ASHBURTON ELEMENTARY SCHOOL ADDITION

Feasibility Study

Prepared for
Montgomery County Board of Education

By
JK architects + associates, Inc.

October 2013

Ashburton Elementary School
Addition

6314 Lone Oak Drive
Bethesda, Maryland 20817

Montgomery County Board of Education

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I. Introduction

Ashburton Elementary School is located in North Bethesda, Maryland at 6314 Lone Oak Drive. This feasibility study was conducted for Montgomery County Public Schools (MCPS) by the architectural firm of JK architects + associates, Inc. to develop options for an addition to Ashburton Elementary School.

Feasibility Study Participants

The feasibility study participants reviewed and revised the design options for a proposed addition to Ashburton Elementary School through a series of work sessions. The meetings occurred on February 26, 2013, March 12, 2013, April 4, 2013, and April 23, 2013. The proposed designs are a result of the participants' suggestions and guidance during the feasibility study process.

Listing of Participants

Ms. Charlene Garran	Principal, Ashburton Elementary School
Ms. Anna Amar	Community Representative
Ms. Leslie Barr	Staff, Ashburton Elementary School
Ms. Pamela Burger	Community Representative
Mr. Chris Calhoun	PTA, Ashburton Elementary School
Ms. Ashley Campbell	Staff, Ashburton Elementary School
Ms. Vasileia Chatzistylianou	Community Representative
Ms. Barbara Cino	Staff, Ashburton Elementary School
Ms. Bela Feketekutv	Community Representative
Ms. Jean Gries	MCDOT/Traffic
Ms. Hilla Israeli	Community Representative
Ms. Marney Jacobs	Staff, Ashburton Elementary School
Mr. Ira Koretsky	Community Representative
Mr. Brian Krantz	Parent, Ashburton Elementary School
Mr. Zach Larnard	Planner, Division of Long-range Planning, MCPS
Mr. Ray Marhamati	Project Manager, Division of Construction, MCPS

I. Introduction (Continued)

Listing of Participants (Continued)

Ms. Michelle Marquardt	Community Representative
Mr. Tom McCarty	Parent, Ashburton Elementary School
Mr. Joe Pospisil	MCDOT/Traffic
Ms. Shannon Ross	PTA, Ashburton Elementary School
Mr. Raymond Schmidt	Community Representative
Mr. Michael Shpur	Architect, Division of Construction, MCPS
Ms. Debbie Szyfer	Senior Planner, Division of Long-range Planning, MCPS
Mr. Erich Wahl	Community Representative

II. Executive Summary

Purpose

The main purpose of this study is to explore options to increase the student capacity at Ashburton Elementary School. The study evaluates a series of potential options that would satisfy the requirements of the educational specifications, physical limitations of the existing building and site, and objectives of the school and the community.

Per the education specifications, the current capacity of the school is 629. The proposed addition will increase the capacity to 766 with a core capacity of 740.

The study also explored the possibility to expand the existing multipurpose room and health room and provides for expansion to one of the existing Preschool Education Program (PEP) classrooms which is currently undersized.

The intent of this study is to provide MCPS with specific recommendations and construction costs associated with the implementation of each proposed option.

History

Ashburton Elementary School was originally constructed in 1956. Since the original construction, new classroom additions were added in 1958, 1961 and 2007. Additionally, the entire school was modernized in 1993 and a gymnasium addition was built in 2002. Currently, six relocatable classrooms are located on site to accommodate needed teaching stations for the student enrollment.

Methodology

The existing school was evaluated by the design team to determine the most advantageous approach to adding the proposed programmed spaces. Additionally, the study indicates the impact, if any, that can be reasonably expected as a result of each proposed option. The evaluation is based on compliance with MCPS educational specifications.

The study is based on the following:

- Meetings with the feasibility study participants & MCPS Staff.
- Analysis of the existing facility regarding additional capacity.
- Review of existing construction documents provided by MCPS.

II. Executive Summary (Continued)

Methodology (Continued)

- Analysis of existing site features and meeting with the Montgomery County Department of Permitting Services related to stormwater management.
- Review of the educational specifications.
- Research conducted by the design team.

Overview

Ashburton Elementary School is located on an 8.3 acre site at 6314 Lone Oak Drive in Bethesda, Maryland. The existing facility is 81,438 square feet.

The original two-story structure is made of non-combustible construction and is fully protected by a sprinkler system. The walls throughout the building are of masonry, with brick veneer on the exterior walls. The structural system consists of steel beams and columns supporting the roof structure, which includes steel bar joists supporting metal decking. The steel frame bears upon conventional concrete spread footings. The upper level, at the two-story wing, consists of steel beams and joists supporting a concrete slab assembly. Some of the steel columns in the classrooms are exposed. The building structural system appears to be in sound condition. The roof is built-up roofing on corrugated metal deck, supported by steel joists.

The floors throughout the building are concrete and exist as either concrete slabs-on-grade or framed slabs supported by steel joists.

The program capacity of the school is currently 629 students with a master-planned core capacity of 740. The current enrollment is 854 students in Grades pre-k through 5. There are 87 full-time and 13 part-time staff. There are 9 regular and 8 special education buses servicing the school. In addition, there are 11 mid-day buses for the PEP Program. Currently, planning funds have not been allocated for the design phase of the project. Relocatable classrooms will continue to be utilized until an addition is constructed.

There are 78 parking spaces, including four handicap spaces on-site. Modifications to the existing parking areas and student drop-off area as well as to the site circulation are not in the scope of work for this study. These issues are being handled by MCPS in an independent exploration to be implemented prior to construction of the addition.

II. Executive Summary (Continued)

Overview (Continued)

Three building addition options were explored with input from the feasibility study participants and MCPS Staff. Each of the options meets all of the programmatic requirements set forth by the educational specifications and explores different approaches toward increasing the capacity of the school. All options will impact the existing building and site. However, the school will remain occupied and fully functional during construction.

Common Design Elements

All three options have the following common elements:

Building

- Expands the existing multipurpose room.
- Expands the existing health room to serve the increasing needs of special education students.
- Expands the existing PEP (Classroom 117) by eliminating the adjacent existing storage closet and reducing the width of the adjacent oversized corridor down to the standard eight feet wide.
- Converts the existing paper storage to a table storage room (to provide additional table storage for the multipurpose room). The paper storage will be relocated to the existing speech/language room and the speech/language room will be relocated to the new addition to meet the current educational specifications requirements.
- Converts the existing small staff lounge to an instructional room, and provides a new staff lounge in the new addition to meet the current educational specifications requirements.
- Provides a covered exterior canopy waiting area by the existing student drop-off area.
- Provides clustered kindergarten and classroom groupings.
- Have access to natural daylight.
- Provides additional staff restrooms, and boys and girls restrooms.
- Provides required spaces for mechanical and electrical systems.
- Match existing finish materials and window patterns to the existing building.

II. Executive Summary (Continued)

Common Design Elements (Continued)

Site

- Provides new hard surface play areas north of the existing play field.
- Provides a new mulched play area over the existing stormwater management facility. (Note: During the design phase of the addition, the feasibility of providing this new mulched area will need to be verified with MCPS as it relates to the depth of the footings for the planned play equipment in this space. If it is determined that the play equipment footing depth exceeds the minimum clearance required above the existing stormwater management facility, then the new mulched area will need to be swapped with a hard surface play area).

II. Executive Summary (Continued)

Unique Elements of Option 1 (Preferred)

Option 1 – Proposes a two-story addition that extends the existing two-story east wing of the building. This option provides an efficient and compact footprint. It also takes full advantage of the underutilized green space between the existing play areas and student drop-off area on the east side by providing a new canopy by the student drop-off area.

Some of the unique elements of Option 1 are as follow:

- The new classroom addition will be an expansion of the existing two-story east wing.
- All existing relocatable classrooms will need to be relocated from the east and north sides of the site before commencement of the construction of the new classroom addition.
- The existing accessible ramp from the student drop-off area to the school will have to be reconstructed.
- Requires the least amount of renovation to the existing spaces in the building.
- Minimal earth fill will be required to raise the building pad up to the existing building finished floor elevation.
- The existing concrete deck adjacent to the existing basketball court can remain.
- A retaining wall ranging from 4’ to10’ in height will be required to create a level area for the expanded hard surface play area and basketball court.
- Earth fill will be required to bring the proposed basketball court area up to finish grade. Fill depths would range from 2’ to 4’ mostly with small areas of fill up to 10’ in depth.
- Fencing and/or railings will be required on the retaining wall for fall protection and to stop balls.
- A new plaza will be constructed adjacent to the student drop-off area. A retaining wall will be necessary to create this plaza. The wall will be 2’ to 6’ in height.
- A new hard surface play area will be constructed adjacent to the existing playfield.

II. Executive Summary (Continued)

Unique Elements of Option 2

Option 2 – Proposes a two-story addition that connects to the one-story east wing of the existing building and with the two-story east wing of the existing building. This layout creates a second courtyard with the existing building. It also creates an 'L-shaped' corridor circulation at the lower level mimicking the 'L-shape' of the adjoining existing one-story east wing.

Some of the unique elements of Option 2 are as follow:

- A new courtyard will be formed as a result of the arrangement of programmed spaces.
- Existing PEP (outdoor) storage will be converted to PTA Storage. The PEP (outdoor) storage will be repositioned next to the entry on the east side.
- The building addition will displace an existing mulched play area adjacent to the basketball court, the concrete plaza and a portion of the existing basketball court area.
- 1' to 3' of earth fill will be required to raise the building pad up to the existing building finished floor elevation.
- A retaining wall ranging from 4' to10' in height will be required to create a level area for the new basketball court.
- The expanded hard surface play area to the northeast of the proposed addition will require a retaining wall ranging from 4' to 6' in height.
- Earth fill will be required to bring the proposed basketball court and hard surface play area up to finish grade. Fill depths would range from 2' to 4' mostly with small areas of fill up to 10' in depth.
- Fencing and/or railings will be required on the retaining wall for fall protection and to stop balls.

II. Executive Summary (Continued)

Unique Elements of Option 3

Option 3 – As in Option 2, proposes a two-story addition that connects to the one-story east wing of the existing facility and with the two-story east wing of the existing facility. This layout creates a second courtyard with the existing building. However, because of the slightly longer connection to the one-story east wing - when compared with Option 2 - the layout results in a courtyard slightly larger than that of Option 2. It also creates an 'L-shaped' corridor circulation at the lower level mimicking the 'L-shape' of the adjoining existing one-story east wing.

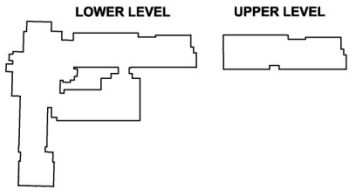
Some of the unique elements of Option 3 are as follow:

- As in Option 2, a new courtyard will be formed as a result of the arrangement of programmed spaces.
- As in Option 2, the existing PEP (outdoor) storage will be converted to PTA storage; and the PEP (outdoor) storage will be repositioned next to the entry on the east side.
- As in Option 2, the building addition will displace an existing mulched play area adjacent to the basketball court, the concrete plaza and the existing basketball court area.
- 1' to 3' of earth fill will be required to raise the building pad up to the existing building finished floor elevation.
- A retaining wall ranging from 4' to10' in height will be required to create a level area for the new basketball court.
- Earth fill will be required to bring the proposed basketball court and hard surface play area up to finish grade. Fill depths would range from 2' to 4' mostly with small areas of fill up to 10' in depth.
- The expanded play area to the northeast of the proposed addition will require a retaining wall ranging from 4' to 6' in height.
- Fencing and/or railings will be required on the retaining wall for fall protection and to stop balls.
- Due to disturbance from construction, the accessible ramp from the student drop-off area to the school will have to be reconstructed.
- The expansion of the hard surface play area in the northeast corner of the site will fill in a swale to the north of the existing school. This will necessitate additional storm drain structures/pipe to convey the runoff water from the swale to the area east of the new retaining wall.
- The building footprint will be over existing sanitary and storm drain lines. These facilities will have to be relocated outside the footprint of the addition or encased in concrete.
- A new hard surface play area will be constructed adjacent to the existing play field and may cause a slight encroachment into the playing field.

II. Executive Summary (Continued)

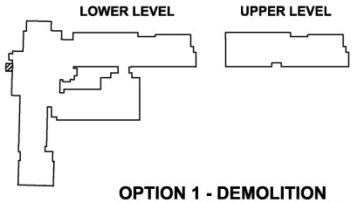
LEGEND

- EXISTING BUILDING
- AREA OF DEMOLITION
- AREA OF RENOVATION
- AREA OF CLASSROOM ADDITION
- AREA OF OTHER ADDITIONS
- NEW ROOF

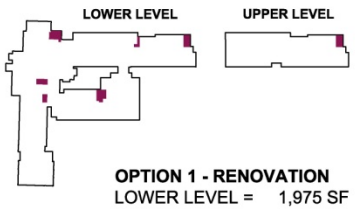


EXISTING BUILDING

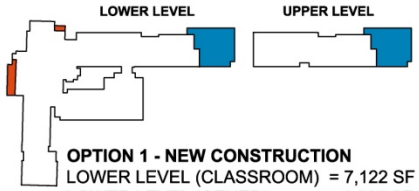
EXISTING BUILDING: 81,438 SF



OPTION 1 - DEMOLITION
LOWER LEVEL = 241 SF
TOTAL = 241 SF



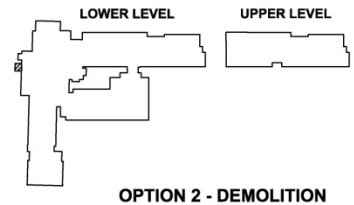
OPTION 1 - RENOVATION
LOWER LEVEL = 1,975 SF
UPPER LEVEL = 360 SF
TOTAL = 2,335 SF



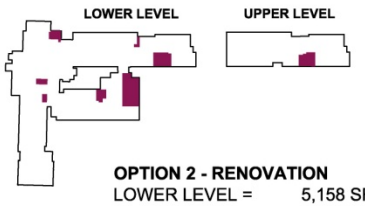
OPTION 1 - NEW CONSTRUCTION
LOWER LEVEL (CLASSROOM) = 7,122 SF
LOWER LEVEL (OTHER) = 1,567 SF
UPPER LEVEL (CLASSROOM) = 7,122 SF
TOTAL = 15,811 SF

OPTION 1 (PREFERRED)

