WHEATON WOODS ELEMENTARY SCHOOL MODERNIZATION FEASIBILITY STUDY

Prepared for
Montgomery County Public Schools

By
GWWO Inc./ Architects
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October 2011
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I. INTRODUCTION

INTRODUCTION

This Modernization Feasibility Study was conducted for Montgomery County Public Schools (MCPS) by the architectural firm of GWWO Inc. Wheaton Woods Elementary School is located at 4510 Faroe Place, Rockville MD 20853 and is part of the Wheaton Cluster in the Downcounty Consortium. The work was performed under the direction of the MCPS Department of Facilities Management’s Division of Construction.

FEASIBILITY STUDY PARTICIPANTS

The Feasibility Study participants reviewed, revised, and approved the design concepts for The Wheaton Woods Elementary School Modernization. The meetings occurred on April 6, 2011; April 27, 2011; May 1, 2011; May 26, 2011; and June 8, 2011. The proposed designs are a result of the group’s recommendations, suggestions and guidance during the process.

Dr. Judith Lewis Principal, Wheaton Woods Elementary School
Dr. Linda Williams Assistant Principal, Wheaton Woods Elementary School
Ms. Alganesh Abateles Parent
Ms. Merset Abebe Parent
Ms. Iris Aleman Parent
Ms. Vania Aleuip Parent
Mr. Abel Alonso Parent
Ms. Magdalena Alvarado Parent
Ms. Maria J Alvarado Parent
Ms. Alicia Alvarez Parent
Ms. Melida Amaya Parent
# I. INTRODUCTION

## FEASIBILITY STUDY PARTICIPANTS (CONTINUED)

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Alma Aniar</td>
<td>Parent</td>
</tr>
<tr>
<td>Mr. Oscar Argueta</td>
<td>Parent</td>
</tr>
<tr>
<td>Ms. Rubidia Argueta</td>
<td>Parent</td>
</tr>
<tr>
<td>Mr. Hubbard Arkol</td>
<td>Parent</td>
</tr>
<tr>
<td>Mr. Mark Barnes</td>
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</tr>
<tr>
<td>Ms. Nina Bersabal</td>
<td>Staff, Wheaton Woods Elementary School</td>
</tr>
<tr>
<td>Ms. Lisette Bonilla</td>
<td>Parent</td>
</tr>
<tr>
<td>Ms. Nevis Bonilla</td>
<td>Parent</td>
</tr>
<tr>
<td>Ms. Robin Brannan</td>
<td>Staff, Wheaton Woods Elementary School</td>
</tr>
<tr>
<td>Ms. Clara Brizuela</td>
<td>Parent</td>
</tr>
<tr>
<td>Mr. Jose A. Casiano</td>
<td>Parent &amp; Staff, Wheaton Woods Elementary School</td>
</tr>
<tr>
<td>Ms. Mary T. Castaneda</td>
<td>Staff, Wheaton Woods Elementary School</td>
</tr>
<tr>
<td>Ms. Linda Chen</td>
<td>Parent</td>
</tr>
<tr>
<td>Ms. Erika Chinchilla</td>
<td>Parent</td>
</tr>
<tr>
<td>Ms. Andrea Pilgrim-Clayton</td>
<td>Staff, Wheaton Woods Elementary School</td>
</tr>
<tr>
<td>Mr. Donys Contreras</td>
<td>Parent</td>
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<tr>
<td>Ms. Vicky Couch</td>
<td>Parent</td>
</tr>
<tr>
<td>Mr. Oscar Cruz</td>
<td>Parent</td>
</tr>
<tr>
<td>Ms. Sankha Danthanarayana</td>
<td>Parent</td>
</tr>
<tr>
<td>Ms. Barbara Day</td>
<td>Staff, Wheaton Woods Elementary School</td>
</tr>
<tr>
<td>Mr. Joe De Rosa</td>
<td>Montgomery County Public Schools Division of Construction</td>
</tr>
<tr>
<td>Ms. Maria Del-Cid</td>
<td>Parent</td>
</tr>
<tr>
<td>Mr. Hideat Embaye</td>
<td>Parent</td>
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</tbody>
</table>
I. INTRODUCTION

FEASIBILITY STUDY PARTICIPANTS (CONTINUED)

Mr. Noe Selvas Galindo Parent
Ms. Aberash Genetamo Parent
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I. INTRODUCTION

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I. INTRODUCTION

FEASIBILITY STUDY PARTICIPANTS (CONTINUED)

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Ms. Jillian Storms Maryland State Department of Education
Ms. Ann Tambis Parent
Mr. Jeff Taylor Staff, Wheaton Woods Elementary School
Mr. Tecle Tekie Parent
Ms. Tolla Negussie Parent
Mr. Jose Umana Parent
Mr. Rafael Ventura Parent
Ms. Dawn Walker Neighbor
Ms. Yenenesh Weledetsadik Parent
Mr. Jim Wilson Neighbor
Ms. Mary Wilson Neighbor
Mr. Genaro Zenteno Parent
II. EXECUTIVE SUMMARY

PURPOSE

The purpose of this Feasibility Study is to explore modernization options that will accommodate the Educational Specification requirements for Wheaton Woods Elementary School. Further, this study provides specific recommendations to the Montgomery County Public Schools (MCPS) Board of Education for implementation. When completed, the modernized facility will have a maximum capacity of 740 students, with core spaces designed for 740 students.

HISTORY

Wheaton Woods Elementary School is located at 4510 Faroe Place, Rockville MD 20853. The original structure was built in 1952 with a capacity of 100 students. The school has undergone a series of additions: 1955, 1959, 1969 and 1975. As in many schools which have been expanded over a long period of time, classrooms, support space and specialized facilities are no longer located in a relationship conducive to modern teaching practices. Currently, the school capacity is 336 students in Pre-K through Grade 5. The existing structure is 66,763 gross square feet (GSF) on an eight-acre site.

EXISTING FACILITY CHALLENGES

The existing school has been evaluated by a team of Architects and Engineers to determine what was required to modernize the school to comply with the Educational Specifications, dated February 11, 2011. Under modernization, the school would be required to have a total of 67,404 net square feet (NSF). The current building totals 50,189 NSF of space and so it would be necessary to add 17,125 NSF or one-third more NSF than exists. The site will remain the same size as it is now, and is expected to accommodate parking for 40 more cars, a dedicated bus loop, increased play areas, and space for micro-bioretention per new Stormwater Regulations.

JUSTIFICATION FOR DEMOLITION OF EXISTING BUILDING

It should be noted that the approach to modernize the existing facility requires either the renovation or demolition of structures that are mostly more than forty years old. The cost and challenges to retain and upgrade these structures are not feasible given
II. EXECUTIVE SUMMARY

new building code requirements, sustainable goals and life-cycle cost. The following are reasons why the existing structure should be demolished:

- The majority of the existing school roof is wood structure. Wood structure weakens as it ages, dries up and cracks.
- The existing building height will not accommodate the larger mechanical duct work required to meet modern mechanical design and LEED standards while still providing a minimum of 8’-6” clear ceiling height in the new classrooms.
- The existing exterior walls and existing windows are not insulated and would require major modifications or total replacement to meet new required insulation values for energy efficient building shell.
- The existing building location on the site does not allow an efficient new floor plan to meet the Educational Specifications.
- Retaining the existing building footprint and adding the additional new square footage required to meet the current MCPS Educational Specifications would consume a major portion of the already constricted site. Therefore there would not be adequate square footage to meet the Educational Specifications exterior requirements for paved play, mulch play and ball fields.
- The existing building structure is not designed to accept the addition of a new second floor. It would be costly to modify the existing structural support system, and the ceiling heights on the first floor still cannot be achieved.

METHODOLOGY

Equipped with an understanding of the project challenges, the design team was tasked with creating options for review by staff and community at a series of public meetings. After each meeting, the options were further refined based on the comments received.

This study is based on the following:

- Public meetings with the Feasibility Study participants and MCPS Staff.
  - There were five meetings.
  - The meetings were well attended with consistent attendance.
  - There were 56 different attendees.
  - There were a total of 26 versions from an original field of seven options.
- Analysis of the existing facility.
II. EXECUTIVE SUMMARY

- Review of the existing condition documents provided by MCPS.
- Review of the Educational Specifications provided by MCPS.
- Research and site visits conducted by the design team.

The initial analysis and review resulted in seven options. Included were alternatives that maintain the existing gym addition, maintain the existing multi-purpose room, renovate the existing building and provide an addition, and minimize the building footprint on the site with a new building.

The options that were favored were the 3-story building option and the 2-story option with an alternate. The options were all efficient but took a different approach to dealing with largest site feature known as “the rocks”. The options that were favored were a 3-story building option and two 2-story alternatives. The 3-story option was eventually eliminated because it split the school population on too many levels and it was not able to pair classroom spaces with their needed support spaces. As the meetings progressed, the 2-story options continued to develop more interest and ultimately one option emerged as a unanimous recommendation.
II. EXECUTIVE SUMMARY

OVERVIEW

The existing Wheaton Woods Elementary School facility is situated on an 8.032 acre parcel (P800) at 4510 Faroe Place, Rockville MD 20853. The site is bounded to the South by Falcon Street, to the East by Parkland Drive, to the West by Evanston Street and to the North by Faroe Place.

The existing site topography consists of two terraced levels of almost equal size. The upper terraced level provides on-grade access to the front of the school on Faroe Place. The school building, playground equipment and some play courts are constructed on this level. The lower terraced level accommodates the ball fields, basketball courts and a mulched play area. This change in terrace levels is around 14 feet. Currently the only way to travel from one level to the other is via an external stair.

The site has several access points and all sidewalks are heavily used due to high pedestrian traffic. A single loop off Faroe Place provides access for busses cars and parking for 6 staff vehicles. There is a 47-space parking lot off of Evanston Street for staff use. This parking lot also serves the loading dock and building services. It is conveniently located for after-school use of the ball fields.

The existing structure is constructed of non-combustible materials with the exception of wood structural members used in the roof of the original building. The exterior walls are masonry with brick veneer. Neither the original building nor its subsequent additions have a cavity or insulation in their exterior masonry walls. The structural system is a combination of load bearing masonry walls, steel framing, steel roof joists, wooden rafters (original building only), and concrete slabs-on-grade. The building is not sprinklered with the exception of a few large storage rooms. The school’s interior finishes are worn and are at the end of their useful life.

Of the three final options, only two of them are considered truly feasible. The Feasibility Study participants did investigate an option to modernize by renovating as much of the school as possible and constructing an addition. This option is not recommended, but the participants felt that it should be included in the report so that the Board of Education could be assured that a range of alternatives were pursued. The other two options meet the programmatic requirements outlined in the Educational Specifications; they reflect input received at the public meetings, and benefit from the guidance of MCPS staff.

Cost estimates were established for each option, and are presented in the Description of Options section of this report.
II. EXECUTIVE SUMMARY

COMMON DESIGN ELEMENTS

SITE

- Car and bus traffic is separated.
- Parking for 87 cars is provided.
- Bus loop that accommodates 10 busses is provided.
- The student drop-off loop is routed through the main parking lot to maximize queuing.
- There is one main entrance to the building, adjacent to both car and bus drop-off loops.
- Gymnasium will have easy access to play areas and ball fields.
- Layout of existing fields will remain mostly unchanged. The fields will be excavated for the provision of geothermal wells.

BUILDING

- The school is separated into two zones: the public areas (Cafeteria, Music and Multipurpose rooms), and the academic areas.
- The academic areas can be closed off from the public for after-hours use.
- Classrooms are placed to maximize daylight and views.
- Music program is placed near the stage.
- Areas for student queuing both (indoors and outdoors) are provided.
- Clustered play areas are provided for supervision purposes.
- The playground equipment area is available for use by all students.
- Kindergarten has “at-grade” access to their play areas.
- Linkages-to-Learning is located close to the parking area but away from classrooms.
- Linkages-to-Learning is an add-alternate and has been designed so that it can either be inserted or deleted.
- With classrooms on two levels the instructional support is split accordingly.
- The majority of Instructional Support spaces are placed closer to the younger grades like Pre-K, K & Head Start where they are more needed.
- Separate toilets will be provided for older and younger children.
II. EXECUTIVE SUMMARY

COMMON DESIGN ELEMENTS (CONTINUED)

Building Height:
The Montgomery County Zoning ordinance states that in Zone R60, the building height must not exceed 2½ stories, and 35 feet to roof peak or 30 feet to mean height between eaves & ridge of gable, hip, mansard or gambrel roof. The building height can be raised to 3 stories or 40 feet with Planning Board approval.

Although MCPS is not required to follow the Zoning ordinance requirements, it attempts to follow those requirements where feasible. The height of the existing school is currently within zoning requirements. The highest part of the school is the 1975 Gym addition of 22 feet. A newly constructed school building is expected to have a minimum floor-to-floor height of at least 15’-4”. Therefore, with two stories, the building height should be monitored as the project advances through the next stages of design.

Setbacks:
The site is bounded by streets on all four sides with a front setback of 25 feet.
II. EXECUTIVE SUMMARY

OPTION 1

Option 1 proposes modernization by demolishing the entire existing building, and providing a new 2-story school building on the site. Because the modernization requires additional site amenities, the new building is positioned so that it provides an efficient footprint while preserving one of the site's most memorable features—"the rocks". The rocks are large exposed shale outcroppings in the center of the site. Currently, the rocks and associated woodland areas are only known to the school’s population. This option would showcase the rocks as a prominent site feature and include it as part of the arrival experience at the school.

All new infrastructure and systems will be designed to meet MCPS standards. These include HVAC, life safety, fire protection, electrical, lighting, data, and communications systems. The modernized facility will comply with accessibility codes.

Option 1

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<th>Description</th>
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<td>Site</td>
<td>$2,275,000</td>
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<tr>
<td>Building</td>
<td>$18,950,000</td>
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<tr>
<td>Total Cost</td>
<td>$21,225,000</td>
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II. EXECUTIVE SUMMARY

OPTION 2

Option 2 proposes modernization by demolishing the entire existing building, and providing a new 2-story school building on the site. Because the modernization requires additional site amenities, the new building is positioned so that it provides the most efficient possible footprint. To achieve this goal, it would be necessary to demolish the rock outcappings known as “the rocks”.

All new infrastructure and systems will be designed to meet MCPS standards. These include HVAC, life safety, fire protection, electrical, lighting, data, and communications systems. The modernized facility will comply with accessibility codes.

Option 2
Site $2,179,000
Building $18,162,000
Total Cost $20,341,000
II. EXECUTIVE SUMMARY

OPTION 3

Option 3 proposes modernization by renovating most of the existing building and razing the additions to the rear of the school. Specifically, the 1951, 1954, 1958 portions of the building would be demolished with only structural components remaining. This portion of the school would then be modernized according to the new program. It should be noted that the existing 12 foot clearances to the underside of structure would result in low ceiling heights throughout this portion of the school. The 1968 and 1975 additions would be demolished to make room for a new classroom wing, new Multi-purpose room, and Gym spaces to the south.

All new infrastructure and systems will be designed to meet MCPS standards. These include HVAC, life safety, fire protection, electrical, lighting, data, and communications systems. The modernized facility will comply with accessibility codes.

Option 3
Site $ 2,214,000
Building $18,448,000
Total Cost $20,662,000
## II. EXECUTIVE SUMMARY

### COMPARATIVE ANALYSIS OF OPTIONS 1, 2 & 3

<table>
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<tr>
<th>OPTION 1</th>
<th>Option 1 Demolition</th>
<th>Option 1 Modernization</th>
<th>Option 1 New Construction</th>
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<tr>
<td>Total Building after Modernization = 99,739 SF</td>
<td>Total = 66,763 SF</td>
<td>Total = 0 SF</td>
<td>Total = 99,739 SF</td>
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<tr>
<td>Net Assignable SF = 67,404</td>
<td>Building Efficiency = 67.58%</td>
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<td>Total Building after Modernization = 95,586 SF</td>
<td>Total = 66,763 SF</td>
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<tr>
<td>Net Assignable SF = 67,404</td>
<td>Building Efficiency = 70.52%</td>
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<th>OPTION 3</th>
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<td>Total Building after Modernization = 104,707 SF</td>
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<td>Building Efficiency = 64.37%</td>
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II. EXECUTIVE SUMMARY

COST COMPARISON DISCUSSION

Option 2 appears to be the least costly option. This option satisfies most of the requirements identified by the Feasibility Study participants. However, this approach requires extensive blasting to destroy the rock outcroppings and associated trees which will result in larger penalties in re-forestation. Option 2 is not recommended.

