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

(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: USPS Spout Springs Interior Upfit

Address: 196 HM Cagle Drive, Cameron, NC Zip Code 28326-8904

Proposed Use: Carrier Annex

Owner/Authorized Agent: Beth Walker Phone # (252) 636 - 8778 E-Mail beth@wgarc.com

Owned By: ☐ City/County ☒ Private ☐ State

Code Enforcement Jurisdiction: ☐ City_____ ☒ County Harnett County ☐ State

LEAD DESIGN PROFESSIONAL: _____

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	The Walker Group Architecture	Beth Walker	#8419	(252) 636-8778	beth@wgarc.com
Civil				( )	
Electrical	McKnight, Smith, Ward, Griffin	Greg Mcdowell		(704) 527-2112	cchampion@mswg.com
Fire Alarm				( )	
Plumbing	McKnight, Smith, Ward, Griffin	Greg Mcdowell		(704) 527-2112	cchampion@mswg.com
Mechanical	McKnight, Smith, Ward, Griffin	Greg Mcdowell		(704) 527-2112	cchampion@mswg.com
Sprinkler-Standpipe				( )	
Structural	NRW Engineering	Kevin Roomsburg		(757) 474-0612	kmr@nrwengineering.com
Retaining Walls >5' High				( )	
Other				( )	

2012 EDITION OF NC CODE FOR: ☐ New Construction ☐ Addition ☒ Upfit

EXISTING: ☐ Reconstruction ☐ Alteration ☐ Repair ☐ Renovation

CONSTRUCTED: (date) _____ **ORIGINAL USE(S)** (Ch. 3)**:** _____

RENOVATED: (date) _____ **CURRENT USE(S)** (Ch. 3)**:** _____

PROPOSED USE(S) (Ch. 3)**:** _____

BASIC BUILDING DATA

Construction Type: (check all that apply) ☐ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV ☐ V-A ☒ V-B

Sprinklers: ☒ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry

Fire District: ☒ No ☐ Yes (Primary) **Flood Hazard Area:** ☒ No ☐ Yes

Building Height: (feet) 18'-2"

Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6th Floor			
5th Floor			
4th Floor			
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor	6,000 SF		
Loading	545 SF		
TOTAL	6,545 SF		

ALLOWABLE AREA

Occupancy:

Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business [x]
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐

Accessory Occupancies:

Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐

Incidental Uses (Table 508.2.5)**:**

☐ Furnace room where any piece of equipment is over 400,000 Btu per hour input
☐ Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower
☐ Refrigerant machine room
☐ Hydrogen cutoff rooms, not classified as Group H
☐ Incinerator rooms
☐ Paint shops, not classified as Group H, located in occupancies other than Group F
☐ Laboratories and vocational shops, not classified as Group H. located in a Group E or I-2 occupancy
☐ Laundry rooms over 100 square feet
☐ Group I-3 cells equipped with padded surfaces
☐ Group I-2 waste and linen collection rooms
☐ Waste and linen collection rooms over 100 square feet
☐ Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons, or a lithium-ion capacity of 1,000 pounds used for facility standby power, emergency power or uninterrupted power supplies
☐ Rooms containing fire pumps
☐ Group I-2 storage rooms over 100 square feet
☐ Group I-2 commercial kitchens
☐ Group I-2 laundries equal to or less than 100 square feet
☐ Group I-2 rooms or spaces that contain fuel-fired heating equipment

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: [x] No ☐ Yes Separation: _____ Hr. Exception: _____

☐ Incidental Use Separation (508.2.5)

This separation is not exempt as a Non-Separated Use (see exceptions).

