

DESIGN INPUT

DEAD LOAD:

THE WEIGHT OF THE STRUCTURAL MEMBERS THEMSELVES AND ALL PERMANENT CONSTRUCTION INCLUDING WALLS, FLOORS, CEILING, ROOF CLADDING AND FIXED EQUIPMENT

LIVE LOAD:

PRIVATE ROOMS AND CORRIDORS SERVING THEM 40 PSF
PUBLIC ROOMS AND CORRIDORS SERVING THEM 100 PSF

FLOOR LIVE LOAD REDUCTION WAS IN ACCORDANCE WITH NBCS SECTION 4.7

SNOW LOAD:

GROUND SNOW LOAD 15 PSF
SNOW EXPOSURE (S) 0.9
SNOW IMPORTANCE (I) 1.0
THERMAL FACTOR (C) 1.0

WIND LOAD:

BASIC WIND SPEED 90 MPH
WIND IMPORTANCE FACTOR 1.0
WIND EXPOSURE C
INTERNAL PRESSURE COEFFICIENTS 40 18

SEISMIC LOAD:

SEISMIC IMPORTANCE FACTOR 1.0
RISK CATEGORY S1
S1 0.380
S2 0.166
SITE CLASS D
S2 0.379
S3 0.288

DESIGN CRITERIA - CODES AND SPECIFICATIONS
1. NORTH CAROLINA STATE BUILDING CODE 2012
2. ACI318-08 - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

GENERAL:

- 1. THE STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE NORTH CAROLINA BUILDING CODE...
2. ALL REFERENCES AND ASTM SPECIFICATIONS NOTED ON THESE DRAWINGS PERTAIN TO THE EDITIONS REFERENCED IN THE DESIGN BUILDING CODE...
3. THE STRUCTURAL DRAWINGS ARE NOT STAND ALONE DOCUMENTS. THEY SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS...

FOUNDATION:

- 1. THE FOUNDATION DESIGN IS BASED ON THE RECOMMENDATIONS SHOWN IN THE SUBSURFACE AND GEOTECHNICAL ENGINEERING EVALUATION PREPARED BY EGS SOUTH EAST, LLP PROJECT NO. 31-3364.A, DATED AUGUST 16, 2018...
2. THE SHALLOW FOUNDATIONS WERE DESIGNED WITH A MAXIMUM BEARING CAPACITY OF 3000 PSF...

CONCRETE (CAST-IN-PLACE)

- 1. DESIGN OF CONCRETE IS BASED ON ACI 318. ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318.1.
2. CONCRETE SHALL BE NORMAL WEIGHT AND SHALL DEVELOP A MINIMUM 28 DAY COMPRESSIVE STRENGTH AS FOLLOWS:
- SHALLOW FOUNDATIONS: 3000 PSI
- SLAB ON GRADE: 3000 PSI

CONCRETE UNIT MASONRY:

- 1. MASONRY DESIGN IS IN ACCORDANCE WITH ACI 530
2. CONCRETE MASONRY UNITS SHALL BE LIGHT WEIGHT AND CONFORM TO ASTM C90
3. MASONRY COMPONENTS SHALL COMPLY AS FOLLOWS:
- PORTLAND CEMENT: ASTM C150 TYPE 1 OR TYPE II
- HYDRATED LIME: ASTM C207 TYPE S

COLD FORMED METAL FRAMING:

- 1. ALL EXTERIOR AND INTERIOR NON-LOAD BEARING AND LOAD BEARING WALL FRAMING SHALL CONFORM TO AISI S-100 "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" WITH APPLICABLE CORRUGATED PANELS.
2. MEMBERS SHALL BE FORMED STEEL SHEET IN COMPLIANCE WITH ASTM A1003. STRUCTURAL GRADE, TYPE H, WITH G60 GALVANIZED COATING OF GRADES AS FOLLOWS:
- 33 OR 43 MIL THICKNESS: FY = 33 KSI
- SMALLER OR GREATER THICKNESS: FY = 50 KSI

STEEL DECKING:

