

BURNT MILLS ELEMENTARY SCHOOL ADDITION

FEASIBILITY STUDY



OCTOBER 2013

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BOARD OF EDUCATION

BURNT MILLS ELEMENTARY SCHOOL ADDITION

11211 Childs Street

Silver Spring, MD 20901

Montgomery County Board of Education

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| Mr. Rakesh Bagai | Project Manager, Division of Construction |
| Ms. Deborah Szyfer | Facility Planner, Division of Long-range Planning |

I. INTRODUCTION

This feasibility study was conducted for Montgomery County Public Schools (MCPS) by The Lukmire Partnership Architects. Burnt Mills Elementary School is located at 11211 Childs Street, Silver Spring Maryland 20901. The work was performed under the direction of the MCPS Department of Facilities Management's Division of Construction.

A. FEASIBILITY STUDY PARTICIPANTS:

| | | | |
|----------------------------|------------------------------|----------------------|--------------------------------------|
| Lisa Thomas | Burnt Mills ES Principal | Patricia Mancon | Burnt Mills ES PTA |
| Janice May | Burnt Mills ES Assist. Prin. | Hansen Padmore | Burnt Mills ES PTA |
| Jacqueline Hernandez | Burnt Mills ES Teacher | Carmen Custen-Acosta | Community |
| Aleyda V. Portilo-Holsey | Burnt Mills ES Admin. | Anthony Ramirez | Community |
| Olivia K. Bailey | Burnt Mills ES Staff Dev. | Sandra Koppel | Community |
| Liz Avilla | Burnt Mills ES Teacher | Donna Clark | Community |
| Raquel R. Torres Fernandez | Burnt Mills ES Teacher | Ramirez Thomas | Community |
| Petrotilino Andrade | Burnt Mills ES Teacher | Janet Remmers | Community |
| Gayle W. Vanderhost | Burnt Mills ES Teacher | Jessie Diffley | Community |
| Dale Meggett | Burnt Mills ES Teacher | Vaughn Hely | Community |
| Coliena Ayele | Burnt Mills ES Teacher | Patricia Chiancine | Community |
| Theresa Chin | Burnt Mills ES Teacher | Gloria Perez | Community |
| Glenis Quimby | Burnt Mills ES Teacher | Caroline Memah | Community |
| Amy Benoit | Burnt Mills ES Teacher | Aimee Jones | Community |
| Petronilo Andrade | Burnt Mills ES Teacher | Laniee L. May | Community |
| Gricia Canales | Burnt Mills ES Teacher | Wayne Wagner | Community |
| Lisette Steinwald | Burnt Mills ES Teacher | Donna Clark | Community |
| Patricia Chiancone | Burnt Mills ES Parent | Robert Reed | Community |
| Heidi Hayes | Burnt Mills ES Parent | Dan Wallace | Community |
| Jamie Jones | Burnt Mills ES Parent | Sterling Ross | Community |
| Manish Pabla | Burnt Mills ES Parent | Shella Chandler | Community |
| Melanie Walker | Burnt Mills ES Parent | Joan Lehrrhaupt | Community |
| Shelia Chandler | Burnt Mills ES Parent | Rakesh Bagai | Project Manager, DOC |
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| Donne Allen | Burnt Mills ES PTA | Michael Shpur | Architect, DOC |
| Joy King | Burnt Mills ES PTA | | |

II. EXECUTIVE SUMMARY

A. PURPOSE

The purpose of this feasibility study is to develop design alternatives and related costs for an addition to Burnt Mills Elementary School. The addition must be designed to accommodate a future modernization of the school allowing the proposed addition to remain. Three design alternatives are analyzed in response to the Educational Specification, objectives of the school and community, physical limitations of the existing building and site, and applicable codes and regulations. A preferred option as chosen by the Feasibility Study participants is designated as Option 1.

B. BACKGROUND INFORMATION

Burnt Mills Elementary School is located at 11211 Childs Street, Silver Spring Maryland 20901. The existing school was built in 3 phases. The original 26,574 square foot school was constructed in 1964, with a 23,631 addition being constructed in 1989, and a 6,000 square foot gymnasium added in 1999. The current existing structure is 57,318 square feet. There are 71 existing parking spaces. The existing site is 13.8 acres. Student enrollment during the 2012 - 2013 school year is 503 students.