[x] Non-Separated Use (508.3)
The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

[ ] Separated Use (508.4) - See below for area calculations
For each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\textit{Actual Area of Occupancy A}}{\textit{Allowable Area of Occupancy A}} + \frac{\textit{Actual Area of Occupancy B}}{\textit{Allowable Area of Occupancy B}} \leq 1$$

$$\frac{0.41}{} + \frac{\text{N/A}}{} + \ldots\ldots = \frac{0.41}{} \leq 1.00$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503[5] AREA	(C) AREA FOR FRONTAGE INCREASE[1]	(D) AREA FOR SPRINKLER INCREASE[2]	(E) ALLOWABLE AREA OR UNLIMITED[3]	(F) MAXIMUM BUILDING AREA[4]
1st Floor	Shell Building	6,545 SF	9,000	6,750	N/A	15,750	31,500

[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 = 320 (F)
b. Total Building Perimeter = 320 (P)
c. Ratio (F/P) = 1 (F/P)
d. W = Minimum width of public way = 30 (W)
e. Percent of frontage increase $I_f = 100 [F/P - 0.25] \times W/30$ = 75 (%)

[2] The sprinkler increase per Section 506.3 is as follows:
a. Multi-story building I_s = 200 percent
b. Single story building I_s = 300 percent

[3] Unlimited area applicable under conditions of Section 507.

[4] Maximum Building Area = total number of stories in the building x E (506.4).

[5] The maximum area of open parking garages must comply with Table 406.3.5. The maximum area of air traffic control towers must comply with Table 412.1.2.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type V-B		Type V-B	503
Building Height in Feet	40'	Feet = H + 20' = N/A	18'-2"	504.2
Building Height in Stories	2	Stories + 1 = N/A	1	504.2

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
		REQ'D	PROVIDED (W/_____* REDUCTION)				
Structural Frame, including columns, girders, trusses	>30 Ft	0	0	N/A	N/A	N/A	N/A
Bearing Walls							
Exterior	>30 Ft	0	0	N/A	N/A	N/A	N/A
North	>30 Ft	0	0	N/A	N/A	N/A	N/A
East	>30 Ft	0	0	N/A	N/A	N/A	N/A
West	>30 Ft	0	0	N/A	N/A	N/A	N/A
South	>30 Ft	0	0	N/A	N/A	N/A	N/A
Interior							
Nonbearing Walls and Partitions							
Exterior walls	>30 Ft	0	0	N/A	N/A	N/A	N/A
North	>30 Ft	0	0	N/A	N/A	N/A	N/A
East	>30 Ft	0	0	N/A	N/A	N/A	N/A
West	>30 Ft	0	0	N/A	N/A	N/A	N/A
South	>30 Ft	0	0	N/A	N/A	N/A	N/A
Interior walls and partitions							
Floor Construction Including supporting beams and joists		0	0	N/A	N/A	N/A	N/A
Roof Construction Including supporting beams and joists		0	0	N/A	N/A	N/A	N/A
Shaft Enclosures - Exit		N/A	N/A	N/A	N/A	N/A	N/A
Shaft Enclosures - Other		N/A	N/A	N/A	N/A	N/A	N/A
Corridor Separation		N/A	N/A	N/A	N/A	N/A	N/A
Occupancy Separation		N/A	N/A	N/A	N/A	N/A	N/A
Party/Fire Wall Separation		N/A	N/A	N/A	N/A	N/A	N/A
Smoke Barrier Separation		N/A	N/A	N/A	N/A	N/A	N/A
Tenant Separation		N/A	N/A	N/A	N/A	N/A	N/A
Incidental Use Separation		N/A	N/A	N/A	N/A	N/A	N/A

* Indicate section number permitting reduction

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: [x] No [ ] Yes
Exit Signs: [x] No [ ] Yes
Fire Alarm: [x] No [ ] Yes
Smoke Detection Systems: [x] No [ ] Yes [ ] Partial _____
Panic Hardware: [x] No [ ] Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: LS1.0

- [ ] 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 distances (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 floor/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 DWELLING UNITS
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	
25,205 SF	6	40	2	2	2	4
TOTAL						

STRUCTURAL DESIGN

DESIGN LOADS:

Importance Factors:
Wind (I_W) 1.0
Snow (I_S) 1.0
Seismic (I_E) 1.0

Live Loads:
Roof 20 psf
Mezzanine N/A psf
Floor 100 psf

Ground Snow Load: 15 psf

Wind Load: Basic Wind Speed 100 mph (ASCE-7)
Exposure Category C
Wind Base Shears (for MWFRS) Vx = _____ Vy = _____

SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☒ C ☐ D

Provide the following Seismic Design Parameters:

