4.0. CONCRETE: 4.1. CONCRETE SHALL HAVE 28-DAY COMPRESSIVE STRENGTHS AND DENSITIES AS FOLLOWS: 4.2. CONCRETE MIX DESIGNS 4.3. CURING: 4.4. WHEN COLD WEATHER CONDITIONS EXIST, PLACE AND CURE CONCRETE IN ACCORDANCE 4.5. WHEN HOT WEATHER CONDITIONS EXIST, PLACE AND CURE CONCRETE IN ACCORDANCE 4.6. ALL CONSTRUCTION JOINTS SHOWN ON THE DRAWINGS SHALL BE INCORPORATED INTO 4.7. ADDITIONAL CONSTRUCTION JOINTS, REQUIRED TO FACILITATE CONSTRUCTION, ARE 4.8. REINFORCING IN ALL ABUTTING CONCRETE, INCLUDING FOOTINGS, SHALL BE 4.9. REFER TO ARCHITECTURAL DRAWINGS FOR DOOR AND WINDOW OPENINGS, DRIPS. 4.10. REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES. WHERE FINISH IS 4.11. REFER TO PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS FOR UNDERFLOOR,

ELEMENT/MEMBER

STAIR PAN FILL

NOT PERMITTED

SLABS ON STEEL DECK

EXPOSED TO WEATHER

ALL OTHER CONCRETE U.N.O.

FOOTINGS & SLABS ON GRADE

EXTERIOR CONCRETE OR CONCRETE

SHALL BE PERMITTED IN ANY CONCRETE.

CONSTRUCTION OR SERVICE CONDITIONS.

F'C 4500 PSI 0.42 MAX. W/C RATIO

OFF PRIOR TO APPLICATION OF FLOOR FINISH.

C. AGGREGATE SIZES SHALL BE:

FREEZING/THAWING.

F'C 3000 PSI

F'C 4000 PSI

ABUTTING MEMBERS.

STRENGTH F'C

3 KSI

3.5 KSI

4.5 KSI

4 KSI

A. SUBMITTALS: SUBMIT WRITTEN REPORTS OF EACH PROPOSED CONCRETE MIX NOT

MORE THAN TWENTY-FOUR (24) MONTHS PRIOR TO THE DATE OF THE SUBMITTAL ARE

NOTED OTHERWISE IN THE PROJECT SPECIFICATIONS. CEMENT SHALL CONFORM TO

WEIGHT AGGREGATE SHALL CONFORM TO ASTM C 33 AND LIGHT WEIGHT AGGREGATE

SHALL CONFORM TO ASTM C 330. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE

LESS THAN 15 DAYS PRIOR TO THE START OF WORK. DESIGN MIXES PREPARED

B. MIX DESIGNS, INCLUDING W/C RATIOS AND SLUMPS, SHALL BE PREPARED IN

ACCORDANCE WITH THE MOST CURRENT ACI 301 CHAPTER 4, EXCEPT WHERE

ASTM C 150 TYPE I OR AT CONTRACTOR'S OPTION, ASTM C 595 TYPE IP WHERE

FLY ASH IS PERMITTED IN ACCORDANCE WITH THE SPECIFICATIONS. NORMAL

FORMED CONCRETE ELEMENTS, U.N.O. #67 STONE (3/4" MAX.)

GRADE SLABS AND EARTH FORMED ELEMENTS #57 STONE (1" MAX.)

FINE MASONRY GROUT PER SECTION 042900 #4 STONE (3/16" MAX.)

E. AIR ENTRAINING ADMIXTURE IN ACCORDANCE WITH ACI 301 TABLE 4.4.1.

H. IN NO CASE SHALL A WATER/CEMENT RATIOS EXCEED THE FOLLOWING:

0.60 MAX. W/C RATIO

0.50 MAX. W/C RATION

0.50 MAX. W/C RATIO

SHALL BE USED IN ALL CONCRETE EXPOSED TO FREEZING AND THAWING DURING

F. WATER/CEMENT RATIO SHALL NOT EXCEED 0.45 FOR ANY CONCRETE SUBJECTED TO

G. ALL PUMPED CONCRETE SHALL HAVE A WATER/CEMENT RATIO LESS THAN 0.50 AND

SHALL CONTAIN A HIGH RANGE WATER REDUCING ADMIXTURE (SUPERPLASTICIZER).

