MEMORANDUM

TO:  Dr. Shotwell  
     Board of Education

FROM:  Bill Holcomb

SUBJ:  Phase III Building Program Review

DATE:  February 5, 2013

Attached is a report pertaining to the Phase III building program for the District. Moseley Architects first presented this information in the spring of 2005. The cost analysis pages have been updated in an effort to better reflect present costs. A review of these pages will be the basis of the presentation and discussion this Monday evening.

Also attached are narrative pages for the remaining twelve projects as taken from the 2005 Facility Analysis Report. This information serves as supporting documentation for these projects.

Thank you.

Attachments (2)
January 22, 2013

**Summary of Cost - Phase 3**
Rockingham County Schools

**ARCHITECTURAL COST ANALYSIS**

<table>
<thead>
<tr>
<th>CONSTRUCTION / RENOVATION BUDGET</th>
<th>Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reidsville High</td>
<td>$29,412,000</td>
</tr>
<tr>
<td>New Douglass Elementary School</td>
<td>$0 Completed</td>
</tr>
<tr>
<td>New Lawsonville/South End Elementary School</td>
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<tr>
<td>Holmes Middle</td>
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<tr>
<td>McMichael High</td>
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<td>Rockingham County High</td>
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<tr>
<td>New Stoneville Elementary School</td>
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<tr>
<td>New Draper Elementary School</td>
<td>$14,720,000</td>
</tr>
<tr>
<td>Morehead High</td>
<td>$12,604,000</td>
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<tr>
<td>Western Rockingham Middle</td>
<td>$13,187,500</td>
</tr>
<tr>
<td>Moss Street Elementary</td>
<td>$4,401,063</td>
</tr>
<tr>
<td>Lincoln Elementary</td>
<td>$1,211,250</td>
</tr>
</tbody>
</table>

**Total Project Cost (2013 dollars)**

```
Total Project Cost (2013 dollars) $125,863,063
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**TOTAL PROJECT COST** (including professional services, testing, FEE, contingency)
**MOSELEY ARCHITECTS**  
3000 RDU CENTER DRIVE, SUITE 217 MORRISVILLE, NC 27560  

January 22, 2013  

Reidsville High School  
Rockingham County Schools  

ARCHITECTURAL COST ANALYSIS  

<table>
<thead>
<tr>
<th>CONSTRUCTION / RENOVATION BUDGET</th>
<th>REMARKS</th>
<th>COST BUDGET</th>
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</thead>
<tbody>
<tr>
<td>Building Addition</td>
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<tr>
<td>Stewark</td>
<td>130,000 s.f. @</td>
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<tr>
<td>Demolition and Asbestos Removal</td>
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<td></td>
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<td>$20,410,000</td>
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<td></td>
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<td></td>
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<td>Building Renovations</td>
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<tr>
<td>Gym / Kitchen Upgrades</td>
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</tr>
<tr>
<td>Auditorium and Aux Gym Upgrades</td>
<td></td>
<td>$250,000</td>
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<tr>
<td><strong>Total Construction Cost</strong></td>
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<td><strong>$24,510,000</strong></td>
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</tbody>
</table>

PROJECT COSTS  

- Professional Services  
- Surveys  
- Borings  
- Printing and Advertising Costs  
- Testing Services  
- Furnishings and Equipment  
- Temporary Trailers  
- Contingency (5%)  

**TOTAL PROJECT COST**  

$29,412,000
MOSELEY ARCHITECTS
3000 RDU CENTER DRIVE, SUITE 217 MORRISVILLE, NC 27560

January 22, 2013

New Douglass Elementary School
Rockingham County Schools

ARCHITECTURAL COST ANALYSIS
550 Students

<table>
<thead>
<tr>
<th>CONSTRUCTION BUDGET</th>
<th>REMARKS</th>
<th>2010 Bid Cost</th>
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<tbody>
<tr>
<td><strong>New Construction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Cost</td>
<td>76,000 s.f. @ $139 /sf =</td>
<td>$10,526,748</td>
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<tr>
<td>Site Development</td>
<td>76,000 s.f. @ $25 /sf =</td>
<td>$1,897,628</td>
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<tr>
<td>Demolition</td>
<td></td>
<td>$294,063</td>
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<tr>
<td>1938 Building Renovations</td>
<td></td>
<td>$499,706</td>
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<tr>
<td><strong>Total Construction Cost</strong></td>
<td></td>
<td>$13,218,135</td>
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<tr>
<td><strong>Total Construction Cost</strong></td>
<td></td>
<td>$13,218,135 Includes CMAR Fee and Contingency</td>
</tr>
</tbody>
</table>

| PROJECT COSTS                        |                                      | $1,311,865    |
| Professional Services                |                                      |               |
| Surveys                              |                                      |               |
| Borings                              |                                      |               |
| Printing and Advertising Costs       |                                      |               |
| Testing Services                     |                                      |               |
| Furnishings and Equipment            |                                      |               |
| Contingency                          |                                      |               |

| Site Acquisition                     | 30-40 ac                             | $0            |

TOTAL PROJECT COST                    |                                      | $14,530,000   |
MOSELEY ARCHITECTS
3000 RDU CENTER DRIVE, SUITE 217 MORRISVILLE, NC 27560

January 22, 2013

New Draper Elementary School
Rockingham County Schools

ARCHITECTURAL COST ANALYSIS
550 Students

<table>
<thead>
<tr>
<th>CONSTRUCTION BUDGET</th>
<th>REMARKS</th>
<th>COST BUDGET</th>
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<tbody>
<tr>
<td>New Construction</td>
<td></td>
<td>2013</td>
</tr>
<tr>
<td>Building Cost</td>
<td>76,000 s.f. @</td>
<td>$143/sf</td>
</tr>
<tr>
<td>Site Development</td>
<td>76,000 s.f. @</td>
<td>$27/sf</td>
</tr>
<tr>
<td>Demolition</td>
<td></td>
<td>$0</td>
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<tr>
<td>Building Renovations</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>Total Construction Cost</td>
<td></td>
<td>$12,920,000</td>
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</table>

PROJECT COSTS

Professional Services
Surveys
Borings
Printing and Advertising Costs
Testing Services
Furnishings and Equipment
Contingency

Land Acquisition $0

TOTAL PROJECT COST $14,720,000
**MOSELEY ARCHITECTS**  
3000 RDU CENTER DRIVE, SUITE 217 MORRISVILLE, NC 27560  
January 22, 2013  

**New Elementary School (Lawsonville / South End Replacement)**  
Rockingham County Schools  

**ARCHITECTURAL COST ANALYSIS**  
550 Students  

<table>
<thead>
<tr>
<th>CONSTRUCTION BUDGET</th>
<th>REMARKS</th>
<th>COST BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New Construction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Cost</td>
<td>76,000 s.f. @</td>
<td>$143 /sf =</td>
</tr>
<tr>
<td>Site Development</td>
<td>76,000 s.f. @</td>
<td>$27 /sf =</td>
</tr>
<tr>
<td>Demolition</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>Building Renovations</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total Construction Cost</strong></td>
<td></td>
<td>$12,920,000</td>
</tr>
</tbody>
</table>

**PROJECT COSTS**  
Professional Services  
Surveys  
Borings  
Printing and Advertising Costs  
Testing Services  
Furnishings and Equipment  
Contingency  

Site Acquisition  

**TOTAL PROJECT COST**  

$1,800,000  
$300,000  

$15,020,000
**MOSELEY ARCHITECTS**
3000 RDJ CENTER DRIVE, SUITE 217 MORRISVILLE, NC 27560