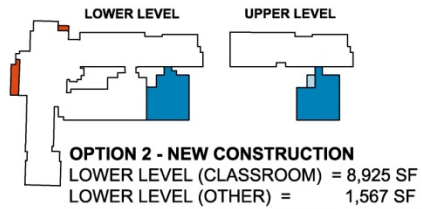
EXISTING BUILDING =	81,438 SF
DEMOLITION =	-(241) SF
CLASSROOM ADDITION =	14,244 SF
OTHER ADDITIONS =	1,567 SF
TOTAL BUILDING AREA =	**97,008 SF**
ADDITION =	14,244 SF
NET ASSIGNABLE AREA =	10,925 SF
ADDITION EFFICIENCY =	**77%**



OPTION 2 - DEMOLITION
LOWER LEVEL = 241 SF
TOTAL = 241 SF



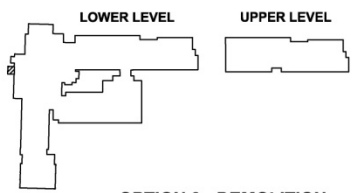
OPTION 2 - RENOVATION
LOWER LEVEL = 5,158 SF
UPPER LEVEL = 1,000 SF
TOTAL = 5,158 SF



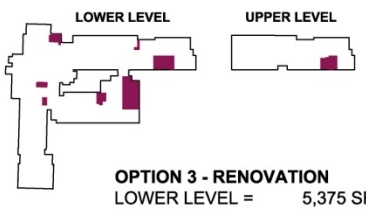
OPTION 2 - NEW CONSTRUCTION
LOWER LEVEL (CLASSROOM) = 8,925 SF
LOWER LEVEL (OTHER) = 1,567 SF
UPPER LEVEL (CLASSROOM) = 8,385 SF
TOTAL = 18,877 SF

OPTION 2

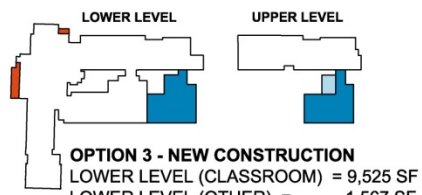
EXISTING BUILDING =	81,438 SF
DEMOLITION =	-(241) SF
CLASSROOM ADDITION =	17,310 SF
OTHER ADDITIONS =	1,567 SF
TOTAL BUILDING AREA =	**100,074 SF**
ADDITION =	17,310 SF
NET ASSIGNABLE AREA =	8,575 SF
ADDITION EFFICIENCY =	**50%**



OPTION 3 - DEMOLITION
LOWER LEVEL = 241 SF
TOTAL = 241 SF



OPTION 3 - RENOVATION
LOWER LEVEL = 5,375 SF
UPPER LEVEL = 1,006 SF
TOTAL = 6,381 SF



OPTION 3 - NEW CONSTRUCTION
LOWER LEVEL (CLASSROOM) = 9,525 SF
LOWER LEVEL (OTHER) = 1,567 SF
UPPER LEVEL (CLASSROOM) = 8,345 SF
TOTAL = 19,437 SF

OPTION 3

EXISTING BUILDING =	81,438 SF
DEMOLITION =	-(241) SF
CLASSROOM ADDITION =	17,870 SF
OTHER ADDITIONS =	1,567 SF
TOTAL BUILDING AREA =	**100,634 SF**
ADDITION =	17,870 SF
NET ASSIGNABLE AREA =	6,150 SF
ADDITION EFFICIENCY =	**34%**

II. Executive Summary (Continued)

Summary Table and Cost Comparison

Square Footage:	**OPTION 1** (Preferred)	**OPTION 2**	**OPTION 3**
Existing Building	81,438	81,438	81,438
New Construction - Classroom Addition	14,244	17,310	17,870
New Construction - Other Additions	1,567	1,567	1,567
Renovation	2,335	5,158	6,381
Demolition (Total)	241	241	241
Existing Building to Remain	78,862	76,039	74,816
Total Gross Square Feet	**97,008**	**100,074**	**100,634**
Total Construction Cost	**$6,734,000**	**$8,919,000**	**$9,581,000**

Feasibility Study Cost Outline ($000's) PREFERRED OPTION 1

Construction Cost Estimate	5,460
Planning Cost	640
Contingency and Related Costs	634
TOTAL	**$6,734,000**

II. Executive Summary (Continued)

Conclusions and Recommendations

JK architects + associates, Inc. recommends the following course of action to meet the program requirements for the addition to Ashburton Elementary School. The recommendations are consistent with MCPS standards, meet the program requirements, and address the interests and concerns of the principal, school staff, the PTA, and the community as represented by the feasibility study participants.

In accordance with the options developed during the feasibility study meetings, it is recommended that Option 1 as described in Section V and its associated site improvements be implemented. All MCPS program requirements are fulfilled with the recommended building plan.

III. Scope, Methodology & Goals

Scope and Intent

The purpose of this feasibility study is to explore viable options to increase the capacity of Ashburton Elementary School by evaluating a series of possible additions that satisfy the requirements of the educational specifications, dated 4/25/2013.

Each option addresses issues related to the incorporation of additional classroom space and the clustering of kindergarten classrooms. The scope of work also includes a survey of the physical plant and evaluation of the existing mechanical, electrical and plumbing systems to determine if existing equipment could be extended to serve the proposed addition.

Meetings were held at Ashburton Elementary School on February 26, 2013, March 12, 2013, April 4, 2013, and April 23, 2013. The design team analyzed the educational specifications and developed several cost effective options that maximize the use of the existing facility and address both the building addition and site program. The feasibility study participants reviewed and evaluated the development of the building and site options at each meeting. The comments and suggestions were discussed at each meeting and incorporated. The final options are presented in this report. Option 1 best meets MCPS requirements and was selected as the preferred option by the feasibility study participants at the final meeting on April 23, 2013.

III. Scope, Methodology & Goals (Continued)

Methodology

The existing school was evaluated by the design team to determine the most advantageous approach to adding the proposed program spaces. Additionally, the impact if any that can be reasonably expected by adding to the existing facility and incorporating limited interior renovations and expansions was indicated. The proposed options meet the requirements in the educational specifications, dated 4/25/2013. The evaluation is based on the following**:**

- Analysis of the existing physical plant and determination of available additional capacity.
- Non-destructive visual evaluations, where possible, of the existing facility and follow-up interviews with MCPS staff when required.
- Review of existing construction documents provided by MCPS: The design team utilized existing documentation to understand the existing building construction and systems.
- Analysis of existing site features such as existing amenities, utilities and site access were reviewed to determine if they were capable of supporting the proposed options.
- Meetings with the feasibility study participants and MCPS staff that established the needs and goals for the study.
- Review of the educational specifications that established a thorough understanding of the requirements and objectives of the project.
- Development of multiple building and site improvement options. Each option was developed and evaluated in conjunction with MCPS Staff and the feasibility study participants to identify the preferred option.

III. Scope, Methodology & Goals (Continued)

The following are the goals and objectives established by the feasibility study participants to be addressed by the design team and MCPS Staff in this feasibility study:

Building Goals

The proposed building addition should:

- Provide natural light throughout the new addition while preserving natural light to the existing facility.
- Keep the kindergarten and regular classrooms clustered together.
- Select renovation locations that do not interrupt existing programs.
- Minimize construction disruption for students and staff.
- Maintain the current classroom configurations with convenient circulation connections between the addition and the existing building.
- Minimize additional building footprint.
- Provide enhanced visual supervision and enhanced security.

Programmed areas to be expanded and/or renovated should:

- Provide adequate space for three lunch periods (reduced from the current five lunch periods) by expanding the existing multipurpose room.
- Increase the size of the existing health room to improve access and flow of the health room by students in special education programs.
- Expand undersized PEP room 117 to meet the standard size.

III. Scope, Methodology & Goals (Continued)

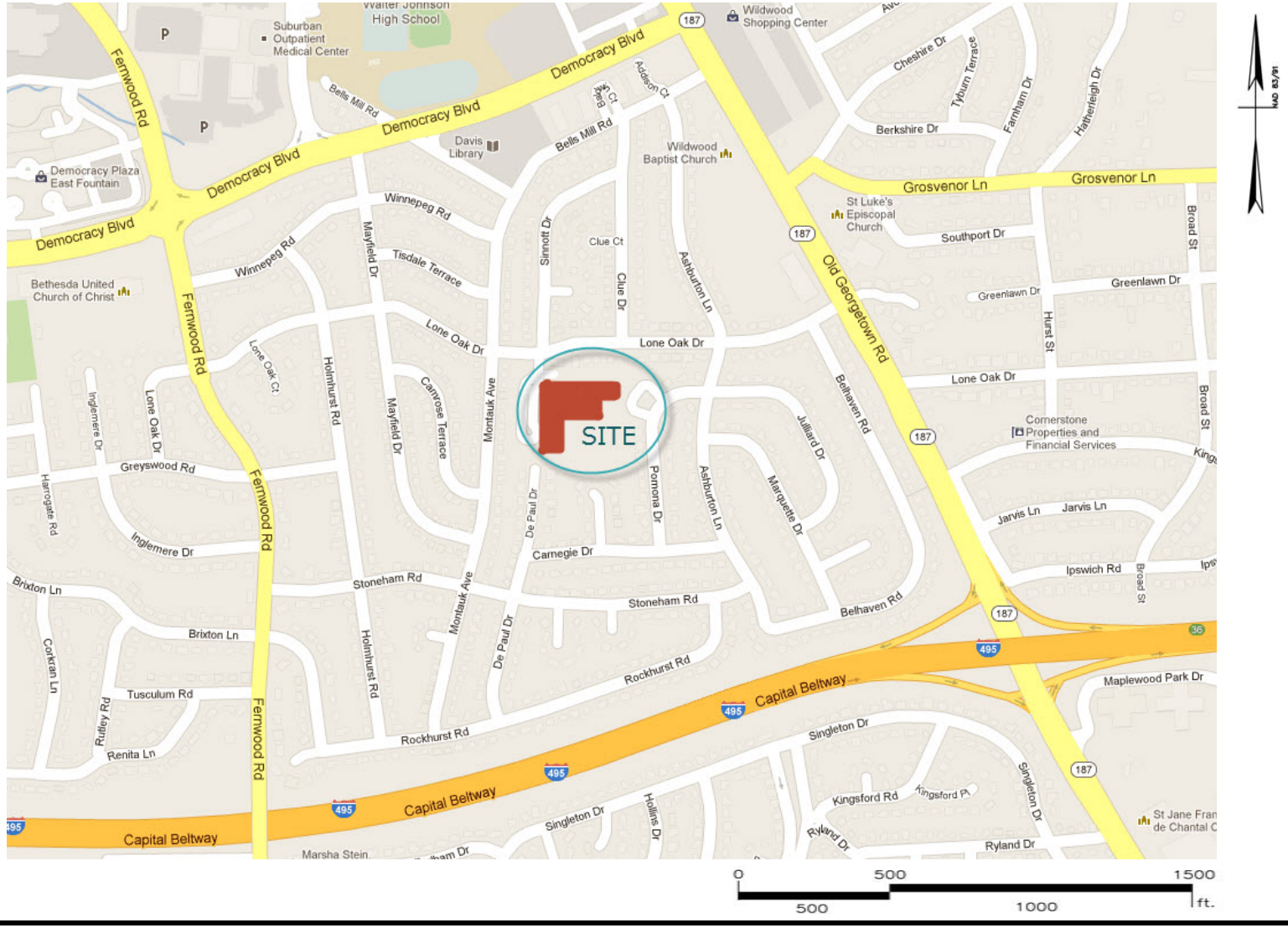
Site Goals

The proposed site should:

- Improve student drop-off traffic flow.
- Improve safety conditions for pedestrians during dismissal with greater visibility within the drop-off loop.
- Retain, or possibly increase, hard surfaces for holding of students and staff during fire drills and/or emergencies.