A. LIQUID MEMBRANE CURING COMPOUND WITH A MINIMUM 30% SOLIDS CONTENT SHALL

CONCRETE FLATWORK AND WALLS, U.N.O., OTHER THAN FOOTINGS AND GRADE BEAMS.

BE APPLIED WITHIN TWO (2) HOURS AFTER COMPLETION OF FINISHING TO ALL

B. FLOORS IN AREAS RECEIVING QUARRY TILE, CERAMIC TILE AND LIQUID FLOOR

HARDENER SHALL BE CURED WITH SPECIFIED DISSIPATING LIQUID MEMBRANE

CURING COMPOUND OR WET CURED BY USE OF MOISTURE RETAINING COVER

AND AGGREGATES TO A TEMPERATURE OF NOT LESS THAN 50 DEGREES.

MAINTAIN CONCRETE PLACEMENT TEMPERATURE BELOW 90 DEGREES.

THE STRUCTURE UNLESS THE COR APPROVES THEIR ELIMINATION.

SUBJECT TO THE APPROVAL OF THE COR AND MAY REQUIRE

NOT SPECIFIED, CONFORM TO REQUIREMENTS OF ACI 301.

DISSIPATING CURING COMPOUND SHALL BE THOROUGHLY BROOMED AND WASHED

WITH ACI 306 "COLD WEATHER CONCRETING". WHERE USE IS DESIRED, SUBMIT FOR

WITH ACI 305 "HOT WEATHER CONCRETING". COOL MATERIALS BEFORE MIXING TO

ADDITIONAL REINFORCING. SUCH JOINTS SHALL BE CLEARLY DETAILED ON THE SHOP

DRAWINGS AND ALL REINFORCING SHALL PASS CONTINUOUSLY THROUGH THE JOINT.

CONTINUOUS THROUGH OR AROUND ALL CORNERS OR INTERSECTIONS. DOWELS OR

REGLETS, WASHES, MASONRY ANCHORS, BRICK LEDGE ELEVATIONS, SLAB DEPRESSIONS

PERIMETER AND OTHER DRAINS AND FOR SLEEVES, OUTLET BOXES, CONDUIT, ANCHORS.

SPLICES SHALL BE EQUAL IN SIZE AND SPACING TO THE REINFORCING IN THE

AND MISCELLANEOUS EMBEDDED PLATES, BOLTS, ANCHORS, ANGLES, ETC.

ENGINEER'S APPROVAL A NON-CORROSIVE, NON-CHLORIDE, ACCELERATING ADMIXTURE

FOR CONCRETE EXPOSED TO TEMPERATURES BELOW 40 DEGREES. UNIFORMLY HEAT WATER

D. WATER REDUCING ADMIXTURE SHALL BE USED IN ALL CONCRETE

COARSE MASONRY GROUT PER SECTION 042900 #8 STONE (3/8" MAX.)

DENSITY WC

145 PCF

115 PCF

115 PCF

145 PCF

145 PCF

ETC. THE VARIOUS TRADES ARE RESPONSIBLE FOR THEIR ITEMS. 4.12. BASE PLATES, ANCHOR BOLTS, SUPPORT ANGLES AND OTHER STEEL EXPOSED TO EARTH OR GRANULAR FILL SHALL BE COVERED WITH A MINIMUM OF 3" OF CONCRETE. 4.13. FILL SLABS, NOT SHOWN ON THE STRUCTURAL DRAWINGS, SHALL BE REINFORCED WITH