In Option 3 the approach is to save as much of the building and provide a major 2-story addition. While this approach seems to have the lowest first cost, it does not provide many of the critical Educational Specification and Feasibility Study requirements like bus and car drop-offs, student waiting areas and adequate staff parking. Option 3 is not recommended.

Option 1 meets all of the requirements identified by the Feasibility Study participants while preserving the most notable landscape feature of the site. This option was also considered the most sustainable of the three. Therefore, in accordance with the thoughts of the Feasibility Study participants, it is recommended that the project moves forward with Option 1 as described in Section V. Further breakdown of costs are outlined in Section VI.
II. EXECUTIVE SUMMARY

SUMMARY TABLE AND COST COMPARISON OF OPTIONS 1, 2 & 3

SQUARE FOOTAGE COMPARISON

<table>
<thead>
<tr>
<th>SQUARE FOOTAGE</th>
<th>OPTION 1 (PREFERRED)</th>
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<td>New Construction</td>
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FEASIBILITY STUDY COST OUTLINE (000s)

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<tbody>
<tr>
<td>Construction Cost Estimate</td>
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<td>Planning Cost</td>
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<td>Furniture and Equipment</td>
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<td>Total</td>
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This cost estimate in this study is based on current construction market conditions for both building and site. The estimates will be revised to reflect market conditions and prevailing construction costs when the project is included in the Capital Improvements Program Request for architectural and construction funding.
II. EXECUTIVE SUMMARY

CONCLUSIONS AND RECOMMENDATIONS

Of the three options presented only two of them meet the project goals. These are Options 1 and 2. Of the two options the Feasibility Study participants unanimously voted for Option 1 as the approach to modernize this school. The advantages are numerous and are outlined in Section V of this report.

In accordance with the thoughts of the Feasibility Study participants and MCPS staff, it is recommended that the project moves forward with Option 1.
III. SCOPE, METHODOLOGY & GOALS

SCOPE AND INTENT

Montgomery County Public Schools (MCPS) wants to upgrade Wheaton Woods Elementary School to meet current specifications relative to educational programs, instructional philosophy, program space allocations, energy use, accessibility and life safety. When completed, the facility will have an increased capacity of 740 students, with core spaces designed for 740 students.

The A/E design team analyzed the educational specifications, met with the school and developed an initial seven building concepts addressing the modernization criteria. The Feasibility Study participants reviewed the progression of these concepts throughout the design process. Their comments and suggestions were discussed, refined and incorporated at each step during the process. The final concepts are presented in this report.

METHODOLOGY

The existing school has been evaluated by a team of Architects and Engineers to determine what was required to modernize the school to comply with the Educational Specifications, dated February 11, 2011. From the beginning of the project, it was immediately apparent that the existing site was going to have spatial challenges in order to meet the requirements of the modernization. The current building has 50,180 net square feet (NSF) of space and the new building will be required to have 67,404 NSF; this is an additional 17,125 NSF or roughly one-third more interior than exists. The site will remain the same size, and is expected to accommodate additional parking for 40 cars, a student drop-off area, a dedicated bus loop, increased play areas, and space for micro-bioretention per new Stormwater Regulations.

Equipped with an understanding of the project challenges, the design team was tasked with creating and presenting multiple options for review by both the WWES staff and the community. The options were presented and reviewed at a series of public meetings and subsequently refined based on the comments received.
III. SCOPE, METHODOLOGY & GOALS

This study is based on the following:

- Public meetings with the Feasibility Study participants.
  - There were five meetings.
  - The meetings were well attended with consistent attendance from group members.
  - There were 56 different attendees.
  - There were a total of 26 versions from an original field of seven options.
- Analysis of the existing physical plant.
- Review of the existing condition documents provided by MCPS.
- Review of the Educational Specifications provided by MCPS.
- Research and site visits conducted by the design team.

The process started with seven options. Included in these seven options were alternatives to maintain the existing gym addition, maintain the existing multi-purpose room, provide an addition and renovate the existing building, as well as options to minimize the footprint on the small site with a new facility.

There was discussion about maintaining the existing gym (originally constructed in 1975). Two options were presented that maintained the gym: the first kept it at a 45 degree angle to the rest of the school; the second oriented the rest of the school to the 45 degree angle of the gym. The first option was considered awkward. The gym's location and orientation in the middle of the site made the option very inefficient. The second option tried to re-orient the entire faculty to that of the Gym. The Feasibility Study participants noted that the option had a confusing layout, confusing entry and poor circulation. Ultimately, it was decided to not maintain the existing gym.

The options that were favored were a 3-story building and two 2-story options. The 3-story option was eventually eliminated because it split the school population on too many levels and it was not able to pair classroom spaces with their needed support spaces. As the meetings progressed, the 2-story options continued to develop more interest and ultimately one option emerged as a unanimous recommendation.

One option was chosen from the first meeting to advance to this report. It was an option that looked at renovating the existing building and adding a sixth addition to the school. This option was unanimously rejected by the Feasibility Study participants.
III. SCOPE, METHODOLOGY & GOALS

However, it was felt that this option best demonstrates to the Board of Education that an addition and renovation is not a suitable approach for this project.

GENERAL GOALS

The following is a list of project goals that have been developed over the series of public meetings. It articulates the goals and hopes for the modernization:

- A welcoming and beautiful school that enhances the education of students.
- A unique design that reflects the school’s unique character.
- An environmentally-sensitive school that is comfortable, naturally lit and energy efficient.
- A site that provides safe and efficient pedestrian and vehicular use.

SITE GOALS AND OBJECTIVES

The following goals and objectives have been developed as a summary of the comments received from the public meeting process. The modernized site shall:

- Improve vehicular circulation.
- Separate bus traffic from car traffic.
- Provide student drop-off and more staff parking.
- Improve the safety and functionality of site access points.
- Provide adequate recreation spaces per Educational Specifications.
- Provide direct access to ball field level.
- Provide convenient access from the Gymnasium to play areas.
- Provide clustered play areas for better supervision.
- Allow the playground equipment to be used by all students.
III. SCOPE, METHODOLOGY & GOALS

BUILDING GOALS AND OBJECTIVES

The following goals and objectives have been developed as a summary of the comments received from the public meeting process. The modernized building shall:

- Introduce natural light into the building. Controllable natural light will be provided for all teaching spaces.
- Provide the safest possible environment for possible for students and staff. Provide passive security throughout properly located supervisory areas.
- Improve circulation spaces, width of corridors and capacity of stairways.
- Provide barrier-free ADA compliant access throughout the building.
- Have clear, easily supervised circulation paths for intuitive way-finding.
- Have a special and identifiable main entrance.
- Have a clear separation of quiet and noisy functions.
- Designs should be mindful of travel times to central areas.
- Provide convenient access to the ball field level.
- Provide areas for student queuing, both indoors and out.
- Attempt to cluster play areas for supervision purposes.
- Allow the playground equipment to be used by all students.
- Allow Kindergarten to easily access to their play areas.
- Allow for Linkages-to-Learning to be located close to the parking area but away from classrooms and close to the administration suite.
- Pair instructional support with classrooms with the understanding that the younger students require more instructional support than older students.
- Provide separate toilets for older and younger children.
IV. EXISTING CONDITIONS

VICINITY MAP

Wheaton Woods Elementary School

GWWO Inc./Architects
IV. EXISTING CONDITIONS

EXISTING SITE PLAN
IV. EXISTING CONDITIONS

EXISTING FLOOR PLAN
IV. EXISTING CONDITIONS

EXISTING CONDITIONS SUMMARY

The existing Wheaton Woods Elementary School facility is situated on an 8.032 acre parcel (P800) at 4510 Faroe Place, Rockville MD 20853. The site is bounded to the South by Falcon Street, to the East by Parkland Drive, to the West by Evanston Street and to the North by Faroe Place.

The existing site topography consists of two terraced levels of almost equal size. The upper terraced level provides on-grade access to the front of the school on Faroe Place. The school building, playground equipment and some play courts are constructed on this level. The lower terraced level accommodates the ball fields, basketball courts and a mulched play area. This change in terrace levels is around 14 feet. Currently the only way to travel from one level to the other is via an external stair.

The site has several access points and all sidewalks are heavily used due to high pedestrian traffic. A single loop off Faroe place provides access for busses cars and parking for 6 staff vehicles. There is a 47-space parking lot off of Evanston Street for staff use. This parking lot also serves the loading dock and building services. The parking lot is conveniently located for after-school use of the ball fields.

The existing school is a single story structure with exits to grade at the upper levels of the site. The existing stricture is constructed on non-combustible construction with the exception of a wood-framed roof in the original building. The exterior walls are of masonry with a brick veneer. The majority of the interior walls are painted concrete masonry units.

The clearance from the floor to underside of the structure for the majority of the building is only 12 feet. This tight clearance between the bottom of the joists and the ceilings presents a challenge for any HVAC modernization and would result in undesirable ceiling heights in the 8 foot range.

Refer to Appendix C for more information.
V. DESCRIPTION OF OPTIONS

GENERAL

Three options have been developed in response to the MCPS Educational Specifications for Wheaton Woods Elementary School. Each addresses the physical and instructional modernization of the school to varying degrees of success. The site and building elements from the educational specifications are included in Options 1 and 2. Option 3 is not able to satisfy all of the requirements due to space limitations.

COMMON DESIGN ELEMENTS FOR OPTIONS 2 & 3

SITE

- Car and bus traffic is separated.
- Parking for 87 cars is provided.
- A bus loop that accommodates 10 busses is provided.
- The student drop-off loop is routed through the main parking lot to maximize queuing.
- There is one main entrance to the building, adjacent to both car and bus drop-off loops.
- Gymnasium will have easy access to play areas and ball fields.
- Layout of existing fields will remain mostly unchanged. The fields will be excavated for the provision of geothermal wells.

ARCHITECTURAL

- The school is separated into two zones: the public areas (Cafeteria, Music and Multipurpose rooms), and the academic areas. The academic areas can be closed off from the public for after-hours use.
- Classrooms are placed to maximize daylight and views.
- Music program is placed near the stage.
- Areas for student queuing both indoors and outdoors are provided.
- Clustered play areas are provided for supervision purposes.
- The playground equipment area is available for use by all students.
V. DESCRIPTION OF OPTIONS

COMMON DESIGN ELEMENTS FOR OPTIONS 2 & 3 (CONTINUED)

- Kindergarten has “at-grade” access to their play areas.
- Linkages-to-Learning is located close to the parking area but away from classrooms.
- Linkages-to-Learning is an add-alternate is has been designed so that it can either be cleanly inserted or deleted from the design.
- With classrooms on two levels the instructional support is split accordingly.
- The majority of Instructional Support spaces are placed closer to the younger grades like Pre-K, K & Head Start where they are more needed.
- Separate toilets will be provided for older and younger children.
V. DESCRIPTION OF OPTIONS

MECHANICAL

HVAC SYSTEM

Whether the existing building structure is reused or a new building is constructed, a complete new mechanical and plumbing system is needed. Considering energy efficiency and an HVAC system that would physically fit if the existing building is reused or new building built, a geothermal heat pump system would best meet the criteria for the school.

The geothermal heat pump system would consist of the following:

- Geothermal water source heat pump units, one for each classroom, will condition the space. Units will be located in a closet next to classroom and ducted to the room.
- Outside air will be conditioned by 100 percent outside air rooftop energy recovery units with geothermal heat pump compressors. Units will supply conditioned outside air directly to the classroom and exhaust air from the classrooms, storage room, and toilet rooms.
- A single-zone rooftop heat pump air-handling unit will provide room conditioning for each of the following areas; Media Center and Administration.
- A single-zone rooftop heat pump energy recovery unit will provide room conditioning for each of the following areas: Gymnasium and Multi-Purpose Room.
- Geothermal borehole field will be located under the athletic fields (if approved by Parks and Recreation).
- Mechanical exhaust of toilets, storage rooms, and other special areas.
- Automatic temperature controls will be direct digital controls (DDC), connected to Montgomery County Public Schools’ central control center.

PLUMBING SYSTEMS

All plumbing fixtures will be institutional grade with a 1.6-gallon per flush valve on water closets and 1.0 pint on urinals. Flow restrictors will be installed on all faucets for 0.5 gallons per minute. Lead-free water coolers will be provided and certain fixtures will meet ADA requirements. Domestic hot water will be generated by geothermal water-to-water heat exchangers or natural gas...
V. DESCRIPTION OF OPTIONS

fired storage type water heater. Sanitary and storm water mains from the new building will connect into utility mains around the building.

FIRE PROTECTION SYSTEM

The entire building will be sprinklered. The building will be separated into several zones that will match the fire alarm pull zones for the building. The municipal water system will be evaluated during the design phase to confirm adequate pressure to serve the system without the need for a fire pump. Also, any air-handling units supplying 2,000 cfm or more to a space will be equipped with smoke detectors in the supply and return air ductwork to meet present day codes.
V. DESCRIPTION OF OPTIONS

ELECTRICAL

The electrical systems for each of the three options will be the same. The existing electrical room and all the service equipment will be displaced by the new construction. New systems will be required for all of the options.

POWER DISTRIBUTION

The new electrical service and distribution system will consist of a new switchboard with multiple main breakers, feeders, dry type transformers and panelboards. A utility company pad mounted transformer will provide the 277/480 volt power to the building.

The 277/480 volt panelboards will serve lighting and mechanical loads. Energy efficient dry-type transformers in electrical closets throughout the building will feed 120/208 volt panelboards. K-rated transformers will serve panelboards with 200 percent neutrals for computer power. Designated receptacles in all classrooms and offices will be connected to the computer power panelboards.

EMERGENCY POWER

A new emergency generator will provide both emergency and standby power for the facility. The generator will supply power to heating equipment, food service refrigeration equipment, communications systems, emergency lighting, and other life safety systems.

LIGHTING

An energy-efficient lighting system will be provided throughout the building. Standard classroom lighting will be MCPS standard pendant mounted direct/indirect fluorescent fixtures. Parabolic and lensed type recessed fluorescent fixtures will be used in offices, corridors, kitchen, and other spaces with lay-in ceilings. High-bay metal halide fixtures will provide lighting for the gymnasium. The Dining/Auditorium space will have fluorescent lighting with controls for multiple levels of lighting. Stage lighting with a lighting control system will be provided.
V. DESCRIPTION OF OPTIONS

FIRE ALARM SYSTEM

A complete new fire alarm control panel with voice evacuation feature will be provided. The system will be a multiplex addressable type with devices to match. Pull stations, detectors, and notification appliances will be provided as required by code. A Radionics communicator will allow remote monitoring of the system. Devices will be provided according to code requirements.

INTERCOMMUNICATIONS AND SOUND SYSTEMS

A new central intercom system will be provided throughout the school with intercom devices including call switches and speakers located in all teaching areas. Master clocks will be located in the hallways, cafeteria and gymnasium. Independent sound systems for the gymnasium, cafeteria and stage will be provided.

VOICE DATA AND VIDEO CABLING SYSTEMS

Raceways and provisions for voice, data, and video cabling will be provided to accommodate program functions and room configurations. All video head-end and distribution equipment will be located in the main telecommunications room. Provisions for interactive smart boards will be included. Provisions for wireless nodes for laptop computers will be added to the data system. Telecommunications closets will be located throughout the school to limit the length of cabling to each data outlet. Provisions for a fiber optic backbone for data and a copper riser cable will connect each of the closets to the telecommunications room.

