

STRUCTURAL NOTES

THESE NOTES ARE PROVIDED AS A CONVENIENCE TO THE CONTRACTOR AND ARE NOT A SUBSTITUTE FOR THE PROJECT SPECIFICATIONS. IF CONFLICTS ARISE BETWEEN THE SPECIFICATIONS AND THESE NOTES, THE SPECIFICATIONS SHALL GOVERN.

GENERAL

- 1. THESE STRUCTURAL MODIFICATIONS WERE DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (IBC 2006) LATEST EDITION.
2. ALL CONSTRUCTION SHALL CONFORM TO THE BUILDING CODE AND TO OSHA STANDARDS. WORK STRUCTURAL DRAWINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
3. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS AND FOR SAFETY CONDITIONS AT THE SITE.
4. CONTACT ENGINEER WITH ANY QUESTIONS OR DISCREPANCIES FOUND ON THESE DRAWINGS.
5. ELECTRONIC FILES CAN BE MADE AVAILABLE FOR \$75/SHEET WITH A FULLY EXECUTED RELEASE OF LIABILITY AGREEMENT (CASE DOCUMENT 1). SHOP DRAWINGS UTILIZING ANY ELECTRONIC FILES WILL NOT BE REVIEWED UNTIL PAYMENT IS MADE IN FULL.
6. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. CONTRACTOR SHALL ALLOW FOR 2 WEEKS REVIEW TIME. ALL SUBMITTALS SHALL BE REVIEWED BY THE CONTRACTOR AND CONTAIN A STAMP WITH HIS SIGNATURE. CONTRACTOR SHALL NOT BE RELIEVED FROM HIS RESPONSIBILITY FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS IF MISSED IN THE REVIEW BY THE ENGINEER. SHOP DRAWINGS SHALL INCLUDE GENERAL ARRANGEMENT, APPLICABLE DETAILS, ALL CONNECTIONS, MATERIAL CUT SHEETS, ETC.
7. TEMPORARY BRACING OF THE STRUCTURE DURING CONSTRUCTION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. TEMPORARY BRACING OF THE STRUCTURE SHALL REMAIN IN PLACE UNTIL ALL SUPPORTING ELEMENTS ARE INSTALLED. CONTRACTOR SHALL DESIGN AND COORDINATE LOCATIONS OF TEMPORARY BRACING WITH OTHER CONTRACTORS.
8. COORDINATE FINAL SIZES AND LOCATIONS OF ALL OPENINGS WITH ARCHITECT AND MECHANICAL CONTRACTOR PRIOR TO ANY FABRICATION AND SLAB REMOVAL. IF FINAL LOCATIONS AND SIZES OF OPENINGS VARY BY MORE THAN 2" CONTACT ENGINEER.
9. CONTRACTOR SHALL FIELD MEASURE ALL EXISTING CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCY, CHANGES IN SYSTEM OR CONDITION.

DESIGN LOAD INFORMATION

1. ROOF DESIGN LOADS:

Table with 2 columns: Load Type and Value. Includes LIVE LOAD (LL=20 PSF), DEAD LOAD (DL=5 PSF), SNOW LOAD (PT=0 PSF), SNOW DRIFTING (NONE), UNBALANCED SNOW LOAD (NONE), RAIN-ON-SNOW SURCHARGE (5 PSF), RAIN LOAD (NONE).

2. SPECIAL LIVE LOADS

HANDRAIL DESIGN LOAD LL=90 PLF IN EITHER VERTICAL OR HORIZONTAL DIRECTION
LL=200 LBS IN EITHER VERTICAL OR HORIZONTAL DIRECTION

3. WIND LOAD:

Table with 2 columns: Parameter and Value. Includes BASIC WIND SPEED (10 MPH), IMPORTANCE FACTOR (I=1.0), MAIN WIND FORCE RESISTING SYSTEM EXPOSURE (C), COMPONENTS & CLADDING EXPOSURE (C), COMPONENTS & CLADDING DESIGN PRESSURES (WALLS/WINDOWS ROOF), INTERIOR PARTITION (V=100 KIPS), WIND BASE SHEARS (MWFRS) (VY=60 KIPS).

4. SEISMIC DESIGN CRITERIA:

Table with 2 columns: Parameter and Value. Includes OCCUPANCY IMPORTANCE FACTOR (I=1.0), MAPPED SPECTRAL RESPONSE ACCELERATION (Ss=0.321, S1=0.106), SITE CLASS (D), SPECTRAL RESPONSE COEFFICIENT (SDS=0.235, SD1=0.168), SEISMIC DESIGN CATEGORY (C), BASIC SEISMIC-FORCE RESISTING SYSTEM: DESIGN BASE SHEAR (MOMENT FRAME), SEISMIC RESPONSE COEFFICIENT (Vx=14 KIPS), RESPONSE MODIFICATION FACTOR (R=5), ANALYSIS PROCEDURE (EQUIVALENT LATERAL FORCE), SEISMIC USE GROUP (II), COMPLIANCE WITH SECTION 1616.4 ONLY (NO), ARCHITECTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS ANCHORED (NO).