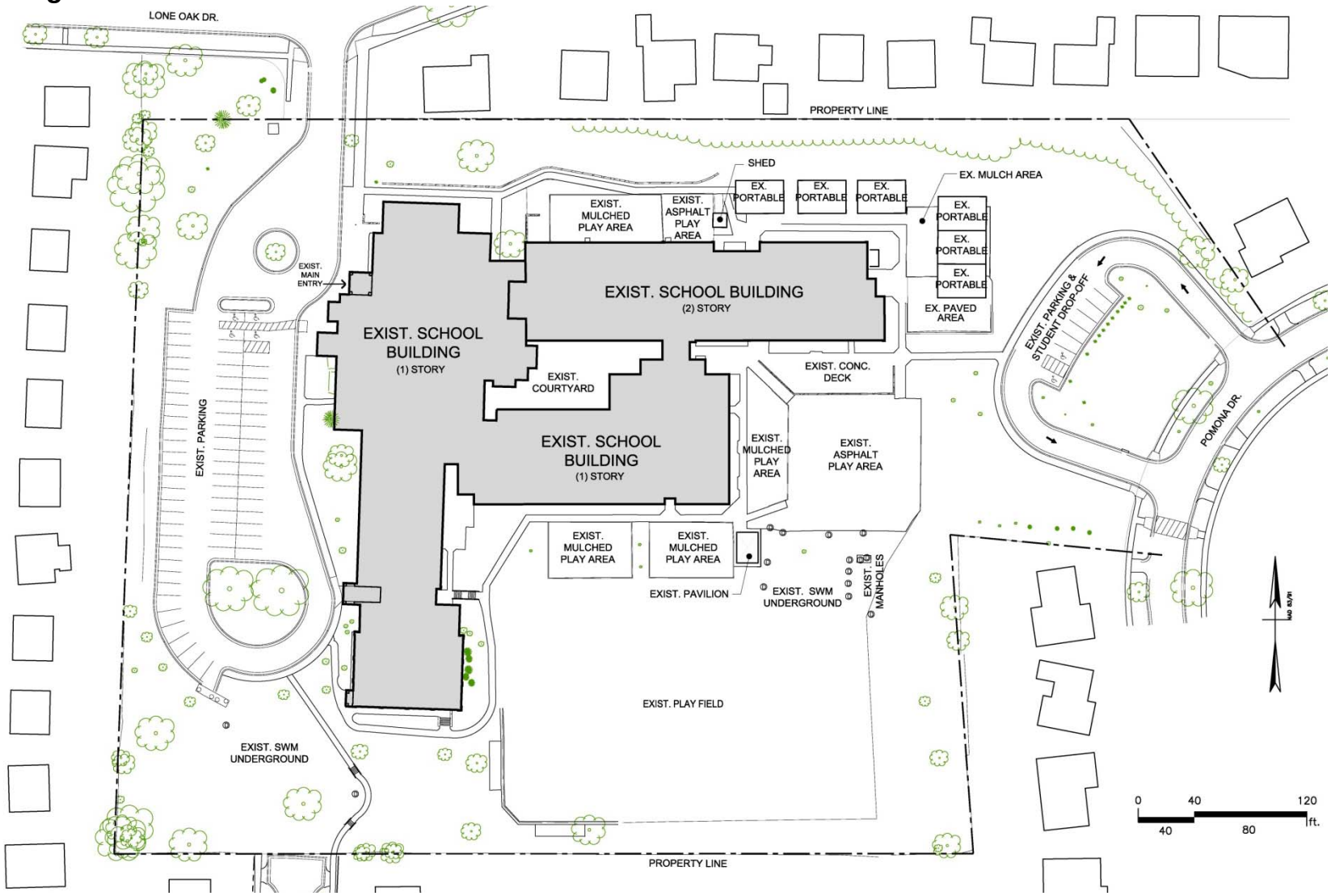
IV. Existing Conditions

Vicinity Map



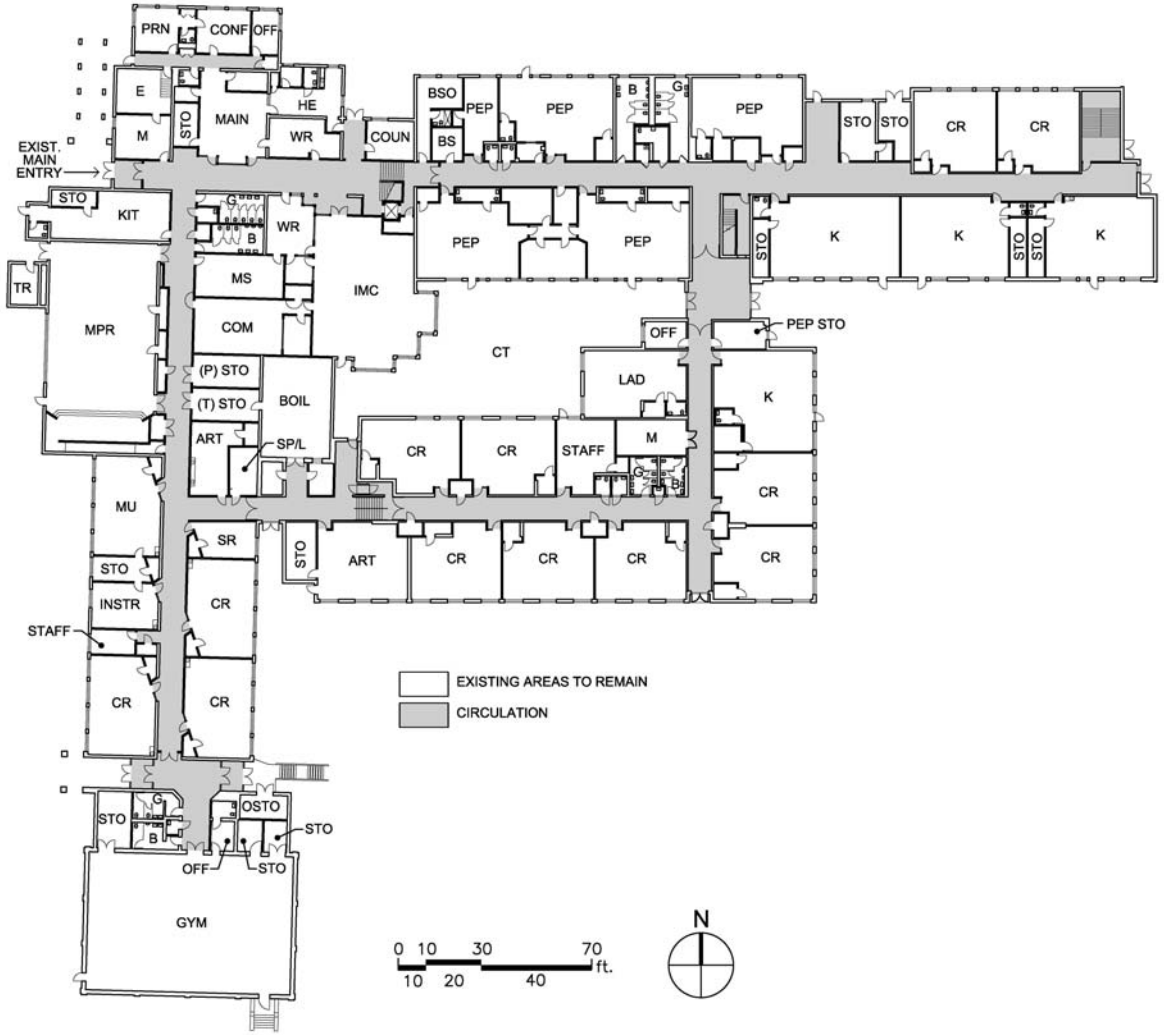
IV. Existing Conditions (Continued)

Existing Site Plan



IV. Existing Conditions (Continued)

Existing Lower Level Floor Plan

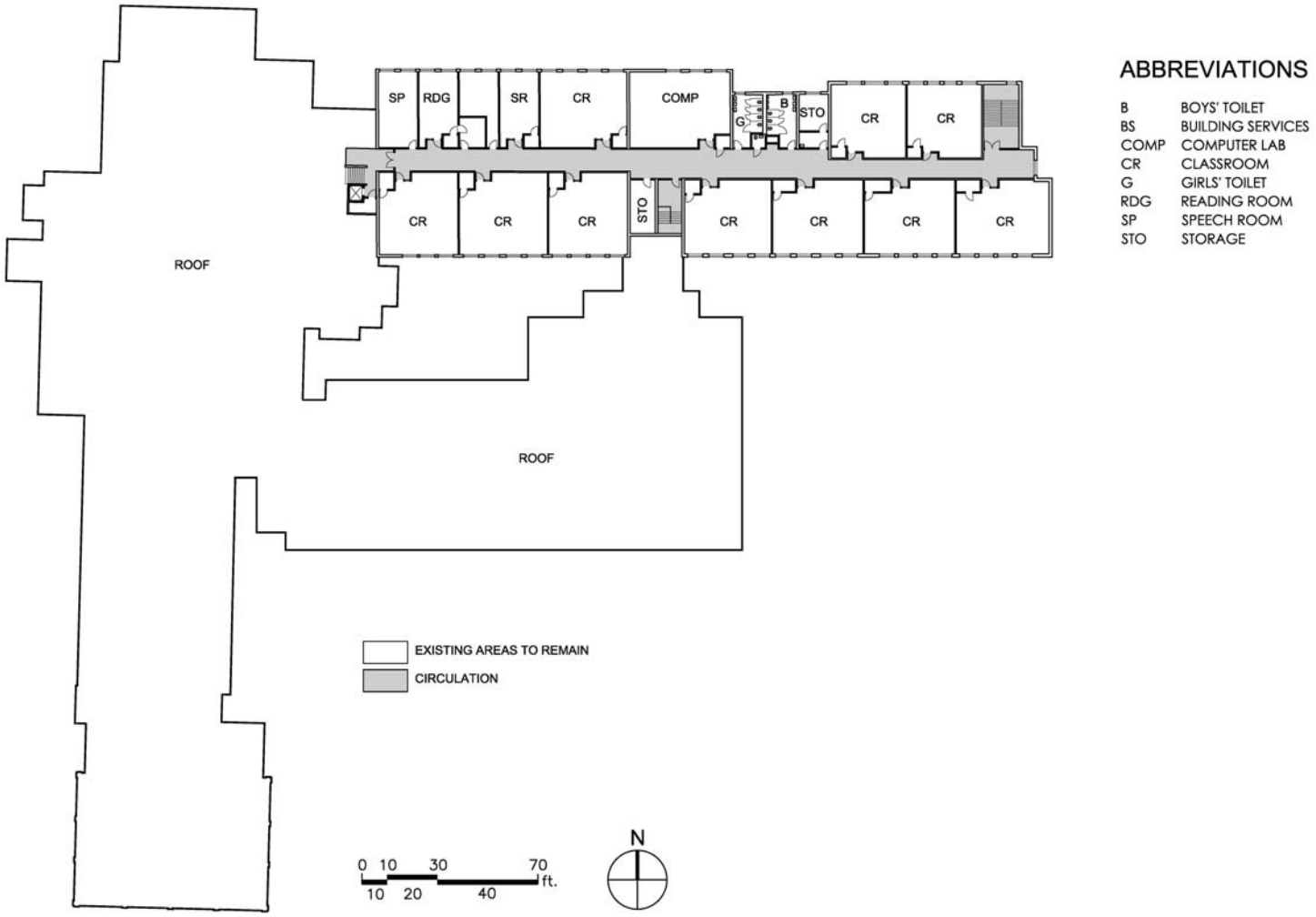


ABBREVIATIONS

ART	ART CLASSROOM
B	BOYS' TOILET
BOIL	BOILER ROOM
BS	BUILDING SERVICES
BSO	BUILDING SERVICE OFFICE
COM	COMMUNICATION LAB
CONF	CONFERENCE ROOM
COUN	COUNSELOR OFFICE
CR	CLASSROOM
CT	COURTYARD
E	ELECTRICAL ROOM
G	GIRLS' TOILET
GYM	GYMNASIUM
HE	HEALTH ROOM
IMC	INSTRUCTIONAL MEDIA CENTER
INST	INSTRUMENTAL CLASSROOM
K	KINDERGATEN
KIT	KITCHEN
L	LANGUAGE ROOM
M	MECHANICAL ROOM
MAIN	MAIN OFFICE
MPR	MULTIPURPOSE ROOM
MS	MEDIA STORAGE
MU	MUSIC
OFF	OFFICE
OSTO	OUTDOOR STORAGE
PEP	PRE-EDUCATION PROGRAM
PRN	PRINCIPAL'S OFFICE
SP	SPEECH ROOM
SR	SUPPORT ROOM
STA	STAGE
STAFF	STAFF LOUNGE
STO	STORAGE
TR	TRASH ROOM
WR	WORK ROOM
(P)	PAPER
(T)	TABLE

IV. Existing Conditions (Continued)

Existing Upper Level Floor Plan



IV. Existing Conditions (Continued)

Existing Site

General Site Information
The existing Ashburton Elementary School facility is situated on an 8.32 acre parcel (P238) at 6314 Lone Oak Drive in Bethesda, MD 20817. The site is bordered by a single-family residential area. The existing building footprint occupies 81,438 gross square feet and is a partial two-story building. There are currently six relocatable classrooms on the northeast corner of the site.

Zoning
This site is currently zoned R-60, Residential One-family. Public schools are permitted by right in this zone. 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.
Side setback: 8 feet
Sum of both sides setback: 18 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 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 and 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.

IV. Existing Conditions (Continued)

Existing Site (Continued)

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: Two stories of 20' from highest grade

Lot Coverage: – 35% maximum lot coverage by buildings

Adjoining Streets

The site is bounded to the south by residential homes and the DePaul Drive right-of-way, to the east by residential homes and Pomona Drive, to the west by residential homes and to the north by residential homes and Lone Oak Drive.

Site Access, Parking and Circulation:

There are three vehicular access points to the site although one is considered exit only. The existing student drop-off area is separated from the bus loop. The student drop-off area enters and exits on Pomona Drive while the bus loop enters and exits on Lone Oak Drive. There are parking spaces associated with and internal to both drop-off areas. The student drop-off area has 8 total parking spaces including 2 handicap accessible spaces. The bus loop has 70 parking spaces including four handicap accessible spaces. Combined, there are 78 total parking spaces on-site.

On-Site Loading

There is no existing service yard. All deliveries are made at the existing bus loop**.**

IV. Existing Conditions (Continued)

Existing Site (Continued)

Sidewalks
The site currently has three pedestrian access points. The access points are from Lone Oak Drive, Pomona Drive and Depaul Drive. Access from Lone Oak Drive is via a concrete sidewalk which has slopes that exceed 8.33% in some locations which is not ADA compliant. Access from Depaul Drive is via a concrete sidewalk which has two sets of stairs and also is not ADA compliant. Access from Pomona Drive is in two locations. There is pedestrian access from the north and south sides of the student drop-off area. It appears that the north side of the student drop-off area is ADA compliant with slopes at or near 5% while the south side has slopes that exceed 8.33%.

Fire Access
Fire access to the site is via the bus drop-off loop and the student drop-off area. From each of these drop-off areas, the fire department has adequate access around the entire building while maintaining a walking distance of less than 450' per MCFRS requirements.

Site Topography
The existing site topography slopes in multiple directions. The western half of the site slopes from the north to the southwestern corner of the site. The eastern half of the site slopes to the east toward Pomona Drive. There is a swale along the northern side of the property that directs runoff to the east as well as a swale on the eastern end of the play field that also directs runoff to the northeast. Both swales ultimately outfall close to Pomona Drive where the runoff is intercepted by inlets and drains into the public storm drain system. The bus loop on the western side of the site drains via a closed storm drain to the south and into a public system within DePaul Drive.

Vegetation
There is currently no forest present on the site, however; the property may be subject to forest conservation requirements at the time of mandatory referral.

IV. Existing Conditions (Continued)

Existing Site (Continued)

Water and Sewer

The building is currently served by public water and sewer service. The existing 6" water service is fed from an existing 10" water main in Lone Oak Drive. The line enters the site along the Lone Oak Drive right-of-way. It is also served by an 8" sewer line within the Pomona Drive right-of-way which drains toward Pomona Drive to an existing 8" sanitary main. An old fire flow test performed on June 27, 2005 indicated the following: Flow rate of 2034 gpm at a residual pressure of 43 psi. However, the existing building has a 30 HP fire pump. This indicates that the existing static pressure in the street was unable to meet the building fire hose stream and remote zone sprinkler flow requirements. The new building addition should be able to use the existing fire pump since the piping can be increased in size for a corresponding decrease in pressure loss. The new sprinkler zone will be connected at the main fire service entrance in parallel with the existing sprinkler zone valve arrangements.

Gas, Electric and Telephone

Gas Service - Site: There is a 2" natural gas service fed from a gas main along Lone Oak Drive. The existing gas pressure is unknown.

