

# DAVID R. POLSTON • ARCHITECT

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January 12, 2022

Mr. Travis L. Crabtree  
Building and Fire Consultant  
Office of State Fire Marshal  
325 North Salisbury Street  
Raleigh, North Carolina 27603

RE: Crystal Coast Nursing Home  
Beaufort, NC - Carteret County

Dear Travis:

I appreciate your assistance during your review of the construction documents for the referenced project. Attached are revised sealed, signed and dated revised construction drawings plus a thumb drive with electronic copies of the drawings. Following are our written responses to the comments in your June 4th review letter:

1. Attached is a full set of construction documents with original signatures, seals and dates.
2. The "Preliminary - Not for Construction" has been removed from all civil sheets.
3. The 2 existing fire hydrants along Highway 70/Live Oak Street are shown on Civil Sheet 3 of 23.
4. The total building area listed on Civil Sheet 4 of 23 has been revised to 73,832 SF to match the Architectural Sheets.
5. The location of the Fire Department connection is now coordinated on Civil Sheets 4,5, and 8 of 23.
6. The location of the generator and transformer pad is shown on Civil Sheet 4 of 23. The heavy duty pavement section with added rating note is shown on Civil Sheet 14 of 23. Turning radius of drives is shown on Civil Sheet 4 of 23. The Fire Department connections are shown on Civil Sheet 13 of 23. There are no on-site natural gas lines. Underground electrical, domestic water, fire protection and hot box locations are shown on Civil Sheet 8 of 23. The Knox box location for the front door is shown on Architectural Sheet A-2 and for the rear entrance to Building C on Architectural Sheet A-5.
7. Detail 1 on Civil Sheet 13 of 23 shows the fire hydrant detail with a 4 inch Storz connector.



8. A detail has been added to Civil Sheet 13 of 23 showing the FDC Detail with a 4 inch Storz connection
9. The bottom of the lowest ADA sign for the accessible parking space has been dimensioned as a minimum of 60 inches above the final grade on Civil Sheet 14 of 23.
10. Accessible parking details for ramp and sign are on Civil Sheet 14 of 23.
11. Sheet T-2 has been revised to show the actual street address for this project.
12. Sheet T-2 and Structural Sheet S-9 have been revised to change the building risk category from I-3 to I-2.
13. Sheet T-2 has been revised to designate the site is located in a flood zone. Majority of this site is in Flood Zone AE8. The civil drawings raise the building above the flood zone elevations.
14. Requirements for the testing and installation of an emergency responder radio coverage system has been added to Sheets T-2 and LS-4.
15. Roof truss drawings, sealed, signed and dated by a North Carolina PE will be submitted to DOI when we receive them from the manufacturer.
16. Structural steel drawings and connection details will be provided as soon as we receive them from the fabricator.
17. Clear height of 13'-6" under the drive thru canopy has been added to Sheet S-8 and Exterior Elevation Sheet A-25. Clearances are also shown on Detail 2901, A-29.
18. Project address has been added to the Statement of Special Inspections on Sheet S-9.
19. The maximum building and maximum diagonal lines with exit remoteness distances have been added to new Sheet LS-3.
20. Interior and exterior emergency lights have been added to new Sheet LS-4.
21. Designation for all doors equipped with panic hardware have been added to Sheet LS-1.
22. Additional fire extinguishers were added in the Cubicle Office 76, Corridor 233 (outside Private Bedroom 210) and IT Rooms 27, 56 and 88 on Sheet LS-1.
23. The door widths for the front lobby and two courtyards were listed in LS-1 as 42" for each leaf. The double doors would be double the 42" and 210 person capacity.
24. The proposed occupant loads for the two enclosed exterior courtyards have been added to Sheet LS-2.
25. The travel lines for the most remote point of rooms have been added to new Sheet LS-3.
26. The Structural Sheets (S1.1 to S1.9), Architectural Sheets (A-27 to A-29) and Specification Manual are coordinated for 10-mil vapor retarder.
27. Sheet A-18, Door, Frame and Hardware Schedule has been revised to add Door 9A with panic hardware.
28. Hardware Set for Elec Room 78's Door 77 has been revised to include Panic Hardware Set L, Sheet A-18 and also added to Sheet LS-1.
29. The required 13'-6" clear height under the drive- thru canopy has been dimensioned on revised Sheet A-25. The dimension was also noted on Detail 2901, Sheet A-29.
30. All gas fired equipment will be propane. There is no natural gas available in Beaufort. Refer to Note on Sheet P-12.
31. Roof drain calculations for each roof section are shown on new Sheet A-1.1.
32. Reviewing Appendix B of the 2018 North Carolina Fire Prevention Code, it appears Section B105.2 and Table B105.2 would apply to this building since it is an I-2 Occupancy. Section 903.3.1.2 would also be applicable due to the I-2 use. For minimum fire flow, Table B105.2 requires 25% of the value in Table B105.1(2) or a minimum of



