FACILITY ASSESSMENT REPORT

MONTICELLO COMMUNITY SCHOOL DISTRICT

PROVIDED BY:

FEH Associates Inc.
Architecture | Structural Engineering | Interiors

IN ASSOCIATION WITH:

Monticello Community School District
Facility Assessment

New Construction

STATEMENT OF PURPOSE

FEH Associates in conjunction with KCL Engineering has been retained to complete a facility assessment of all the Monticello Community School District Facilities. We are to provide consultation regarding their useful life span in their current state, their useful life span if they are renovated to meet or exceed ADA standards, the most current energy efficiency standards, and the latest technology standards, and or the economic necessity/desirability to build a new campus or a combination thereof based upon life span expectations. Further, the District seeks guidance on (a) the feasibility of and (b) the likely approximate cost of renovating/upgrading some or all of its buildings, in combination with new construction of some or all of the buildings and/or creation of a single campus.

The facility assessment and programming team for this project included:
Kevin Eipperle, AIA – Architect
Jim Champion, AIA – Architect
Mark LaCroix, PE – Mechanical Engineer
James Deeds, PE – Electrical Engineer

Site visits were made to each individual school building by the team on August 13, 2012. Fire safety reports for each student building were provided by the school district.

OVERVIEW OF THE FACILITIES

Monticello Community School District is located in Jones County, Iowa. It includes over 1,100 students, approximately 90 teachers, 5 administrators and 88 staff members. Facilities include:

Shannon Elementary school, grades P-K-1 constructed in 1961. It is a 25,000 SF, one story building.

Carpenter Elementary school, grades 2 – 4 constructed in 1955. It is a 25,000 SF, one story building.

Monticello Middle school, grades 5 - 8 which is the former high school that was constructed in 1923. There is a more recent addition, 1961, housing a large gymnasium, school office and locker rooms. It is a 99,000 SF, three story building.

Monticello High school, grades 9 - 12 constructed in 1999 on 70 acres of property owned by the school district. It is a 140,000 SF, two story building.

The school district office houses the Superintendent, Comptroller, and District technology director.

The transportation facility houses the director of Transportation, Grounds and Maintenance as well as maintenance equipment and some bus maintenance areas.

A. GENERAL COMMENTS

The 1961 building is now more than 50 years old. It was designed at a time before computers were invented and before buildings were air conditioned. It is currently receiving some new windows and a new playground. It has been maintained well.

B. ARCHITECTURAL REVIEW

As the Assessment team toured the 1961 building several items of concern were immediately noted. This section deals with any items that would be addressed in an update or remodeling project.

Roof:
A sloped metal roof has been installed on this building at some point.

Windows:
Holes were observed in the North classroom windows.

Some of the windows were being replaced on the South side of the building during our visit. The windows being installed were casement windows that open out. This style window is very dangerous for elementary schools as they cause an obstruction at head height for small children. This is a significant concern, especially on the playground side of the building.

Remaining windows were steel or aluminum and should be replaced.

There are 6' x 20' windows with clear glass into the gymnasium. If this is used for any activity where glare can cause an accident it should be replaced with translucent panel or non-glare glazing.

Boiler room windows are single pane glass in steel frames. They should be replaced. (Image is top of next page)

A Tyvek type building wrap is installed in the window replacement area. Wall air conditioning units are cut into the wrap in the wall. Proper termination is required to provide a vapor barrier. (Left image)

Caulking:
At the East paving adjacent to the building, sealant should be provided at the wall to paving joint. Also around the gym.

Sealant is needed at the top of masonry at the concrete at the Southeast corner of the gym.

Masonry:
There is damaged brick at the Southeast corner of the gymnasium outside.

There are cracks in the bottom course of the glazed tile in the West wall of the gym.

Doors:
The principal reported that the center mullions on the interior corridor fire doors are a hazard for the small children. They frequently bump into them. (Left image)

The exterior door and windows on both sides of the gymnasium require replacement.

The exterior door to the boiler room needs to be replaced.
The classroom door hardware is required to be self-closing in a fire rated wall.

Corridor doors and frames are not fire rated and should be replaced.

Corridor glazed windows:
There are large areas of glass from the corridors to the classrooms. While this is very nice for day lighting and creating an open atmosphere, these are required to be fire rated walls. Either a fire sprinkler system needs to be added or these windows need to be replaced with rated construction.

Ceilings:
There is minor staining of ceilings indicative of past roof leaks.

Walls:
There are insulated panels on the exterior wall of the gymnasium with holes in them. They should be patched or replaced with a material that will withstand abuse. (Above image)

The basketball backstop mounting anchors penetrate the entire wall system to the exterior. This provides no thermal or vapor break.

Floor Coverings:
Carpeting in a couple of the classrooms is worn and requires replacement.

Restrooms:
The restrooms in the preschool classrooms and the main restrooms are not ADA compliant. (Above image)

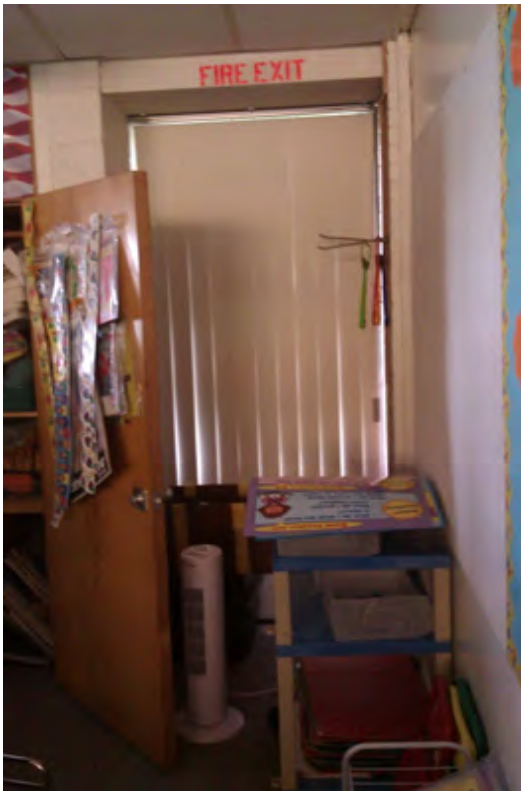
Miscellaneous Items:
The ground surface on the south side of the building slopes toward the building wall. This is a concern because it directs rain water toward the building that will cause damage and settling over time.

There are downspouts that run water along the side of the gymnasium. This is a concern for damage and settling reasons.

The Downspout at the Southeast corner of the gym is smashed and runs water against the wall. It requires replacement with a more rigid solution that will with stand abuse and Ice. (Above images)

We understand the playground is being replaced. When that is accomplished it should be fenced for control and safety reasons.
The downspout at the boiler room area needs to be replaced

A dehumidifier was draining into the hand washing sink of the Southwest classroom. (Above image)



C. CODE REVIEW

An exit pad and/or exit way is required outside the lower level classrooms exit windows. The sill of these windows is at 30" above the floor. An unobstructed step is required to allow student to exit safely. (Left image)

The southwest classroom is of a size that requires a second exit door.

There are lots of open cubbies and flammable storage in the corridors. This needs to be corrected.

The art paper rolls are mounted on the wall in the exit corridors. (Image below)

The outdoor underground fuel oil tank requires protective bollards around the fill access.

There is a significant amount of wired glass in the corridors. The International Building code no longer allows wired glass in schools. (Left image)

The State Fire Marshal's Office has cited the Shannon elementary school with numerous violations and ordered compliance. The inspection was conducted using the 2006 International Fire and Building Code.

D. ADA REVIEW

The opening into the boy's restroom is only 32" wide.

The Electric Water cooler is only a single unit. Multiple heights are required. This is typically accomplished with a double unit.

E. STRUCTURAL CONDITION REVIEW

Overall the building appears to be structurally sound and with the corrections noted above should continue to be for many years.

F. MECHANICAL SYSTEMS REVIEW

HVAC

1. The existing central heating plant consists of a single, 5,460 MBH input, "Kewanee" steam boiler. The boiler, condensate receiver, and associated components appear to be original and are in average condition. The heating system is estimated to be 75% to 80% efficient. ASHRAE tables indicate fire tube boilers with an expected service life of around 20 to 25 years.
2. Building HVAC controls are pneumatic. Compress air is by means of a new ¾ HP air compressor. Remote setpoints, scheduling, and unoccupied hours are not available with the current control system.
3. Steam and condensate piping is routed thru a perimeter tunnel system to unit ventilators and radiant heaters. The "Herman Nelson" Unit ventilators appear to be original. It is doubtful that code required minimum ventilation is being delivered to the classrooms.
4. A few classrooms and the office utilize window air conditioning units for cooling.
5. The gym utilizes a ventilation air handling unit with steam coil. An exhaust fan provides cross ventilation.
6. The majority of the building is not air conditioned (cooled/dehumidified).
7. With any significant renovation it is recommended that the existing HVAC components be removed and replaced. New mechanical systems could realize a heating energy savings of approximately

20 to 30% compared to the existing heating and ventilation system.
8. The site appears to be large enough to accommodate a geothermal heat exchanger.

Plumbing

1. The plumbing system consists of restrooms, a janitor's receptor, classroom sinks and bubblers, kitchen triple bowl sink, and two 100 gallon, atmospheric gas-fired water heaters.
2. Many of the plumbing fixtures are original and appear to be in average condition with adequate pressures at most flush valves.
3. The domestic water heating system is estimated to be 70% to 80% efficient. The 75 MBH input heater was installed in 1991; the 260 MBH input heater was installed in 1995. Circulation pumps are greater than 15 years old.
4. The domestic hot water system is softened.
5. Piping insulation is original and is in average condition.
6. Roof drainage is by gutters and downspouts. They appear to be in average condition with no signs of blockage.
7. The 3" water service entrance utilizes a 2" newer water meter, yet it does not include a code required backflow preventer.
8. The majority of the water mains are galvanized piping, with most of the newer branch piping being copper.
9. Kitchen waste does not appear to connect to a code required grease interceptor.
10. With any significant renovation it is recommended that all galvanized piping be replaced with copper piping, a backflow preventer be installed on the water entrance, plumbing fixtures be updated with efficient, low water units, a grease interceptor be installed for kitchen waste, and a high efficient water heater be installed.

Fire Protection

1. The building currently does not have a sprinkler system. With any large renovation it is recommended that a fire protection sprinkler system be installed. First review indicates that a dry system may be optimal, due to the fact that mains can be easily routed thru the existing attic space as well as the requirement to sprinkler the attic.
2. A new water service entrance will be required for installation of fire protection system.

G. ELECTRICAL SYSTEMS REVIEW

Power

1. The existing main electrical distribution panel is a 400 amp Square D QMB switchboard energized at 120/208V, 3phase, 4 wire. It is original to the building, has no spare capacity, is not labeled properly, and is not of suitable size should air conditioning be added to the building.
2. Exterior metallic conduit south of classroom 124 is not fastened to building properly and is rusting where it enters the ground. New conduit should be installed.

3. Exterior 120V receptacles are not protected by ground fault circuit interrupters (GFCI). New GFCI receptacles with weather proof covers should be installed.
4. Receptacles in kitchen need to have GFCI protection.

Lighting

1. Emergency lighting - both interior and exterior - throughout school is not adequate. Additional lighting should be installed in corridors, toilets, outside egress doors, and other public areas.
2. Exterior light fixture on south side of gymnasium has exposed wiring that is not rated for exterior applications. This wiring should be removed and replaced with properly installed circuit conductors.
3. Abandoned exterior light fixture position on east side of gymnasium has exposed wiring not properly concealed. This wiring should be removed.
4. Additional exterior lighting should be installed for improved safety and security.
5. Exterior light fixtures should be changed to energy efficient HID or LED sources.
6. Incandescent light fixtures in janitors rooms and boiler room should be replaced with fluorescent.
7. Automatic lighting control devices (occupancy sensors) should be added to all rooms to meet energy code requirements.
8. Gymnasium light fixtures are metal halide should be replaced with more energy efficient fluorescent or LED fixtures.
9. Classrooms are generally utilizing eighteen 2-lamp fixtures. This does not meet current energy codes for lighting power density. Fewer, more efficient fixtures should be installed.

Special Systems

1. The school's main telecom equipment is located in a staff toilet. This is a code violation. Telecom equipment should be located in a dedicated room.
2. Exterior PVC conduit for low voltage cabling south of classroom 122 is damaged.
3. Fire alarm initiation and notification devices (pull stations, horns and strobes) do not meet code requirements for quantities and locations. Additional pull stations are needed at exterior doors. Additional horn/strobe devices are needed in toilets and classrooms.
4. Addressable fire alarm system will need to be upgraded to a voice notification system to meet new code requirements.

H. USEFUL LIFE SPAN

The useful life span of a school building is evaluated based upon many factors, building components and their performance including: structural shell, thermal barrier, water barrier, HVAC systems, plumbing systems, electrical systems, communication systems, built in casework and equipment, kitchen equipment, windows, doors & hardware. School buildings receive considerable use & abuse for 9 months during the year and then in the summer they are minimally used. Particular to schools is the importance of high use equipment & hardware as well as adaptable technology and communication systems. All these components have varying life spans.

As pedagogical teaching methods evolve and change the traditional classroom along a double loaded corridor may become less effective and even detrimental to learning. The structural shell of a building can last for hundreds of years if built on a sound foundation and the enemy to every building, water, is kept out. However buildings with rigid layouts created by load bearing masonry walls are less adaptable to change. Foundation settlement for this type of building can be very expensive to correct.

For Shannon Elementary school in particular, the engineering systems and infrastructure are 50 years old in some cases. Most new HVAC, plumbing & electrical equipment has a 20 year useful life. This means the equipment may not be as energy efficient as its newer counterpart. Parts and service will probably not be available any longer. They simply wear out from intensive use. The current boiler appears to be original and may have 20 years of life but is only about 75% efficient.

The life span of Shannon Elementary school without any renovations or equipment replacement is about 20 more years. At that point HVAC and lighting systems should have been replaced. The question is how useful is it considering the short comings related to programmatic support.

Operational cost is one way to measure the useful life. When the operational cost outweighs the replacement cost the building components need to be replaced. Another way for measuring a schools useful life is how it can support the curriculum. As long as it can support it in every way it is useful. When the building hinders the delivery of learning it is no longer useful as a school.

Useful life of components without any renovations:

Structural Shell: 50 years, only minor settlement

Thermal Barrier: 0 years, the International Energy Code requires significant insulation values

Water Barrier: 15 years, the building wrap being installed at the window replacement causes much concern

HVAC systems: 0 - 10 years, equipment will be at the end of its useful life
Plumbing systems: 5 - 10 years, some fixtures may be at end of their life, piping may be calcified

Electrical & lighting systems: 0 years for lighting, 0 years for power

Communication systems: 0 years,Always changing, unclear, flexibility is the key
Built in equipment & casework: 10 years if quality hardware is maintained

Kitchen Equipment: 25 years unless becomes to inefficient

Windows, Doors & hardware: 40 years

Building configuration: 40 years

Fire protection system: does not exist

I. FIRE MARSHALL'S REPORT

On the following three pages.

FIRE SAFETY REPORT FOR STATE SCHOOLS AND COLLEGES

DISTRICT AND ADDRESS: **Monticello School District- Shannon Elementary**
SCHOOL LOCATION: 321 W South St., Monticello, IA 52310
GRADES: PK-1
OF STUDENTS: 200

Building Code: 53-4446-0418

DATE: 7/17/09 COUNTY: Jones
TELEPHONE: 563-465-4092

SUPERINTENDENT & ADDRESS: Chris Anderson, 711 S. Maple St., Monticello, IA 52310

PRES. OF BOARD/ADDRESS: Lee Hein, 11989 Richland Rd, Monticello, IA 52310

CONSTRUCTION: Type II (000) # OF STORIES: 1

PREVIOUS ORDERS COMPLIED WITH:

COMPLY AS FOLLOWS:

Inspection Conducted using the 2006 International Fire and Building Code

1. **Corridors-Section 1027.17, International Fire Code:** Discontinue blocking doors open throughout the building. If the facility desire doors to be held open, doors shall be held open with electromagnetic hold open devices tied to the building's fire alarm in accordance with the National Fire Protection Association (NFPA) 72, National Fire Alarm Code, 2002 edition.

2. **Corridors-Table 1017.1, International Fire Code:** Seal all penetrations in the corridor walls (Including above the suspended ceiling) throughout the school building with Underwriter's Laboratory (U.L.) labeled fire rated materials.

3. **Electrical Wiring-Section 605, International Fire Code:** Discontinue the use of extension cords, electrical adapters, and drop cords throughout the building in place of approved permanent electrical wiring. Surge protectors shall only be used with computer equipment and audio/visual equipment.

STATE FIRE SAFETY REPORT

4. **Electrical- Section 605.3, International Fire Code:** Maintain a 3 foot clearance from all electrical panels throughout the building in accordance with National Fire Protection Association (NFPA) 70, National Electrical Code, 2005 Edition. Dec

5. **Fire Alarm-Section 901.4, International Fire Code:** Maintain a 3 foot distance on all smoke detectors and heat detectors from any air diffuser throughout the school building in accordance with Section 5.7.4 of the National Fire Protection Association (NFPA) 72, National Fire Alarm Code, 2002 edition. Jerry Dec 2009

6. **Storage-Section 315.2.1, International Fire Code:** Maintain storage a minimum of 2 feet from the ceiling throughout all rooms of the building. This includes any items hanging from the ceiling. Dec 2009

7. **Corridors-Section 1027.17, International Fire Code:** Remove the paper rolls from the hallway across from Room #107. Jerry Summer 2010

8. **Exit Signs-Section 1011.1, International Fire Code:** Replace the exit signs in the North Main Entrance without battery back up to illuminated exit signs with battery back up. Jerry 2010

9. **Emergency Lighting-Section 1006.1, International Fire Code:** Provide emergency lighting units with battery back up in the Main Hallway by the Office. Jerry Summer 2010

10. **Corridors-Section 1027.17, International Fire Code:** Discontinue storing items on top of the lockers throughout the school corridors. Dec 2009

11. **Incidental Rooms-Section 315.2.2, International Fire Code:** Remove all combustible storage from the Boiler Room. No combustible materials shall be stored in this room at any time. winter Jerry 2009-10

12. **Incidental Rooms-Table 508.2, International Building Code-** Seal all penetrations in the walls and ceiling lid of the Boiler Room, the Room #110 Storage Room, and the Janitor's Room #108 with Underwriter's Laboratory (U.L.) labeled fire rated materials. winter Jerry 2009-10

13. **Exits-Section 1003.6, International Fire Code:** Maintain the exits (windows and doors) from the Boiler Room and classrooms throughout the facility clear and unobstructed at all times. winter 2009-10

14. **Electrical-Section 605, International Fire Code:** Protect the electrical outlet next to the sink in the Nurse's Office #118 with a Ground Fault Circuit Interrupter (GFCI) protected electrical outlet. Jerry winter 2009-10

15. **Incidental Rooms-Table 508.2, International Building Code:** Provide a 1 hour rated protected enclosure with Underwriter's Laboratory (U.L.) labeled fire rated materials for the Nurse's Office Storage Room and the Gymnasium Office/Storage Room. Jerry 2010

STATE FIRE SAFETY REPORT

16. **Incidental Rooms-Table 508.2, International Building Code:** Provide Underwriter's Laboratory (U.L.) labeled self closing devices on the Gymnasium Office/Storage Room door, the Room #110 Storage Room door, and the Janitor's Room #108 door. will ask for a grant

17. **Panic Hardware-Section 1008.1.9, International Fire Code:** Provide Underwriter's Laboratory (U.L.) labeled positive latching panic door hardware on the Gymnasium exit doors. will ask for a grant

18. **Corridors-Section 1027.17, International Fire Code:** Maintain the Room #104 corridor door in proper working order. This door failed to close and latch properly into the door frame when tested. winter of De 2009-10

19. **Corridors-Table 1017.1, International Fire Code:** Properly separate the Office Mail Boxes from the corridor. At the time of inspection, the Office Mail Boxes were not smoke tight and would allow the spread of smoke from the Office to the corridor. Summer 2010

20. **Exits-Section 1008.1.8.4, International Fire Code:** Remove the flush bolt latching device from the South Boiler Room exit door. winter 2009-10

PLEASE SUBMIT PLAN OF CORRECTION BY:
Mail plan of correction to:
IA Department of Public Safety
Division of State Fire Marshal
215 E. 7th St
Des Moines, IA 50319

or email to bstuder@dps.state.ia.us

INSPECTOR: Shyann L. Warrick

SUPERVISOR: Ron Humphrey

AUTHORIZED SCHOOL PERSONNEL: Chris Anderson, Superintendent and Lee Hein, School Board President

I. COST SUMMARY

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/2/12
Project : Shannon Elementary School | Phase: Conceptual Design | Estimator: KE

renovation updates

DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:				
1 **Architectural, Code & ADA Items**				
Renovations: windows, doors, caulking, masonry, fire walls, ADA & fire codes	24,435	SF	9.50	232,133
Expansion to meet space needs for grades P-K-1	12,000	SF	125.00	1,500,000
2 **Structural**				
Renovations	24,435	SF	0.00	0
3 **Heating, Ventilation & Air Conditioning Systems**				
Renovations	24,435	SF	26.00	635,310
4 **Plumbing & Fire Protection Systems**				
Renovations	24,435	SF	6.00	146,610
5 **Electrical Lighting & Power Systems**				
Renovations	24,435	SF	6.00	146,610
6 **Special Electrical Systems**				
Renovations - Minor	24,435	SF	2.50	61,088
			175.00	
SubTotal				2,721,750
Design / Bid Contingency 10%				272,175
Building Construction Costs SubTotal				2,993,925
Construction Contingency 5%				149,696
BUILDING CONSTRUCTION COST TOTAL				**$3,143,621**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/2/12
Project: Shannon Elementary School | Phase: Conceptual Design | Estimator: KE

renovation updates

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	0	EA	3,000.00	0
23	Extended Drive Lanes & Approaches	0	LS	0.00	0
24	Storm Sewer & Detention	1	LS	5,000	5,000
25	Domestic Water & Sanitary Sewer	1	LS	0	0
26	Electrical Power & Lighting	1	LS	0	0
27	outdoor program area	1	LS	0	0
28	fill material	100	CY	75	7,500
29	Retaining Walls	1	LS	0	0
30	Pedestrian Paving	2,400	SF	4.00	9,600
31	Lawns & Landscaping	1	LS	5,000	5,000
33	Directional & Informational Signage	1	LS	3,000	3,000
				SubTotal	30,100
				Design / Bid Contingency 10%	3,010
				Site Work Construction Costs SubTotal	33,110
				Construction Contingency 5%	1,656
				SITE WORK CONSTRUCTION COST TOTAL	**$34,766**
Soft Costs					
37	Land Acquisition	1	LS		0
38	Legal Fees	1	LS		10,000
39	Architectural & Engineering Design Fees	1	LS		235,772
40	Information & Technology Design Fees	1	LS		10,000
41	Furnishing Design Fees	1	LS		5,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		6,000
44	Printing Costs for Construction Documents	1	LS		8,000
45	Construction Permits & Fees	1	LS		5,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		16,000
48	Hazardous Material Abatement	1	LS		50,000
49	Fixtures, Furnishings & Equipment Allowance	1	LS		15,000
50	Technology & Computer Equipment Allowance	1	LS		15,000
51	Utility Rebates	1	LS		(35,000)
53	Fundraising Consultanting	1	LS		25,000
				Soft Cost SubTotal	376,772
				Site Work Construction Cost Total	34,766
				Building Construction Cost Total	3,143,621
				PROJECT TOTAL COST	**$3,555,158**

A. GENERAL COMMENTS

The 1955 building is now nearly 60 years old. It was designed at a time before computers were invented and before buildings were air conditioned. It has recently received a new playground. It has been maintained well.

B. ARCHITECTURAL REVIEW

As the Assessment team toured the 1955 building several items of concern were immediately noted. This section deals with any items that would be addressed in an update or remodeling project.

Roof:
This building originally had a "butterfly" style roof. At some point a sloped metal roof and structure was added to the building. There have been roof leak issues.

Windows:
There are some single pane glass windows in the boiler room, kitchen and bath rooms that should be replaced.

Some of the windows have been replaced on the building. The windows installed were casement windows that open out. This style window is very dangerous for elementary schools as they cause an obstruction at head height for small children. This is a significant concern, especially on the playground side of the building.