Electric Service: The existing electric service is located in the original building electric room. The main switchboard is 1200 amps at 277/480 volt, 3-phase, 4-wire. This equates to 10.9 watts per square foot. This service must be studied to determine if the existing service can handle another addition. Adding another addition to the existing electrical system, per the new schematic at roughly 15,000 square feet would decrease the available power unit density to 9.1 watts per square foot. The gear will need to be studied to determine if the buss can be tapped and a disconnect switch added or, have to replace it.

The new addition will require a 400 amp, 277/480 volt, 3-phase, 4-wire distribution panel to serve subpanels and lighting, which will provide a power density of 19 watts per square foot for the addition. This panel will serve a 250 amp 120/208 volt, 3-phase, 4-wire low voltage panelboard to feed receptacle loads. The HVAC subpanel will be fed separately from the existing switchboard.

Gas Service - Building: The existing gas service is located outside the main mechanical room in the original building. The gas service is probably not large enough to handle the building addition. A load letter will need to be issued to WSSC to determine the existing meter capacity and available pressures. The gas system pressures will be evaluated during design when the load letter is issued.

IV. Existing Conditions (Continued)

Existing Site (Continued)

Telephone Service: The existing telephone service is from Lone Oak drive. It is anticipated that the service will be adequate for the additions.

Storm Drainage and Stormwater Management Site Soils (Geotechnical)
There are currently 2 stormwater management facilities on the property. There is an underground infiltration facility at the southern end of the bus loop and an underground sandfilter and underground detention facility directly south of the existing basketball court. The infiltration facility is approximately 70' x 20' with a diversion manhole and oil/grit separator upstream for pretreatment. The underground sandfilter is approximately 11' x 65' and made of precast concrete. The detention portion of the system consists of approximately 270 linear feet of 60" diameter pipe.

Site Soils (Geotechnical)
Based on available information, USDA mapping, Soil Survey of Montgomery County, Maryland, the site soils are mapped as Glenelg-Urban land (2UB) and Gaila-Urban land (7UC). The survey identifies these soils as fine-loamy, very deep and well drained with a moderate permeability. Geotechnical engineering reports from previous projects on the property indicated that the existing fill soils were encountered in the soil borings and are not considered suitable for foundation support. Given the extensive disturbance to the site throughout the life of the school and previous additions, it is likely that fill or non-native material may be encountered. A detailed geotechnical investigation will be necessary at the design stage to address specific conditions within the limits of the proposed addition.

Groundwater
There have been no reported issues at the site relating to groundwater swell.

Flood Plains, Stream Valley Buffers and Non-Tidal Wetlands
Based on available FEMA mapping, Community Panel No. 240049175C for Montgomery County Maryland, the site does not lie within a mapped or delineated flood plain. The site does not contain non-tidal wetlands. These assessments are subject to a more detailed and extensive study as part of the Natural Resources Inventory / Forest Stand Delineation mapping as part of the Mandatory Referral process.

IV. Existing Conditions (Continued)

Existing Building

MECHANICAL

General

Ashburton Elementary School was originally constructed in 1956 with major additions in 1958 and 1961. The entire school was modernized in 1993 and a two-pipe chilled water/hot water system was installed. This plant consists of typical cast iron sectional boilers and an air-cooled chiller on the roof. This equipment is 20 years old and appears to be near the end of its useful life. Direct ventilation type unit ventilators serve the perimeter spaces. A gym was added in 2002 which is heated and ventilated using a rooftop unit. At that point the existing building was approximately 65,000 square feet. Another 14,000 square foot classroom addition was added in 2007, but this addition uses a standalone hydronic heat pump system. This addition uses two wall-mounted condensing boilers, and one BAC mechanical induced flow cooling tower on the roof. The pumps are piped in a primary secondary arrangement separated by using a Tranter flat plate heat exchanger.

Heating Systems

Two water tube boilers produce heating water for approximately 80% of the existing building area. These boilers are 20-years old, but seem to be in good working condition. Manufactured by Kewanee, this equipment has a gross output rating of 1,360 MBH per boiler. While the existing boilers are functioning adequately to satisfy the existing school, there does not appear to be surplus capacity available to support any additions to the building without losing standby capacity in the event one boiler fails. Currently, each boiler is provided with one low-water cut-out. There is no automatic low-water cut-off back-up provided. Flue pipes from each boiler connect to a common breeching within the boiler room. Each boiler's burner is manufactured by Gordon-Piatt and rated for an inlet pressure of 3-5 inches wc. The gas train for each boiler is provided with one gas shut-off valve. To comply with CSD-1 requirements used by the State of Maryland boiler inspectors, present day assemblies are required to have two-shut-off valves. The combustion air opening, located high on the exterior boiler room wall does not comply with current code requirements for combustion air intake. Heating water is supplied to the building's two-pipe chilled/heating water system through two base-mounted end suction pumps. These pumps are arranged in a lead/lag setup with only one pump operating at a time. Similar to the heating water system, the chilled/heating water system is also equipped with two base-mounted end suction pumps for distribution for chilled or heating water throughout the building. These are summer/winter change over valves which are manually switched over seasonally to allow heating or cooling, but not both at the same time. The dual temperature pumps are provided with a lead/lag set-up, similar to the heating water pumps. The dual temperature piping system is equipped with an air separator, shot feeder, and a compression type expansion tank.

IV. Existing Conditions (Continued)

Existing Building (Continued)

MECHANICAL (Continued)

Cooling Systems

One Trane approximately 130 ton air-cooled helical rotary screw chiller is located on the roof above the original mechanical room. The model number has been sun-washed out so the exact capacity is unknown. It dimensionally appears to be a 130-ton machine. This machine is approximately 20-years old and uses R134 refrigerant. It is mounted on a structural steel dunnage on ASHRAE Type 4 point load spring vibration isolators. The chiller capacity is roughly 500 sf per ton which is typical for an actual elementary school building load. However, there is no excess capacity to support any building additions. The chiller pumps are the dual temperature pumps previously described in the boiler room. Outdoor chilled water piping over the roof structure is provided with insulation; however, no heat tracing cables appear to be installed for additional freeze protection.

In addition to the chilled water, direct expansion (DX) cooling using packaged rooftop units serve some interior administrative areas when chilled water is not available.

HVAC Systems

The heating ventilation and air-conditioning (HVAC) systems vary slightly throughout the building. These systems were installed in 1993 as part of the modernization and appear used but in good working condition. The following is a breakdown of the various spaces and their associated HVAC system.

- Typical Classroom: Classrooms are heated and cooled through the unit ventilators connected to the buildings dual temperature piping system except the 2007 addition that contains heat pump units. Each unit ventilator has a direct outdoor air connection through a louver mounted in an exterior wall. An exhaust grille is provided for each classroom to maintain slight pressurization. Upper level interior spaces are conditioned using rooftop HVAC units.
- Administrative and Health Suite: A packaged DX rooftop unit is located on the roof of the building. The use of DX allows independent cooling for improved occupant comfort. It also allows the space to be used in the summer without having to run the chiller plant.
- Gymnasium: Heating only air-handling unit serving the gymnasium area is located at the roof level adjacent to the air-cooled chillers. This unit was installed as part of the original building construction and appears to be in fair working condition. Supply air is ducted between the roof trusses and distributed through overhead air devices. Multiple outdoor air louvers are located along the perimeter wall, with four exhaust fans provided at the roof level for ventilation during the summer months.

IV. Existing Conditions (Continued)

Existing Building (Continued)

MECHANICAL (Continued)

- Instructional Media Center: The air-handling unit serving the media center is housed within a second floor mechanical closet, located adjacent to the media center area. This unit is equipped with a chilled/heating water coil for space conditioning. Supply ductwork extends from the air-handling unit and is routed exposed above the instructional media center entrance doors. Return grilles are both wall-mounted and located within the room's intermediate ceiling area. This unit was installed as part of the original building construction and appears to be in good working condition.
- Multipurpose Room: The air-handling unit serving the multipurpose room and stage area is located at the roof level adjacent to the air-cooled chillers. This unit is equipped with a combination of chilled/heating water coil for conditioning the areas served. This unit was installed as part of the original building construction and appears to be in fair working condition.
- Kitchen: A two-pipe fan coil unit, located above the kitchen ceiling, provides space conditioning for the kitchen area. This unit appears to be in fair working condition based on discussions with building services personnel. Major kitchen equipment includes two stacked convection ovens and a two-burner gas range. There is no hood installed above this equipment, which does not meet current health code requirements.
- Art and Art Storage Rooms: The art room is currently equipped with a single kiln. Local exhaust is provided through an overhead capture hood located above the kiln equipment. This arrangement offers an effective means of providing local exhaust for this equipment. Heating, cooling, and ventilation are accomplished through a two-pipe unit ventilator, similar to the typical classroom areas listed above.
- Stairwell Areas: Stairwells are conditioned through cabinet unit heaters, located at the first floor level of each stair.
- Building Exhaust Systems: A combination of roof-mounted and inline fans remove exhaust air throughout the building. These fans were installed as part of the original building construction and appear to be in good working condition. There are select fans that have damage to their external housing; however, these fans appear to still be operating.

IV. Existing Conditions (Continued)

Existing Building (Continued)

TEMPERATURE

Control System:
The existing Andover Continuum control system for the school uses a combination of direct digital control (DDC) and pneumatic control systems. Major valve and damper components are provided with pneumatic operation; while other system components are provided with electronic operation. Building control components are interfaced with the central MCPS energy management control system for occupied/unoccupied settings. A duplex type air compressor system, complete with horizontal storage tank, is located within the boiler room and serves the building's pneumatic control components. Air supplied from this compressor system is fed through a refrigerated dryer system. The pneumatic controls shall be upgraded to electronic DDC when possible.

PLUMBING

Plumbing System:
The building is served from the public water system through a 6-inch combination fire and water service, entering the building within the boiler room area. A 3-inch domestic water main extends from this service to support the building's domestic water requirements. Currently, no backflow preventer is provided at the domestic water service entrance. While this may have been acceptable at the time this system was installed, it does not meet current plumbing code requirements. It is anticipated that limited surplus capacity exists for the existing 3-inch domestic cold water main.

Domestic hot water is generated by a Jet glass gas-fired 80-gallon water heat. This heater is equipped with a 250 MBH gas burner that produces 200 gallons per hour recovery. There is no date on the heater that would tell us when it was manufactured; however, it appears to be recently replaced and in good working condition. A dedicated flue extends to the chimney entrance near the boiler breeching. The system is not equipped with a domestic water circulation pump, expansion tank, or mixing valve. It is anticipated that limited surplus capacity exists for the hot water heater.

Plumbing fixtures appear to be in good condition and were installed as part of the original building construction. The water closets are floor-mounted, urinals are wall-hung, and the lavatories are individual wall-hung type. The school is equipped with plumbing fixtures that meet the Americans with Disabilities Act (ADA) requirements.

IV. Existing Conditions (Continued)

Existing Building (Continued)

PLUMBING (Continued)

Fire Protection System

The building is currently provided with sprinkler coverage throughout. Located within the boiler room, a 6-inch fire line extends from the incoming water service and is provided with a 6-inch double-check type backflow preventer. This fire line serves five zone valve assemblies, each located within the boiler room. Sprinkler mains extend from each zone valve assembly and serve sprinkler heads located throughout their respective zone. Sprinkler system components appear in good condition. The existing 6-inch fire service appears adequately sized to support the planned additions to the school.

ELECTRICAL

Power Distribution

The school is fed from a pad mounted PEPCO transformer located outside the building. The main switchboard, located in the main electric room is rated 1200-amp, 277/480 volts, 3-phase, 4-wire with a single main 1200 amp fused load break switch in the switchboard. The switchboard is manufactured by General Electric and was installed in 1993 as part of the building modernization. There are three switchboard sections that contain the power company CT section, the main fused switch, and a distribution section with molded case circuit breakers. The switchboard is approximately 20 years old and in good-to-average condition. The anticipated reliable life of the switchboard is another 10 to 15 years.

The distribution section serves the air-cooled chiller, the 480Y/277 volt distribution panelboards in the electrical closets, and branch circuit panelboards for the kitchen and the boiler room. There is also a circuit breaker without a label that may be for the existing relocatable classrooms. The switchboard also serves the automatic transfer switch that is located within the main electrical room.

The 480Y/277 volt distribution panelboards on the first floor serve the lighting and power panelboards in the same closet and an adjacent 112.5 Kva dry-type transformer. This transformer feeds the 208Y/120 volt branch circuit panelboard that in turn feeds receptacles and other 120 volt circuits in the area around the closet. Panelboards and transformers in the main electrical room and the electrical closets were manufactured by General Electric around 1993. This equipment is in good to average condition. Typical classrooms have as many as six duplex receptacles - two on each of the front and rear walls, and one on each of the side walls. There is no dedicated computer power distribution system in the school.

IV. Existing Conditions (Continued)

Existing Building (Continued)

ELECTRICAL (Continued)

Emergency Power

There is an outdoor emergency generator that provides power through the automatic transfer switch for life-safety and standby systems such as emergency lighting, fire alarm system, elevator, heaters in several of the AHU's, pumps including the sump pump, and telephone. The generator is a 100 kW, made by Kohler, and is natural gas fueled unit. The generator appears to be in good condition, although it is 20 years old. The automatic transfer switch is a Kohler unit, rated 225 amps, 277/480-volt. The transfer switch serves panelboards in the main electrical room.

Lighting

Fluorescent lighting is used throughout the school. The standard fixture is a 2' x 4' recessed lensed fixture. These fixtures are used in classrooms corridors, multipurpose room, kitchen, instructional media center, and offices. The stage area has one row of track lights in front of the stage that is controlled by dimmer switches, and a row of lensed fluorescent fixtures over the main portion of the stage. The high ceiling areas of the main stairway and the media center have suspended square linear fluorescent fixtures. The fluorescent lamps used throughout the building appear to be generally T-8 type. The gymnasium lighting is metal halide high-bay fixtures.

Fire Alarm System

The main fire alarm panel is a Simplex, zoned Panel. Fire alarm devices include manual pull stations, duct and area smoke detectors, and audible and visual notification devices. The existing panel is outdated and not expandable. We can set a panel in the addition to signal the existing FACP using a relay panel. We recommend replacing the fire alarm system in the future.

Intercom and Sound Systems

The school intercom system is located in a storage room off the main office area. The system is the Telecenter V system, manufactured by Rauland. The system has the capability to transfer select local calls to classrooms or paging throughout the school. Each classroom area has a Rauland speaker and call switch. Speakers are also located throughout the corridors. The expandability of the system is limited, but may be adequate for the proposed additions.