Occupancy Category (Table 1604.5) ☐ I ☐ II ☐ III ☐ IV

Spectral Response Acceleration S_S .251 %g S_1 .092 %g

Site Classification (Table 1613.5.2) ☐ A ☐ B ☒ C ☐ D ☐ E ☐ F

Data Source: ☒ Field Test ☐ Presumptive ☐ Historical Data

Basic structural system (check one)

☐ Bearing Wall ☒ Ordinary Reinforced Masonry Shear Walls
☐ Building Frame ☐ Dual w/Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum

Seismic base shear: V_X = 29kps V_Y = 29kps

Analysis Procedure: ☐ Simplified ☒ Equivalent Lateral Force ☐ Dynamic

Architectural, Mechanical, Components anchored? ☒ Yes ☐ No

LATERAL DESIGN CONTROL: Earthquake ☐ Wind ☒

SOIL BEARING CAPACITIES:

Field Test (provide copy of test report) _____ psf
Presumptive Bearing capacity 2,000 psf
Pile size, type, and capacity _____

SPECIAL INSPECTIONS REQUIRED: ☐ Yes ☐ No

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATERCLOSETS		URINALS	LAVATORIES		SHOWERS/ TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE		MALE	FEMALE		REGULAR	ACCESSIBLE
SPACE	EXISTING								
	NEW	2	2	0	2	2	0	1	1
	REQUIRED	1 & 1 Urinal	2	1	2	2		1	1

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)

_____

_____

_____

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 performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

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: Steel joists, steel decking, 5" rigid ISO insulation, white TPO roof system
U-Value of total assembly: U-Value of total assembly 0.03
R-Value of insulation: R-Value of Insulation 28.5
Skylights in each assembly: NA
U-Value of skylight: _____
total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)

Description of assembly: Wall; 8" Concrete masonry block with foam in place insulation, exterior face damp proofed, 1" air gap, 4" brick veneer, or, 12" concrete masonry block with foam in place insulation, exterior face damp
U-Value of total assembly: 0.29/0.43 Respectively
R-Value of insulation: 25.0/45.0 Respectively
Openings (windows or doors with glazing)
U-Value of assembly: N/A
Solar heat gain coefficient: N/A
projection factor: N/A
Door R-Values: N/A

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

Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Horizontal/vertical requirement: _____
slab heated: _____

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone

winter dry bulb: 22
summer dry bulb: 94

Interior design conditions

winter dry bulb: 65
summer dry bulb: 78
relative humidity: 55%

Building heating load: 60.8 MBH

Building cooling load: 8.2 Tons

Mechanical Spacing Conditioning System

Unitary
description of unit: Split System Heat Pumps
heating efficiency: Refer to HVAC Equipment Schedules
cooling efficiency: Refer to HVAC Equipment Schedules
size category of unit: Refer to HVAC Equipment Schedules

Boiler
Size category. If oversized, state reason.: N/A

Chiller
Size category. If oversized, state reason.: N/A

List equipment efficiencies: Refer to HVAC Equipment Schedules

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ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:

Energy Code: [x] Prescriptive [ ] Performance
ASHRAE 90.1: [ ] Prescriptive [ ] Performance

Lighting schedule (each fixture type)

lamp type required in fixture: Refer to Lighting fixture Schedule
number of lamps in fixture: Refer to Lighting fixture Schedule
ballast type used in the fixture: Refer to Lighting fixture Schedule
number of ballasts in fixture: Refer to Lighting fixture Schedule
total wattage per fixture: Refer to Lighting fixture Schedule
total interior wattage specified vs. allowed (whole building or space by space): 3285W Specified/ 4513W Allowed
total exterior wattage specified vs. allowed: 83.9 Lumens/Watt

Additional Prescriptive Compliance

[ ] 506.2.1 More Efficient Mechanical Equipment
[x] 506.2.2 Reduced Lighting Power Density
[ ] 506.2.3 Energy Recovery Ventilation Systems
[ ] 506.2.4 Higher Efficiency Service Water Heating
[ ] 506.2.5 On-Site Supply of Renewable Energy
[ ] 506.2.6 Automatic Daylighting Control Systems
