2018 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: **ALDI Inc. #154**
Address: **20101 W. Catawba Ave – Cornelius, NC** Zip Code **28031**
Owner/Authorized Agent: **Todd Bonnett** Phone # (336) 403 - 8107 E-Mail: **todd.bonnett@aldi.us**
Owned By: ☐ City/County ☒ Private ☐ State
Code Enforcement Jurisdiction: ☒ City: **Cornelius, NC** ☐ County: ☐ State

Contact:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	ms consultants, inc.	Chuck Busch	14751	(614) 898-7100	cbusch@msconsultants.com
Civil	Cole Jenest & Stone	Jacob Bachman	2053	(704) 376-1555	
Electrical	ms consultants, inc.	Jason Christoff	39391	(614) 898-7100	jchristoff@msconsultants.com
Fire Alarm	TBD				
Plumbing	ms consultants, inc.	Jason Christoff	39391	(614) 898-7100	jchristoff@msconsultants.com
Mechanical	ms consultants, inc.	Jason Christoff	39391	(614) 898-7100	jchristoff@msconsultants.com
Sprinkler-Standpipe					
Structural	ms consultants, inc.	Craig Metzger	044723	(614) 898-7100	cmetzger@msconsultants.com
Retaining Walls >5'	N/A				
Other – Civil	Cole Jenest & Stone	David Mcauley	042085	(704) 376-1555	dmcauley@colejeneststone.com
Other – Refrigeration	Hussman	Mark Berkheimer	0072563	(909) 590-4910	mark.berkeimer@hussmann.com

2018 NC BUILDING CODE: ☒ New Building ☐ Shell Core ☐ 1st Time Interior Completions
☐ Addition ☐ Phased Construction - Shell Core
2018 NC Existing Building Code: ☐ Prescriptive ☐ Alteration Level I ☐ Historic Property
(check all that apply) ☐ Repair ☐ Alteration Level II ☐ Change of Use
☐ Chapter 14 ☐ Alteration Level III

CONSTRUCTED: **CURRENT OCCUPANCY(S)** (Ch. 3):
RENOVATED: **PROPOSED OCCUPANCY(S)** (Ch. 3):
OCCUPANCY CATEGORY (Table 1604.5): **Current:** **Proposed:**

BASIC BUILDING DATA
Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A
(check all that apply) ☐ I-B ☐ II-B ☐ III-B ☒ V-B
Sprinklers: ☐ No ☐ Partial ☒ Yes ☒ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Primary Fire District: ☒ No ☐ Yes **Flood Hazard Area:** ☒ No ☐ Yes
Special Inspections Required: ☒ No ☐ Yes
Gross Building Area Table:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor		23,786	23,786
Basement			
TOTAL		23,786	23,786

ALLOWABLE AREA

Primary Occupancy Classification(s):
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-1 Condition ☐ 1 ☐ 2
I-2 Condition ☐ 1 ☐ 2
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 Occupancy Classification(s): N/A
Incidental Uses (Table 509): N/A
This separation is not exempt as a Non-Separated Use (see exceptions).
Special Uses (Chapter 4 – List Code Sections): N/A
Mixed Occupancy: Select one Separation: Select one Exception:

Select one
Actual Area of Occupancy A / *Allowable Area of Occupancy A* + *Actual Area of Occupancy B* / *Allowable Area of Occupancy B* **NON SEPARATED**

______ + ______ + ... = ______ ≤

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]
1	M/S-1/B	23,786	36,000		36,000

[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 = 354'-1" (F)
b. Total Building Perimeter = 687'-5" (P)
c. Ratio (F/P) = 354'-1"/687'-5" (F/P)
d. W = Minimum width of public way = **30'-0"** (W)
[2] Unlimited area applicable under conditions of Section 507.
[3] Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).
[4] The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.
[5] Frontage increase is based on the unsprinklered area in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE[1]
Building Height in Feet (Table 504.3)	60'	30'-5"	
Building Height in Stories (Table 504.4)	2	1	

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3. or 504.4.

FIRE PROTECTION REQUIREMENTS

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

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE FEET FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
North, 0	N/A		
East, >30	N/A		
South, 0	N/A		
West, >30	N/A		

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: ☒ Yes ☐ No
Exit Signs: ☒ Yes ☐ No
Fire Alarm: ☒ Yes ☐ No
Smoke Detection Systems: ☒ Yes ☐ No
Carbon Monoxide Detection: ☐ Yes ☒ No

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: **G-002, A-601, E-101, E-101 (Supplemental fire protection and fire alarm by licensed contractor/vendor)**

- ☐ Fire and/or smoke rated wall locations (Chapter 7)
- ☐ Assumed and real property line locations (if not on the site plan)
- ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
- ☒ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- ☒ Occupant loads for each area
- ☒ Exit access travel distances (1017)
- ☒ Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- ☒ Dead end lengths (1020.4)
- ☒ Clear exit widths for each exit door
- ☒ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- ☒ 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 (1010.1.10)
- ☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- ☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
- ☐ Location of doors equipped with hold-open devices
- ☐ Location of emergency escape windows (1030)
- ☐ The square footage of each fire area (202)
- ☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- ☐ 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
N/A							

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED: REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
ALDI Lot	48	58	2	2		4
TOTAL		58	2	2		4

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATER CLOSETS MALE	WATER CLOSETS FEMALE	WATER CLOSETS UNISEX	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	SHOWERS /TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXIST'G	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	NEW	1	2	0	1	1	1	N/A	1	1
	REQ'D	1	1	-	-	1	1	N/A	0	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.