SECURITY SYSTEM

The security system will meet current Montgomery County Public Schools (MCPS) standards. Provisions for a CCTV system with monitor and digital cameras will be provided. Coverage will include the exterior and main entrances of the building. Provisions for an access control system will be provided for the main entrance and other doors as required. Intrusion detection will include motion sensors and door contacts.
V. DESCRIPTION OF OPTIONS

OPTION 1 - DESCRIPTION

Option 1 proposes modernization by demolishing the entire existing building, and providing a new 2-story school building on the site. Because the modernization requires additional site amenities, the new building is positioned so that it provides an efficient footprint while preserving one of the site’s most memorable features- the “rocks”. The rocks are large exposed shale outcroppings. Currently, the rocks and associated woodland areas are only known to the school’s population. This option would showcase the rocks as a prominent site feature and include it as part of the arrival experience at the school.

The building can be understood as a pair of 2-story bars that are connected with a central spine. The bars stretch east to west from Evanston Street to Parkland Drive. Quieter functions like the Instructional Media Center are placed on the opposite end of the school from the Gym and Multi-Purpose rooms. Pre-K, K, Head Start and Special-Ed grades were located on the first floor with direct courtyard access to their play areas. The second floor has Grades 1 through 5 with Grades 1 and 2 in one wing and Grades 3 through 5 in the other. The central spine connects the two wings and provides access to the ball field level. It also serves as a gallery space for student art and the class photographs which are very much part of the school’s identity.

Busses will have their own loop and drop-off area. Cars will be directed through a new parking lot where they can either park or queue in front of the school thereby facilitating a more orderly pick-up and drop-off.

Option 1 has the largest building footprint. This is because the spine needed to be added to allow the rocks to be preserved. The rocks and associated trees are site features that the regulatory agencies would expect to have preserved. This option makes the best use of preserving the rocks.
V. DESCRIPTION OF OPTIONS

OPTION 1 - SITE PLAN
V. DESCRIPTION OF OPTIONS

OPTION 1- MAIN FLOOR PLAN

COLOR LEGEND
- K: PRE-K/HEADSTART
- GRD 1-5
- SP-ED INST SUPT (ESOL)
- ADMIN
- MEDIA
- ART/MUSIC
- SPORT
- BUILDING SERVICES
- MULTIPURPOSE KITCHEN
- LINKAGES

OPTION 1 - MAIN FLOOR PLAN
V. DESCRIPTION OF OPTIONS

OPTION 1 - LOWER FLOOR PLAN
V. DESCRIPTION OF OPTIONS

OPTION 1 - UPPER FLOOR PLAN
V. DESCRIPTION OF OPTIONS

OPTION 1 - DISADVANTAGES AND ADVANTAGES

Advantages:

- Younger children have the most convenient access to all of the main functions.
- The two-wings provide a natural separation of younger and older kids.
- East-West orientation of classroom wings optimizes HVAC efficiency.
- New construction is not limited to existing structural heights.
- Compact footprint leaves space for site amenities.
- Makes use of existing topography.
- Ball fields become accessible from within school.
- Good passive supervision of hallways.
- Linkages-to-Learning location provides best compromise of being close to Administration areas for daytime use and close to parking for after-hours.
- Provides adequate parking.
- Provides student and parent waiting areas.
- Separates bus circulation from cars.
- The option would result in a unique design for the school.
- There was a suggestion that the rocks could be used as a teaching opportunity.
- Preservation of the woods would be a positive sustainable approach.
- The design naturally lends itself to a queuing area in the gallery corridor.
- There would be a prominent place to display student artwork and class photos-a big part of the school’s culture.

Disadvantages:

- Some classrooms could be distracted by activities in play area.
V. DESCRIPTION OF OPTIONS

OPTION 2 – DESCRIPTION

Option 2 proposes modernization by razing the entire existing building, and providing a new 2-story school building on the site. Because the modernization requires additional site amenities, the new building is positioned so that it provides the most efficient possible footprint. To achieve this goal, it would be necessary to demolish the rock outcroppings known as “the rocks”.

The building can be understood as a single 2-story bar stretching east to west from Evanston Street to Parkland Drive. The quieter functions like the Instructional Media Center are placed on the opposite end of the school from the Gym and Multi-Purpose rooms. Pre-K, K, Head Start, Special-Ed and Grade 1 kids are located on the first floor with direct courtyard access to their play areas. The second floor houses classrooms for Grades 2 through 5.

Busses will have their own loop and drop-off area. Cars will be directed through a new parking lot where they can either park or queue in front of the school.

The efficiency of the footprint allows for all of the play areas to be located on the upper level of the site. The ball fields remain on the lower level.
V. DESCRIPTION OF OPTIONS

OPTION 2 – SITE PLAN
V. DESCRIPTION OF OPTIONS

OPTION 2 – MAIN FLOOR PLAN

GWWO Inc./Architects
V. DESCRIPTION OF OPTIONS

OPTION 2 – UPPER FLOOR PLAN

COLOR LEGEND
- K/Pre-K/Headstart
- Grades 1-5
- Sp Ed/Instr Suppt/ESOL
- Admin
- Media
- Art/Music
- Sport
- Building Services
- Multi-Purpose Kitchen
- Linkages
V. DESCRIPTION OF OPTIONS

OPTION 2 – DISADVANTAGES AND ADVANTAGES

Advantages:

- Good location for future relocatable classrooms.
- Play area terrace would allow for efficient supervision.
- Good passive supervision of hallways.
- Good travel distances to central functions.
- Linkages-to-Learning location provides best compromise of being close to Administration areas for daytime use and close to parking for after-hours.
- Provides adequate parking.
- Provides student and parent waiting areas.
- Separates bus circulation from cars.
- Compact footprint leaves space for site amenities.

Disadvantages:

- Grade 1 kids have far to travel to get to non-classroom activities.
- Does not provide good space for indoor queuing.
- The Feasibility Study participants were concerned that the simple plan layout will lead to a plain design.
V. DESCRIPTION OF OPTIONS

OPTION 3 - DESCRIPTION

Option 3 proposes modernization by renovating most of the existing building, razing the additions to the rear of the school and adding a new 2-story wing. Specifically, the 1951, 1954, 1958 portions of the building would be demolished with only structural components remaining. This portion of the school would then be modernized according to the new program. It should be noted that the existing 12 foot clearances to the underside of structure would result in low ceiling heights throughout this portion of the school. The 1968 and 1975 additions would be demolished to make room for the new classroom wing, new Multi-purpose room and new Gym spaces to the south.

Option 3's building footprint is the smallest. However, the need to tie into the existing building makes it the least efficient use of the site. The central courtyard becomes considerably large in order to avoid “the rocks” while placing the new classroom wing to take advantage of the topography. Further, this option does not allow for any of the required site improvements- like adequate parking, student drop-off and separate circulation for cars and busses.
V. DESCRIPTION OF OPTIONS

OPTION 3 – SITE PLAN
V. DESCRIPTION OF OPTIONS

OPTION 3 - MAIN FLOOR PLAN

COLOR LEGEND

- K/ PRE-K/ HEADSTART
- GRADES 1-5
- SP-ED/ INST SUPT (ESOL)
- ADMIN
- MEDIA
- ART/ MUSIC
- SPORT
- BUILDING SERVICES

OPTION 3- LOWER FLOOR PLAN
V. DESCRIPTION OF OPTIONS

OPTION 3 - LOWER FLOOR PLAN
V. DESCRIPTION OF OPTIONS

OPTION 3 – ADVANTAGES AND DISADVANTAGES

Advantages:

- Ball fields will be accessible from within building.

Disadvantages:

- Reuse of the existing 1951, 1954, 1958 portions of the building will result in low (8-foot) ceiling heights.
- Maintains low (8-foot) corridors in existing portion of the school.
- Long travel distances to non-classroom functions.
- Poor passive security of hallways.
- Does not provide adequate space for indoor student queuing.
- Play areas and ball fields are very far apart.
- Play areas in courtyards could be distracting to classes.
- Does not improve inadequate staff parking problem.
- Does not provide a student waiting area.
- Does not provide a parent waiting area.
- Does not separate bus circulation from cars.
DISCUSSION OF OPTIONS

The estimate for this comparison is based on current construction market conditions for both building and site. The estimates will be revised to reflect market conditions and prevailing construction costs when the project is included in the Capital Improvement Program’s request for architectural and construction funding.

In Option 3 the approach is to save as much of the building and provide a major 2-story addition. It does not provide many of the Educational Specification requirements like bus and car drop-offs, student waiting areas and adequate staff parking. Option 3 is not recommended.

Option 2 appears to be the least costly option. This option satisfies most of the requirements identified by the Feasibility Study participants. However, this approach requires the destruction of the rock outcroppings and associated trees which will result in larger penalties in re-forestation. Option 2 is not recommended.

Option 1 meets all of the requirements identified while preserving the most notable landscape feature of the site. This option is most sustainable approach of the three. Therefore, in accordance with the thoughts of the Feasibility Study participants, it is recommended that the project moves forward with Option 1 as described in Section V.
END OF REPORT
When this project is complete, the following spaces are to be provided. Capacity after modernization will be 740 with a 740 core capacity.

<table>
<thead>
<tr>
<th>Facility</th>
<th>#</th>
<th>Description</th>
<th>Net Sq. Ft.</th>
<th>Total Net Sq. Ft.</th>
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# APPENDIX A - SPACE ALLOCATION SUMMARY

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<th>Description</th>
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# APPENDIX A - SPACE ALLOCATION SUMMARY

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<th>Description</th>
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# Appendix A - Space Allocation Summary

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### APPENDIX A - SPACE ALLOCATION SUMMARY

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<th>Facility</th>
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<td><strong>Total including Add-Alternate</strong></td>
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Wheaton Woods Elementary School Educational Specifications

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Appendix B - Educational Specifications

Introduction

☐ This document describes the facilities that are needed for the Wheaton Woods Elementary School educational program. The descriptions provide the architect with important guidelines and will be used by staff representatives when reviewing drawings for the facility.

☐ The program capacity for this school will be 740 with a master-planned (core) capacity for 740.

☐ The educational specifications are divided into three sections.
  • The first section, the space summary, lists the type of spaces and square footage required when the project is complete.
  • The second section describes the general design, location, and specific requirements for each type of space in accordance with Montgomery County Public Schools (MCPS) standards.
  • The third section identifies any additional program requirements for the school that were identified by the Feasibility Study participants.

☐ The architect should show the location for relocatable classrooms, should they be required in the future. These units should be sited in a location where it will not cause conflict with the constructability of a future addition. The necessary utility connections, i.e. electrical power, fire alarm, public address, and data should be provided near the future location of relocatable classrooms.

☐ The architect will provide a space summary comparison between the programmed space requirements and the proposed after each phase of the project including but not limited to the feasibility study, schematic design, design development, and final design phase.

☐ For all new schools and modernizations, the project will be designed for LEED Silver certification by the United States Green Building Council (USGBC) under the LEED for Schools guidelines. If this project is a classroom addition, the certification requirement applies only if the addition doubles the existing building footprint. If this project is a building renovation, the certification requirement applies only if the renovation alters more than fifty percent of the existing building gross floor area.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

General Planning Considerations

In the general planning of this building, special consideration is to be given to the following comments and instructions:

☐ The architect is expected to be compliant with all national, state and local fire safety, life safety, and health code regulations and to follow applicable rules of the State Interagency Committee on School Construction.

☐ The building is to be accessible to the disabled within the meaning of the latest edition of the Americans with Disabilities Act and to conform to all the latest requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board. (The regulation can be found at http://www.access-board.gov/adaag/html/adaag.htm). In addition to the ADAAG, the Maryland Accessibility Code (COMAR.05.02.02) revised in 2002 also is required for public schools. (The regulation can be found at http://mdcodes.umbc.edu/dhcd2/Title05.pdf)

☐ The facility is to reflect an appealing visual, acoustic, and thermal environment and is to be properly furnished and equipped. Well-chosen colors and textures are to be used. Lighting must meet current standards and provide adequate levels.

☐ High quality materials are to be used in the construction. The architect should refer to the MCPS Design Guidelines.

☐ The first impression of a building is important. The main entrance to the school should have a clear and inviting identity, and the entrance area should be designed and landscaped to emphasize its importance. A covered walkway from the bus loading area to the front door is desirable. The design of the main lobby area needs to convey a feeling of warmth and welcome. The inclusion of a lighted showcase in which children's work can be displayed is recommended.

☐ The design of the building and grounds must provide for a secure environment for students and staff. Isolated areas should be minimized and natural surveillance encouraged by eliminating visual barriers.

☐ For security purposes, all doors into classrooms, conference rooms, offices etc. must have a sidelight window with shades.

☐ Water coolers should be provided throughout the school.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

- Every teaching station, support space, and core area must be wired for computer, CCTV, and telephone, along with adequate electrical supply in compliance with Maryland State design guidelines for Technology in Schools and the MCPS Office of the Chief Technology Office (OCTO) guidelines. Facilities must be adaptable to accommodate rapid development in high technology and its equipment since educational program and organization in this field are dynamic. Space and power supply must be flexible to meet these changing needs.

- Core spaces such as the cafeteria, gymnasiums, and instructional media center should be easily accessible for community use and secure from the rest of the building after school hours.

- An MCPS-designed alarm system will provide security for this facility. The architect will provide for this system in consultation with the Division of Construction staff.

- Building code requirements call for less than fifty percent of interior corridor space to be used for displaying flammable materials. Display areas can be provided by a 5' x 5' bulletin board per classroom or an equivalent amount of space in a larger area. Please refer to the Division of Construction for specific standards.

- Students should have ADA compliant access to the play areas from the multipurpose room. Play areas are to be protected from any vehicular traffic. Unobstructed supervision of play areas from one central area is desirable.

- The school is to be air-conditioned except for the gymnasium and kitchen. Careful placement of glass is required to avoid excess heat gain in occupied areas.

- Some windows must be operable in each space in the building. Transmission of radiation through windows into various portions of the plant is to be considered in relation to heating and ventilating and in relation to planning the building for air conditioning. All instructional spaces should have windows, preferably exterior windows. If the design does not permit exterior windows, windows onto corridors should be provided.

- Zoning the plant for heating and air-conditioning should be related to after-hours use of various areas such as offices, gymnasium, multipurpose room, and the instructional media center. Appropriate location of parking, corridor barriers, and toilet rooms is necessary for after-hours use. Some classrooms nearby the multipurpose room should be zoned for after hour use as well.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ The architect should refer to MSDE's 2006 Classroom Acoustic Guidelines to address the acoustical qualities for classrooms. In addition, the architect should refer to American National Standard, Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools (ANSI S12.60-2002) for additional information.

☐ Noise and distracting sounds are to be minimized. In areas such as the multipurpose room and classrooms, which may be used for meetings and adult education, the sound of operating fans for ventilation should not interfere with instruction.

☐ Adult restrooms should be provided in accordance with the latest code requirements. Adult restrooms in elementary schools will be unisex.

☐ Spaces that serve no real educational function, such as corridors, should be limited while at the same time assuring an easy to supervise and smooth flow of pupil traffic to and from the instructional media center, multipurpose room, gymnasium, specialized centers, and support rooms.

☐ Carpeting should be limited to the principal's office, assistant principal's office and conference room in the administration suite and the main reading room of the instructional media center.

☐ All instructional, resource, or office spaces that students may occupy should be designed with either a sidelight or glass panel in the door and must be able to be supervised from the corridor or an adjacent space. Doors should be provided between classrooms whenever possible, however, expensive folding walls should be carefully considered as they are rarely utilized.

☐ The classrooms should be designed to accommodate various size groups. Each classroom should be readily adaptable for group work, various presentation formats, and should have maximum connectivity to outside resources.

☐ The shape of the classroom and the design of built-in features and storage areas should provide optimum net usable floor area. Elongated rooms and features that protrude into floor area, limiting flexibility, are to be discouraged. Rectangular shaped classrooms are preferred.

☐ Metal adjustable shelving is to be provided in all building storage closets.