January 22, 2013

**Lincoln Elementary School**
Rockingham County Schools

**ARCHITECTURAL COST ANALYSIS**
550 Students

<table>
<thead>
<tr>
<th>CONSTRUCTION / RENOVATION BUDGET</th>
<th>REMARKS</th>
<th>2013 COST BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Building Addition</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Addition</td>
<td>4,750 s.f. @ $182.00 /sf</td>
<td>$864,500</td>
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<tr>
<td>Sitework associated with Addition</td>
<td>4,750 s.f. @ $22.00 /sf</td>
<td>$104,500</td>
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<tr>
<td><strong>Total Construction Cost</strong></td>
<td></td>
<td><strong>$969,000</strong></td>
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</table>

**PROJECT COSTS**

- Professional Services
- Surveys
- Borings
- Printing and Advertising Costs
- Testing Services
- Furnishings and Equipment
- Temporary Trailers
- Contingency (5%)

**TOTAL PROJECT COST**

**$1,211,250**
## Moss Street Elementary School
Rockingham County Schools

### ARCHITECTURAL COST ANALYSIS
550 Students

### CONSTRUCTION / RENOVATION BUDGET

<table>
<thead>
<tr>
<th>Building Addition</th>
<th>REMARKS</th>
<th>COST BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Addition</td>
<td>6,400 s.f. @ $182.00 /sf</td>
<td>$1,164,800</td>
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<tr>
<td>Site improvements</td>
<td>$65,000</td>
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</tr>
<tr>
<td>Parking Lot Improvements</td>
<td>6,400 s.f. @ $22.00 /sf</td>
<td>$140,800</td>
</tr>
<tr>
<td>Total Construction Cost</td>
<td>$3,520,850</td>
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</tr>
</tbody>
</table>

### Building Renovations

- Asbestos Abatement
- Miscellaneous ADA Up-grades
- Restroom Up-grades / ADA
- Floor Finish Replacement
- Ceiling Finish Replacement
- Interior door replacement / refinish
- Miscellaneous Interior finishes
- Window / Exterior Door Replacement
- HVAC Replacement
- Electrical Distribution and power Up-grades
- Lighting Up-grades
- Intercom /Telephone/Alarm/Security

### PROJECT COSTS

- Professional Services
- Surveys
- Borings
- Printing and Advertising Costs
- Testing Services
- Furnishings and Equipment
- Temporary Trailers
- Contingency (5%)

### TOTAL PROJECT COST

- $4,401,063
# New Stoneville Elementary School
Rockingham County Schools

## Architectural Cost Analysis
550 Students

<table>
<thead>
<tr>
<th>CONSTRUCTION BUDGET</th>
<th>REMARKS</th>
<th>COST BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Construction</td>
<td></td>
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<tr>
<td>Building Cost</td>
<td>76,000 sf @ $143 /sf</td>
<td>$10,868,000</td>
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<tr>
<td>Site Development</td>
<td>76,000 sf @ $27 /sf</td>
<td>$2,052,000</td>
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<tr>
<td>Demolition</td>
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<td>$300,000</td>
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<tr>
<td>Building Renovations</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>Gym / Audit Renovation</td>
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<td>$1,400,000</td>
</tr>
</tbody>
</table>

Total Construction Cost                                   $14,620,000

## Project Costs

- Professional Services: $1,800,000
- Surveys
- Borings
- Printing and Advertising Costs
- Testing Services
- Furnishings and Equipment
- Contingency
- Demolition / Utility Relocation: $150,000

**Total Project Cost** $16,570,000
ARCHITECTURAL COST ANALYSIS

<table>
<thead>
<tr>
<th>CONSTRUCTION / RENOVATION BUDGET</th>
<th>REMARKS</th>
<th>2013 COST BUDGET</th>
</tr>
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<tbody>
<tr>
<td><strong>Building Addition</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Addition</td>
<td>6,400 s.f. @ $182.00 /sf =</td>
<td>$1,164,800</td>
</tr>
<tr>
<td>Sitework associated with Addition</td>
<td>6,400 s.f. @ $22.00 /sf</td>
<td>$140,800</td>
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<tr>
<td>Elevator</td>
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<td>Parking Lots Improvements (allowance)</td>
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<td>Asbestos Abatement</td>
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<td>Miscellaneous ADA Up-grades</td>
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<tr>
<td>Restroom Up-grades / ADA</td>
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<td></td>
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<tr>
<td>Floor Finish Replacement</td>
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<td></td>
</tr>
<tr>
<td>Ceiling Finish Replacement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior door replacement / refinish</td>
<td></td>
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<tr>
<td>Miscellaneous Interior finishes</td>
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<td></td>
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<tr>
<td>Window / Exterior Door Replacement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC Replacement</td>
<td></td>
<td></td>
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<tr>
<td>Electrical Distribution and power Up-grades</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lighting Up-grades</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercom / telephone/Alarm/Security</td>
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<tr>
<td><strong>Total Construction Cost</strong></td>
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<td>$7,050,600</td>
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</tbody>
</table>

**PROJECT COSTS**

- Professional Services
- Surveys
- Borings
- Printing and Advertising Costs
- Testing Services
- Furnishings and Equipment
- Temporary Trailers
- Contingency (5%)

**TOTAL PROJECT COST**

$8,813,250
MOSELEY ARCHITECTS  
3000 RDU CENTER DRIVE, SUITE 217 MORRISVILLE, NC 27560  
January 22, 2013  

Western Rockingham Middle School  
Rockingham County Schools  

ARCHITECTURAL COST ANALYSIS  

<table>
<thead>
<tr>
<th>CONSTRUCTION / RENOVATION BUDGET</th>
<th>REMARKS</th>
<th>COST BUDGET</th>
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<tbody>
<tr>
<td><strong>Building Addition</strong></td>
<td></td>
<td>$4,400,000</td>
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<td>Building Addition</td>
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<td><strong>Building Renovations</strong></td>
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<tr>
<td>Asbestos Abatement</td>
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<tr>
<td>Miscellaneous ADA Up-grades</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restroom Up-grades / ADA</td>
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<tr>
<td>Floor Finish Replacement</td>
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<tr>
<td>Ceiling Finish Replacement</td>
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<tr>
<td>Interior door replacement / refinish</td>
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<tr>
<td>Miscellaneous interior finishes</td>
<td></td>
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<tr>
<td>Window / Exterior Door Replacement</td>
<td></td>
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<tr>
<td>HVAC Replacement</td>
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<td>Lighting Up-grades</td>
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<tr>
<td>Stage Equipment</td>
<td></td>
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<tr>
<td>Intercom /Telephone/Alarm/Security</td>
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<td><strong>Total Construction Cost</strong></td>
<td></td>
<td>$10,550,000</td>
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**PROJECT COSTS**  
- Professional Services  
- Surveys  
- Ratings  
- Printing and Advertising Costs  
- Testing Services  
- Furnishings and Equipment  
- Temporary Trailers  
- Contingency (5%)  

**TOTAL PROJECT COST**  
$13,187,500