5. LATERAL DESIGN CONTROL WIND (SEE PEMB)

6. FOUNDATIONS - SEE FOUNDATION INFORMATION BELOW FOR DESIGN PRESSURE.

FOUNDATIONS

- 1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE SOILS REPORT PREPARED BY SOUTHERN EARTH SCIENCES DATED 9/4/07.
2. FOUNDATIONS HAVE BEEN DESIGNED FOR MINIMUM NET ALLOWABLE SOIL BEARING PRESSURE = 3000 PSF.
3. SPECIAL CONSIDERATIONS MUST BE FOLLOWED AS OUTLINED IN THE ABOVE SOILS REPORT AND AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN THE SOILS REPORT FROM THE ARCHITECT OR OWNER AND BE FAMILIAR WITH THE RECOMMENDATIONS THAT ARE PART OF THE REPORT. ALL MUST BE FOLLOWED UNLESS WRITTEN DIRECTION IS GIVEN FROM THE ENGINEER.
4. RETAINING WALL LATERAL EQUIVALENT FLUID HEIGHTS: EQUIVALENT ACTIVE FLUID HEIGHT = 45 PCF, EQUIVALENT PASSIVE FLUID HEIGHT = 205 PCF, EQUIVALENT AT REST FLUID HEIGHT = 55 PCF.
5. NOTIFY SOILS ENGINEER IF SOFT OR ORGANIC MATERIAL IS ENCOUNTERED PRIOR TO PROCEEDING WITH WORK.
6. MINIMUM FOUNDATION DEPTH: 2'-0" (STEP AS REQUIRED TO MAINTAIN THIS DEPTH).
7. ALL FOUNDATION PADS SHALL BE CENTERED BELOW COLUMNS UNLESS NOTED OTHERWISE.
8. ALL FOOTING EXCAVATIONS NOT PLACED WITH CONCRETE ON THE SAME DAY OF EXCAVATION SHALL BE PROTECTED BY A 3" THICK MID SLAB (OF CONCRETE). WHERE USED, THE CONCRETE MID SLAB SHALL NOT DECREASE THE FOOTING DEPTH AS SPECIFIED IN THE FOOTING SCHEDULE FOR THE RESPECTIVE FOOTING.
9. TOP OF FOOTING ELEVATIONS SHOWN ON PLANS ARE MINIMUMS AND MAY VARY DUE TO SITE OR UTILITY CONDITIONS. CONTINUOUS WALL FOOTINGS MAY BE LOWERED FROM PLAN ELEVATIONS TO SUIT SITE OR UTILITY CONDITIONS BY STEPPING AT A RATE OF 1" VERTICAL TO 2" HORIZONTAL. SEE THE TYPICAL STEPPED FOOTING DETAIL. IN CASE SHALL THE TOP OF FOOTING ELEVATIONS BE HIGHER THAN NOTED.

