

2012 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS (EXCEPT 1 AND 2 FAMILY DWELLINGS AND TOWNHOUSES)

Name of Project: HAYNES / LACEWELL POLICE AND FIRE TRAINING FACILITY
Address: 3100 HURST STREET, WILMINGTON, NC
Proposed Use: LAW ENFORCEMENT FIRARMS AND FIRE DEPARTMENT TRAINING
Owner/Authorized Agent: Mike Naskicki

LEAD DESIGN PROFESSIONAL: CLARK NEXSEN, INC.

Table with 5 columns: Designer, Firm, Name, Lic. #, Phone #, Email. Lists various design professionals and their contact information.

2012 EDITION OF NC CODE FOR: New Construction, Addition, Upfit, EXISTING: Reconstruction, Alteration, Repair, Renovation.

BASIC BUILDING DATA
Construction Type: I-A, II-A, III-A, IV, V-A, I-B, II-B, III-B, V-B
Sprinklers: No, Partial, Yes
Standpipes: No, Class I, Class II, Class III, Wet, Dry
Fire District: No, Yes
Building Height: 24'-0"

Table with 4 columns: FLOOR, EXISTING (SQ FT), NEW (SQ FT), SUBTOTAL. Shows area calculations for various floors.

ALLOWABLE AREA
Occupancy: Assembly, Business, Educational, Factory, Hazardous, Institutional, Mercantile, Residential, Storage, Utility and Miscellaneous.

Special Uses: 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427.

Special Provisions: 509.2, 509.3, 509.4, 509.5, 509.6, 509.7, 509.8, 509.9.

Mixed Occupancy: No, Yes
Separation: Hr Exception:
Incidental Use Separation (509)
Non-Separated Use (508.3)

Actual Area of Occupancy A, Allowable Area of Occupancy A, Actual Area of Occupancy B, Allowable Area of Occupancy B

Table with 7 columns: STORY NO., DESCRIPTION AND USE, (A) FLOOR AREA PER STORY (ACTUAL), (B) TABLE 503 AREA, (C) AREA FOR FRONTAGE INCREASE, (D) AREA FOR SPRINKLER INCREASE, (E) ALLOWABLE AREA OR UNLIMITED, (F) MAXIMUM BUILDING AREA.

- 1 - Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = 413' (F)
b. Total Building Perimeter = 717' (F)
c. Ratio (F/F) = 53.15 (F/F)
d. Maximum Width of Public Way = 30' (W)
e. Percent of frontage increase = 100 [(F/F) - 0.25] x W/30 = 28.15 (%)

Table with 4 columns: ALLOWABLE HEIGHT (TABLE 505), INCREASE FOR STAIRWELLS, SHOWN ON PLANS, CODE REFERENCE.

Table with 4 columns: BUILDING ELEMENT, FIRE SEPARATION DISTANCE (FEET), RATED (MIN./HRS.), DETAIL # AND SHEET #.

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LIFE SAFETY SYSTEM REQUIREMENTS
Emergency Lighting: No, Yes
Exit Signs: No, Yes
Fire Alarm: No, Yes
Smoke Detection Systems: No, Yes, Partial
Panicle Hardware: No, Yes

LIFE SAFETY PLAN REQUIREMENTS
NOTE: ITEMS NOT CHECKED ARE NOT APPLICABLE TO THIS PROJECT
Life Safety Plan Sheet #: G101
Fire and/or smoke rated wall locations (Chapter 7)
Assumed and real property line locations
Exterior wall opening area with respect to distance to assumed property lines (705.8)
Existing structures within 30' of the proposed building
Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.1)
Occupant loads for each area
Exit access travel distance (1016)
Common path of travel distances (1014.3 & 1028.8)

Dead end lengths (1018.4)
Clear exit widths for each exit door
Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.1)
Actual occupant load for each exit door
A separate schematic plan indicating where fire rated ceiling and/or roof structure is provided for purposes of occupancy separation
Location of doors with panic hardware (1008.1.10)
Location of doors with delayed egress locks and the amount of delay (1008.1.9.7)
Location of doors with electromagnetic egress locks (1008.1.9.8)
Location of doors equipped with hold-open devices
Location of emergency escape windows (1029)
The square footage of each fire area (902)
The square footage of each smoke compartment (407.4)
Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE PARKING (SECTION 1106)
N/A - SEE G1002
Table with 6 columns: LOT OR PARKING AREA, TOTAL # OF PARKING SPACES, # OF ACCESSIBLE SPACES PROVIDED, TOTAL # ACCESSIBLE PROVIDED.

