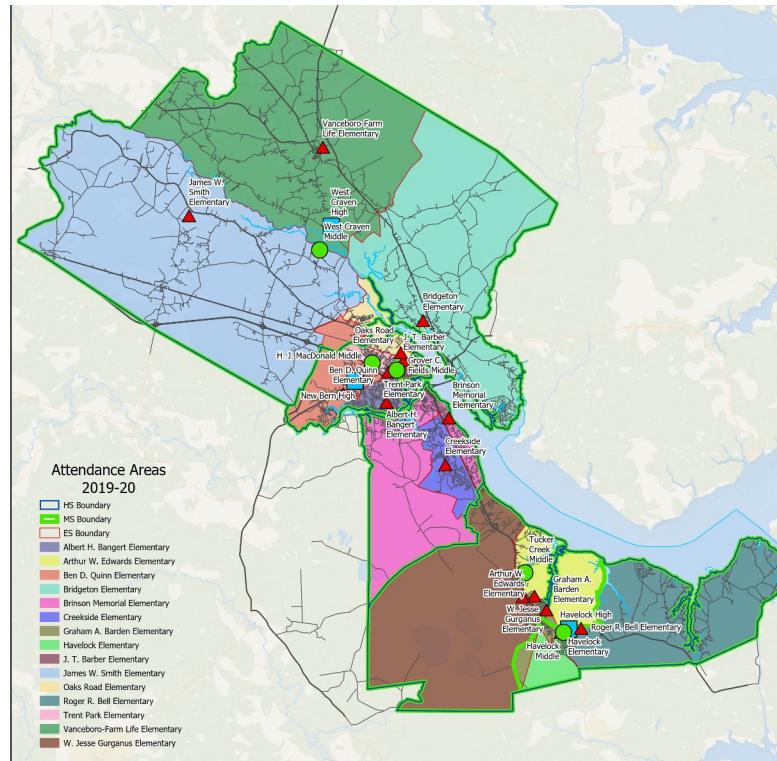


# Craven County Schools

## Long Range Facility Needs Assessment 2019



Prepared for the Craven County Board of Education:

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# **Executive Summary**

## EXECUTIVE SUMMARY

### The Craven County School System

Craven County Schools currently operates twenty three (23) traditional K-12 schools with an additional two early college sites totaling 2,379,833 square feet of real estate. The system is responsible for 13,600 pre-K through 13 students and employs approximately 1,600 teachers, staff, maintenance, and administrative individuals. It is governed by a seven member Board of Education.

### Aging School Infrastructure

The rapid aging of America's school infrastructure has long been documented. In 1995, the Governmental Accounting Office put the cost of repairing or upgrading the nation's schools into "good overall condition" at \$112 billion. In 1999, a report entitled Condition of America's Public School Facilities stated that "seventy-five percent of schools needed to spend some money on repairs, renovations and modernizations to put their buildings into good overall condition". Finally, the American Society of Civil Engineers puts out a report card every three years, with the most recent being 2017. Across the country, our schools received a D+ with the additional comment that "53% of schools need improvements to reach "good" condition."

### Craven County School History

Craven County's 23+ instructional facilities were built between 1951 (J.T. Barber) and 2007 (Creekside). Craven County can pride itself on the responsible manner in which it has sought to maintain these facilities within the limited resources available to the community. Many of these buildings were built to address extreme population growth during the baby boom. As with most schools built

during this time, they were constructed relatively inexpensively without consideration to life cycle costs that are important today. The result is that these buildings do not last as long as the ones built before and after the initial baby boom.

### State and Federal Mandates

The age and condition of school facilities in America are not often taken into consideration by State and Federal public policy and funding makers. Mandates from state and federal lawmakers, often unfunded, are regularly given to local school boards, which have no choice but to implement them. Funding which could otherwise go to renovations, winds up addressing capacity or other program related issues.

On March 16, 2018, HB 90 was signed into law. This statute changed the teacher-student ratio, effectively changing the number of students in a classroom. This un-funded mandate reduced the number of students in Kindergarten thru third grade classrooms, thereby requiring additional K-3 classrooms for the same number of students. The pressure created by reducing capacity in these classrooms was alleviated by removing all restrictions on how many students can be in 4th-12th grade classrooms. Although it is well intended and supports best practices of increasing the teacher-student ratio for our youngest students, this bill has the potential to create overcrowding and a reduced teacher to student ratio in 4th and 5th grade classrooms, thereby jeopardizing each school's ability to provide a complete program.

### Craven's Unique Community

Compliance with Federal and State mandates and aging infrastructure frame Craven County Schools as similar to other school districts in the state, but numerous other characteristics make it unique. With a relatively low population density of 146 individuals per square mile, a good portion of the county is dedicated to farming and recreation. This is in contrast with New Bern's density of over 1,000 people per square mile.

It is home to US Marine Corps Air Station Cherry Point in Havelock. Within the county there are more than 60,000 acres owned by the federal government, including the very large Croatan National Forest.

Craven Community College provides higher education for the surrounding area and works in conjunction with the school system supporting the two Early College programs. Craven Early College (CEC) program is located at the New Bern campus while the Early College East (Eastern Applied Sciences and Technology) is located in Havelock.

### Purpose of the Long-Range Facility Needs Assessment

Simply put, the purpose of this planning document is to detail statistically valid third-party research on student population, to complete an exhaustive inventory of existing facilities, and to compare these two pieces of independent research to determine:

1. Student population sizes for each school, for each of the next ten years.
2. When, specifically, individual school facilities will reach their maximum student capacity.
3. What possible building renovations or campus expansions are possible at each of the existing school locations.

4. What deferred maintenance items exist for each school.

This document is **not** meant to provide the Craven County Board of Education with a specific plan for meeting the needs identified. It is the responsibility of the school system and the local community to determine the appropriate manner and schedule for accomplishing that. This document provides the informational foundation for such local planning efforts. It is the responsibility of the school district and the community to create a plan which meets the unique needs of Craven County.

### Methodology

This assessment may be termed a "compilation study" and was completed using the final work products from two independently contracted sources as well as numerous contributors. Smith Sinnett Architecture's work comprises a majority of the data collection and analysis in this document. Mike Miller of Numerix Solutions did the population forecast, which provides invaluable data on overcrowding and overall growth patterns.

None of this work would be possible if not for Craven County staff who provided critical information on the school system. Maintenance personnel spent precious time walking us through the buildings and discussing options for improvement and collecting data on each facility. Principals were also invaluable in describing how each facility functions and where they saw potential for improvement.

**Craven Curriculum Requirements for Facilities**

While the Federal Government and the State of North Carolina enforce a variety of rules and regulations regarding the provision of instructional services, some decisions remain within the discretion of Local Education Authority (LEA). A standard for facilities was created based heavily on the NCDPI Minimum Recommended Standards and was modified only slightly to address community needs. One of the primary questions is how big should schools be. Below are the discussed ideal student capacities along with anticipated maximum core capacity.

|             |             |            |
|-------------|-------------|------------|
| Elementary: | 450 - 700   | Core 700   |
| Middle:     | 600 - 800   | Core 800   |
| High:       | 800 - 1,200 | Core 1,200 |

**Technology and Infrastructure**

Technology is also a subject for local decision. Craven County Schools has established a tiered technology vision that supports teacher productivity, classroom connectivity and student one-to-one device access to technology. The tiers are based on the age of students and their responsibility level. As students age, and coursework and research requirements increase, they receive more responsibility with the equipment until the point where they take equipment home in order to complete their assignments. This plan has been updated significantly since Hurricane Florence.

Craven County School staff has been consistently improving wireless systems throughout the county and has reached the point where each school is capable of handling one-to-one network access for all students simultaneously.

To keep up with education delivery methods, the school system will need to continually replace outdated equipment with new.

**Other local decisions included:**

- Individual classroom sizes that align with program content.
- Continue with the elementary, middle, and high school grade level configuration.
- How many square feet to provide in the cafeteria for each student.
- Classroom finishes including flooring and lighting.
- Providing indoor air quality that complies with current code requirements.
- Providing appropriate flexible spaces for pedagogical and programmatic changes in the future.
- Ensuring all schools, within a given level (elementary, middle, or high), have access to the type of specialized instructional areas specified as necessitated by the state. Depending on the school level, such spaces might include: Media Centers or Libraries, Auditoriums, Multipurpose Rooms or Gymnasiums, Play Areas or formal Athletic Facilities. However, in completing this objective, special consideration must be given to promote equity throughout the different schools at each grade level.

### District-Wide Site Appraisals

Site appraisals were conducted for every campus within the system. The purpose of this report was to compare NCDPI standards for campus acreage to the actual campus acreages of each school site. Generally most of the school parcels have sufficient acreage. There are, however, several small campuses and several very large ones.