A MINIMUM OF 6X6-W1.4XW1.4 WWM UNLESS NOTED OTHERWISE ON OTHER DRAWINGS OR IN THE SPECIFICATIONS. 4.14. SLABS ON STEEL DECK SHALL BE PLACED SO THE FINISH SURFACE IS SCREEDED TO

WITHIN 1/4" OF THE TOP OF SLAB (T/SL) ELEVATION SHOWN ON THE DRAWINGS. SCREED SUPPORTS SHALL BE PLACED OVER OR IMMEDIATELY ADJACENT TO BEAM OR GIRDER LINES - SCREED SUPPORTS SHALL NOT BE LOCATED ON DECK SPANNING BETWEEN BEAMS OR GIRDERS. 4.15. FINISHING TOLERANCE SHALL BE WITHIN CLASS B IN ACCORDANCE WITH ACI 301

AND CONSIDERATION SHALL BE GIVEN TO SEQUENCING OF CONCRETE PLACEMENT TO FACILITATE CONTROL OF FINISH ELEVATIONS. 4.16. NON-SHRINK GROUT SHALL BE PRE-MIXED, NON-CORROSIVE, NON-METALLIC. NON-STAINING CONTAINING SILICA SANDS, PORTLAND CEMENT, SHRINKAGE COMPENSATING AND WATER REDUCING AGENTS. PRODUCT SHALL ONLY REQUIRE THE

OR AIR RELEASING AND OXIDIZING AGENTS AND CONTAIN NO CORROSIVE IRON. ALUMINUM OR GYPSUM. 4.17. PROVIDE CONCRETE GROUT - NOT MORTAR - FOR REINFORCED MASONRY LINTEL AND BOND BEAMS WHERE INDICATED ON DRAWINGS OR AS SCHEDULED. 4.18. TOLERANCE FOR ANCHOR BOLTS AND OTHER EMBEDDED ITEMS SHALL BE PER THE

ADDITION OF WATER. MINIMUM COMPRESSIVE STRENGTH SHALL BE 2500 PSI AFTER

ONE DAY AND 7000 PSI AFTER 28 DAYS. GROUT SHALL BE FREE OF GAS PRODUCING

AISC CODE OF STANDARD PRACTICE SECTION 7.5. 4.19. UNLESS OTHERWISE SHOWN IN THE ARCHITECTURAL DRAWINGS. PROVIDE 3/4" CHAMFERS AT ALL COLUMN, WALL, SLAB OR BEAM EDGES THAT ARE EXPOSED TO VIEW IN THE FINISHED STRUCTURE.

5.0. REINFORCING STEEL:

5.1. REINFORCING SHALL BE DOMESTIC NEW BILLET STEEL CONFORMING TO ASTM A615. GRADE 60 OR 60S INCLUDING STIRRUPS AND TIES, EXCEPT THAT REINFORCING WHICH

IS REQUIRED TO BE WELDED SHALL CONFORM TO ASTM A706. 5.2. FIELD BENDING OF CONCRETE REINFORCING STEEL IS NOT PERMITTED WITHOUT WRITTEN APPROVAL OF THE COR.

5.3. WELDED WIRE REINFORCING SHALL CONFORM TO ASTM A1064. 5.4. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI SP-66 "ACI DETAILING MANUAL - 2004" AND THE "CRSI MANUAL OF

STANDARD PRACTICE", LATEST EDITION. 5.5. MINIMUM CONCRETE COVER OVER REINFORCING SHALL BE U.N.O.:

TO EARTH/WEATHER....