There are 3 clear glass windows into the gymnasium. This can cause glare related accidents and injury. These should be tinted or translucent glazing. (Above image)

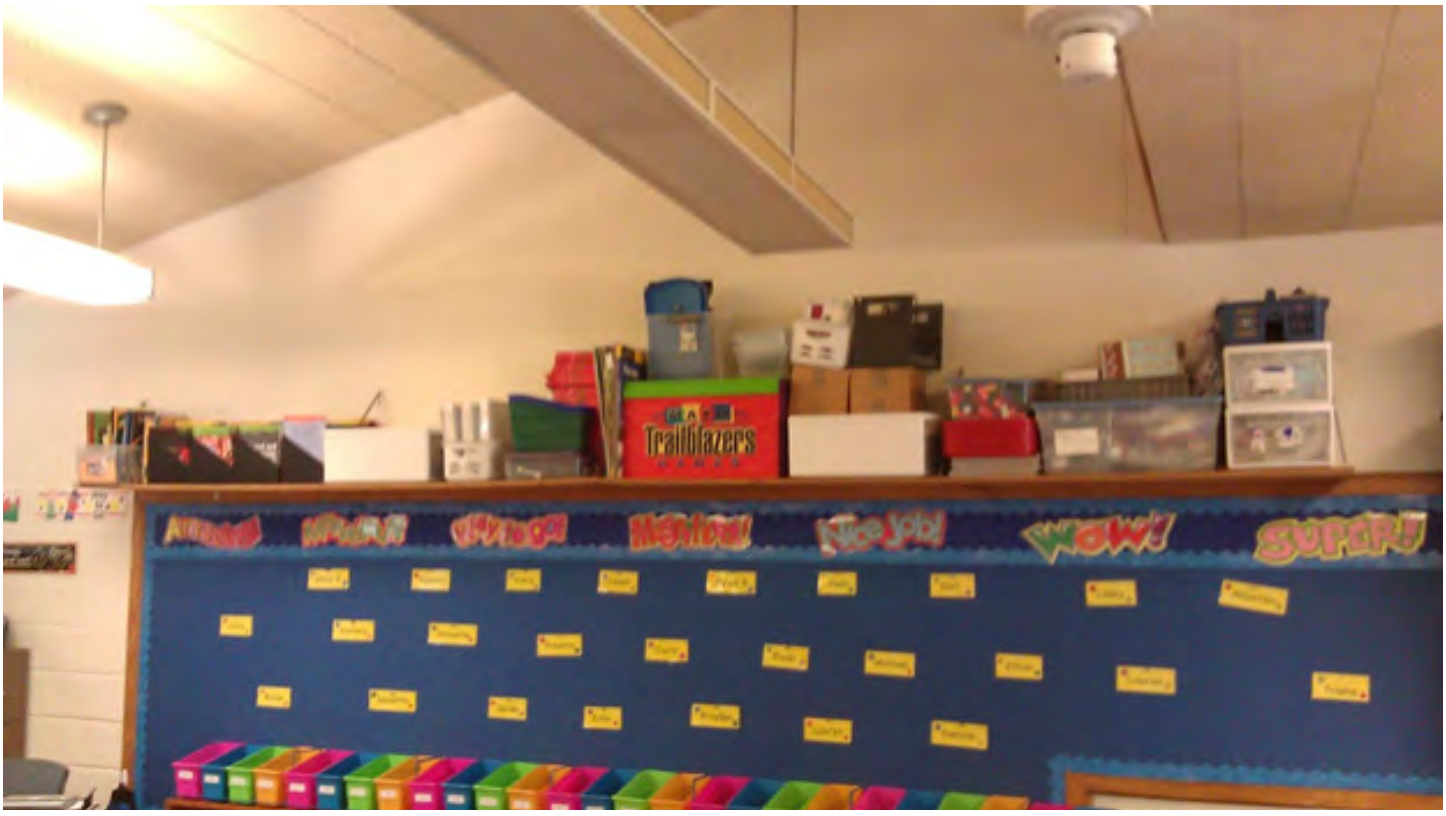
Caulking:
Sealant is needed at the west side where paving meets the building wall.

Masonry:
The masonry is in reasonable condition. Interior Masonry appears to be a perforated acoustical glazed tile. Periodic tuckpointing is required in some exterior areas. There is at least one location where settlement cracking has occurred and previous repair has failed. This will require replacement of broken brick and mortar pointing. (Above image)

Doors:
The classroom door hardware is required to be self-closing in a fire rated wall.

Corridor doors and frames are not fire rated and should be replaced. Or the building would need fire sprinklers throughout.
The door to the special education classroom does not open properly.

The north & south entry doors have single pane transom lights. These should be double pane.


Trailblazers
WOW!
SUPER!

Corridor glazed windows:
There are large areas of glass from the corridors to the classrooms. While this is very nice for day lighting and creating an open atmosphere, these are required to be fire rated walls. Either a fire sprinkler system needs to be added or these windows need to be replaced with rated construction. (Previous page top image)

Ceilings:
Ceilings are in good condition. Some locations have what appear to be previously stained tiles. Some of the ceilings are higher in the older portion of the building allowing for indirect lighting. (Previous page bottom image)

Walls:
Wall air conditioning units are not sealed around causing breach of the thermal and moisture barrier. Interior and exterior walls are primarily masonry of different types including, Glazed tile at corridors, Brick at exterior wythe, and perforated glazed tile at interior walls.

Floor Coverings:
The floor covering consist of Vinyl composition tile in corridors, wood floor in the gymnasium, carpet in classrooms and ceramic tile in restrooms. Some of the carpet floors are worn and should be considered for replacement in the next several years. (Top image)

Restrooms:
The restrooms are not ADA compliant. Examples include 47” x 30” stalls and sinks without blade handles. (Top left image)

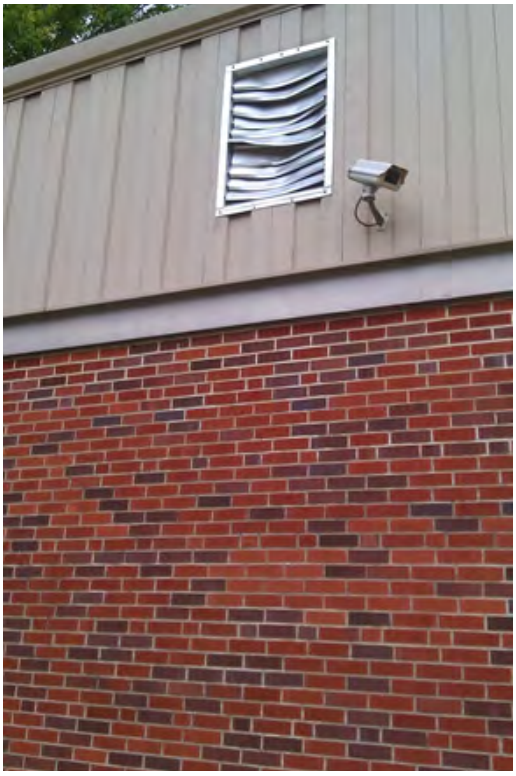
Miscellaneous Items:
There is a small sink hole at the front entrance area.

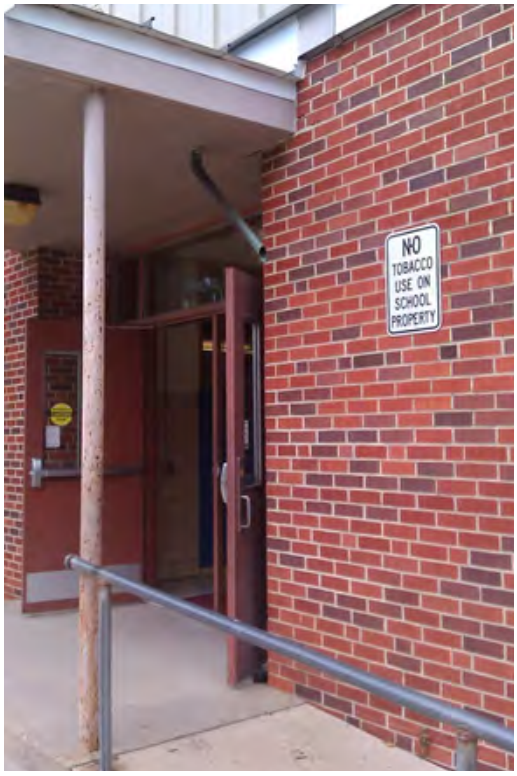
There is a need for air conditioning to provide functional teaching spaces.

Additional storage is needed in the building.

The tunnels at the perimeter of the building appear to have asbestos insulation. This should be removed prior to any access or work in the tunnels.

Louvers in the exterior wall have been damaged and should be replaced with a solution that can withstand abuse. (Bottom left image)

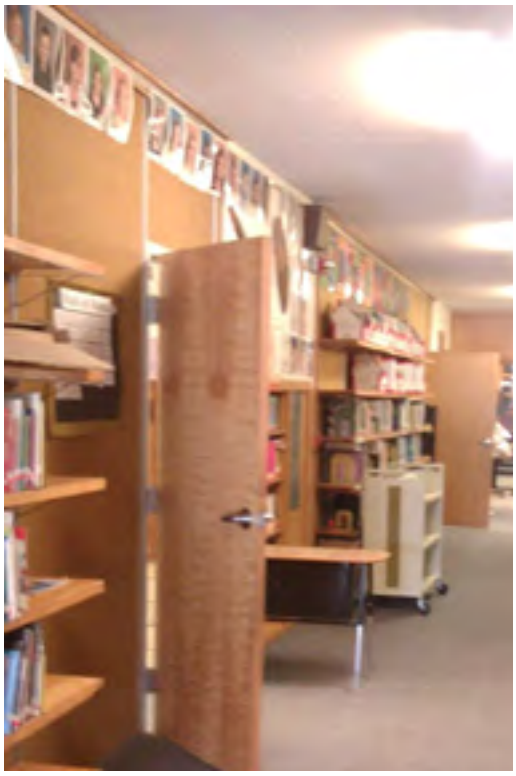




The north & south entry canopy downspouts both dump directly onto the ramps that were added. These have been roofed over more recently. (Left image)

There are no vestibule air locks at the north & south entries to the play areas.

The striped basketball court in the gymnasium only allows 24" from the court to the end walls and the side benches. Insurance standards recommend 10' at end wall from courts and 6' and sides. (Bottom image)



C. CODE REVIEW

There is a grade change from the side walk to the building. The stair handrails need to be modified to meet code requirements.

The library is open to the corridor and actually houses books in the exit way. This is a fire code violation. (Left Image)

There are three doors in the north wing that swing into the exit path and impede exit width. Alcoves need to be created.

The art paper rolls are mounted on the wall in the exit corridors.

The State Fire Marshal's Office has cited the Carpenter elementary school with numerous violations and ordered compliance. The inspection was conducted using the 2006 International Fire and Building Code.

D. ADA REVIEW

The staff restroom sink is not ADA compliant.

Ramps were added at the north & south doors however the door itself blocks the access to the ramp.

Classroom sinks are not ADA compliant. (Next page top image)

Interior and exterior ramp railings are not compliant.

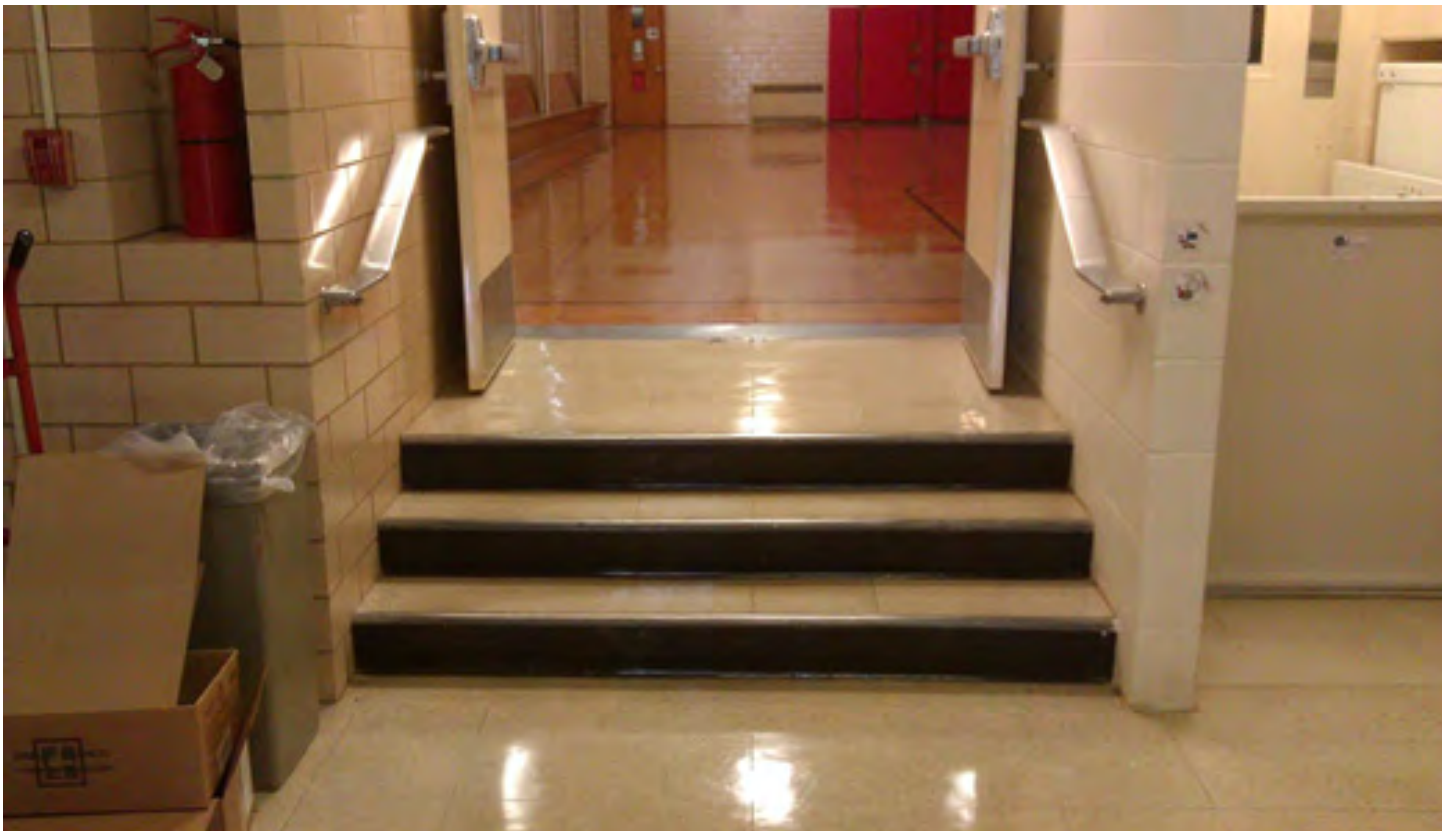
There is no ADA access available at the front entrance, only stairs. (Next page bottom image)

The gymnasium is not accessible from the school, only stairs and lift.

The interior ramp is 27" high in grade change requiring 27 feet of length. It is only 16' – 4" long

E. STRUCTURAL CONDITION REVIEW

The building appears to be structurally sound. There are only minor settlement issues at exterior stair and paving and at one bring wing wall.



F. MECHANICAL SYSTEMS REVIEW

HVAC

1. The existing central heating plant consists of a single, 2,207 MBH input, "Burnham" steam boiler. The boiler was installed in 1999 with a boiler feed unit; the condensate receiver and associated components appear to be original and are in average condition. The heating system is estimated to be 75% to 80% efficient. ASHRAE tables indicate fire tube boilers with an expected service life of around 20 to 25 years.
2. Building HVAC controls are pneumatic. Compress air is by means of a new 1.5 HP air compressor. Remote setpoints, scheduling, and unoccupied hours are not available with the current control system.
3. Steam and condensate piping is routed thru a perimeter tunnel system to unit ventilators and radiant heaters. The "Nesbitt" Unit ventilators appear to be original. Several ventilators appear to have intakes partially obstructed. It is doubtful that code required minimum ventilation is being delivered to the classrooms.
4. A few classrooms utilize window air conditioning units for cooling. The office utilizes a "Luxaire" blower coil for cooling.
5. The gym utilizes a ventilation air handling unit with steam coil in combination with wall radiation. An exhaust fan and wall dampers provide cross ventilation. Ceiling mounted circulation fans are installed in the gym to assist in mixing air and minimizing stratification.
6. A few exterior louvers are significantly damaged and should be replaced with any renovation.
7. The majority of the building is not air conditioned (cooled/dehumidified).
8. With any significant renovation it is recommended that the existing HVAC components be removed and replaced. New mechanical systems could realize a heating energy savings of approximately 20 to 30% compared to the existing heating and ventilation system.
9. The site appears to be large enough to accommodate a geothermal heat exchanger.

Plumbing

1. The plumbing system consists of restrooms, a janitor's receptor, classroom sinks and bubblers, kitchen triple bowl sink, dishwasher, and an 85 gallon, atmospheric gas-fired water heater.
2. Many of the plumbing fixtures are original and appear to be in average condition with adequate pressures at most flush valves.
3. The domestic water heating system is estimated to be 70% to 80% efficient. The 199 MBH input heater appears to be older than 15 years. Circulation pumps are less than 5 years.
4. The domestic hot water system is softened.
5. Piping insulation is original and is in poor condition.
6. Roof drainage is by gutters and downspouts. They appear to be in average condition with no signs of blockage.
7. The 2" water service entrance utilizes a 2" newer water meter, yet it does not include a code required backflow preventer.
8. The majority of the water mains are galvanized piping, with most of the newer branch piping being copper.
9. Kitchen waste does not appear to connect to a code required grease interceptor.

10. With any significant renovation it is recommended that all galvanized piping be replaced with copper piping, a backflow preventer be installed on the water entrance, plumbing fixtures be updated with efficient, low water units, a grease interceptor be installed for kitchen waste, and a high efficient water heater be installed.

Fire Protection

1. The building currently does not have a sprinkler system. With any large renovation it is recommended that a fire protection sprinkler system be installed. First review indicates that a dry system may be optimal, due to the fact that mains can be easily routed thru the existing attic space as well as the requirement to sprinkler the attic.
2. A new water service entrance will be required for installation of fire protection system.

G. ELECTRICAL SYSTEMS REVIEW

Power

1. The existing main electrical distribution panel is a 400 amp Frank Adam switchboard energized at 120/240V, 1phase, 3 wire. It is original to the building, is obsolete, has no spare capacity, and is not of suitable size should air conditioning be added to the building.
2. The boiler room branch electrical panel is a Frank Adam panel using obsolete fuses. It does not have capacity for additional circuits and should be replaced.
3. The branch panelboard in the janitor's room is a newer panel, but does not have any spare capacity.
4. Receptacles in kitchen need to have GFCI protection.
5. Exterior 120V receptacles are not protected by ground fault circuit interrupters (GFCI). New GFCI receptacles with weather proof covers should be installed.

Lighting

1. Emergency lighting - both interior and exterior - throughout school is not adequate. Additional lighting should be installed in corridors, toilets, outside egress doors, and other public areas.
2. Additional exterior lighting should be installed for improved safety and security.
3. Exterior light fixtures should be changed to energy efficient HID or LED sources.
4. Incandescent light fixtures in janitor room and boiler room should be replaced with fluorescent.
5. Automatic lighting control devices (occupancy sensors) should be added to all rooms to meet energy code requirements.
6. Classrooms are generally utilizing eighteen 2-lamp fixtures. This does not meet current energy codes for lighting power density. Fewer, more efficient fixtures should be installed.

Special Systems

1. Fire alarm initiation and notification devices (pull stations, horns, strobes) do not meet code requirements for quantities and locations. Additional pull stations are needed at exterior doors. Additional horn/strobe devices are needed in single toilets and classrooms.
2. Abandoned low voltage wiring in classroom 106 (formerly a computer lab) has not been removed.
3. Addressable fire alarm system will need to be upgraded to a voice notification system to meet new code requirements.

H. USEFUL LIFE SPAN

The useful life span of a school building is evaluated based upon many factors, building components and their performance including: structural shell, thermal barrier, water barrier, HVAC systems, plumbing systems, electrical systems, communication systems, built in casework and equipment, kitchen equipment, windows, doors & hardware. School buildings receive considerable use & abuse for 9 months during the year and then in the summer they are minimally used. Particular to schools is the importance of high use equipment & hardware as well as adaptable technology and communication systems. All these components have varying life spans.

As pedagogical teaching methods evolve and change the traditional classroom along a double loaded corridor may become less effective and even detrimental to learning. The structural shell of a building can last for hundreds of years if built on a sound foundation and the enemy to every building, water, is kept out. However buildings with rigid layouts created by load bearing masonry walls are less adaptable to change. Foundation settlement for this type of building can be very expensive to correct.

For Carpenter Elementary school in particular, the engineering systems and infrastructure are very new compared to the other buildings. Most new HVAC, plumbing & electrical equipment has a 20 - 25 year useful life. This means the equipment may not be as energy efficient as its newer counterpart. Parts and service will probably not be available any longer. They simply wear out from intensive use.

The life span of Carpenter school without any renovations or equipment replacement is about 15 more years. At that point HVAC and lighting system should have been replaced.

Operational cost is one way to measure the useful life. When the operational cost outweighs the replacement cost the building components need to be replaced. Another way for measuring a schools useful life is how it can support the curriculum. As long as it can support it in every way it is useful. When the building hinders the delivery of learning it is no longer useful as a school.

Useful life of components without any renovations:

Structural Shell: 40 years, only minor settlement

Thermal Barrier: 0 years, the International Energy Code has become much more stringent

Water Barrier: 5 years, this is unclear considering the addition of the sloped roof

HVAC systems: 20 years, Boiler was installed in 1999, some equipment will be at the end of its life, no air conditioning

Plumbing systems: 5 years, fixtures may be at end of their life, piping is in poor condition

Electrical & lighting systems: 0 years for lighting, 0 years for power, obsolete

Communication systems: 0 years, fire alarms not to code,

Built in equipment & casework: 10 years
Kitchen Equipment: 0 years

Windows, Doors & hardware: 10 years

Building configuration: 0 years, library media center with egress circulation through it

Fire protection: does not exist

I. FIRE MARSHALL'S REPORT

On the following three pages.

FIRE SAFETY REPORT FOR STATE SCHOOLS AND COLLEGES

DISTRICT AND ADDRESS: **Monticello School District-Carpenter Elementary**
SCHOOL LOCATION: 615 N Gill St., Monticello, IA 52310
GRADES: 2-4
OF STUDENTS: 200

Building Code: 52-4446-0409

DATE: 7/17/09 COUNTY: Jones
TELEPHONE: 563-465-3551

SUPERINTENDENT & ADDRESS: Chris Anderson, 711 S. Maple St., Monticello, IA 52310

PRES. OF BOARD/ADDRESS: Lee Hein, 11989 Richland Rd, Monticello, IA 52310

CONSTRUCTION: Type II (000) # OF STORIES: 1

PREVIOUS ORDERS COMPLIED WITH:

COMPLY AS FOLLOWS:

Inspection Conducted using the 2006 International Fire and Building Code

1. **Corridors-Section 1027.17, International Fire Code:** Discontinue blocking doors open throughout the building. If the facility desire doors to be held open, doors shall be held open with electromagnetic hold open devices tied to the building's fire alarm in accordance with the National Fire Protection Association (NFPA) 72, National Fire Alarm Code, 2002 edition. on going

2. **Corridors-Table 1017.1, International Fire Code:** Seal all penetrations in the corridor walls (Including above the suspended ceiling) throughout the school building with Underwriter's Laboratory (U.L.) labeled fire rated materials. Cert Now tru May 2010

3. **Electrical Wiring-Section 605, International Fire Code:** Discontinue the use of extension cords, electrical adapters, and drop cords throughout the building in place of approved permanent electrical wiring. Surge protectors shall only be used with computer equipment and audio/visual equipment. on going

4. **Electrical- Section 605.3, International Fire Code:** Maintain a 3 foot clearance from all electrical panels throughout the building in accordance with National Fire Protection Association (NFPA) 70, National Electrical Code, 2005 Edition. Dec 2009

STATE FIRE SAFETY REPORT

5. **Fire Alarm-Section 901.4, International Fire Code:** Maintain a 3 foot distance on all smoke detectors and heat detectors from any air diffuser throughout the school building in accordance with Section 5.7.4 of the National Fire Protection Association (NFPA) 72, National Fire Alarm Code, 2002 edition.

6. **Storage-Section 315.2.1, International Fire Code:** Maintain storage a minimum of 2 feet from the ceiling throughout all rooms of the building. This includes any items hanging from the ceiling.

7. **Window Coverings-Section 805.1, International Fire Code:** Remove or replace the vinyl mini-blinds and non-fire rated window coverings throughout the school building with flame resistant window coverings.