### Facility Appraisals

As mentioned previously, a complete inventory was taken of every school facility within the system. Facility appraisals were conducted on a campus by campus basis using the NCDPI / Craven County Schools minimum facility standards. In addition, renovations or potential expansions necessary to maintain or protect existing assets and provide necessary instructional and support spaces and systems were identified. Significant investment potential exists to bring some of the older schools up to current standards. Items of deferred maintenance or larger necessary repairs to existing campuses are defined within the Long Range Facility Needs Assessment. Such repairs might include replacement of a gymnasium floor, painting an entire school or replacing an electrical or mechanical system.

### Capacity Calculations

The maximum capacity for each school was calculated based on current use, as well as what the capacities will be over the course of the next several years as HB 90 takes effect. The numbers were iterated to ensure all current programs are included.

### Possible Facility Improvements

Possible improvements to each campus are covered in detail, with aerial photos and drawings of existing campuses coupled with conceptual drawings of areas of possible renovation and/or expansion. The types of necessary spaces are broken down for each school (science rooms, media centers, multi-purpose rooms, etc.) and cost estimates are given for each necessary improvement. All cost estimates are given based on current to 2019 dollar amounts.

### Facility Appraisal Summary Sheet

Identified improvements to every campus within the system are covered within one summary sheet. **This sheet depicts all improvement options that should be considered over the next ten years and should not be misinterpreted to mean all improvements are immediately necessary.**

A detailed analysis of the facility appraisals should be carefully reviewed to gain an understanding into the nature of this important spreadsheet.

### District-Wide Site Appraisals - following page

Site assessments were conducted for every campus within the system. The purpose of this table is to compare NCDPI standards for campus acreage to the actual campus acreages of each school site.

The various colors indicate a ratio of existing acres / recommended acres. The recommendations are based on a one story building in a rural environment. Multi-story buildings and those within the city limits may have reduced acreage and still function properly.

| <b>Craven County Schools 2019</b>   |                 |               |                   |                   |                                    |                   |
|---|-----------------|---------------|-------------------|-------------------|------------------------------------|-------------------|
| Acreage Comparison to NCDPI Recommendations   |                 |               |                   |                   |                                    |                   |
| Having the appropriate acreage for a school depends on many factors. Issues range from multistory configurations to restrictions within a watershed and many other site specific conditions. The end result is that many sites have unusable acreage. The following comparison is used only as a general reference. | <b>Existing</b> |               |                   |                   | <b>Potential</b>                   |                   |
|   | Existing Acres  | Cleared Acres | 2021 ADM Capacity | NCDPI Sugg. Acres | Potential Student Capacity Inc. PK | NCDPI Sugg. Acres |
| <b>Elementary</b>   |                 |               |                   |                   |                                    |                   |
| Bangert Elementary  | 13.5            | 7.8           | 386               | 13.86             | 386                                | 13.86             |
| Aurthur Edwards Elementary  | 15.3            | 13.9          | 626               | 16.26             | 626                                | 16.26             |
| Ben D. Quinn Elementary   | 63.1            | 17.2          | 386               | 13.86             | 402                                | 14.02             |
| Bridgeton Elementary  | 24.6            | 22.9          | 516               | 15.16             | 636                                | 16.36             |
| Brinson Memorial Elementary   | 34.2            | 21.3          | 772               | 17.72             | 772                                | 17.72             |
| Creekside Elementary  | 29.4            | 23.5          | 516               | 15.16             | 636                                | 16.36             |
| Graham A. Barden Elementary   | 9.4             | 5.6           | 318               | 13.18             | 366                                | 13.66             |
| Havelock Elementary and Havelock Middle *   | 31.2            | 10.0          | 422               | 14.22             | 600                                | 16                |
| J.T. Barber Elementary and Bus Garage *   | 16.7            | 10.6          | 376               | 13.76             | 424                                | 14.24             |
| James W. Smith Elementary   | 47.7            | 33.4          | 609               | 16.09             | 676                                | 16.76             |
| Oaks Road   | 18.1            | 9.0           | 368               | 13.68             | 368                                | 13.68             |
| Roger Bell Elementary   | 27.1            | 16.4          | 412               | 14.12             | 532                                | 15.32             |
| Trent Park Elementary   | 12.0            | 7.7           | 376               | 13.76             | 376                                | 13.76             |
| Vanceboro Farm Life Elementary  | 66.0            | 30.4          | 516               | 15.16             | 516                                | 15.16             |
| W.J. Gurganus Elementary-All Parcels  | 32.6            | 16.6          | 402               | 14.02             | 616                                | 16.16             |
| <b>Total Elementary Schools</b>   | <b>440.8</b>    | <b>246.4</b>  | <b>7,001.0</b>    | <b>220</b>        | <b>7932</b>                        | <b>229</b>        |
| <b>Middle</b>   |                 |               |                   |                   |                                    |                   |
| Grover C. Fields Middle   | 23.7            | 22.9          | 722               | 22.22             | 722                                | 22.22             |
| H.J. MacDonald Middle   | 42.7            | 31.8          | 888               | 23.88             | 888                                | 23.88             |
| Havelock Middle *   |                 | 9.3           | 566               | 20.66             | 566                                | 20.66             |
| Tucker Creek Middle   | 52.7            | 37.8          | 686               | 21.86             | 930                                | 24.3              |
| West Craven Middle  | 41.9            | 35.9          | 758               | 22.58             | 758                                | 22.58             |
| <b>Total Middle Schools</b>   | <b>160.9</b>    | <b>137.7</b>  | <b>3,620.0</b>    | <b>111</b>        | <b>3864</b>                        | <b>114</b>        |
| <b>High</b>   |                 |               |                   |                   |                                    |                   |
| Havelock High School  | 53.1            | 51.2          | 1140              | 41.4              | 1140                               | 41.4              |
| New Bern High   | 95.2            | 68.3          | 1733              | 47.33             | 1733                               | 47.33             |
| West Craven High  | 75.0            | 48.7          | 1253              | 42.53             | 1253                               | 42.53             |
| <b>Total High Schools</b>   | <b>223.4</b>    | <b>168.2</b>  | <b>4,126.0</b>    | <b>131</b>        | <b>4,126</b>                       | <b>131</b>        |
| <b>Other Educational</b>  |                 |               |                   |                   |                                    |                   |
| Craven Early College (CCC Property)   | 100.2           | Na            | 218               | Na                | 218                                | Na                |
| Early College East High (CCC Property) *  | 24.4            | Na            | 201               | Na                | 201                                | Na                |
| <b>Total Other Schools</b>  | <b>Na</b>       | <b>Na</b>     | <b>419</b>        | <b>Na</b>         | <b>419</b>                         | <b>Na</b>         |
| <b>Other Parcels</b>  |                 |               |                   |                   |                                    |                   |
| Administration Building   | 2.9             | 2.9           | Na                | Na                | Na                                 | Na                |
| Bus Garage and J.T. Barber  |                 | 4.5           | Na                | Na                | Na                                 | Na                |
| Maintenance Department  | 10.5            | 5.0           | Na                | Na                | Na                                 | Na                |
| Vacant Lot on N B Street - waterfront   | 6.5             | 6.5           | Na                | Na                | Na                                 | Na                |
| Parcel West of Church off SR 1160   | 1.1             | 0.8           | Na                | Na                | Na                                 | Na                |
| West Street School  | 2.5             |               | Na                | Na                | Na                                 | Na                |
| <b>Total Other Parcels</b>  | <b>23.4</b>     | <b>19.6</b>   | <b>0</b>          | <b>0</b>          | <b>0</b>                           | <b>0</b>          |
| <b>Subtotals</b>  |                 |               |                   |                   |                                    |                   |
| Educational Subtotal  | 825.1           | 552.2         | 14,747            | 462.5             | 15,922                             | 474               |
| Other Subtotal  | 23.4            | 19.6          | 419               | 0.0               | 419                                | 0                 |
| <b>System Totals</b>  | <b>848.5</b>    | <b>572</b>    | <b>15,166</b>     | <b>462</b>        | <b>16,341</b>                      | <b>474</b>        |

## Capacity Calculations

The number of students in a school is directly related to its attendance boundary. If you change the capacity of a school by creating additional classrooms, you can increase the attendance boundary. Therefore, it is important to understand and have accurate numbers on how many students can be supported at a facility and still provide a complete program. Contained herein is a detailed analysis of the capacity of each school. It is broken down into various capacities to provide a full understanding of the calculations and the implications of attempting to operate schools at full capacity.

In 2013, the North Carolina General Assembly prescribed changes to the number of students allowed in individual classrooms from Kindergarten through the third grade. These mostly went unnoticed until 2017. As school systems began to understand the implication of the new legislation, they appealed to lawmakers for more time to address the changes and achieved this through HB-90. This law allows school systems four years to comply with 115C-301 by gradually reducing the number of K-3 students in each classroom with the ultimate date of transition being the start of the 2021-2022 school year.

NC Statute 115C-301. Allocation of teachers; class size.

(c) Maximum Class Size for Kindergarten Through Third Grade. - The average class size for kindergarten through third grade in a local school administrative unit shall at no time exceed the funded allotment ratio of teachers to students in kindergarten through third grade. At the end of the second school month and for the remainder of the school year, the size of an individual class in kindergarten through third grade shall not exceed the allotment ratio by more than three students. In grades four through 12, local school administrative units shall have the maximum flexibility to use allotted teacher positions to maximize student achievement.