Existing building envelope complies with code: 2018 North Carolina Energy Conservation Code

Exempt Building: Select One Provide code or statutory reference:

Climate Zone: ☒ 3 ☐ 4 ☐ 5

Method of Compliance:
☐ Prescriptive (Energy Code)
☐ Performance (Energy Code)
☒ Prescriptive (ASHRAE 90.1) Refer to ComCheck - Sheet G003
☐ Performance (ASHRAE 90.1)

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly
Description of assembly:
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:
U-Value of total assembly:
R-Value of insulation:
Openings (windows or doors with glazing):
U-Value of assembly:
Solar heat gain coefficient:
Projection factor:
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
Description of assembly:
U-Value of total assembly:
R-Value of insulation:
Horizontal/vertical requirement:
Slab heated:

STRUCTURAL DESIGN

DESIGN LOADS:

IMPORTANCE FACTORS: WIND (IW) 1.0; SNOW (IS) 1.0; SEISMIC (IE) 1.0

LIVE LOADS ROOF 20 PFS; MEZZANINE N/A; FLOOR 200 PFS UNIFORM; 2200 CONCENTRATED

GROUND SNOW LOAD: 10 PSF

WIND LOAD: BASIC WIND SPEED **115 MPH (ASCE-7)**
EXPOSURE CATEGORY **B**

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 22.00 %g S_1 9.70 %g
Site Classification (ASCE 7) ☐ A ☐ B ☐ C ☒ D ☐ E ☐ F
Data Source ☒ Field Test ☐ Presumptive ☐ Historical Data
Basic structural system (check one)
☐ Bearing Wall ☐ Dual w/ Special Moment Frame
☒ Building Frame ☐ Dual w/ Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum

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) **3000 psf**
Presumptive Bearing capacity **N/A**
Pile size, type, and capacity **N/A**

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone
winter dry bulb: **18**
summer dry bulb: **91**

Interior design conditions
winter dry bulb: **68**
summer dry bulb: **74**
relative humidity: **50%**

Building heating load: 388.1 MBH

Building cooling load: 541 MBH Total / 184 MBH Sens.

Mechanical Spacing Conditioning System
Unitary
description of unit: **Dehumidification roof top unit**
heating efficiency: **81%**
cooling efficiency: **11.3 EER** (RTU-1), **13.0 SEER** (RTU-2), **20 SEER**
size category of unit: **>240, <760 MBH**
Boiler
Size category. If oversized, state reason.: **N/A**
Chiller
Size category. If oversized, state reason.: **N/A**

List Equipment Efficiencies:

N/A

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:
Energy Code: ☐ Prescriptive ☐ Performance
ASHRAE 90.1: ☒ Prescriptive ☐ Performance

Lighting schedule (each fixture type)
Lamp type required in fixture
Number of lamps in fixture
Ballast type used in the fixture
Number of ballasts in fixture
Total wattage per fixture
Total interior wattage specified vs. allowed (whole building or space by space)
Total exterior wattage specified vs. allowed

Additional Prescriptive Compliance
☐ 506.2.1 More Efficient Mechanical Equipment
☒ 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

Order Plans @ WWW.LDIILine.com

Issued:		Date:
A	Client Review Set	05/07/19
B	Permit Set	06/12/19
C	Client Review Set	02/07/20
D	Bid Set	02/10/20

Revisions: Date:

DO NOT SCALE PLANS
Copying, Printing, Software and other processes required to produce these prints can stretch or shrink the actual paper or layout. Therefore, scaling of this drawing may be inaccurate. Contact ms consultants with any need for additional dimensions or clarifications.

ms consultants, inc.
engineers, architects, planners
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607-4299
phone 919.772.5565
fax 919.779.2308

DRAWN BY: KKL
REVIEWED BY: NAL
Seal

PROFESSIONAL OF RECORD:
CHARLES M. BUSCH No. 14751
EXP. DATE: 06/30/2020

ALDI Inc.
1985 Old Union Church Road
Salisbury, NC 28146
(704) 642-0023
(704) 642-0078 fax

ALDI Inc. Store #: 154
Cornelius, NC
20101 West Catawba Avenue
Cornelius, NC 28031
Mecklenburg County
Project Name & Location:

NC Appendix 'B'
Drawing Name:

Prototype Rls. 12/10/18
Type:LHSD-V8ER
Project No. 40452-07
Scale: As Noted
G-005
Drawing No.

PLOTTED: 2/10/2020 9:07 AM