SITE WORK

- 1. ALL EXISTING TOPSOIL, FILL, VEGETATION, ASPHALT, GRAVEL AND ANY DISTURBED SOILS SHALL BE STRIPPED FROM WITHIN THE PROPOSED BUILDING AREAS.
2. AFTER STRIPPING AND RELOCATING EXISTING GRAVING, ALL AREAS WHICH PROVIDE SUPPORT FOR THE FOUNDATIONS, FLOOR SLAB AND STRUCTURAL FILL SHALL BE CAREFULLY INSPECTED FOR SOFT SOILS AND PROOFROLLED WITH A 25 TON TO 35 TON FOUR-WHEELED, RUBBER TIRE ROLLER, A DUMP TRUCK OR SIMILAR APPROVED EQUIPMENT. THE PROOFROLLER SHALL MAKE AT LEAST FOUR PASSES OVER EACH LOCATION, WITH THE LAST 2 PASSES PERPENDICULAR TO THE FIRST 2. ANY AREAS WHICH HAVE, RUT OR DEFLECT EXCESSIVELY AND CONTINUE TO DO SO AFTER SEVERAL PASSES OF THE PROOFROLLER SHALL BE UNDERGUT TO FIRMER SOILS.
3. ALL UNDERGUT AREAS SHALL BE BACKFILLED IN THIN LIFTS WITH SUITABLE COMPACTED FILL MATERIALS.
4. PROOFROLLING AND UNDERCUTTING OPERATIONS SHALL BE CAREFULLY MONITORED BY AN EXPERIENCED TECHNICIAN WORKING UNDER THE DIRECT SUPERVISION OF A GEOTECHNICAL ENGINEER.
5. CONTRACTOR SHALL BE PREPARED TO PROMPTLY REMOVE ANY SURFACE WATER, PERCHED WATER OR GROUNDWATER FROM THE CONSTRUCTION AREA.
6. NEW COMPACTED FILL OVERLYING UNDISTURBED RESIDUAL SOILS SHALL BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR D95T MAXIMUM DRY DENSITY. FILL SOILS USED SHALL BE FREE OF DEBRIS AND HAVE LESS THAN 5% (BY WEIGHT) FIBROUS ORGANIC MATERIAL. FILL SOILS SHALL ALSO HAVE A PLASTICITY INDEX (PI) LESS THAN 5. SHALL BE USED FOR STRUCTURAL FILL (ASTM D1525 AND ASTM D424). PLASTIC CLAYS SOILS, NET OR ORGANIC SOILS SHALL NOT BE USED. THE UPPER 18" OF SUBGRADE FILL BENEATH FLOOR SLABS SHALL BE COMPACTED TO 100% OF THE SAME SPECIFICATION.
7. ALL BACKFILL BEHIND RETAINING WALLS SHALL BE COURSE AGGREGATE BASE, GRANULAR AND FREE DRAINING. ON SITE SOILS MAY NOT BE USED. PLACE MATERIAL IN 4" TO 6" LOOSE LIFTS. CONTACT BY MAKING SEVERAL PASSES OVER EACH SECTION WITH A LIGHTWEIGHT WALK BEHIND ROLLER OR PLATE TYPE COMPACTOR. DO NOT OVERCOMPACT. A GEOTECHNICAL ENGINEER SHALL VISUALLY EVALUATE THE MATERIAL.
8. IN SITE AREAS WHERE SEVERAL FEET OF STRUCTURAL FILL WILL BE PLACED TO ACHIEVE PROPOSED GRADES, THE CONSTRUCTION SHALL BE DELAYED TO ALLOW TIME FOR THE UNDERLYING SOILS AND FILL TO "SETTLE OUT" AS THEY ADJUST TO THE OVERLYING WEIGHT OF MATERIALS. IN THE DEEPEST FILL AREAS, A PERIOD OF SEVERAL WEEKS MAY BE REQUIRED (AS DETERMINED BY A GEOTECHNICAL ENGINEER) FOR THIS ADJUSTMENT. SETTLEMENT PINS SHALL BE INSTALLED AT THE TIP OF THE FILL AND MONITORED WITH A PRECISION LEVEL TO DETERMINE WHEN SETTLEMENTS ARE NEGLIGIBLE AND CONSTRUCTION COULD BEGIN. THIS WORK SHALL BE UNDER THE DIRECTION OF THE GEOTECHNICAL ENGINEER.
9. BEFORE FILLING OPERATIONS BEGIN, REPRESENTATIVE SAMPLES OF THE PROPOSED FILL MATERIAL SHALL BE COLLECTED AND TESTED TO DETERMINE THE COMPACTION AND CLASSIFICATION CHARACTERISTICS. THE MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT SHALL BE DETERMINED. ONCE COMPACTION BEGINS, A SUFFICIENT NUMBER OF DENSITY TESTS SHALL BE PERFORMED BY AN EXPERIENCED ENGINEERING TECHNICIAN WORKING UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER TO MEASURE THE DEGREE OF COMPACTION BEING OBTAINED.
10. THE TOP WIDTH OF THE STRUCTURAL FILL SHALL EXTEND HORIZONTALLY AT LEAST 10' BEYOND THE OUTSIDE EDGE OF THE BUILDING FOUNDATIONS BEFORE SLOPING OR A DISTANCE EQUIVALENT TO THE HEIGHT OF FILL TO BE PLACED, WHICHEVER IS GREATER. THE SURFACE OF ALL PERMANENT FILL SLOPES SHALL BE CONSTRUCTED AT A 2.5:1 (HORIZONTAL TO VERTICAL) OR FLATTER AND THE SLOPES ADEQUATELY COMPACTED. FILL SLOPE SURFACES SHALL BE PROTECTED FROM EROSION BY VEGETATION OR OTHER ACCEPTABLE MEANS.
11. THE SURFACE OF COMPACTED SUBGRADE SOILS CAN DETERIORATE AND LOSE ITS SUPPORT CAPABILITY (AS DETERMINED BY A GEOTECHNICAL ENGINEER) FOR THIS ADJUSTMENT. SETTLEMENT PINS SHALL BE DETERMINED. ONCE COMPACTION BEGINS, A SUFFICIENT NUMBER OF DENSITY TESTS SHALL BE PERFORMED BY AN EXPERIENCED ENGINEERING TECHNICIAN WORKING UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER TO MEASURE THE DEGREE OF COMPACTION BEING OBTAINED.
12. THE SURFACE OF COMPACTED SUBGRADE SOILS CAN DETERIORATE AND LOSE ITS SUPPORT CAPABILITY (AS DETERMINED BY A GEOTECHNICAL ENGINEER) FOR THIS ADJUSTMENT. SETTLEMENT PINS SHALL BE DETERMINED. ONCE COMPACTION BEGINS, A SUFFICIENT NUMBER OF DENSITY TESTS SHALL BE PERFORMED BY AN EXPERIENCED ENGINEERING TECHNICIAN WORKING UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER TO MEASURE THE DEGREE OF COMPACTION BEING OBTAINED.