The reductions in the number of students in Kindergarten-3 are:

|              | Old | New |
|--------------|-----|-----|
| Kindergarten | 21  | 18  |
| First Grade  | 21  | 16  |
| Second Grade | 21  | 17  |
| Third Grade  | 21  | 17  |

These reductions have a significant impact to the school's ability to serve the elementary level population and potentially impact secondary classrooms and classroom capacities as well.

**Capacity Calculations**

Shown here are the capacities of each school for the start of the 2021 school year. At this point, HB-90 and GS 115C-301 will be in full effect and no additional changes to the number of students in each classroom have been indicated by the state legislature at this time.

The ADM Capacity counts every seat in every viable classroom.

Efficiency refers to how close the school can get to the Full ADM without one of the grade levels being over capacity.

The Operational Capacity is the number that should be used for planning purposes.

Core Capacity refers to the number of students that the Cafeteria and Media Centers can support.

| <b>Craven County Schools</b> |               |                |                      |               |
|------------------------------|---------------|----------------|----------------------|---------------|
| Student Capacity             |               |                |                      |               |
| <b>2021 Capacity Summary</b> |               |                |                      |               |
| Facility                     | ADM Capacity  | Efficiency     | Operational Capacity | Core Capacity |
| <b>Elementary</b>            |               |                |                      |               |
| A. H. Bangert                | 386           | 80.8%          | 312                  | 650           |
| Arthur W. Edwards            | 626           | 92.0%          | 576                  | 628           |
| Ben D. Quinn                 | 386           | 80.8%          | 312                  | 728           |
| Bridgeton                    | 516           | 90.7%          | 468                  | 695           |
| Brinson Memorial             | 772           | 92.5%          | 714                  | 813           |
| Creekside                    | 516           | 90.7%          | 468                  | 695           |
| Graham A. Barden             | 318           | 90.6%          | 288                  | 720           |
| Havelock                     | 422           | 73.9%          | 312                  | 699           |
| J.T. Barber                  | 376           | 83.0%          | 312                  | 727           |
| J.W. Smith                   | 609           | 83.7%          | 510                  | 728           |
| Oaks Rd Academy              | 368           | 84.8%          | 312                  | 536           |
| Roger Bell New Tech          | 412           | 75.7%          | 312                  | 728           |
| Trent Park                   | 376           | 83.0%          | 312                  | 604           |
| Vanceboro-Farm Life          | 516           | 90.7%          | 468                  | 699           |
| W.J. Gurganus                | 402           | 77.6%          | 312                  | 728           |
| <b>Elementary Subtotal</b>   | <b>7,001</b>  | <b>84.70%</b>  | <b>5,988</b>         | <b>10,376</b> |
| <b>Middle</b>                |               |                |                      |               |
| Grover C. Fields - No Data   | 722           | 97.0%          | 700                  | 1,021         |
| H.J. MacDonald               | 888           | 97.0%          | 861                  | 1,189         |
| Havelock Middle              | 566           | 97.0%          | 549                  | 769           |
| Tucker Creek                 | 686           | 97.0%          | 665                  | 937           |
| West Craven                  | 758           | 97.0%          | 735                  | 860           |
| <b>Middle Subtotal</b>       | <b>3,620</b>  | <b>97.00%</b>  | <b>3,511</b>         | <b>4,776</b>  |
| <b>High</b>                  |               |                |                      |               |
| Havelock                     | 1,253         | 100%           | 1,253                | 1,254         |
| New Bern                     | 1,733         | 100%           | 1,733                | 1,871         |
| West Craven                  | 1,140         | 100%           | 1,140                | 1,254         |
| Craven Early College         | 218           | 100%           | 218                  | Na            |
| Early College East           | 201           | 100%           | 201                  | Na            |
| <b>High Subtotal</b>         | <b>4,545</b>  | <b>100.00%</b> | <b>4,545</b>         | <b>4,379</b>  |
| <b>Total</b>                 | <b>15,166</b> | <b>93.90%</b>  | <b>14,044</b>        | <b>19,532</b> |

# Numerix Solutions LLC

Numerix Solutions has provided a ten year population forecast based on historic and current student data. This information will be useful in verifying that schools have sufficient capacity and for any redistricting which may occur. Population projections are given by campus, by year, for each of the next ten years. It also takes into account the reductions based on HB-90.

Craven County Schools Membership Forecast **DRAFT**

1. Historic Month-2 ADM supplied by NC DPI. 2019-20 Month-1 ADM supplied by NC DPI. Pre-K supplied by CCS.
2. Building capacities supplied by Smith-Sinnett Architecture, version 7/9/19.
3. Forecast generated by Numerix Cohort-Feeder model. Projected RLB annual gain = 1.50%, 2019 to 2024. K-12 average annual gain = 2.46%, 2019-20 to 2028-29.

