

STRUCTURAL NOTES (CONT.)

J. REINFORCED CONCRETE - GENERAL:

1. CONCRETE CONSTRUCTION SHALL CONFORM WITH CHAPTER 19 OF THE BUILDING CODE AND TO THE PROVISIONS OF ACI 318.

2. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

3. WATER MAY BE ADDED TO CONCRETE ON-SITE TO OBTAIN SPECIFIED SLUMPS PROVIDED THAT IT IS ADDED WITHIN ONE HOUR OF BATCHING AND SITE-ADDED WATER IS SPECIFIED ON THE BATCH REPORT. SITE-ADDED WATER SHALL NOT COMPROMISE THE STRENGTH OR SLUMP OF THE CONCRETE.

4. CONCRETE SHALL NOT BE PLACED BEYOND 1-1/2 HOURS FOLLOWING BATCHING.

5. PROJECTING CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC., SHALL BE FORMED WITH A 3/4" CHAMFER U.O.N.

6. WHERE CONCRETE IS PLACED AGAINST EXISTING CONCRETE SURFACES, THE EXISTING CONCRETE SURFACES SHALL BE THOROUGHLY CLEANED AND ROUGHENED TO A MINIMUM AMPLITUDE OF ¼-INCH. A CONCRETE BONDING AGENT SHALL BE APPLIED TO THE EXISTING CONCRETE SURFACE.

7. CONDUIT, PIPES OR DUCTS SHALL NOT BE PLACED IN CONCRETE SLABS UNLESS SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER. SLEEVES FOR OPENINGS IN CONCRETE SHALL BE INSTALLED BEFORE PLACING. REINFORCING WHICH MAY CONFLICT SHALL NOT BE CUT UNLESS APPROVED IN WRITING BY THE ENGINEER.

8. SURFACE PROFILE TOLERANCES OF FLOORS SHALL BE MEASURED, PRIOR TO APPLICATION OF POST-TENSIONING LOADS OR REMOVAL OF SHORING, IN ACCORDANCE WITH ASTM E 1155. IN NO CASE, SHALL MEASUREMENTS OCCUR LATER THAN 72 HOURS AFTER CONCRETE FINISHING. FLOORS SHALL CONFORM TO THE FOLLOWING TOLERANCES:

F-NUMBER	SPECIFIED OVERALL VALUE	MINIMUM LOCAL VALUE
FLATNESS	SOF <sub>F</sub> = 25	MLF <sub>F</sub> = 15
LEVELNESS	SOF <sub>L</sub> = 20	MLF <sub>L</sub> = 12

9. THE SPECIFIED FLATNESS AND LEVELNESS VALUES ARE CONSISTENT WITH A "MODERATELY FLAT" CLASSIFICATION IN ACCORDANCE WITH ACI 117. IN FLOOR AREAS WHERE OCCUPANT PERCEPTION OR THE APPLICATION OF FINISHES DICTATES MORE STRINGENT PROFILES, A FLOOR-LEVELING AGENT MAY BE APPLIED (AVERAGE ALLOWABLE THICKNESS = ¼ INCH; MAXIMUM ALLOWABLE LOCAL THICKNESS = 1½ INCHES)

10. CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR A MINIMUM OF 7 DAYS AFTER ITS PLACEMENT. APPROVED CURING COMPOUNDS MAY BE USED IN LIEU OF MOIST CURING.

K. CONCRETE MIX REQUIREMENTS:

1. READY MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C 94.

2. PORTLAND CEMENT SHALL CONFORM TO ASTM C 150 TYPE I OR II, LOW ALKALI.

3. SLAG CEMENT SHALL CONFORM TO ASTM C 989, GRADE 100 OR 120.

4. FLY ASH SHALL CONFORM TO ASTM C 618, CLASS F.

5. POZZOLANS, INCLUDING SLAG CEMENT AND FLY ASH, SHALL BE LIMITED TO THE FOLLOWING PERCENTAGES OF THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS IN THE CONCRETE, U.O.N.

FOUNDATIONS	20%
SLABS ON GRADE	20%

6. EXPANSIVE HYDRAULIC CEMENT FOR SHRINKAGE-COMPENSATING CONCRETE SHALL CONFORM TO ASTM C 845. ALTERNATIVELY, WHEN APPROVED IN WRITING BY THE ENGINEER, SHRINKAGE COMPENSATING CONCRETE MAY BE ACHIEVED BY USE OF A SHRINKAGE-REDUCING CHEMICAL ADMIXTURE.

7. AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C 33.

8. NORMAL WEIGHT CONCRETE SHALL HAVE A MAXIMUM DRY DENSITY OF 150 pcf.

9. CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY AND APPROVED BY THE ENGINEER. MIX PROPORTIONS SHALL CONFORM WITH ACI 301.

10. CONCRETE MIXES SHALL CONFORM TO THE FOLLOWING MAXIMUM GLOBAL WARMING POTENTIAL (GWP) LIMITS OF kg CO<sub>2</sub>eq / m<sup>3</sup> DETERMINED AS A WEIGHTED AVERAGE FOR CONCRETE USED UNDER THIS PERMIT. NOTE THAT LIMITS FOR HIGH-EARLY STRENGTH READY MIXED CONCRETE MAY BE DETERMINED USING VALUES AT 130 PERCENT OF THE FOLLOWING VALUES:

DESCRIPTION	MIN 28 DAY f'c	SLUMP	MAX W/C RATIO
SHALLOW FOUNDATIONS	3.0 KSI	4" +/- 1"	0.52
SLAB ON GRADE	3.0 KSI	4" +/- 1"	0.45
OTHER CONCRETE	3.0 KSI	4" +/- 1"	0.50

11. MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS, MAXIMUM SLUMPS, AND MAXIMUM WATER/CEMENT RATIOS SHALL BE AS FOLLOWS:

DESCRIPTION

MAX GWP

SHALLOW FOUNDATIONS

566

SLAB ON GRADE

566

OTHER CONCRETE

566

12. ADMIXTURES SHALL BE APPROVED IN ADVANCE. ADMIXTURES CONTAINING CHLORIDE OR CHLORIDE SALTS SHALL NOT BE USED EXCEPT WHERE APPROVED IN WRITING BY THE ENGINEER.

13. SLUMPS INDICATED ARE PRIOR TO PLASTICIZER ADDITIVES.

14. CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED.

L. CONCRETE SLAB-ON-GRADE:

1. CONSTRUCTION OR CONTROL JOINTS IN SLABS-ON-GRADE SHALL BE PROVIDED AS INDICATED. THE LOCATIONS OF JOINTS NOT SPECIFICALLY INDICATED SHALL BE REVIEWED BY THE ENGINEER AND APPROVED BY THE ARCHITECT. JOINTS SHALL ALIGN WITH RE-ENTRANT CORNERS OF THE SLAB.

2. THE CONCRETE SLAB-ON-GRADE THICKNESS SHOWN IS THE MINIMUM REQUIRED THICKNESS. FLOORS SHALL BE MONITORED BY TRANSIT LEVEL OR LASER DURING PLACEMENT TO MAINTAIN LEVEL FLOOR.

3. SURFACE PROFILE TOLERANCES OF SLABS-ON-GRADE SHALL BE MEASURED, PRIOR TO APPLICATION OF POST-TENSIONING LOADS OR REMOVAL OF SHORING, IN ACCORDANCE WITH ASTM E 1155. IN NO CASE SHALL MEASUREMENTS OCCUR LATER THAN 72 HOURS AFTER CONCRETE FINISHING. FLOORS SHALL CONFORM TO THE FOLLOWING TOLERANCES:

F-NUMBER	SPECIFIED OVERALL VALUE	MINIMUM LOCAL VALUE
FLATNESS	SOF <sub>F</sub> = 25	MLF <sub>F</sub> = 15
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4. THE SPECIFIED FLATNESS AND LEVELNESS VALUES ARE CONSISTENT WITH A "MODERATELY FLAT" CLASSIFICATION IN ACCORDANCE WITH ACI 117. IN FLOOR AREAS WHERE OCCUPANT PERCEPTION OR THE APPLICATION OF FINISHES DICTATES MORE STRINGENT PROFILES, A FLOOR-LEVELING AGENT MAY BE APPLIED (AVERAGE ALLOWABLE THICKNESS = ¼ INCH; MAXIMUM ALLOWABLE LOCAL THICKNESS = 1½ INCHES)

M. COLD-FORMED STEEL DECK:

1. COLD-FORMED STEEL DECK SHALL BE OF THE TYPE AND GAUGE AS INDICATED ON THE DRAWINGS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND PUBLISHED EVALUATION REPORT.