**MOSELEY ARCHITECTS**
3000 RDU CENTER DRIVE, SUITE 217 MORRISVILLE, NC 27560

January 22, 2013

**McMichael High School**
Rockingham County Schools

**ARCHITECTURAL COST ANALYSIS**

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<th>CONSTRUCTION / RENOVATION BUDGET</th>
<th>REMARKS</th>
<th>COST BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Addition</td>
<td></td>
<td>$1,489,200</td>
</tr>
<tr>
<td>Building Addition</td>
<td>7,300 s.f. @ $182.00 /sf</td>
<td>$1,328,600</td>
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<td>Sitework associated with Addition</td>
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<td>$160,600</td>
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<tr>
<td>Humidity Control</td>
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<td>Replace HVAC Units</td>
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<tr>
<td><strong>Total Construction Cost</strong></td>
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<td><strong>$3,089,200</strong></td>
</tr>
</tbody>
</table>

**PROJECT COSTS**

- Professional Services
- Surveys
- Borings
- Printing and Advertising Costs
- Testing Services
- Furnishings and Equipment
- Temporary Trailers
- Contingency (5%)

**TOTAL PROJECT COST**: $3,861,500
MOSELEY ARCHITECTS  
3000 RDU CENTER DRIVE, SUITE 217 MORRISVILLE, NC 27560  

January 22, 2013  

Morehead High School  
Rockingham County Schools  

ARCHITECTURAL COST ANALYSIS  

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<th>COST BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Addition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Addition</td>
<td>5,800 s.f. @ $182.00 /sf</td>
<td>$1,055,600</td>
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<tr>
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<td>$127,600</td>
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<tr>
<td>Total Construction Cost</td>
<td></td>
<td>$10,083,200</td>
</tr>
</tbody>
</table>

| Building Renovations            |         |             |  
| Asbestos Abatement              |         |             |  
| Miscellaneous ADA Up-grades     |         |             |  
| Restroom Up-grades / ADA        |         |             |  
| Floor Finish Replacement        |         |             |  
| Ceiling Finish Replacement      |         |             |  
| Interior door replacement / refinish |     |             |  
| Miscellaneous interior finishes |         |             |  
| Window / Exterior Door Replacement |     |             |  
| HVAC Replacement                |         |             |  
| Electrical Distribution and power Up-grades |     |             |  
| Lighting Up-grades              |         |             |  
| Intercom / Telephone/Alarm/Security |   |             |  
| Total Construction Cost         |         | $10,083,200 |  

| PROJECT COSTS                   |         |             |  
| Professional Services           |         |             |  
| Surveys                         |         |             |  
| Borings                        |         |             |  
| Printing and Advertising Costs  |         |             |  
| Testing Services                |         |             |  
| Furnishings and Equipment       |         |             |  
| Temporary Trailers              |         |             |  
| Contingency (5%)                |         |             |  
| Total Project Cost              |         | $12,604,000 |  

-12-
MOSELEY ARCHITECTS
3000 RDU CENTER DRIVE, SUITE 217 MORRISVILLE, NC 27560

January 22, 2013

Rockingham County High School
Rockingham County Schools

ARCHITECTURAL COST ANALYSIS

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<tr>
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</tr>
<tr>
<td>Building Addition</td>
<td>22,750 s.f. @ $178.00 /sf</td>
<td>$4,049,500</td>
</tr>
<tr>
<td>Sitework associated with Addition</td>
<td>22,750 s.f. @ $22.00 /sf</td>
<td>$500,500</td>
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<tr>
<td><strong>Building Renovations</strong></td>
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<td>$140,000</td>
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<tr>
<td>Pool Upgrades</td>
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</tr>
<tr>
<td>Fire Alarm Upgrades</td>
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<tr>
<td><strong>Total Construction Cost</strong></td>
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<td>$4,690,000</td>
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</tbody>
</table>

PROJECT COSTS
- Professional Services
- Surveys
- Borings
- Printing and Advertising Costs
- Testing Services
- Furnishings and Equipment
- Temporary Trailers
- Contingency (5%)

TOTAL PROJECT COST: $5,862,500
# MOSELEY ARCHITECTS
3000 RDU CENTER DRIVE, SUITE 217 MORRISVILLE, NC 27560

January 22, 2013

## COST ESCALATION CHART - PHASE 3 PROJECTS
Rockingham County Schools

### ARCHITECTURAL COST ANALYSIS

<table>
<thead>
<tr>
<th>Construction / Renovation Budget</th>
<th>Project Cost</th>
<th>Project Cost</th>
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**TOTAL PROJECT COST**

$125,663,063  | $131,946,216  | $138,543,526  | $145,470,703  | $152,744,238  | $160,381,450

Project Cost include surveys, geotechnical studies, design fees, advertising, printing, testing services and 5% contingency.
Facility Analysis
Rockingham County Schools

Reidsville High School

Address
1901 South Park Drive
Reidsville, NC

Grades Housed
9-12 grades

Current Enrollment
978 students (as of 8/04)

Site Size
35.97 acres

Date of Construction
Bldg 1: 1960 Classrooms / Admin / Media Ctr
Bldg 2: 1960 Gym / cafeteria
Bldg 3: 1960 Shops
Bldg 4: 1969 Classrooms
Bldg 5: 1970 Shops / Day Care
Bldg 6: 1975 Auditorium / Music
Bldg 7: 1990 Aux Gym
Bldg 8: 1990 Classrooms

Water Supply
Municipal

Sewage System
Municipal

Mobile Units
0

Architectural and Site:

Reidsville High School has eight buildings ranging from 15 to 45 years old. The main classroom building has many deficiencies. The exterior curtain wall system provides little insulation value and the spandrel panels contain asbestos. The corridor walls and doors are not rated. Most air conditioning is provided by window units. The structure is very low, making any central HVAC difficult. The Gym is in good condition and could benefit from renovations (HVAC, lighting, new bleachers). There is a platform lift that accesses the locker rooms at the lower level. The dining room is adequately sized. The kitchen needs more food storage space. The auditorium and music building is in good condition. The auditorium is a large facility that is used by the entire school district. The Auxiliary gym and Business building are the newest buildings and are in very good condition.

Architectural Issues:
Removal of asbestos (floor tile, mastic, pipe insulation, wall panels)
ADA Up-grades
Restroom renovations
Replace finishes
• Ceilings
• Floor
• Paint
• Casework
• Doors
Replace windows and exterior doors
Facility Analysis
Rockingham County Schools

Reidsville High School (cont)

Deficiencies from meeting current building code (Unrated doors and corridor construction)
Low roof structure

Areas of deficient size:
Administrative Offices
Guidance Offices
Storage and Teacher Work areas

Physical Layout:
There are many buildings.
Building 1 needs complete renovation or replacement.
Gyms are good facilities that need some renovation.
Auditorium is large, modern facility.

Plumbing Mechanical & Electrical

Plumbing
The campus is spread out into multiple buildings. The plumbing is original except for patching/replacement for failures. Fixtures and any galvanized water piping are at the end of their useful life. If the facility is to remain, all sewer piping should be examined to ensure no current leaks (sewer camera). Water samples should be tested for condition of system. Toilet lavatories only have cold water. Kitchen should be modified for indirect connections. The sanitary/grease waste line has regular problems with blockage. ADA toilets and drinking fountains need to be added. The Auditorium does have a standpipe system on the stage.