Telephone System

The telephone system is a separate key system for telephones in the school offices. The telephone company demarcation point is in the main electrical room. The telephone switch is also located in the electrical closet. The system is by Comdial.

IV. Existing Conditions (Continued)

Existing Building (Continued)

ELECTRICAL (Continued)

Cable TV System

Cable TV outlets are located in rooms throughout the school. The head-end equipment is rack-mounted and located in the data closet in the rear of the book storage room. TV's are generally mounted on carts and not permanently mounted in classrooms. Smart boards were not seen in all of the classrooms.

Security System

The security system consists of an intrusion detection system. The intrusion detection system includes keypads and motion sensors in the corridors and door switches on the exterior doors. The main panel is an Altronix system with keypads located in the main office and other locations.

Data Wiring System

A Category 5 wiring system is installed throughout the school. This system provides connectivity for the computer lab, instructional media center, offices, and classrooms. Each typical classroom has both student and teacher outlets. 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 storage room at the west end of the second floor. The room's equipment includes a Dell file server cabinet and the racks that contain the patch panels and system hubs.

V. Description of Options

General

Three design options to expand Ashburton Elementary School were developed in response to the MCPS educational specifications. Each option addresses the incorporation of instructional requirements and the physical impact to the school in a different manner.

Connecting the proposed addition to the existing building and its systems requires different degrees of renovation work within the existing building. Additional renovation work, with regard to relocating or reorganizing programs within the existing building, differs slightly for all three options.

It is anticipated that the proposed scope of work will take 18 months of construction utilizing two summers when the school is at recess.

Common Design Elements

Building

The following renovations and proposed additions are common to all three options:

- Expands the existing multipurpose room.
- Expands the existing health room to serve the increasing needs of special education students.
- Expands existing PEP Room 117 to the standard size.
- Provides a covered exterior canopy waiting area for the existing student drop-off area.
- Provides natural daylight to all areas.
- Provides additional staff restrooms and boys and girls restrooms.
- Provides adequate space for mechanical and electrical systems.
- Includes all spaces and amenities in accordance with the educational specifications.

V. Description of Options (Continued)

Common Design Elements (Continued)

Site

The following site elements are common to all three options:

- If needed, future relocatable classrooms can be placed in the southwest corner south of the existing underground stormwater management facility.

Parking and Site Circulation

Modifications to the existing parking areas and student drop-off area, as well as to the site circulation are not in the scope of work for this project. These improvements will be handled by MCPS in an independent exploration.

Play Areas

The following play area modifications are common to all three options:

- Provides new hard paved play areas north of the existing play field.
- Provides a new mulched play area over the existing stormwater management facility south of the play areas. (Note: During the design phase of the classroom addition, the feasibility of providing this new mulched area will need to be verified with MCPS as it relates to the depth of the footings for the planned play equipment in this space. If it is determined that the play equipment footing depth exceeds the minimum clearance required above the existing stormwater management facility, then the new mulched area will need to be swapped with a paved play area).

V. Description of Options (Continued)

Common Design Elements (Continued)

Code Upgrade to Existing Site

The project consists of three building additions with site modifications for improved pedestrian access and site circulation. One building addition will be to the existing multipurpose room, the second will be an expansion and renovation of the existing health room, and the third will be a classroom addition on the eastern side of the building. Code required site upgrades will include maintaining fire access to the addition locations as necessary.

Rock Removal

It does not appear that rock removal will be necessary at this site for the proposed improvements.

Off-site Improvements

No off-site improvements are anticipated.

Utility Modifications

There are no off-site utility extensions or relocations anticipated. However, depending upon the location of the building addition, some on-site utilities/facility relocation may be required specifically with regards to storm drainage on the eastern side of the site that may be in conflict with future retaining walls.

Water Service

It is assumed that the addition will have domestic water and fire service fed from the existing school and that the existing service is adequate. No water service upgrades or connections are anticipated.

V. Description of Options (Continued)

Common Design Elements (Continued)

Sanitary Sewer

The existing school is served by an existing connection to Pomona Drive. It is expected that the connection is adequate in size for the future addition. The proposed classroom addition will be on the east side of the building so that sanitary sewer service for the new addition can tie into the existing service lateral onsite. A site utility plan through WSSC is not anticipated. It has been assumed that the existing 8" main in Pomona Drive has sufficient capacity to service the proposed building.

Public Utility Relocations

There are no anticipated relocations to utility poles or utilities in the right-of-way with this project.

Underground (Dry) Utilities

It is not anticipated that any additional utility upgrades will be required with the future building addition.

Reforestation/Afforestation

There is currently no forest on the site. This project will require a natural resources inventory/forest stand delineation (NRI/FSD). After approval of the NRI/FSD, it is assumed that the project will be exempt from forest conservation requirements. However, as part of the exemption, it is assumed that a trees save plan will be required to address impacts to individual trees in and around the property.

Temporary Parking Lots

The building will be occupied during construction. It is anticipated that the student drop-off loop area will be temporarily modified to allow for contractor staging and lay down. The student drop-off loop would be temporarily reconstructed closer to Pomona Drive while still maintaining the current access points. It is anticipated that the parking spaces adjacent to the student drop-off loop would not be available during construction.

V. Description of Options (Continued)

Common Design Elements (Continued)

Temporary Fencing

Temporary chain-link fencing with gates will be required around all construction areas.

Earthwork

It is anticipated that the site will require earth fill to be brought in from off-site under all Options. However, earthwork volumes and the amount of fill will vary for each option.

ADA Upgrade (Site)

It is understood that there is existing ADA compliant routes from parking spaces to the building. All future improvements will adhere to ADA standards as well.

Site Retaining Walls

Retaining walls will be necessary to expand the existing pavement play area (for all Options), and to construct a patio on the northeast corner of the new classroom addition (for Option 1 only).

Stormwater Structure Issues

There are currently two stormwater management facilities on site that will be maintained. This addition 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 been 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 expected that the stormwater management will be provided in a number of facilities located around the addition and site improvements and consist of, but not limited to, bio-filters, bio-swales, grass swales, pervious pavements, and a possible green roof. The final determination of what will be required will be done during the design phase of the project.

V. Description of Options (Continued)

Common Design Elements (Continued)

Outdoor Athletic Facilities and Play Areas

The school currently has one grass playing field. This grass playing field will remain. There are four mulched play areas including a small pre-K area on the north side of the building. There also are three hard surface play areas including a small pre-K area on the north side of the building. One of the hard surface play areas is currently covered by relocatable classrooms. There also is a concrete plaza area adjacent to the existing basketball court. It is the intention of all options to expand both the mulched and hard surface play areas that are onsite. A new mulch play area will be provided over the existing underground SWM facility to the south of the existing basketball court. It is expected that this mulch play area will have small pieces of playground equipment with shallow footings that do not interfere with the SWM facility below.

Building Structural System

The two-story addition proposed in all options will be constructed of steel frame construction and masonry walls. The addition will be supported by a network of steel columns and beams, which will sit on concrete spread footings. The new building will be supported by a steel frame on continuous concrete footings. The lower level floor will be concrete slab-on-grade, and the upper level floor will be a composite concrete slab on metal deck supported by steel joists and/or beams and the steel superstructure. The roof will possibly be an extensive vegetative roof system over built-up roofing on metal deck supported by steel joists and/or beams. Final determination of the roofing system will be made during the design phases of the project. The horizontal elements of the roof structure will be sloped at a minimum of ¼" per foot so as to provide adequate roof drainage. Exterior walls will be insulated masonry cavity walls consisting of a CMU back-up on the interior side and a masonry veneer, such as brick, on the exterior side. Interior masonry walls will be single-wythe CMU. Masonry walls will be internally reinforced both horizontally and vertically as required.

V. Description of Options (Continued)

Common Design Elements (Continued)

Mechanical

HVAC System

A similar mechanical solution is recommended for supporting the three proposed addition options. The addition would be provided with a new HVAC system capable of providing independent heating or cooling to each space throughout the year.

Installing a water source heat pump system to support the proposed addition provides each space with the ability to have either heating or cooling year-round. Vertical heat pump units would be utilized and located within support closet areas adjacent to the classroom served. Doors for support closets would be from the corridor for maintenance access. Mechanical infrastructure for supporting classroom heat pump units would be housed within a new mechanical room in the new addition and include a small boiler distribution pump and a plate-and-frame heat exchanger. A life-cycle cost evaluation between an electric boiler and gas-fired boiler will be conducted at the design phase. A cooling tower also would be provided at the addition's roof level to support the system's cooling requirements.

Conditioned outdoor air would be supplied by a rooftop dedicated outdoor air system, complete with water-cooled compressors for heating and cooling, and an enthalpy type energy recovery wheel for preconditioning of the outdoor air. Airflow supplied from this unit will be dehumidified, conditioned, and delivered directly to each space at a room neutral temperature. Toilet rooms, storage rooms, and other heating-only areas will utilize electric wall heaters. Controls for the new addition will be direct digital controls (DDC). This type of system provides the most sustainable and energy efficient solution and delivers the most flexibility at the lowest cost for both current and future needs.

V. Description of Options (Continued)

Common Design Elements (Continued)

Plumbing

Plumbing Systems

The existing cold water piping system can be extended to support the new addition. Based on the proximity and capacity of the existing water heater, a new electric water heater is recommended for supporting the addition. New plumbing fixtures will be designed to meet the Americans with Disabilities Act (ADA) and will utilize water conservation features. Floor-mounted water closets will utilize dual-flush type valves, capable of providing either 1.6 or 1.0 gallons per flush. Urinals will be wall-hung and provided with pint flush valves. Wall-hung vitreous china lavatories will utilize self-closing faucets that supply 0.5 gallons per minute. The water consumption figures noted are equal to or less than what is required by both current plumbing code and LEED water conservation requirements.

Fire Protection System

The present fire protection system for the existing school building will be extended to handle the new addition area. It is anticipated that the existing sprinkler coverage can be extended from adjacent areas to support the addition. Also, any air-handling unit or dedicated outdoor air system supplying 2,000 cubic feet per minute (CFM) or more of airflow will be equipped with smoke detectors in both the supply and return air ductwork.

Electrical

Power Distribution

The existing service switchboard is not adequate to serve the new construction. It is proposed to maintain the existing switchboard in the main electrical room. The switchboard may be tapped to feed a new breaker that will serve the new addition. This breaker can be located in the main electrical room where it can be within the code-required 25 feet for a bus tap. The new breaker would serve a distribution panelboard located in a mechanical room in the new addition. This panelboard would then serve lighting panelboards and dry type transformers for receptacle and computer power panelboards.

A new electrical closet will be required in the new addition for the branch circuit panelboards and dry-type transformers.

V. Description of Options (Continued)

Common Design Elements (Continued)

Electrical (Continued)

The panelboards and associated feeders located throughout the existing building will remain. New 277/480-volt panelboards will serve lighting and mechanical loads in the new addition. A K-rated dry-type transformer in the electrical closet in the addition will feed the 120/208-volt panelboard for computer power in the new addition. Designated receptacles in all new classrooms will be connected to the computer power panelboards.

General receptacles in the addition will be connected to a new "normal" 120/208-volt panelboard that is fed from a standard dry-type transformer. New conduits will be concealed in new walls. Where existing walls remain, surface metal raceways will be used to conceal wiring.

Emergency Power
The current MCPS standard is to provide emergency power for life-safety systems and standby power for the heating system to keep the building from freezing. The existing building generator system is 100 kW and cannot provide this capability. However, the existing generator does have the capacity and can be used to serve the life-safety emergency lighting and the fire alarm system for the addition, but not freeze protection. A separate automatic transfer switch will need to be added in the addition to serve the new life-safety loads. Separate switches are a requirement of the National Electrical Code so that life-safety systems are separated from standby and other types of loads. The existing transfer switch is located in the mechanical room with the generator (not the electric room). Therefore, it does not have to be relocated.

Lighting
MCPS standard classroom lighting will be provided in the classrooms of the new addition. This will consist of high efficiency fluorescent pendant fixtures. Lighting controls will include occupancy sensors and multiple levels of lighting.

Fire Alarm System
The existing simplex fire alarm control panels will remain. A new addressable fire alarm system will be provided for the addition. The new and old panels will be interconnected. Initiation devices and notification devices will be located to meet code requirements.

Intercom and Sound Systems
New intercom devices will be provided throughout the addition including call switches and speakers. The existing telecenter head-end console will be upgraded to increase the capacity for the new spaces.

V. Description of Options (Continued)

Common Design Elements (Continued)

Electrical (Continued)

Voice, Data, and Video Systems
The existing voice, data, and video cabling system will be expanded to the new addition. The number of outlets in each room will comply with MCPS and Maryland State requirements. A new telecommunications closet will be required in the addition to serve the new classrooms.

Security System
The existing security system will be expanded for the addition. Intrusion detection will include sensors and door contacts.