- 1,500 gpm. Based on the type of construction (V-1) and square footage (73,832), the Table B105.1 fire flow (gpm) is 5,000 for a 4 hour flow duration. Per Table B105.2, 25% of 5,000 gpm would be 1,250 gpm. Based on the Appendix B Tables, occupancy type, construction type and square footage, it appears the water supply shall be capable of providing 1,500 gpm for 4 hours or the automatic sprinkler system demand including hose stream allowance (B105.3). We have forwarded the DOI Comment (No. 32) to the Town of Beaufort for a verification letter as requested. The Town of Beaufort will send the letter directly to the Department of Insurance.
33. Attached is a copy of the Comcheck form verifying that the building design exceeds the current North Carolina Building Code performance requirements.
  34. Sheet E-3 has been revised to add an exit light at exterior door #2 in Waiting 14 and an exit light at the door from Physical Therapy and Waiting 14.
  35. Sheet E-7 has been revised to add a directional exit sign at the intersection of Corridor 617 going toward Dining Room 60.
  36. Sheet E-7 has been revised to add a directional exit sign at the intersection of Corridors 733 and 838.
  37. Sheet E-9 has been revised to add an equipment service receptacle DC-1 on Detail A.
  38. Sheet E-20 has been revised to add a smoke detector for Bedroom 215.
  39. Sheet E-20 has been revised to relocate the remote annunciator # 3 to the Lobby for visibility when entering the Lobby doors.
  40. Sheet E-20 and E-21 have been revised to provide a weatherproof horn/strobe outside of Mechanical Room 51.
  41. The generator diesel fuel tank UL Listing is UL#142. attached is the submittal from the fuel tank supplier.
  42. Attached is a copy of the Hazardous Materials Disclosure Inventory Statement based on information provided by the Owner.
  43. The requirements for the testing an installation of an emergency responder radio coverage system have been added to Sheets T-2 and LS-4.

Again, I appreciate your assistance and please contact me should you have any questions.

Sincerely,



David R. Polston, AIA

DRP/sp

Enclosures

cc: Nicole Frazier  
Miles Campbell



**MIKE CAUSEY**  
INSURANCE COMMISSIONER & STATE FIRE MARSHAL

**BRIAN TAYLOR**, CHIEF STATE FIRE MARSHAL

June 4, 2021

Mr. David R. Polston  
David Polston – Architect  
3806 Park Ave., Suite 2L  
Wilmington, NC 28403

**RE: Crystal Coast Nursing Home  
Beaufort, NC – Carteret County**

Dear Mr. Polston,

Construction documents received on 05-26-2021 relative to the above referenced project have been reviewed for general compliance with the 2018 edition of the North Carolina State Building Code with the following comments. This review does not replace the plan review of the local Authority Having Jurisdiction (AHJ). This review is in addition to the plan review of the local AHJ. This plan review may contain comments related to Accessibility, Plumbing, Mechanical, Electrical, and Fire Codes.

Please provide a written response to the review comments and submit clouded revised signed, sealed plans as necessary. The comments shall describe which items are being addressed with the document set as well as where they are being addressed. Please also provide an electronic version of these updated plans. It would be very helpful on a thumb drive as we are transitioning to electronic plan review, no CDs please.