C. METHODOLOGY

An evaluation of the existing school was conducted by the design team of architects and engineers to understand the potentials and constraints of the school in order to plan an addition complying with the Educational Specifications and Summary of Space Requirements, dated March 28th, 2012. The methodology employed included a review of all available data and drawings related to the existing school and site, visits to the site, and meetings with the Feasibility Study participants and MCPS staff. The design team developed multiple options illustrating expansion options and narrowed the choices based on the objectives of the Educational Specifications, impacts on school operation, physical limitation of the school and implications of construction phasing.

D. OVERVIEW

Burnt Mills Elementary School is primarily a one story school with a two-story classroom wing on the north side of the building. The two story portion of the school is constructed so that the floor levels are a half story up and a half story down from the primary building level. The two-story wing does not have an elevator and is not ADA (Americans with Disabilities Act) accessible. The existing structure is constructed of non-combustible materials and is sprinklered. Exterior walls and interior partitions are primarily masonry. The

II. EXECUTIVE SUMMARY

structural system consists of steel framing with steel roof joists, elevated concrete slabs on metal deck and concrete floor slabs on grade. The site topography varies greatly from an elevation of 360.00' at the south east corner of the site to 310.00' at the north west corner of the site, a 50 foot difference. The school is currently constructed on a flat area of the site at an elevation 346.5' with the exiting playing fields located to the east of the building at a similar elevation. There is a large elevation change on the north side of the site with the elevations dramatically dropping from 338.00' at the school to 310.00' at Prelude Drive in approximately 80 linear feet. The bus loop and parent drop off is accessed from Northwest Drive via Childs Street. Currently, the site accommodates 71 parking spaces. Existing play fields will remain as they are. Storm water management improvements and modifications will be required to accommodate the expanded building and revised site conditions.

Three options that meet the program requirements, along with their corresponding cost estimates, are presented in the Description of this Study.

E. OPTIONS

i. Option 1 (preferred option)

- Separate entry and bus loop from Northwest Drive
- New entry drive, parking and parent drop-off added from Prelude Drive
- Retaining wall required at new entry drive from Prelude Drive
- 2 story addition added to north side of school connecting the split level wing and creating a new loop corridor around a new courtyard
- New media center created as a result of new loop corridor system
- Relocated and renovated Music and Instrumental Music Rooms
- New administration space at front of school

| | | |
|-------------------|-------------------|---------------------|
| Option 1 - | Total Cost | \$14,196,000 |
|-------------------|-------------------|---------------------|

II. EXECUTIVE SUMMARY

ii. Option 2

- Create new parent drop off and parking at front of school. Revise existing parking on south side of school.
- New entry drive and bus loop added from Prelude Drive
- 2-story addition added to east end of school connecting academic wing and gymnasium to create a courtyard
- Add an elevator to provide accessibility to split level wing and an elevator for new 2-story addition
- New administration space at front of school
- Relocate and renovate Music and Instrumental Music Rooms

Option 2 - Total Cost \$10,350,000

iii. Option 3

- Switch the parent drop off to the front of the school and the bus loop to the side of the school
- Retain split level wing. Add new 2 story, 12 classroom addition, with kindergartens on the lower level and regular classrooms on upper level, to the end of the split level 2 story classroom wing.
- Add an elevator to access existing split level and new construction
- Relocate and renovate Music and Instrumental Music Rooms
- Add new administration space at the front of the school
- Add 2 classrooms to east end of school

Option 3 - Total Cost \$8,691,000

II. EXECUTIVE SUMMARY

G. SUMMARY TABLE AND COST COMPARISON - OPTIONS 1, 2 AND 3

| | Option 1 (Preferred | Option 2 | Option 3 |
|-------------------------|----------------------|--------------|-------------|
| Existing | 57,318 | 57,318 | 57,318 |
| New Construction | 34,142 | 24,298 | 19,669 |
| Renovation | 4,593 | 4,593 | 4,593 |
| Demolition (Total) | 0 | 0 | 0 |
| Existing to Remain | 57,318 | 57,318 | 57,318 |
| Total Gross Square Feet | 91,460 | 81,616 | 76,987 |
| | | | |
| Total Cost | \$14,196,000 | \$10,350,000 | \$8,691,000 |

Feasibility Study Cost Estimate (\$000's) - Preferred Option 1

| | |
|-------------------------------|------------|
| Construction Cost Estimate | 11,494 |
| Planning Cost | 1,349 |
| Contingency and Related Costs | 1,353 |
| Total | 14,196,000 |

II. EXECUTIVE SUMMARY

H. CONCLUSION AND RECOMMENDATIONS

All three of the options evaluated have the ability to resolve the programmatic deficiencies of the existing school, however Option 2 and Option 3 require a new elevator to be constructed in the existing building to access the existing two story wing. Option 1 does not require this difficult construction as the elevator providing access to the existing two-story level would be located in the new addition. Also, Options 2 and 3 do not provide as much flexibility for future revitalization/expansion and use of the site. In accordance with the consensus of the Feasibility Study participants and MCPS staff, it is recommended that Option 1, as depicted herein, and its associated site improvements, be implemented. The overall function of the building and site is improved and all MCPS Program Requirements are fulfilled.