V. Description of Options (Continued)

A. Option 1 (Preferred)

Description
Option 1 achieves the program requirements with the construction of a two-story addition on the east side of the existing two-story east wing, as noted previously. Characteristics of this option are as follows:

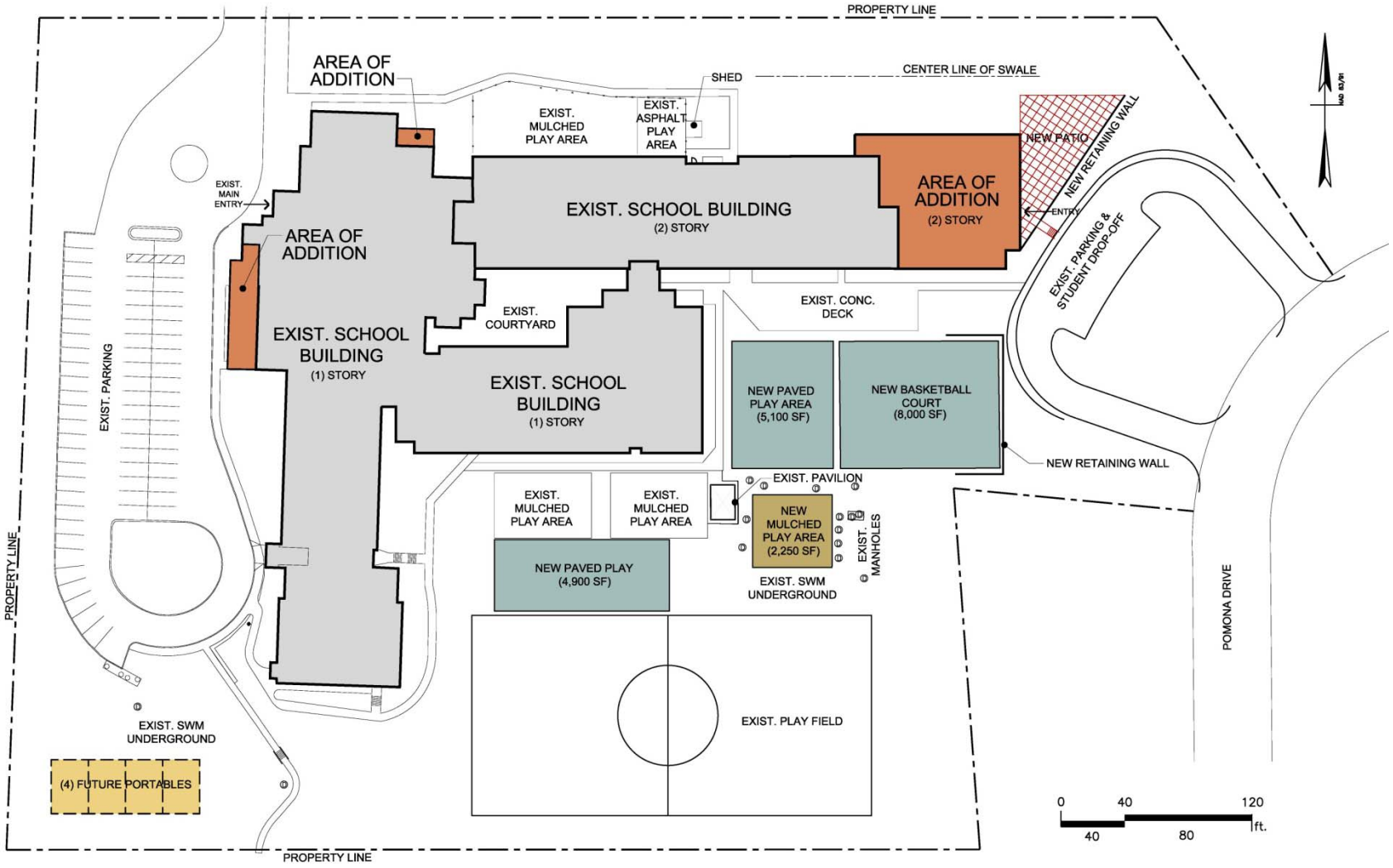
Proposed Addition
The classroom addition for Option 1 consists of a two-story doubled-loaded corridor which is attached to the east side of the existing two-story east wing. The new corridors increase the length of the existing corridors. The lower level consists of two kindergarten classrooms, a dual-purpose room, the repositioned staff lounge, one of the large instructional support rooms, the repositioned speech/language room, PTA storage, a conference room, a storage room, and a building service closet. It also includes the necessary mechanical, data and electric spaces to support the addition. The upper level contains three classrooms, the other large instructional support room, the other small instructional support room, the staff development area, the itinerant office, the workroom, boys' and girls' restrooms, staff restrooms, and a building service/storage room.

Existing Facility Modifications
Option 1 requires the fewest modifications to the existing building of the three options. The only modifications to the existing building unique to Option 1 will be the removal of the staircase on the northeast corner of the existing two-story east wing during the second summer of construction and renovation. The stair shaft will be recaptured for the relocated speech/language room on the lower level and a new book storage on the upper level.

TOTAL COST $6,734,000

V. Description of Options (Continued)

Option 1 - Site Plan



V. Description of Options (Continued)

Option 1 - Lower Level Floor Plan

ABBREVIATIONS

ART	ART CLASSROOM
B	BOYS' TOILET
BOIL	BOILER ROOM
BS	BUILDING SERVICES
BSO	BUILDING SERVICE OFFICE
COM	COMMUNICATION LAB
CONF	CONFERENCE ROOM
COUN	COUNSELOR OFFICE
CR	CLASSROOM
CT	COURTYARD
D	DATA ROOM
DP	DUAL-PURPOSE ROOM
E	ELECTRICAL ROOM
G	GIRLS' TOILET
GYM	GYMNASIUM
HE	HEALTH ROOM
IMC	INSTRUCTIONAL MEDIA CENTER
INST	INSTRUMENTAL CLASSROOM
INSTR	INSTRUCTIONAL AREA
K	KINDERGATEN
KIT	KITCHEN
L	LANGUAGE ROOM
M	MECHANICAL ROOM
MAIN	MAIN OFFICE
MPR	MULTIPURPOSE ROOM
MS	MEDIA STORAGE
MU	MUSIC
OFF	OFFICE
OSTO	OUTDOOR STORAGE
PEP	PRE-EDUCATION PROGRAM
PRN	PRINCIPAL'S OFFICE
SP	SPEECH ROOM
SR	SUPPORT ROOM
STA	STAGE
STAFF	STAFF LOUNGE
STO	STORAGE
T	TOILET
TR	TRASH ROOM
WR	WORK ROOM
(T)	TABLE
(P)	PAPER
(PTA)	PARENT-TEACHER ASSOCIATION
(BK)	BOOK
(L)	LARGE
(S)	SMALL

V. Description of Options (Continued)

Option 1 - Upper Level Floor Plan

ABBREVIATIONS

B	BOYS' TOILET
BS	BUILDING SERVICES
COMP	COMPUTER LAB
CR	CLASSROOM
G	GIRLS' TOILET
INSTR	INSTRUCTIONAL AREA
OFF	OFFICE
RDG	READING ROOM
SP	SPEECH ROOM
SR	SUPPORT ROOM
STO	STORAGE
T	TOILET
TEST	TESTING ROOM
TRAIN	TRAINING ROOM
WR	WORKROOM
(BK)	BOOK
(I)	ITINERANT STAFF
(L)	LARGE
(S)	SMALL

V. Description of Options (Continued)

B. Option 2

Description

Option 2 achieves the program requirements with the construction of a two-story addition connecting the existing one-story east wing with the existing two-story east wing. Characteristics of this option are as follows:

Proposed Addition

The classroom addition for Option 2 consists of a two-story doubled-loaded 'L-shaped' corridor connecting the existing one-story east wing to the existing two-story east wing. This connection provides loop circulation enhancing the current connection from the one-story east wing to the two-story east wing. The resultant geometry creates a new courtyard. The lower level consists of four kindergarten classrooms (including two replacement kindergarten classrooms), a dual-purpose room, replacement speech/language room, and a building service closet. It also includes the necessary mechanical space to support the addition. The upper level contains four classrooms (including a replacement classroom), the staff development area, the itinerant office, the workroom, boys' and girls' restrooms, staff restrooms, and a building service/storage room.

Existing Facility Modifications

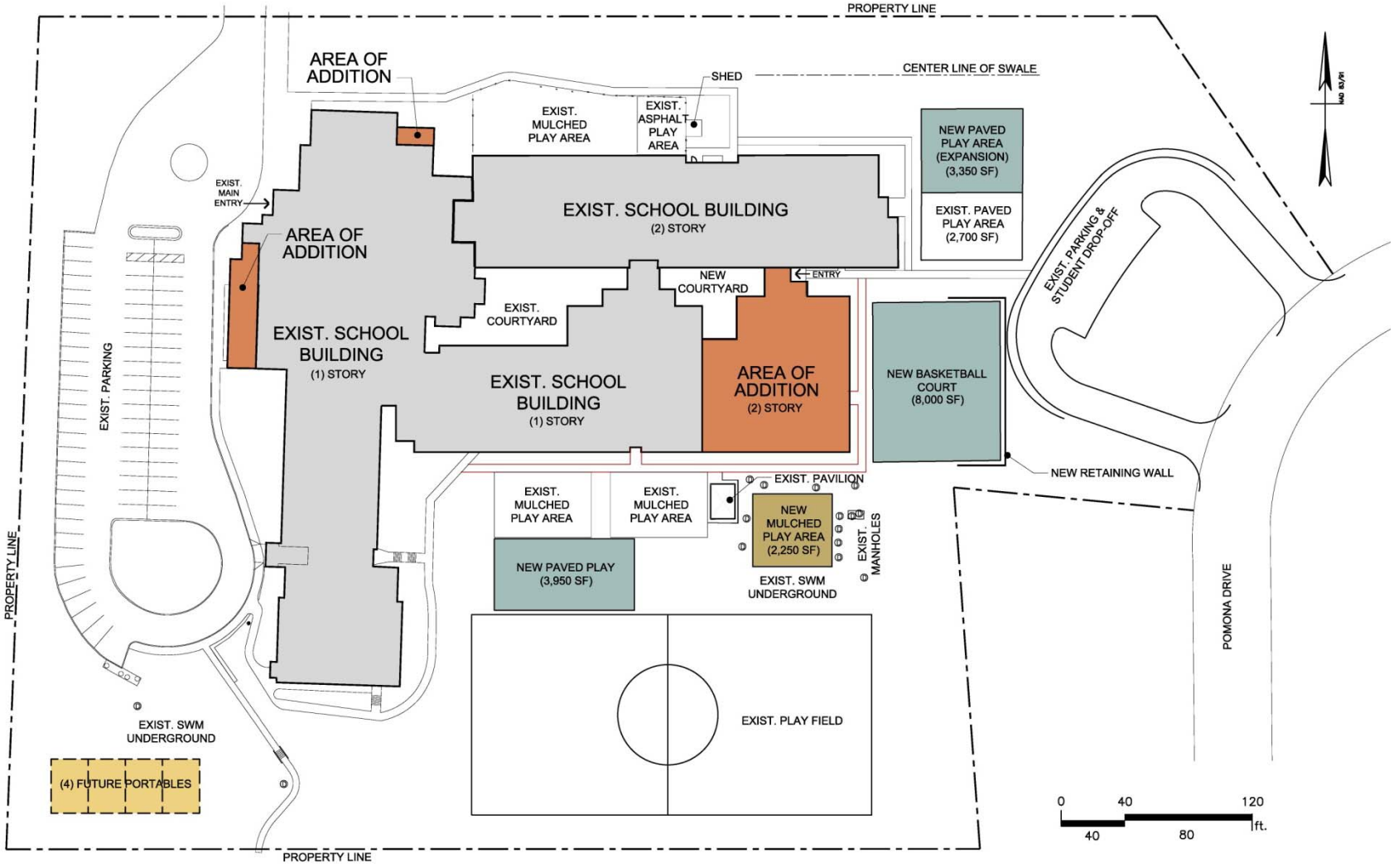
Option 2 requires modifications to some spaces in the existing building. In the existing one-story east wing, an existing kindergarten room and a classroom will be modified to a replacement classroom, the new conference room, and one of the large instructional rooms. The displaced kindergarten room will be relocated in the lower level of the classroom addition. The existing PEP storage will be converted to the PTA storage and the displaced PEP storage will be relocated next to the new entrance of the classroom addition.

In the existing two-story east wing, on the lower level, a kindergarten room will be changed to the new staff lounge, some storage spaces, data and electric closets, and a corridor linking the new classroom addition to the existing upper level of the two-story east wing. The displaced kindergarten room and classroom will be relocated in the new classroom addition. On the upper level, a classroom will be replaced with the other large instructional room and a corridor linking the new classroom addition to the existing upper level of the two-story east wing.

TOTAL COST $8,919,000

V. Description of Options (Continued)

Option 2 - Site Plan



V. Description of Options (Continued)

Option 2 - Lower Level Floor Plan

ABBREVIATIONS

ART	ART CLASSROOM
B	BOYS' TOILET
BOIL	BOILER ROOM
BS	BUILDING SERVICES
BSO	BUILDING SERVICE OFFICE
COM	COMMUNICATION LAB
CONF	CONFERENCE ROOM
COUN	COUNSELOR OFFICE
CR	CLASSROOM
CT	COURTYARD
D	DATA ROOM
DP	DUAL-PURPOSE ROOM
E	ELECTRICAL ROOM
G	GIRLS' TOILET
GYM	GYMNASIUM
HE	HEALTH ROOM
IMC	INSTRUCTIONAL MEDIA CENTER
INST	INSTRUMENTAL CLASSROOM
INSTR	INSTRUCTIONAL AREA
K	KINDERGATEN
KIT	KITCHEN
L	LANGUAGE ROOM
M	MECHANICAL ROOM
MAIN	MAIN OFFICE
MPR	MULTIPURPOSE ROOM
MS	MEDIA STORAGE
MU	MUSIC
OFF	OFFICE
OSTO	OUTDOOR STORAGE
PEP	PRE-EDUCATION PROGRAM
PRN	PRINCIPAL'S OFFICE
SP	SPEECH ROOM
SR	SUPPORT ROOM
STA	STAGE
STAFF	STAFF LOUNGE
STO	STORAGE
T	TOILET
TR	TRASH ROOM
WR	WORK ROOM
(T)	TABLE
(P)	PAPER
(PTA)	PARENT-TEACHER ASSOCIATION
(L)	LARGE
(R)	REPLACEMENT
(S)	SMALL

V. Description of Options (Continued)

Option 2 - Upper Level Floor Plan

ABBREVIATIONS

B	BOYS' TOILET
BS	BUILDING SERVICES
COMP	COMPUTER LAB
CR	CLASSROOM
G	GIRLS' TOILET
INSTR	INSTRUCTIONAL AREA
OFF	OFFICE
RDG	READING ROOM
SP	SPEECH ROOM
SR	SUPPORT ROOM
STO	STORAGE
T	TOILET
TEST	TESTING ROOM
TRAIN	TRAINING ROOM
WR	WORKROOM
(BK)	BOOK
(I)	ITINERANT STAFF
(L)	LARGE
(R)	SMALL

V. Description of Options (Continued)

C. Option 3

Description

Similar to Option 2, Option 3 achieves the program requirements with the construction of a two-story addition connecting the existing one-story east wing with the existing two-story east wing. Characteristics of this option are as follows:

Proposed Addition

Similar to Option 2, the classroom addition for Option 3 consists of a two-story doubled-loaded 'L-shaped' corridor connecting the existing one-story east wing to the existing two-story east wing. This connection provides loop circulation enhancing the current connection from the one-story east wing to the two-story east wing. The resultant geometry also creates a new courtyard larger than that of Option 2. The main differences between the floor plans for Options 2 and 3 lie in the configuration of the new spaces and rooms. The lower level consists of four kindergarten classrooms (including two replacement kindergarten classrooms), a replacement classroom, one of the large instructional rooms, replacement PEP storage, dual-purpose room, replacement speech/language room, and a building service room. The upper level contains four classrooms (including a replacement classroom), the staff development area, the workroom, boys and girls restrooms, staff restrooms, and a building service/storage room.