HVAC
Heating is supplied from several different areas. Several buildings have boiler rooms. The 2 boilers for the 100, 200, and 300 buildings had to have the underground piping replaced last summer due to the leaks. The pumps are both leaking currently. The campus has an assortment of equipment-unit ventilators, multizone units, rooftop units, fan coils, window units, etc.. Many of the buildings are limited in height which makes the installation of HVAC systems difficult. Several areas have rooftop units with the ductwork dropping down in the old skylight to a concentric grille. Zoning is also a problem in areas with one side of a corridor on one unit (and one thermostat). Some of the piping appears to have asbestos insulation. The quantity of fresh air being introduced during heating or cooling seasons is unknown. The piping inside the building and at the other buildings is nearing the time problems typically start (depending upon chemical
Reidsville High School (cont)

treatment and quality of water. Temperature controls are generally pneumatic. The kitchen hood should be replaced. Fly fans should be installed on the exit doors of the kitchen. There is no cooling in the kitchen. The Gym is served from two air handling units - no air conditioning. The Auditorium needs a new cooling tower- existing unit is rusty and leaking. The chiller is 1974 and thus at the end of its useful life. In addition the chiller uses R-12 refrigerant that is no longer manufactured. The sectional cast iron boiler appears to be in acceptable condition for a few more years of service.

Electrical
Lighting levels appear acceptable. Light levels should be electronically checked. As with the mechanical system, a wide variety of lighting exists (T-8, T-12, 4’ tubes, 2’ U tubes, exposed tube, parabolic, Incandescent, etc.). The fire alarm system does not appear to be very old. Additional devices (horns/strobes) will be required if the facility is renovated. No problems were identified with the building service and wiring- most are Square D. Additional distribution panels and receptacles would be beneficial in the classes. The dimming system in the auditorium should be replaced due to lack of availability of replacement parts.
Facility Analysis
Rockingham County Schools

Draper Elementary School

Address
1719 East Stadium Drive
Eden, NC

Grades Housed
K-5 grade

Current Enrollment
345 students (as of 12/04)

Site Size
13.0 acres

Date of Construction
Bldg 1: 1938 Classrooms
Bldg 2: 1958 Classrooms / Admin / Cafeteria
Bldg 3: 1976 Media Center

Water Supply
Municipal

Sewage System
Municipal

Mobile Units
0

Architectural and Site:

The three buildings at Draper Elementary are not adequate for use as an elementary school today. The educational spaces are smaller than the NC DPI recommendations. There is little storage. There are physical barriers to accessibility. The plumbing fixtures are in need of replacement. The low structure in buildings 2 and 3 makes mechanical renovations difficult.

Architectural Issues:
Removal of asbestos (floor tile, mastic and pipe insulation)
ADA Up-grades
Restroom renovations
Replace finishes
• Ceilings
• Floor
• Paint
• Casework
• Doors
Replace windows and exterior doors
Deficiencies from meeting current building code (Unrated doors and corridor construction)
Roof replacement ongoing
Wood structure in Building 1 (not recommended by DPI)
Low roof structure in Building 2 and 3

Areas of deficient size:
Administrative Offices
Health Services
Guidance Offices
Classrooms
Storage and Teacher Work areas
Draper Elementary School (cont)

Physical Layout:
The three separated buildings are not desirable for an elementary school. The cafeteria is a long distance from bldg 1. Administration is remote. Too many front doors.

Plumbing Mechanical & Electrical

Plumbing
System is original except for patching/replacement for failures. Fixtures and water piping are at the end of their useful life (both buildings). If the facility is to remain, all sewer piping should be examined to ensure no current leaks (sewer camera). Water samples should be tested for condition of system. Kitchen should be modified for indirect connections and a grease waste line and grease trap added outside. ADA toilets and drinking fountains need to be added. Pre-Kindergarten classes do not have toilets as required by current code.

HVAC
Heating is supplied from two gas fired boilers. The old building is served from a sectional cast iron steam boiler approximately 5 years old. The new building is served from a Kewanee hot water boiler that is approximately 50 years old. It has a new burner (apprx. 3 years old). This boiler should be replaced. Typical classrooms have radiators under the windows and window air conditioning units. There have been problems with steam and condensate piping leaks. All lines underneath the slab and below grade should be replaced. Above ground piping should be checked. Radiators present a safety concern due to the temperature of the device. Also energy efficiency and temperature control are non-existent with the current system. The cooling is not adequate. Fresh air is not introduced during heating or cooling seasons as is required by current code. The computer lab was hot and there is no cooling in the server room. The kitchen hood should be replaced. Fly fans should be installed on the exit doors of the kitchen. The Gym is not cooled. Basement classes have PTAC’s mounted in the wall or in the window. There is a moisture problem in these rooms (slab is assumed to have no vapor barrier). Buildings have pneumatic controls.
Draper Elementary School (cont)

Electrical
Lighting levels appear low. Some corridors need additional fixtures. Light levels should be electronically checked. The quality of light, energy consumption, and aesthetics can be improved with system replacement. The fire alarm system was replaced in the early 1990’s. Additional devices (horns/strobes) will be required if the facility is renovated. The buildings are not connected to each other—uses bells. No problems were identified with the building service and wiring except the Federal Pacific electrical panels. F.P. is not in business (i.e. cannot easily get replacement parts/breakers). These should be replaced if the facility is renovated. Additional receptacles would be beneficial in the classes. The phone system is approximately 1 year old. There is a security system complete with motion detectors.
South End Elementary School

Address: 1307 South Park Drive
Reidsville, NC

Grades Housed: Pre K-5 grade
Current Enrollment: 281 students (as of 8/04)
Site Size: 8 acres
Date of Construction: Bldg 1: 1935 Classrooms / Admin / Gym
Bldg 2: 1956 Classrooms / Cafeteria

Water Supply: Municipal
Sewage System: Municipal
Mobile Units: 0

Architectural and Site:
Both buildings have numerous deficiencies, including small educational spaces, building code deficiencies, and damage to floors, walls and ceilings from steam piping. There are physical barriers to accessibility. The plumbing fixtures are in need of replacement. There is limited drop off and parking on the site.

Architectural Issues:
Removal of asbestos (floor tile, mastic, pipe insulation and ceilings)
ADA Up-grades
Restroom renovations
Replace finishes
• Ceilings
• Floor
• Paint
• Casework
• Doors
Replace windows and exterior doors
Deficiencies from meeting current building code (Unrated doors and corridor construction)
Wood structure in Building 1 (not recommended by DPI)
Low roof structure in Building 2

Areas of deficient size:
Administrative Offices
Guidance Offices
Classrooms
Storage and Teacher Work areas
South End Elementary School (cont)

Physical Layout:
The two separated buildings are not desirable for an elementary school. Administration is dispersed.
Drop off lane along city street

Plumbing Mechanical & Electrical

Plumbing
System is original except for patching/replacement for failures. Fixtures, sanitary, and water piping are at the end of their useful life. If the facility is to remain, all sewer piping should be examined to ensure no current leaks (sewer camera). Water samples should be tested for condition of system. Kitchen should be modified for indirect connections and a grease waste line and grease trap added outside. ADA toilets and drinking fountains need to be added. The boiler room sump pump is connected to the storm drain system.