STRUCTURAL DESIGN
DESIGN LOADS:
Importance Factors: Wind (W), Snow (S), Seismic (E)
Live Loads: Roof, Floor
Ground Snow Load: 10 psf
Wind Load: Basic Wind Speed, Exposure Category, Wind Base Shear (for MWFRS)

SEISMIC DESIGN CATEGORY: A, B, C, D
Provide the following Seismic Design Parameters:
Occupancy Category (Table 1604.5)
Spectral Response Acceleration
Site Classification (Table 1604.2)
Data Source: Field, Resurvey, Historical Data
Basic Structural System (check one):
Bearing Wall, Dual with Special Moment Frame, Dual with Intermediate R/C or Special Steel Moment Frame, Inverted Pendulum
Seismic Shear: 18 kips
Analysis: Linear, Non-linear
Architectural: Yes, No
AS REQUIRED BY ASCE 7-05 FOR COMPONENTS WITH Ip = 1.5
SOIL BEARING CAPACITY:
Field Test (provide copy of test report): 1500 psf
Assumptive Bearing capacity: psf
size, type, and capacity

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)
Table with 7 columns: USE, WATER CLOSETS (MALE, FEMALE), URINALS, LAVATORIES (MALE, FEMALE), SINKS/TUBS, GRABBAR/FOUNTAINS.

ENERGY SUMMARY
ENERGY REQUIREMENTS
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If energy cost budget method, state the annual energy cost budget vs. allowable annual energy cost budget.
Climate Zone: 3, 4, 5
Method of Compliance: Prescriptive (Energy Code), Performance (Energy Code), Prescriptive (ASHRAE 90.1), Performance (ASHRAE 90.1)

THERMAL ENVELOPE
Roof/Ceiling Assembly (each assembly)
Description of assembly
Insulation entirely above deck
U-Value of total assembly
R-Value of insulation
Skylights in each assembly
U-Value of skylight
Total square footage of skylights in each assembly
Exterior Walls (each assembly)
Description of assembly
Insulated precast panels w/turning
U-Value of total assembly
R-Value of insulation
Openings (windows or doors with glazing)
U-Value of assembly
Shading coefficient
Projection factor
Low-E required, if applicable
Door R-Values
Walls below grade (each assembly)
Description of assembly
U-Value of total assembly
R-Value of insulation
Floors over unconditioned space (each assembly)
Description of assembly
U-Value of total assembly
R-Value of insulation
Floors slab on grade (each assembly)
Description of assembly
U-Value of total assembly
R-Value of insulation
Horizontal thermal requirement
Slab heated: no

MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS, AND EQUIPMENT
Thermal Zones: 3A
winter dry bulb: 27.8°F
summer dry bulb: 83.3°F
Interior design conditions:
winter dry bulb: 65°F
summer dry bulb: 78°F
relative humidity: 50%
Building heating load: 144,842 BTU/H
Building cooling load: 9.3 TONS
Mechanical Space Conditioning System
Unitary: description of unit, heating efficiency, cooling efficiency, size category of unit
Boiler: Size category. If oversized, state reason: N/A
Chiller: Size category. If oversized, state reason: N/A
List equipment efficiencies: COOLING: 9.7 EER, 13.4 IEER; HEATING: 80%

ELECTRICAL SUMMARY
ELECTRICAL SYSTEM AND EQUIPMENT
Method of Compliance: Prescriptive, Performance
Energy Code: Prescriptive, Performance
ASHRAE 90.1: Prescriptive, Performance
Lighting Schedule
Lamp type required in fixture: See Schedule on EL501
Number of lamps in fixture: See Schedule on EL501
Ballast type used in fixture: See Schedule on EL501
Number of ballasts in fixture: See Schedule on EL501
Total wattage per fixture: See Schedule on EL501
Total interior wattage specified vs. allowed (whole building or space by space): 1,440 vs 2,596
Total exterior wattage specified vs. allowed: 415 vs 540
Equipment schedules with motors (not used for mechanical systems)
508.2.1 More Efficient Mechanical Equipment
508.2.2 Reduced Lighting Power Density
508.2.3 Energy Recovery Ventilation Systems
508.2.4 Higher Efficiency Service Water Heating
508.2.5 On-Site Supply of Renewable Energy
508.2.6 Automatic Daylighting Control Systems

WILMINGTON, NC
HAYNES / LACEWELL POLICE AND FIRE TRAINING FACILITY
3100 HURST STREET, WILMINGTON, NC 28405

DESIGNER
CLARK NEXSEN

213 South Jefferson, Suite 1011
Roanoke, Virginia 24011
540-982-9800
www.clarknexsen.com
Clark Nexsen License Number: C-1028

SEALS



SUBMITTAL

4 MAY 2018
CONSTRUCTION DOCUMENTS

REVISIONS

SHEET
CODE ANALYSIS - FIRING RANGE

G1003

DESIGN: DJM
DRAWN: ZLT
REVIEW: JCS
CN 5938

Owner Plans

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