III. PROJECT SCOPE, OBJECTIVES AND GOALS

The following are the primary goals and objectives established by the Principal, staff and the Feasibility Study participants to be addressed by the A/E design team and MCPS staff.:

A. SCOPE AND INTENT

The purpose of this Feasibility Study is to evaluate alternates for the addition to Burnt Mills Elementary School in order to provide Montgomery County Public Schools with sufficient data to determine the necessary scheduling and funding. Cost estimates for each option have been developed as a basis for comparison in the evaluation process.

The student enrollment during the 2011-2012 school year in grades Kindergarten to 5 was 492 and the capacity is 358. The addition will increase the capacity to 635 with a 640 core capacity. The existing one and two story structure is 57,318 square feet on a site of 13.8 acres.

The design team's scope of work included an evaluation of the existing school and site with respect to the requirements of the Educational Specification and applicable codes and regulations. The objective of the evaluation was to determine the feasibility of adding space to the existing school and preparing design alternatives to provide a learning environment that is conducive to the instructional philosophy, visions and goals of the school and the community. In addition to collecting and reviewing available data, the Design Team participated in progress review meetings at the school with the school administration, MCPS staff and community representatives. As each design alternative was presented and reviewed by the Feasibility Study participants, comments were recorded and alternative schemes revised accordingly. The final approved options are presented herein with Option 3 recommended as the preferred scheme.

III. PROJECT SCOPE, OBJECTIVES AND GOALS

B. GENERAL GOALS

i. Site Goals

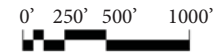
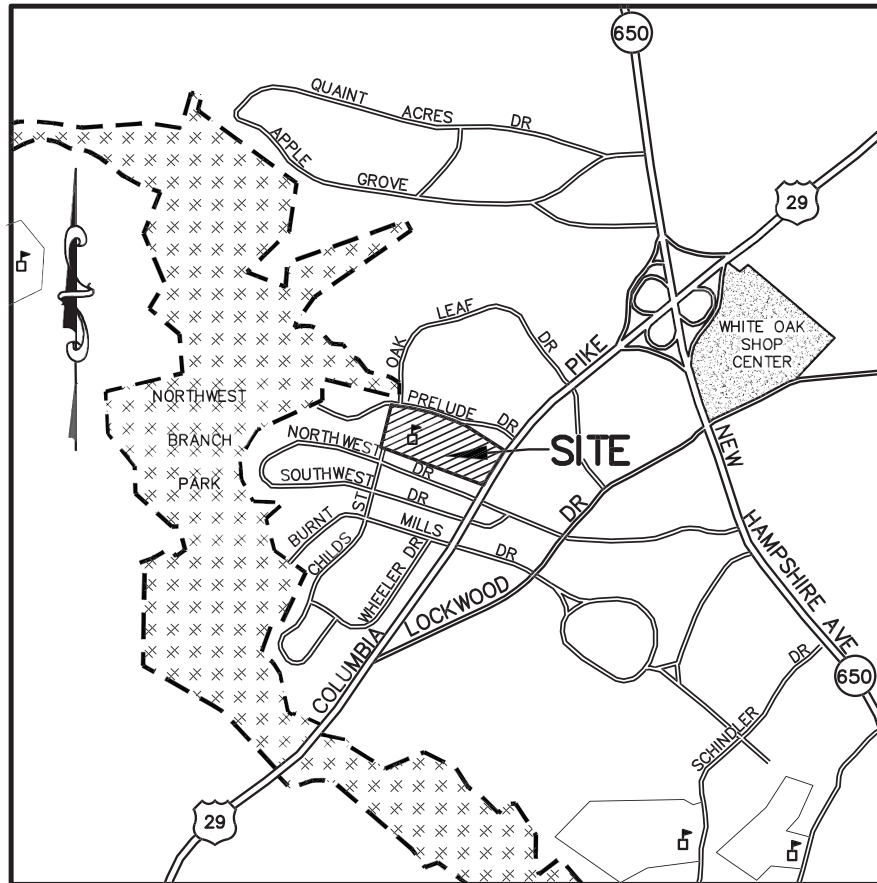
- Expand parking capacity to 100 spaces
- Revise vehicular site circulation separating bus and automobile circulation