**DRAFT**

| Grades                                   | Capacities |         | Historic Month-2 ADM |         |         |         |         |         |         |         |         |         | Forecasted Month-2 ADM |         |         |         |         |         |         |         |       |  |
|--|------------|---------|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------------------|---------|---------|---------|---------|---------|---------|---------|-------|--|
|  | 2019-20    | 2020-21 | 2021-22              | 2019-20 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23                | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 |       |  |
| <b>Elementary</b>                        |            |         |                      |         |         |         |         |         |         |         |         |         |                        |         |         |         |         |         |         |         |       |  |
| Albert H Bangert Elementary              | 342        | 324     | 312                  | 16      | 323     | 425     | 432     | 428     | 442     | 457     | 450     | 440     | 433                    | 419     | 414     | 404     | 402     | 400     | 403     | 408     | 408   |  |
| Ben D Quinn Elementary                   | 355        | 336     | 312                  | 24      | 519     | 476     | 466     | 438     | 433     | 458     | 468     | 452     | 444                    | 430     | 419     | 414     | 411     | 410     | 410     | 412     | 418   |  |
| Bridgeton Elementary                     | 468        | 468     | 468                  |         | 458     | 469     | 414     | 403     | 351     | 352     | 345     | 343     | 343                    | 347     | 332     | 330     | 327     | 327     | 327     | 329     | 334   |  |
| Brinson Memorial Elementary              | 780        | 756     | 714                  |         | 665     | 679     | 689     | 687     | 593     | 549     | 541     | 550     | 538                    | 537     | 535     | 545     | 542     | 541     | 545     | 553     | 552   |  |
| Creekside Elementary                     | 468        | 468     | 468                  |         | 594     | 505     | 544     | 514     | 518     | 514     | 526     | 535     | 544                    | 540     | 544     | 545     | 541     | 540     | 544     | 544     | 552   |  |
| Vanceboro-Farm Life Elementary           | 468        | 468     | 468                  |         | 634     | 607     | 609     | 595     | 587     | 591     | 570     | 540     | 522                    | 506     | 512     | 505     | 502     | 501     | 505     | 512     | 512   |  |
| Graham A Barden Elementary               | 356        | 357     | 288                  | 18      | 302     | 283     | 311     | 273     | 274     | 265     | 273     | 276     | 285                    | 292     | 288     | 291     | 290     | 289     | 292     | 296     | 296   |  |
| Havelock Elementary                      | 342        | 324     | 312                  | 11      | 388     | 343     | 332     | 350     | 320     | 304     | 318     | 341     | 357                    | 360     | 376     | 382     | 380     | 379     | 382     | 387     | 387   |  |
| J T Barber Elementary                    | 381        | 362     | 312                  | 37      | 370     | 340     | 341     | 286     | 289     | 240     | 239     | 246     | 249                    | 256     | 265     | 264     | 264     | 264     | 266     | 266     | 269   |  |
| James W Smith Elementary                 | 570        | 540     | 510                  | 49      | 604     | 440     | 433     | 441     | 408     | 428     | 399     | 384     | 364                    | 363     | 358     | 355     | 353     | 353     | 356     | 360     | 360   |  |
| Oaks Road Academy                        | 342        | 324     | 312                  |         | 425     | 425     | 425     | 416     | 397     | 386     | 371     | 349     | 342                    | 326     | 327     | 323     | 322     | 321     | 324     | 328     | 328   |  |
| Roger Bell New Tech Academy              | 342        | 324     | 312                  |         | 331     | 361     | 386     | 362     | 340     | 380     | 404     | 403     | 421                    | 417     | 439     | 432     | 429     | 427     | 430     | 436     | 436   |  |
| Trent Park Elementary                    | 342        | 324     | 312                  |         | 418     | 459     | 450     | 432     | 432     | 433     | 434     | 435     | 427                    | 411     | 396     | 390     | 388     | 387     | 389     | 395     | 395   |  |
| W Jesse Gurganus Elementary              | 342        | 324     | 312                  |         | 502     | 394     | 366     | 386     | 386     | 407     | 391     | 371     | 367                    | 356     | 359     | 337     | 335     | 335     | 337     | 342     | 342   |  |
| Arthur W Edwards Elementary              | 624        | 624     | 576                  |         | 387     | 647     | 629     | 630     | 625     | 588     | 584     | 579     | 583                    | 573     | 567     | 557     | 554     | 553     | 557     | 566     | 566   |  |
| <b>SubTotal</b>                          | 6521       | 6324    | 5988                 | 191     | 6920    | 6853    | 6827    | 6641    | 6395    | 6352    | 6314    | 6243    | 6219                   | 6133    | 6132    | 6076    | 6039    | 6028    | 6069    | 6157    | 6157  |  |
| <b>Middle</b>                            |            |         |                      |         |         |         |         |         |         |         |         |         |                        |         |         |         |         |         |         |         |       |  |
| Grover C Fields Middle                   | 700        | 700     | 700                  |         | 569     | 576     | 560     | 554     | 581     | 563     | 572     | 534     | 526                    | 508     | 508     | 495     | 513     | 532     | 543     | 529     | 529   |  |
| H J MacDonald Middle                     | 861        | 861     | 861                  |         | 936     | 761     | 793     | 814     | 847     | 847     | 789     | 776     | 769                    | 783     | 750     | 747     | 722     | 720     | 700     | 680     | 680   |  |
| Havelock Middle                          | 549        | 549     | 549                  |         | 443     | 375     | 392     | 382     | 400     | 418     | 409     | 403     | 383                    | 402     | 386     | 419     | 439     | 477     | 481     | 467     | 467   |  |
| Tucker Creek Middle                      | 665        | 665     | 665                  |         | 416     | 488     | 495     | 495     | 545     | 520     | 542     | 553     | 528                    | 512     | 487     | 521     | 525     | 529     | 504     | 490     | 490   |  |
| West Craven Middle                       | 735        | 735     | 735                  |         | 832     | 818     | 788     | 752     | 756     | 758     | 756     | 748     | 736                    | 698     | 644     | 624     | 613     | 610     | 596     | 580     | 580   |  |
| <b>SubTotal</b>                          | 3510       | 3510    | 3510                 |         | 3196    | 3018    | 3028    | 2997    | 3129    | 3106    | 3068    | 3013    | 2933                   | 2902    | 2775    | 2807    | 2813    | 2869    | 2824    | 2747    | 2747  |  |
| <b>High</b>                              |            |         |                      |         |         |         |         |         |         |         |         |         |                        |         |         |         |         |         |         |         |       |  |
| Havelock High                            | 1253       | 1253    | 1253                 |         | 1113    | 1109    | 1086    | 1065    | 1007    | 1036    | 1078    | 1126    | 1214                   | 1191    | 1223    | 1171    | 1165    | 1146    | 1161    | 1219    | 1219  |  |
| New Bern High                            | 1733       | 1733    | 1733                 |         | 1693    | 1690    | 1711    | 1712    | 1665    | 1615    | 1703    | 1748    | 1755                   | 1759    | 1711    | 1656    | 1645    | 1610    | 1592    | 1589    | 1589  |  |
| West Craven High                         | 1140       | 1140    | 1140                 |         | 969     | 1014    | 967     | 971     | 985     | 774     | 764     | 779     | 802                    | 806     | 818     | 786     | 754     | 721     | 685     | 667     | 667   |  |
| <b>SubTotal</b>                          | 4126       | 4126    | 4126                 |         | 3775    | 3813    | 3764    | 3748    | 3607    | 3425    | 3545    | 3653    | 3770                   | 3756    | 3752    | 3613    | 3565    | 3477    | 3438    | 3475    | 3475  |  |
| <b>Special/Alternative</b>               |            |         |                      |         |         |         |         |         |         |         |         |         |                        |         |         |         |         |         |         |         |       |  |
| Craven Early College High                | n/a        | n/a     | n/a                  |         | 203     | 218     | 214     | 210     | 218     | 218     | 218     | 218     | 218                    | 218     | 218     | 218     | 218     | 218     | 218     | 218     | 218   |  |
| Early College EAST High                  | n/a        | n/a     | n/a                  |         | 215     | 210     | 202     | 191     | 187     | 201     | 201     | 201     | 201                    | 201     | 201     | 201     | 201     | 201     | 201     | 201     | 201   |  |
| <b>SubTotal</b>                          | n/a        | n/a     | n/a                  |         | 418     | 428     | 416     | 401     | 405     | 419     | 419     | 419     | 419                    | 419     | 419     | 419     | 419     | 419     | 419     | 419     | 419   |  |
| <b>System Total (excluding Spec/Alt)</b> | 14157      | 13960   | 13624                | 191     | 13891   | 13684   | 13619   | 13386   | 13131   | 12883   | 12927   | 12910   | 12922                  | 12792   | 12659   | 12496   | 12416   | 12374   | 12331   | 12378   | 12378 |  |
| <b>System Total (including Spec/Alt)</b> | n/a        | n/a     | n/a                  | 191     | 14309   | 14112   | 14035   | 13787   | 13536   | 13302   | 13346   | 13329   | 13341                  | 13211   | 13078   | 12915   | 12835   | 12793   | 12750   | 12750   | 12750 |  |

**Capacity Legend**

< 90%
90% - 100%
100% - 110%
> 110%

Forecast generated by Numerix LLC

### Building Life Cycle

We typically think of buildings as permanent. However, buildings do not last forever and, in the United States, are typically razed at about seventy to eighty years of age. Buildings built in the 1930's to 1940's were usually well constructed. Buildings built during the baby boom were not built to the same standards and often do not last seventy years before demolition occurs.

The graphic below indicates the relative youthfulness of the buildings used by Craven County Schools. The green is youthful and will require some maintenance to keep in good operational condition. The orange indicates when the building is moving into a state where maintenance will become more critical, and the red section shows a higher level of maintenance is needed and building replacement should be considered.



The table to the right shows the number of square feet per decade of the buildings currently being used by Craven County Schools. Approximately half of the total square footage was constructed before 1980. A building built in 1980 would be about half way through its life cycle, when repair costs begin to increase dramatically.

No facilities have been constructed in the past ten years.

| Craven County Schools          |                 |                |            |
|--------------------------------|-----------------|----------------|------------|
| Age of Building Square Footage |                 |                |            |
| 11/25/2019                     |                 |                |            |
| Year Range                     | Approximate Age | Square Footage | Percentage |
| 1940-1950                      | > 70 yrs        | 0              | 0.00%      |
| 1950-1960                      | 60-70 yrs       | 365,395        | 15.43%     |
| 1960-1970                      | 50-60 yrs       | 235,085        | 9.93%      |
| 1970-1980                      | 40-50 yrs       | 503,564        | 21.27%     |
| 1980-1990                      | 30-40 yrs       | 204,050        | 8.62%      |
| 1990-2000                      | 20-30 yrs       | 700,250        | 29.58%     |
| 2000-1010                      | 10-20 yrs       | 359,003        | 15.16%     |
| 2010-2020                      | 0-10 yrs        | 0              | 0.00%      |
| Totals                         |                 | 2,367,347      |            |

**Flood Data**

The North Carolina Floor Risk Information System (FRIS) uses topographic data and topographic information along with hydraulic and hydrologic models to create maps showing areas at risk of flooding. The information is updated when new topographic data is available and consensus is made on the impacts. Effective Base Flood Elevations (BFE) are the currently accepted flood zones. The Preliminary BFE's have yet to be fully vetted.

