER: A.S.T.M. A-446, GRADE A A.S.T.M. A 525 GALVANIZING:

CARBON STEEL STUDS 14 AND 16 GA.: A.S.T.M. A-570, GRADE 50 OR 33 18 GA. AND THINNER: A.S.T.M. A-570, GRADE 33

SUBMIT MANUFACTURER'S DATA. INCLUDING ICBO ACCEPTANCE REPORT. INDICATING COMPLIANCE WITH SECTION PROPERTIES LISTED ON THE DRAWINGS.

WHERE FASTENING OF MEMBERS IS NOT OTHERWISE INDICATED ON THE DRAWINGS. FASTEN AS FOLLOWS: MEMBER

STUDS TO TRACK EACH FLANGE: 1-#8 SCREW OR SPOT WELD JOIST TO TRACK WEB TO WEB: 3-#8 SCREWS USE 16 GA. x 12" BLOCKING W/3-#8 SCREWS JOIST TO STUD TOP TRACK SPLICES EACH FLANGE, EACH SIDE OF SPLICE

INSTALL CONTINUOUS END BLOCKING AT JOISTS ON TOP PLATES.

INSTALL BLOCKING AND DRAFT STOPS AT 10'-0"o.c. MAX. BETWEEN ALL STUDS. INSTALL LATERAL BRACING OF BOTH VERTICAL AND HORIZONTAL MEMBERS PER MANUFACTURER'S RECOMMENDATIONS.

WHERE STUD SIZES ARE NOT OTHERWISE INDICATED ON THE DRAWINGS, SPACE THE STUDS AT 16"o.c. AND USE THE FOLLOWING MSMA SIZES:

UNSUPPORTED LENGTH

LESS THAN 12'-0" 358IC25 LESS THAN 12'-0" $\triangle=1/240$ 12'-0" TO LESS THAN 24'-0" $\triangle=1/240$ 600IC20 WHERE HEADER SIZES ARE NOT OTHERWISE INDICATED ON THE DRAWINGS, USE

THE FOLLOWING:

2 -3 5/8" x 16 GA. AND 2-16 GA. TRACKS 2-6" x 16 GA. AND 2-16 GA. TRACKS

ALL MEMBERS ARE TO BE CONTINUOUS, WITHOUT SPLICES, BETWEEN SUPPORT POINTS, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

JOBSITE OBSERVATIONS:

STUD SIZE AND GAGE

COORDINATE WITH THE ARCHITECT AND THE DSA FIELD ENGINEER TO ARRANGE FOR THE FOLLOWING STRUCTURAL OBSERVATIONS. PER SECTION 1701A CCR:

FOUNDATION CONCRETE PRIOR TO THE FIRST POUR.

SLAB ON GRADE CONCRETE PRIOR TO FIRST SLAB POUR.

STRUCTURAL STEEL AND METAL DECK AFTER SUBSTANTIAL COMPLETION AND PRIOR TO CLOSING IN BY SUBSEQUENT CONSTRUCTION.

TESTING & INSPECTION:

COORDINATE WITH THE INDEPENDENT INSPECTION AGENCY DESIGNATED BY THE ARCHITECT TO PERFORM THE INSPECTIONS LISTED IN SPECIFICATION AND STRUCTURAL TESTS & INSPECTIONS LIST [FORM SSS 103-1]

C 26311

AssociatesArchitects

REVISIONS

NO. ITEM CONSTRU' CONSTRUCTION 6/10/0 CONFORM SET 9/9/04

CLIENT APPROVAL:

DRAWN BY: CHECKED BY: 2145.002 06 FEB. 2004