☐ All plan reviews will be coordinated through the Division of Construction.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ Special consideration must be given to energy conservation including total life-cycle costs. The current Maryland State Department of General Service (DGS) requirements will be applied as design criteria. Life-cycle cost accounting in accordance with DGS criteria is required.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

Description of Facilities

Please refer to the summary of spaces in the front of this document for the square foot requirements for each space described below. Square-foot allocations should be considered the standard to be followed, although minor deviations are permitted.

Prekindergarten/Kindergarten Classroom

☐ The Head Start classroom should be designed as a prekindergarten/kindergarten classroom.

☐ Each room should allow flexibility in creation of activity areas and to provide for individualized instruction through arrangement of the "centers" approach.

☐ An area should be designated for placement of a 12’ by 15’ area rug over the finished floor.

☐ A 100 square foot walk-in storage closet and 150 square feet of general storage (casework throughout the classroom) is needed.

☐ When possible there should be interconnecting interior doors between all kindergarten and pre-kindergarten rooms.

☐ All prekindergarten rooms should have an outside door or be directly accessible to the outside and convenient to the main entrance of the school building.

☐ The prekindergarten classrooms require a separate and fenced outdoor play area that must be adjacent to the classroom. If the school does not have a prekindergarten program than the outdoor play area should be master planned so that it can be added on at a later time. The prekindergarten play area should include a 40’x40’ paved play area and a 40’x40’ mulched area.

☐ The computers should not be located next to a whiteboard where magnets might damage the hardware and software. Glare from the windows on the computer screens should be eliminated as much as possible. Security for the computers should be planned in consultation with the MCPS Division of Construction (DOC). Computer/technology wiring must be in accordance with MSDE/MCPS standards.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ Every classroom must have computer outlets for five student workstations and one teacher workstation. The building information and communications distribution system and other aspects of the building design must comply with the February 2002 revision of the MSDE Maryland Public School Standards for Telecommunications Distribution Systems.

☐ The main teaching wall layout should be in accordance to DOC construction standards.

☐ A sink with a drinking fountain must be provided, with cabinets above and below.

☐ A total of 20 feet of tackboard and 10 feet of magnetic whiteboard should be installed at eye-level height for small children, with tack stripping along walls for display of student work.

☐ Each room must have a toilet room that is accessible from within the room and easily accessible from outside. The toilet room will contain a standard height toilet, a sink with child-height mirror, and soap and towel dispensers that are accessible to small children. The light switch should automatically turn on the vent fan.

☐ Each classroom should be equipped with window blinds per the MCPS design guidelines.

☐ Battery operated clocks will be installed. The clock should not be mounted behind the projection screen.

☐ All classrooms should be equipped with a handicapped accessible sink with drinking bubbler.

☐ A full-length mirror should be installed.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

Standard Classroom

☐ Each room must have an open classroom area with moveable furniture.

☐ 150 square feet of casework storage is needed in the classroom.

☐ The computers should not be located next to a whiteboard where magnets might damage the hardware and software. Glare from the windows on the computer screens should also be eliminated as much as possible. Security for the computers should be planned in consultation with the MCPS Division of Construction (DOC). Computer/technology wiring must be in accordance with DOC/MSDE/OSTA standards.

☐ Every classroom must have computer outlets for 5 student workstations and 1 teacher workstation. The building information and communications distribution system and other aspects of the building design must comply with the latest edition of MSDE Maryland Public School Standards for Telecommunications Distribution System.

☐ Approximately 30 to 35 linear feet of magnetic white board and 20 to 24 linear feet of tackboard, both with tack strips and map rails above the boards, should be installed in each classroom. White boards should be located so as to reduce glare. Tack strip is needed on all available walls. The architect should refer to the DOC construction standards for the main teaching wall layout.

☐ Thirty built-in individual compartments in the wardrobe area for storing student personal property are required. The architect should refer to the DOC construction standards for a typical cubby design for grades K-1 and grades 2-5. Lockers in the hallway may be used in place of the classroom cubbies.

☐ If lockers are designed for storing individual student property, the architect should design the facility with 700 lockers if the core capacity is 640 and 815 lockers if the core capacity is 740.

☐ All classrooms should be equipped with a handicapped accessible sink with drinking bubbler.

☐ A storage area is needed to hold at least two science kits (approximate 27” x 17” x 12” each) and one math kit in each classroom.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ General storage space must be built in and must accommodate 24- by 36-inch paper and a 4-drawer file cabinet. Each classroom must include 48 linear feet of built-in adjustable shelving.

☐ A small lockable teacher's wardrobe must be provided, as per DOC construction standards.

☐ Designated shelf space, not near a window, for an aquarium/terrarium with nearby electrical outlet, is desirable.

☐ Each classroom should be equipped with window blinds. The specifications for the window blinds will be provided by DOC.

☐ Each classroom should be equipped with a retractable projection screen (7' x 7'). The projection screen should not be mounted near any emergency lighting tracks. All areas of the screen should be illuminated and readable when the lights are dimmed.

☐ Electrical and data outlets should be provided in the ceiling for a ceiling mounted LCD projector.

☐ Battery operated clocks will be installed. The clock should not be mounted behind the projection screen.

☐ Shelving or cabinetry should be provided in every teaching station for the VCR and television. A school may choose to place the television and VCR on a cart. Appropriate CCTV receptacles and a duplex outlet should be provided nearby for the operation of the TV and VCR. Placement of the TV should be to maximize student viewing and not be unduly influenced by exterior or interior extraneous light.

☐ A school may consider reducing the size of each classroom to create small break-out rooms in the school. The number and design of these breakout rooms may be determined by school and MCPS staff.
Special Education

<table>
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<tr>
<th>Spatial Needs</th>
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<td>Classrooms</td>
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<tr>
<td>Conference Room</td>
</tr>
<tr>
<td>Resource Room</td>
</tr>
<tr>
<td>Speech/Language Room</td>
</tr>
<tr>
<td>Occupational Therapy/Physical Therapy (OT/PT) Room</td>
</tr>
</tbody>
</table>

Classrooms

☐ The general requirements are the same as the requirements for standard classroom requirements. Please refer to the preceding section for these requirements.

☐ These classrooms are intended for future expansion of special education programs to this school and can serve as standard classrooms at other times.

☐ Special education classrooms should be located on the first floor and near the bus loop and near play areas if possible.

☐ These classrooms should be designed with a grooming room large enough for a changing table. The grooming room can be shared between two classrooms.

☐ These classrooms should be designed with smaller breakout rooms within them that could be used for observation or assessment.

☐ These classrooms should be designed to support future appliances such as a washer, dryer, refrigerator, and dishwasher.

Conference Room

☐ The conference room is to have a whiteboard, a tack board, and one bookcase.

☐ The conference room should be equipped with a telephone jack and two computer drops.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ Casework should be provided on one wall with two, two-drawer file cabinets for confidential records, letters forms, etc.

**Resource Room**

☐ Each room must have whiteboard, tack board, open and closed lockable storage, open shelving, counter space, and a lockable teacher wardrobe. Room for a teacher's desk, lockable file cabinet, and assorted-sized furniture with adjustable legs should be provided.

☐ The resource room should be wired for 3 computer workstations.

☐ The resource room must contain a sink with counter space.

**Speech/ Language Room**

☐ This room requires a whiteboard, tack board, open and closed lockable storage, open shelving, and a lockable teacher wardrobe.

☐ Room for a teacher's desk, lockable file cabinet, and table to work with small groups of students is required.

☐ The speech/language room should be wired for access to one computer workstation each.

☐ The speech room must be located on the first floor and be acoustically treated.

☐ The speech room needs a 4’ x 4’ mirror mounted to the wall to supplement verbal skills training.

☐ The speech room requires a sink with counter space.

**Occupational Therapy/ Physical Therapy (OT/ PT) Room**

☐ Each room must have whiteboard that is mounted two feet off the floor.

☐ A tack board, open and closed lockable storage, open shelving, and a lockable teacher wardrobe are required.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

☐ A sink with counter space is required in the OT/PT room.

☐ Room for a teacher’s desk, lockable file cabinet, and assorted-sized furniture with adjustable legs should be provided.

☐ The OT/PT rooms should be wired for access to one computer workstation each.

☐ The OT/PT requires a ceiling mounted hook for a swing.

The OT/PT room requires lockable storage with sufficient area to house large gross motor equipment (minimum of 35 square feet) such as therapy balls, scooter boards, walkers, balance beams, ramps, etc.
**APPENDIX B – EDUCATIONAL SPECIFICATIONS**

**Instructional Support Rooms**

The following rooms will provide for individual and small-group instruction as needed for the entire student body.

<table>
<thead>
<tr>
<th>Spatial Needs</th>
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<tbody>
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<tr>
<td>Small Instructional Support Room</td>
</tr>
<tr>
<td>Testing/Conference Room</td>
</tr>
<tr>
<td>Instructional Data Assistant Office</td>
</tr>
<tr>
<td>Support Staff Offices</td>
</tr>
<tr>
<td>Title 1 Parent Resource Room</td>
</tr>
<tr>
<td>Reading Recovery</td>
</tr>
</tbody>
</table>

- These rooms should be centrally located, with easy access to the office and conference room and to toilet rooms that can accommodate the physically disabled.

- The rooms must be well ventilated.

- Each room must have whiteboard, tack board, open and closed lockable storage, open shelving, counter space, and a lockable teacher wardrobe. Room for a teacher's desk, lockable file cabinet, and assorted-sized furniture with adjustable legs should be provided.

- Sufficient electrical outlets are to be provided. Quadruplex outlets may be utilized where feasible.

**Large Instructional Support Room**

- This room will be used primarily for resource.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ This room requires a sink.

**Small Instructional Support Room**

☐ This room will be used primarily for ESOL instruction. Many students receive small group instruction in English as a second language for one or two periods a day.

☐ This classroom requires a sink.

☐ These rooms should be located in pairs throughout the building to serve all grade levels near the grade level classrooms.

**Testing/Conference Room**

☐ School and/or central office staff test individual students or small groups of students. Typical testing includes psychological, diagnostic, vision/hearing, gifted, and makeup testing for required standardized tests. This room also will be used to accommodate post-test conferences with teachers and/or parents.

☐ This room needs acoustical treatment as well as video, voice, and data outlets.

**Instructional Data Assistant Office**

☐ This room is required for a data assistant who conducts assessments, updates individual student test scores, and provides remediation of students' skills.

☐ This room houses one computer with printer and card reader and must be lockable and secure.

☐ This room requires some built-in casework with shelves and doors, a small lockable teacher's wardrobe, whiteboards both with and without coordinate grids, and video, voice, data outlets, and space for file cabinets.

**Support Staff Offices**

☐ Office space is needed for permanent as well as itinerant support staff (curriculum coordinator, team coordinator, social worker, psychologist, auditory and vision specialists, and psychiatrist).
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ A teacher’s wardrobe should be provided for itinerant staff use.

☐ Video, voice, and data outlets should be provided.

**Title 1 Parent Resource Room**

☐ This room should be located near the main office.

**Reading Recovery Room**

☐ This room is for one-on-one reading assistance.

☐ This room may be located near the Media Center.
ART ROOM

The art room is to provide space for teaching and creating art, displaying student work and educational aids, and storing supplies and materials. The room should be designed as follows:

- The art room must not be carpeted.
- Both art and music rooms must be located near student restrooms.
- For technology accessibility purposes, the art room is to be considered as a regular classroom with appropriate data, CCTV, modem, and electrical outlets.
- The design of all work, display, and storage areas should create an environment that is functional and easy to clean.
- Lighting should be both natural and artificial and conducive to close work.
- A door to the outside is desirable.
- Space and electrical outlets for two kilns should be in the farthest corner of the storeroom with proper ventilation.
- Eight duplex electrical outlets are to be provided (where feasible quadruplex outlets may be utilized).

The window wall should have the following:

- Windows that permit views of the surrounding landscape.
- Blinds to permit room darkening.
- Shelves under windows 15” deep.
- Tack board or tack strips above windows if space permits.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

The teaching wall should have the following:

☐ Two 3-foot wide by 7-foot tall, 18” deep, shelf sections for storage of unfinished work.

☐ Eight-foot long by 4-foot tall whiteboard between two 8-foot sections of 6-foot tall white/tack board with 2-foot tall tack board above the white board. Tack and white boards should be mounted 2 to 4 inches above low shelving.

☐ Fourteen-inch deep, 24 inch high, shelving under the center of the 16-foot long tack board and white board.

☐ Wall mounted projection screen with electrical outlet underneath.

The wall near the entrance should have the following:

☐ One standard sink and one 30-inch high student sink, one of which should be located on a peninsula (Peninsula is to be no longer than 3 feet). One sink should be handicapped accessible. Faucets should be accessible to students (preferably on the side of the sink and not the back of the sink) and positioned to prevent splashes onto floor.

Sinks and sink area should also include:

☐ Removable plaster traps

☐ Closed cabinets below and above

☐ Conveniently located towel and soap dispensers

☐ At least 9 feet of counter space (includes 1 ½ feet of counter space on both sides of the sinks) with rounded corners

☐ Hot and cold water faucets with bubbler

☐ A 5- to 7-foot open space is needed for drying rack(s) along one wall.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

- Approximately 30 smock hooks in 3 feet of staggered tiers, beginning 2 feet from the floor, spaced 4 inches apart, up to 48 inches high. (Optional in rooms where one end of MCPS-built drying rack(s) that measure 44 inches wide and 24 inches deep is accessible, since hooks can be installed on pegboard ends.)

  The wall opposite or adjacent to the teaching station should have the following:

- One 6-foot tall, 12-foot long tack board with 24-inch tall, 14-inch deep shelving units below.
- Two or three 7-foot tall, 18-inch deep, 36-inch wide shelf sections near kiln area for storage of ceramic work.

**Kiln Area**

- The kiln area should be located at the far end of the storeroom and should accommodate two kilns.
- Two kiln exhaust hoods and fans (local switch) must be installed. Positive ventilation (using negative pressure) is needed to assure removal of fumes.
- Kilns should be 30 inches wide, 30 inches deep and 36 inches tall. Allow an additional 6 inches in depth for opening of the kiln lid.
- Electrical characteristics for the kiln are 208 volt, 30 amps, single phase, and 7200 watts. Provide 2-50 amp 250-volt outlet NEMA configuration 6-50R. Provide outlet(s) on wall behind kiln(s).
- Kilns may be located in the far end of the storeroom with built-in hood above and metal shelving 12 inches to 18 inches deep on walls adjacent to the kiln area. See notes above for additional kiln information.

**Art Storeroom**

- The storeroom must have a 6-foot wide, 30-inch tall, and 34-inch deep worktable immediately inside the entrance to the storeroom with built-in adjustable shelves below and 14-inch deep wall hung shelving above. This table will accommodate a 30-inch square paper cutter and storage of large art reproductions and papers below, in 3 banks of shelving units 8 inches on center, 20-inches wide (inside width).
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ One or two 6-foot tall 20-inch wide paper storage shelf section(s), 24 inches deep with shelves 8 inches on center to accommodate 18” x 24” paper.

☐ Seven-foot tall open shelving, 18 inches deep, should be provided along remaining walls where space permits. Twelve to fourteen inch deep sections are acceptable for some sections where 18-inch deep shelves won’t fit.

☐ Storeroom door is to be lockable, and 2 coat hooks are to be mounted behind the door.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

Music Suite

<table>
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<th>Spatial Needs</th>
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<tbody>
<tr>
<td>Music Room (includes 250 sq. ft. storage)</td>
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<tr>
<td>Instrumental Music Room</td>
</tr>
</tbody>
</table>

☐ The music room and instrumental music room should be located adjacent to each other with a shared storage room.

☐ These rooms should be located near the multipurpose room to allow easy access to the platform.

☐ The rooms must be acoustically isolated from the rest of the school.

Music Room

☐ The music room should have a clear circular area of at least 20 feet in diameter and access to the music storage room.

☐ A 150-square foot secure closet area to store instruments, equipment, choral music, and instructional charts is necessary with access from the music room.

☐ Variable-sized shelving must allow for storage of books, records, and small instruments.

☐ The music room needs a child height sink with a work area and drinking fountain.

☐ Window blinds and a wall-mounted retractable projection screen are required.