2. COLD-FORMED STEEL DECK AND ACCESSORIES SHALL BE FORMED FROM STEEL SHEETS CONFORMING TO ASTM A 653SS OR ASTM A 1063SS, GRADE 50 MINIMUM, WITH GALVANIZED COATING DESIGNATION G60.

3. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

4. COLD-FORMED STEEL FLOOR DECK SHALL BE FACTORY VENTED WHERE STRUCTURAL CONCRETE FILL OCCURS, AND AT ROOF DECK WHEN INSULATING CONCRETE FILL IS USED, U.O.N.

5. COLD-FORMED STEEL DECK SHALL BE CONTINUOUS OVER THREE SPANS WHEREVER POSSIBLE. SHORE DECK IF RECOMMENDED BY THE MANUFACTURER, MINIMUM BEARING AT ENDS IS 2".

6. WHERE 3/4" DIAMETER SHEAR STUDS ARE TO BE WELDED TO SUPPORTS, 18 GAUGE (OR THICKER) DECKING SHALL NOT BE LAPPED.

7. CONTRACTOR SHALL CUT DECK PER STRUCTURAL DETAILS AT ALL OPENINGS, COLUMNS, AND REQUIRED PENETRATIONS AND SHALL SUPPLY NECESSARY ACCESSORY ITEMS SUCH AS CLOSURES, CLIPS, ETC.

8. HANGERS SUPPORTED BY COLD-FORMED STEEL DECKING ONLY OR COLD-FORMED STEEL DECKING WITH INSULATING FILL SHALL BE ATTACHED TO STEEL BARS, 3/8" ROUND X 12" OR 1/8" X 12" FLAT, PLACED PERPENDICULAR TO FLUTES. ONLY LIGHT DUCTWORK (12" X 16" MAX.), (1-1/2" ROUND PIPING MAX.), OR CEILING MAY BE HUNG FROM SUCH INSTALLATIONS. MAXIMUM WEIGHT PER HANGER SHALL NOT EXCEED 75 LBS. HANGERS MUST BE AT LEAST TWO FLUTES APART ON THE SAME SPAN.

N. COLD-FORMED STEEL FRAMING:

1. COLD-FORMED STEEL FRAMING SHALL BE FROM A STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) APPROVED SUPPLIER AND CONFORM TO ICC #ER-3064P.

2. COLD-FORMED STEEL FRAMING SHALL BE GALVANIZED (G60) [(G90)], AND CONFORM TO ASTM A 653 AS FOLLOWS:

STUDS & TRACK - 43 MILS (18GA) & LIGHTER	GRADE 33
STUDS & TRACK - 54 MILS (16GA) & HEAVIER	GRADE 50
CLIP ANGLES - ALL GAUGES	GRADE 33

3. COLD-FORMED STEEL FRAMING SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AISI SPECIFICATION FOR DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS. STUD MEMBERS SHALL HAVE PUNCHED WEBS.

4. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

5. ACCESSORIES INCLUDING, BUT NOT NECESSARILY LIMITED TO, TRACKS, CLIPS, WEB STIFFENERS, ANCHORS, FASTENING DEVICES, RESILIENT CLIPS AND OTHER ACCESSORIES REQUIRED SHALL BE INCLUDED FOR A COMPLETE AND PROPER INSTALLATION, AS RECOMMENDED BY THE MANUFACTURER FOR THE STEEL MEMBERS USED.

6. TOP AND BOTTOM TRACKS SHALL BE 54 MILS (16 GAUGE) WITH 1-1/4 INCH FLANGES, U.O.N.

7. STUDS SHALL BE INSTALLED WITH THEIR BEARING ENDS POSITIONED FLUSH AGAINST THE INSIDE TRACK WEB, U.O.N.

8. FULL HEIGHT DOUBLE STUDS SHALL BE PROVIDED AT THE ENDS OF PARTITIONS, AT ALL WALL OPENINGS, AND AT OTHER LOCATIONS SHOWN ON THE PLANS.