GRANULAR BASE AND BACKFILL MATERIAL

- 1. GRANULAR BASE AND BACKFILL MATERIAL SHALL BE BANK RUN GRAVEL OR SAND, OR PROCESSED STONE MEETING THE GRADATION CRITERIA OF ASTM D-2487 FOR WELL-GRADED GRAVELS (GW) OR SAND (SW OR SP). MAXIMUM PARTICLE SIZE SHALL PASS A 2 INCH SIEVE.
2. THE MATERIAL SHALL CONTAIN LESS THAN 15 PERCENT FINES PASSING THE NO. 200 SIEVE, AND SHALL HAVE A MAXIMUM INDEX OF SIX.
3. GRANULAR MATERIAL FOUND ON THE SITE MAY BE USED FOR BACKFILL MATERIAL SUBJECT TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER.

CONCRETE FORMWORK

- 1. THE DESIGN AND CONSTRUCTION OF ALL FORMWORK SHALL CONFORM TO THE LATEST EDITION OF ACI "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK ACI-347.
2. CONSTRUCT FORMWORK SO CONCRETE MEMBERS AND STRUCTURES ARE OF SIZE, SHAPE, ALIGNMENT, ELEVATION, AND POSITION INDICATED, WITHIN TOLERANCE LIMITS OF ACI IT.
3. FORMS FOR CONCRETE WORK SHALL BE FABRICATED FROM SMOOTH, UNDAMAGED PLYWOOD, METAL OR MULTILAYER FIBERGLASS FORMS. FORMS SHALL BE OF ADEQUATE GAGE OR THICKNESS TO SUPPORT THE WEIGHT OF WET CONCRETE AND PROPERLY BRACED TO MINIMIZE DEFLECTION FOR THE PROPER APPEARANCE OF THE FINISHED CONCRETE.
4. FORMWORK AND SUPPORTS SHALL BE DESIGNED BY FIRM EXPERIENCED IN FORMWORK DESIGN AND SHALL BE A REGISTERED ENGINEER IF THE STATE LAW REQUIRES.
5. PARTING COMPOUND FOR FORMWORK SHALL BE MAX FREE, CHEMICALLY NEUTRAL, AND NON-STAINING AND SHALL PREVENT BONDING TO CONCRETE. COMPOUND SHALL BE EQUAL TO EICO SUPER-SLIP BY EUGLID CHEMICAL CO. AUTOMOBILE MOTOR OIL AND SIMILAR SUBSTANCES ARE NOT PERMITTED.
6. FORM TIES FOR EXPOSED CONCRETE SHALL BE STAINLESS STEEL OR GALVANIZED TWISTED-WIRE WITH INTEGRAL PULL CONE. SNAPPED OR TWISTED TIES SHALL NOT EXTEND ANY CLOSER THAN 1" TO THE FINISH SURFACE OF THE CONCRETE.
7. INSTALL ALL PIPE CHASES, CONDUITS, ELECTRICAL BOXES, CAVITIES, SLOTS, SLEEVES, WATER STOPS, AND OTHER EMBEDDED PARTS AS REQUIRED.
8. EXPOSED CONCRETE FORMED SURFACES SHALL RECEIVE A SMOOTH FLAT-FORMED SURFACE. ALL TIE HOLES, HONEY COMBING AND ROUGH AREAS TO BE PATCHED TO MATCH SURROUNDING SURFACES.
9. THE SIDES OF FOOTINGS MAY BE EARTH-FORMED IF THE EXCAVATION CAN BE KEPT VERTICAL, CLEAN AND STABLE. OTHERWISE FORMS ARE REQUIRED.
10. ALL CORNERS AND EDGES SHALL BE CHAMFERED 1" (ON THE SLOPE) OR 1/2" HORIZONTAL/VERTICAL.