8. **Incidental Rooms-Table 508.2, International Building Code:** Provide Underwriter's Laboratory (U.L.) labeled self closing devices on the Office Storage Closet door, the East Gymnasium Storage Room door, the Storage Room by the Gymnasium corridor to the Coaches Office, the Gymnasium Storage Room door by the Kitchen, and the Library North/South doors. Summer 2010

9. **Incidental Rooms-Table 508.2, International Building Code-** Seal all penetrations in the walls and ceiling lid of the Boiler Room, the Office Storage Closet, the East Gymnasium Storage Room, the Gymnasium Storage Room by the Kitchen, and the Storage Room by the Gymnasium corridor to the Coaches Office with Underwriter's Laboratory (U.L.) labeled fire rated materials. Cant This winter

10. **Exits-Section 1003.6, International Fire Code:** Remove the paper roll storage from the corridor wall by in the Hallway. The corridors are to be clear and unobstructed at all times. Cant Summer 2010

11. **Corridors-Section 1027.17, International Fire Code:** Maintain the Gymnasium Double Doors, the Gymnasium Door #127, the Room #118 door, the Room #119 door, the Room #126 door, and the Room #105 door in proper working order. These doors failed to close and latch properly into the door frames when tested. Cant This winter

12. **Incidental Rooms-Table 508.2, International Building Code:** Cover the vent at the bottom of the door to the East Gymnasium Storage Room door with 18 gauge metal or 5/8 inch drywall. Cant Dec 2009

13. **Incidental Rooms-Table 508.2, International Building Code:** Provide Underwriter's Laboratory (U.L.) labeled door latching hardware to the East Gymnasium Storage Room door and the Storage Room door by the Coaches Room. Cant Summer 2010

14. **Incidental Rooms-Table 508.2, International Building Code:** Verify a 1 hour rating for the vertical carpet on the walls of the Storage Room by the Coaches Room. If a 1 hour rating cannot be verified this carpet shall be removed. This room shall be provided with a 1 hour protective rating with Underwriter's Laboratory (U.L.) labeled fire rated materials. winter &

15. **Exits through Intervening Spaces-Section 1014.2, International Fire Code:** Provide a direct exit from the North Exit Hallway. This entire corridor requires the exiting through the library. will be asking for a grant

16. **Exit Signs- Section 1011.1, International Fire Code:** Remove exit sign above West Library Center Room South door as it does not lead to a direct exit. At the time of inspection, this door would require exiting through an intervening classroom. Dec 2009 Cert

17. **Panic Hardware-Section 1008.1.9, International Fire Code:** Provide Underwriter's Laboratory (U.L.) labeled positive latching panic door hardware on the Library North/South exit doors. Provide illuminated exit signs with battery backup above these doors. Cert winter 08 2009-10

18. **Construction-661.5.6.58(100), Chapter 5 of the Iowa Administrative Code:** Provide a 1 hour rating on the Library Rooms #123 and #122 with Underwriter's Laboratory (U.L.) labeled materials. These rooms were currently constructed of unprotected wood materials. Cert Summer 2010

19. **Incidental Rooms-Section 315.2.2, International Fire Code:** Remove all combustible storage from the Boiler Room. No combustible materials shall be stored in this room at any time. winter 08 2009-10

20. **Exits-Section 1003.6, International Fire Code:** Maintain the exit from the Boiler Room Direct Exit clear and unobstructed at all times. Nov 2009

21. **Exits-Section 1008.1.8.4, International Fire Code:** Remove the flush bolt latching device from the Boiler Room Direct Exit door. Dec 2009

PLEASE SUBMIT PLAN OF CORRECTION BY:
Mail plan of correction to:
IA Department of Public Safety
Division of State Fire Marshal
215 E. 7th St
Des Moines, IA 50319

or email to bstuder@dps.state.ia.us

INSPECTOR: Shyann L. Warrick

SUPERVISOR: Ron Humphrey

AUTHORIZED SCHOOL PERSONNEL: Chris Anderson, Superintendent and Lee Hein, School Board President

J. COST SUMMARY

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/8/12
Project: Carpenter Elementary School | Phase: Conceptual Design | Estimator: KE

renovation updates

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	Renovations: windows, doors, caulking, masonry, fire walls, ADA & fire codes, ramps and lifts	25,000	SF	13.00	325,000
	Expansion to meet space needs for grades 2-4	8,000	SF	140.00	1,120,000
2	**Structural**				
	Renovations	25,000	SF	0.00	0
3	**Heating, Ventilation & Air Conditioning Systems**				
	Renovations	25,000	SF	26.00	650,000
4	**Plumbing & Fire Protection Systems**				
	Renovations	25,000	SF	6.00	150,000
5	**Electrical Lighting & Power Systems**				
	Renovations	25,000	SF	6.00	150,000
6	**Special Electrical Systems**				
	Renovations - Minor	25,000	SF	2.50	62,500
				193.50	
			SubTotal		2,457,500
			Design / Bid Contingency 10%		245,750
			Building Construction Costs SubTotal		2,703,250
			Construction Contingency 5%		135,163
			BUILDING CONSTRUCTION COST TOTAL		**$2,838,413**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/8/12
Project : Carpenter Elementary School | Phase: Conceptual Design | Estimator: KE

renovation updates

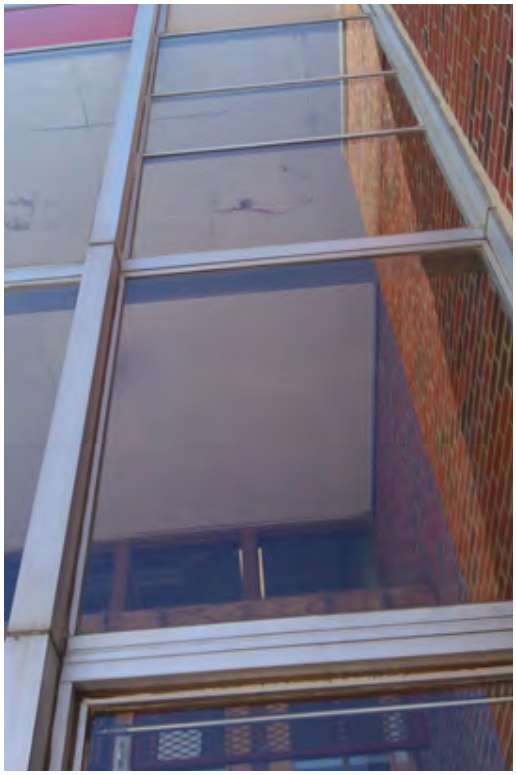
	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	0	EA	0.00	0
23	Extended Drive Lanes & Approaches	0	LS	0.00	0
24	Storm Sewer & Detention	1	LS	5,000	5,000
25	Domestic Water & Sanitary Sewer	1	LS	0	0
26	Electrical Power & Lighting	1	LS	0	0
27	outdoor program area	1	LS	0	0
28	fill material	120	CY	75	9,000
29	Retaining Walls	1	LS	2,000	2,000
30	Pedestrian Paving	2,600	SF	4.00	10,400
31	Lawns & Landscaping	1	LS	4,000	4,000
33	Directional & Informational Signage	1	LS	1,000	1,000
				SubTotal	31,400
				Design / Bid Contingency 10%	3,140
				Site Work Construction Costs SubTotal	34,540
				Construction Contingency 5%	1,727
				SITE WORK CONSTRUCTION COST TOTAL	**$36,267**
Soft Costs					
37	Land Acquisition	1	LS		0
38	Legal Fees	1	LS		10,000
39	Architectural & Engineering Design Fees	1	LS		212,881
40	Information & Technology Design Fees	1	LS		10,000
41	Furnishing Design Fees	1	LS		5,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		6,000
44	Printing Costs for Construction Documents	1	LS		6,000
45	Construction Permits & Fees	1	LS		5,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		16,000
48	Hazardous Material Abatement	1	LS		40,000
49	Fixtures, Furnishings & Equipment Allowance	1	LS		25,000
50	Technology & Computer Equipment Allowance	1	LS		20,000
51	Utility Rebates	1	LS		(35,000)
53	Fundraising Consultanting	1	LS		25,000
				Soft Cost SubTotal	356,881
				Site Work Construction Cost Total	36,267
				Building Construction Cost Total	2,838,413
				PROJECT TOTAL COST	**$3,231,560**

A. GENERAL COMMENTS

The 1923 building is now 90 years old. It is 25% larger in total area than is required for the current grade structure. While the majority of the structure is very stable the older portion of the building and its systems require significant upgrades to meet current building and safety codes. The layout of the building negatively affects the programs the district is attempting to deliver. As we compare the possibility of new construction versus remodeling, the limitations of the existing building will become more evident.

B. ARCHITECTURAL REVIEW

Roof:
The roof systems are fully adhered, black EPDM over rigid insulation. There is lots of evidence of roof leaks in the past. The membrane systems last about 20 years and need to be budgeted for replacement. (See page 38 for images)



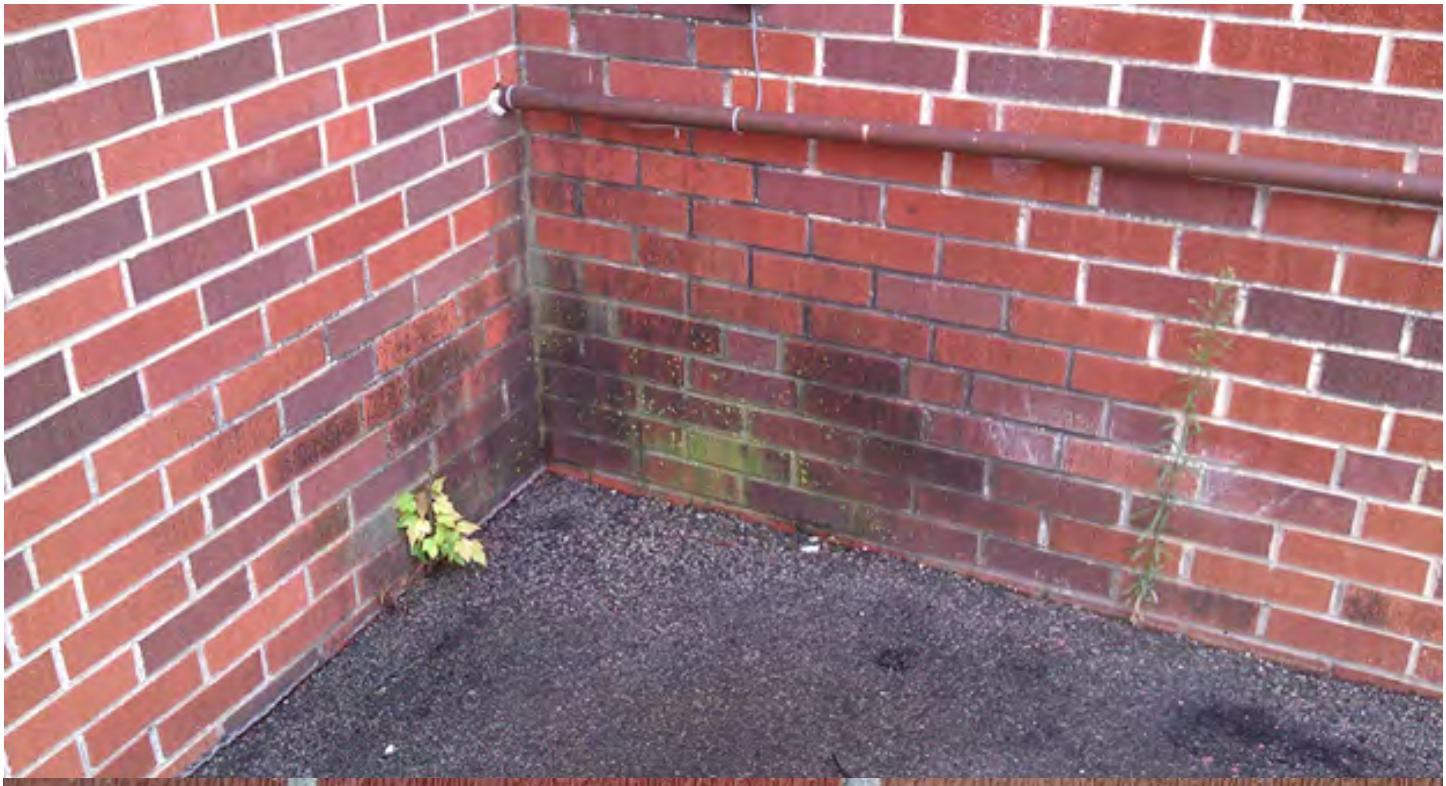
Windows:
The windows are single pane clear glass in non-thermally broken clear anodized aluminum frames in the newer part of the building. There are also many insulated panels in these frames. (Left image)

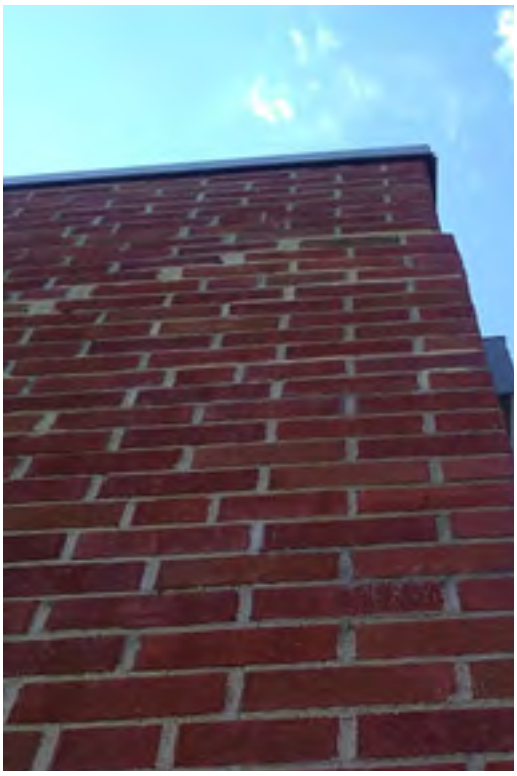
The older portions of the building have aluminum frame windows as well as single pane windows in glazed steel frames.

These windows should be replaced with double pane thermal windows. Tinted glazing should be utilized on south and west exposures to reduce glare and heat gain in the classrooms and support spaces. A life cycle cost analysis could be completed to determine the payback time period for the replacement. (See page 39 for images)

Windows:
There are locations where window panes are missing, Glass is broken, frames are rusted and glazing putty has broken away. (Top and left images)

Caulking:
Caulking is dried and missing in many locations. There are locations where caulking has been used instead of proper masonry tuckpointing at cracks and joints in the exterior wall. Window and door sealants need to be replaced. (next page top and bottom images)





Masonry:
Exterior and interior wall materials are primarily brick and concrete block. There are varying degrees of masonry issues. While much of the masonry is sound there are several locations where settling and movement has occurred. Some of these locations appear to currently be shifting as evidence by opens in previously patched areas. There are areas of moss growth that should be remediated.

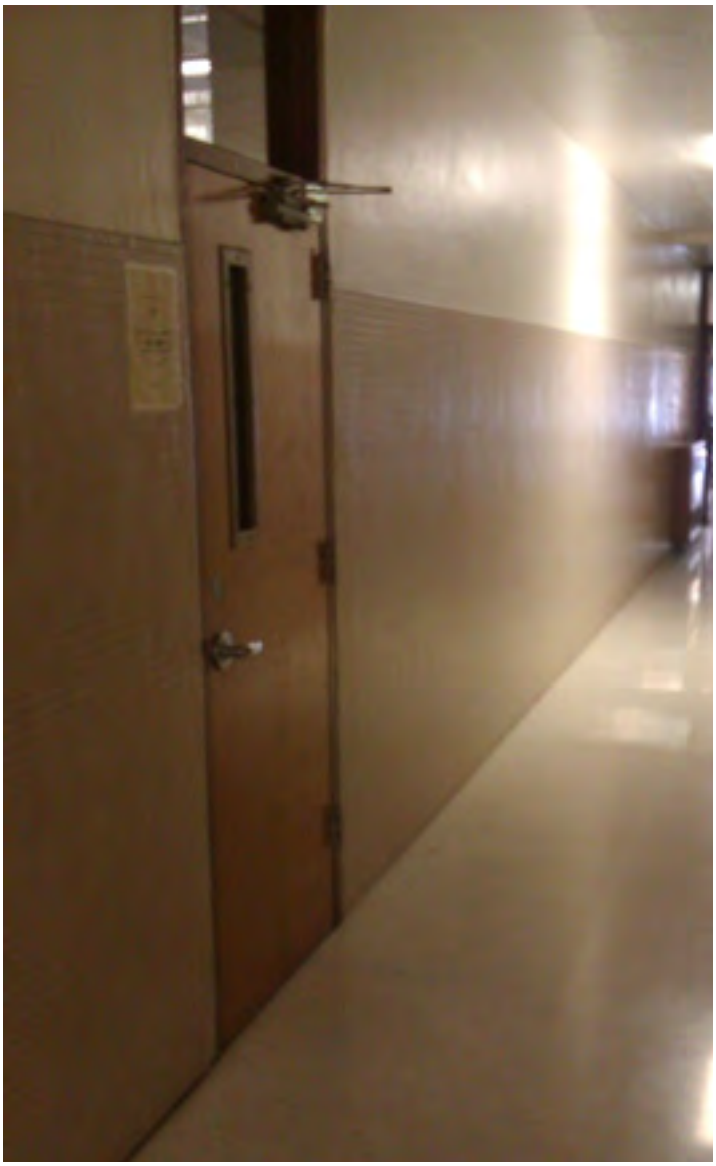
Doors:
The exterior doors range from metal to wood with glass panels. There are many concerns. (Bottom left and right images)

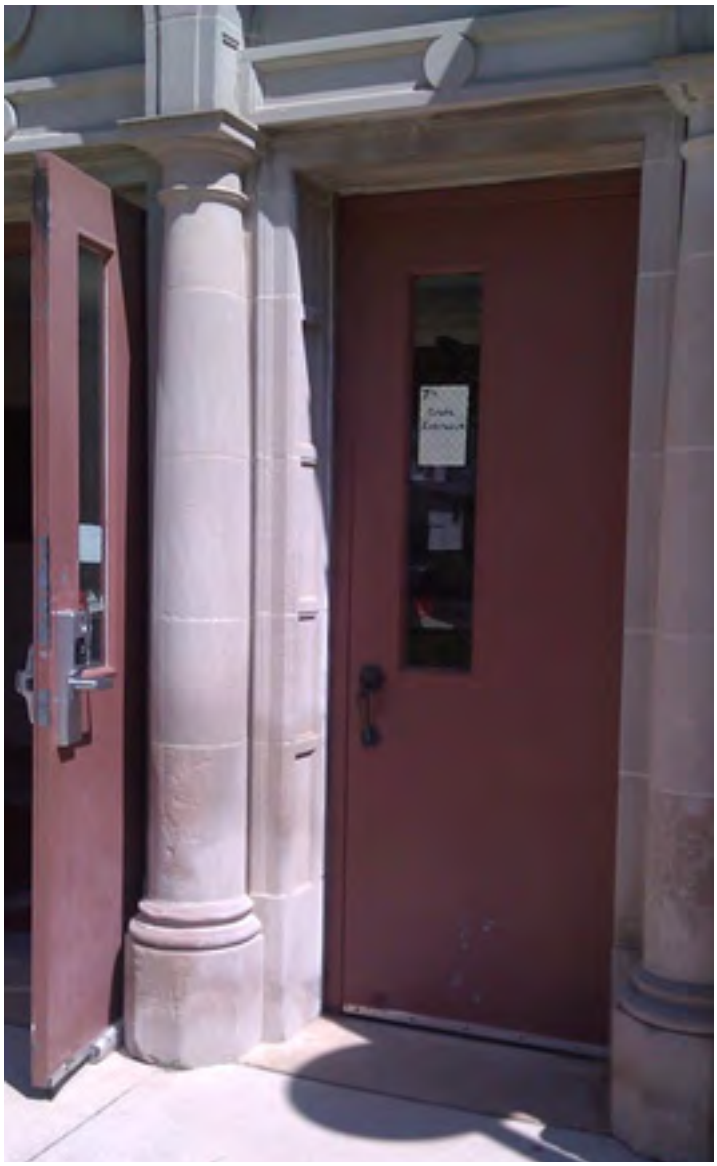
- Door openings too narrow
- Difficult to open
- Less than the required percentage of accessible doors per ADA
- Worn out hardware

There are also many concerns with interior doors.

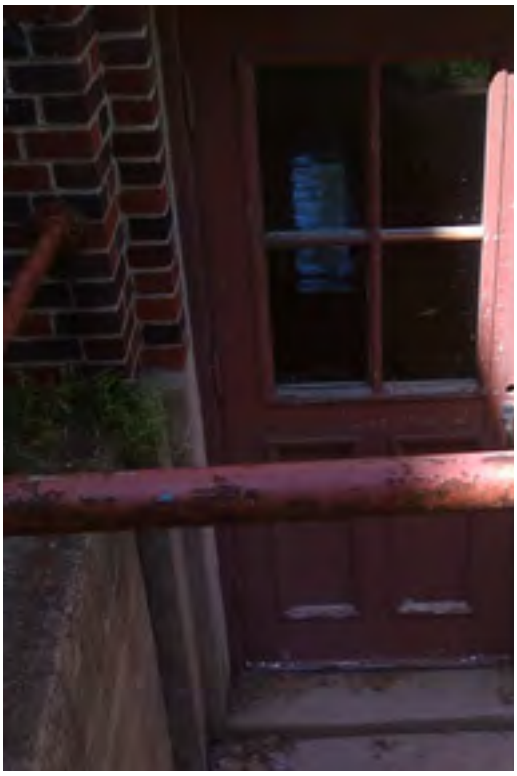
- Too Narrow
- Not self-closing
- Not fire rated
- Worn out hardware
- Worn out doors
- Restrict exit path when opened

One exit door out of the lower level is only 27” wide.





This door to the corridor from the classroom space swings into the corridor and not only reduces the required exit width but also is a hazard for people moving in the corridor. The main entry doors are too narrow to comply with current codes. (Top left image)



This old wood & glass door is a security concern. (Top Left Image)

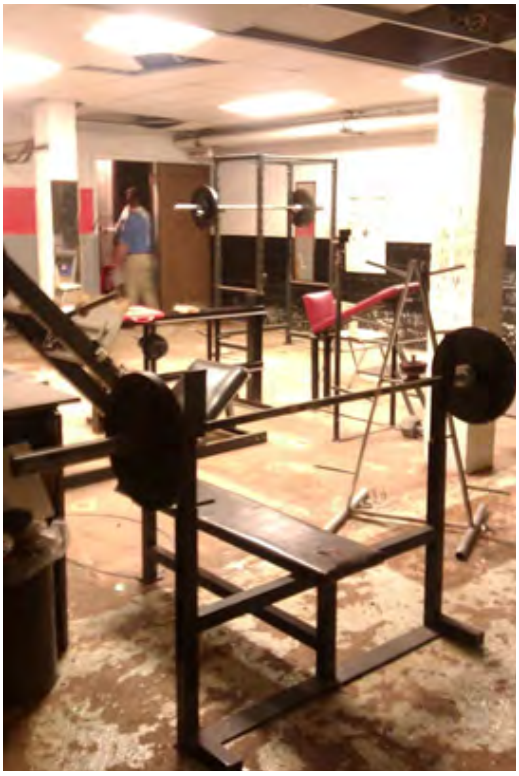
Corridor glazed windows:
The corridors in the building are required to be fire rated since there is no fire sprinkler system. Windows in these corridor walls are only allowed up to a certain size. Wired glass is no longer allowed in current building codes due to safety risks. (Bottom Left image)

The pass through mail boxes are also a fire code violation.

Ceilings:
Ceilings range from plaster to different types of acoustical tile. Some locations have significant water damage.

Walls:
Interior walls have many locations where the fire separations are breached.

Floor Coverings:
Terrazzo flooring is in very good condition in many locations. Wood flooring needs attention. (Bottom middle and right images)



Restrooms:
All restrooms observed require modifications for code and ADA compliance. Floor, wall & ceiling finishes need to be repaired or updated.