☐ Approximately 20 feet of white board and 4 feet of tack board must be provided. Continuous tack strips are needed around the room.

☐ Specific storage and shelving specifications are available through Montgomery County Public School's Division of Construction.

☐ Eight duplex electrical outlets are to be provided (where feasible, quadruplex outlets may be utilized).
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ This room must be acoustically treated.

☐ Doors into the music room and stage platform must be wide enough to accommodate the passage of a piano.

**Instrumental Music Room**

☐ A secure closet area is needed adjacent to the room for large instrument storage.

☐ A sink and countertop area should be provided for cleaning and repairing musical instruments.

☐ The Instrumental Music Room must be soundproofed.

☐ Doors into the instrumental music room must be wide enough to accommodate the passage of a piano.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

Dual Purpose Room

☐ This room should be designed to accommodate both art and music activities in the school but with less detail than the regular art and music rooms.

☐ Some acoustical treatment should be provided in the room.

☐ One sink for student use should be provided along with some countertop area.

☐ No kiln area is needed and less shelving than described in the art room is to be provided.

☐ The exact details of the design should be discussed with the school staff and community.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

Instructional Media Center

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<tr>
<td>Media Storage</td>
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<tr>
<td>Textbook Storage</td>
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<tr>
<td>Control Room and Storage</td>
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<tr>
<td>Telecommunication Closets</td>
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<tr>
<td>Computer Laboratory</td>
</tr>
</tbody>
</table>

☐ The architect should refer to the MSDE document, *Facilities Guidelines for Library Media Programs, 1998* as a guide for media center design.

☐ Staff in the Department of Educational Media and Technology must approve the specific design.

☐ The media center is to be central to the instructional program of the school.

☐ The total media complex is to be enclosed and lockable.

☐ The media center is to accommodate multiple arrangements and uses as functions change. It should be acoustically designed for multiple activities. Furniture and shelving should have casters for easy moving, to divide one area from another, and create traffic patterns.

☐ A complete media center is to include the following areas that are described in the following sections:
  o Study and Research Area
  o Informal Reading Area
  o Instructional Area
  o Production and Group Project Area
  o Administrative Area
APPENDIX B - EDUCATIONAL SPECIFICATIONS

**Main Resource Area**

- The main resource area should have 3 separate lighting zones for the storytelling area, the instructional area, and the circulation area. Each zone should be independently operable. Dimming capabilities are recommended in the storytelling and instructional areas.

- Two CCTV outlets should be located in the main resource room -- one near the storytelling area and one in the instructional area. CCTV receptacles and electrical outlets should be located 44" AFF.

The Main Resource Area is to be subdivided to provide for the following program activities:

**Study and Research Area**

- Space is needed in the Main Resource Area for an information desk, catalogs, online stations, study and research tables, reference materials, professional library materials, basic collections, and stacks.

**Informal Reading Area**

- Space is needed in the Main Resource Area for books and periodicals to encourage literacy, lifelong learning, and reading for pleasure.

- This area needs to provide space to seat 30 students on the floor away from the busy areas for a storytelling area.

- A projection screen should be accessible. Emergency lighting should not affect the projection screen.

- Zone lighting should be controlled from this area.

- A CCTV receptacle and appropriate electrical outlet should be located near this area.

- The architect may want to define this area by architecture and/or accent carpeting.

- Picture book shelving also may help define this area.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

Instructional Area

☐ Space is needed in the Main Resource Area for formal seating for small, large group, and whole class instruction.

☐ A “teaching wall” with appropriate instructional technology, and display space is needed.

☐ This area should not be located near an entrance.

☐ It should seat 30 students at tables.

☐ A projection screen with appropriate floor mounted outlets should be located in this area.

☐ Lights in this area should be separate for dimming without affecting the reference area.

Production and Group Project Area

☐ Space is needed in the Main Resource Area for functional work and meetings for individuals, teams, and classes as well as facilities for media production should be designed in the main resource area.

☐ This area allows for individual study desks for students to carry on independent study research projects, analyze information, and solve problems.

Administrative Area

☐ Space is needed in the Main Resource Area for the circulation desk should be designed near the entrance of the media center. This area needs writing space, book return, computer workstation, file cabinet, and storage.

☐ An electronic catalog area (ECC) should be located near the circulation desk and should contain one to two computer workstations.

☐ The reference section area should contain two to four computer workstations. These should be located near the electronic card catalog and be positioned so they may be utilized with the ECC for directed instruction to students for on-line retrieval skills. Appropriate data, telephone and electrical outlets as well as casework should be provided for these workstations. Casework should include wire management, area for student books and a pullout keyboard.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

Materials Preparation/Office Area

☐ The Office and Materials Preparation Rooms may be combined into one room. The Office access should be located immediately behind the circulation desk at the entrance to the Media Center. Plentiful interior windows from these rooms into the Media Center are to be provided for supervision.

☐ The materials preparation area provides for the preparation of several types of instructional materials, such as transparencies, slides, and charts.

☐ The materials preparation area should have corridor access.

☐ This space requires appropriate counter space for repairs, including cabinetry, sink, storage of tools and cords, as well as electrical and computer receptacles for testing equipment.

☐ Appropriate casework for storage, computer workstations, data, electrical, and modem receptacles should be provided.

☐ See media center specifications available from the Division of Construction.

☐ The office area should include space for collaborative planning and processing of library media materials.

☐ The office area must be accessible to the materials preparation area and main reading room. It should include appropriate casework for a computer workstation, book shelving, and cabinetry as well as phone, data, and electrical receptacles. Adequate space should be allocated for the media center file server.

Media and Textbook Storage

The storage areas should be located adjacent to the materials preparation work area and should have the following specifications:

☐ Space is needed for the storage of instructional materials, such as seasonal materials, maps and globes, and instructional equipment, such as projectors for distribution. Minor repairs, cleaning, and testing of equipment are completed here. Space for manipulatives, especially mathematics and science, is needed.

☐ Textbook storage provides for storage of textbooks, workbooks, and classroom materials.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

Control Room and Storage

☐ A support room should be located adjacent to the control room so the room can serve the dual function of a support space and TV studio.

☐ The support room used as a TV studio should have adequate electrical outlets and acoustical treatment.

☐ See studio specifications for media center communication labs available from the Division of Construction.

Telecommunication Closets

☐ These rooms are to be located in or near the instructional media center and should have corridor access.

☐ Specifications for this space are available from the Division of Construction.

Shelving Requirements

☐ The architect is to refer to the MCPS specifications with the Division of Construction for the material to be used for the shelving in the media center resource area and storage area.

☐ The shelving should be interchangeable within standard upright wall units in accordance with MCPS specifications (maximum height and island shelving requirements are available from the Division of Construction).

☐ Low shelving is desirable for sight and safety reasons when extra shelving is needed.

☐ Shelving is to be allocated on the average as follows:

<table>
<thead>
<tr>
<th></th>
<th>Linear Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>700</td>
</tr>
<tr>
<td>Picture Books (with dividers)</td>
<td>165</td>
</tr>
<tr>
<td>Magazines (with space for back issues)</td>
<td>20</td>
</tr>
<tr>
<td>New Book/Interest Display</td>
<td>10</td>
</tr>
<tr>
<td>Media Center Storage (20-24” depth)</td>
<td>As space allows</td>
</tr>
<tr>
<td>Textbook Storage (12-18” depth)</td>
<td>As space allows</td>
</tr>
</tbody>
</table>
APPENDIX B - EDUCATIONAL SPECIFICATIONS

Computer Laboratory

☐ This room should have direct access to the Instructional Media Center.

☐ The computer laboratory should be zoned for independent air-conditioning during times when the rest of the building is closed.

☐ Specific design guidelines beyond these specifications are available through the Division of Construction and the Office of Strategic Technology and Assessment (OSTA).

☐ The room should be designed to accommodate up to 30 computer workstations.

☐ Floor-mounted electrical/network capabilities evenly spaced down center of classroom floor for computer workstations is required.

☐ Electrical/network capability in the front of the room (teaching wall) for 6 computer workstations is required.

☐ One of the storage wardrobes must be lockable to accommodate laptop computers.

☐ The teaching wall should be designed to accommodate a Promethean board. The teaching wall layout will be provided by the Division of Construction.

☐ Tackboards should be provided in the laboratory.

☐ A modular telephone outlet (RJ11) for use with a modem should be provided as well as a location for a printer to be accessed by all workstations. Specifications detailing the design of the computer lab are available from the Division of Construction.
Physical Education

The gymnasium has two major purposes:

- To provide an indoor facility for the physical education instructional program.
- To provide for student and community recreation during after school hours, weekends, summers, and holidays.

<table>
<thead>
<tr>
<th>Spatial Needs</th>
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<tr>
<td>Gymnasium (74'x50')</td>
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<tr>
<td>Physical Education Office</td>
</tr>
<tr>
<td>Storage Rooms</td>
</tr>
<tr>
<td>Lobby Area</td>
</tr>
<tr>
<td>Outdoor Storage</td>
</tr>
</tbody>
</table>

Gymnasium

- The location of the gymnasium should be near the play areas, directly accessible from a corridor, and easily accessible from the parking lots.
- Buffering the gymnasium with a corridor or related spaces is required to separate gymnasium noise from the rest of the school.
- The physical education office should be adjacent to the gymnasium and lobby.
- The architect should refer to detailed requirements provided by Division of Construction in the "Architect’s Guide".
- Any windows into the gymnasium should be oriented north and south so that direct east-west sunlight does not impact play in the gymnasium. However, windows should not be placed in the end walls.
- The gymnasium should be ADA accessible from within and without (access from inside gym to playfields).
- A ceiling clearance of 18-20 feet free of girders, pipes, heating vents, lights and curtain supports is required.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ No ledges or sills should be created over 6’ in height that would make it difficult to retrieve a ball.

☐ Glazed tile on the walls must cover at least seven feet from the floors.

☐ If the gymnasium is a community sized gymnasium (84’x 75’) then a vinyl-mesh curtain to divide the floor area into two equal size spaces should be provided. It must be the type that can be electrically rolled to the ceiling for storage. If the gymnasium has a divider curtain, a clock with a protective wire covering should be provided on both ends of the room.

☐ Adequate lighting in the gymnasium is required. The lighting should be securely mounted and guarded to prevent damage by balls with keylock switches to control the lighting.

☐ A minimum number of windows to prevent glare and glass breakage is requested.

☐ Acoustical treatment of walls and ceiling is required and must be able to withstand damage by balls.

☐ Ventilation equipment must not inhibit use of the space for auditorium purposes.

☐ A wood floor should be installed in the gymnasium. Striping for basketball, volleyball, and floor games should be provided. (i.e. hopscotch and four square)

☐ Graphics or approved words should be painted on the gymnasium walls. The school may choose from an approved curriculum list of words to paint on the gymnasium walls. The list of words will be provided by MCPS staff.

☐ A whiteboard, 4’x6’, with no ledge is required.

☐ Separate heating source or controls to permit use when the remaining part of the building is not occupied is required.

☐ Recessed door handles are required.

☐ Doorway center posts must be removable to allow for the passage of equipment.

☐ A recessed fire alarm box or covered fire alarm box, preferably in a corner of the room needs to be provided.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ Two call buttons located at opposite sides of the gymnasium are required to contact the main office.

☐ A clock with a protective wire covering should be provided on a sidewall of the gymnasium. The fire extinguisher, if mounted in the gymnasium, should be recessed into the wall.

☐ Wall safety padding must be mounted under each basketball backstop with 16 feet under end basketball backstops and 12 feet under side basketball backstops with nylon nets.

☐ Doors or openings should not be directly behind basketball backstops.

☐ Fan-shaped basketball backstop, adjustable from 8 feet to 10 feet, must be mounted four feet from the sidewalls to provide two equal sized side courts. The backstops must be of aluminum composition. Collapsible rims must be provided.

☐ A basketball backstop, adjustable from 8 feet to 10 feet, must be mounted on each end wall for full court play. The fan-shaped backstops must be of aluminum composition. Collapsible rims must be provided.

☐ A hand crank must be provided for the adjustable basketball backstops if they are not operated electrically.

☐ Four climbing ropes (1 knotted, 3 plain) with hoist located 6 feet from the ground and safety cables located away from ceiling lights and basketball backstops should be provided.

☐ One 8-foot semi-guyed (wall mounted) horizontal bar with safety chain and floor plates should be provided. The MCPS shade shop will provide safety padding.

☐ One pair of volleyball aluminum uprights and one center volleyball aluminum upright (insertion type) must be provided. Heavy-duty net ratchet and removable crank handle should be included.

☐ Five solid brass floor plates and floor sleeves need to be installed. Two volleyball nets, 32" in length with end sleeves for wooden dowels should be provided.

☐ Two portable game standards are required.

☐ A wall-mounted, chin up bar should be provided. The lowest bar height should be approximately 5 feet from the floor.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

☐ Computer data/CCTV/electrical/network receptacles on opposite walls of the gymnasium are required.

Physical Education Office

The following items are required in the physical education office:

☐ Non-breakable window to the gymnasium, low enough to view students, is required.
☐ Non-breakable window to the lobby for supervision, low enough to view students, is required.
☐ Toilet and shower facilities are required.
☐ Computer/Telephone/Cable TV outlets connected to the school-wide network are required.
☐ Venetian blinds for windows are required.
☐ VCT flooring is required.
☐ A call button the main office is required.
☐ Three full size clothing locker should be provided.
☐ Electrical outlets.
☐ A tack board should be provided.
☐ A wall-mounted clock should be provided.
☐ A small closet with shelves should be designed in this office.

Storage Rooms

☐ All of the storage rooms require 8-foot doors and 12-foot ceiling heights with a flush threshold.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ The large storage room requires 8-foot double doors with no center post and must be able to accommodate a set of parallel bars.

☐ The large storage room must contain shelves, 6 feet high and 18 inches deep, mounted on at least two walls. The shelves must be adjustable after installation.

☐ Both of the small storage closets must contain shelves, 6 feet high 18 inches deep, mounted on the two side and back walls. The shelves must be adjustable after installation.

☐ Two volleyball wall racks should be installed in the small storage closet designated for community use. Each rack will hold two uprights.

☐ The large storage closet must have a length that will accommodate a 12’ long balance beam.

**Lobby Area**

☐ Separate toilet rooms for boys and girls should be located in the lobby.

☐ An electric water cooler and public telephone should be located in the lobby area.

☐ Six feet of tack board should be installed in the lobby area.

☐ The window between the lobby and physical education office must be low enough to view people in the lobby.

☐ A control gate to separate the gymnasium, lobby area, and restrooms from the rest of the school during after-hours is required.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

Multipurpose Room and Platform

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<tr>
<td>Chair Storage</td>
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<tr>
<td>Table Storage</td>
</tr>
</tbody>
</table>

Multipurpose Room

☐ The multipurpose room should have a ceiling height of 12–14 feet.

☐ A building service utility closet should be provided near the entrance to the multipurpose room for convenient lunch cleanups.

☐ Table storage and chair storage must be located adjacent to the multipurpose room.

☐ Exits from the multipurpose room must be sufficient to allow maximum seating.

☐ Toilet rooms and an electric water cooler should be near the multipurpose room to allow for public use.

☐ Audiences need to be able to hear and see presentations from all locations in the room.

☐ Ventilation equipment noise must not inhibit use of the space for auditorium purposes.

☐ Acoustical treatment is needed.

☐ Proper lighting and sound amplification are required.

☐ Each side of the risers at the multipurpose room floor level should be equipped with CCTV/data/voice/modem/electrical receptacles.

☐ Lighting, windows, fire alarm box, clock, and ceiling must be protected to prevent damage by balls.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ Outdoor play areas should be accessible from the multipurpose room. Children should not have to cross driveways or parking lots to access the play areas.

☐ An audio loop system should be provided for hearing impaired students; guidelines are available through the Division of Construction.

☐ An independent sound system should be provided in the multipurpose room.

☐ A call button to the main office should be provided.

☐ If there is no gymnasium, then the architect should refer to the physical education section for the storage requirements.