HVAC
Heating is supplied from two boilers: one is hot water for the K-1 Building and the other is steam for the rest of the campus. They appear in reasonable condition but are nearing the end of useful life. Typical classrooms have radiators under the windows and window air conditioning units. There have been problems with steam and condensate piping leaks. All lines underneath the slab and below grade should be replaced. Above ground piping should be checked. Radiators present a safety concern due to the temperature of the device. Also energy efficiency and temperature control are non-existent with the current system. The cooling is not adequate. Fresh air is not introduced during heating or cooling seasons as is required by current code. There is no cooling in the server room. The kitchen hood should be replaced. Fly fans should be installed on the exit doors of the kitchen. The gym is not cooled. Buildings have pneumatic controls.

Electrical
Lighting levels appear low. Light levels should be electronically checked. The quality of light, energy consumption, and aesthetics can be improved with system replacement. The fire alarm system needs to be upgraded or replaced. Wiring within the walls has started failing. The building service and wiring should be replaced. These should be replaced if the facility is renovated. Additional receptacles would be beneficial in the classes.
Facility Analysis
Rockingham County Schools

Lawsonville Avenue Elementary School

Address 212 Lawsonville Avenue
Reidsville, NC

Grades Housed Pre K-5 grade

Current Enrollment 251 students (as of 9/04)

Site Size 6 acres

Date of Construction
Bldg 1: 1950 Classrooms / Audit / Cafeteria
Bldg 2: 1967 Classrooms / Admin / Media Cntr

Water Supply Municipal

Sewage System Municipal

Mobile Units 0

Architectural and Site:

Building 2 at Lawsonville Avenue Elementary is generally in good condition. Administrative offices are small, but the media center is adequately sized. Classrooms are separated by accordion partitions allowing sound transmission. Building 1 has numerous deficiencies, including small educational spaces. The kitchen does not have adequate food storage and preparation space. There are physical barriers to accessibility. The plumbing fixtures are in need of replacement. Seats have been removed from the former auditorium and it is now used as a gym, even though the floor slopes. The Pre K classroom in the basement level is isolated from the rest of the school. There is limited drop off and parking on the site.

Architectural Issues:
Removal of asbestos (floor tile, mastic and pipe insulation)
ADA Up-grades
Restroom renovations
Replace finishes
• Ceilings
• Floor
• Paint
• Casework
• Doors
Replace windows and exterior doors
Deficiencies from meeting current building code (Unrated doors and corridor construction)
Roof replacement ongoing
Building 2: classrooms separated by operable panel partitions (have sound transmission and accessibility problems)
Facility Analysis
Rockingham County Schools

Lawsonville Avenue Elementary School (cont)

Areas of deficient size:
Administrative Offices
Guidance Offices
Classrooms
Storage and Teacher Work areas
Kitchen work, food storage and freezer space

Physical Layout:
The two separated buildings are not desirable for an elementary school. Administration is remote.
Former auditorium is used as gym (floor slopes).
Pre K program is in basement. (Accessibility problems, remote location.)

Plumbing Mechanical & Electrical

Plumbing
System is original except for patching/replacement for failures. Fixtures and water piping are at the end of their useful life (both buildings). If the facility is to remain, all sewer piping should be examined to ensure no current leaks (sewer camera). Water samples should be tested for condition of system. East LA has had numerous plumbing problems. Kitchen should be modified for indirect connections and a grease waste line and grease trap added outside. Size is inadequate- coolers and freezers throughout the dining area. ADA toilets and drinking fountains need to be added.

HVAC
Heating is supplied from one gas fired sectional steam boiler. This boiler should be replaced. Typical classrooms have radiators under the windows and window air conditioning units or ductless mini-split systems. There have been problems with steam and condensate piping leaks. All lines underneath the slab and below grade should be replaced. Radiators present a safety concern due to the temperature of the device. Also energy efficiency and temperature control are non-existent with the current system. The interior zones of West LA do not have heat. The cooling is not adequate- especially in the Dining Room. Fresh air is not introduced during heating or cooling seasons as is required by current code. The kitchen hood should be replaced. Fly fans should be installed on the exit doors of the kitchen. The Gym is not cooled. Basement classes have a moisture problem.
Facility Analysis
Rockingham County Schools

Lawsonville Avenue Elementary School (cont)

Electrical
Lighting levels appear acceptable. Light levels should be electronically checked. The facility has a great range of fixtures—polished aluminum single tube fluorescents to 2 x 4 wrap arounds. The stage has incandescent lighting. The quality of light, energy consumption, and aesthetics can be improved with system replacement. The fire alarm system was upgraded approximately 3 years ago. Additional devices (horns/strobes) will be required if the facility is renovated. No problems were identified with the building service and wiring. Additional receptacles would be beneficial in the classes.
Facility Analysis
Rockingham County Schools

Lincoln Elementary School

Address 2660 Oregon Hill Road
Ruffin, NC
Grades Housed Pre K-5 grade
Current Enrollment 433 students (as of 9/04)
Site Size 26.9 acres
Date of Construction Bldg 1: 2000
Water Supply Municipal
Sewage System Municipal
Mobile Units 0

Architectural and Site:

Lincoln Elementary is a relatively new school and in very good condition. More stacking space for car riders is needed on the site. Some maintenance issues with the metal roof and gutters have been addressed with by the maintenance department. An addition of 2-4 classrooms would raise the capacity to match that of the Wentworth and Huntsville prototypes.

Physical Layout:
The “grade house” layout divides the school into groups of two grade levels. An addition at the center (K-1) wing would allow that grouping to be maintained.

Plumbing Mechanical & Electrical

Plumbing
The facility is only approximately 5 years old. The Speakman metering faucets do not function properly (similar to all other brands- but code requirement). A shower for students that have accidents was requested. The facility is fully sprinkled.

HVAC
The building is heated and cooled with a water source heat pump system. It has an oil fired boiler for heat and a closed circuit cooler for cooling. The oil tank is above ground. System is controlled with a Johnson Controls DDC system.

Electrical
Lighting is 2 x 4 lay-in T-8’s with electronic ballast and motion detectors. The fire alarm system may require some upgrade depending upon the extent of any addition to conform to current code.
Facility Analysis
Rockingham County Schools

**Moss Street Elementary School**

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<td>Address</td>
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<td>Reidsville, NC</td>
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**Architectural and Site:**

Moss Street Elementary is well laid out from an educational planning standpoint and is in good condition. There have been recent renovations to the administrative offices and media center. Some additional administrative spaces are still needed. The toilet rooms and stage are not accessible. Additional teacher toilet rooms are needed. Additional classrooms could be added to raise the student capacity.

**Architectural Issues:**
- Removal of asbestos (floor tile, mastic and pipe insulation)
- ADA Up-grades (lift for stage)
- Restroom renovations
- Replace finishes
  - Ceilings
  - Floor
  - Paint
  - Casework
  - Doors
- Replace windows and exterior doors
- Deficiencies from meeting current building code (Unrated doors and corridor construction)

**Areas of deficient size:**
- Administrative Offices
- Storage and Teacher Work areas

**Physical Layout:**
Good layout allows for administration to supervise visitors entering the building and the separation of the public spaces away from the academic spaces. Additions could be located at east and west wings, but not at north wing due to the proximity of the property line.