Miscellaneous Items:
The old weight room/fan room needs to be cleaned out. This could be a good place for storage if brought up to code. (Top left image)

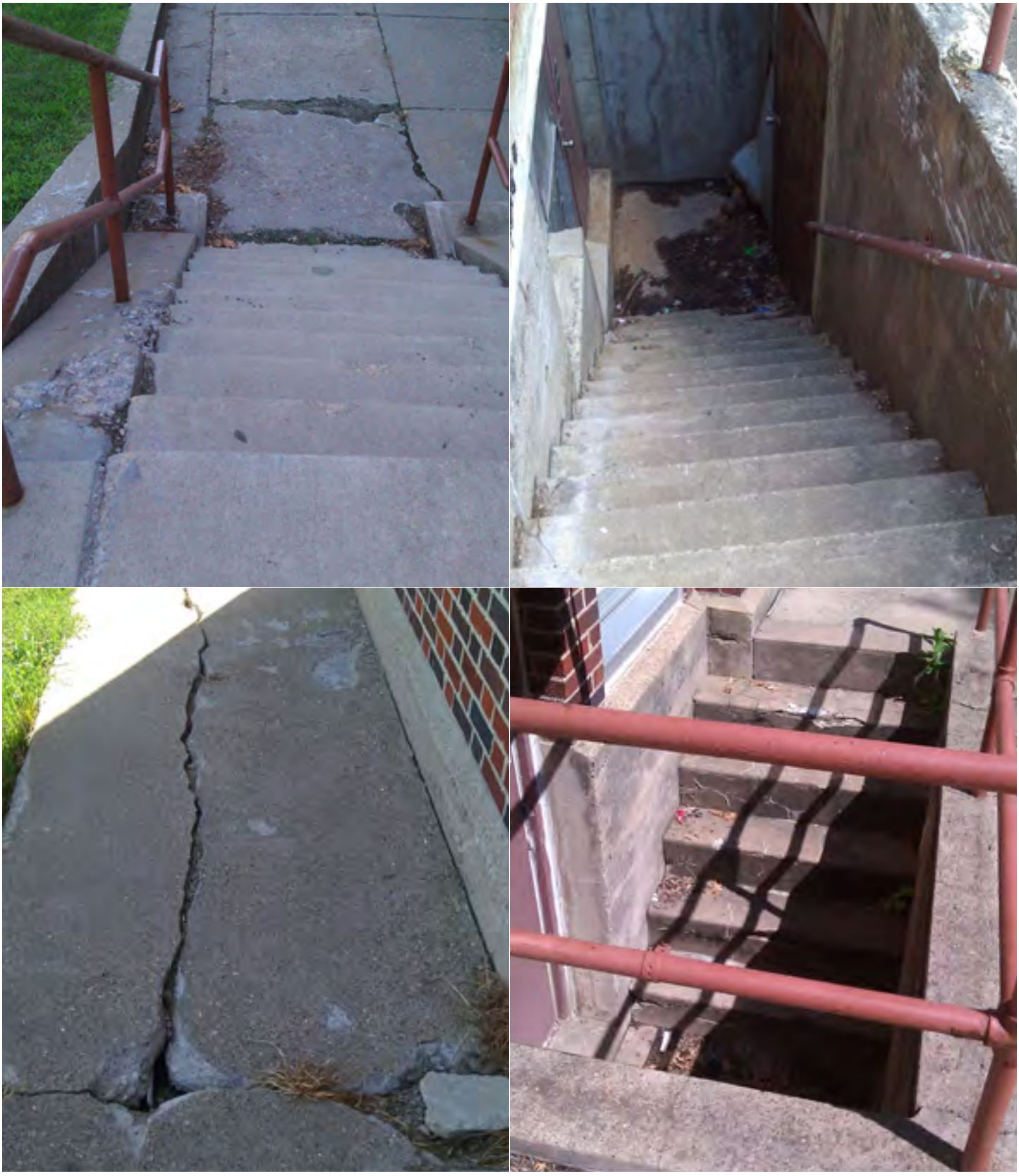
Downspouts need to be repaired and extended away from the building. (Bottom left image)

Spaces being used by the school district as furniture storage, material storage and maintenance shop need to be separated from the rest of the school by one hour fire separations.

There are many hazardous locations on the exterior paving and steps where concrete has broken or heaved that require repair. Exterior handrails do not comply with current codes.

C. CODE REVIEW

The State Fire Marshal's Office has cited the Middle school with numerous violations and ordered compliance. The inspection was conducted using the 2006 International Fire and Building Code. (Bottom image and on to the next page)

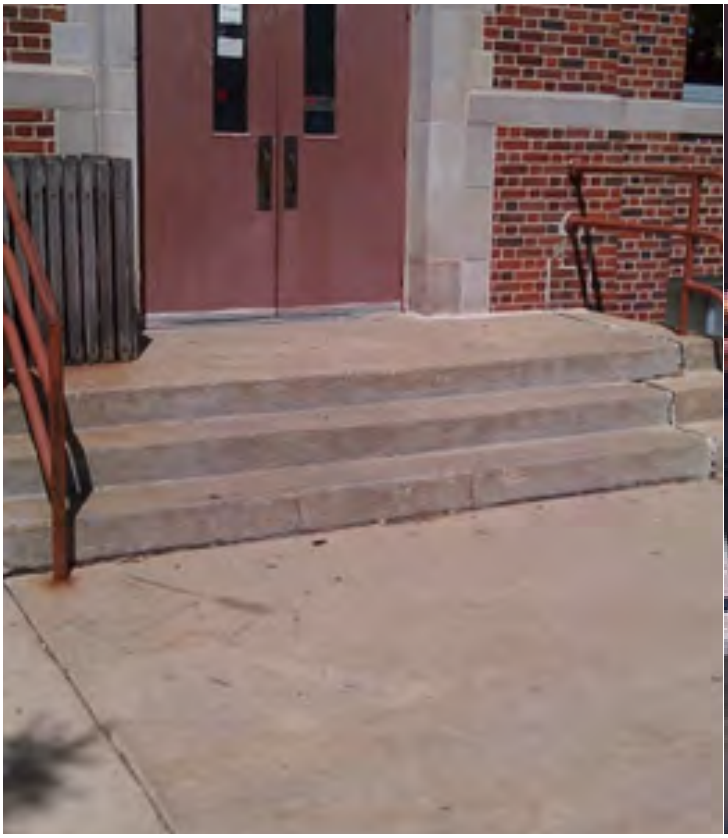


D. ADA REVIEW

This building is a classic case of old multi-level buildings designed and constructed with no planning for universal access. Nearly every aspect of the building is in violation of codes and accessibility laws. Some examples are: entries, restrooms, stairs, elevator, handrails, drinking stations, dining, bleachers, classroom levels, stage, auditorium seating, computer lab, doorways. (Top left and right images as well as next page top and bottom images)

E. STRUCTURAL CONDITION REVIEW

The majority of the building appears to be structurally sound. There is however evidence of structural settlement in the several portions of the rear additions. Refer to the masonry section above.




POSTED
FOR ALL
HAZARDOUS
CHEMICALS
4
2

F. MECHANICAL SYSTEMS REVIEW

HVAC

1. The existing central heating plant consists of two, duel fuel, 4,185 MBH input, "Burnham" and "Pacific" steam boilers. The "Pacific" boiler was installed in 1972, the "Burnham" was installed approximately in 1995. The condensate receiver and associated components appear to be original and are in average condition. The older building utilizes a newer condensate receiver. The heating system is estimated to be 75% to 80% efficient. ASHRAE tables indicate fire tube boilers with an expected service life of around 20 to 25 years.
2. Building HVAC controls are pneumatic. Compress air is by means of a new 1.0 HP air compressor. Remote setpoints, scheduling, and unoccupied hours are not available with the current control system.
3. Classrooms in the older addition utilize steam radiators for space heating. There is no mechanical ventilation.
4. Some classrooms and exterior spaces utilize original unit ventilators. It is doubtful that code required minimum ventilation is being delivered to the classrooms.
5. A few classrooms and the kitchen utilize window air conditioning units for cooling.
6. The auditorium utilizes wall radiators for space heating. There does not appear to be any ventilation.
7. The gym utilizes three air handling units for heating and ventilating. Wall dampers provide cross ventilation relief.
8. A few exterior louvers/exhaust fans are significantly damaged and should be replaced with any renovation.
9. The majority of the building is not air conditioned (cooled/dehumidified).
10. With any significant renovation it is recommended that the existing HVAC components be removed and replaced. New mechanical systems could realize a heating energy savings of approximately 25 to 35% compared to the existing heating and ventilation system.
11. The site does not appear to be large enough to accommodate a geothermal heat exchanger. Adjacent spaces need to be reviewed if geothermal is to be an option.

Plumbing

1. The plumbing system consists of restrooms, locker rooms, janitor receptors, kitchen equipment, triple bowl sink, dishwasher, and two 100 gallon, atmospheric gas-fired water heater.
2. Many of the plumbing fixtures are original and appear to be in average condition with adequate pressures at most flush valves.
3. Showers currently drain to a common drain where waste water can mix with an adjacent shower stall. This does not meet current plumbing code which requires individual shower drains or sloping to prevent mixing of waste streams.
4. The domestic water heating system is estimated to be 70% to 80% efficient. The 199 MBH input heaters appears to be older than 10 years. Circulation pumps are less than 10 years.
5. The domestic hot water system is softened.
6. Piping insulation is original and is in poor condition.
7. Roof drainage is by roof drains. They appear to be in average condition with no signs of blockage.
8. The 4" water service entrance utilizes a 3" newer water meter, yet it does not include a code required backflow preventer.
9. The majority of the water mains are galvanized piping, with most of the newer branch piping being copper.
10. Kitchen waste does not appear to connect to a code required grease interceptor.
11. With any significant renovation it is recommended that all galvanized piping be replaced with copper piping, a backflow preventer be installed on the water entrance, plumbing fixtures be updated with efficient, low water units, a grease interceptor be installed for kitchen waste, and a high efficient water heater be installed.

Fire Protection

1. The building currently does not have a sprinkler system. With any large renovation it is recommended that a fire protection sprinkler system be installed.
2. A new water service entrance will be required for installation of fire protection system.

G. ELECTRICAL SYSTEMS REVIEW

Power

1. Distribution panel in original building is an obsolete Frank Adam switchboard with pull out fuses. Proper working clearance is not provided. This panel is not suitable for continued use has signs of damage from an arc flash event. This distribution panel should be replaced.
2. Boiler emergency shutdown switch does not meet code.
3. Branch panelboards in the original building are not adequate for expansion.
4. Ground fault circuit interruption (GFCI) is needed at select locations throughout the facility.

Lighting

1. Emergency lighting and exit signage throughout building is not adequate to define and illuminate egress pathways. Additional emergency lights are needed in both gymnasiums, auditorium, cafeteria, corridors, stairwells, toilets, and other large instructional spaces.
2. Exit lights primarily use compact fluorescent lamps. These should be replaced with new L.E.D. exit signs.
3. Additional exterior lighting should be installed for improved safety and security.
4. Exterior light fixtures should be changed to energy efficient HID or LED sources.
5. Incandescent light fixtures should be replaced with fluorescent.
6. Automatic lighting control devices (occupancy sensors) should be added to all rooms to meet energy code requirements.
7. Light fixtures in the original gymnasium are metal halide and 8' T12 fluorescent and should be replaced with more energy efficient fluorescent or LED fixtures.

Special Systems

1. Fire alarm initiation and notification devices (pull stations, horns, strobes) do not meet code requirements for quantities and locations. Additional pull stations are needed at exterior doors. Additional horn/strobe devices are needed in gymnasium, auditorium, toilets, classrooms and public areas.
2. Large air handling units (specifically the large gym) do not have duct smoke detectors or automatic shutdown tied to the fire alarm system.
3. Addressable fire alarm system will need to be upgraded to a voice notification system to meet new code requirements.

H. USEFUL LIFE SPAN

The useful life span of a school building is evaluated based upon many factors, building components and their performance including: structural shell, thermal barrier, water barrier, HVAC systems, plumbing systems, electrical systems, communication systems, built in casework and equipment, kitchen equipment, windows, doors & hardware. School buildings receive considerable use & abuse for 9 months during the year and then in the summer they are minimally used. Particular to schools is the importance of high use equipment & hardware as well as adaptable technology and communication systems. All these components have varying life spans.

As pedagogical teaching methods evolve and change the traditional classroom along a double loaded corridor become less effective and even detrimental to learning. The structural shell of a building can last for hundreds of years if built on a sound foundation and the enemy to every building, water, is kept out. However buildings with rigid layouts created by load bearing masonry walls are less adaptable to change. Foundation settlement for this type of building can be very expensive to correct.

For the Middle school in particular, the engineering systems and infrastructure are very new compared to the other buildings. In general, new HVAC, plumbing & electrical equipment has a 20 year useful life. This means the equipment may not be as energy efficient as its newer counterpart. Parts and service will probably not be available any longer. They simply wear out from intensive use.

The useful life span of the Middle school without any renovations or equipment replacement is expired. At this point HVAC and lighting system should have been replaced.
Operational cost is one way to measure the useful life. When the operational cost outweighs the replacement cost the building components need to be replaced. Another way for measuring a schools useful life is how it can support the curriculum. As long as it can support it in every way it is useful. When the building hinders the delivery of learning it is no longer useful as a school.

Useful life of components without any renovations:

Structural Shell: 20 - 50 years, settlement is occurring in some areas

Thermal Barrier: 0 years, the International Energy Code has become much more stringent

Water Barrier: 0 - 15 years

HVAC systems: 15 - 25 years, equipment will be at the end of its life,

Plumbing systems: 0 years, fixtures may be at end of their life, piping should be replaced

Fire protection: A system does not exist

Electrical & lighting systems: 0 years for lighting, 0 years for power

Communication systems: 0 years, the building does not easily

support current technology

Built in equipment & casework: 0 - 20 years

Kitchen Equipment: 15 years unless becomes to inefficient

Windows, Doors & hardware: 0 years

Building configuration: 0 years, very inefficient, too large

I. FIRE MARSHALL'S REPORT

On the following six pages.

FIRE SAFETY REPORT FOR STATE SCHOOLS AND COLLEGES

DISTRICT AND ADDRESS: **Monticello School District- Middle School**
SCHOOL LOCATION: 217 S. Maple, Monticello, IA 52310
GRADES: 5-8
OF STUDENTS: 400

Building Code: 52-4446-0209

DATE: 7/17/09 COUNTY: Jones
TELEPHONE: 563-465-6959

SUPERINTENDENT & ADDRESS: Chris Anderson, 711 S. Maple St., Monticello, IA 52310

PRES. OF BOARD/ADDRESS: Lee Hein, 11989 Richland Rd, Monticello, IA 52310

CONSTRUCTION: Type II (000) # OF STORIES: 3 w/ basement

PREVIOUS ORDERS COMPLIED WITH:

COMPLY AS FOLLOWS:

Inspection Conducted using the 2006 International Fire and Building Code

1. **Corridors-Section 1027.17, International Fire Code:** Discontinue blocking doors open throughout the building. If the facility desire doors to be held open, doors shall be held open with electromagnetic hold open devices tied to the building's fire alarm in accordance with the National Fire Protection Association (NFPA) 72, National Fire Alarm Code, 2002 edition. on going

2. **Corridors-Table 1017.1, International Fire Code:** Seal all penetrations in the corridor walls (Including above the suspended ceiling) throughout the school building with Underwriter's Laboratory (U.L.) labeled fire rated materials. Summer of 2010

3. **Electrical Wiring-Section 605, International Fire Code:** Discontinue the use of extension cords, electrical adapters, and drop cords throughout the building in place of approved permanent electrical wiring. Surge protectors shall only be used with computer equipment and audio/visual equipment. Electrical cords shall not be run through a door frame at any time. ongoing

STATE FIRE SAFETY REPORT

4. **Electrical- Section 605.3, International Fire Code:** Maintain a 3 foot clearance from all electrical panels throughout the building in accordance with National Fire Protection Association (NFPA) 70, National Electrical Code, 2005 edition.

5. **Fire Alarm-Section 901.4, International Fire Code:** Maintain a 3 foot distance on all smoke detectors and heat detectors from any air diffuser throughout the school building in accordance with Section 5.7.4 of the National Fire Protection Association (NFPA) 72, National Fire Alarm Code, 2002 edition.

6. **Exit Signs-Section 1011.1, International Fire Code:** Replace all exit signs throughout the school building without battery back up to illuminated exit signs with battery back up.

7. **Exit Signs-Section 1011.1, International Fire Code:** Maintain the exit sign in Room #280 in proper working order. This exit sign failed to illuminate when tested.

8. **Incidental Rooms-Table 508.2, International Building Code:** Provide a 1 hour protective rating with Underwriter's Laboratory (U.L.) labeled fire rated materials for the Stairwell by the Back of the Stage.

9. **Incidental Rooms-Table 508.2, International Building Code:** Replace the Auditorium doors with Underwriter's Laboratory (U.L.) labeled 1 ¾ solid core wood doors. These doors shall be equipped with Underwriter's Laboratory (U.L.) labeled positive latching panic hardware and self closing devices.

10. **Panic Hardware-Section 1008.1.9, International Fire Code:** Provide Underwriter's Laboratory (U.L.) labeled positive latching panic door hardware on the 3rd Floor South Stairwell doors, the 2nd Floor Band Room exit doors, and the West Gymnasium exit doors.

11. **Corridors-Section 1027.17, International Fire Code:** Replace the 3rd Floor South Stairwell doors, the Room #270 door, the 3rd Floor Storage Room between Rooms #260 and #250 doors, the 3rd Floor Storage Room between Rooms #222 and #220 doors, the 3rd Floor Media Center doors, the Old Gymnasium 2nd Floor doors, the 2nd Floor South Locker Room door, the Lower Computer Lab West Stairwell door, and the 2nd Floor Storage Room between Rooms #150 and #160 with Underwriter's Laboratory (U.L.) labeled 1 ¾ solid core wood doors. These doors shall be equipped with Underwriter's Laboratory (U.L.) labeled door latching hardware and self closing devices.

12. **Exit Signs-Section 1011.1, International Fire Code:** Provide illuminated exit signs with battery back up above the 3rd Floor South Stairwell doors, the Boy's Locker Room door, the Lower Computer Lab direct exit door, the Lower Computer Lab West Stairwell door, Room #30 South exit door, and the 2nd Floor North Stairwell doors..

13. **Corridors-Section 1027.17, International Fire Code:** Maintain the Room #270 door, the Room #225 door, the Guidance Office door, the Room #210 door, the Room #15 door, the Room #100 door, the Room #110 door, the Room #120 door, and the Lower Computer Lab door in proper working order. These doors failed to close and latch properly into the door frames when tested.

Cust winter 08 2009-10

14. **Incidental Rooms-Table 508.2, International Building Code-** Seal all penetrations in the walls and ceiling lid of the Boiler Room, the 3rd Floor Storage Room between Rooms #260 and #250, the Old Gym to Old Locker Room/Storage, the Tunnel Storage under South Bleachers in Old Gym, the Tunnel Storage under North Bleachers in Old Gym, the 2nd Floor South Locker Room, the Computer Repair Room, and the 3rd Floor Storage Room between Rooms #150 and #160 with Underwriter's Laboratory (U.L.) labeled fire rated materials.

will ask for a grant

15. **Corridors-Table 1017.1, International Fire Code:** Cover the vents at the bottom of the doors and around the doors throughout the facility with 18 gauge metal or 5/8 inch drywall.

Cust winter 2009-10

16. **Electrical-Section 605, International Fire Code:** Replace the broken cover for the light switch in Room #250.

Cust Nov 2009

17. **Corridors-Section 1027.17, International Fire Code:** Provide separation between the first, second, and third floors of the school in the Center Stairwell. Buildings more than one story shall be enclosed with protected noncombustible construction. Doors shall be Underwriter's Laboratory (U.L.) labeled 1 ¾ solid core wood doors (wired glass up to 900 square inches is allowed). There are exceptions to this rule, but the school does not meet since it is constructed of ordinary (wood and fire resistive combined) construction.

will ask for a grant

18. **Panic Hardware-Section 1008.1.9, International Fire Code:** Provide Underwriter's Laboratory (U.L.) labeled positive latching panic door hardware on the 3rd Floor Media Center doors, the 2nd Floor Old Gym doors, the Band Room doors.

will ask for a grant

19. **Exits-Section 1003.6, International Fire Code:** Discontinue using the Room #15 direct exit door as an exit. This door does not comply with the required size for an exit door. This door was approximately 2 feet wide.

will ask for grant to make Bigger

20. **Exits-Section 1008.1.8.4, International Fire Code:** Remove the hasp and padlock, deadbolt, flush bolt, and all other latching devices that are not within the door latching hardware from doors throughout the facility.

Cust winter 08 2009-10

21. **Construction-661-5.658(100), Chapter 5 of the Iowa Administrative Code:** Provide a 1 hour rating on the Room #10 Storage Room with Underwriter's Laboratory (U.L.) labeled materials to continue to use this area as storage.

will ask for a grant

22. **Exits-Section 1008.1.8.4, International Fire Code**: Discontinue the use of bar devices or any other device that disables panic hardware and restricts exiting without removal of the device.

23. **Incidental Rooms-Table 508.2, International Building Code:** Provide Underwriter's Laboratory (U.L.) labeled self closing devices on the 2nd Floor Old Art Room doors, the 1st Floor Gymnasium Storage Room door, the Computer Repair Room doors, the Custodial Storage off of the Student Center doors, and the Tech Room to Clay Room door.

24. **Construction-661.5.6.58(100), Chapter 5 of the Iowa Administrative Code:** Provide a 1 hour rating on the 2nd Floor Old Art Room West Exit with Underwriter's Laboratory (U.L.) labeled materials. At the time of inspection, a missing ceiling tile revealed a ceiling deck of unprotected wood.

25. **Electrical-Section 605, International Fire Code:** Provide covers for the junction boxes on the North Wall of the 2nd Floor Old Art Room, the Tunnel Storage under North Bleachers in the Old Gym, and the 1st Floor Boy's Locker Room.

26. **Exits-Section 1003.6, International Fire Code:** Provide a sign that states "Not an Exit" to the 1st Floor North Courtyard door. This door opens into an enclosed courtyard.

27. **Exit Signs- Section 1011.1, International Fire Code:** Remove exit signs above the Old Clay Room door to the Old Art Room and the Old Gym to the Old Locker Room/Storage as they do not lead to direct exits and would require exiting through intervening spaces.

28. **Incidental Rooms-Table 508.2, International Building Code:** Verify or replace clear glass above the 2nd Floor Old Gym doors and the Tech Room by the Old Clay Room with fire rated glass or Underwriter's Laboratory (U.L.) labeled 1 hour fire rated materials.

29. **Exit Signs-Section 1011.1, International Fire Code:** Maintain the Old Locker Room and the South Old Gym exit signs in proper working order. These exit signs failed to illuminate when tested.

30. **Incidental Rooms-Section 315.2.2, International Fire Code:** Remove all combustible storage from the Boiler Room. No combustible materials shall be stored in this room at any time.

31. **Emergency Lighting-Section 1006.1, International Fire Code:** Provide an emergency lighting unit with battery back up in the Boiler Room.

32. **Electrical-Section 605, International Fire Code:** Protect the electrical outlets next to the sinks in the 2nd Floor Room #150, the Storage Room between Rooms #150 and #160, the 2nd Floor Room #160, and the 2nd Floor Band Director's Office with Ground Fault Circuit Interrupter (GFCI) protected electrical outlets.

33. **Electrical-Section 605, International Fire Code:** Maintain the electrical outlet on the far left hand side of the sinks in Room #150 in accordance with the National Fire Protection Association (NFPA) 70, National Electrical Code, 2005 edition. This outlet showed an "open ground" when tested.

Cant winter 08 2009-10

34. **Electrical-Section 605, International Fire Code:** Maintain the electrical outlet on the far left hand side of the sinks in Room #160 in accordance with the National Fire Protection Association (NFPA) 70, National Electrical Code, 2005, edition. This outlet showed a "Hot/Neutral Reverse" when tested.

Cant winter 08 2009-10

35. **Corridors-Section 1027.17, International Fire Code:** Provide a one hour rated corridor constructed of Underwriter's Laboratory (U.L.) labeled fire rated materials for the second level corridor outside of the Band Room and Chorus Room. This corridor is currently open to the New Gymnasium below. This one hour rated corridor shall extend the length of the New Gymnasium to the Stairwell that dumps out into the South Parking Lot. Detection 30 foot on center, emergency lighting, and illuminated exit signs shall also be located in this corridor. The corridor shall not be a place where students store book bags and jacket when they are in Chorus or Band.

will ask for a grant

36. **Corridors-Section 1027.17, International Fire Code:** Remove the display of countries flags from the upper central stairwell unless it can be verified the flags have been treated with a flame retardant material.