| Flood Data                   |   |           |             |      |      |      |                |      |                 |            |           |                  |
|------------------------------|---|-----------|-------------|------|------|------|----------------|------|-----------------|------------|-----------|------------------|
| Date                         | 3/4/2019  |           |             |      |      |      |                |      |                 |            |           |                  |
| FRIS Data                    |   |           |             |      |      |      |                |      |                 |            |           |                  |
| Facility                     | Building Elevation  | Effective | Preliminary |      |      |      | Area of Impact | Type | Flood Source    | Other Type | BFE other | Island Potential |
|                              |   | BFE       | BFE         | BFE  | BFE  | BFE  |                |      |                 |            |           |                  |
|                              |   | 100       | 25          | 50   | 100  | 500  |                |      |                 |            |           |                  |
|                              |   | 1%        |             | 2%   | 1%   | 0.2% |                |      |                 |            | max.      |                  |
| <b>Elementary</b>            |   |           |             |      |      |      |                |      |                 |            |           |                  |
| AH Bangert Elem              | 14  | 12.3      |             |      | 9.6  | 11   | Site           | AE   | Trent Tributary |            |           | Yes              |
| AW Edwards Elem              | 27  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| Ben D Quinn Elem             | 27  | 8         | 6.5         | 7.8  | 9    | 12   | Site           | AE   | Trent           |            |           | Minimal          |
| Bridgeton Elem               | 13  | 10        |             |      | 10.2 | 11   | Site           | AE   | Mills Branch    | Floodway   |           | Yes              |
| Brinson Memorial Elem        | 26  |           | 6.1         | 7.3  | 8    | 11   | Site           | X    |                 |            |           | Yes              |
| Creekside Elementary School  | 22  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| G ABarden Elem               | 23  |           |             |      |      |      |                | X    |                 |            |           |                  |
| Havelock Elem                | 25  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| J T Barber Elem              | 7   | 8         | 6.1         | 7.4  | 9    | 9    | Building       | AE   | Neuse           |            |           | Yes              |
| J W Smith Elem               | 37  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| Oaks Road Elem               | 8   | 8         |             | 7.4  | 9    | 10   | Building       | AE   | Neuse           |            |           | Yes              |
| Roger Bell Elem              | 27  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| Trent Park Elem              | 22  |           |             |      |      |      |                | X    |                 |            |           | Minimal          |
| Vanceboro Farm Life Elem     | 28  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| W J Gurganus Elem            | 30  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| <b>Middle</b>                |   |           |             |      |      |      |                |      |                 |            |           |                  |
| Grover C Fields Middle       | 18  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| H J MacDonald Middle         | 29  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| Havelock Middle              | 26  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| Tucker Creek Middle          | 28  | 8         | 5.6         | 6.7  | 8    | 8    | Site           | AE   | Neuse           |            |           | Yes              |
| West Craven Middle           | 15  | 11.1      | 9.2         | 10.3 | 11.3 | 13.6 | Site           | AE   | Neuse           | Floodway   | 13.7      | Yes              |
| <b>High</b>                  |   |           |             |      |      |      |                |      |                 |            |           |                  |
| HAVELOCK HS                  | 28  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| Early College                | 28  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| Early College East           | 25  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| NEW BERN HS                  | 25  |           |             |      |      |      |                | X    |                 |            |           | Yes              |
| WEST CRAVEN HS               | 10  | 11.2      |             | 10.3 | 11.3 | 13.6 | Building       | AE   | Neuse           |            |           | Yes              |
| <b>Other Facilities</b>      |   |           |             |      |      |      |                |      |                 |            |           |                  |
| BOE                          | 18  |           |             |      |      |      | Site           | X    | Jimmys Creek    |            |           | Yes              |
| Bus Garage                   | 6   | 8         | 6.1         | 7.4  | 9    | 9    | Building       | AE   | Neuse           |            |           | Yes              |
| Child Nutrition Services     | 7   | 8         | 6.1         | 7.4  | 9    | 9    | Building       | AE   | Neuse           |            |           | Yes              |
| FACILITIES SUPPORT SVCS      |   |           |             |      |      |      |                |      |                 |            |           |                  |
| GENERAL SVCS                 |   |           |             |      |      |      |                |      |                 |            |           |                  |
| Preliminary information Date | 6/30/2016   |           |             |      |      |      |                |      |                 |            |           |                  |
| Flood                        |   |           |             |      |      |      |                |      |                 |            |           |                  |
|                              | <a href="https://fris.nc.gov/fris/Index.aspx?FIPS=049&amp;ST=NC&amp;user=General%20Public#">https://fris.nc.gov/fris/Index.aspx?FIPS=049&amp;ST=NC&amp;user=General%20Public#</a> |           |             |      |      |      |                |      |                 |            |           |                  |

**Deferred Maintenance**

For this evaluation, a facility standard was created and used as the basis of comparison between the various schools. The standard established is based on the most recent schools which are now twenty years old. Even these facilities have potential improvements related to safety and security, as well as mechanical units which have aged out.

This chart is a summary of all potential improvements that have been identified at each campus and include a contingency of 10% for unforeseen changes and market fluctuations and 9% inflation, or 3% for 3 years.

The values are based on the most recent costs available at this time. **It is important to understand not every improvement at every school is necessary, and this does not represent a request for funds.** It is simply a tabulation of all items that should be considered when doing long range facility planning.

| <b>Craven County Schools</b> | Deferred             |
|------------------------------|----------------------|
| Deferred Maintenance         | Maintenance          |
| 12/17/2019                   | + Contingency        |
|                              | + Inflation          |
| Facility                     | + Soft Costs         |
|                              |                      |
| A. H. Bangert                | \$8,386,728          |
| Arthur W. Edwards            | \$11,466,367         |
| Ben D. Quinn                 | \$4,842,383          |
| Bridgeton                    | \$2,267,079          |
| Brinson Memorial             | \$11,645,020         |
| Creekside                    | \$2,287,478          |
| Graham A. Barden             | \$5,419,131          |
| Havelock                     | \$1,657,151          |
| J.T. Barber                  | \$9,698,398          |
| J.W. Smith                   | \$4,728,564          |
| Oaks Rd Academy              | \$6,319,761          |
| Roger Bell New Tech          | \$4,914,468          |
| Trent Park                   | \$6,978,058          |
| Vanceboro-Farm Life          | \$9,765,614          |
| W.J. Gurganus                | \$4,995,502          |
| Subtotal                     | \$95,371,701         |
|                              |                      |
| Grover C. Fields             | \$11,265,028         |
| H.J. MacDonald               | \$21,087,484         |
| Havelock Middle              | \$10,666,228         |
| Tucker Creek                 | \$6,305,134          |
| West Craven                  | \$10,372,723         |
| Subtotal                     | \$59,696,598         |
|                              |                      |
| Havelock                     | \$21,099,781         |
| New Bern                     | \$15,975,304         |
| West Craven                  | \$19,040,268         |
| Early College                | \$37,131             |
| Early College East           | \$153,887            |
| Subtotal                     | \$56,306,370         |
|                              |                      |
| Central Offices              | \$1,725,232          |
| Child Nutrition              | \$592,628            |
| Bus Garage                   | \$320,528            |
| Facility Support             | \$467,957            |
| Subtotal                     | \$3,106,345          |
|                              |                      |
| <b>Total</b>                 | <b>\$214,481,014</b> |

**Facilities Condition Index (FCI)**

Here each facility is reviewed by comparing the Deferred Maintenance costs to the cost of replacing the entire building at the same square footage. The replacement cost shown is based on a total project budget for replacement including all furniture, design, surveying and soil borings. The size of the buildings have the same overall building footprint as the existing in an effort to make an accurate comparison. This does not correct deficiencies in small rooms nor inadequacies in organization.

A higher FCI indicates the relative cost of improvements at a particular site are significant relative to replacing the building. As an example, A.H. Bangert at 41.40% indicates the cost to fix or repair all of the Deferred Maintenance items would be about 40% of the cost of a new building. This alone should not be taken as a definitive answer to retire the building. This should be closely compared with the age and overall condition of the building. In this case, about 78% of A.H. Banger’s square footage is around 50 years of age, and spaces do not allow for modern education delivery methods.

| Craven County Schools | Deferred Maintenance |         | Replacement at |
|-----------------------|----------------------|---------|----------------|
| 12/17/2019            | + Contingency        | FCI     | Same SF        |
|                       | + Inflation          | As      | Total Project  |
| Facility              | + Soft Costs         | Same SF | \$348          |
| A. H. Bangert         | \$8,386,728          | 41.40%  | \$20,256,036   |
| Arthur W. Edwards     | \$11,466,367         | 39.34%  | \$29,147,436   |
| Ben D. Quinn          | \$4,842,383          | 23.24%  | \$20,839,980   |
| Bridgeton             | \$2,267,079          | 7.99%   | \$28,378,356   |
| Brinson Memorial      | \$11,645,020         | 30.91%  | \$37,674,828   |
| Creekside             | \$2,287,478          | 7.73%   | \$29,609,232   |
| Graham A. Barden      | \$5,419,131          | 27.29%  | \$19,856,532   |
| Havelock              | \$1,657,151          | 6.68%   | \$24,793,260   |
| J.T. Barber           | \$9,698,398          | 31.49%  | \$30,800,088   |
| J.W. Smith            | \$4,728,564          | 17.25%  | \$27,416,832   |
| Oaks Rd Academy       | \$6,319,761          | 35.64%  | \$17,730,600   |
| Roger Bell New Tech   | \$4,914,468          | 22.62%  | \$21,730,512   |
| Trent Park            | \$6,978,058          | 38.74%  | \$18,013,872   |
| Vanceboro-Farm Life   | \$9,765,614          | 34.93%  | \$27,960,408   |
| W.J. Gurganus         | \$4,995,502          | 23.97%  | \$20,839,980   |
| Subtotal              | \$95,371,701         |         | \$375,047,952  |
|                       |                      |         | \$348          |
| Grover C. Fields      | \$11,265,028         | 26.04%  | \$43,255,008   |
| H.J. MacDonald        | \$21,087,484         | 39.89%  | \$52,862,940   |
| Havelock Middle       | \$10,666,228         | 33.61%  | \$31,730,640   |
| Tucker Creek          | \$6,305,134          | 12.89%  | \$48,906,528   |
| West Craven           | \$10,372,723         | 28.95%  | \$35,834,952   |
| Subtotal              | \$59,696,598         |         | \$212,590,068  |
|                       |                      |         | \$348          |
| Havelock              | \$21,099,781         | 30.32%  | \$69,583,992   |
| New Bern              | \$15,975,304         | 19.38%  | \$82,434,936   |
| West Craven           | \$19,040,268         | 32.28%  | \$58,988,784   |
| Early College         | \$37,131             |         |                |
| Early College East    | \$153,887            |         |                |
| Subtotal              | \$56,306,370         |         | \$211,007,712  |
|                       |                      |         | \$28           |
| Central Offices       | \$1,725,232          | 26.91%  | \$6,412,000    |
| Child Nutrition       | \$592,628            | 17.94%  | \$3,303,440    |
| Bus Garage            | \$320,528            | 5.95%   | \$5,390,280    |
| Facility Support      | \$467,957            | 5.40%   | \$8,659,000    |
| Subtotal              | \$3,106,345          |         | \$23,764,720   |
|                       |                      |         |                |
| Total                 | \$214,481,014        |         | \$822,410,452  |

**Potential Additions and Renovations**

The table to the right depicts potential square foot expansions and potential renovations at each of the existing facilities. The numbers are based on current construction costs per square foot and include three percent inflation for three years. A contingency is also included in the final numbers. In many ways this list is similar to the Deferred Maintenance list, in that it includes every potential expansion at every school, but in reality, expansions at every school are not needed. It is a list of how far it is reasonable to expand each individual school.