Existing Facility Modifications

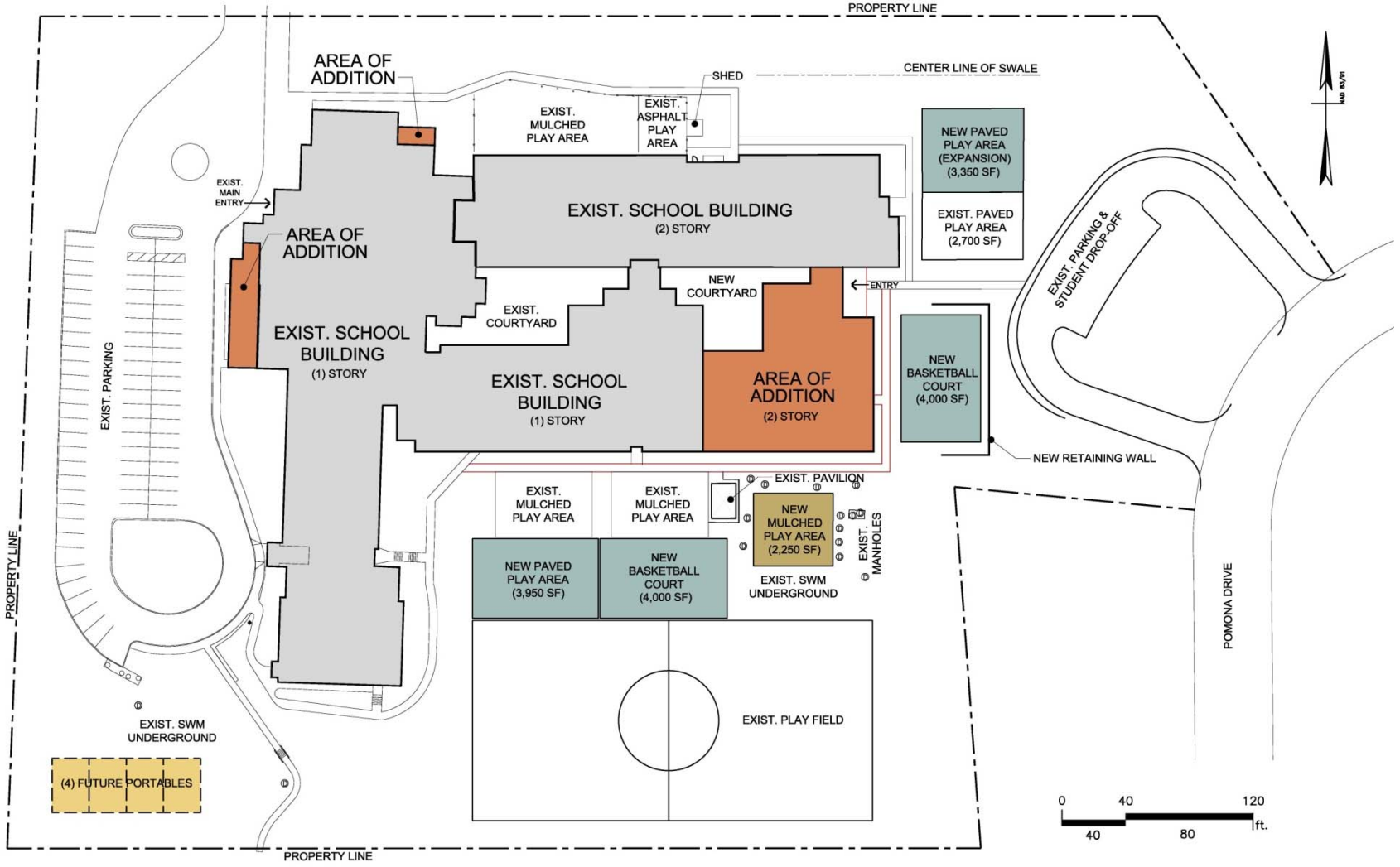
Option 3 requires modifications to some spaces in the existing building. In the existing one-story east wing, an existing kindergarten room and a classroom will be modified to the connecting link, conference room, relocated staff lounge, relocated speech/language room, one of the storage rooms and the mechanical room (to serve the classroom addition. Similar to Option 2, the displaced kindergarten room and classroom will be relocated in the lower level of the classroom addition; the existing PEP storage will be converted to the PTA storage; and the displaced PEP storage will be relocated next to the new entrance of the classroom addition.

In the existing two-story east wing, on the lower level, an existing kindergarten room will be changed to the new dual-purpose room, some storage spaces, data and electric closets, and a corridor linking the new classroom addition to the existing upper level of the two-story east wing. The displaced kindergarten room will be relocated in the new classroom addition. On the upper level, a classroom will be replaced with the other small instructional room, the itinerant office, the remote workroom, and a corridor linking the new classroom addition to the existing upper level of the two-story east wing.

TOTAL COST $9,581,000

V. Description of Options (Continued)

Option 3 - Site Plan



V. Description of Options (Continued)

Option 3 - Lower Level Floor Plan

ABBREVIATIONS

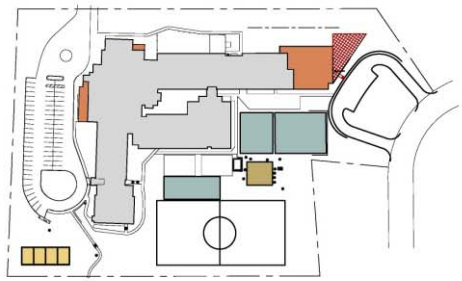
ART	ART CLASSROOM
B	BOYS' TOILET
BOIL	BOILER ROOM
BS	BUILDING SERVICES
BSO	BUILDING SERVICE OFFICE
COM	COMMUNICATION LAB
CONF	CONFERENCE ROOM
COUN	COUNSELOR OFFICE
CR	CLASSROOM
CT	COURTYARD
D	DATA ROOM
DP	DUAL-PURPOSE ROOM
E	ELECTRICAL ROOM
G	GIRLS' TOILET
GYM	GYMNASIUM
HE	HEALTH ROOM
IMC	INSTRUCTIONAL MEDIA CENTER
INST	INSTRUMENTAL CLASSROOM
INSTR	INSTRUCTIONAL AREA
K	KINDERGATEN
KIT	KITCHEN
L	LANGUAGE ROOM
M	MECHANICAL ROOM
MAIN	MAIN OFFICE
MPR	MULTIPURPOSE ROOM
MS	MEDIA STORAGE
MU	MUSIC
OFF	OFFICE
OSTO	OUTDOOR STORAGE
PEP	PRE-EDUCATION PROGRAM
PRN	PRINCIPAL'S OFFICE
SP	SPEECH ROOM
SR	SUPPORT ROOM
STA	STAGE
STAFF	STAFF LOUNGE
STO	STORAGE
T	TOILET
TR	TRASH ROOM
WR	WORK ROOM
(T)	TABLE
(P)	PAPER
(PTA)	PARENT-TEACHER ASSOCIATION
(BK)	BOOK
(L)	LARGE
(R)	REPLACEMENT
(S)	SMALL

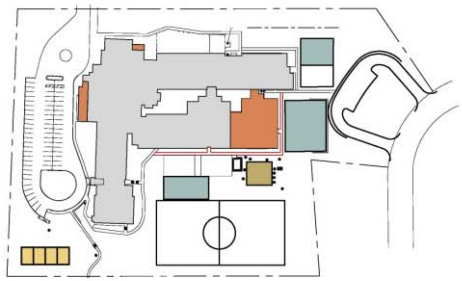
V. Description of Options (Continued)

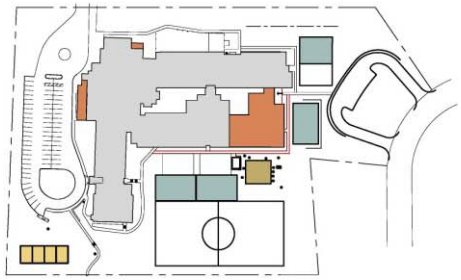
Option 3 - Upper Level Floor Plan

V. Description of Options (Continued)

Advantages & Disadvantages Comparison Chart

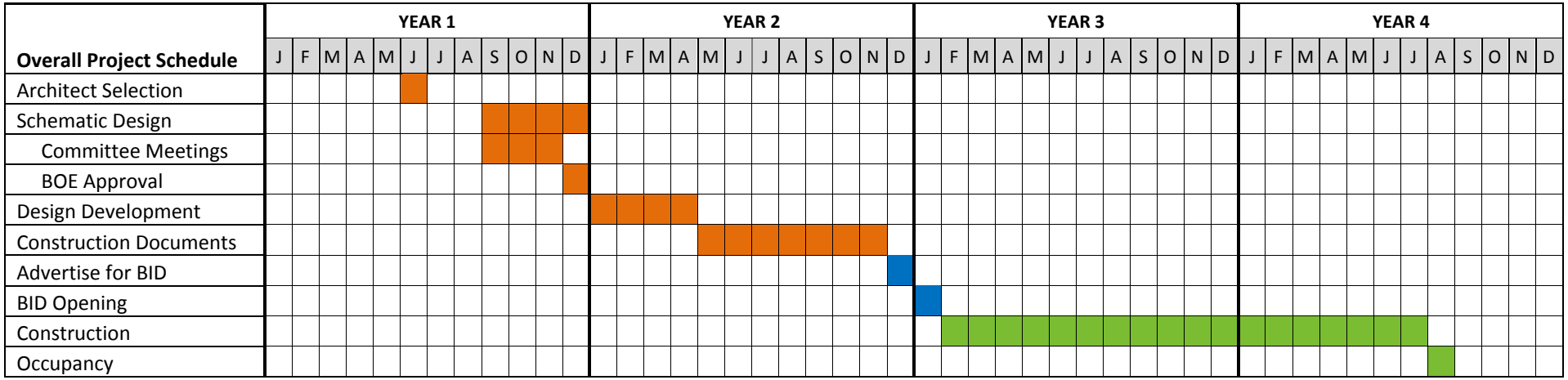






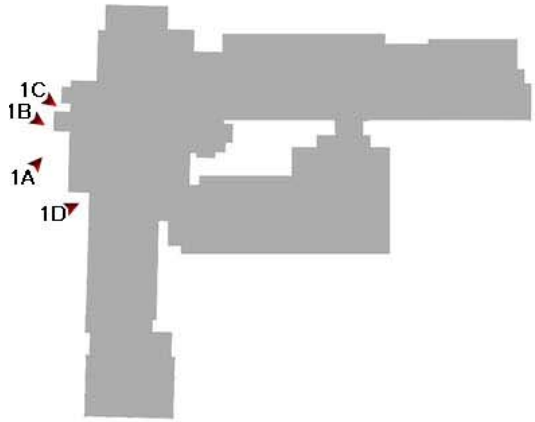
		OPTION #1 (PREFERRED)	OPTION #2	OPTION #3
ADVANTAGES	SITE	• RETAINS EX. CONCRETE DECK • BEST VISIBILITY OF PLAY AREAS BY TEACHERS AND STAFF • CLOSE CONNECTION TO EAST PARKING/ PARENT DROP-OFF • BEST UTILIZATION OF NORTH SIDE	• RETAIN PORTABLES IN CURRENT LOCATION DURING MOST OF CONSTRUCTION • RETAIN EXIST. PAVED PLAY AREA	• RETAIN PORTABLES IN CURRENT LOCATION DURING MOST OF CONSTRUCTION • RETAIN EXIST. PAVED PLAY AREA
	BUILDING	• LOWEST CONSTRUCTION COST • LEAST AMOUNT OF RENOVATION REQUIRED OF THE OPTIONS • LARGEST CANOPY AREA AT NEW ENTRANCE • BEST STAFF DEVELOPMENT AREA (AS SUITE)	• GOOD KINDERGARTEN GROUPING • GOOD CIRCULATION PATTERN IN THE BUILDING	• GOOD KINDERGARTEN GROUPING • GOOD CIRCULATION PATTERN IN THE BUILDING
DISADVANTAGES	SITE	• RELOCATE EXIST. PAVED AND MULCHED PLAY AREAS • RELOCATE EXIST. PORTABLES DURING CONSTRUCTION	• RELOCATE EXIST. BASKETBALL COURT AND MULCHED PLAY AREAS • USES MORE EXIST. LAND • USES PRIME AREA OF THE SITE	• RELOCATE EXIST. BASKETBALL COURT AND MULCHED PLAY AREAS • USES MORE EXIST. LAND • USES PRIME AREA OF THE SITE • NEW BASKETBALL COURTS ARE NOT NEXT TO EACH OTHER
	BUILDING	• LONGEST TRAVEL DISTANCE FROM GYMNASIUM TO NEW CLASSROOMS	• HIGHER CONSTRUCTION COST • MORE INTERIOR RENOVATION	• HIGHEST CONSTRUCTION COST • MORE INTERIOR RENOVATION