Facility Analysis
Rockingham County Schools

Moss Street Elementary School (cont)

Plumbing Mechanical & Electrical

Plumbing
System is original except for patching/replacement for failures. Fixtures and any galvanized water piping are at the end of their useful life. If the facility is to remain, all sewer piping should be examined to ensure no current leaks (sewer camera). Water samples should be tested for condition of system. Toilet lavatories only have cold water. Kitchen should be modified for indirect connections and a grease waste line and grease trap added outside. ADA toilets and drinking fountains need to be added.

HVAC
Heating is supplied from two gas fired sectional boilers. Boilers are alternated. Typical classrooms have convectors under the windows and ductless mini-split systems for cooling. Fresh air is not introduced during heating or cooling seasons as is required by current code. The piping is nearing the time problems typically start (depending upon chemical treatment and quality of water). Temperature control for heating is not very good with the current system. The kitchen hood should be replaced. Fly fans should be installed on the exit doors of the kitchen. The Gym is served from two rooftop units- age and condition unknown. If original, units should be replaced (typical 15 year life).

Electrical
Lighting levels appear acceptable. Light levels should be electronically checked. The classrooms have 2 tube industrial ventilated fluorescents. The cafeteria has incandescent lights. Most fluorescents are T-8. The fire alarm system was upgraded approximately 3 years ago. Additional devices (horns/strobes) will be required if the facility is renovated. No problems were identified with the building service and wiring. Additional receptacles would be beneficial in the classes. Several distribution panels were added to serve the ductless mini-splits.
Facility Analysis
Rockingham County Schools

**Stoneville Elementary School**

| Address          | 203 Stone Street  
|                  | Stoneville, NC   |
| Grades Housed   | Pre K-5 grade    |
| Current Enrollment | 429 students (as of 8/04) |
| Site Size       | 15 acres         |
| Date of Construction | Bldg 1: 1958 Gym / Auditorium  
|                  | Bldg 2: 1949     |
|                  | Bldg 3: 1960 Classrooms / Admin / Media Cntr  
|                  | Bldg 4: 1949 Pre K  
|                  | Bldg 6: 1949 Classrooms  
|                  | Bldg 7: 1957 Classrooms  
|                  | Bldg 8: 1964 Cafeteria |
| Water Supply    | Municipal        |
| Sewage System   | Municipal        |
| Mobile Units    | 0                |

**Architectural and Site:**

The campus at Stoneville Elementary was formerly a community school (grades 1-12). Buildings were added to the site over many years. The resulting campus is not suitable for use as an elementary school today. The educational spaces are smaller than the NC DPI recommendations. There is little storage. There are physical barriers to accessibility. The plumbing fixtures are in need of replacement. The site is divided by a street that, while gated during school hours, causes students to cross traffic to access the media center and cafeteria. The Gym and Auditorium are sized for high school use. The prototypical elementary school program has no auditorium and calls for a much smaller gym. They could be a great community asset if renovated.

**Architectural Issues:**
- Removal of asbestos (floor tile, mastic and pipe insulation)
- ADA Up-grades
- Restroom renovations
- Replace finishes
  - Ceilings
  - Floor
  - Paint
  - Casework
  - Doors
- Replace windows and exterior doors
- Deficiencies from meeting current building code (Unrated doors and corridor construction)

Moseley Architects
A Professional Corporation
Facility Analysis
Rockingham County Schools

Stoneville Elementary School (cont)

Gym and Audit are high school size facilities.
Wood structure in Building 4 (not recommended by DPI)
Low roof structure in Buildings 3, 6, 7, and 8

Areas of deficient size:
Administrative Offices
Guidance Offices
Classrooms
Storage and Teacher Work areas

Physical Layout:
The campus layout with great distances between buildings and the street (although closed to public) splitting the campus in half is not desirable for an elementary school.
There is no main school building for visitors to report to.

Plumbing Mechanical & Electrical

Plumbing
System is original except for patching/replacement for failures. Fixtures, sanitary, and water piping are at the end of their useful life. If the facility is to remain, all sewer piping should be examined to ensure no current leaks (sewer camera). Water samples should be tested for condition of system.
Kitchen should be modified for indirect connections and a grease waste line and grease trap added outside. ADA toilets and drinking fountains need to be added. The cafeteria building only has three individual restrooms.

HVAC:
Natural gas is not currently on-site (available?). Heating units utilize LP gas. The primary building is heat only with window units for cooling. A large dehumidifier is located in the corridor (humidity problem). Wall mounted Bard heat pumps serve the upstairs. Most buildings have rooftop units (LP gas heat). The auditorium and gym are heating only. Toilets do not have any ventilation. The kitchen hood should be replaced. Fly fans should be installed on the exit doors of the kitchen.

Electrical
Lighting levels appear adequate. Light levels should be electronically checked. The quality of light, energy consumption, and aesthetics can be improved with system replacement. The fire alarm system needs to be upgraded or replaced. Additional receptacles would be beneficial in the classes.
Facility Analysis
Rockingham County Schools

Holmes Middle School

Address
211 North Pierce
Eden, NC

Grades Housed
6-8 grades

Current Enrollment
946 students (as of 9/04)

Site Size
87 acres (including Morehead HS)

Date of Construction
Bldg 1: 1967  Classrooms / Gym / Admin
Bldg 2: 1972  Classrooms
Bldg 3: 1977  Vocational

Water Supply
Municipal

Sewage System
Municipal

Mobile Units
0

Architectural and Site:

The teaching stations at Holmes Middle School are adequately sized. Upgrades to finishes, lighting and plumbing would make this facility useful for some time to come. There are barriers to accessibility on the site and within the building. The addition of an elevator and the enclosure of the outdoor stairways would improve access and internal circulation. Located across the street from Morehead High School, they are able to share some programs and staff.

Architectural issues:
Removal of asbestos (floor tile, mastic and pipe insulation)
ADA Up-grades
Restroom renovations
Replace finishes
• Ceilings
• Floor
• Paint
• Casework
• Doors
Replace windows and exterior doors
Deficiencies from meeting current building code (Unrated doors and corridor construction)

Areas of deficient size:
Administrative Offices
Guidance Offices
Storage and Teacher Work areas
Facility Analysis
Rockingham County Schools

Holmes Middle School (cont)

Physical Layout:
Three separated buildings
Exterior stairs and walkways

Plumbing Mechanical & Electrical

Plumbing
Fixtures and water piping are at the end of their useful life (both buildings). If
the facility is to remain, all sewer piping should be examined to ensure no
current leaks (sewer camera). Water samples should be tested for condition
of system. Kitchen should be modified for indirect connections and a
grease waste line and grease trap added outside. ADA toilets and drinking
fountains need to be added.

HVAC
Heating is supplied from three gas fired boilers. The original building is served
from two Spencer steam boilers. These are nearing the end of their useful
life. Typically a boiler of this design is expected to last 30 years. Many of
these are used for 50 to 60 years. Boilers of this age are not reliable and
generally have very low efficiencies. The cafeteria is served hot water via a
sectional cast iron boiler with a coil inside a large storage tank. The coil was
just replaced. The 8th Grade building is served from a Kewanee hot water
boiler. This boiler should be replaced. Typical classrooms have unit
ventilators under the windows and window air conditioning units. All lines
underneath the slab and below grade should be replaced. The cooling is
not adequate. Fresh air is not introduced during heating or cooling seasons
as is required by current code. (Louvers are closed on the unit ventilators.)