This review **does not cover** the following building(s) on this property that were submitted: Storage Building and Dumpster Enclosure.

1. Civil Pages - Architects and engineers must have an original signature through each of their seals with a date. Copies are not allowed per NC Board of Architecture rule 21 NCAC 02.0206.
2. Civil Pages are stamped "Preliminary – Not for Construction." This should be removed and/or replaced with "For Construction" or "Permit Set" or similar language.
3. Civil page 3 of 15 – Show fire hydrants that are currently installed along Highway 70/Live Oak Street.

**OFFICE OF STATE FIRE MARSHAL • ENGINEERING**

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4. Civil page 4 of 15 – Site Data shows this building as 31,940 sf., however the appendix B shows this building at 73,832 sf.
5. Civil page 6 of 15 – Fire department connection is not in the same location on this page as the others. Please confirm.
6. Civil drawings - Key items shall include but not limited to: generator, heavy-duty pavement detail (provide a note for 75,000 lb rating for Beaufort aerial truck), inside and outside turning radii, fire department connection detail to match Beaufort FD standards, gas lines and/or fuel tank(s), above ground electrical lines, underground electric lines to building, hot box detail, Knox box location at front main entry door and at rear entrance to Building C, etc.
7. Civil page 14 of 15 – There are two fire hydrant details, these appear to be the same. Beaufort Fire Department requires the pumper nozzle on the fire hydrants to have a 4-inch Storz connector.
8. Civil page 14 of 15 – Provide FDC detail for the 4-inch Storz connection required by the Beaufort Fire Department.
9. Civil page 15 of 15 – Detail 4 of 7, the bottom of the lowest ADA sign must be at least 60 inches minimum from the final grade. This is usually the maximum penalty sign per NCDOT ADA update created June 2016.
10. Civil page 15 of 15 – Accessible parking detail references page C-10 for ramp and sign details. Unable to locate this page.
11. Page T2 – Provide accurate street address for this project.
12. Page T2 – Confirm building risk category near Basic Building Data area and in the Structural Design section. It lists the building as an I-3. Same found on Structural drawings.
13. Page T2 - The North Carolina Flood Risk Information System (FRIS) data maps show this entire property in the flood zone. Please confirm.
14. Page T2 - Life Safety Section, Emergency responder radio coverage shall have radio coverage based on existing coverage levels of the public safety communications system. Provide a written statement of how the path to compliance to achieve this safety feature will move forward to meet the needs of the jurisdiction - 2018 NC Fire Code, section 510.
15. Please provide the roof truss drawings when available. Approval for the shell of this building will be pending on this item.

16. Please provide structural steel drawings and connection details. Approval for the shell of this building will be pending on this item.
17. Page S-8 – Detail 1, Clear height under drive-thru canopy to be at least 13 feet 6 inches for emergency responder access - 2018 NC Fire Code, section 503.2.1.
18. Page S-9 – Project address to be provided for Statement of Special Inspections.
19. Page LS1 – Provide maximum building and maximum diagonal lines with exit remoteness distances.
20. Page LS1 - Interior and exterior emergency lights shall be shown on the Life Safety Plans per NCDOT requirements that it is the architect's responsibility to show the locations of these life safety devices and it is the engineer's responsibility to provide proper power for their operation.
21. Pages LS1 and LS2 – Identify all doors that have panic hardware, including but not limited to physical therapy, electrical rooms, and perimeter exit doors where applicable - 2018 NC Building Code section 1010.1.10.
22. Page LS1 – Additional or relocation of fire extinguishers are required to protect the areas of but not limited to: Private room 210, Cubicle Office 76, and in the IT Rooms. 75- foot travel distance is exceeded for the first two areas and dedicated computer rooms are required to have an extinguisher - 2018 NC Fire Code sections 906.3 and 906.1 #6.
23. Page LS2 – Front doors appear to be wider than the 42 inches as shown. Please confirm occupancy egress capacity. This may also be applicable to the two courtyard areas; however, they will have a minimal occupant load.
24. Page LS2 – Provide proposed occupant loads for courtyard areas.
25. Page LS2 - Travel lines to be provided to the most remote point of their respective rooms. The code contemplates right angle turns since the former produces the most conservative (i.e., longest) Travel Distance to An Exit; please revise the plans accordingly. The same principle applies to Common Path of Travel lines.
26. The structural pages show a 6-mil vapor retarder to be installed, however the specifications book shows a 10-mil vapor retarder to be used. Please confirm.
27. Page A18 – Door pair 9A found on Page A5 is not listed on the door schedule for the exterior electrical room.