Summer of 2010

37. **Exits-Section 1015.1, International Fire Code:** An interview of facility staff revealed there may be approximately 60 students in the Band Room at one time and approximately 65 students in the Chorus Room at one time. Any room that occupies more than 50 persons shall have two exits remote from each other, emergency lighting, illuminated exit signs, and Underwriter's Laboratory (U.L.) labeled positive latching panic hardware on exit doors.

will ask for a grant

38. **Exits-Section 1003.6, International Fire Code:** Adjust the East Door of the Band Room to open properly. This door took more than 15 pounds of force to open.

Cant winter 2009-10

39. **Corridors-Section 1027.17, International Fire Code:** Discontinue "dogging down" any doors with proper latching devices in the school. The panic hardware shall be in proper working order at all times and shall latch properly into the door frames.

Cant winter 2009-10

40. **Incidental Rooms-Section 315.2.2, International Fire Code:** Seal the penetrations in the East Gym Exit door with Underwriter's Laboratory (U.L.) labeled fire rated materials.

Cant Dec 2009

41. **Exits-Section 1003.6, International Fire Code:** Maintain the exit from the Southwest Gym exit doors clear and unobstructed at all times. At the time of inspection, these doors were blocked by ladders.

42. **Electrical-Section 605, International Fire Code:** Properly cover or encase the exposed electrical wiring where the clock used to be in the 1st Floor Boy's Locker Room Office. Cmt Dec 2009

43. **Exits-Section 1003.6, International Fire Code:** Organize the storage in the Computer Repair Room to allow for clear and unobstructed means of egress. At the time of inspection, the storage in this room obstructed the means of egress. Cmt Nov 2009

44. **Storage- Section 1009.5.3, International Fire Code**: Discontinue using the space under the stairs in the Lower Computer Lab for storage. If the facility wishes to continue to use this space as storage it shall be enclosed with a 1 hour fire resistant rated construction. Cmt Nov 2009

PLEASE SUBMIT PLAN OF CORRECTION BY:
Mail plan of correction to:
IA Department of Public Safety
Division of State Fire Marshal
215 E. 7th St
Des Moines, IA 50319

or email to bstuder@dps.state.ia.us

INSPECTOR: Shyann L. Warrick

SUPERVISOR: Ron Humphrey

AUTHORIZED SCHOOL PERSONNEL: Chris Anderson, Superintendent and Lee Hein, School Board President

I. COST SUMMARY

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/8/12
Project : Monticello Middle School | Phase: Conceptual Design | Estimator: KE

renovation updates

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	Renovations: Exterior envelope, windows, doors, caulking, masonry, flashing, roofing	99,000	SF	13.00	1,287,000
	Fire walls, Fire code construction,	99,000	SF	17.00	1,683,000
	ADA modifications, ramps, lifts, elevators, door ways, corridors, hardware, acoustics, restrooms, lockers, showers, dining	99,000	SF	15.00	1,485,000
	Finishes repair and replacement	99,000	SF	4.00	396,000
	Thermal enhancement, add insulation to exterior walls and roof or attic where possible	99,000	SF	6.00	594,000
2	**Structural**				
	Renovations	99,000	SF	1.50	148,500
3	**Heating, Ventilation & Air Conditioning Systems**				
	Renovations	99,000	SF	26.00	2,574,000
4	**Plumbing & Fire Protection Systems**				
	Renovations	99,000	SF	10.00	990,000
5	**Electrical Lighting & Power Systems**				
	Renovations	99,000	SF	8.50	841,500
6	**Special Electrical Systems**				
	Renovations - Minor	99,000	SF	2.50	247,500
				103.50	
				SubTotal	10,246,500
				Design / Bid Contingency 10%	1,024,650
				Building Construction Costs SubTotal	11,271,150
				Construction Contingency 5%	563,558
				BUILDING CONSTRUCTION COST TOTAL	**$11,834,708**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/8/12
Project : Monticello Middle School | Phase: Conceptual Design | Estimator: KE

renovation updates

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	0	EA	0.00	0
23	Extended Drive Lanes & Approaches	0	LS	0.00	0
24	Storm Sewer & Detention	1	LS	5,000	5,000
25	Domestic Water & Sanitary Sewer	1	LS	0	0
26	Electrical Power & Lighting	1	LS	0	0
27	outdoor program area	1	LS	0	0
28	fill material	50	CY	75	3,750
29	Retaining Walls	0	LS	2,000	0
30	Pedestrian Paving, Entry, stairs, rails, walks	10,000	SF	11.00	110,000
31	Lawns & Landscaping	1	LS	3,000	3,000
33	Directional & Informational Signage	1	LS	0	0
				SubTotal	121,750
				Design / Bid Contingency 10%	12,175
				Site Work Construction Costs SubTotal	133,925
				Construction Contingency 5%	6,696
				SITE WORK CONSTRUCTION COST TOTAL	**$140,621**
Soft Costs					
37	Land Acquisition	1	LS		0
38	Legal Fees	1	LS		10,000
39	Architectural & Engineering Design Fees	1	LS		887,603
40	Information & Technology Design Fees	1	LS		10,000
41	Furnishing Design Fees	1	LS		0
42	Geo Thermal Horizontal Test Well	1	LS		7,000
43	Site Survey (utilize existing facility documents)	1	LS		0
44	Printing Costs for Construction Documents	1	LS		10,000
45	Construction Permits & Fees	1	LS		25,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		20,000
48	Hazardous Material Abatement	1	LS		100,000
49	Fixtures, Furnishings & Equipment Allowance	1	LS		10,000
50	Technology & Computer Equipment Allowance	1	LS		50,000
51	Utility Rebates	1	LS		(50,000)
53	Fundraising Consultanting	1	LS		25,000
				Soft Cost SubTotal	1,109,603
				Site Work Construction Cost Total	140,621
				Building Construction Cost Total	11,834,708
				PROJECT TOTAL COST	**$13,084,932**

A. GENERAL COMMENTS

The newer 140,000 SF High school is situated on 75 Acres of land that is nearly all utilized. Additional land may be required for any future additions, new play fields or creating a campus concept for additional buildings. An additional site access would be desirable as well if the site population is increased. Programmatically there is a current shortage of interior Physical education space for 2 periods during each day. There is also a need for a virtual reality classroom to support that program, a server room with proper climate control, expanded weight room for safety, a fitness room and PE storage.

B. ARCHITECTURAL REVIEW

Roof:
The High school roof is a metal roof with gutters and downspouts. It is in reasonable condition but it is difficult to determine the life expectancy of metal roof unless there is evidence of punctures or surface rust. The downspouts and gutters show signs of leaking and capacity overflow.

Windows:
The windows are aluminum frame double pane glass. All the sills are cast stone with minimal to no slope on the top surface. These sills hold snow and water and there is evidence of mater getting into the masonry cavity. Metal flashing over the sills could improve the condition. (Next page top and bottom images)

Caulking:
Sealant work should be carefully applied so that infiltration moisture is allowed to escape the building at window heads, sill frames and masonry weeps. Improper sealant can capture. (Top left image)

Masonry:
The exterior masonry of this building shows efflorescence around the entire perimeter. It is under window sills, flashing, limestone sills and at mortar joints in general. This condition is evidence that moisture is getting into the building wall cavity and the brick itself. We understand that corrective measures have been taken, specifically adding flashing a couple courses down from the top of the wall. The deposits and staining should be removed to determine if the problem still exists. If the deposits reoccur that means the is still enough moister getting into the wall that it can accelerate masonry wall decay and may even cause mold growth within the cavity or masonry cells.

Sometimes brick has a large amount of calcium in the clay and the efflorescence occurs for years as it gets wet and dries. If the condition continues it should be monitored to avoid major issues. There are also locations of settlement and holes that need to be repaired or filled. (Bottom left image as well as next three pages)

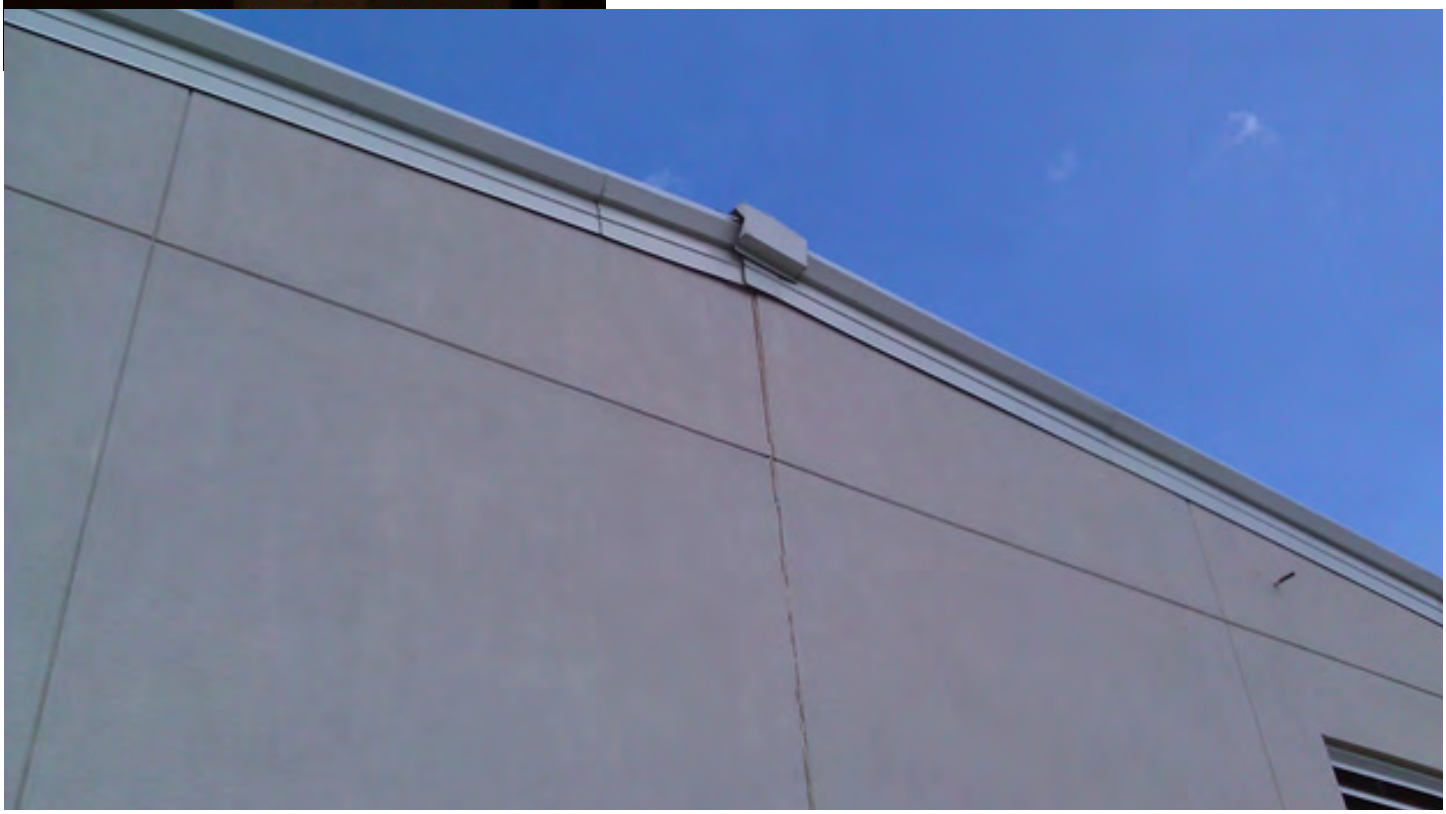
The crack and spaulling on this interior CMU wall could have been caused by differential movement between the two walls. (Top left image)

Doors:
Interior and exterior doors appear to be in good condition

Corridor glazed windows:
Borrowed lights in the corridors comply with current codes.

Ceilings:
The ceilings appear to be in good condition.

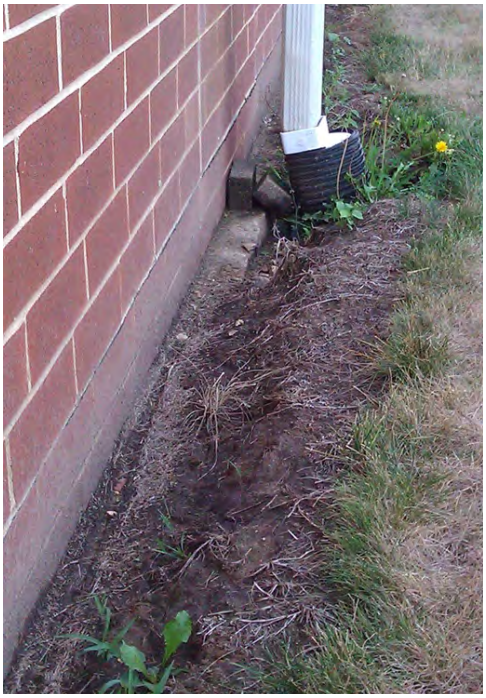
Walls:
The exterior walls are constructed of an EIFS product in many locations. This Exterior Insulation & Finish System has a history of problems and is not a preferred exterior finish for a building in your climate. (Bottom image this page and top image next page)



Floor Coverings:
The floor coverings appear to be in good condition.

Restrooms:
The restrooms appear to be in good condition.

Miscellaneous Items:
One significant concern is that there is only one access road to and from the high school campus and play fields. Any increase in traffic would make this problem worse and a second access point should be studied.



C. CODE REVIEW

The building design appears to be code compliant and considering its recent construction, should have been reviewed by the state fire marshals office.

D. ADA REVIEW

The greatest concern related to the ADA is that the main student and visitor entrance is on the north side of the building with high walls all around making it very difficult to provide an accessible, comfortable entrance during the colder months or inclement weather.

E. STRUCTURAL CONDITION REVIEW

The structural systems appear to be in good condition except for the potential differential settlement noticed on the East side of the building and the areas where the site grade slopes toward the building. This may cause foundation settlement over time.

F. MECHANICAL SYSTEMS REVIEW

HVAC

1. The gymnasium and auditorium utilize geothermal heat pumps for heating and cooling. Ventilation air is thru 100% gas-fired, closed combustion, outdoor air units. An opportunity exists for energy recovery to be applied to the outdoor air units thru the use of energy recovery cores or wheels.
2. There may be an opportunity for transfer air to be reused prior to relief. Energy savings for energy recovery on outdoor air is approximately 60%.

G. ELECTRICAL SYSTEMS REVIEW

Power

1. ICN electrical panel transformer does not have a code-required secondary disconnect switch.
2. Exterior receptacle at southwest corner of building is missing water proof cover.

Lighting

1. Egress exits do not have code-required exterior emergency lights.
2. Automatic lighting control devices (occupancy sensors) should be added to all rooms to meet energy code requirements.

Special Systems

1. Exterior intercom speaker on east side of building is damaged

H. USEFUL LIFE SPAN

The useful life span of a school building is evaluated based upon many factors, building components and their performance including: structural shell, thermal barrier, water barrier, HVAC systems, plumbing systems, electrical systems, communication systems, built in casework and equipment, kitchen equipment, windows, doors & hardware. School buildings receive considerable use & abuse for 9 months during the year and then in the summer they are minimally used. Particular to schools is the importance of high use equipment & hardware as well as adaptable technology and communication systems. All these components have varying life spans.
As pedagogical teaching methods evolve and change the traditional classroom along a double loaded corridor may become less effective and even detrimental to learning. The structural shell of a building can last for hundreds of years if built on a sound foundation and the enemy to every building, water, is kept out. However buildings with rigid layouts created by load bearing masonry walls are less adaptable to change. Foundation settlement for this type of building can be very expensive to correct.

For the high school in particular, the engineering systems and infrastructure are very new compared to the other buildings. Most new HVAC, plumbing & electrical equipment has a 20 year useful life. This means the equipment may not be as energy efficient as its newer counterpart. Parts and service will

probably not be available any longer. They simply wear out from intensive use.

The life span of the high school without any renovations or equipment replacement is about 15 more years. At that point HVAC and lighting system should have been replaced.

Operational cost is one way to measure the useful life. When the operational cost outweighs the replacement cost the building components need to be replaced. Another way for measuring a schools useful life is how it can support the curriculum. As long as it can support it in every way it is useful. When the building hinders the delivery of learning it is no longer useful as a school.

Useful life of components without any renovations:

Structural Shell: 90 years, only minor settlement

Thermal Barrier: 3 years, the International Energy Code has become much more stringent

Water Barrier: this is unclear

HVAC systems: 15 years, equipment will be at the end of its life, well field should last longer

Plumbing systems: 15 years, fixtures may be at end of their life, piping should last longer

Electrical & lighting systems: 5 years for lighting, 25 years for power
Communication systems: Always changing, unclear, flexibility is the key

Built in equipment & casework: 40 years if quality hardware is maintained

Kitchen Equipment: 25 years unless becomes to inefficient

Windows, Doors & hardware: 40 years

Building configuration: 40 years

I. FIRE MARSHALL'S REPORT

On the following four pages.

FIRE SAFETY REPORT FOR STATE SCHOOLS AND COLLEGES

DISTRICT AND ADDRESS: **Monticello School District- High School**
SCHOOL LOCATION: 850 East Oak St., Monticello, IA 52310
GRADES: 9-12
OF STUDENTS: 400

Building Code: 53-4446-0109

DATE: 7/17/09 COUNTY: Jones
TELEPHONE: 563-465-4253

SUPERINTENDENT & ADDRESS: Chris Anderson, 711 S. Maple St., Monticello, IA 52310

PRES. OF BOARD/ADDRESS: Lee Hein, 11989 Richland Rd, Monticello, IA 52310

CONSTRUCTION: Type II (000) # OF STORIES: 2

PREVIOUS ORDERS COMPLIED WITH:

COMPLY AS FOLLOWS:

Inspection Conducted using the 2006 International Fire and Building Code

1. **Corridors-Section 1027.17, International Fire Code:** Discontinue blocking doors open throughout the building. If the facility desire doors to be held open, doors shall be held open with electromagnetic hold open devices tied to the building's fire alarm in accordance with the National Fire Protection Association (NFPA) 72, National Fire Alarm Code, 2002 edition. ongoing

2. **Corridors-Table 1017.1, International Fire Code:** Seal all penetrations in the corridor walls (Including above the suspended ceiling) throughout the school building with Underwriter's Laboratory (U.L.) labeled fire rated materials. Northern May 2010

3. **Electrical Wiring-Section 605, International Fire Code:** Discontinue the use of extension cords, electrical adapters, and drop cords throughout the building in place of approved permanent electrical wiring. Surge protectors shall only be used with computer equipment and audio/visual equipment. Surge protectors shall not be plugged into each other. on going

STATE FIRE SAFETY REPORT

4. **Electrical- Section 605.3, International Fire Code:** Maintain a 3 foot clearance from all electrical panels throughout the building in accordance with National Fire Protection Association (NFPA) 70, National Electrical Code, 2005 edition.

5. **Fire Alarm-Section 901.4, International Fire Code:** Maintain a 3 foot distance on all smoke detectors and heat detectors from any air diffuser throughout the school building in accordance with Section 5.7.4 of the National Fire Protection Association (NFPA) 72, National Fire Alarm Code, 2002 edition.

6. **Smoke Barrier-Section 703, International Fire Code:** Maintain the Hallway to Area B, Area A Double Doors, Cafeteria Double Doors (2 sets), the Industrial Tech Double Doors by Room #420, and Doors to Locker Room Hallway smoke barrier doors to in proper working order. These doors failed to close and latch completely and maintain smoke tight.

7. **Incidental Rooms-Table 508.2, International Building Code-** Seal all penetrations in the walls and ceiling lid of the Boiler Room, the Main Electrical Room, the Communication Room, the Electrical Room in Area A, and the Gymnasium Storage Room with Underwriter's Laboratory (U.L.) labeled fire rated materials.

8. **Exits-Section 1003.6, International Fire Code:** Maintain the exit from the Room #334 Storage Room clear and unobstructed at all times.

9. **Incidental Rooms-Table 508.2, International Building Code:** Provide Underwriter's Laboratory (U.L.) labeled self closing devices on the Library Journal Storage Room door and the Kitchen Janitor's Storage Room door.

10. **Corridors-Section 1027.17, International Fire Code:** Maintain the Student Center Storage Room door, the Gymnasium doors, the Northeast Band Room door, the Industrial Arts Large Classroom off Shop door, the Art Kiln Room door, the 2nd Floor Cardio Workout Room West door, and the Stage Door to Balcony Controller Area door in proper working order. These doors failed to close and latch properly into the door frames when tested.

11. **Fire Alarm-Section 907, International Fire Code:** Properly secure the smoke detector in the Student Center Storage Room to the bracket on the ceiling. At the time of inspection, the smoke detector was hanging by the fire alarm wires.

12. **Panic Hardware-Section 1008.1.9, International Fire Code:** Provide Underwriter's Laboratory (U.L.) labeled positive latching panic door hardware on the Men's Locker Room Door and the Women's Locker Room Door exit doors. These doors shall have illuminated exit signs with battery backup installed above the doors.

STATE FIRE SAFETY REPORT

13. **Sprinkler System-Section 901.6, International Fire Code:** Replace any sprinkler heads throughout the facility that has any paint, corrosion, or foreign substance on the heads in accordance with the National Fire Protection Association (NFPA) 25, Inspection, Testing, and Maintenance of Sprinkler Systems, 2002 edition. Maintain sprinkler heads free of dust and other debris. At the time of inspection, the Auditorium revealed multiple sprinkler heads with a paint like substance on them. Summer 2010 Bob Make PM for the Spring

14. **Exits-Section 1003.6, International Fire Code:** Maintain the exit from the Stage in the Auditorium clear and unobstructed at all times. At the time of inspection, the exit paths from the stage were being used as storage. Joan Dec 2009

15. **Incidental Rooms-Table 508.2, International Building Code:** Provide a 1 hour protective rating with Underwriter's Laboratory (U.L.) labeled fire rated materials for the mezzanine on the Auditorium Stage. Properly enclose the storage on the stage. Summer 2010

16. **Exit Signs-Section 1011.1, International Fire Code:** Provide an illuminated exit sign with battery back up above Band Room Northeast door. Spring 2010

17. **Electrical-Section 605, International Fire Code:** Properly cover or encase the exposed electrical wiring where the clocks used to be in the Choir Center Practice Room and the Choir Far West Practice Room. Jerry Dec 2009

18. **Sprinkler System-Section 901.6, International Fire Code:** Provide the missing escutcheon ring for the sprinkler head in the Choir Center Practice Room. Summer 2010 Bob put on PM

19. **Corridors-Section 1027.17, International Fire Code:** Adjust the Northeast Choir door to open properly. At the time of inspection, it took more than 15 pounds of pressure to open this door. Jerry winter 2009

20. **Incidental Rooms-Table 508.2, International Building Code:** Organize the storage in the FFA Storage Room to provide clear and unobstructed paths of egress. winter 2009

21. **Exits-Section 1015.1, International Fire Code:** Provide an exit from the Industrial Arts Room that does not communicate through another room. An illuminated exit sign with battery back up will be required above this exit door. At the time of inspection, the Industrial Arts Room required exiting through an intervening space to exit. Summer 2010

22. **Incidental Rooms-Table 508.2, International Building Code:** Remove the storage cabinets in the path of egress to the door in the Shop Entrance to maintain a clear and unobstructed means of egress. winter 2009 Jerry

STATE FIRE SAFETY REPORT

23. **Fire Alarm-Section 907.2.3, International Fire Code:** Discontinue blocking the fire alarm pull station by the Direct Exit door of the Consumer Science (Home Economics) Room. At the time of inspection, this pull station was being blocked by a refrigerator.

24. **Incidental Rooms-Section 315.2.2, International Fire Code:** Remove all combustible storage from the Art Kiln Room and the Wrestling Room Electrical Room. No combustible materials shall be stored in these rooms at any time.

25. **Exits-Section 1003.6, International Fire Code:** Maintain the exit from the Art Room clear and unobstructed at all times.

26. **Exits-Section 1003.6, International Fire Code:** Maintain the exits from the Weight Room clear and unobstructed at all times. At the time of inspection, the exit paths were blocked with weight equipment.

27. **Incidental Rooms-Table 508.2, International Building Code:** Maintain the doors used to move wrestling mats to the Gymnasium closed when not in use. These doors separate Gymnasium from the 2nd Level Wrestling Room.

28. **Exits-Section 1003.6, International Fire Code:** Maintain the exit from the 2nd Level Theater Storage Room clear and unobstructed at all times. At the time of inspection, this room was filled with theatrical props and costumes that were obstructing exit paths.

29. **Exits-Section 1003.6, International Fire Code:** Maintain the stairwells throughout the school building clear and unobstructed at all times. The stairwells shall not be used as storage at any time.