The kitchen hood should be replaced. Fly fans should be installed on the
exit doors of the kitchen. The Dining room is extremely hot- unit appears
oversized. The Gym is not cooled.

Electrical:
Lighting levels appear adequate- generally 2 x 4 surface mounted lights
with acrylic lens. Light levels should be electronically checked. The quality
of light, energy consumption, and aesthetics can be improved with system
replacement. The fire alarm system was replaced in the early 1990’s.
Additional devices (horns/strobes) will be required if the facility is renovated.
No problems were identified with the building service and wiring. Additional
receptacles would be beneficial in the classes.
Facility Analysis
Rockingham County Schools

Western Rockingham Middle School

Address 915 NW Ayersville Road
Madison, NC

Grades Housed 6-8 grades

Current Enrollment 832 students (as of 8/04)

Site Size 67.29 acres

Buildings

<table>
<thead>
<tr>
<th>Bldg</th>
<th>Year</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1959</td>
<td>Classrooms / Admin*</td>
</tr>
<tr>
<td>2</td>
<td>1959</td>
<td>Auditorium*</td>
</tr>
<tr>
<td>3</td>
<td>1959</td>
<td>Science</td>
</tr>
<tr>
<td>4</td>
<td>1959</td>
<td>Classrooms / Boller Room</td>
</tr>
<tr>
<td>5</td>
<td>1959</td>
<td>Gym</td>
</tr>
<tr>
<td>6</td>
<td>1959</td>
<td>Cafeteria*</td>
</tr>
<tr>
<td>7</td>
<td>1968</td>
<td>Classrooms*</td>
</tr>
<tr>
<td>8</td>
<td>1975</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>2002</td>
<td>Classrooms / Media Cntr* (*2002 Renovations)</td>
</tr>
</tbody>
</table>

Water Supply Municipal

Sewage System Municipal

Mobile Units 0

Architectural and Site:

The 2002 addition and renovations addressed many of the deficiencies at Western Rockingham Middle. It included the addition of 4 classrooms, a new media center, a computer lab, band and choral rooms. The addition connected the auditorium building and provided accessibility to the stage level. The administration was expanded. New toilet rooms, floor finishes, lights and ceilings were installed in the corridors in Building 1. The cafeteria and serving line were expanded. The locker rooms and toilets below the gym were renovated. Some spaces were reconfigured to accommodate classes in the 6th grade building. New parking and bus drop off was constructed. No work was performed in the Bldg 1 classrooms, Bldg 3, Bldg 4, or Bldg 5 (the gym).

The classrooms are currently cooled by window units or ground mounted air conditioning units. The Gym is not air conditioned. The finishes and lighting in the classrooms need replacement. The toilets in Building 5 need replacing. It would be desirable to connect the main building to the gym. An elevator could provide accessibility to the lower level of the gym. Replacement of the single glazed windows with insulated units would increase the efficiency and comfort in the building.
Facility Analysis
Rockingham County Schools

**Western Rockingham Middle School (cont)**

Building 7 (6th Grade) is separated from the main building by a driveway to access Building 8 (currently home to a daycare program). The distance and elevation change make any physical connection unlikely.

**Architectural Issues:**
Removal of asbestos (floor tile, mastic and pipe insulation)
ADA Upgrades
Restroom renovations
Replace finishes
- Ceilings
- Floor
- Paint
- Casework
- Doors
Replace windows and exterior doors
Deficiencies from meeting current building code (Unrated doors and corridor construction)
Low roof structure

**Areas of deficient size:**
Storage and Teacher Work areas

**Physical Layout:**
The separated buildings are not desirable for a middle school.
2002 classroom addition connected Bldg 1 and 2.
Drop off lane added.
Must cross driveway to access Bldg 7

**Plumbing Mechanical & Electrical**

**Plumbing**
ADA toilets and drinking fountains need to be added where they were not included in earlier renovations.

**HVAC**
Typical classrooms have convectors under the windows and exposed vertical fan coil DX units in the floor in front of the heat with a condensing unit outside. This should ideally be converted to a central campus 4-pipe system. There have been problems with steam and condensate piping leaks. Piping and tunnels have asbestos insulation. All piping should be replaced. Above ground piping should be checked. The main building, cafeteria, and gym are served from only one boiler (no redundancy) but it is relatively new. The 800 building and maintenance building have boilers.
Facility Analysis
Rockingham County Schools

Western Rockingham Middle School (cont)

that need further examination regarding condition. Fresh air is not introduced during heating or cooling seasons as is required by current code. (Pre-treated outside air should be added for fresh air requirements and humidity control.) Also energy efficiency and heating temperature control are non-existent with the current system. The gym is not cooled. There is no ventilation in the gym toilets.

Electrical
Lighting levels appear adequate. The quality of light, energy consumption, and aesthetics can be improved with system replacement. The fire alarm system may require additional work to meet current codes if areas are renovated. The building service will need to be checked if any additions or changes are made. Additional receptacles would be beneficial in the classes.
Facility Analysis  
Rockingham County Schools

**McMichael High School**

<table>
<thead>
<tr>
<th>Address</th>
<th>6845 NC 135 Mayodan, NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades Housed</td>
<td>9-12 grades</td>
</tr>
<tr>
<td>Current Enrollment</td>
<td>1055 students (as of 8/04)</td>
</tr>
<tr>
<td>Site Size</td>
<td>176 acres</td>
</tr>
<tr>
<td>Date of Construction</td>
<td>Bldg 1: 1991</td>
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<tr>
<td>Water Supply</td>
<td>Municipal</td>
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<tr>
<td>Sewage System</td>
<td>Municipal</td>
</tr>
<tr>
<td>Mobile Units</td>
<td>0</td>
</tr>
</tbody>
</table>

**Architectural and Site:**

Built in 1991, McMichael is the newest high school in the district. The spaces are adequately sized to meet NC DPI requirements. The auditorium is small for a high school, but well located adjacent to the performing arts classrooms. The building is well maintained. Some of the mechanical systems are beginning to require more maintenance and/or replacement.

**Physical Layout:**
The building is well laid out from an educational planning standpoint. Additional classroom and administrative space could be added to meet the current requirements.

**Plumbing Mechanical & Electrical**

**Plumbing**
The kitchen has direct connected fixtures and not indirect as required by current code. The grease trap was removed after years of problems. A new grease trap and grease piping should be added. Toilet facilities do not fully comply with current ADA codes. The perimeter of the Lobby and the classroom wings have a sprinkler system.

**HVAC**
The building is heated and cooled with a water source heat pump system. The vertical exposed fan coil style units in the offices and other areas have had a lot of operational problems and should be replaced. Most classes and other large areas have typical ducted water source heat pumps that have not had as many problems (still not meeting Owner expectations-Climate Master). Most classrooms have residential style dehumidifiers due to high moisture levels. This should be addressed asap with a permanent solution. Some units to pre-treat the outside air have been installed. The effectiveness should be monitored and if successful, add additional units. The Media Center has humidity level concerns.