VI. Proposed Project Implementation Schedule



VII. Appendices

A. Existing Conditions Photos



1A: Multipurpose Room - Exterior

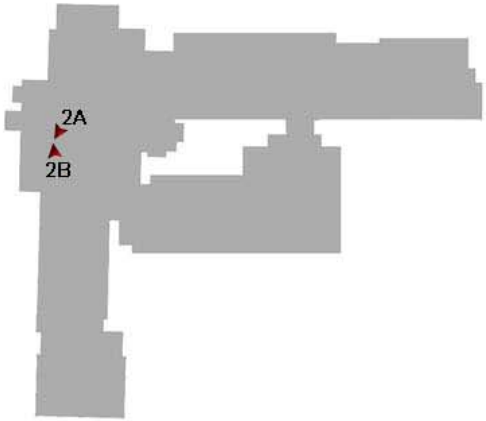
1B: Multipurpose Room - Exterior

1C: Multipurpose Room - Exterior

1D: Multipurpose Room - Exterior

VII. Appendices

A. Existing Conditions Photos (Continued)

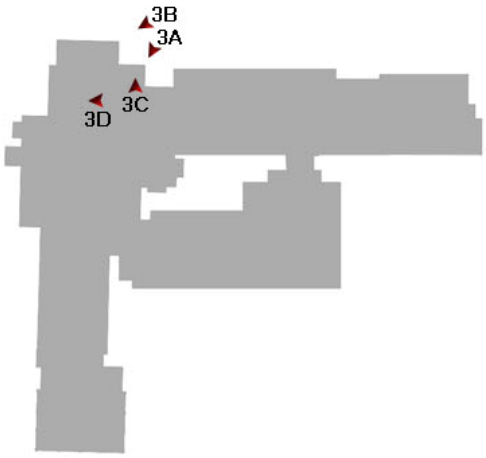


2A: Multipurpose Room - Interior

2B: Multipurpose Room - Interior

VII. Appendices

A. Existing Conditions Photos (Continued)



3A: Health Room - Exterior

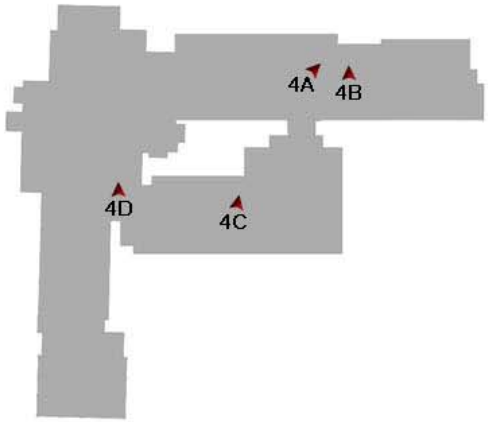
3B: Health Room - Exterior

3C: Health Room - Interior

3D: Health Room - Interior

VII. Appendices

A. Existing Conditions Photos (Continued)



4A: PEP Room

4B: Corridor to the Outside Near PEP Room

4C: Staff Lounge Room

4D: Speech/ Language Room

VII. Appendices

B. Space Summary

Facility	#	Description	NET Sq. Ft.	Total Net Sq. Ft.
Classrooms				**6,300**
Kindergarten	**2**		1,300	2,600
Standard Classroom	**3**		900	2,700
Dual Purpose Room	**1**		1,000	1,000
Support Rooms				**1,900**
Large Instructional Support Room	**2**		600	1,200
Small Instructional Support Room	**1**		450	450
Speech/ Language Room	**1**		250	250
Multipurpose Room				**1,430**
Multipurpose Room	**1**		1,300	1,300
Before/ After Care Kitchenette	**1**		30	30
Before/ After Care Storage	**1**		100	100
Staff Development Area				**2,975**
Staff Development Office	**1**		100	100
Reading Specialist Office	**1**		100	100
Training/ Conference Room	**1**		450	450
Book Storage	**1**		300	300
Testing Room	**1**		150	150
Conference Room	**1**		300	300
2nd Floor Workroom	**1**		75	75
Staff Lounge	**1**		700	700
PTA Storage	**1**		150	150
Itinerant Staff Office	**1**		150	150
General Storage	**1**		250	250
Health Services Suite	**1**		250	250
Building Service Closet	**1**			
Total				**12,605**
The architect should explore the possibility of expanding the small PEP classroom to meet the following size:				
PEP Classroom	**1**		1,300	1,300

VII. Appendices

C. Educational Specifications (See Next Pages)

Ashburton Elementary School Addition

Educational Specifications

Feasibility Study

February 19, 2013
Updated April 25, 2013

MCPS

Montgomery County Public Schools
Rockville, Maryland 20850

Table of Contents

Ashburton Elementary School
Square Foot Summary

When this project is complete, the following spaces are to be provided:
The architect is to explore the possibility of expanding the multipurpose room to 3700 sf.
Capacity after the addition will be 766.

Updated 4-25-2013

Facility	#	Description	Net Sq. Ft.	Total Net Sq. Ft.
Classrooms				
Kindergarten	2	Includes 250 s.f. storage	1300	2600
Standard Classroom	3	Includes 150 s.f.	900	2700
Dual purpose Room	1		1000	1000
Support Rooms				
Large Instructional Support Ro	2		600	1200
Small Instructional Support R	1	Reuse existing staff lounge as a 2nd small instructional support room	450	450
Speech/Language Room	1	Reuse existing Speech/Language room as a general storage room	250	250
Multipurpose Room				
Multipurpose Room	1		1300	1300
Before/After Care Kitchenette	1		30	30
Before/After Care Storage	1		100	100
Staff Development Area				
Staff Development Office	1		100	100
Reading Specialist Office	1		100	100
Training/Conference Room	1		450	450
Book Storage	1		300	300
Testing Room	1		150	150
Conference Room	1		300	300
2nd Floor Workroom	1		75	75
Staff Lounge	1		700	700
PTA Storage	1		150	150
Itinerant Staff Office	1		150	150
General Storage	1		250	250
Health Services Suite	1	An addition and renovation to the existing health services suite is required to meet the needs of the special education population. The architect should refer to the Additional Program Requirments for square footages and	250	250
Building Service Closet	1	Need to replace due to loss from a new grooming room		
Total	6			12605
The architect should explore the possibility of expanding the small PEP classroom the to meet the following size:				
PEP Classroom	1		1300	1300

Introduction

- ☐ This document describes the facilities that are needed for the Ashburton Elementary School addition 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 766 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 additional program requirements for the school.
- ☐ 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 (USBGC) 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.

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 guidelines and provide adequate levels.
- ☐ High quality materials are to be used in the construction.
- ☐ The architect should refer to the MCPS Facility Guideline Specifications when noted. The document can be found at: http://www.montgomeryschoolsmd.org/departments/construction/publications/guidelines.shtm
- ☐ 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.
- ☐ 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 Sate 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 DOC 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 MCPS Facility Guideline Specifications.
- ☐ 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.
- ☐ 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.
- ☐ 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.
- ☐ Per COMAR 23.03.02: Regulation .29, all school projects that include replacing or upgrading the electrical system should be designed and constructed sot that a designated public shelter area can be fully powered in the event of an emergency.

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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

- ☐ If the school has a Head Start program, the 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 must have direct access to the prekindergarten play areas. See the Site Requirements section for a description of play areas. 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 DOC. Computer/technology wiring must be in accordance with MSDE/MCPS guidelines.
- ☐ 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 MCPS Facilities Guide.
- ☐ A sink with a drinking fountain must be provided, with cabinets above and below.
- ☐ In a non class-size reduction school, the built-in student wardrobe area must provide 28 individual compartments to store students' belongings. The architect is to refer to the MCPS Facility Guideline Specifications for a typical cubby design. Lockers in the classroom may be considered for the kindergarten classrooms.

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- ☐ In a class-size reduction school, the built-in student wardrobe area must provide 24 individual compartments to store students' belongings. The architect is to refer to the MCPS Facility Guideline Specifications for a typical cubby design. Lockers in the classroom may be considered for the kindergarten classrooms.
- ☐ 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.
- ☐ All classrooms should be equipped with a handicapped accessible sink with drinking bubbler.
- ☐ A full-length mirror should be installed.

Standard Classroom

- ☐ Each room must have an open classroom area with moveable furniture.
- ☐ 150 square feet of casework storage is needed in the classroom.
- ☐ When possible there should be interconnecting interior doors between all classrooms.
- ☐ 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 DOC. Computer/technology wiring must be in accordance with DOC/MSDE/OCTO guidelines.
- ☐ 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.*
- ☐ The architect should refer to the MCPS Facility Guideline Specifications 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 MCPS Facility Guideline Specifications 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 babbler.
- ☐ 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.
- ☐ 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 MCPS Facility Guideline Specifications.
- ☐ 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.

- ☐ Electrical and data outlets should be provided in the ceiling for a ceiling mounted LCD projector.
- ☐ Battery operated clocks will be installed.
- ☐ 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.

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.

Support Rooms

Spatial Needs
Large Instructional Support Room
Small Instructional Support Room
Testing Room
Speech/Language Room

Large Instructional Support Room

- ☐ Room for a teacher's desk, lockable file cabinet, and assorted sized furniture is desired.
- ☐ Every classroom must have computer outlets for two or three student workstations and one 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 10 to 15 linear feet of magnetic marker board and 10 to 15 linear feet of tack board, both with tack strips and map rails above the boards, should be installed in each classroom. Marker boards should be located so as to reduce glare. Tack strip is needed on all available walls. The architect should refer to the MCPS Facility Guideline Specifications for the main teaching wall layout.
- ☐ Each classroom must include a minimum of 50 linear feet of built-in adjustable shelving for books.
- ☐ Space for a big book rack should with an incline to display the book open and also for storage beneath for space to lay the books flat should be provided.
- ☐ A small lockable teacher's wardrobe must be provided, as per MCPS Facility Guideline Specifications.
- ☐ 40 mailboxes should be designed for storage of student work such as folders or notebooks.
- ☐ This classroom should be equipped with a handicapped accessible sink with drinking bubbler. Cabinets should be provided above and below the counter area.
- ☐ 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.

Small Instructional Support Room

- ☐ Room for a teacher's desk, lockable file cabinet, and assorted sized furniture is desired.
- ☐ Every classroom must have computer outlets for two or three student workstations and one 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 10 to 15 linear feet of magnetic marker board and 10 to 15 linear feet of tack board, both with tack strips and map rails above the boards, should be installed in each classroom. Marker boards should be located so as to reduce glare. Tack strip is needed on all available walls. The architect should refer to the MCPS Facility Guideline Specifications for the main teaching wall layout.
- ☐ Each classroom must include built-in adjustable shelving under the windows.
- ☐ A small lockable teacher's wardrobe must be provided, as per MCPS Facility Guideline Specifications.
- ☐ This classroom should be equipped with a handicapped accessible sink with drinking bubbler. Cabinets should be provided above and below the counter area.
- ☐ 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.

Testing 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 should be designed as a secure room for testing materials and should have a counter with lockable cabinets above and below.
- ☐ This room needs acoustical treatment as well as video, voice, and data outlets.

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.

Multipurpose Room and Platform

Spatial Needs
Multipurpose Room
Platform
Chair Storage
Table Storage

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.
- ☐ 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.

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.

Administration suite

Spatial Needs
Conference Room

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.

Staff Development Area

Spatial Needs
Staff Development Office
Reading Specialist Office
Training/Conference Room

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.

Site Requirements

The architect should use the following information as a guide if any of the site is disturbed with the addition.

- ☐ The architect should consider the architecture of the neighborhood in designing the building
- ☐ 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, 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. The architect should consider the architecture of the neighborhood in designing the building.
- ☐ The design should retain as many trees as possible in order to buffer the school and the playing fields.
- ☐ Pedestrian access must be provided from the surrounding neighborhoods.
- ☐ An unimproved area on-site should be designated to serve as an environmental study area in the future.
- ☐ A covered area for studerts in the bus loading area should be provided.
- ☐ Space for buses to load at one time is needed. The number of buses will be reviewed during the design phase in consultation with the Department of Transportation.
- ☐ Bike racks should be provided near the building.
- ☐ 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 architect/engineer should refer to the MCPS Facility Guideline Specifications when designing the driveway, bus loop, service drives, etc.
- ☐ 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.
- ☐ A student drop off area should be provided and must be separate from the bus loop area.

Site Requirements

- ☐ All driveways must be arranged so that children do not cross them to get to the play areas.
- ☐ Care for safety of students must be exercised in developing the driveways including use of safety rails in the bus loading area.
- ☐ Pedestrian access to the school facilities should be designed to make the best use of community right-of-ways and avoid crossing of loading zone areas.
- ☐ The site must comply with the most current ADA or COMAR regulations, whichever is most stringent.
- ☐ Site access must be provided to comply with fire protection and storm water management.
- ☐ 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 should line up with the intersecting street.
- ☐ Driveways should be located so that vehicle headlights do not project into adjacent homes.
- ☐ A service drive is required to service the kitchen, boiler room, and general delivery area. The architect should refer to the MCPS Facilities Guide.
- ☐ Site access must be provided to comply with fire protection and storm water management regulations.

Parking

- ☐ Ideally, 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.
- ☐ The parking area should be designed to maximize safety and minimize speed.
- ☐ Adequate lighting should be provided.
- ☐ Parking area should have two exits.
- ☐ Guardrails or bollards are to be installed to protect fields and play areas.

Landscaping

- ☐ Planting should include screen planting and other planting needed for erosion control.
- ☐ Existing plant stock, if on site, is to be evaluated for reuse and protected accordingly.

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Site Requirements

- ☐ Landscaping to support energy conservation and to relate the building to the site with aesthetic appeal must be included.
- ☐ Consideration should be given to safety and security when selecting plant materials.
- ☐ Provision for outdoor watering must be included.
- ☐ The landscaping plan should include areas for outdoors environmental education programs.

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Physical Education Site Requirements

The items described below are for a school that meets the preferred site size of 12 usable acres. 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 the diagram in the MCPS Facilities Guideline 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.
- ☐ 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 the MCPS Facility Guideline Specification).

- ☐ A second area, designated for primary use, shall be striped according to drawings provided in the MCPS Facility Guideline Specification. On small sites, this pave area should be fenced for use by Grade Kindergarten students.

Kindergarten Paved Play Area

- ☐ A third paved area, at least 40'x 60' but preferably 80' x 100', is desired, 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 Facility Guideline Specification.

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 playgrourd 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.

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Prekindergarten Play Areas

- ☐ If the school has a prekindergarten, Head Start, or Preschool Education Program, then a separate and fenced outdoor play is required.
- ☐ This area must be adjacent to the classrooms with access directly from the classrooms.
- ☐ 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 architect will consult with the MCPS staff on the design of the playground equipment.

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Additional Program Requirements

- ☐ If there is major site work on this project, the design team should review how the arrival and drop off of disabled students are accommodated to meet current accessibility requirements.
- ☐ The PEP classroom requires a grooming room of 100 sf to accommodate a toilet, sink, and changing table.
- ☐ The architect should explore the possibility of expanding the current health services suite. Below are the specifications for the health services suite

Health Services Suite

Spatial Needs	Sq. Ft.
Waiting Area	100
Treatment/Medication Area	120
Office/Health Assessment Room	100
Health Assessment/Isolation Room	100
Rest Area	200
Toilet Room	50
Storage Room	40

- ☐ 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 heath staff is unavailable.
- ☐ The health room also must have a door to the corridor.
- ☐ Ventilation is important throughout the health suite. .

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- ☐ 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.

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.

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Additional Program Requirements

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.
- ☐ 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.

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