PLEASE SUBMIT PLAN OF CORRECTION BY:
Mail plan of correction to:
IA Department of Public Safety
Division of State Fire Marshal
215 E. 7th St
Des Moines, IA 50319

or email to bstuder@dps.state.ia.us

INSPECTOR: Shyann L. Warrick

SUPERVISOR: Ron Humphrey

AUTHORIZED SCHOOL PERSONNEL: Chris Anderson, Superintendent and Lee Hein, School Board President

A. GENERAL COMMENTS

The District office facility was previously a storage building. It was expanded and renovated to accommodate a district board room as well as office space for the three District Administrative staff.

B. ARCHITECTURAL REVIEW

Roof:
The roof is a metal roof with gutters and downspouts. It is in reasonable condition but it is difficult to determine the life expectancy of metal roof unless there is evidence of punctures or surface rust. The downspouts and gutters show signs of leaking and capacity overflow. (Bottom image)

Windows:
The windows are residential grade units and are in fair condition.

Caulking:
There is no current need for sealant work for the building. There is however some minor repair needed for the weather stripping at the board room door.

Masonry:
There is no masonry on the district office.

Doors:

Doors:
The doors appear to be is fair condition. An air lock is desirable for the school board room.

Ceilings:
The ceilings are in fair condition.

Walls:
The walls are in fair condition. They are primarily painted gypsum board.

Floor Coverings:
The floor coverings are in reasonable condition. Flooring replacement should be budgeted.

Restrooms:
Restrooms are in reasonable condition but are not fully ADA compliant.

Miscellaneous Items:

C. CODE REVIEW

There are some minor code violations for door clearances and circulation hall widths.

D. ADA REVIEW

There is a step between spaces that makes it difficult to go from the board room to the restroom and offices.

E. STRUCTURAL CONDITION REVIEW

The building is structurally stable. No concerns were identified.

F. MECHANICAL SYSTEMS REVIEW

HVAC

1. The building is heated and cooled by two gas fired furnaces with A-Coils and DX condensing units. One furnace is 80% efficient, the other is 92%. The lower efficient furnace is located in a closet with the water heater; no combustion air damper or louver is provided. It is recommended that a door be added with a louver to allow for combustion air.
2. Condensing units are approximately 10 to 15 years old and are in average condition.
3. Zones are controlled by non-programmable thermostats. It is recommended that programmable thermostats be added for energy savings.

Plumbing

1. The plumbing system consists of a restroom and a 30 gallon, atmospheric gas-fired water heater.
2. Plumbing fixtures are in average condition. Water closets are tank type and lavatories have two handle mixing valves.
3. The water heater is estimated to 80% efficient and is in average condition.
4. The domestic hot water system is not softened.
5. Piping is not insulated.
6. The 3/4" water service entrance utilizes a 3/4" water meter, yet it does not include a code required backflow preventer.
7. The majority of the water mains are copper piping.

Fire Protection

1. The building does not have a sprinkler system.
2. A new water service entrance will be required for installation of fire protection system.

G. ELECTRICAL SYSTEMS REVIEW

Power

1. The service entrance panel board is 200 amps energized at 120/240volt, single phase. The panel is adequate for continued use, but the branch circuit breakers are not properly labeled.
2. There are no convenience receptacles adjacent to the exterior condensing units.

Lighting

1. The building does not have any automatic lighting controls (i.e. occupancy sensors or time switches) on interior or exterior lighting. All lighting in controlled by manual toggle switches.
2. The west half of the building is served with T12 fluorescent surface wraps. These fixtures should be replaced or retrofitted with more energy efficient T8 lamps.
3. The building does not have emergency lights or exit signs.

Special Systems

1. The telecom and IT equipment share a small room with a furnace and hand sink. This equipment should be located in a dedicated space.
2. The existing Notifier fire alarm system is adequate for continued use.

H. USEFUL LIFE SPAN

This building was constructed in a residential style and with similar use should function well for several years. Being located on the main street this building would be well suited for a retail or service use.

A. GENERAL COMMENTS

This building appears to have been an emergency vehicle garage. The maintenance bays are not really large enough to get the school buses in them for service or washing. District vans and other small vehicles do fit however. This building is two separate structures, one being the enclosed four bay garage and the other being an open shed for outdoor storage and pulling the front of seven buses under to keep the frost of and to plug them in. There is no good enclosed storage area.

B. ARCHITECTURAL REVIEW

Roof:
The roof over the eight bay open shed is a metal roof. It is in very poor condition and leaks. There are no gutters and downspouts on the open structure. If this structure is kept in its current use the walls should be increased in height and the roof replaced. (Bottom Image)
Windows:
There are only a couple of windows on this building. The North window should be repainted. Additional windows would improve the daylighting for the garage. (Top left image)

Caulking:
Only minimal is needed around the windows.

Masonry:
The building is primarily 8" x 16" concrete block without any insulation. There has been recent repair of the masonry of the garage structure. There are many locations where the masonry of the shed structure is damaged and causes structural concern. This appears to be a result of vehicle collision and some protection would be a good idea for improvement. (Bottom left image and Next page bottom image)

Doors:
The overhead doors show evidence of some damage from vehicles. The walk doors and hardware are worn and should be replaced. (Next page top image)

Ceilings:
Ceilings only exist in the office area. These should be reconstructed along with the rest of the building.

Walls:
The exterior and interior walls require some repair and painting. The south bay of the garage was converted to an office and driver room at some point. The walls were insulated at that time for this area.

Floor Coverings:
The office flooring should be replaced.

Restrooms:
An ADA compliant driver restroom is needed for this building.

Miscellaneous Items:
The open shed building does not secure the busses or provide climate controlled or secure storage. This facility should be replaced. The garage portion of the structure is not code compliant and will not house buses. It should either be replaced our fully renovated.

C. CODE REVIEW

Numerous code issues are identified in the engineering and architectural sections of this report. This building is in the worst condition as it relates to health and life safety as any in the district. Though this facility does not house students these issues should be addressed soon. (Bottom image)

D. ADA REVIEW

The main access entry door is ADA compliant. It has a flush paving surface, a lever handle and approximate balance and weight for ease of operation. The rest of the building is not compliant. There are ADA issues with door widths, swing clearance, flooring surfaces, furniture, Office layouts, signage, and restroom facilities.

E. STRUCTURAL CONDITION REVIEW

The open structure has several locations where the Concrete block walls require repair to avoid an unsafe condition. These issues do not appear to be a result of settlement but a result of collisions with the building itself. Bollards should be considered for protection of all the openings and walls.

F. MECHANICAL SYSTEMS REVIEW

HVAC

1. The bay area is heated by three gas fired radiators. It appears the units are less than 80% efficient. No combustion air damper or louver is provided.
2. The garage does not have a gas detection system (CO/NO2) for detection and alarm of flue gases. This is a code requirement for all new garages.
3. The bay area utilizes a wall exhaust fan for movement of air. The fan is in poor condition and does not have an operational backdraft damper.
4. An 8" moveable opening in the overhead door is used for ducting flue to the outside when operation a vehicle.

Plumbing

1. The plumbing system consists of several hose bibs and an atmospheric gas-fired water heater.
2. The water heater is estimated to 80% efficient and is in average condition.
3. The domestic hot water system is not softened.
4. Piping is not insulated.
5. The 1 1/2" water service entrance utilizes a 1 1/2" water meter, yet it does not include a code required backflow preventer.
6. The majority of the water mains are copper piping.
7. The wash bay has a sand interceptor, but does not have oil separation capability as required by the plumbing code.

Fire Protection

1. The building does not have a sprinkler system.
2. A new water service entrance will be required for installation of fire protection system.

G. ELECTRICAL SYSTEMS REVIEW

Power

1. There are several open junction boxes with exposed wiring in the cold storage area.
2. The main service entrance panelboard is located in an area frequently used for vehicle washdown and the enclosures have been damaged from being exposed to water.
3. A makeshift wooden cover has been installed to protect the electrical gear from getting wet. This cover is not adequate for proper protection of the electrical equipment. The electrical equipment should be relocated or provided with proper protection from spraying water.
4. The main electrical panel is obsolete and should be replaced.

Lighting

1. Incandescent porcelain socket light fixtures should be replaced with more energy efficient linear fluorescent fixtures.
2. The building does not have any automatic lighting controls (i.e. occupancy sensors or time switches) on interior or exterior lighting. All lighting in controlled by manual toggle switches.
3. The building does not have emergency lights or exit signs.

Special Systems

1. The building does not have a fire alarm system or carbon monoxide detection.

H. USEFUL LIFE SPAN

This building is very utilitarian. It has been modified over its life to accommodate the current use. The open shed serves a purpose but not all of the need. It is our opinion that this building is beyond its useful life for its current use. It should be replaced or significantly modified.

I. COST SUMMARY

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/30/12
Transportation & Maintenance | Phase: Conceptual Design | Estimator: KE

Transportation & Maintenance building updates (11 buses)

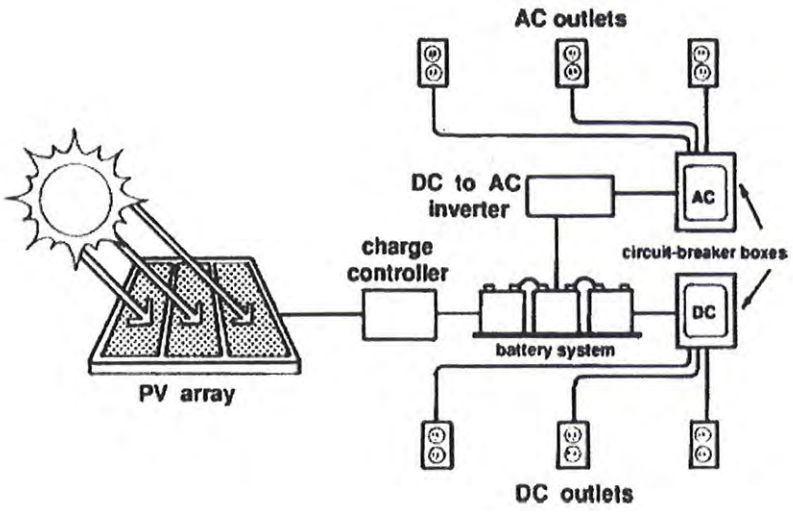
	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	Garage Building: renovate office and driver room, update garage	2,304	SF	19.00	43,776
	Open Shed Building: raise roof, extend depth, enclose, new openings	2,640	SF	41.00	108,240
2	**Structural**				
	Repairs (mostly in architectural)	2,640	SF	2.00	5,280
3	**Heating, Ventilation & Air Conditioning Systems**				
	Renovations	4,944	SF	13.00	64,272
4	**Plumbing & Fire Protection Systems**				
	Renovations, restroom & oil separater	4,944	SF	15.00	74,160
5	**Electrical Lighting & Power Systems**				
	Renovations	4,944	SF	7.00	34,608
6	**Special Electrical Systems**				
	Renovations - Minor	4,944	SF	2.50	12,360
				99.50	
			SubTotal		342,696
			Design / Bid Contingency 10%		34,270
			Building Construction Costs SubTotal		376,966
			Construction Contingency 5%		18,848
			BUILDING CONSTRUCTION COST TOTAL		**$395,814**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/30/12
Transportation & Maintenance | Phase: Conceptual Design | Estimator: KE

Transportation & Maintenance building updates (11 buses)

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	0	EA	3,000.00	0
23	Extended Drive Lanes & Approaches	1	LS	20,000.00	20,000
24	Storm Sewer & Detention	1	LS	10,000	10,000
25	Domestic Water & Sanitary Sewer	1	LS	0	0
26	Electrical Power & Lighting	1	LS	0	0
27	outdoor program area	1	LS	0	0
28	fill material	75	CY	75	5,625
29	Retaining Walls	1	LS	0	0
30	Pedestrian Paving	0	SF	4.00	0
31	Lawns & Landscaping	0	LS	5,000	0
33	Directional & Informational Signage	1	LS	1,500	1,500
				SubTotal	37,125
				Design / Bid Contingency 10%	3,713
				Site Work Construction Costs SubTotal	40,838
				Construction Contingency 5%	2,042
				SITE WORK CONSTRUCTION COST TOTAL	**$42,879**
Soft Costs					
37	Land Acquisition	1	LS		0
38	Legal Fees	1	LS		3,000
39	Architectural & Engineering Design Fees	1	LS		29,686
40	Information & Technology Design Fees	1	LS		2,500
41	Furnishing Design Fees	1	LS		0
42	Geo Thermal Horizontal Test Well	1	LS		0
43	Site Survey (utilize existing facility documents)	1	LS		2,000
44	Printing Costs for Construction Documents	1	LS		1,000
45	Construction Permits & Fees	1	LS		1,000
46	Builders Risk Insurance	1	LS		1,000
47	Quality Control Material Testing & Inspections	1	LS		2,000
48	Hazardous Material Abatement	1	LS		2,500
49	Fixtures, Furnishings & Equipment Allowance	1	LS		2,500
50	Technology & Computer Equipment Allowance	1	LS		1,500
51	Utility Rebates	1	LS		0
53	Fundraising Consultanting	1	LS		0
				Soft Cost SubTotal	48,686
				Site Work Construction Cost Total	42,879
				Building Construction Cost Total	395,814
				PROJECT TOTAL COST	**$487,379**



Solar PV

Installed costs for fixed mounted rack PV system range from $8-9 per watt. A standard rack mounted 50KW system installed on a roof would cost $400,000 to $450,000. The Dubuque office system of 4.5kW cost $35,659, or just under $8 per installed watt.

Other rules of thumb follow:

- 1 kW fixed mounted, unshaded solar electric system provides about 1200kWh/year. A 50 kW system would provide about 60,000kWh/year.

- 1 SF of solar electric system provides about 14 watts, so a 50 kW system would require an array of about 3,600 SF.

Solar Thermal

For the lavatory a solar system could be done but it may be more beneficial to go ahead and heat all of the domestic hot water or at the very least preheat and provide a secondary gas fired heater to make-up for any shortfalls.

Assume two separate system. One for the tanks/skimmers and another for lavatory sinks/kitchen. Each system would require between 2 to 6 collectors with a cost of $20,000 (2 collectors) to $50.000 (6 collectors) per system.

Small Wind (100kW and less)

Data from Focus on Energy in WI indicate estimated costs from $700 to $2,000 per installed kW. Need to look at this a bit more to see if there's better data for vertical wind turbines.

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/10/12
New P-K-1 | Phase: Conceptual Design | Estimator: KE

New P-K-1

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	New Construction	35,890	SF	60.00	2,153,400
2	**Structural**				
	New Construction	35,890	SF	10.00	358,900
3	**Heating, Ventilation & Air Conditioning Systems**				
	New Construction	35,890	SF	22.00	789,580
4	**Plumbing & Fire Protection Systems**				
	New Construction	35,890	SF	8.50	305,065
5	**Electrical Lighting & Power Systems**				
	New Construction	35,890	SF	12.50	448,625
6	**Special Electrical Systems**				
	New Construction	35,890	SF	2.50	89,725
				115.50	
				SubTotal	4,145,295
				Design / Bid Contingency 10%	414,530
				Building Construction Costs SubTotal	4,559,825
				Construction Contingency 5%	227,991
				BUILDING CONSTRUCTION COST TOTAL	**$4,787,816**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/10/12

New P-K-1 | Phase: Conceptual Design | Estimator: KE

New P-K-1

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	40	EA	3,000.00	120,000
23	Extended Drive Lanes & Approaches	1	LS	15,000.00	15,000
24	Storm Sewer & Detention	1	LS	25,000	25,000
25	Domestic Water & Sanitary Sewer	1	LS	10,000	10,000
26	Electrical Power & Lighting	1	LS	25,000	25,000
27	outdoor program area	1	LS	10,000	10,000
28	fill material	250	CY	75	18,750
29	Retaining Walls	1	LS	0	0
30	Pedestrian Paving	1,400	SF	4.00	5,600
31	Lawns & Landscaping	1	LS	20,000	20,000
33	Directional & Informational Signage	1	LS	18,000	18,000
			SubTotal		267,350
			Design / Bid Contingency 10%		26,735
			Site Work Construction Costs SubTotal		294,085
			Construction Contingency 5%		14,704
			SITE WORK CONSTRUCTION COST TOTAL		**$308,789**
Soft Costs					
37	Land Acquisition: 10 acres plus 1 acres per 100 students - 234 students	13	acres	35,000.00	455,000
38	Legal Fees	1	LS		30,000
39	Architectural & Engineering Design Fees	1	LS		368,086
40	Information & Technology Design Fees	1	LS		10,000
41	Furnishing Design Fees	1	LS		20,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		12,000
44	Printing Costs for Construction Documents	1	LS		6,000
45	Construction Permits & Fees	1	LS		5,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		30,000
48	Hazardous Material Abatement	1	LS		0
49	Fixtures, Furnishings & Equipment Allowance	1	LS		50,000
50	Technology & Computer Equipment Allowance	1	LS		50,000
51	Utility Rebates	1	LS		(35,000)
53	Fundraising Consultanting	1	LS		25,000
			Soft Cost SubTotal		1,037,086
			Site Work Construction Cost Total		308,789
			Building Construction Cost Total		4,787,816
			PROJECT TOTAL COST		**$6,133,691**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/10/12
New 2-4 | Phase: Conceptual Design | Estimator: KE

New 2-4

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	New Construction	32,290	SF	60.00	1,937,400
2	**Structural**				
	New Construction	32,290	SF	10.00	322,900
3	**Heating, Ventilation & Air Conditioning Systems**				
	New Construction	32,290	SF	22.00	710,380
4	**Plumbing & Fire Protection Systems**				
	New Construction	32,290	SF	8.50	274,465
5	**Electrical Lighting & Power Systems**				
	New Construction	32,290	SF	12.50	403,625
6	**Special Electrical Systems**				
	New Construction	32,290	SF	2.50	80,725
				115.50	
				SubTotal	3,729,495
				Design / Bid Contingency 10%	372,950
				Building Construction Costs SubTotal	4,102,445
				Construction Contingency 5%	205,122
				BUILDING CONSTRUCTION COST TOTAL	**$4,307,567**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/10/12

New 2-4 | Phase: Conceptual Design | Estimator: KE

New 2-4

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	40	EA	3,000.00	120,000
23	Extended Drive Lanes & Approaches	1	LS	15,000.00	15,000
24	Storm Sewer & Detention	1	LS	25,000	25,000
25	Domestic Water & Sanitary Sewer	1	LS	10,000	10,000
26	Electrical Power & Lighting	1	LS	25,000	25,000
27	outdoor program area	1	LS	10,000	10,000
28	fill material	250	CY	75	18,750
29	Retaining Walls	1	LS	0	0
30	Pedestrian Paving	1,400	SF	4.00	5,600
31	Lawns & Landscaping	1	LS	20,000	20,000
33	Directional & Informational Signage	1	LS	18,000	18,000
			SubTotal		267,350
			Design / Bid Contingency 10%		26,735
			Site Work Construction Costs SubTotal		294,085
			Construction Contingency 5%		14,704
			SITE WORK CONSTRUCTION COST TOTAL		**$308,789**
Soft Costs					
37	Land Acquisition: 10 acres plus 1 acres per 100 students - 224 students	13	acres	35,000.00	455,000
38	Legal Fees	1	LS		30,000
39	Architectural & Engineering Design Fees	1	LS		332,068
40	Information & Technology Design Fees	1	LS		10,000
41	Furnishing Design Fees	1	LS		20,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		12,000
44	Printing Costs for Construction Documents	1	LS		6,000
45	Construction Permits & Fees	1	LS		5,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		30,000
48	Hazardous Material Abatement	1	LS		0
49	Fixtures, Furnishings & Equipment Allowance	1	LS		50,000
50	Technology & Computer Equipment Allowance	1	LS		50,000
51	Utility Rebates	1	LS		(35,000)
53	Fundraising Consultanting	1	LS		25,000
			Soft Cost SubTotal		1,001,068
			Site Work Construction Cost Total		308,789
			Building Construction Cost Total		4,307,567
			PROJECT TOTAL COST		**$5,617,423**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12
New 5-8 | Phase: Conceptual Design | Estimator: KE

New 5-8

DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:				
1 **Architectural, Code & ADA Items**				
New Construction	82,080	SF	68.50	5,622,480
2 **Structural**				
New Construction	82,080	SF	10.00	820,800
3 **Heating, Ventilation & Air Conditioning Systems**				
New Construction	82,080	SF	25.00	2,052,000
4 **Plumbing & Fire Protection Systems**				
New Construction	82,080	SF	9.50	779,760
5 **Electrical Lighting & Power Systems**				
New Construction	82,080	SF	14.50	1,190,160
6 **Special Electrical Systems**				
New Construction	82,080	SF	2.50	205,200
			130.00	
			SubTotal	10,670,400
			Design / Bid Contingency 10%	1,067,040
			Building Construction Costs SubTotal	11,737,440
			Construction Contingency 5%	586,872
			BUILDING CONSTRUCTION COST TOTAL	**$12,324,312**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12

New 5-8 | Phase: Conceptual Design | Estimator: KE

New 5-8

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	80	EA	3,000.00	240,000
23	Extended Drive Lanes & Approaches	1	LS	12,000.00	12,000
24	Storm Sewer & Detention	1	LS	45,000	45,000
25	Domestic Water & Sanitary Sewer	1	LS	10,000	10,000
26	Electrical Power & Lighting	1	LS	40,000	40,000
27	outdoor program area	1	LS	10,000	10,000
28	fill material	350	CY	75	26,250
29	Retaining Walls	1	LS	5,000	5,000
30	Pedestrian Paving	1,800	SF	4.00	7,200
31	Lawns & Landscaping - playfields	1	LS	28,000	28,000
33	Directional & Informational Signage	1	LS	35,000	35,000
				SubTotal	458,450
				Design / Bid Contingency 10%	45,845
				Site Work Construction Costs SubTotal	504,295
				Construction Contingency 5%	25,215
				SITE WORK CONSTRUCTION COST TOTAL	**$529,510**
Soft Costs					
37	Land Acquisition - 20 acres minimum plus 1 acres / 100 students - 335 students	23	acres	35,000.00	805,000
38	Legal Fees	1	LS		30,000
39	Architectural & Engineering Design Fees	1	LS		942,323
40	Information & Technology Design Fees	1	LS		20,000
41	Furnishing Design Fees	1	LS		20,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		18,000
44	Printing Costs for Construction Documents	1	LS		12,000
45	Construction Permits & Fees	1	LS		12,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		40,000
48	Hazardous Material Abatement	1	LS		0
49	Fixtures, Furnishings & Equipment Allowance	1	LS		80,000
50	Technology & Computer Equipment Allowance	1	LS		80,000
51	Utility Rebates	1	LS		(70,000)
53	Fundraising Consultanting	1	LS		25,000
				Soft Cost SubTotal	2,025,323
				Site Work Construction Cost Total	529,510
				Building Construction Cost Total	12,324,312
				PROJECT TOTAL COST	**$14,879,145**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12
New P-K-5 | Phase: Conceptual Design | Estimator: KE

New P-K-5

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	New Construction	67,652	SF	60.00	4,059,120
2	**Structural**				
	New Construction	67,652	SF	10.00	676,520
3	**Heating, Ventilation & Air Conditioning Systems**				
	New Construction	67,652	SF	22.00	1,488,344
4	**Plumbing & Fire Protection Systems**				
	New Construction	67,652	SF	8.50	575,042
5	**Electrical Lighting & Power Systems**				
	New Construction	67,652	SF	12.50	845,650
6	**Special Electrical Systems**				
	New Construction	67,652	SF	2.50	169,130
				115.50	
				SubTotal	7,813,806
				Design / Bid Contingency 10%	781,381
				Building Construction Costs SubTotal	8,595,187
				Construction Contingency 5%	429,759
				BUILDING CONSTRUCTION COST TOTAL	**$9,024,946**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12