This and the Deferred Maintenance section must be carefully reviewed and combined to create an appropriate solution for Craven County and Craven County Schools.

**Potential New / Other Facilities**

The costs for potential new facilities are shown below. The numbers include some land costs, contingency and inflation numbers, furniture and equipment along with all design, testing, and legal costs.

Just like the Deferred Maintenance and Additions and Renovations numbers, these numbers constitute options that should be considered during any long range planning exercise. The first numbers indicate the Student Capacity, with the second being the Core Capacity. These are followed by the estimated cost for each school.

At this time a new high school is not one of the anticipated needs; several new high schools in the state are in the \$70 million range.

| Potential New Facilities | Student | Core | Total Project Budget |
|--------------------------|---------|------|----------------------|
| Elementary               | 600     | 700  | \$30,000,000         |
| Elementary               | 800     | 900  | \$34,500,000         |
| Middle                   | 800     | 950  | \$46,500,000         |

| Craven County Schools         |               |
|-------------------------------|---------------|
| Addition / Renovation Options |               |
| 12/17/2019                    |               |
|                               | Additions     |
| Facility                      | Renovations   |
| A. H. Bangert                 | \$8,388,415   |
| Arthur W. Edwards             | \$3,093,776   |
| Ben D. Quinn                  | \$6,610,392   |
| Bridgeton                     | \$2,642,735   |
| Brinson Memorial              | \$18,327,392  |
| Creekside                     | \$2,737,118   |
| Graham A. Barden              | \$2,629,645   |
| Havelock                      | \$4,484,160   |
| J.T. Barber                   | \$1,414,187   |
| J.W. Smith                    | \$7,951,173   |
| Oaks Rd Academy               | \$2,126,324   |
| Roger Bell New Tech           | \$6,562,684   |
| Trent Park                    | \$20,694,931  |
| Vanceboro-Farm Life           | \$3,140,820   |
| W.J. Gurganus                 | \$9,348,833   |
| Subtotal                      | \$100,152,584 |
| Grover C. Fields              | \$10,931,883  |
| H.J. MacDonald                | \$17,951,587  |
| Havelock Middle               | \$8,527,109   |
| Tucker Creek                  | \$6,471,751   |
| West Craven                   | \$11,142,893  |
| Subtotal                      | \$55,025,223  |
| Havelock                      | \$11,179,869  |
| New Bern                      | \$27,884,812  |
| West Craven                   | \$13,070,848  |
| Early College                 |               |
| Early College East            |               |
| Subtotal                      | \$52,135,529  |
| Central Offices               |               |
| Child Nutrition               |               |
| Bus Garage                    |               |
| Facility Support              |               |
| Subtotal                      | \$0           |
| Total                         | \$207,313,336 |

## Key Points of Consideration

It is often difficult to determine the overall value of a facility to the community. This report uses multiple evaluation criteria in order to help make decisions on what an appropriate solution is for each school. After reviewing multiple data points, several buildings continue to represent decision points. This still does not define the value of the building to the community, but it is a practical approach to ensure all understand the conditions at particular facilities. On the following pages are several key issues that contribute to making an informed decision on the state of the building. It is important to keep in mind that almost any facility can be renovated, adding years to its service.

## The Numbers

After this section and the recommendations portion is a series of tables that describe much of what is presented here. It does not include every topic listed and may include other issues related to a particular site.

## Energy Consumption

Some buildings are more energy efficient than others. Over the 50 to 70 year life of a building, the energy costs will far exceed the first cost of construction. Understanding which buildings are using the most energy is a reasonable data point to have in determining if a facility has an issue that can be fixed or if it will continue to use a disproportionate amount of resources.

## Work Orders

Just like a car, buildings need repairs and some need more than others. By looking at the number of work order requests sent to the Maintenance Department, one can get an idea of which buildings need more care than others. Some schools will request repairs of minor issues while others will only ask for help

on the largest issues, and that must be taken into account when considering this data.

## Flood Plain

As a coastal community with multiple rivers and streams within the county, it is reasonable to assess the risks associated with low lying buildings. There are several buildings that are within the 100 year flood plain, and several more sites have a portion of the parcel within the same flood zone. All of the sites noted have seen significant damage in the last several decades related to major hurricane events (Floyd, Matthew, Florence), as well as typical flood events.

## Age of Facilities

It is important to look at the overall age of a building in determining what a facility's future might be. Most buildings have a reasonable life span of between 50 to 80 years. Extensions to the life span can be made but will require significant investment to maintain and/or upgrade. It is also important to note that many schools have had additions added since the first building was placed on the site and each needs to be evaluated based on its function and appropriateness. This can be seen quickly as a ratio of the buildings' age in relation to an estimated life cycle. In this case, a standard of 70 years is used as the denominator.

## Remaining Life

Not all buildings were built with the same materials, nor in the same way. Those two issues relate directly to how many years the building will last. Based on the construction type and age, a remaining life can be applied to each. Simply because a building has exceeded its numerical life cycle does not mean it is unfit for use, but it is an indication that a significant improvement is warranted.

### **NCDPI Evaluation Building and Site**

Prior to demolition of any education facility in North Carolina, the NC Department of Public Instruction requires an evaluation of both the building and the site. This is not a suggestion that any building should be removed from service, but it does provide a basis of comparison.

For the building itself, a value of twelve (12) or less suggests the building is not appropriate in its existing state, nor would it be a reasonable asset if fully renovated and its continued use is not recommended. Additional investment in this facility in the form of a renovation would not be in the best use of the taxpayer, and an alternative solution should be explored.

If the site falls below a value of seven (7), NCDPI suggests moving to another location due to size or other environmental issues.

### **Square Footage**

It is important to provide equity to both students and staff in each facility. Several of the older buildings have very limited square footage in the instructional spaces, while the newer buildings meet or exceed the Recommended Facility Standards. The shift to larger classrooms began in July of 1987 when the North Carolina General Assembly enacted legislation known as the Basic Education Program (BEP). This was administered by NCDPI and mandated larger classrooms to support technology and emerging changes to pedagogy. From that point forward, new schools had larger classrooms creating an inequity with the ones built just a few years before.

### **Student and Core Capacity**

Craven County Schools has nine facilities that are considered “Smaller Schools”. These are schools with less than a 450 student ADM Capacity. The ADM Capacity counts every seat in every classroom, and as discussed elsewhere in this document, it is impossible to fully fill a school in this manner. The result is that all nine of these schools will only support around 300 students each. The downside of having this many small schools is related to operational costs where each must be fully staffed. A more economical approach would be to have somewhat larger schools to achieve an economy of scale with the goal being to create an equity of instructional and support services for all students.

The Core Capacity, which relates to the square footage of the Cafeteria and Media Center, is oversized at every facility. This is beneficial in preserving lunch periods should the population at a particular site grow quickly.

### **Facility Condition Index**

This simple exercise divides the deferred maintenance by the value of the facility. When this value is high, it means the repair costs are nearing the total value of the building. Conversely, a low number means fewer funds are needed to bring the facility up to standards. There are several ways to view the value of the school, which is not typically found for sale in any community. The first is to compare the Deferred Maintenance against the insured value of the building. This will take some depreciation into consideration. Another way is to consider the replacement costs. In all cases, the evaluation criteria and the assessment methodology must be the same.

**Educational Adequacy**

Even twenty years ago, the classroom did not look like it does today. Technology has a lot to do with that change, but so does the way in which instruction is now aligned to match the workforce demands for graduates. Gone are the strict Lecture Learn environments where a teacher stood at a chalk board and students were expected to sit and take notes. Today every wall of the classroom is used for instruction. Students must work on individual, small group, and large group projects which requires additional square footage and the flexibility to adjust the classroom to expected learning outcomes. Additional space is needed for STEM classrooms across the grade levels, as well as College and Career Ready programs at the high school level.

This also applies to how students access classrooms. In several Craven County schools classrooms were designed with first costs in mind and required students to walk through an interior classroom to get to their classroom on the other side. These spaces are, for the most part, no longer used for instruction. They act as needed breakout rooms, but are much larger than needed constituting underutilized spaces.