A. UNFORMED SURFACE CAST AGAINST EARTH... B. FORMED SURFACE EXPOSED TO EARTH/WEATHER. C. FORMED SLABS AND WALLS NOT EXPOSED TO EARTH/WEATHER FOR #11 AND SMALLER BAR.. D. ALL OTHER FORMED ELEMENTS NOT EXPOSED

5.6. DEVELOPMENT LENGTHS AND LAP SPLICES SHALL BE IN ACCORDANCE WITH ACI 318 CHAPTER 25 AS INDICATED BELOW AND AS INDICATED ON THE DRAWINGS. WHERE SPLICES ARE NOT CALLED OUT ON THE DRAWINGS, USE CLASS "B". THE BASIC DEVELOPMENT LENGTH (LD) IS SHOWN AS A MULTIPLE OF THE BAR DIAMETER (DB) IN THE TABLE BELOW. THE TENSION DEVELOPMENT LENGTHS SHALL BE MULTIPLIED BY EACH OF THE APPLICABLE FACTORS IN PARAGRAPH "C" AS INDICATED FOR TENSION THE COMPRESSION DEVELOPMENT LENGTHS DO NOT REQUIRE ANY MODIFICATION. THE COMPRESSION LAP SPLICE LENGTH IS NOTED IN PARAGRAPH "C". FINAL LENGTHS SHALL BE ROUNDED UP TO THE NEAREST WHOLE INCH.

A. TWO TENSION DEVELOPMENT LENGTH CASES ARE NOTED IN THE TABLE BELOW. THESE TWO CASES ADDRESS CONDITIONS OF MINIMUM BAR SPACING AND MINIMUM CLEAR CONCRETE COVER. BOTH SPACING AND COVER MUST COMPLY IN SELECTING CASE 1 OF THE TENSILE DEVELOPMENT LENGTH. WHERE THERE IS ANY QUESTION OF SPACING OR COVER THE LARGER DEVELOPMENT LENGTH (CASE 2) SHALL BE USED.

CASE 1: BAR SPACING GREATER THAN 2DB AND CLEAR COVER GREATER THAN DB CASE 2: BAR SPACING EQUAL/LESS THAN 2DB OR CLEAR COVER EQUAL/LESS THAN DB

B. DEVELOPMENT LENGTHS (LD) FOR REINFORCING FY = 60 KSI:

F'C COMPRESSION TENSION PSI ALL CASES CASE 1 CASE 2 3000 22 DB 55 DB 82 DB 3500 19 DB 48 DB 72 DB 4000 19 DB 48 DB 72 DB 4500 18 DB 43 DB 64 DB

C. DEVELOPMENT LENGTH MODIFIERS: MULTIPLICATION FACTORS APPLY TO THE BASIC "LD" INDICATED ABOVE AND ARE CUMULATIVE OVER EACH OF THE REQUIREMENTS NOTED BELOW.

I. COMPRESSION: CLASS "C" LAP SPLICE REQUIREMENT......... 30 DB II. TENSION: CLASS "A" LAP SPLICE REQUIREMENT (EQUALS LD).... 1.0 III. TENSION: CLASS "B" LAP SPLICE REQUIREMENT... IV. TENSION: TOP BARS WITH > 12" OF CONCRETE BELOW........... 1.3 VI. TENSION: BARS IN LIGHTWEIGHT AGGREGATE CONCRETE.......... 1.3

5.7. A CLASS "B" SPLICE IS REQUIRED WHEREVER ALL REINFORCING BARS CROSSING A SECTION ARE SPLICED.

5.8. REINFORCING BARS SHALL BE WELDED ONLY WHERE SHOWN ON THE STRUCTURAL DRAWINGS AND WELDS SHALL BE IN ACCORDANCE WITH THE "STRUCTURAL WELDING CODE - REINFORCING STEEL" (AWS D1.4). NO OTHER REINFORCING MAY BE WELDED WITHOUT THE APPROVAL OF THE COR. TACK WELDING OF ANY REINFORCING IS STRICTLY PROHIBITED.

5.9. WELDED WIRE MAT/FABRIC SHALL BE LAPPED 1'-0" AT ALL SPLICES. 5.10. ALL REINFORCING TERMINATING AT THE TOPS OF COLUMNS AND PILASTERS SHALL BE HOOKED, U.N.O.