**Platform**

☐ The platform should have a proscenium opening 24 feet wide. The depth is to be 15 feet deep. The platform floor is to be three risers above the multipurpose room floor. A full set of platform curtains is to be provided. An 8'x10' motorized projection screen is to be provided. Platform steps must NOT be carpeted.

☐ The platform must be accessible to the physically handicapped.

☐ Each side of the platform should be equipped with CCTV/data/voice/modem/electrical receptacles.

**Chair and Table Storage**

☐ Storage rooms are required for the storing the tables in the multipurpose room and folding chairs.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

**Food Services**

- The kitchen is operated as a "finishing kitchen" and should include an area for dry storage, a manager’s workstation, toilet facilities, preparation and serving area, and a receiving area for daily deliveries.

- A sheltered dock is preferred and should be separate from other school receiving.

- Delivery flow-path must be clear of preparation area.

- The trash room should be separate from the rest of the building i.e. no common walls.

- The trash room should not be accessed from the kitchen.

- Air conditioning must be available at all times in elementary kitchens, storage, and office.

- Code requirements for lighting, surfaces, and equipment must be met. The Division of Construction will provide current code requirements.

- Windows must have screens.

- Receiving door should be 48” wide and must be self-closing with peephole and doorbell to manager’s office.

- An easy to mop, slip-resistant quarry tile floor is required. Color of grout should be the same or darker than the color of the floor.

- There should be direct access to both the hallway and the multipurpose room to facilitate one-way circulation through the serving line.

- A minimum 9’ ceiling height is recommended.

- A building service closet with floor type mop basin shall be located outside the kitchen but readily accessible to the kitchen.

- A dedicated circuit is required for the cash register with under the floor conduit for connection to the computer in the manager’s office.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

**Serving Area**
- A 26 ft. long serving line with 3-ft. clearance at each end should be provided.
- The color selection will be approved by Food Services.
- A single door refrigerator and microwave oven on a cart adjacent to the service area is needed.
- A wall clock and tack board on the serving line wall are needed.

**Walk-in Cooler/ Freezer**
- A 7' 9" x 8' 8 1/2" cooler is required.
- A 7' 9" x 10' 8 1/2" freezer with a height of 8' 6" is required.
- A mobile polymer shelving and dunnage is required.
- A roof top compressor is required.

**Dry Storage**
- The recommended dimension for the dry storage area is 12’ x 16’.
- A mobile polymer shelving and dunnage is required.
- Adequate ceiling height for top shelf storage should be considered.
- This space should be totally secure and free of roof access ladders or electrical panels.
- Locking cabinets for chemical storage should be provided.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

Manager's Office

☐ Visibility to delivery and serving area is required.

☐ The office should be located away or protected from outside door draft.

☐ Desk (NIC), file (NIC), telephone, tack board, and LAN access are required.

Toilet Room

☐ A hand sink with soap and towel dispenser, sanitary napkin disposal, and 3 full-height lockers are required.

Preparation Area

☐ A double convection oven with roll-in bottom is required.

☐ An oven cart and dolly (2 each) are required.

☐ A half-size range is required.

☐ A heat removal exhaust hood is required.

☐ Work tables, one 6 ft. and the other 8 ft. with 2 drawers each, under the table are needed.

☐ Arlington wire baskets (500 each) and dollies (10 each) are required.

☐ Hand sink with pedals and soap and towel dispensers that meet the code requirements are needed.

☐ A three compartment sink, 24" x 24" x 14", with 24 inch drainboards, is required. Disposal in drainboard with pre-rinse spray is required.

☐ A 6-foot louvered shelf above with hooks is required.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

- A mobile warmer to accommodate Arlington baskets is needed.
- Two utility carts are required.
# APPENDIX B - EDUCATIONAL SPECIFICATIONS

## Administration suite

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<tr>
<th>Spatial Needs</th>
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<td>Workroom</td>
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<tr>
<td>Code Red/Code Blue Command Center</td>
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<td>Principal's Office</td>
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<tr>
<td>Assistant Principal's Office</td>
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<tr>
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<td>Telephone Room</td>
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<tr>
<td>Storage Room</td>
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<tr>
<td>Records Room</td>
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</tbody>
</table>

- The administration suite must be located with good access from the main entrance of the school and visual oversight of the main entrance and bus drop-off area.

- The suite must be a natural first stop for visitors to the school and must, therefore, have direct corridor access. A security vestibule must be designed so that all visitors must enter the general office to check in before entering the school.

- Spaces need to be arranged for student and visitor flow and for efficient use by office staff.

- The general office is to be treated as the center of the administration suite with direct access to the principal's office, the workroom, and the health suite.

- A coat closet is to be provided for office staff and visitors.

- The Administration suite should be carpeted.

- Sufficient electrical outlets are to be provided (where feasible, quadruplex outlets may be utilized) as well as CCTV receptacle for the general office, principal's, and assistant principal's offices.

- A glass display case should be located in the vestibule of the Administration suite entrance.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ The administration suite should be designed with separate toilet rooms. If the school chooses, one of these toilet rooms may be located in the principal's office.

**General Office**

☐ A counter should be provided near the entrance to greet and separate visitors from staff and to provide a place to write.

☐ Space for two to three staff persons is required behind the counter.

☐ The general office should be equipped with a staff bulletin board.

**Workroom**

☐ The location of mailboxes should not create congestion by impeding the smooth flow of traffic in the general office and hallways.

☐ Cabinetry appropriate for storing a variety of office and school supplies should be designed along one wall of the workroom.

☐ A portion of countertop is to be more than 30 inch wide to accommodate a large paper cutter.

☐ Space adequate for a large copying machine with necessary electric service and ventilation is required.

☐ A sink is needed in the workroom.

☐ There should be direct access to a corridor from the workroom.

☐ The workroom should be treated acoustically to keep machine and work noises at low levels.

**Command Center**

☐ An interior room in the school needs to be designated as the command center for Code Red/Code Blue emergencies. In many schools, the workroom in the administration suite may serve this purpose. The room cannot be on an outside wall.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

☐ The room designated as the command center must have all data and communication equipment including data, cable, phone, and public address (PA) system.

☐ The PA console should be located in the room that is designated as the command center.

☐ Window coverings such as mini blinds or roller shades must be provided for all windows and doors to the command center.

☐ In secondary schools, the security camera monitors should be located in this area.

☐ The space designated as the Command Center must be large enough to accommodate up to six staff persons.

☐ Storage space is needed for the Code Red/Code Blue emergency kit.

**Principal’s Office**

☐ This office should be carpeted.

☐ This office should be equipped with a tack board and two-shelf adjustable bookcases under the windows. Each shelf must be able to hold a 12 inch notebook upright.

☐ The office should be directly accessible to the conference room through a connecting door.

☐ This office should have good visible access of the main entrance and to the bus drop-off area.

**Assistant Principal’s Office**

☐ This office should be carpeted.

☐ This office should be equipped with a tack board and two-shelf adjustable bookcases under the windows. Each shelf must be able to hold a 12 inch notebook upright.

☐ This office should have good visible access to the main entrance and bus drop-off.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

Conference Room
☐ The conference room should be carpeted.
☐ The conference room is to have a whiteboard, a tack board, and one bookcase.
☐ The conference room should be equipped with a telephone jack.
☐ Casework should be provided on one wall with two, two-drawer file cabinets for confidential records, letters forms, etc.

Counselor’s Office
☐ This office should be carpeted.
☐ The counselor’s office should be easily accessible from the classrooms and near, but not a part of, the administration suite and should have a window.
☐ This office needs a whiteboard, tackboard, telephone, and bookshelves.

Telephone Booth
☐ A small room where a teacher can talk privately on the telephone is required. (The room needs a door with a window, or a “phone in use” light.)
☐ This room should have a small built in countertop and room for one chair.
☐ This room should be carpeted.

Storage and Records Rooms
☐ Two lockable rooms are needed for storage of office supplies and student records.
☐ The records room needs space for lockable file cabinets.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

2nd Floor Workroom

☐ This room requires appropriate electrical wiring and ventilation to house a copier for staff use.

☐ This room requires a work counter and cabinets under and over the counter for storing supplies.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

Staff Development Area

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<td>Reading Specialist Office</td>
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<tr>
<td>Training/Conference Room</td>
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</tbody>
</table>

Staff Development Office

☐ The staff development area should be located near the classrooms.

☐ The office should include one workstation.

☐ This office needs a whiteboard, tack board, closet, and video, voice, and data outlets.

Reading Specialist Office

☐ The staff development area should be located near the classrooms.

☐ The office should include one workstation.

☐ This office needs a whiteboard, tack board, closet, and video, voice, and data outlets.

Training/Conference Room

☐ This room will be used for staff training needs.

☐ This room should include ample shelving for training materials.

☐ The room should be able to comfortably accommodate up to 12 participants seated around a conference table.

☐ A whiteboard and tack board should be installed.

☐ The wiring for an overhead LCD projector should be provided.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

Health Services Suite

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<td>Toilet Room</td>
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<td>Storage Room</td>
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</tbody>
</table>

☐ The Health Services Suite should be in complete compliance with COMAR 13A.05.05.10A.

☐ The Health Suite must meet accessibility requirements of the ADA, and at a minimum, include spaces for waiting, examination and treatment, storage, resting, a separate room for private consultation and for use as the school health services professional’s office, a toilet room, and lockable cabinets for storing health records and medications.

☐ A designated school health services professional must be involved in the planning of the health services suite.

☐ The architect should refer to MSDE document, *School Health Services*, June 2002 for specific utility information.

☐ The suite should be designed to provide easy visual supervision of all the spaces by the health services professional. The suite should be laid out so that an additional workstation for a health professional can be positioned near the treatment and waiting areas.

☐ In addition to access to the general office, the health services suite also must have a window into the general office so that office staff may monitor the room when health staff is unavailable.

☐ The health room also must have a door to the corridor.

☐ Ventilation is important throughout the health suite.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ The countertops should be seamless to aid in maintaining sanitary conditions.

☐ The floor finish should be an easily cleaned non-absorbent material. Carpet should not be used in any areas of the health suite.

☐ A non-porous ceiling material should be used. Vinyl-coated ceiling tile or painted drywall is an acceptable choice.

☐ If any of the areas are enclosed then glazed walls areas should be provided.

☐ The health suite requires wall and base cabinets, lockable file cabinets, for storing health records. A portion of these cabinets must be lockable to store medications, medical supplies, and equipment.

Waiting Area

☐ The waiting area should have space for four to eight chairs.

☐ A small tack board should be provided in the waiting area to display health care and other information of importance to students and staff.

Treatment/Medication Area

☐ This area should be adjacent to the waiting area to facilitate the efficient flow of students.

☐ This area should have a kitchen-type sink with cabinets above and below (including a locked medicine cabinet), a 34-inch high countertop, and a small residential style refrigerator/freezer to store medical supplies and foods.

☐ A minimum of 12 linear feet of wall and base cabinets should be provided.

☐ The freezer should have an icemaker.

☐ The treatment area also requires a computer.

☐ A small sink, with cup, towel, and soap dispensers should be provided.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

Office/Health Assessment Room

☐ The room requires one computer, fax machine, and electronic connection and physical proximity to a copy machine.

☐ The spaces used for consultation and examinations must be enclosed with sufficient acoustical isolation to ensure complete privacy and confidentiality.

☐ A small sink, with cup, towel, and soap dispensers should be provided.

Health Assessment/Isolation Room

☐ The spaces used for consultation and examinations must be enclosed with sufficient acoustical isolation to ensure complete privacy and confidentiality.

☐ A small sink, with cup, towel, and soap dispensers should be provided.

Rest Area

☐ This area should not be a fully contained room but rather an area that can provide privacy for each cot with a draw curtain on a ceiling track.

☐ The rest area needs space for two to four cots, and one bedside cabinet.

☐ There should be a separate privacy room within the rest area, with a door and space for a cot and a single pedestal desk and chair.

☐ In the rest area and privacy room, supplementary power ventilation capable of 20 changes per hour should be provided, with control by means of a separate switch within the health suite.

Toilet Room

☐ One ADA toilet should be provided.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ The toilet room should be accessed without having to go through another functional space in the health suite such as a rest area.

☐ Ideally, students should be able to enter the health suite solely to use the toilet room without disrupting other activities.

**Storage Room**

☐ The storage area is to have space sufficient for a four-drawer locked file cabinet, a wardrobe for coats, and space for storing large items such as wheelchairs.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

Staff Lounge

☐ The staff lounge is a place for staff members to relax, study, plan, and think together.

☐ Two toilet rooms are required just outside of the staff lounge. The toilet rooms may be labeled "adult" rather than "male" and "female" in an elementary school.

☐ The staff lounge should contain a compact built-in kitchen with six linear feet of counter space for a microwave and sink and a space for a refrigerator (nic).

☐ A clock should be provided.

☐ A small, enclosed room with countertop and space for one chair is needed for a telephone.

☐ Ventilation must be provided. An operable window in the staff room is preferred.

☐ An area should be designated for a computer with jacks for computer & telephone (modem).
APPENDIX B - EDUCATIONAL SPECIFICATIONS

Building Service Facilities

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<td>Building Service Outdoor Storage</td>
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<td>Building Service Closets</td>
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</tbody>
</table>

Building Service Office

☐ The entire building services area should be located adjacent to the general receiving area.

☐ The office should be designed as a general office that can accommodate two staff members with two desks and appropriate wiring for computers, phones, etc.

Locker/ Shower Area

☐ A locker area must be located near the receiving area.

☐ Six full-size lockers should be provided in the locker area.

☐ The locker area should be designed with an enclosed toilet room and shower room for building service staff use.

Compactor/ Can Wash/ Trash Room

☐ This room needs to be completely separate from the kitchen spaces with no common walls.

☐ Trash trucks must have access to this room.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ The room should be heated and have adequate interior lighting, floor drainage, and easily cleanable surfaces.

☐ Hot and cold water should be available for flushing and cleaning.

☐ The room should be designed to be pest-free and well ventilated.

☐ Floors should be sloped so that wash down stays within the room and goes down the drain.

☐ The compactors need to be installed with enough clearance away from the wall to permit staff to access the equipment from all sides.

☐ A roll-up door for trash transfer to trucks, steam cleaning equipment, and trash collection containers are needed.

☐ The room should be designed with a ramp to allow trashcans to be rolled to the dock.

**Recycling Room**

☐ The recycling room should be located next to the trash room. This room will be used for the sorting of recycled items.

☐ Space for a recycling dumpster for cardboard is needed outside of the recycling room (approximately 8’x8’).

☐ This room needs to be completely separate from the kitchen spaces with no common walls.

☐ Trash trucks must have access to this room.

☐ The room should be heated and have adequate interior lighting, floor drainage, and easily cleanable surfaces.

☐ Hot and cold water should be available for flushing and cleaning.

☐ The room should be designed to be pest-free and well ventilated.

☐ Floors should be sloped so that wash down stays within the room and goes down the drain.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

- A roll-up door for trash transfer to trucks, steam cleaning equipment, and trash collection containers are needed.
- Ramp should allow trashcans to be rolled to the dock.

**General Storage and Receiving Area**

- The receiving area should be enclosed, floor to ceiling, with a chain link fence.
- Flexible shelving is required but should not occupy more than one third of the area.
- This area must be secured.
- Good lighting and easy access to materials being stored are required.
- Electrical outlets, upgraded lighting and ventilation must be provided in this area.

**General Storage**

- Flexible shelving to accommodate books, teaching aids, large size (24" x 36") paper, and other instructional supplies is required.
- Good lighting and easy access to materials being stored are required.
- Electrical outlets, upgraded lighting and ventilation must be provided in all large storage rooms for future flexibility.

**Building Service Outdoor Storage Room**

- Outdoor storage is to be near the service area and is to be suitable for heavy mowing, snow removal, and other outdoor equipment.
- The dimensions of the outdoor storage area must be able to accommodate two tractors side by side. (one tractor is approximately 9’ long by 7.5’ wide and a second smaller tractor) and other equipment.
A rolling garage style door and a regular door must be provided.

A ramped and paved driveway is required for the tractor so that it can access the sidewalk and driveways of the school during snow removal.