9. SHOTPINS SHOWN FOR CONNECTIONS TO CONCRETE, CMU OR CONCRETE TOPPING SHALL BE HILTI X-P 34 P8, ICC #ESR-2269, OR EQUAL. MINIMUM SPACING 4 INCHES MINIMUM EDGE DISTANCE 3 INCHES

10. SHOTPINS SHOWN FOR CONNECTIONS TO UNDER SIDE OF COLD-FORMED STEEL DECK ABOVE WITH CONCRETE FILL SHALL BE HILTI HILTI X-P 34 P8, ICC #ESR-2269, OR EQUAL. MINIMUM SPACING 1-1/2 INCHES OC MINIMUM EDGE DIST. (W-DECK) 1-1/8 INCH MINIMUM EDGE DIST. (B-DECK) 7/8 INCH

11. SHOTPINS SHOWN FOR CONNECTIONS TO STRUCTURAL STEEL FRAMING OR DECK CLOSURE PLATE SHALL BE HILTI X-U 16 P8, ICC #ESR-2269, OR EQUAL. FASTENER LENGTH SHALL PENETRATE THROUGH THE STRUCTURAL STEEL SAVEDS

12. THICKNESS. MINIMUM SPACING 1-1/2 INCHES OC MINIMUM EDGE DISTANCE 1/2 INCH

13. FLOOR AND/OR CEILING JOISTS SHALL HAVE THE SAME ON-CENTER SPACING AS THE WALL STUDS, AND JOISTS SHALL BE ALIGNED DIRECTLY OVER STUDS SO AS TO AVOID BENDING IN THE WALL TOP TRACK.

14. FASTENINGS OF COMPONENTS SHALL BE WITH ITW BUILDEX TEKS #10 SELF-DRILLING SCREWS, U.O.N. PER ICC #ESR-1976, OR EQUAL. MINIMUM SPACING 1-1/2 INCHES OC MINIMUM EDGE DISTANCE 1/2 INCH

15. SHEATHING SHALL BE ATTACHED TO BOTH FACES OF METAL WALL STUDS THROUGHOUT THEIR LENGTH, U.O.N. PROVIDE LATERAL BRACING WHERE SHEATHING DOES NOT OCCUR.

O. ROUGH CARPENTRY:

1. FRAMING LUMBER SHALL BE DOUGLAS FIR LARCH, GRADE-MARKED BY AN AGENCY LISTED AS ACCREDITED BY THE DEPARTMENT OF COMMERCE IN DOC PS20, ACCORDING TO PLIBWCLIB OR WHPA GRADING RULES, U.O.N:

BLOCKING

NO. 1

2. THE MOISTURE CONTENT OF DIMENSION LUMBER SHALL NOT EXCEED 19 PERCENT AT THE TIME OF INSTALLATION, U.O.N.

3. THE MOISTURE CONTENT OF DIMENSION LUMBER THAT SUPPORTS MORE THAN TWO LEVELS ABOVE SHALL NOT EXCEED 15 PERCENT AT THE TIME OF INSTALLATION.

4. FRAMING HARDWARE IS INDICATED AS MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY. ALTERNATIVELY, USP STRUCTURAL CONNECTORS BY MITEK BUILDING PRODUCTS MAY BE SUBSTITUTED WHEN APPROVED IN WRITING BY THE ENGINEER PRIOR TO DELIVERY TO THE JOBSITE. REQUEST FOR APPROVAL OF ALTERNATE MANUFACTURERS PRODUCTS SHALL INCLUDE AN ITEM-BY-ITEM COMPARISON OF LOAD-CARRYING CAPACITIES BETWEEN THE PROPOSED SUBSTITUTE PRODUCTS AND THE SPECIFIED PRODUCTS.

5. NAILS SHALL BE COMMON WIRE CONFORMING TO THE FOLLOWING PROPERTIES. NAILS EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED, U.O.N.

DRAWING DESIGNATION	SHANK DIAMETER	MIN. PENETRATION
8d	0.113 IN	1-3/8 IN
8d	0.131 IN	1-9/16 IN
10d	0.148 IN	1-13/16 IN
16d	0.162 IN	2 IN

6. NAILING SHALL CONFORM TO TABLE 2304.10.2 OF THE BUILDING CODE, U.O.N.

DSA

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STRUCTURAL NOTES

SAN DIEGO UNIFIED SCHOOL DISTRICT  
KITCHEN MODIFICATIONS GROUP 6  
BELL MIDDLE SCHOOL  
620 BRIARWOOD RD.  
SAN DIEGO, CA 92139  
BID SET

PROJECT NO.

SDUF-002

DATE

04/12/25

REVISIONS

1 04/23/25

SHEET NO.

1 50.2

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