5.11. SUBMIT SHOP DRAWINGS FOR FABRICATION, BENDING, AND PLACEMENT OF CONCRETE REINFORCEMENT. COMPLY WITH ACI DETAILING MANUAL (SP-66) SHOWING BAR SCHEDULES, STIRRUP SPACING, DIAGRAMS OF BENT BARS, ARRANGEMENT OF CONCRETE REINFORCEMENT. INCLUDE SPECIAL REINFORCEMENT REQUIRED AT OPENINGS THROUGH CONCRETE STRUCTURES. INCLUDE ALL ACCESSORIES SPECIFIED/REQUIRED TO SUPPORT REINFORCING. THE SHOP DRAWING SHOULD INCLUDE ELEVATIONS OF ALL WALLS.

5.12. SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO SUBMISSION AND SHALL BEAR THE CONTRACTOR'S APPROVAL STAMP ACCEPTING RESPONSIBILITY FOR DIMENSIONS, QUANTITIES AND COORDINATION WITH THE OTHER TRADES.

5.13. DRAWINGS MAY BE ELECTRONICALLY SUBMITTED, PROVIDED LEGIBILITY IS MAINTAINED. REVIEW COMMENTS ONLY WILL BE ELECTRONICALLY FORWARDED TO THE CONTRACTOR. 5.14. CONTRACTOR SHALL PROVIDE IN HIS SCHEDULE FOR A SHOP DRAWING REVIEW AND RETURN TIME OF A MINIMUM OF FIFTEEN (15) WORKING DAYS IN THE STRUCTURAL

ENGINEER'S OFFICE. 5.15. CONTRACTOR SHALL NOTIFY THE COR A MINIMUM OF 48 HOURS PRIOR TO ALL CONCRETE POURS IN ORDER TO PERMIT REINFORCING STEEL REVIEW IF REQUIRED BY THE COR.

6.0. INSPECTION AND TESTING:

6.1. AN INDEPENDENT TESTING LABORATORY SHALL BE RETAINED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS TO PERFORM TESTING OF FOUNDATION BEARING STRATA, ENGINEERED FILLS, CONCRETE, GROUT, STEEL, AND WELDING. SEE PROJECT SPECIFICATIONS FOR REQUIREMENTS

6.2. THE CONTRACTOR, IN CONJUNCTION WITH THE TESTING LABORATORY AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, SHALL DETERMINE THE FREQUENCY OF THE TESTING NECESSARY TO INSURE THAT THE DESIGN REQUIREMENTS ARE BEING MET.

6.3. THE TESTING AGENCY SHALL VERIFY THAT ALL WELDERS HAVE SATISFACTORILY PASSED AWS QUALIFICATION TESTS FOR THE WELDS WHICH THEY WILL PERFORM 6.4. THE CONTRACTOR AND TESTING AGENCY SHALL REQUIRE THAT AWS QUALIFICATION

TESTS FOR WELDING OF MATERIAL LESS THAN 1/8" IN THICKNESS ARE PASSED BY WELDERS EXPECTED TO ERECT LIGHTGAGE FRAMING MATERIALS. THESE TESTS ARE NOT THE SAME AS FOR MATERIALS 1/8" OR GREATER IN THICKNESS (I.E STRUCTURAL STEEL MATERIALS).

6.5. ALL WELDING SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH AWS D1.1 OR

D1.3 AS APPROPRIATE TO THE MATERIAL THICKNESS. 6.6. THE TESTING AGENCY SHALL VERIFY THAT THE METAL DECK IS ATTACHED TO THE STRUCTURAL STEEL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND APPROVED SHOP DRAWINGS.

6.7. CONCRETE TESTING SHALL BE IN ACCORDANCE WITH ACI 301 CHAPTER 16 AND

APPROPRIATE AND WITH THE PROJECT SPECIFICATIONS.