Electrical service and lighting inside must be provided. Access to the light switches must be available at both entrances.

Proper ventilation for storage of gasoline is required.

### Building Service Closets

- At a minimum, there should be a building service closet for each 19,000 gross square of the facility. In addition, there should be a building service closet on each floor and each wing of the facility.
- The closets should be a minimum of 25 sq. ft.
- The building service closet must accommodate a minimum of one utility cart.
- The closet requires shelving for cleaning supplies.
- The closet requires a floor mop sink with hot and cold running water and a floor drain.
- A mop/broom holder is required.
- Where feasible, closet doors should swing outward in order to maximize the storage area and provide easier access to items within the closets.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

Site Requirements

Physical Education Instructional Site Requirements

☐ The site should be designed to provide a clear view of all play areas and to facilitate supervision from one location.

☐ Protective fencing may need to be provided near heavily wooded areas, busy streets, steep hills, parking lots and turnaround areas.

☐ Metal drains/grates should not be located in the playing fields and paved play.

☐ Paved areas and fields must be as level as possible. Water should not collect on paved areas.

☐ The items described below are for a school with a site meeting the 12-acre requirement. At schools with smaller sites, the architect is to work with MCPS staff, including the Physical Education Curriculum Coordinator, Safety Director, and school staff to determine layout of the play areas. The outdoor physical educational instructional space should not be compromised for playground equipment.

Softball Fields

☐ Two softball fields should be provided with the following design requirements:

☐ 250' radius, with a soccer field superimposed should be provided if possible. See below for the soccer field dimensions.

☐ The site size will determine the number and dimension of the softball fields.

☐ Softball fields should have metal benches protected by fencing for each team's use.

☐ The fencing and benches should not interfere with soccer field usage.

☐ The softball backstops (2) shall be in diagonal corners of the field or in corners on the same side. See diagram in Architect's Guide provided by Division of Construction.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

- Softball infields are not skinned for elementary schools. However, one field may be skinned if it does not significantly impact the soccer playing area.

**Soccer**

- The site size will determine the size of the soccer fields. The elementary school size soccer field is 150'x240' however the minimum size field should be 105' x 180'.
- No permanent goals or temporary goals should be installed on the soccer fields.

**Paved Play Areas**

- Two paved areas, 80' x 100' should be provided if the site permits. On small sites, one paved play area
- If located adjacent to one another, a grassy strip of at least 20' should be between the two paved areas.
- One area should have four basketball goals with appropriate striping (see diagram in Architect's Guide available from the Division of Construction).
- A second area, designated for primary use, shall be striped according to drawings provided in the Architect's Guide available from the Division of Construction.

**Kindergarten Paved Play Area**

- A third paved area, at least 40'x 60' but preferably 80' x 100', is needed for the Kindergarten students.
- This area needs to be located adjacent to the Kindergarten playground (mulched) area and close to the other paved play areas.
- This area requires a fence around it or adequate separation from the other paved play areas.
- The area will be striped according to drawings provided in the Architect's Guide available from the Division of Construction.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

Playground Equipment Areas (Mulched Areas)

☐ One or two areas shall be provided near the playing fields and large paved play area for playground equipment. Each area should be approximately 40’x40’. The size and shape of the play area will be developed during the design process in consultation with MCPS staff.

☐ The area shall be level, bare ground, unseeded, and no sod. MCPS will provide equipment dimensions for these areas.

☐ An underground drainage system must be provided.

☐ The loose-fill surfacing material (engineered wood fiber) must meet ADA requirements. A border must be provided to contain the filler. The surfacing materials must meet or exceed safety specifications for shock absorbing qualities as outlined by US CPSC.

Kindergarten Play Area (Mulched Area)

☐ A mulched kindergarten play area of 40’ x 60’ should be located adjacent to the kindergarten paved play area described in the physical education section for playground equipment. The size and shape of the play area will be developed during the design process in consultation with MCPS staff.

☐ The area shall be level bare ground, unseeded, and no sod. MCPS will provide equipment dimensions for this area.

☐ Protective fencing should enclose the area.

☐ An underground drainage system must be provided.

☐ The loose-fill surfacing material (engineered wood fiber) must meet ADA requirements. A border must be provided to contain the filler. The surfacing materials must meet or exceed safety specifications for shock absorbing qualities as outlined by US CPSC.
APPENDIX B – EDUCATIONAL SPECIFICATIONS

Site Requirements

☐ 12 useable acres for new schools is ideal. More than 12 acres may be needed due to terrain or for environmental protection requirements.

☐ Other considerations include road access, ability to extend sewer, water and other utilities, good topography, compatible adjacent land use.

☐ The site should be designed to provide a clear view of all play areas and to facilitate supervision from one location.

☐ A minimum of 80 parking spaces should be designed initially for a school with regular staffing allocations, with future expansion possible. At schools with class-size reduction, 100 parking spaces should be provided.

☐ Protective fencing may need to be provided near heavily wooded areas, busy streets, steep hills, parking lots and turnaround areas.

☐ Metal drains/grates should not be located in the playing fields, paved play areas and mulched playground equipment areas.

☐ Paved areas and fields must be as level as possible. Water should not collect on paved areas or in mulched areas.

☐ Playground equipment areas should not be located at the bottom of hills unless a provision is made to channel water away from the equipment areas.

Driveway and Service Drive

☐ The driveway must be 24’ wide, 50’ radius for turnaround, for buses, with a separate entrance and exit or turnaround is required.

☐ Bus traffic should be separated from car traffic at all times, when possible. Bus loading zones should be able to accommodate the entire student body.

☐ All driveways must be arranged so that children do not cross them to get to the play areas. Access to the Head Start and future day care areas must be considered.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ Pedestrian access to the school facilities should be designed to make the best use of community rights-of-way and should not require students to cross in loading-zone areas.

☐ The design must follow ADAAG 4.1.2(5)c, which stipulates that when a passenger loading zone is provided, a portion of it shall comply with ADAAG 4.6.6. At a minimum, the established car loop for passenger drop off should not interfere with the accessible parking spaces.

☐ Driveway aprons are to be perpendicular to the centerline of the street; and if there is an intersecting street on the opposite side from the proposed driveways, the driveway apron is to line up with the intersecting street.

☐ The grade of the driveways shall not exceed eight percent and should provide for a minimum centerline radius of 50 feet to provide adequate turning space for buses.

☐ A service drive 15' wide with an adequate turnaround is required to service the kitchen, boiler room, and general delivery area.

☐ Where necessary, oil filler pipes, with adequate overflow pipes, are to be easily accessible for a tractor-trailer.

**Landscaping**

☐ Planting should include screen planting and other planting needed for erosion control.

☐ Existing plant stock, if on site, is to be evaluated for use and protected accordingly.

☐ Landscaping to support energy conservation and to relate the building to the site with aesthetic appeal must be included.

☐ Planting areas along sidewalks and wooded and flowered areas are to be situated to enable the physical education program to be carried on without undue disturbance to the classrooms.

☐ Provision for outdoor watering must be included.

☐ The landscaping plan should include areas for outdoors environmental education programs.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ Areas should be identified where plowed snow could easily be piled.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

Linkages to Learning (Add Alternate)

Please refer to the Health and Human Services Program of Requirements.

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<td>Mental Health Counselor’s Office/ Play Therapy Room</td>
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☐ The Linkages to Learning Program is provided by a partnership between 3 entities: Montgomery County Public Schools that provides the facilities and counselors; Montgomery County Department of Health & Human Services that provides the funding; and private providers, who hire and supervise the Linkages to Learning staff.

☐ The Linkages to Learning sites typically have three site-based staff: 1) a site coordinator; 2) a case manager; and 3) a mental health counselor. The staff provides mental health, social service, and educational support services to children that attend each school, as well as their families.

Reception Area

☐ The reception space should be located near the entrance of the Linkages to Learning Suite and serves as a reception/waiting area for mental health and case management clients and those attending classes, workshops and groups. Seating should be provided in this area.

Conference/ Meeting Room

☐ The Conference Room should seat 10-12 people and will be used for team meetings as well as support groups and classes.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

Storage Closets

☐ The storage space should include adjustable shelving that will accommodate office supplies and food/clothing bank materials.

Mental Health Counselor’s Office/ Plan Therapy Room

☐ This space will serve as the Counselor’s Office, as well as a space for play/group therapy. Casework for supplies, toys and games should be included.

Case Manager’s Office

☐ This is a standard office space and can be slightly smaller.

Site Coordinator’s Office

☐ This is a standard office space and can be slightly smaller.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

Additional Program Requirements

Site:

☐ The design team should review how the arrival and drop off of disabled students and the arrival of disabled adults is accommodated to meet current accessibility requirements.

☐ The architect should evaluate whether the 1975 gymnasium can remain and be renovated.

☐ It is critical to bring cars off of the one-way streets and onto the site to mitigate congestion during arrival and dismissal.

☐ The school has a need for a long parent drop-off loop and has less of a need for a bus loop because currently only two busses currently serve this school.

☐ The school would like to have a large welcoming outdoor area for parents to wait and for children to line up.

☐ The loading dock should be designed in such a way as to deter people from parking in front of it.

☐ There is extensive community use of the school’s parking lot.

☐ It is important to have a welcoming and clearly designated entrance and make the school name prominent.

☐ It is desirable to separate staff parking from the parent drop off.

Building:

☐ Cubbies and hooks or lockers are desirable near the gym and specials.

☐ The school may consider lockers in the hallway but there are concerns about theft issues.

☐ The building design should be unique and not a repeat design of any other school.
APPENDIX B - EDUCATIONAL SPECIFICATIONS

☐ If the corridor outside the gym is to remain, the architect should evaluate the feasibility of providing working heating to this space.

☐ It is desirable to carve out smaller learning spaces among the classrooms.

☐ Storage is a high priority.

☐ It is desirable to create a green screen on one wall of the media center for a mobile tv studio cart and equipment.

☐ An additional computer hub in the media center is desirable for testing.

☐ The school requests a maximum amount of tackboard and display cases in the hallways and in the main lobby and outside of the media center and the art room for art displays.

☐ It is desirable to look at designing the Administration suite similarly to Resnik Elementary.

☐ It is desirable to look at designing the Media Center similarly to Brookhaven Elementary or Ritchie Park Elementary.

☐ It is desirable to cluster the ESOL team.

☐ It is desirable to add a computer drop in the gymnasium.

☐ It is desirable to use a different color line for the third block in the hallway floors for wayfinding.

☐ Wider corridors are desirable.

☐ Connecting doors between classrooms are desirable.

☐ The architect should pay special attention to making sure there are no blind spots throughout the building and to providing extra storage wherever possible.
The existing Wheaton Woods Elementary School facility is situated on an 8.032 acre parcel (P800) at 4510 Faroe Place, Rockville MD 20853. The site is bounded to the South by Falcon Street, to the East by Parkland Drive, to the West by Evanston Street and to the North by Faroe Place. The existing building footprint occupies approximately 66,763 gross square feet.

The existing site topography consists of two terraced levels of almost equal size. The upper terraced level provides on-grade access to the front of the school on Faroe Place. The school building, playground equipment and some play courts are constructed on this level. The lower terraced level accommodates the ball fields, basketball courts and a mulched play area. This change in terrace levels is around 14 feet. Currently the only way to travel from one level to the other is via an external stair.

The site has several access points and all sidewalks are heavily used due to high pedestrian traffic. A single loop off Faroe place provides access for busses cars and parking for 6 staff vehicles. There is a 47-space parking lot off of Evanston Street for staff use. This parking lot also serves the loading dock and building services. It is conveniently located for after-school use of the ball fields.
APPENDIX C - EXISTING CONDITIONS SURVEY

ZONING

This site is currently zoned R-60. Based on current Montgomery County Zoning regulations, the setbacks are as follows:

**Main Building**
- Front setback - 25 feet – Subject to an established building line in accordance with Section 59-A-5.33, if applicable.
- One side setback - 8 feet
- Sum of both sides setback - 18 feet
- Rear setback - 20 feet
- Corner - “In the case of a corner lot, if the adjoining lot on one of the streets either does not front on that street or is in a nonresidential zone, the setback from that street line must be at least 15 feet.”

**Maximum building height** - The height must not exceed: (1) 35 feet when measured to the highest point of the roof surface regardless of the roof type, or (2) 30 feet to the mean height level between the eaves and ridge of a gable, hip, mansard, or gambrel roof, subject to the following:
- (a) The height must not exceed 2 ½ stories or 30 or 35 feet, depending on the method of measurement, if other lots on the same side of the street and in the same block are occupied by buildings with a building height the same or less than this requirement.
- (b) The height may be increased to either 3 stories or 40 feet if approved by the Planning Board through the site plan approval procedures of Division 59-D-3.

**Accessory Buildings**
- Front setback - 60’
- Side setback - 5’
- Rear setback - 5’
- Corner - “If the adjoining lot on a side street is a residential zone and has frontage on the side street, the setback from the side street line is 25’, and the setback from the rear lot line is 10’. Finally, if there is no residentially zoned lot on the side street with frontage on the side street in the same block and on the same side of the street, the setback from the side street line is 15’.”
- Max building height (Accessory building) - Two stories or 20’ from highest grade.

**Lot Coverage** - 35% maximum lot coverage by buildings
APPENDIX C - EXISTING CONDITIONS SURVEY

CODE EVALUATION

The existing school is a one-story non-sprinklered structure of 66,763 GSF. As previously mentioned, there are a few storage areas that are sprinklered. However, regularly occupied spaces do not benefit from sprinklers; therefore this building cannot be considered a sprinklered building. Under current codes the school is classified as Educational Occupancy with Type III-B Construction.

The school is currently non-compliant in terms of area. The maximum area allowed per IBC 2009 would be 54,375 GSF for a single story, fully sprinklered Education use and would require a 20 foot open space around the building’s entire perimeter. Therefore any addition(s) would have to be separated by a firewall. A replacement multi-story building would be limited to a maximum 39,875 GSF before fire wall separations would be needed.
APPENDIX C – EXISTING CONDITIONS SURVEY

SITE ASSESSMENT

1. CODE UPGRADE TO EXISTING SITE
   The project consists of a building modernization with site modifications for improved pedestrian and vehicular access. Code required upgrades will include fire access to the front of the building where the expected building and parking additions are likely to be located.

2. ROCK REMOVAL
   Per the Soil Survey of Montgomery County, the predominant soils on the site are in the Glenelg series, specifically the soils are classified as Glenelg-Urban land complex. According to the USDA, the depth to bedrock is generally greater than 5’ in both. However, this estimated depth is based upon virgin soils. Because the site was previously disturbed, bedrock could be encountered at shallower depths. During site visits, rock outcroppings were observed in the vicinity of the existing building. It is anticipated that some rock removal will be required during the construction of the proposed improvements. It will be necessary to perform site-specific borings to establish the actual depths and extent of bedrock on the site.

3. OFF-SITE IMPROVEMENTS
   Aside from modifications to driveway entrances and associated curbs and walkways, no off-site improvements are anticipated.

4. UTILITY RELOCATIONS
   There are no off-site utility extensions or relocations anticipated. However, depending upon the location of the modernized building additions, some on-site utilities/facility relocation may be required.

5. WATER SERVICE UPGRADE
   The existing school is served via a 3” water pipe connection extending from the north side of the building from the existing 6” water main in Faroe Place. There is an existing 8” water main located on Evanston Street which as has been assumed that is of sufficient capacity to service the proposed building/addition.

   According to WSSC, the site is in a 495A pressure zone with a High Hydraulic Gradient (HHG) of approximately 535 and a Low Hydraulic Gradient of approximately 441. On that basis, per WSSC prescribed calculations, the water pressure near the
APPENDIX C - EXISTING CONDITIONS SURVEY

The proposed connection to the water main in Evanston Street is estimated to be between 99 p.s.i. and 51 p.s.i. The exact pressures and flows should be confirmed via field testing at the time of design.