Included in this category are spaces that are not designed to meet student needs. We know that in order to keep students engaged they need the proper environment. One known factor to improve student performance is to have natural light in each classroom. Temperature issues along with fresh air and the quality of the supplemental light all have impacts on the building occupants and on learning specifically.

**Deferred Maintenance Cost / Student and Cost / Square Footage**

Another set of indicators for the state of the facilities is to compare the cost of improvements to the number of students served by a particular building and the total square footage of the building. This is a relativistic comparison between the schools since there is no set cost per student nor cost per square foot that indicates future investment is not practical. The comparison is only reasonable between like facilities, meaning the values for an elementary school cannot be compared to a middle or high school.

## Recommendations

The following is an impartial assessment of the facilities, if significant renovations and other investments are not made to the buildings and infrastructure in the near future. This is not an all inclusive list, but it hits the major issues related to each school. As noted elsewhere, any building can be rejuvenated but may require nearly the same funding as building a new facility with a longer useful life. Comments such as discontinue or retire do not mean a facility should be abandoned or demolished. Careful consideration to the future use, housing a different program, or enlisted to other public service may be a good use of community assets.

## Elementary Schools

### A.H. Bangert

Retire this building in the next several years.

Issues include:

- Excessive Work Orders
- 8 Years Remaining Life
- DPI Building score of 6 (12 or below, renovation is not recommended)
- DPI Site score of 7 (7 or below, renovation is not recommended)
- Average square footage of classrooms is only 78% of Standard
- School has an operational capacity of only 312 students
- Site is 97% of the appropriate square footage

### A.W. Edwards

Retire the building in the next several years.

Issues include:

- DPI Building score of 6 (12 or below, renovation is not recommended)
- Excessive cost of Deferred Maintenance (floor settlement)

### Ben D. Quinn

Continue operation and investment in this facility.

Issues:

Small School with Operational Capacity of only 312

### Bridgeton

Continue operation and investment in this facility.

### Brinson Memorial

Retire / Replace portions of this building in the next several years.

- Security related issues
- Excessive Work Orders
- Age of building 66 years, 94% of life cycle, -6 years left on life expectancy
- DPI Building score of 3 (12 or below, renovation is not recommended)
- DPI Site score of 11 (7 or below, renovation is not recommended)(11 is deceptive)

**Creekside**

Continue operation and investment in this facility.

**Graham A. Barden**

Retire this facility in the next several years.

Issues:

- Excessive energy consumption
- Age of building at 66 years, 94% of life expectancy, -6 years remaining on life expectancy
- DPI Building score of 10 (12 or below, renovation is not recommended)
- DPI Site score of 8 (7 or below, renovation is not recommended)
- Small school with Operational Capacity of only 288 students
- Site is only 71% of recommended

**Havelock Elementary**

Continue operation and investment in this facility.

**J.T. Barber**

Discontinue PK-5 operations at this school in next several years.

Issues:

- Historic Building (high costs related to renovation)
- High Energy Consumption
- High Work Order Count
- Building within the 100 year flood zone
- Age of Building at 68 years, 97% of life cycle, -8 years remaining on life expectancy
- DPI Building score of 8 (12 or below, renovation is not recommended) (historic is 4 of the 8 points)
- DPI Site score of 7 (7 or below, renovation is not recommended)
- Small School with operational capacity of only 312 students

**James W. Smith**

Continue operation and investment in this facility

**Oaks Road**

Retire / Replace this school in the next several years

Issues:

- Excessive Work Orders
- Building is in the 100 year flood plain
- Age of building is 61 years, 87% of life cycle, -1 year remaining on life expectancy
- Small School with operational capacity of only 312 students

**Roger Bell**

Continue operation and investment in this facility

**Trent Park**

Retire this facility in the next several years.

Issues:

- Age of building is 65 years, 92% of life cycle, - 5 years remaining on life expectancy
- DPI Building score of 9 (12 or below, renovation is not recommended)
- Small School with operational capacity of only 312 students
- Site is only 87% of recommended

**Vanceboro Farm Life**

Retire / Replace portions of this facility in next several years.

Issues

- Age of building is 66 years, 94% of life cycle, -6 years remaining on life expectancy

**W. J. Gurganus**

Continue operation and investment in this facility.

## Middle Schools

### Grove C. Fields

Retire this facility in the next several years.

Issues:

- Excessive Work Orders
- Age of building is 64 years, 91% of life cycle, -4 years remaining on life expectancy
- DPI Building score of 5 (12 or below, renovation is not recommended)
- Average square footage of classrooms is only 74% of Standard

### H.J. MacDonald

Retire this facility in the next several years.

Issues:

- Excessive Work Orders
- DPI Building score of 11 (12 or below, renovation is not recommended)
- Air Quality Issues

### Havelock Middle

Retire / Replace / Repurpose this facility in the next several years

Issues:

- Age of building is 63 years, 90% of life cycle, -3 years remaining on life expectancy

### Tucker Creek

Continue operation and investment in this facility.

Issues:

- High Energy Use

### West Craven Middle

Continue operation and investment in this facility.

## High Schools

### Havelock High

Continue operation and investment in this facility.

### New Bern High

Continue operation and investment in this facility.

### West Craven High

Continue operation and investment in this facility.

### Early College East

Continue operation and potential expansion into Havelock Middle.

Craven County Schools

Executive Summary

| Craven County Schools       | Highest |         | Flood     | Oldest      | % of         | Remaining    | DPI Building | DPI Site    |
|-----------------------------|---------|---------|-----------|-------------|--------------|--------------|--------------|-------------|
| Executive Summary           | Energy  | Work    | Total Ft  | Portion of  | Overall      | Life         | 12 or less   | 7 or less   |
|                             | Use /   | Orders  | Below     | Building    | Life         | Earliest     | Don't        | Don't       |
|                             | Month   | Counted | BFE       | Years       | Used         | Retire       | Renovate     | Renovate    |
| System Summary              | Highest | Work    | 100 Year  | Oldest      | Percent of   | Remaining    | DPI          | DPI         |
|                             | Energy  | Orders  | Flood     | Portion of  | Overall Life | Life Based   | Building     | Site        |
|                             | Use /   | Counted | Total Ft. | Building in | Used         | on           | Score 12 or  | Score 7 or  |
|                             | Month   | 2018    | Below     | Years       |              | Construction | less         | less        |
|                             |         |         | BFE       |             |              | Type         | Renovation   | Renovation  |
|                             |         |         |           |             |              |              | not          | not         |
|                             |         |         |           |             |              |              | Recommen     | Recommen    |
|                             |         |         |           |             |              |              | ded          | ded         |
| Building                    | 2018    |         | Effective |             | 70           | Years        | Discontinue  | Discontinue |
| Elementary                  |         |         |           |             |              |              | Building     | Site        |
| AH Bangert Elem             | 1       | 436     |           | 52          | 74.3%        | 8            | 6            | 7           |
| AW Edwards Elem             | 0       | 192     |           | 58          | 82.9%        | 12           | 9            | 13          |
| Ben D Quinn Elem            | 3       | 259     |           | 28          | 40.0%        | 42           | 19           | 11          |
| Bridgeton Elem              | 2       | 261     |           | 16          | 22.9%        | 64           | 25           | 12          |
| Brinson Memorial Elem       | 2       | 355     |           | 66          | 94.3%        | -6           | 3            | 11          |
| Creekside Elementary School | 0       | 295     |           | 12          | 17.1%        | 68           | 25           | 12          |
| G A Barden Elem             | 5       | 267     |           | 66          | 94.3%        | -6           | 10           | 8           |
| Havelock Elem               | 2       | 195     |           | 16          | 22.9%        | 64           | 21           | 12          |
| J T Barber Elem             | 4       | 335     | -1        | 68          | 97.1%        | -8           | 8            | 7           |
| J W Smith Elem              | 0       | 268     |           | 31          | 44.3%        | 39           | 19           | 12          |
| Oaks Road Elem              | 0       | 321     | 0         | 61          | 87.1%        | -1           | 13           | 8           |
| Roger Bell Elem             | 0       | 241     |           | 33          | 47.1%        | 47           | 19           | 10          |
| Trent Park Elem             | 3       | 229     |           | 65          | 92.9%        | -5           | 9            | 10          |
| Vanceboro Farm Life Elem    | 1       | 189     |           | 66          | 94.3%        | -6           | 14           | 13          |
| W J Gurganus Elem           | 1       | 214     |           | 28          | 40.0%        | 42           | 19           | 12          |
| Subtotal Average or Total   |         | 4057    |           | 44          | 63.4%        | 24           | 15           | 11          |
|                             |         |         |           |             |              |              |              |             |
| Middle                      |         |         |           |             |              |              |              |             |
| Grover C Fields Middle      | 0       | 519     |           | 64          | 91.4%        | -4           | 5            | 13          |
| H J MacDonald Middle        | 3       | 634     |           | 49          | 70.0%        | 21           | 11           | 12          |
| Havelock Middle             | 0       | 156     |           | 63          | 90.0%        | -3           | 11           | 11          |
| Tucker Creek Middle         | 6       | 285     |           | 22          | 31.4%        | 58           | 22           | 12          |
| West Craven Middle          | 3       | 366     |           | 41          | 58.6%        | 29           | 17           | 11          |
| Subtotal Average or Total   |         | 1960    |           | 48          | 68.3%        | 20           | 13           | 12          |
|                             |         |         |           |             |              |              |              |             |
| High                        |         |         |           |             |              |              |              |             |
| Havelock High               | 4       | 597     |           | 48          | 68.6%        | 22           | 19           | 12          |
| New Bern High               | 0       | 809     |           | 28          | 40.0%        | 52           | 20           | 12          |
| West Craven High            | 8       | 592     | -1.2      | 48          | 68.6%        | 22           | 19           | 10          |
| Early College               | Na      | Na      |           | Na          | Na           | Na           | Na           | Na          |
| Early College East          | Na      | Na      |           | Na          | Na           | Na           | Na           | Na          |
| Subtotal Average or Total   |         | 1998    |           | 41          | 59.0%        | 32           | 19           | 11          |
|                             |         |         |           |             |              |              |              |             |
| Other Facilities            |         |         |           |             |              |              |              |             |
| BOE Central Offices         |         |         |           | 51          | 72.9%        | 9            | Na           | Na          |
| Child Nutrition Warehouse   |         |         | -1        | 63          | 90.0%        | -3           | Na           | Na          |
| Bus Garage                  |         |         |           | 11          | 15.7%        | 49           | Na           | Na          |
| FACILITIES SUPPORT SVCS     |         |         |           | 68          | 97.1%        | -8           | Na           | Na          |
| Subtotal Average or Total   |         |         |           | 48.25       | 68.93%       | 11.75        | Na           | Na          |
|                             |         |         |           |             |              |              |              |             |
| Total or Avearge            | Na      | 8015    | Na        | 45          | 64.9%        | 22           | 16           | 11          |