New P-K-5 | Phase: Conceptual Design | Estimator: KE

New P-K-5

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	80	EA	3,000.00	240,000
23	Extended Drive Lanes & Approaches	1	LS	15,000.00	15,000
24	Storm Sewer & Detention	1	LS	45,000	45,000
25	Domestic Water & Sanitary Sewer	1	LS	10,000	10,000
26	Electrical Power & Lighting	1	LS	45,000	45,000
27	outdoor program area	1	LS	10,000	10,000
28	fill material	450	CY	75	33,750
29	Retaining Walls	1	LS	5,000	5,000
30	Pedestrian Paving	1,800	SF	4.00	7,200
31	Lawns & Landscaping	1	LS	25,000	25,000
33	Directional & Informational Signage	1	LS	18,000	18,000
			SubTotal		453,950
			Design / Bid Contingency 10%		45,395
			Site Work Construction Costs SubTotal		499,345
			Construction Contingency 5%		24,967
			SITE WORK CONSTRUCTION COST TOTAL		**$524,312**
Soft Costs					
37	Land Acquisition - 10 acres minimum plus 1 acres / 100 students - 536 students	16	acres	35,000.00	560,000
38	Legal Fees	1	LS		30,000
39	Architectural & Engineering Design Fees	1	LS		694,871
40	Information & Technology Design Fees	1	LS		15,000
41	Furnishing Design Fees	1	LS		30,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		14,000
44	Printing Costs for Construction Documents	1	LS		8,000
45	Construction Permits & Fees	1	LS		10,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		40,000
48	Hazardous Material Abatement	1	LS		0
49	Fixtures, Furnishings & Equipment Allowance	1	LS		80,000
50	Technology & Computer Equipment Allowance	1	LS		80,000
51	Utility Rebates	1	LS		(70,000)
53	Fundraising Consultanting	1	LS		25,000
			Soft Cost SubTotal		1,527,871
			Site Work Construction Cost Total		524,312
			Building Construction Cost Total		9,024,946
			PROJECT TOTAL COST		**$11,077,129**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12
New 6-8 | Phase: Conceptual Design | Estimator: KE

New 6-8

DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:				
1 **Architectural, Code & ADA Items**				
New Construction	77,910	SF	68.50	5,336,835
2 **Structural**				
New Construction	77,910	SF	10.00	779,100
3 **Heating, Ventilation & Air Conditioning Systems**				
New Construction	77,910	SF	25.00	1,947,750
4 **Plumbing & Fire Protection Systems**				
New Construction	77,910	SF	9.50	740,145
5 **Electrical Lighting & Power Systems**				
New Construction	77,910	SF	14.50	1,129,695
6 **Special Electrical Systems**				
New Construction	77,910	SF	2.50	194,775
			130.00	
			SubTotal	10,128,300
			Design / Bid Contingency 10%	1,012,830
			Building Construction Costs SubTotal	11,141,130
			Construction Contingency 5%	557,057
			BUILDING CONSTRUCTION COST TOTAL	**$11,698,187**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12

New 6-8 | Phase: Conceptual Design | Estimator: KE

New 6-8

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	60	EA	3,000.00	180,000
23	Extended Drive Lanes & Approaches	1	LS	12,000.00	12,000
24	Storm Sewer & Detention	1	LS	40,000	40,000
25	Domestic Water & Sanitary Sewer	1	LS	10,000	10,000
26	Electrical Power & Lighting	1	LS	40,000	40,000
27	outdoor program area	1	LS	10,000	10,000
28	fill material	300	CY	75	22,500
29	Retaining Walls	1	LS	5,000	5,000
30	Pedestrian Paving	1,400	SF	4.00	5,600
31	Lawns & Landscaping - playfields	1	LS	25,000	25,000
33	Directional & Informational Signage	1	LS	35,000	35,000
			SubTotal		385,100
			Design / Bid Contingency 10%		38,510
			Site Work Construction Costs SubTotal		423,610
			Construction Contingency 5%		21,181
			SITE WORK CONSTRUCTION COST TOTAL		**$444,791**
Soft Costs					
37	Land Acquisition - 20 acres minimum plus 1 acres / 100 students - 251 students	23	acres	35,000.00	805,000
38	Legal Fees	1	LS		30,000
39	Architectural & Engineering Design Fees	1	LS		890,864
40	Information & Technology Design Fees	1	LS		20,000
41	Furnishing Design Fees	1	LS		20,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		18,000
44	Printing Costs for Construction Documents	1	LS		12,000
45	Construction Permits & Fees	1	LS		12,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		40,000
48	Hazardous Material Abatement	1	LS		0
49	Fixtures, Furnishings & Equipment Allowance	1	LS		70,000
50	Technology & Computer Equipment Allowance	1	LS		70,000
51	Utility Rebates	1	LS		(70,000)
53	Fundraising Consultanting	1	LS		25,000
			Soft Cost SubTotal		1,953,864
			Site Work Construction Cost Total		444,791
			Building Construction Cost Total		11,698,187
			PROJECT TOTAL COST		**$14,096,841**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12
New P-K-8 | Phase: Conceptual Design | Estimator: KE

New P-K-8

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	New Construction	136,170	SF	64.50	8,782,965
2	**Structural**				
	New Construction	136,170	SF	10.00	1,361,700
3	**Heating, Ventilation & Air Conditioning Systems**				
	New Construction	136,170	SF	23.00	3,131,910
4	**Plumbing & Fire Protection Systems**				
	New Construction	136,170	SF	9.50	1,293,615
5	**Electrical Lighting & Power Systems**				
	New Construction	136,170	SF	13.50	1,838,295
6	**Special Electrical Systems**				
	New Construction	136,170	SF	2.50	340,425
				123.00	
			SubTotal		16,748,910
			Design / Bid Contingency 10%		1,674,891
			Building Construction Costs SubTotal		18,423,801
			Construction Contingency 5%		921,190
			BUILDING CONSTRUCTION COST TOTAL		**$19,344,991**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12
New P-K-8 | Phase: Conceptual Design | Estimator: KE

New P-K-8

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	120	EA	3,000.00	360,000
23	Extended Drive Lanes & Approaches	1	LS	30,000.00	30,000
24	Storm Sewer & Detention	1	LS	65,000	65,000
25	Domestic Water & Sanitary Sewer	1	LS	10,000	10,000
26	Electrical Power & Lighting	1	LS	60,000	60,000
27	outdoor program area	1	LS	10,000	10,000
28	fill material	600	CY	75	45,000
29	Retaining Walls	1	LS	15,000	15,000
30	Pedestrian Paving	2,500	SF	4.00	10,000
31	Lawns & Landscaping - playfields	1	LS	100,000	100,000
33	Directional & Informational Signage	1	LS	35,000	35,000
			SubTotal		740,000
			Design / Bid Contingency 10%		74,000
			Site Work Construction Costs SubTotal		814,000
			Construction Contingency 5%		40,700
			SITE WORK CONSTRUCTION COST TOTAL		**$854,700**
Soft Costs					
37	Land Acquisition - 20 acres minimum plus 1 acres / 100 students - 787 students	29	acres	35,000.00	1,015,000
38	Legal Fees	1	LS		30,000
39	Architectural & Engineering Design Fees	1	LS		1,477,874
40	Information & Technology Design Fees	1	LS		20,000
41	Furnishing Design Fees	1	LS		35,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		20,000
44	Printing Costs for Construction Documents	1	LS		15,000
45	Construction Permits & Fees	1	LS		15,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		50,000
48	Hazardous Material Abatement	1	LS		0
49	Fixtures, Furnishings & Equipment Allowance	1	LS		120,000
50	Technology & Computer Equipment Allowance	1	LS		120,000
51	Utility Rebates	1	LS		(130,000)
53	Fundraising Consultanting	1	LS		35,000
			Soft Cost SubTotal		2,833,874
			Site Work Construction Cost Total		854,700
			Building Construction Cost Total		19,344,991
			PROJECT TOTAL COST		**$23,033,565**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/10/12
New P-K-1 | Phase: Conceptual Design | Estimator: KE

New P-K-1

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	New Construction	35,890	SF	60.00	2,153,400
2	**Structural**				
	New Construction	35,890	SF	10.00	358,900
3	**Heating, Ventilation & Air Conditioning Systems**				
	New Construction	35,890	SF	22.00	789,580
4	**Plumbing & Fire Protection Systems**				
	New Construction	35,890	SF	8.50	305,065
5	**Electrical Lighting & Power Systems**				
	New Construction	35,890	SF	12.50	448,625
6	**Special Electrical Systems**				
	New Construction	35,890	SF	2.50	89,725
				115.50	
				SubTotal	4,145,295
				Design / Bid Contingency 10%	414,530
				Building Construction Costs SubTotal	4,559,825
				Construction Contingency 5%	227,991
				BUILDING CONSTRUCTION COST TOTAL	**$4,787,816**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/10/12
New P-K-1 | Phase: Conceptual Design | Estimator: KE

New P-K-1

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	40	EA	3,000.00	120,000
23	Extended Drive Lanes & Approaches	1	LS	15,000.00	15,000
24	Storm Sewer & Detention	1	LS	25,000	25,000
25	Domestic Water & Sanitary Sewer	1	LS	10,000	10,000
26	Electrical Power & Lighting	1	LS	25,000	25,000
27	outdoor program area	1	LS	10,000	10,000
28	fill material	250	CY	75	18,750
29	Retaining Walls	1	LS	0	0
30	Pedestrian Paving	1,400	SF	4.00	5,600
31	Lawns & Landscaping	1	LS	20,000	20,000
33	Directional & Informational Signage	1	LS	18,000	18,000
			SubTotal		267,350
			Design / Bid Contingency 10%		26,735
			Site Work Construction Costs SubTotal		294,085
			Construction Contingency 5%		14,704
			SITE WORK CONSTRUCTION COST TOTAL		**$308,789**
Soft Costs					
37	Land Acquisition: 10 acres plus 1 acres per 100 students - 234 students	13	acres	35,000.00	455,000
38	Legal Fees	1	LS		30,000
39	Architectural & Engineering Design Fees	1	LS		368,086
40	Information & Technology Design Fees	1	LS		10,000
41	Furnishing Design Fees	1	LS		20,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		12,000
44	Printing Costs for Construction Documents	1	LS		6,000
45	Construction Permits & Fees	1	LS		5,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		30,000
48	Hazardous Material Abatement	1	LS		0
49	Fixtures, Furnishings & Equipment Allowance	1	LS		50,000
50	Technology & Computer Equipment Allowance	1	LS		50,000
51	Utility Rebates	1	LS		(35,000)
53	Fundraising Consultanting	1	LS		25,000
			Soft Cost SubTotal		1,037,086
			Site Work Construction Cost Total		308,789
			Building Construction Cost Total		4,787,816
			PROJECT TOTAL COST		**$6,133,691**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12
New 2-8 | Phase: Conceptual Design | Estimator: KE

New 2-8

DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:				
1 **Architectural, Code & ADA Items**				
New Construction	104,650	SF	66.50	6,959,225
2 **Structural**				
New Construction	104,650	SF	10.00	1,046,500
3 **Heating, Ventilation & Air Conditioning Systems**				
New Construction	104,650	SF	23.00	2,406,950
4 **Plumbing & Fire Protection Systems**				
New Construction	104,650	SF	9.50	994,175
5 **Electrical Lighting & Power Systems**				
New Construction	104,650	SF	13.50	1,412,775
6 **Special Electrical Systems**				
New Construction	104,650	SF	2.50	261,625
			125.00	
			SubTotal	13,081,250
			Design / Bid Contingency 10%	1,308,125
			Building Construction Costs SubTotal	14,389,375
			Construction Contingency 5%	719,469
			BUILDING CONSTRUCTION COST TOTAL	**$15,108,844**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12
New 2-8 | Phase: Conceptual Design | Estimator: KE

New 2-8

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	80	EA	3,000.00	240,000
23	Extended Drive Lanes & Approaches	1	LS	15,000.00	15,000
24	Storm Sewer & Detention	1	LS	45,000	45,000
25	Domestic Water & Sanitary Sewer	1	LS	10,000	10,000
26	Electrical Power & Lighting	1	LS	45,000	45,000
27	outdoor program area	1	LS	10,000	10,000
28	fill material	450	CY	75	33,750
29	Retaining Walls	1	LS	5,000	5,000
30	Pedestrian Paving	1,800	SF	4.00	7,200
31	Lawns & Landscaping - playfields	1	LS	25,000	25,000
33	Directional & Informational Signage	1	LS	35,000	35,000
			SubTotal		470,950
			Design / Bid Contingency 10%		47,095
			Site Work Construction Costs SubTotal		518,045
			Construction Contingency 5%		25,902
			SITE WORK CONSTRUCTION COST TOTAL		**$543,947**
Soft Costs					
37	Land Acquisition : 20 acres minimum plus 1 acres / 100 students - 554 students	26	acres	35,000.00	910,000
38	Legal Fees	1	LS		30,000
39	Architectural & Engineering Design Fees	1	LS		1,151,163
40	Information & Technology Design Fees	1	LS		20,000
41	Furnishing Design Fees	1	LS		30,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		20,000
44	Printing Costs for Construction Documents	1	LS		15,000
45	Construction Permits & Fees	1	LS		15,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		50,000
48	Hazardous Material Abatement	1	LS		0
49	Fixtures, Furnishings & Equipment Allowance	1	LS		100,000
50	Technology & Computer Equipment Allowance	1	LS		100,000
51	Utility Rebates	1	LS		(110,000)
53	Fundraising Consultanting	1	LS		35,000
			Soft Cost SubTotal		2,377,163
			Site Work Construction Cost Total		543,947
			Building Construction Cost Total		15,108,844
			PROJECT TOTAL COST		**$18,029,954**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/8/12
Project : Shannon Elementary School | Phase: Conceptual Design | Estimator: KE

Shannon P-K-4 65,425 SF

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	Renovations: windows, doors, caulking, masonry, fire walls, ADA & fire codes	24,435	SF	9.50	232,133
	Addition to expand from P-K-1 to P-K-5	40,990	SF	123.00	5,041,770
2	**Structural**				
	Renovations	24,435	SF	1.50	36,653
3	**Heating, Ventilation & Air Conditioning Systems**				
	Renovations	24,435	SF	26.00	635,310
4	**Plumbing & Fire Protection Systems**				
	Renovations	24,435	SF	6.00	146,610
5	**Electrical Lighting & Power Systems**				
	Renovations	24,435	SF	6.00	146,610
6	**Special Electrical Systems**				
	Renovations - Minor	24,435	SF	2.50	61,088
				174.50	
				SubTotal	6,300,173
				Design / Bid Contingency 10%	630,017
				Building Construction Costs SubTotal	6,930,190
				Construction Contingency 5%	346,509
				BUILDING CONSTRUCTION COST TOTAL	**$7,276,699**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/8/12

Project : Shannon Elementary School | Phase: Conceptual Design | Estimator: KE

Shannon P-K-4 65,425 SF

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	40	EA	3,000.00	120,000
23	Extended Drive Lanes & Approaches	1	LS	12,000.00	12,000
24	Storm Sewer & Detention	1	LS	25,000	25,000
25	Domestic Water & Sanitary Sewer	1	LS	5,000	5,000
26	Electrical Power & Lighting	1	LS	30,000	30,000
27	outdoor program area	1	LS	10,000	10,000
28	fill material	200	CY	75	15,000
29	Retaining Walls	1	LS	0	0
30	Pedestrian Paving	2,000	SF	4.00	8,000
31	Lawns & Landscaping	1	LS	20,000	20,000
33	Directional & Informational Signage	1	LS	5,000	5,000
			SubTotal		250,000
			Design / Bid Contingency 10%		25,000
			Site Work Construction Costs SubTotal		275,000
			Construction Contingency 5%		13,750
			SITE WORK CONSTRUCTION COST TOTAL		**$288,750**
Soft Costs					
37	Land Acquisition	1	LS		0
38	Legal Fees	1	LS		10,000
39	Architectural & Engineering Design Fees	1	LS		554,752
40	Information & Technology Design Fees	1	LS		10,000
41	Furnishing Design Fees	1	LS		0
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		7,000
44	Printing Costs for Construction Documents	1	LS		6,000
45	Construction Permits & Fees	1	LS		20,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		30,000
48	Hazardous Material Abatement	1	LS		25,000
49	Fixtures, Furnishings & Equipment Allowance	1	LS		30,000
50	Technology & Computer Equipment Allowance	1	LS		30,000
51	Utility Rebates	1	LS		(100,000)
53	Fundraising Consultanting	1	LS		25,000
			Soft Cost SubTotal		658,752
			Site Work Construction Cost Total		288,750
			Building Construction Cost Total		7,276,699
			PROJECT TOTAL COST		**$8,224,202**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12
New 5-8 High School Addition | Phase: Conceptual Design | Estimator: KE

New 5-8 High School Addition

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	New Construction/Addition	80,030	SF	68.50	5,482,055
2	**Structural**				
	New Construction	80,030	SF	10.00	800,300
3	**Heating, Ventilation & Air Conditioning Systems**				
	New Construction	80,030	SF	25.00	2,000,750
4	**Plumbing & Fire Protection Systems**				
	New Construction	80,030	SF	9.50	760,285
5	**Electrical Lighting & Power Systems**				
	New Construction	80,030	SF	14.50	1,160,435
6	**Special Electrical Systems**				
	New Construction	80,030	SF	2.50	200,075
				130.00	
				SubTotal	10,403,900
				Design / Bid Contingency 10%	1,040,390
				Building Construction Costs SubTotal	11,444,290
				Construction Contingency 5%	572,215
				BUILDING CONSTRUCTION COST TOTAL	**$12,016,505**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12

New 5-8 High School Addition | Phase: Conceptual Design | Estimator: KE

New 5-8 High School Addition

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	60	EA	3,000.00	180,000
23	Extended Drive Lanes & Approaches	1	LS	75,000.00	75,000
24	Storm Sewer & Detention	1	LS	40,000	40,000
25	Domestic Water & Sanitary Sewer	1	LS	10,000	10,000
26	Electrical Power & Lighting	1	LS	40,000	40,000
27	outdoor program area	1	LS	10,000	10,000
28	fill material	300	CY	75	22,500
29	Retaining Walls	1	LS	5,000	5,000
30	Pedestrian Paving	1,400	SF	4.00	5,600
31	Lawns & Landscaping - playfields	1	LS	25,000	25,000
33	Directional & Informational Signage	1	LS	10,000	35,000
				SubTotal	448,100
				Design / Bid Contingency 10%	44,810
				Site Work Construction Costs SubTotal	492,910
				Construction Contingency 5%	24,646
				SITE WORK CONSTRUCTION COST TOTAL	**$517,556**
Soft Costs					
37	Land Acquisition - 20 acres minimum plus 1 acres / 100 students - 604 students	5	acres	35,000.00	175,000
38	Legal Fees	1	LS		30,000
39	Architectural & Engineering Design Fees	1	LS		914,738
40	Information & Technology Design Fees	1	LS		20,000
41	Furnishing Design Fees	1	LS		20,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		18,000
44	Printing Costs for Construction Documents	1	LS		12,000
45	Construction Permits & Fees	1	LS		12,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		40,000
48	Hazardous Material Abatement	1	LS		0
49	Fixtures, Furnishings & Equipment Allowance	1	LS		70,000
50	Technology & Computer Equipment Allowance	1	LS		70,000
51	Utility Rebates	1	LS		(80,000)
53	Fundraising Consultanting	1	LS		25,000
				Soft Cost SubTotal	1,337,738
				Site Work Construction Cost Total	517,556
				Building Construction Cost Total	12,016,505
				PROJECT TOTAL COST	**$13,871,798**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/8/12
Project : Shannon Elementary School | Phase: Conceptual Design | Estimator: KE

Shannon P-K-4 65,425 SF

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	Renovations: windows, doors, caulking, masonry, fire walls, ADA & fire codes	24,435	SF	9.50	232,133
	Addition to expand from P-K-1 to P-K-5	40,990	SF	123.00	5,041,770
2	**Structural**				
	Renovations	24,435	SF	1.50	36,653
3	**Heating, Ventilation & Air Conditioning Systems**				
	Renovations	24,435	SF	26.00	635,310
4	**Plumbing & Fire Protection Systems**				
	Renovations	24,435	SF	6.00	146,610
5	**Electrical Lighting & Power Systems**				
	Renovations	24,435	SF	6.00	146,610
6	**Special Electrical Systems**				
	Renovations - Minor	24,435	SF	2.50	61,088
				174.50	
				SubTotal	6,300,173
				Design / Bid Contingency 10%	630,017
				Building Construction Costs SubTotal	6,930,190
				Construction Contingency 5%	346,509
				BUILDING CONSTRUCTION COST TOTAL	**$7,276,699**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/8/12

Project : Shannon Elementary School | Phase: Conceptual Design | Estimator: KE

Shannon P-K-4 65,425 SF

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	40	EA	3,000.00	120,000
23	Extended Drive Lanes & Approaches	1	LS	12,000.00	12,000
24	Storm Sewer & Detention	1	LS	25,000	25,000
25	Domestic Water & Sanitary Sewer	1	LS	5,000	5,000
26	Electrical Power & Lighting	1	LS	30,000	30,000
27	outdoor program area	1	LS	10,000	10,000
28	fill material	200	CY	75	15,000
29	Retaining Walls	1	LS	0	0
30	Pedestrian Paving	2,000	SF	4.00	8,000
31	Lawns & Landscaping	1	LS	20,000	20,000
33	Directional & Informational Signage	1	LS	5,000	5,000
			SubTotal		250,000
			Design / Bid Contingency 10%		25,000
			Site Work Construction Costs SubTotal		275,000
			Construction Contingency 5%		13,750
			SITE WORK CONSTRUCTION COST TOTAL		**$288,750**
Soft Costs					
37	Land Acquisition	1	LS		0
38	Legal Fees	1	LS		10,000
39	Architectural & Engineering Design Fees	1	LS		554,752
40	Information & Technology Design Fees	1	LS		10,000
41	Furnishing Design Fees	1	LS		0
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		7,000
44	Printing Costs for Construction Documents	1	LS		6,000
45	Construction Permits & Fees	1	LS		20,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		30,000
48	Hazardous Material Abatement	1	LS		25,000
49	Fixtures, Furnishings & Equipment Allowance	1	LS		30,000
50	Technology & Computer Equipment Allowance	1	LS		30,000
51	Utility Rebates	1	LS		(100,000)
53	Fundraising Consultanting	1	LS		25,000
			Soft Cost SubTotal		658,752
			Site Work Construction Cost Total		288,750
			Building Construction Cost Total		7,276,699
			PROJECT TOTAL COST		**$8,224,202**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12
New 5-8 | Phase: Conceptual Design | Estimator: KE

New 5-8

DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:				
1 **Architectural, Code & ADA Items**				
New Construction	82,080	SF	68.50	5,622,480
2 **Structural**				
New Construction	82,080	SF	10.00	820,800
3 **Heating, Ventilation & Air Conditioning Systems**				
New Construction	82,080	SF	25.00	2,052,000
4 **Plumbing & Fire Protection Systems**				
New Construction	82,080	SF	9.50	779,760
5 **Electrical Lighting & Power Systems**				
New Construction	82,080	SF	14.50	1,190,160
6 **Special Electrical Systems**				
New Construction	82,080	SF	2.50	205,200
			130.00	
			SubTotal	10,670,400
			Design / Bid Contingency 10%	1,067,040
			Building Construction Costs SubTotal	11,737,440
			Construction Contingency 5%	586,872
			BUILDING CONSTRUCTION COST TOTAL	**$12,324,312**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12

New 5-8 | Phase: Conceptual Design | Estimator: KE

New 5-8

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	80	EA	3,000.00	240,000
23	Extended Drive Lanes & Approaches	1	LS	12,000.00	12,000
24	Storm Sewer & Detention	1	LS	45,000	45,000
25	Domestic Water & Sanitary Sewer	1	LS	10,000	10,000
26	Electrical Power & Lighting	1	LS	40,000	40,000
27	outdoor program area	1	LS	10,000	10,000
28	fill material	350	CY	75	26,250
29	Retaining Walls	1	LS	5,000	5,000
30	Pedestrian Paving	1,800	SF	4.00	7,200
31	Lawns & Landscaping - playfields	1	LS	28,000	28,000
33	Directional & Informational Signage	1	LS	35,000	35,000
			SubTotal		458,450
			Design / Bid Contingency 10%		45,845
			Site Work Construction Costs SubTotal		504,295
			Construction Contingency 5%		25,215
			SITE WORK CONSTRUCTION COST TOTAL		**$529,510**
Soft Costs					
37	Land Acquisition - 20 acres minimum plus 1 acres / 100 students - 335 students	23	acres	35,000.00	805,000
38	Legal Fees	1	LS		30,000
39	Architectural & Engineering Design Fees	1	LS		942,323
40	Information & Technology Design Fees	1	LS		20,000
41	Furnishing Design Fees	1	LS		20,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		18,000
44	Printing Costs for Construction Documents	1	LS		12,000
45	Construction Permits & Fees	1	LS		12,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		40,000
48	Hazardous Material Abatement	1	LS		0
49	Fixtures, Furnishings & Equipment Allowance	1	LS		80,000
50	Technology & Computer Equipment Allowance	1	LS		80,000
51	Utility Rebates	1	LS		(70,000)
53	Fundraising Consultanting	1	LS		25,000
			Soft Cost SubTotal		2,025,323
			Site Work Construction Cost Total		529,510
			Building Construction Cost Total		12,324,312
			PROJECT TOTAL COST		**$14,879,145**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/2/12