6. SANITARY SEWER UPGRADE
   The existing school is served by three sanitary sewer lines. Two lines (5" and 6") are connected to an 8" sanitary sewer main along Faroe Place. The third line (5") is connected to an 8" sanitary sewer main along Evanston Street. It has been assumed that these existing 8" mains are of sufficient capacity to service the proposed building.

7. UTILITY POLE RELOCATIONS
   There are six poles located on or around the property and possibly within the anticipated limits of disturbance. Design in these areas will aim to minimize unnecessary pole relocation.

8. UNDERGROUND UTILITIES
   New connections to existing water and sanitary lines are anticipated.

9. REFORESTATION/AFFORESTATION
   There is currently no forest on the site. Per Montgomery County’s Approved Technical Tree Manual, afforestation will be required in conjunction with this modernization. Given the amount of the site area needed for the proposed improvements that are part of the modernization, providing afforestation onsite will be very difficult. Based on a site area of approximately 8 acres, the afforestation requirement will be approximately 1.2 acres. Some credit can be obtained for landscape plantings proposed with the modernization however it is assumed that the majority of the afforestation will have to be addressed off-site or through a fee-in-lieu.

10. TEMPORARY PARKING LOTS
    The building will be unoccupied during construction. Temporary parking is not anticipated.

11. TEMPORARY FENCING
    Temporary chain-link fencing and gates will be required around all construction areas.

12. FILL REMOVAL (CUT)
APPENDIX C - EXISTING CONDITIONS SURVEY

It is anticipated that earthwork will be limited to excavation associated with the construction of the lower building level, building footings, stormwater management, and for pedestrian and vehicular access.

13. FILL REMOVAL (BORROW)
   It is anticipated that earthwork will be limited to excavation associated with the construction of the lower building level, building footings, stormwater management, and for pedestrian and vehicular access.

14. ADA UPGRADE (SITE)
   It is understood that there are existing ADA compliant routes from parking spaces to the building. All improvements will adhere to ADA standards as well.

15. SITE RETAINING WALLS
   Site retaining walls are anticipated between upper and lower play areas.

16. STORMWATER STRUCTURES/ISSUES
   There is currently no stormwater management facilities on the site. This modernization of this school will require on-site management of stormwater. The proposed improvements will be designed using Environmental Site Design criteria per the Maryland Stormwater Design Manual and Montgomery County Stormwater Regulations and in compliance with the Stormwater Management Act of 2007. The stormwater management system will be designed to meet these criteria to the Maximum Extent Practicable (MEP) with the intention of maintaining the existing drainage patterns as much as possible, while improving water quality by improving stormwater quality. It is assumed that stormwater management will be provided in a number of facilities located throughout the site and consist of, but not limited to, bio-filters, bio-swales, grass swales, pervious pavements, and a green roof.

17. OUTDOOR ATHLETIC FACILITIES AND PLAY AREAS
   The facility currently has two paved play areas south of the school and two paved athletic courts to the southeast of the school. The site also accommodates two baseball fields and a small soccer field.
APPENDIX C – EXISTING CONDITIONS SURVEY

ARCHITECTURAL

The existing Wheaton Woods Elementary School is a single story structure with one courtyard and a fenced-in paved play area. The original school opened in 1952 with a capacity of 100 students. Since then the school has undergone a series of additions: 1955, 1959, 1969 and 1975. The existing building is not able to accommodate the school's population of 487. At the time of this report there are six relocatable classrooms being utilized with plans for two additional to be added in the summer of 2011.

A built-up roof system covers all of the school. The entire school was re-roofed in 1989.

The existing structure is constructed of non-combustible materials with the exception of wood structural members used in the roof of the original building. The exterior walls are masonry with brick veneer. Neither the original building nor its subsequent additions have a cavity or insulation in their exterior masonry walls. The structural system is a combination of load bearing masonry walls, steel framing, steel roof joists, wooden rafters (original building only), and concrete slabs-on-grade.

The building is not sprinklered with the exception of a few large storage rooms.

The school's interior finishes are worn and are at the end of their useful life. The school has tried to cover the cracked plaster wall with student art to conceal its poor condition. The floors are mainly Vinyl Composition Tile are in poor condition. The ceiling heights in corridors are just above the eight feet; ceiling tiles are stained and in need of replacement.

Exterior doors are painted steel and are equipped with panic hardware. Interior doors are primarily wood, with original hardware and are in poor condition. Much of the hardware is not compliant with current accessibility codes.
APPENDIX C – EXISTING CONDITIONS SURVEY

STRUCTURAL

ORIGINAL 1951 BUILDING

The original roof construction was of sloped 2x12 members with 1” of rigid insulation on 1 5/8” tongue and groove sheathing. The roof members are supported by load bearing CMU masonry walls. The floor is 5” concrete slab-on-grade, reinforced with welded wire mesh. Footings are continuous concrete wall footings.

1955 CLASSROOM ADDITION

The roof construction consists of open web steel joists at 4’-6” on center maximum with 1” of rigid insulation on a 1 ½” metal deck. The joists are supported by structural steel wide flange girders, which are in turn supported by steel columns. The floor is a 5” concrete slab-on-grade, reinforced with welded wire mesh. There is one area of a raised precast concrete plank system with topping where the school extends towards the ball fields on the wing closest to Parkland Drive. Footings are concrete spread footings at columns with continuous concrete wall footings.

1959 CLASSROOM ADDITION

The roof construction consists of open web steel joists at 4’-0” on center maximum with 1” of rigid insulation on a 1 ½” metal deck. The joists are supported by structural steel wide flange girders, which are in turn supported by steel columns. The floor is a 5” concrete slab-on-grade, reinforced with welded wire mesh. Footings are concrete spread footings at columns with continuous concrete wall footings.

1969 MULTIPURPOSE ADDITION AND LIBRARY RENOVATIONS

The roof construction consists of open web steel joists at 4’-0” on center maximum with 1 ½” of rigid insulation on a 1 ½” metal deck. The joists are supported by load bearing walls. The floor is an 8” precast concrete plank system with 2” of concrete topping. Footings are concrete spread footings at columns with continuous concrete wall footings. The Multipurpose room has a crawlspace and an excavated storage area on the lower level.
APPENDIX C - EXISTING CONDITIONS SURVEY

1975 GYM ADDITION

The majority of the roof construction consists of open web steel joists at 6'-0” on center maximum with 3-5/8” thick Tectum panels. The joists are supported by load bearing walls. The floor is a 5” concrete slab-on-grade, reinforced with welded wire mesh. Footings are continuous concrete wall footings. The Multipurpose room has a crawlspace and an excavated storage area on the lower level.
APPENDIX C – EXISTING CONDITIONS SURVEY

MECHANICAL

GENERAL

The first wing of Wheaton Woods Elementary School was originally constructed in 1952. There were four more additions added in 1955, 1959, 1969, and 1975. The original section of the school and the first three additions were systemically renovated in 2003 with the boilers, chillers, some plumbing fixtures and some piping. Since there was a renovation of a portion of the mechanical systems within the last eight years, some of the equipment is in good condition.

BOILER ROOM

There are two Lochnivar copper fin gas-fired boilers (Model CHN 1440). Both boilers are direct vented units with a capacity of 1,440,000 btu/hr input, 1,209,600 btu/hr output. There is no excess capacity in these boilers for a building addition, unless it is very small. The two boiler flues connect together and then extend up through the roof. Manufacturers of direct vent type units prefer flues to extend separately to the exterior. Upon our field survey, we noted the boiler room roof is an all wood structure and portions of the ceiling are missing which reduces the fire protection for the structure.

The heating water system consists of two in-line circulators that we believe are for thermal shock on the boilers. There are two other end suction heating pumps that we believe pump heating water from the boiler room to the chiller room where they join together with a pair of three-way control valves that produce the two-pipe main building pumping system. These heating pumps also supply heating water to the gym air-handling unit and the cabinet unit heaters at the entry doors. There is also a diaphragm expansion tank and air separator located on the heating piping in the boiler room.

CHILLER ROOM

The chillers and pumps are located in another room away from the boiler room. This room appears to have been the outside storage room at one time. The chiller is a Trane Centravac "Earthwise" (Model 320) centrifugal unit. The chiller uses R-123 refrigerant which is has been banned due to the hazard to the ozone layer. This refrigerant can make people very sick if inhaled, therefore, located on the door to the chiller room is a breathing apparatus for use in the event the machine develops a leak. The chiller is water-cooled with a BAC Model VT1 275 forced draft cooling tower outside. The tower has a stainless steel basin. A separator with a pump is located outside to provide filtration for the cooling tower. In the chiller room is a pit where the two condenser water pumps that serve the cooling towers are installed. By located the pumps in the pit, the net positive static head
APPENDIX C - EXISTING CONDITIONS SURVEY

(NPSH) can be reached so the system will function properly. The room also houses the two chilled/heating pumps that serve the building HVAC equipment with the two-pipe heating/cooling system. Other system accessories located in the room include an air charged expansion tank, air separator, shot feeder and a chemical feeder system for the cooling tower system.

It should be noted that in the Chiller Room, the condenser water blow off must connect to sanitary piping, so currently it is piped to the janitor's sink in the room. This sink is too small so water splashes out and the floor in the room is always wet in the summer.

HVAC SYSTEMS

Generally, the building is heated and cooled by the two-pipe chilled/heating water system. The breakdown of the HVAC equipment for the spaces is as follows:

- All classrooms are served by a unit ventilator with outside air louver and connected to a two-pipe system.
- Offices and miscellaneous areas are conditioned by fan coil units connected to a two-pipe system.
- Cafeteria and Media Center have unit ventilators with outside air louvers and are connected to a two-pipe system.
- Gymnasium has a heating and ventilating unit connected to a heating only loop.
- Main Data Room has no air conditioning. There is only an exhaust fan in the room.

CONTROL SYSTEM

The control system was upgraded to direct digital controls (DDC) during the 2003 renovations but it appears not all of the equipment was switched over, so some may still be on the pneumatic system. To save energy and reduce repairs, the DDC system is the better system for MCPS.

PLUMBING SYSTEM

The existing 2.5-inch water service to the building will likely not be adequate if an addition is added but cannot be determined until building layouts are further developed. There is no backflow preventer on the service and the water service is located in the middle of the incoming electric service. Located in the boiler room is an A.O. Smith "Master Fit" gas-fired water heater with an open flame burner. The layout of the unit makes service very hard. The heater has a 100-gallon storage tank with 275,000 btu/hr burner capable of 267 gph recovery. The flue from heater is vented directly through the roof. The domestic hot water system has a circulator but no expansion tank.
Located in the chiller room is a gas-fired water heater with no labels. The tank appears to be about 100 gallons and the flue discharges into a masonry stack in the room. The system is equipped with a domestic hot water circulator but no expansion tank. Plumbing fixtures appear to be in good condition. The water closets are floor-mounted, urinals are wall-hung, and the lavatories are individual wall-hung type. The school is equipped with ADA water closets but the layout does not meet the requirements of the Americans with Disabilities Act (ADA).

FIRE PROTECTION SYSTEM

The existing school is not sprinklered with the exception of a few storage rooms. If an addition or modernization is planned at the school, MCPS should add a requirement to sprinkler the entire existing building. A minimum 6-inch fire service will be required.
APPENDIX C – EXISTING CONDITIONS SURVEY

ELECTRICAL

POWER DISTRIBUTION

The school is fed from a PEPCO transformer located outside in an underground vault. The main power distribution equipment, located in the boiler room, has been expanded over the years from when the first section was installed in 1952. It is not possible, at this time, to determine exactly how the electrical distribution is arranged without having covers removed and wiring traced. There are two electric meters and what appear to be multiple service mains. The equipment is by various manufacturers, some that are presently out of business. The following is a listing of what was observed:

- Electric meter labeled No. 1 appears to be connected to a Federal Pacific 800-amp, 277/480V, 3 phase, 4 wire main breaker.
- Electric meter labeled No. 2 appears to be connected to a Federal Pacific 600-amp, 277/480V, 3 phase, 4 wire main breaker.
- There are two old ITE large breakers that appear to be tapped in from the CT cabinet.
- There is a trough from what appears to be the No. 1 main to Square D Panel MDPH which serves various branch panels, chiller, chilled water pumps and the emergency power distribution panel.
- Another tap into the CT cabinet feeds a 400-amp Square D disconnect that serves the five portable classrooms.
- There is an original Federal Pacific dry-type transformer rated 500 kVa with 277/480V primary and 120/208V secondary voltages. Connection to the transformer is directly out of the CT cabinet.
- Other panels in the Boiler Room include:
  - Boiler Room Panel ITE 225-amp, 120/208V with no main breaker, appears to be from 1952.
  - Another boiler room panel – Federal Pacific 120/208V with no main breaker.
  - EMS phase monitor connected to an ITE panel with no markings. Monitor serves several cabinets next to the panel with no markings.
- It appears that one of the ITE main breakers is serving an old 800A,120/208V ITE panel.

There are two electric panels in the chiller room. One is manufactured by ITE and the other is by Federal Pacific. Both serve equipment in the room. We could not find panel labels. There are several electrical panels distributed around the school to provide electric power to various lights and receptacles.
APPENDIX C - EXISTING CONDITIONS SURVEY

Receptacles in some areas of the building are scarce and do not meet MCPS standards.

EMERGENCY GENERATOR

There is a 20 kW existing gas-fired Onan generator that is located in the boiler room. The generator cooling system is not ducted to the outside. Cooling and combustion air is through a louver in wall. The generator transfer switch is wired to a 70-amp main breaker which is wired to a transformer on the wall. This transformer is wired to a 60-amp main emergency disconnect and emergency panel.

LIGHTING

Fluorescent lighting is used throughout the school. The standard fixture is a 2’ x 4’ recessed lensed fixture.

FIRE ALARM SYSTEM

The fire alarm system in the building is by Fire-Lite, was installed by Ark Systems, and looks fairly new. There are manual pull stations, smoke and heat detectors, and notification devices throughout the building. The fire alarm system originally was fed from a fuse panel but is now connected to a new power panel. In the main lobby, there is a fire alarm annunciator panel with five zones. We assume the zones are divided based on the original building and the four additions to the building. The system has a pre-recorded message unit that can notify MCPS when the system is activated.

INTERCOM AND SOUND SYSTEM

The school intercom is located in the main office area. The system is a Telecenter System 21 manufactured by Rauland. The system has the capacity to perform select local calls to classrooms or paging throughout the school. Each classroom area has a speaker and a call switch. Speakers are also located throughout the corridors. The system has limited spare capacity for additional rooms.

TELEPHONE SYSTEM

The old telephone distribution board is located in the boiler room and is still being used. A new "Comdial" telephone switch has been added. This provides a separate key system in the school for telephones in offices and other locations throughout the school.
APPENDIX C - EXISTING CONDITIONS SURVEY

CABLE TV SYSTEM

Cable TV outlets are located throughout the school. The head-end equipment is included in the Data Room in the Media Center. TV's are mounted on carts with VCR's and not permanently mounted in classrooms.

SECURITY SYSTEM

The security system consists of a computerized detection system. The intrusion detection system includes keypads and motion sensors in the corridors and door switches on the exterior doors.

DATA SYSTEM

The existing system is a Dell system with a Johnson Controls network integrator for controls and a Weather Bug tracking system. We were informed that a wireless system was being installed but was not online yet. The system provides connectivity for the computer lab, Media Center, offices, and classrooms. Each typical classroom has four outlets for students and one teacher's outlet. Computer power for classrooms is from the normal receptacle circuits. Separate computer power receptacles have not been provided. The main file server is located in the media storage area. This room houses the Dell system file server, UPS equipment, and punch-down board. There is one auxiliary Data Room in the school and one located in the outdoor shed for the portable classrooms.
Main Entrance – View from North

Main Entrance – View from Bus Loop

Courtyard – Rock Outcropping

Courtyard – Rock Outcropping
APPENDIX D– EXISTING PHOTOGRAPHS

Multipurpose Room – Stage

Media Center

Media Center

Typical Classroom
APPENDIX D– EXISTING PHOTOGRAPHS

Linkages To Learning

Site - Softball Field

Site – Playground Equipment Area

Site – Children’s Paved Play Area