ISOLATION, CONTRACTION, CONSTRUCTION AND EXPANSION JOINTS

- 1. PREFORMED JOINT FILLER SHALL BE 1/4" ON ALL INTERIOR WORK AND 1/2" ON EXTERIOR WORK. JOINT FILLER SHALL CONFORM TO ASTM D1781 HAVE A MINIMUM COMPRESSIVE STRENGTH OF 6000 PSI, COMPRESS 50 PERCENT UNDER A 1250 PSI OF PRESSURE AND BE EQUAL TO "SEALTIGHT FIBRE EXPANSION JOINT FILLER" BY INR. MEADOWS.
2. JOINT SEALANT FOR SLABS WHERE CALLED FOR ON THE DRAWINGS SHALL BE A TWO PART POLYURETHANE SEALANT CONFORMING TO FEDERAL SPEC IT-S-00227E, THG-900 SELF LEVELING SEALANT BY TREMCO MANUFACTURING OR EQUAL.
3. JOINT SEALANT FOR WALLS WHERE CALLED FOR ON THE DRAWINGS SHALL BE SILICONE, MONO BY TREMCO OR EQUAL.
4. CONTRACTION JOINTS IN SLABS SHALL BE SAW CUT AS DETAILED USING A WET SAWCUTTING METHOD AS SOON AS THE CONCRETE WILL SUPPORT THE SAWING EQUIPMENT AND SHALL NOT RAVEL DURING THE SAWING OPERATION. IN NO CASE SHALL THE SAWING BE LATER THAN 12 HOURS AFTER PLACING THE CONCRETE.

CAST-IN-PLACE CONCRETE

- 1. ALL CONCRETE SHALL CONFORM TO THE FOLLOWING PUBLICATIONS AND COMMENTARIES (LATEST EDITION):
ACI 318-BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE
ACI 301: SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS
ACI 305: RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING
ACI 306: RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING
ACI 318-DETAILS AND DETAILING OF CONCRETE REINFORCEMENT
ASTM C44 SPECIFICATION FOR READY-MIXED CONCRETE
2. CONTRACTOR SHALL SUBMIT MIX DESIGNS TO THE ENGINEER FOR EACH SPECIFIED MIX. EACH SUBMITTAL SHALL INCLUDE PROPOSED MIX DESIGN, SUPPORTING PRODUCT DATA FOR ADMIXTURES, PROPOSED SLUMP AND AIR CONTENT, WATER/CEMENT RATIO, 90 COMPRESSION TEST RESULTS WITH ACTUAL SLUMP AND STANDARD DEVIATION FOR CONSTRUCTION TEST RESULTS IN ACCORDANCE WITH CHAPTER 5 OF ACI 318. IF DIFFERENT MANUFACTURERS ARE PROPOSED FOR DIFFERENT ADMIXTURE, CONTRACTOR SHALL SUBMIT LETTERS OF CERTIFICATION FROM EACH MANUFACTURER STATING THAT THEIR PRODUCT IS COMPATIBLE WITH THE OTHER PRODUCTS.
3. THE OWNER RESERVES THE RIGHT TO RETAIN AN INDEPENDENT TESTING LABORATORY TO MONITOR ALL CONCRETE CONSTRUCTION ACTIVITY. PERFORM ANY TEST DEEMED NECESSARY AND REPORT ANY CONCRETE WORK THAT DOES NOT MEET THIS SPECIFICATION.
4. WATER MAY ONLY BE ADDED AT THE SITE PROVIDED THE CONCRETE SLUMP AND WATER TO CEMENT RATIOS SPECIFIED HEREIN ARE COMPLIED WITH. THE TESTING LABORATORY HAS FULL AUTHORITY TO REJECT CONCRETE THAT DOES NOT MEET THE SPECIFICATIONS (INCLUDING ACI REQUIREMENTS).
5. ALL CONCRETE SHALL BE PLACED WITHIN 90 MINUTES OF BATCH TIME. THE TESTING LABORATORY HAS FULL AUTHORITY TO REJECT ANY LOAD THAT DOES NOT COMPLY.
6. ALL CONCRETE SHALL BE CONSOLIDATED IN PLACE USING INTERNAL VIBRATORS.
7. CONCRETE SHALL BE PROPORTIONED TO ATTAIN A MINIMUM SPECIFIED COMPRESSIVE STRENGTH IN 28 DAYS AS FOLLOWS:

Table with 5 columns: LOCATION, STRENGTH, MAX-%VC, RATIO, SLUMP, AIR ENTRAINED. Includes FOOTINGS (3000 PSI, 0.58, 3", NO), INTERIOR COLUMN PIERS (4000 PSI, 0.45, 4", NO), WALLS AND EXTERIOR PIERS (4000 PSI, 0.45, 4", YES), INTERIOR SLABS ON GRADE (4000 PSI, 0.45, 4", NO), EXTERIOR SLABS ON GRADE (4000 PSI, 0.45, 4", YES).