7.0. CONSTRUCTION AND SAFETY:

7.1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SAFETY REGULATIONS, PROGRAMS

AND PRECAUTIONS RELATED TO ALL WORK ON THIS PROJECT 7.2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF PERSONS AND PROPERTY EITHER ON OR ADJACENT TO THE PROJECT AND SHALL PROTECT SAME AGAINST INJURY, DAMAGE OR LOSS

7.3. MEANS AND METHODS OF CONSTRUCTION AND ERECTION OF STRUCTURAL MATERIALS ARE SOLELY THE CONTRACTOR'S RESPONSIBILITY

7.4. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED IN CONJUNCTION WITH THE DRAWINGS OF OTHER CONSULTANTS AND TRADES. THE CONTRACTOR SHALL COORDINATE THE VARIOUS REQUIREMENTS. 7.5. NO OPENINGS NOR ANY CHANGES IN SIZE, DIMENSION OR LOCATION SHALL BE MADE

IN ANY STRUCTURAL ELEMENTS WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER. 7.6. OPENINGS 1'-0" OR LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL

DRAWINGS. REFER TO DRAWINGS OF OTHER CONSULTANTS FOR SUCH OPENINGS. 7.7. FIREPROOFING OF STRUCTURAL ELEMENTS IS NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO THE SPECIFICATIONS AND ARCHITECTURAL DRAWINGS FOR FIRE

RATING REQUIREMENTS, MATERIALS AND METHODS 7.8. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURE. SUCH LOADS SHALL NOT EXCEED THE CAPACITY OF THE

STRUCTURE AT ANY TIME. 7.9. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION, AND ANY TEMPORARY BRACING OR SUPPORT REQUIRED TO ACCOMMODATE THE CONTRACTOR'S

MEANS AND METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR. 7.10. THE CONTRACTOR SHALL INFORM THE COR, CLEARLY AND EXPLICITLY IN WRITING, OF ANY DEVIATION OR SUBSTITUTION OF REQUIREMENTS OF THE CONTRACT DOCUMENTS. CONTRACTOR IS NOT RELIEVED OF ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS BY VIRTUE OF THE COR'S REVIEW

OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS CLEARLY AND EXPLICITLY INFORMED THE COR IN WRITING OF ANY DEVIATIONS OR SUBSTITUTIONS AT TIME OF SUBMISSION, AND THE STRUCTURAL ENGINEER HAS GIVEN WRITTEN APPROVAL FOR THE SPECIFIC DEVIATIONS OR SUBSTITUTIONS.

7.11. ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES. OMISSIONS. CONTRADICTIONS OR AMBIGUITIES IN THE DRAWINGS OR SPECIFICATIONS, SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/STRUCTURAL ENGINEER. CORRECTIONS OR WRITTEN INTERPRETATIONS SHALL BE ISSUED BEFORE AFFECTED WORK MAY PROCEED.

7.12. IF THE CONTRACTOR CANNOT CONSTRUCT ANY PORTION OF THE WORK IDENTIFIED IN THE DRAWINGS IN ACCORDANCE WITH THESE DRAWINGS AND SPECIFICATIONS, THEN THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE COR PRIOR TO PROCEEDING WITH THE WORK. WORK THAT DOES NOT COMPLY WITH THE DRAWINGS MAY REQUIRE REMOVAL, TESTING, OR ENGINEERING EVALUATION AT THE

CONTRACTOR'S EXPENSE. 7.13. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH NEW WORK IN AREAS AFFECTED BY EXISTING CONDITIONS. COR SHALL BE INFORMED IN WRITING OF CONFLICTS BETWEEN EXISTING AND PROPOSED NEW CONSTRUCTION.

7.14. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL DIMENSIONS SHOWN ON THE CONTRACT DOCUMENTS. INCONSISTENCIES ON THE STRUCTURAL DRAWINGS OR BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER CONTRACT, SHOP, FABRICATION OR OTHER DRAWINGS OR INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE COR PRIOR TO PROCEEDING WITH AFFECTED WORK.