Facility Analysis
Rockingham County Schools

McMichael High School (cont)

Electrical
Lighting system is in general, adequate. The PC lab and Office Lobby have indirect lighting. Additional distribution panels and circuits for copiers, pc's, etc. are needed. The main electrical service history should be checked to ensure the main has adequate capacity—especially with the addition of the humidity control equipment. The fire alarm system will require additional horn/strobes for current code compliance. The Auditorium dimmer system has had many problems and needs to be replaced (hard to find replacement parts).
Facility Analysis
Rockingham County Schools

Morehead High School

Address 134 North Pierce Street
Eden, NC

Grades Housed 9-12 grades

Current Enrollment 1221 students (as of 8/04)

Site Size 87.02 acres (Includes Holmes MS)

Date of Construction
Bldg 1: 1952 Classrooms / Admin / Gym
Bldg 2: 1957 Classrooms / Shop
Bldg 3: 1959 Classrooms
Bldg 4: 1959 Auditorium
Bldg 5: 1970 Classrooms / Media Center
Bldg 6: 1984 Gym / Lockers
Bldg 7: 1991 Cafeteria

Water Supply Municipal

Sewage System Municipal

Mobile Units 0

Architectural and Site:

While this is a campus of many buildings, they are generally in good condition. Most educational spaces are adequately sized. Some renovations were performed in 2000 (lighting, ceilings, HVAC and window replacement / infill) at Bldg 1. New floor finishes and similar renovations would improve the other buildings as well. Toilet rooms need renovations to replace fixtures and provide accessibility. The administrative space needs to be expanded. Additional teacher work rooms and toilet facilities are needed. The auditorium is very large and is widely used by the community. The Band room is undersized. The athletic facilities are an asset to this facility.

Architectural issues:
Removal of asbestos (floor tile, mastic and pipe insulation)
ADA Up-grades
Restroom renovations
Replace finishes
• Ceilings
• Floor
• Paint
• Casework
• Doors
Replace windows and exterior doors
Deficiencies from meeting current building code (Unrated doors and corridor construction)
Some HVAC and lighting replacements performed in 2000
Facility Analysis
Rockingham County Schools

Morehead High School (cont)

Areas of deficient size:
Administrative Offices
Guidance Offices
Band and Instrumental rooms
Storage and Teacher Work areas

Physical Layout:
There are many buildings. Some are connected. Some have open air canopies.
Administration is too small.
Car drop off area should be expanded to increase stacking on site.

Plumbing:
Toilets need upgrading/renovating. ADA toilets and water coolers are needed. Fixtures and piping in the main building, practice gym, business building, and vocational building are at the end of their useful life and should be replaced. If the facility is to remain, all sewer piping should be examined to ensure no current leaks (sewer camera). Water samples should be tested for condition of system. Kitchen should be modified for indirect connections and a grease waste line and grease trap added outside.

HVAC:
The system was replaced in the main building approximately 5 years ago with the exception of the boiler. It should be replaced asap. This one boiler serves a large part of the campus. The gyms were not included and remain original without cooling. The English Building remains original with unit ventilators that are near the end of their useful life. The boiler and piping should be closely examined due to age. The media center has the original heating system and ductless mini-splits were added a couple years ago. Note this does not provide any fresh air. The science building has an existing rooftop unit that has exceeded its useful life and is presently being replaced. Currently ductless mini-splits are being added to each zone. A heat recovery unit will replace the rooftop unit for fresh air supply to the classrooms. There is a moisture problem in the lower level—below grade. The auditorium has a separate boiler and chiller. Both are in need of replacement with the chiller being most critical due to operational problems. The boiler is fueled oil only; natural gas should be extended. With the exception of the main building, the control system is pneumatic and the copper tubing is regularly developing leaks. The control system should be replaced with DDC controls.
Facility Analysis
Rockingham County Schools

Morehead High School (cont)

ELECTRICAL:
Lighting varies greatly throughout the campus. Classrooms in the main building have lay-in 2 x 4 fixtures, T-8. The corridors need to have a new lighting system- dim and many ducts/pipes/etc. exposed. The dining room uses incandescent lights- due to the stage and dimmer control. The dimming system should be replaced due to lack of availability of replacement parts. The fire alarm system needs to be expanded/updated in all buildings. The elevator in the English building probably does not have the recall feature as required by current code. Also detectors need to be added to the elevator lobbies. The main panel in the main building is relatively new. All others need to be considered for replacement.
Facility Analysis
Rockingham County Schools

Rockingham County High School

Address
180 High School Road
Reidsville, NC

Grades Housed
9-12 grades

Current Enrollment
1178 students (as of 8/04)

Site Size
82.13 acres

Date of Construction
Bldg 1: 1978
Bldg 2: 1989 Classrooms

Water Supply
Municipal

Sewage System
Municipal

Mobile Units
2 (confirm)

Architectural and Site:

Rockingham County High School is 27 years old and has been well maintained. The classrooms, athletic facilities, music spaces, and media center are adequately sized. The site has very good athletic facilities. The Administration should be expanded. The Dining hall is undersized for the number of students. Some additional classroom spaces are needed due to many programs being offered. The swimming pool is large and has been well maintained, however the pump / filtration equipment is reaching the end of its life cycle.

Physical Layout:
The high school is well laid out from an educational planning standpoint. There is no internal connection from Bldg 2 (the 300 building) to the main building.

Plumbing:
The plumbing is original but is in acceptable condition generally. Kitchen should be modified for indirect connections and a grease waste line and grease trap added outside. The Auditorium does not have a standpipe system on the stage. The pool area does have a pool dehumidification unit. There is not a pool chemical storage room. ADA toilets and drinking fountains need to be added. The building heating boilers also generate the domestic hot water. This should be separated for efficiency and reduced chance of contamination of the potable water. Building 300 is on a sanitary sewer lift station.
Facility Analysis
Rockingham County Schools

Rockingham County High School (cont)

HVAC
Heating is supplied from two wet back boilers. Cooling is supplied from a water cooled chiller (R-22). The cooling tower is 27 years old. The motor and drive have been replaced but it is rusty and appears to be in need of replacement soon. Controls are pneumatic. Many zones serve a diverse group of loads- administration and classroom, pc labs, etc. The building is a plenum return system. Humidity control is a problem in several areas. In the classrooms, it appears it may be due to water intrusion. The auditorium is rather noisy due to air/grille/duct sound. Also humidity control is a challenge. Building 300 has a rooftop unit that has had to have a new coil and two new compressors. The kitchen hood should be replaced- it does not have the minimum 6" overhang as required by current code. It also does not have any make-up air. Fly fans should be installed on the exit doors of the kitchen. The science lab “hoods” should be examined with the chemicals used.

Electrical
Lighting levels appear acceptable. Fixtures are generally T-8 and T-12. The fire alarm system is original. The maintenance staff has difficulty finding replacement parts for the fire alarm. Since additional devices (horns/strobes) will be required if the facility is renovated, a replacement of the fire alarm is recommended. No problems were identified with the building service and wiring- most are Westinghouse. Additional distribution panels and receptacles would be beneficial in the classes. The main service should be checked to ensure additional capacity exists (1600 amp/277/480 volt). Please note this mfg. does not make panels any longer so replacement parts/breakers are very rare and expensive. The dimming system in the auditorium should be replaced due to lack of availability of replacement parts. The elevator probably does not appear to have the recall function as required by code.