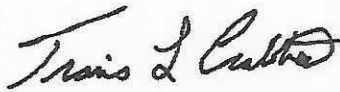


28. Page A18 – Electrical Room 78 has electrical gear rated at 800 amps. Panic hardware will be required for this exit door #77. Please also identify on life safety sheet - 2017 NC Electrical Code, Article 110.26 (C) (3).
29. Page A25 - Detail 2501, Clear height under drive-thru canopy to be at least 13 feet 6 inches for emergency responder access - 2018 NC Fire Code, section 503.2.1.
30. Page P10 – There are details for Propane and Natural Gas. Are both going to be utilized on this project?
31. Provide roof drain calculations for each roof area - 2018 NC Plumbing Code 1105 and 1106.
32. The current fire flow for this project requires 5,000 gpm for a 4 hour minimum. The flow must meet or exceed the requirements found in the 2018 NC Fire Code Appendix B, or ISO Fire Suppression Rating Schedule, or NFPA 1142 or other approved method. Provide a letter from the AHJ on how they will meet this requirement - 2018 NC Fire Code sections 507.3 and 903.3.5.
33. Provide a certification from the design professional that the new building meets or exceeds current energy code. You can use COMCheck based on 2015 ICC or ASHRAE 90.1-2013, Prescriptive OR Performance (Compliance options) - 2018 NC Energy Code section C401.2.
34. Page E3 – Exit sign will be required at exterior door #2 in Waiting 14 - 2018 NC Building Code, section 1013.
35. Page E7 – Directional exit sign required at the intersection of corridor 617 going towards Dining Room 60 - 2018 NC Building Code, section 1013.
36. Page E7 – Directional exit sign required at the intersection of corridor 733 at the intersection of corridor 838 - 2018 NC Building Code, section 1013.
37. Page E9 – Detail A, DC-1, Provide serviceable equipment receptacles for HVAC equipment within 25 feet - 2017 NC Electrical Code, article 210.64.
38. Page E20 – Patient Room 215 requires a smoke detector.
39. Page E20 – Reception 2, fire alarm remote annunciator #3 to be moved into the common area side of the office wall (Lobby) per Beaufort Fire Department operating procedures.
40. Pages E20 and E21 – Weatherproof horn/strobe is required in lieu of the electric bell outside of Mechanical Room B1 per Beaufort Fire Department.

41. Provide UL listing for generator diesel fuel tank.
42. Provide a Hazardous Materials Disclosure Inventory Statement formatted in accordance with Table 307.1 of the North Carolina Building Code that includes the volume of diesel fuel, oxygen, chemicals, aerosols, paints and cleaners, etc. planned for this nursing home project with regard to what would be on-site when open. These shall be identified as a solid, liquid, or gas and be identified in pounds, gallons, or cubic feet. Please provide a breakdown of the amounts being used and whether they are being used in an open or closed system. Control area may need to be identified as well.
43. Provide Detail/Riser Diagram - Emergency responder radio coverage shall have radio coverage based on existing coverage levels of the public safety communications system. Provide a written statement of how the path to compliance to achieve this safety feature will move forward to meet the needs of the jurisdiction - 2018 NC Fire Code, section 510.

We will await further information from you regarding this project.

Sincerely,



Travis L. Crabtree  
Building and Fire Code Consultant

TLC/Imm

CC: Town of Beaufort  
DHSR