- 8. CEMENT SHALL CONFORM TO ASTM C150, TYPE I. ONE BRAND OF CEMENT ONLY SHALL BE USED THROUGHOUT THE ENTIRE WORK. FLY ASH (IF USED) SHALL BE ASTM C618 CLASS F OR C AND LIMITED TO 15% MAXIMUM.
9. FINE AGGREGATE SHALL BE CLEAN, UNCOATED SAND CONFORMING TO ASTM C33.
10. COARSE AGGREGATE SHALL BE CRUSHED STONE CONFORMING TO ASTM C33 FOR NORMAL HEIGHT AND MAY COMPLY WITH ASTM C566 FOR LIGHT HEIGHT.
11. THE COMBINED FINE AND COARSE AGGREGATE GRADATIONS FOR ALL FILL WORK SHALL COMPLY FOR ACI 302 (GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION) SECTION 5.4.3. SUBMIT COMBINED GRADATION WITH MIX DESIGNS.
12. ALL CONCRETE SHALL CONTAIN A TYPE "A" WATER REDUCER CONFORMING TO ASTM C494 TYPE "A" EQUAL TO "POZZOLITH" BY MASTER BUILDERS.
13. NO CALCIUM CHLORIDE IS PERMITTED.
14. ALL EXTERIOR CONCRETE SHALL CONTAIN 4.5% +/- 1% ENTRAINED AIR. THE AIR CONTENT SHALL BE ACHIEVED BY ADDING AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C260 EQUAL TO "MICRO-AIR" BY MASTER BUILDERS.
15. CONCRETE SLABS SHALL BE WET CURED BY EITHER THOROUGHLY WETTING DOWN THE CONCRETE AND COVERING WITH CURING SHEETS MADE OF A COMPOSITE 10 OUNCE BURLAP AND 4 MIL WHITE POLYETHYLENE EQUAL TO "BURLINE" BY MAX KATZ BAG CO OR CURING COMPOUND AS NOTED BELOW. THE CURING SHEETS SHALL BE REMAIN CONTINUOUSLY IN PLACE AND WET FOR A PERIOD OF 7 DAYS. PORTIONS OF THE CURING SHEETS MAY BE REMOVED FOR SAW CUTTING.
16. ALL OTHER CONCRETE SURFACES SHALL BE CURED USING A CURING COMPOUND MADE OF A STABILIZED CHLORINATED RUBBER COMPOUND EQUAL TO "SUPER FLOOR COAT" BY EUGLID CHEMICAL CO. IF FLOOR COVERINGS IS TO BE APPLIED TO SLABS, THEN CONTRACTOR SHALL COORDINATE IF REMOVAL OF CURING COMPOUND IS REQUIRED FOR PROPER INSTALLATION OF COVERING.
17. PATCHING CONCRETE OR POURING NEW CONCRETE TO EXISTING CONCRETE SHALL BE BONDED WITH A CONCRETE ADHESIVE MADE OF 2 COMPONENTS, 100% SOLIDS AND 100% REACTIVE EPOXY AND SUITABLE FOR USE ON DRY OR DAMP SURFACES EQUAL TO "SIKADURE 32 HI-MOD" BY SIKKA CHEMICAL CO. THE ENTIRE SURFACE SHALL BE PREPARED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
18. ALL EXPOSED CONCRETE SLABS SHALL BE SEALED WITH "SUPER FLOOR COAT" BY EUGLID CHEMICAL CO.
19. SLABS NOTED TO RECEIVE A URETHANE SEALER SHALL BE PREPARED (SANDBLASTED, ACID ETCHED) IN ACCORDANCE WITH THE SEALER MANUFACTURER'S INSTRUCTIONS. FLUSH THE SLABS THOROUGHLY WITH CLEAN WATER AFTER ETCHING TO REMOVE ANY AND ALL RESIDUE, AND ALLOW TO DRY THOROUGHLY PRIOR TO APPLYING URETHANE SEALER. THE SEALER SHALL BE EQUAL TO "EPOXYTHANE VOX" FLOOR SEALER AS MANUFACTURED BY THE EUGLID CHEMICAL COMPANY.
20. NON SHRINK GROUT SHALL BE EQUAL TO "MASTERFLOW T18 OR 428" BY MASTER BUILDERS.
21. ALL CONCRETE FLOOR SLABS SHALL BE FINISHED TO A FLATNESS OF FF=30 AND FL=25 OR BETTER AS MEASURED IN ACCORDANCE WITH ASTM E1155 "STANDARD TEST METHOD FOR DETERMINING FLOOR FLATNESS AND LEVELNESS USING THE "F" NUMBER" SYSTEM. FITCH TO DRAIN AS SHOWN ON THE DRAWINGS.
22. CONCRETE SLABS SHALL BE FINISHED AS INDICATED ON THE DRAWINGS.
23. ALL EXPOSED CONCRETE EDGES AND CORNERS SHALL BE CHAMFERED 1" (ON THE SLOPE) UNLESS NOTED OTHERWISE.
24. ALL FINIS AND PROJECTIONS SHALL BE REMOVED AND CONCRETE PATCHED IF REQUIRED. ALL TIE HOLES SHALL BE PATCHED WITH PORTLAND CEMENT GROUT SO AS THE FINAL COLOR SHALL MATCH THE WALL.
25. CONTRACTOR SHALL SUBMIT TO THE ENGINEER ALL CONSTRUCTION JOINT LOCATIONS PRIOR TO ANY CONSTRUCTION. ONLY APPROVED LOCATIONS WILL BE ACCEPTABLE.
26. CONTRACTOR SHALL COORDINATE ALL EMBEDDED ITEMS, SLEEVES AND SLAB RECESSES WITH ALL TRADES AND ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. NO SLEEVE, OPENING OR INSERT IS PERMITTED IN A BEAM, JOIST OR COLUMN WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.
27. NOTIFY ENGINEER IMMEDIATELY WITH CONFLICTS REGARDING CONCRETE CONSTRUCTION, INSERTS, OPENINGS, SLEEVES, REINFORCING BARS, ANCHOR BOLTS, ETC.