Project : Shannon Elementary School | Phase: Conceptual Design | Estimator: KE

renovation updates

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	Renovations: windows, doors, caulking, masonry, fire walls, ADA & fire codes	24,435	SF	9.50	232,133
	Expansion to meet space needs for grades P-K-1	12,000	SF	125.00	1,500,000
2	**Structural**				
	Renovations	24,435	SF	0.00	0
3	**Heating, Ventilation & Air Conditioning Systems**				
	Renovations	24,435	SF	26.00	635,310
4	**Plumbing & Fire Protection Systems**				
	Renovations	24,435	SF	6.00	146,610
5	**Electrical Lighting & Power Systems**				
	Renovations	24,435	SF	6.00	146,610
6	**Special Electrical Systems**				
	Renovations - Minor	24,435	SF	2.50	61,088
				175.00	
				SubTotal	2,721,750
				Design / Bid Contingency 10%	272,175
				Building Construction Costs SubTotal	2,993,925
				Construction Contingency 5%	149,696
				BUILDING CONSTRUCTION COST TOTAL	**$3,143,621**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/2/12

Project : Shannon Elementary School | Phase: Conceptual Design | Estimator: KE

renovation updates

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	0	EA	3,000.00	0
23	Extended Drive Lanes & Approaches	0	LS	0.00	0
24	Storm Sewer & Detention	1	LS	5,000	5,000
25	Domestic Water & Sanitary Sewer	1	LS	0	0
26	Electrical Power & Lighting	1	LS	0	0
27	outdoor program area	1	LS	0	0
28	fill material	100	CY	75	7,500
29	Retaining Walls	1	LS	0	0
30	Pedestrian Paving	2,400	SF	4.00	9,600
31	Lawns & Landscaping	1	LS	5,000	5,000
33	Directional & Informational Signage	1	LS	3,000	3,000
				SubTotal	30,100
				Design / Bid Contingency 10%	3,010
				Site Work Construction Costs SubTotal	33,110
				Construction Contingency 5%	1,656
				SITE WORK CONSTRUCTION COST TOTAL	**$34,766**
Soft Costs					
37	Land Acquisition	1	LS		0
38	Legal Fees	1	LS		10,000
39	Architectural & Engineering Design Fees	1	LS		235,772
40	Information & Technology Design Fees	1	LS		10,000
41	Furnishing Design Fees	1	LS		5,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		6,000
44	Printing Costs for Construction Documents	1	LS		8,000
45	Construction Permits & Fees	1	LS		5,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		16,000
48	Hazardous Material Abatement	1	LS		50,000
49	Fixtures, Furnishings & Equipment Allowance	1	LS		15,000
50	Technology & Computer Equipment Allowance	1	LS		15,000
51	Utility Rebates	1	LS		(35,000)
53	Fundraising Consultanting	1	LS		25,000
				Soft Cost SubTotal	376,772
				Site Work Construction Cost Total	34,766
				Building Construction Cost Total	3,143,621
				PROJECT TOTAL COST	**$3,555,158**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/8/12
Project : Carpenter Elementary School | Phase: Conceptual Design | Estimator: KE

renovation updates

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	Renovations: windows, doors, caulking, masonry, fire walls, ADA & fire codes, ramps and lifts	25,000	SF	13.00	325,000
	Expansion to meet space needs for grades 2-4	8,000	SF	140.00	1,120,000
2	**Structural**				
	Renovations	25,000	SF	0.00	0
3	**Heating, Ventilation & Air Conditioning Systems**				
	Renovations	25,000	SF	26.00	650,000
4	**Plumbing & Fire Protection Systems**				
	Renovations	25,000	SF	6.00	150,000
5	**Electrical Lighting & Power Systems**				
	Renovations	25,000	SF	6.00	150,000
6	**Special Electrical Systems**				
	Renovations - Minor	25,000	SF	2.50	62,500
				193.50	
				SubTotal	2,457,500
				Design / Bid Contingency 10%	245,750
				Building Construction Costs SubTotal	2,703,250
				Construction Contingency 5%	135,163
				BUILDING CONSTRUCTION COST TOTAL	**$2,838,413**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/8/12

Project : Carpenter Elementary School | Phase: Conceptual Design | Estimator: KE

renovation updates

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	0	EA	0.00	0
23	Extended Drive Lanes & Approaches	0	LS	0.00	0
24	Storm Sewer & Detention	1	LS	5,000	5,000
25	Domestic Water & Sanitary Sewer	1	LS	0	0
26	Electrical Power & Lighting	1	LS	0	0
27	outdoor program area	1	LS	0	0
28	fill material	120	CY	75	9,000
29	Retaining Walls	1	LS	2,000	2,000
30	Pedestrian Paving	2,600	SF	4.00	10,400
31	Lawns & Landscaping	1	LS	4,000	4,000
33	Directional & Informational Signage	1	LS	1,000	1,000
			SubTotal		31,400
			Design / Bid Contingency 10%		3,140
			Site Work Construction Costs SubTotal		34,540
			Construction Contingency 5%		1,727
			SITE WORK CONSTRUCTION COST TOTAL		**$36,267**
Soft Costs					
37	Land Acquisition	1	LS		0
38	Legal Fees	1	LS		10,000
39	Architectural & Engineering Design Fees	1	LS		212,881
40	Information & Technology Design Fees	1	LS		10,000
41	Furnishing Design Fees	1	LS		5,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		6,000
44	Printing Costs for Construction Documents	1	LS		6,000
45	Construction Permits & Fees	1	LS		5,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		16,000
48	Hazardous Material Abatement	1	LS		40,000
49	Fixtures, Furnishings & Equipment Allowance	1	LS		25,000
50	Technology & Computer Equipment Allowance	1	LS		20,000
51	Utility Rebates	1	LS		(35,000)
53	Fundraising Consultanting	1	LS		25,000
			Soft Cost SubTotal		356,881
			Site Work Construction Cost Total		36,267
			Building Construction Cost Total		2,838,413
			PROJECT TOTAL COST		**$3,231,560**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/8/12

Project : Monticello Middle School | Phase: Conceptual Design | Estimator: KE

renovation updates

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	Renovations: Exterior envelope, windows, doors, caulking, masonry, flashing, roofing	99,000	SF	13.00	1,287,000
	Fire walls, Fire code construction,	99,000	SF	17.00	1,683,000
	ADA modifications, ramps, lifts, elevators, door ways, corridors, hardware, acoustics, restrooms, lockers, showers, dining	99,000	SF	15.00	1,485,000
	Finishes repair and replacement	99,000	SF	4.00	396,000
	Thermal enhancement, add insulation to exterior walls and roof or attic where possible	99,000	SF	6.00	594,000
2	**Structural**				
	Renovations	99,000	SF	1.50	148,500
3	**Heating, Ventilation & Air Conditioning Systems**				
	Renovations	99,000	SF	26.00	2,574,000
4	**Plumbing & Fire Protection Systems**				
	Renovations	99,000	SF	10.00	990,000
5	**Electrical Lighting & Power Systems**				
	Renovations	99,000	SF	8.50	841,500
6	**Special Electrical Systems**				
	Renovations - Minor	99,000	SF	2.50	247,500
				103.50	
				SubTotal	10,246,500
				Design / Bid Contingency 10%	1,024,650
				Building Construction Costs SubTotal	11,271,150
				Construction Contingency 5%	563,558
				BUILDING CONSTRUCTION COST TOTAL	**$11,834,708**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/8/12

Project : Monticello Middle School | Phase: Conceptual Design | Estimator: KE

renovation updates

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	0	EA	0.00	0
23	Extended Drive Lanes & Approaches	0	LS	0.00	0
24	Storm Sewer & Detention	1	LS	5,000	5,000
25	Domestic Water & Sanitary Sewer	1	LS	0	0
26	Electrical Power & Lighting	1	LS	0	0
27	outdoor program area	1	LS	0	0
28	fill material	50	CY	75	3,750
29	Retaining Walls	0	LS	2,000	0
30	Pedestrian Paving, Entry, stairs, rails, walks	10,000	SF	11.00	110,000
31	Lawns & Landscaping	1	LS	3,000	3,000
33	Directional & Informational Signage	1	LS	0	0
			SubTotal		121,750
			Design / Bid Contingency 10%		12,175
			Site Work Construction Costs SubTotal		133,925
			Construction Contingency 5%		6,696
			SITE WORK CONSTRUCTION COST TOTAL		**$140,621**
Soft Costs					
37	Land Acquisition	1	LS		0
38	Legal Fees	1	LS		10,000
39	Architectural & Engineering Design Fees	1	LS		887,603
40	Information & Technology Design Fees	1	LS		10,000
41	Furnishing Design Fees	1	LS		0
42	Geo Thermal Horizontal Test Well	1	LS		7,000
43	Site Survey (utilize existing facility documents)	1	LS		0
44	Printing Costs for Construction Documents	1	LS		10,000
45	Construction Permits & Fees	1	LS		25,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		20,000
48	Hazardous Material Abatement	1	LS		100,000
49	Fixtures, Furnishings & Equipment Allowance	1	LS		10,000
50	Technology & Computer Equipment Allowance	1	LS		50,000
51	Utility Rebates	1	LS		(50,000)
53	Fundraising Consultanting	1	LS		25,000
			Soft Cost SubTotal		1,109,603
			Site Work Construction Cost Total		140,621
			Building Construction Cost Total		11,834,708
			PROJECT TOTAL COST		**$13,084,932**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/2/12
Project : Shannon Elementary School | Phase: Conceptual Design | Estimator: KE

renovation updates

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	Renovations: windows, doors, caulking, masonry, fire walls, ADA & fire codes	24,435	SF	9.50	232,133
	Expansion to meet space needs for grades P-K-1	12,000	SF	125.00	1,500,000
2	**Structural**				
	Renovations	24,435	SF	0.00	0
3	**Heating, Ventilation & Air Conditioning Systems**				
	Renovations	24,435	SF	26.00	635,310
4	**Plumbing & Fire Protection Systems**				
	Renovations	24,435	SF	6.00	146,610
5	**Electrical Lighting & Power Systems**				
	Renovations	24,435	SF	6.00	146,610
6	**Special Electrical Systems**				
	Renovations - Minor	24,435	SF	2.50	61,088
				175.00	
				SubTotal	2,721,750
				Design / Bid Contingency 10%	272,175
				Building Construction Costs SubTotal	2,993,925
				Construction Contingency 5%	149,696
				BUILDING CONSTRUCTION COST TOTAL	**$3,143,621**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/2/12

Project : Shannon Elementary School | Phase: Conceptual Design | Estimator: KE

renovation updates

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	0	EA	3,000.00	0
23	Extended Drive Lanes & Approaches	0	LS	0.00	0
24	Storm Sewer & Detention	1	LS	5,000	5,000
25	Domestic Water & Sanitary Sewer	1	LS	0	0
26	Electrical Power & Lighting	1	LS	0	0
27	outdoor program area	1	LS	0	0
28	fill material	100	CY	75	7,500
29	Retaining Walls	1	LS	0	0
30	Pedestrian Paving	2,400	SF	4.00	9,600
31	Lawns & Landscaping	1	LS	5,000	5,000
33	Directional & Informational Signage	1	LS	3,000	3,000
				SubTotal	30,100
				Design / Bid Contingency 10%	3,010
				Site Work Construction Costs SubTotal	33,110
				Construction Contingency 5%	1,656
				SITE WORK CONSTRUCTION COST TOTAL	**$34,766**
Soft Costs					
37	Land Acquisition	1	LS		0
38	Legal Fees	1	LS		10,000
39	Architectural & Engineering Design Fees	1	LS		235,772
40	Information & Technology Design Fees	1	LS		10,000
41	Furnishing Design Fees	1	LS		5,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		6,000
44	Printing Costs for Construction Documents	1	LS		8,000
45	Construction Permits & Fees	1	LS		5,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		16,000
48	Hazardous Material Abatement	1	LS		50,000
49	Fixtures, Furnishings & Equipment Allowance	1	LS		15,000
50	Technology & Computer Equipment Allowance	1	LS		15,000
51	Utility Rebates	1	LS		(35,000)
53	Fundraising Consultanting	1	LS		25,000
				Soft Cost SubTotal	376,772
				Site Work Construction Cost Total	34,766
				Building Construction Cost Total	3,143,621
				PROJECT TOTAL COST	**$3,555,158**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12
New 2-8 | Phase: Conceptual Design | Estimator: KE

New 2-8

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	New Construction	104,650	SF	66.50	6,959,225
2	**Structural**				
	New Construction	104,650	SF	10.00	1,046,500
3	**Heating, Ventilation & Air Conditioning Systems**				
	New Construction	104,650	SF	23.00	2,406,950
4	**Plumbing & Fire Protection Systems**				
	New Construction	104,650	SF	9.50	994,175
5	**Electrical Lighting & Power Systems**				
	New Construction	104,650	SF	13.50	1,412,775
6	**Special Electrical Systems**				
	New Construction	104,650	SF	2.50	261,625
				125.00	
				SubTotal	13,081,250
				Design / Bid Contingency 10%	1,308,125
				Building Construction Costs SubTotal	14,389,375
				Construction Contingency 5%	719,469
				BUILDING CONSTRUCTION COST TOTAL	**$15,108,844**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/15/12

New 2-8 | Phase: Conceptual Design | Estimator: KE

New 2-8

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	80	EA	3,000.00	240,000
23	Extended Drive Lanes & Approaches	1	LS	15,000.00	15,000
24	Storm Sewer & Detention	1	LS	45,000	45,000
25	Domestic Water & Sanitary Sewer	1	LS	10,000	10,000
26	Electrical Power & Lighting	1	LS	45,000	45,000
27	outdoor program area	1	LS	10,000	10,000
28	fill material	450	CY	75	33,750
29	Retaining Walls	1	LS	5,000	5,000
30	Pedestrian Paving	1,800	SF	4.00	7,200
31	Lawns & Landscaping - playfields	1	LS	25,000	25,000
33	Directional & Informational Signage	1	LS	35,000	35,000
			SubTotal		470,950
			Design / Bid Contingency 10%		47,095
			Site Work Construction Costs SubTotal		518,045
			Construction Contingency 5%		25,902
			SITE WORK CONSTRUCTION COST TOTAL		**$543,947**
Soft Costs					
37	Land Acquisition : 20 acres minimum plus 1 acres / 100 students - 554 students	26	acres	35,000.00	910,000
38	Legal Fees	1	LS		30,000
39	Architectural & Engineering Design Fees	1	LS		1,151,163
40	Information & Technology Design Fees	1	LS		20,000
41	Furnishing Design Fees	1	LS		30,000
42	Geo Thermal Horizontal Test Well	1	LS		6,000
43	Site Survey (utilize existing facility documents)	1	LS		20,000
44	Printing Costs for Construction Documents	1	LS		15,000
45	Construction Permits & Fees	1	LS		15,000
46	Builders Risk Insurance	1	LS		5,000
47	Quality Control Material Testing & Inspections	1	LS		50,000
48	Hazardous Material Abatement	1	LS		0
49	Fixtures, Furnishings & Equipment Allowance	1	LS		100,000
50	Technology & Computer Equipment Allowance	1	LS		100,000
51	Utility Rebates	1	LS		(110,000)
53	Fundraising Consultanting	1	LS		35,000
			Soft Cost SubTotal		2,377,163
			Site Work Construction Cost Total		543,947
			Building Construction Cost Total		15,108,844
			PROJECT TOTAL COST		**$18,029,954**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/30/12
Transportation & Maintenance | Phase: Conceptual Design | Estimator: KE

New Transportation & Maintenance (20 buses + vans)

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:					
1	**Architectural, Code & ADA Items**				
	office, 2 maintenance bays, 1 wash bay, 1 small vehicle bay all heated	3,000	SF	32.00	96,000
	Open shelter for snow, frost and rain shelter	4,000	SF	5.00	20,000
2	**Structural**				
		7,000	SF	10.00	70,000
3	**Heating, Ventilation & Air Conditioning Systems**				
	Renovations	3,000	SF	13.00	39,000
4	**Plumbing & Fire Protection Systems**				
	Renovations, restroom & oil separater	3,000	SF	18.00	54,000
5	**Electrical Lighting & Power Systems**				
	Renovations	7,000	SF	7.00	49,000
6	**Special Electrical Systems**				
	Renovations - Minor	3,000	SF	2.50	7,500
				87.50	
				SubTotal	335,500
				Design / Bid Contingency 10%	33,550
				Building Construction Costs SubTotal	369,050
				Construction Contingency 5%	18,453
				BUILDING CONSTRUCTION COST TOTAL	**$387,503**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/30/12
Transportation & Maintenance | Phase: Conceptual Design | Estimator: KE

New Transportation & Maintenance (20 buses + vans)

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	30	EA	3,000.00	90,000
23	Extended Drive Lanes & Approaches	1	LS	20,000.00	20,000
24	Storm Sewer & Detention	1	LS	20,000	20,000
25	Domestic Water & Sanitary Sewer	1	LS	2,500	2,500
26	Electrical Power & Lighting	1	LS	6,000	6,000
27	outdoor program area	1	LS	0	0
28	fill material	120	CY	75	9,000
29	Retaining Walls	1	LS	0	0
30	Pedestrian Paving	1,000	SF	4.00	4,000
31	Lawns & Landscaping	1	LS	4,000	4,000
33	Directional & Informational Signage	1	LS	1,500	1,500
			SubTotal		157,000
			Design / Bid Contingency 10%		15,700
			Site Work Construction Costs SubTotal		172,700
			Construction Contingency 5%		8,635
			SITE WORK CONSTRUCTION COST TOTAL		**$181,335**
Soft Costs					
37	Land Acquisition	1	LS		0
38	Legal Fees	1	LS		3,000
39	Architectural & Engineering Design Fees	1	LS		35,813
40	Information & Technology Design Fees	1	LS		2,500
41	Furnishing Design Fees	1	LS		0
42	Geo Thermal Horizontal Test Well	1	LS		0
43	Site Survey (utilize existing facility documents)	1	LS		3,500
44	Printing Costs for Construction Documents	1	LS		1,000
45	Construction Permits & Fees	1	LS		1,000
46	Builders Risk Insurance	1	LS		1,000
47	Quality Control Material Testing & Inspections	1	LS		2,000
48	Hazardous Material Abatement	1	LS		0
49	Fixtures, Furnishings & Equipment Allowance	1	LS		2,500
50	Technology & Computer Equipment Allowance	1	LS		1,500
51	Utility Rebates	1	LS		0
53	Fundraising Consultanting	1	LS		0
			Soft Cost SubTotal		53,813
			Site Work Construction Cost Total		181,335
			Building Construction Cost Total		387,503
			PROJECT TOTAL COST		**$622,650**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/30/12
District Office | Phase: Conceptual Design | Estimator: KE

New District Office

DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Building Construction/Repair Costs:				
1 **Architectural, Code & ADA Items**				
3 offices & board room	3,150	SF	42.00	132,300
2 **Structural**				
new	3,150	SF	14.00	44,100
3 **Heating, Ventilation & Air Conditioning Systems**				
new	3,150	SF	21.00	66,150
4 **Plumbing & Fire Protection Systems**				
new	3,150	SF	15.00	47,250
5 **Electrical Lighting & Power Systems**				
new	3,150	SF	11.00	34,650
6 **Special Electrical Systems**				
new	3,000	SF	3.00	9,000
			106.00	
			SubTotal	333,450
			Design / Bid Contingency 10%	33,345
			Building Construction Costs SubTotal	366,795
			Construction Contingency 5%	18,340
			BUILDING CONSTRUCTION COST TOTAL	**$385,135**

OPINION OF PROBABLE COST

Owner: Monticello Community School District | Project No.: 2012316 | Date: 10/30/12
District Office | Phase: Conceptual Design | Estimator: KE

New District Office

	DESCRIPTION	QTY	UNIT	COST/SF	TOTALS
Site Work Construction Costs					
21	New Parking Spaces & Drive Lane	50	EA	3,000.00	150,000
23	Extended Drive Lanes & Approaches	1	LS	20,000.00	20,000
24	Storm Sewer & Detention	1	LS	20,000	20,000
25	Domestic Water & Sanitary Sewer	1	LS	2,500	2,500
26	Electrical Power & Lighting	1	LS	6,000	6,000
27	outdoor program area	1	LS	0	0
28	fill material	60	CY	75	4,500
29	Retaining Walls	1	LS	0	0
30	Pedestrian Paving	1,000	SF	4.00	4,000
31	Lawns & Landscaping	1	LS	4,000	4,000
33	Directional & Informational Signage	1	LS	5,000	5,000
			SubTotal		216,000
			Design / Bid Contingency 10%		21,600
			Site Work Construction Costs SubTotal		237,600
			Construction Contingency 5%		11,880
			SITE WORK CONSTRUCTION COST TOTAL		**$249,480**
Soft Costs					
37	Land Acquisition	1	LS		0
38	Legal Fees	1	LS		3,000
39	Architectural & Engineering Design Fees	1	LS		40,135
40	Information & Technology Design Fees	1	LS		2,500
41	Furnishing Design Fees	1	LS		3,600
42	Geo Thermal Horizontal Test Well	1	LS		0
43	Site Survey (utilize existing facility documents)	1	LS		3,500
44	Printing Costs for Construction Documents	1	LS		1,000
45	Construction Permits & Fees	1	LS		1,000
46	Builders Risk Insurance	1	LS		1,000
47	Quality Control Material Testing & Inspections	1	LS		2,000
48	Hazardous Material Abatement	1	LS		0
49	Fixtures, Furnishings & Equipment Allowance	1	LS		30,000
50	Technology & Computer Equipment Allowance	1	LS		1,500
51	Utility Rebates	1	LS		0
53	Fundraising Consultanting	1	LS		0
			Soft Cost SubTotal		89,235
			Site Work Construction Cost Total		249,480
			Building Construction Cost Total		385,135
			PROJECT TOTAL COST		**$723,850**

Monticello School District
Cost Comparison Chart - Initial Capital Costs

Date: 10/15/12

	Option A New P-K-1, 2-4, 5-8	Option B New P-K-5, 6-8	Option C New P-K-8	Option D New P-K-1, 2-8	Option E Add to Shannon P-K-4 Add to HS 5-8	Option F Add to Shannon P-K-4 New 5-8	Option G Update Shannon P-K-1 Update Carpenter 2-4 Update Middle School 5-8	Option H Update Shannon P-K-1 New 2-8
Building 1	$5,076,134.00	$11,077,129.00	$23,033,565.00	$5,076,134.00	$8,224,202.00	$8,224,202.00	$3,555,158.00	$3,555,158.00
building 2	$5,617,423.00	$14,096,841.00		$18,029,954.00	$13,871,798.00	$14,879,145.00	$3,231,560.00	$18,029,954.00
building 3	$14,879,145.00						$13,084,932.00	
Total	$25,572,702.00	$25,173,970.00	$23,033,565.00	$23,106,088.00	$22,096,000.00	$23,103,347.00	$19,871,650.00	$21,585,112.00
Total Building Area	150,260	145,562	136,170	140,540	145,455	147,505	168,435	141,085
Total renovated area					24,435	24,435	148,435	24435

Cost Comparison Chart - Ongoing Operations Average Annually

Energy $1.60/SF/YR	$240,416.00	$232,899.20	$217,872.00	$224,864.00	$181,530.00	$184,605.00	$30,000.00	$174,975.00
Energy $2.60/SF/YR					$63,531.00	$63,531.00	$385,931.00	$63,531.00
Water $0.25/SF/YR	$37,565.00	$36,390.50	$34,042.50	$35,135.00	$36,363.75	$36,876.25	$42,108.75	$35,271.25
Maint. $1.50/SF/YR	$225,390.00	$218,343.00	$204,255.00	$210,810.00	$218,182.50	$221,257.50	$252,652.50	$211,627.50
staff variation								
Total Annual operations	$503,371.00	$487,632.70	$456,169.50	$470,809.00	$499,607.25	$506,269.75	$710,692.25	$485,404.75
50 years, 3% inflation	$56,778,671.88	$55,003,440.95	$51,454,490.55	$53,105,780.29	$56,354,132.68	$57,105,641.80	$80,163,859.41	$54,752,135.17
capital & operating	$82,351,373.88	$80,177,410.95	$74,488,055.55	$76,211,868.29	$78,450,132.68	$80,208,988.80	$100,035,509.41	$76,337,247.17