- 1. THIS SECTION INCLUDES:
- ALL ROOF DECK
2. STEEL DECK SHALL COMPLY WITH CALCULATED STRUCTURAL CHARACTERISTICS OF STEEL DECK ACCORDING TO AISI "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS"
3. THE ROOF DECK PANELS SHALL BE FABRICATED WITHOUT TOP-FLANGE SHAPING GROOVES TO COMPLY WITH SDI PUBLICATION NO. 31 "SDI SPECIFICATIONS AND COMMENTARY FOR STEEL ROOF DECK". SHEET STEEL FOR ROOF DECK SHALL CONFORM TO ASTM A653 GRADE 33 WITH G60 ZINC COATING MECHANICAL FASTENERS SHALL BE CORROSION RESISTANT. LOW VELOCITY POWERSHOOTING OF PRESUMABLY DRY CARBON STEEL FASTENERS OR SELF-DRILLING SELF-TAPPING SCREWS, MECHANICAL FASTENERS MAY BE USED. MECHANICAL FASTENERS SHALL BE CORROSION RESISTANT. HEXAGONAL WASHER HEAD SELF-DRILLING CARBON STEEL SCREWS, NO. 10 MINIMUM FABRICATOR SHALL PREPARE AND SUBMIT FOR REVIEW DRAWINGS SHOWING LAYOUT, TYPE OF DECK PANELS, ANCHORAGE DETAILS, REINFORCING CHANNELS, PANS, CUT OUT OPENINGS, SPECIAL JOINTING, ACCESSORIES, AND ATTACHMENTS TO OTHER CONSTRUCTION.

STRUCTURAL STEEL:

- 1. THE DESIGN OF STRUCTURAL STEEL IS BASED ON THE METHOD PRESENTED IN AISC360 USING THE FOLLOWING MATERIALS:
- WIDE FLANGE SECTIONS: ASTM A992 FY50KSI
- RECTANGULAR STRUCTURAL TUBING: ASTM A660 GRB FY60KSI
- CHANNELS AND ANGLES: ASTM A36 FY36KSI
- PLATES AND BOLTS: ASTM A36 FY36KSI
2. STRUCTURAL STEEL SHALL BE NEW DOMESTIC STEEL WITH ALL DETAILING, FABRICATION, AND ERECTION IN ACCORDANCE WITH ALL PROVISIONS SPECIFIED IN AISC 360.

HOLLOW CORE PLANKS:

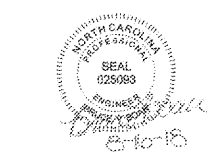
- 1. HOLLOW CORE PLANKS SHALL BE QUALIFIED AND FABRICATED TO CONFORM TO THE PROVISIONS SHOWN ON THE DRAWINGS
2. FABRICATOR SHALL SUBMIT HOLLOWCORE DESIGN AND DETAILS TO THE ARCHITECT FOR APPROVAL PRIOR TO FABRICATION. THE SUBMITTAL SHALL INCLUDE MATERIAL PROPERTIES, LOADING DIAGRAMS, FORCE DIAGRAMS, DIMENSIONAL DATA, CONNECTION INFORMATION, LAYOUT AND PLACING PLANS. THE DESIGN CALCULATIONS SHALL BE PREPARED AND STAMPED BY AN ENGINEER WHO IS EXPERIENCED IN PRECAST/PRESTRESSED CONCRETE DESIGN AND IS LICENSED IN THE STATE OF CONSTRUCTION
3. THE DESIGN AND MANUFACTURE OF THE HOLLOWCORE PLANKS SHALL BE IN ACCORDANCE WITH THE PROVISIONS PROVIDED BY THE PRESTRESSED CONCRETE INSTITUTE (PCI) AND ACI 318.

ABBREVIATIONS

Table with 3 columns: ABBREVIATION, TERM, and ABBREVIATION. Includes terms like BEARING, BLOCKING, CONTINUOUS, DOUBLE, DIAMETER, FOOTING, FINISH FLOOR ELEVATION, MANUFACTURER, etc.

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