Craven County Schools

Executive Summary

| Craven County Schools       | Adequacy   | Capacity  | Capacity   | Capacity   |  | Deferred                               | Deferred                                      |
|-----------------------------|--|---|--|--|--|--|---|
| Executive Summary           | Classroom  | ADM   | Operational  | Core   |  | Maintenance                            | Maintenance                                   |
|                             | SF relative  |   |  |  |  | Cost Per                               | Cost Per                                      |
|                             | to   |   |  |  |  | Student                                | Square Foot                                   |
| System Summary              | Adequacy of Classroom Compared to Square Footage of Standard | ADM Capacity which counts every seat in every classroom | Operational Capacity which considers Differential Class Sizes and First Need of Mobile units | Core Capacity related to the Cafeteria and Media Center Square Footage | Site Size relative to Standards (Entire Site Including Wetlands) | Deferred Maintenance Costs Per Student | Deferred Maintenance Costs Per Square Footage |
| Building                    | Standard   |   |  |  | Site Size  |  |   |
| <b>Elementary</b>           |  |   |  |  |  |  |   |
| AH Bangert Elem             | 78.17%   | 386   | 312  | 650  | 97.3%  | \$21,727                               | \$144   |
| AW Edwards Elem             | 83.39%   | 626   | 576  | 628  | 94.2%  | \$18,317                               | \$137   |
| Ben D Quinn Elem            | 86.70%   | 386   | 312  | 728  | 455.2%   | \$12,545                               | \$81  |
| Bridgeton Elem              | 103.78%  | 516   | 468  | 695  | 162.6%   | \$4,394                                | \$28  |
| Brinson Memorial Elem       | 82.50%   | 772   | 714  | 813  | 193.3%   | \$15,084                               | \$108   |
| Creekside Elementary School | 103.43%  | 516   | 468  | 695  | 193.9%   | \$4,433                                | \$27  |
| G A Barden Elem             | 83.44%   | 318   | 288  | 720  | 71.0%  | \$17,041                               | \$95  |
| Havelock Elem               | 102.80%  | 422   | 312  | 699  | 104.3%   | \$3,927                                | \$23  |
| J T Barber Elem             | 86.83%   | 376   | 312  | 727  | 121.5%   | \$25,794                               | \$110   |
| J W Smith Elem              | 93.77%   | 609   | 510  | 728  | 296.6%   | \$7,764                                | \$60  |
| Oaks Road Elem              | 87.27%   | 368   | 312  | 536  | 132.1%   | \$17,173                               | \$124   |
| Roger Bell Elem             | 85.44%   | 412   | 312  | 728  | 191.6%   | \$11,928                               | \$79  |
| Trent Park Elem             | 84.69%   | 376   | 312  | 604  | 86.9%  | \$18,559                               | \$135   |
| Vanceboro Farm Life Elem    | 85.75%   | 516   | 468  | 699  | 435.3%   | \$18,926                               | \$122   |
| W J Gurganus Elem           | 87.23%   | 402   | 312  | 728  | 232.6%   | \$12,427                               | \$83  |
| Subtotal Average or Total   | 89.01%   | 7,001   | 5,988  | 10,376   | Na   | \$14,003                               | \$90  |
|                             |  |   |  |  |  |  |   |
| <b>Middle</b>               |  |   |  |  |  |  |   |
| Grover C Fields Middle      | 74.42%   | 722   | 700  | 0  | 138%   | \$15,603                               | \$91  |
| H J MacDonald Middle        | 81.94%   | 888   | 861  | 1,021  | 226%   | \$23,747                               | \$139   |
| Havelock Middle             | 82.13%   | 566   | 549  | 1,189  | 104%   | \$18,845                               | \$117   |
| Tucker Creek Middle         | 89.22%   | 686   | 665  | 769  | 312%   | \$9,191                                | \$45  |
| West Craven Middle          | 83.98%   | 758   | 735  | 937  | 238%   | \$13,684                               | \$101   |
| Subtotal Average or Total   | 82.34%   | 3,620   | 3,511  | 3,916  | Na   | \$16,214                               | \$98  |
|                             |  |   |  |  |  |  |   |
| <b>High</b>                 |  |   |  |  |  |  |   |
| Havelock High               | 92.08%   | 1,253   | 1,253  | 0  | 4253%  | \$16,839                               | \$106   |
| New Bern High               | 91.61%   | 1,733   | 1,733  | 0  | 4733%  | \$9,218                                | \$67  |
| West Craven High            | 90.42%   | 1,140   | 1,140  | 1,254  | 4140%  | \$16,702                               | \$112   |
| Early College               | Na   | 201   | 201  |  |  |  |   |
| Early College East          | Na   | 218   | 218  |  |  |  |   |
| Subtotal Average or Total   | 91.37%   | 4,126   | 4,126  | 1,254  | Na   | \$14,253                               | \$95  |
|                             |  |   |  |  |  |  |   |
| <b>Other Facilities</b>     |  |   |  |  |  |  |   |
| BOE Central Offices         | Na   | Na  | Na   |  |  | Na                                     | Na  |
| Child Nutrition Warehouse   | Na   | Na  | Na   |  |  | Na                                     | Na  |
| Bus Garage                  | Na   | Na  | Na   |  |  | Na                                     | Na  |
| FACILITIES SUPPORT SVCS     | Na   | Na  | Na   |  |  | Na                                     | Na  |
| Subtotal Average or Total   |  |   |  |  |  | Na                                     | Na  |
|                             |  |   |  |  |  |  |   |
| Total or Avearge            | 87.6%  | 14,747  | 13,625   | 15,547   | Na   | \$14,823                               | \$95  |

### **Steps Following Completion of Long Range Facility Needs Assessment (Document)**

From this point, there are various ways to come to a consensus of what actions should be taken based on the information found in this book. Several different approaches have been considered in the past to varying levels of success. The following is one option that has been used in similar school districts.

The next step after this document is published is to ensure that all key stakeholders are made fully aware of the information contained within this assessment. It often takes some time and additional meetings to explain the relationship of several critical data points. This may be a series of board workshops to review the document with staff and consultants or the creation of a Facilities Committee dedicated to Long Range Planning. The committee may consist of board members and key staff along with County Commissioners, the County Manager, and often the County Finance Officer. The result of these meetings is usually a prioritization of the proposed investments independent of cost.

The assessment team will then re-evaluate the series of priorities and develop several options for consideration, including the cost of each item. The options can then be vetted along with their associated costs in an effort to determine a best approach that aligns with funds available. The final result is a plan to address needs at the schools that supports the overall community and their needs.

A variety of funding methods exist and all should be entertained in an effort to realize the identified improvements.

### **Executive Summary Conclusion**

The Long-Range Facility Needs Assessment relies on data collected and organized over the course of the past year. The data is objective and statistically sound. It is up to the Craven County Board of Education, Craven County Commissioners, and the greater community of Craven County itself to determine what steps, if any, will be taken to address the needs documented herein. Smith Sinnett Architecture and Numerix Solutions are prepared to provide clarification on the document and additional support as needed.

**-END-**