CONCRETE REINFORCEMENT

- 1. ALL BARS SHALL CONFORM TO ASTM A615, GRADE 60.
2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. ONLY FLAT SHEETS SHALL BE USED.
3. WELDED WIRE FABRIC SHALL BE SUPPORTED BY HIGH CHAIR MESH SUPPORTS WITH PLATES AS MANUFACTURED BY DAYTON SUPERIOR OR APPROVED EQUAL. THE HIGH CHAIRS SHALL BE CRSI CLASS 3 BRIGHT STEEL OR GALVANIZED WIRE. THE SIZE SHALL BE AS REQUIRED TO POSITION THE FABRIC IN THE UPPER 1/3 TO 1/2 OF THE SLAB. ONE SUPPORT IS REQUIRED FOR EVERY 4 SF.
4. REINFORCEMENT TO BE FREE TO EXCESSIVE RUST, LOOSE SCALES OR OTHER COATING OF ANY CHARACTER WHICH WOULD REDUCE OR DESTROY THE BOND.
5. ALL CLEARANCES, BENDING AND DETAILING SHALL CONFORM TO ACI 318, CRSI STANDARD DETAILS AND THESE DRAWINGS.
6. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND INSTALLED IN ACCORDANCE WITH THE MANUAL OF STANDARD PRACTICE FOR REINFORCED CONCRETE CONSTRUCTION OF CRSI (CRSI 63 "RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS" AND CRSI 65 RECOMMENDED PRACTICE FOR PLACING BAR SUPPORTS, SPECIFICATIONS AND NOMENCLATURE") AND THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES OF ACI.
7. HORIZONTAL REINFORCING BARS SHALL BE SUPPORTED OVER EARTH OR FORMS ON PROTECTED METAL (GALVANIZED PLASTIC STAINLESS STEEL) SPACERS, CHAIRS, BOLSTERS AND TIES IN ACCORDANCE WITH CRSI AND ACI. BRICKS MAYBE USED ONLY WITH SPECIAL PERMISSION FROM THE ENGINEER IN WRITING.
8. ALL BAR SPLICE LENGTHS SHALL BE CLASS "B" SPLICE AS DEFINED BY ACI 318 LATEST EDITION.
9. ALL WELDED WIRE FABRIC SPLICES SHALL NOT BE LESS THAN (2) SPACINGS OF CROSS WIRES, OR 6" WHICHEVER IS GREATER.
10. PROVIDE CORNER BARS AT ALL LOCATIONS WHERE REINFORCEMENT CHANGES DIRECTION.
11. ALL WALL, FOUNDATION SLAB AND STRIP FOOTING REINFORCEMENT SHALL BE CONTINUOUS THROUGH PIERS AND COLUMN SPREAD FOOTINGS.
12. CONCRETE COVERAGE OF REINFORCING STEEL SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
A. CONCRETE CAST OR DEPOSITED DIRECTLY AGAINST EARTH - 3"
B. CONCRETE FORMED WITH SURFACES IN CONTACT WITH EARTH OR WEATHER - 2" (#6 AND LARGER) 1 1/2" (#5 AND SMALLER)
C. CONCRETE NOT IN CONTACT WITH EARTH OR WEATHER - 1" (WALLS) - 1 1/2" (ALL OTHER)

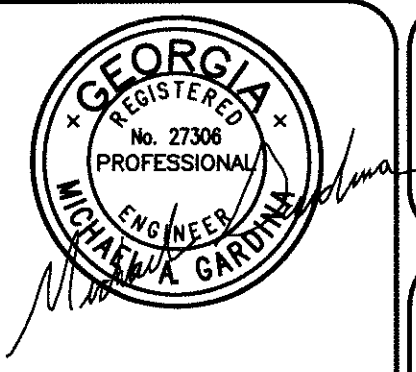
ABBREVIATIONS:

Table with 3 columns: Symbol, Description, and Unit/Value. Includes AT (IN), DIAMETER (INT), CENTERLINE (JBE), PLATE (JST), GREATER THAN OR EQUAL TO (K), LESS THAN OR EQUAL TO (KB), FOUND (L*), ANCHOR BOLT (LLH), ADDENDUM (LLV), ABOVE FINISHED FLOOR (MATL), AIR HANDLING UNIT (MAX), ARCHITECTURAL (MC), BRACED FRAME (MECH), BELOW FINISHED FLOOR (MEZZ), BUILDING (MFR), BEAM (MIN), BOTTOM (MO), BEARING (MFK), STEEL COLUMN MARK (MTL), COMBINED FOOTING MARK (NLND), CONTROL / CONSTRUCTION JOINT (NTS), COMPLETE JOINT PENETRATION (OC), CENTERLINE (OD), GELING (OPNG), CLEAR (OPF), OPPOSITE (OH), GAST-IN-PLATE MARK (CH), CONCRETE MASONRY UNIT (CMU), COLUMN (COL), CONCRETE (CONC), CONTINUOUS (CONT), DOUBLE ANGLE (DA), DEPRESSION (DEPR), DIAMETER (DIA), DIAGONAL (DIAG), DIMENSION (DIM), DOGLEGGED (DL), DRAWING (DWS), EXPANSION JOINT (EJ), ELEVATION (EL), ELEVATOR / ELEVATION (ELEV), EDGE OF DECK (EOD), EDGE OF SLAB (EOS), EXTERIOR (EXT), SPREAD FOOTING MARK (F*), FLOOR DRAIN (FDN), FOUNDATION (FDN), FINISHED FLOOR ELEVATION (FFE), FLOOR (FLR), FACE OF BUILDING (FOB), FACE OF CONCRETE WALL (FOCW), FACE OF EXISTING BUILDING (FOEB), FACE OF MASONRY (FOM), FACE OF STUD (FOS), FEET (FT), FINISH (FTG), FIELD VERIFY (FV), GAUGE (GA), GALVANIZED (GALV), GRADE BEAM (GB), HORIZONTAL (HORIZ), HEADED STUD (HS), INCH (IN), INTERIOR (INT), JOIST BEARING ELEVATION (JBE), JOIST (JST), KIP (K), KNEE BRACE (KB), LINTEL MARK (L*), LONG LEG HORIZONTAL (LLH), LONG LEG VERTICAL (LLV), MATERIAL (MATL), MAXIMUM (MAX), MOMENT CONNECTION (MC), MECHANICAL (MECH), MEZZANINE (MEZZ), MANUFACTURER (MFR), MINIMUM (MIN), MASONRY OPENING (MO), MASONRY PIER MARK (MFK), METAL (MTL), NOMINAL LAMINATED WOOD DECKING (NLND), NOT TO SCALE (NTS), ON CENTER (OC), OVERFLOW DRAIN (OD), OPENING (OPNG), OPPOSITE (OPF), OPPOSITE HAND (OH), CONCRETE MASONRY UNIT (CMU), FILE CAP MARK (FC*), POUNDS PER CUBIC FOOT (PCF), PLATE (PL), POUNDS PER SQUARE FOOT (PSF), POUNDS PER SQUARE INCH (PSI), REINFORCED / REINFORCEMENT (REINF), REQUIRED (REQD), ROUGH OPENING (RO), ROOF TOP UNIT (RTU), SOIL BORING (SB), SCHEDULE (SCHD), STEPPED FOOTING (SF), SIMILAR (SIM), SOUTHERN FINE NO. 2 OR BETTER (SPN2), SPRUCE PINE FIR (SPF), SLAB ON GRADE (SOG), SQUARE (SQ), STANDARD (STD), TRUSS BEARING ELEVATION (TBE), TRENCH DRAIN (TD), TOP OF CONCRETE (TOC), TOP OF FOOTING (TOF), TOP OF GRADE BEAM (TOGB), TOP OF JOIST (TOJ), TOP OF LODGE (TOL), TOP OF MASONRY (TOM), TOP OF PIER (TOP), TOP OF PILE CAP (TOPC), TOP OF STEEL (TOS), TOP OF WALL (TOW), TYPICAL (TYP), UNLESS NOTED OTHERWISE (UNO), VERTICAL (VERT), WORK POINT (WP), WELDED WIRE FABRIC (WWF).

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Table with 2 columns: Sheet Number and Description. Includes S001 GENERAL NOTES, ABBREVIATIONS AND DRAWING LIST; S201 FOUNDATION PLAN; S202 SLAB PLAN; S203 DRAINAGE PLAN; S401 SECTIONS AND DETAILS; S402 SECTIONS AND DETAILS; S403 SECTIONS AND DETAILS; S404 SECTIONS AND DETAILS.



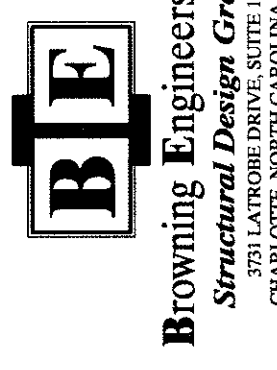
PROJECT: S001

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