7.15. DO NOT SCALE THESE DRAWINGS, USE THE DIMENSIONS SHOWN. 7.16. CONTRACTOR SHALL PROVIDE IN HIS SCHEDULE FOR A SHOP DRAWING REVIEW AND RETURN TIME OF A MINIMUM OF FIFTEEN (15) WORKING DAYS IN THE STRUCTURAL

ENGINEER'S OFFICE. 7.17. FOR METAL STAIRS, PROVIDE A DELEGATED DESIGN SUBMITTAL INCLUDING CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SHOP DRAWINGS REFLECTING THIS DESIGN SHALL BE SUBMITTED WITH THE CALCULATIONS.

8.0 STRUCTURAL ABBREVIATIONS:

ABBREV. DEFINITION ABBREV. DEFINITION ANCHOR BOLTS HOF HORIZONTAL OUTER FAC ABOVE HOOK ADDNL ADDITIONAL HORZ HORIZONTAL ABOVE FINISHED FLOOR **INNER FACE** ALTERNATE **INTERIOR** JOINT ARCH ARCHITECTURAL B. BOT KIPS (1000 LBS) B/XXX BOTTOM OF XXX L. LEN LENGTH LATERAL BAL. BALANCE LAT **BOND BEAM POUNDS** LEFT END BCX BOTTOM CHORD EXTENSION BRICK LEDGE LONG LEG HORIZONTAL LONG LEG OUTSTANDING BLW LONG LEG VERTICAL LONG LONGITUDINAL BEARING MAS **MASONRY** BRK MAXMAXIMUM BETWEEN MECH MECHANICAL CFMF **COLD-FORMED METAL FRAMING** MFR **MANUFACTURER** CONST., CONTROL JOINT MIN MINIMUM CL,CLR CLEAR **METAL** MTL CONC. MASONRY UNIT NOMINAL NOM ON CENTER COL CONC CONCRETE OUTER FACE, OPP. FACE CONN CONNECTION OPPOSITE HAND CONST OPP CONSTRUCTION OPPOSITE CONT CONTINUOUS OPNG OPENING CTR **PRECAST** CENTER CTRD CENTERED PLATE RIGHT END DEFORMED BAR ANCHOR DET, DTL DETAIL REINFG REINFORCING DIM DIMENSION REINF REINFORCEMENT DK REQUIRED DWGS DRAWINGS RET RETAINING SOG SLAB ON GRADE DWL SLIP CRITICAL EACH END SCHED SCHEDULE **EACH FACE** SECT SECTION EFF **EFFECTIVE** S, SHRT SHORT SLAB EXPANSION JOINT EL, ELEVATION SPA **SPACING** STFNR STIFFENER EDGE OF CONCRETE STL STEEL EDGE OF DECK EOM EDGE OF MASONRY SUPPL SUPPLIER SUPT SUPPORT EDGE OF SLAB EACH SIDE TOP T/XXX TOP OF XXX EW EACH WAY **EXIST EXISTING** TOP CHORD EXTENSION EXP EXPANSION THICK, THICKNESS EXT EXTERIOR, EXTENSION THROUGHOUT FOOT-KIPS TRANSVERSE TRAN FL, FLR FLOOR TYPICAL FACE OF BRICK UNLESS NOTED OTHERWISE FOB FACE OF MASONRY FOS FACE OF STUD VEF VERTICAL EACH FACE **VERTICAL INNER FACE** FP FULL PENETRATION FOOTING STEP VERTICAL OUTER FACE FOOT, FEET WIDE, WIDTH FTG FOOTING WELDED WIRE FABRIC **GRADE BEAM** WELDED WIRE MAT GB GEN EXTENDED END JOIST GENERAL

HORIZONTAL EACH FACE

HORIZONTAL INNER FACE

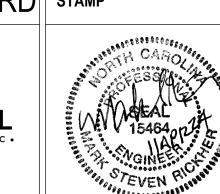
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**DRAWING TITLE** STRUCTURAL GENERAL NOTES **APPROVED** 

CONSTRUCTION DOCUMENTS SUBMISSION

**PROJECT TITLE** RENOVATE SPACE FOR LOGISTICS LOCATION

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