ii. Building Goals

- Add six kindergarten classrooms, six grade 1 – 5 classrooms, music room, instrumental music classroom, three small group instruction rooms, and a conference/training room.
- Ensure that the design of the addition fits with the architectural design of the existing building.
- Ensure that the construction can be safely phased while school remains in operation.
- Provide flexibility to create grade level classroom groupings.
- Provide an appropriate HVAC system.
- Address the accessibility issue concerning the two-story classroom wing
- Develop an addition that will be able to be retained during future modernization of the school

IV. EXISTING CONDITIONS SUMMARY

A. Vicinity Map



IV. EXISTING CONDITIONS SUMMARY

D. Existing Floor Plan

A. GENERAL

Burnt Mills Elementary School is located at 11211 Childs Street, Silver Spring Maryland 20901. The existing site is 13.78 acres

B. EXISTING SITE

The Burnt Mills Elementary School facility occupies a 13.78 Acre lot, Parcel P400, at 11211 Childs Street, Silver Spring, Maryland. The property is found on ADC Map book grid 5286-K4 and has a tax account number of 00252076. The site is zoned R-90 and is bounded on the north, west and south by detached single family homes, and on the east, across Columbia Pike (US-29), by higher density town-homes. A wooded 1.36-acre parcel owned by the Board of Education is adjacent to the northeast.

Based on the current Montgomery County Zoning Ordinance, dimensional regulations for the property will include the following:

Street setback (Childs Street) – 30’

Side setback– 8’

Sum of Both Sides - 25’

Rear setback – 25’

Maximum Building Height - 35’

Maximum Site Building Coverage – 30%

The zoning ordinance will also require site improvements to adhere to the landscaping, screening, and lighting requirements set forth in the code. The site is bounded along its eastern property line by the 100-foot Columbia Pike (US-29) right-of-way. Columbia Pike Road is a four-lane divided road with left turn lanes, signalized intersections and pedestrian circulation paths along both sides. This heavily traveled street is separated from the school property by a steep, heavily wooded hillside which provides screening from Columbia Pike. No access is available to the site from Columbia Pike. Along the northern boundary of the site, lies the 70-foot Prelude Drive right-of-way. This street is a two-way, two-lane street with sidewalks and street trees along both sides. A heavily vegetated steep slope also separates the site from Prelude Drive. The pavement and sidewalks in the Prelude Drive right-of-way are in reasonably good condition and crosswalks and handicap ramps appear to be in compliance with 2010 ADA guidelines. Finally, the vehicular entrance to the site is from the 50-foot Childs Street right of way. The portion of Childs Street adjacent to the school is a two-lane, unstriped access drive that only serves the school and one residence to the southwest of the school. Sidewalk is present along the east side of this portion of Childs Street only and sidewalk slopes are not compliant with 2010 ADA guidelines for running slope.

IV. EXISTING CONDITIONS SUMMARY

C. EXISTING BUILDING

Burnt Mills Elementary School has both a one story and two-story portion. The two story portion of the school is constructed so that the floor levels are a half story up and a half story down from the primary building level. The two story level is not ADA (Americans with Disabilities Act) accessible. The existing structure is constructed of non-combustible materials and is sprinklered. Exterior walls and interior partitions are primarily masonry. The structural system consists of steel framing with steel roof joists, elevated concrete slabs on metal deck and concrete floor slabs on grade.

D. EXISTING HEATING VENTILATION AND AIR CONDITIONING

The school is heated and air conditioned by a two pipe hot water/chilled water system. Two gas fired hot water boilers provide the hot water for space heating and one air cooled chiller supplies the chilled water for the air conditioning for a portion of the school. The classrooms located in the original two story classroom wing are air conditioned by standard air cooled window units.

A winter/summer change over valve is used to supply hot water in winter and chilled water in summer to floor mounted classroom unit ventilators. Code required ventilation is introduced to each unit ventilator via wall louvers. The hot/chilled water piping is run overhead in the ceiling space. The lobby and multipurpose rooms are served by indoor air handlers served from the two pipe system. The boilers, air cooled chiller, pumps and the automatic temperature controls date to 1990. The automatic temperature control system is pneumatic.

The gymnasium constructed in 2000 is served by one indoor gas fired heating and ventilating unit with air to air heat recovery plate heat exchanger. The gymnasium lobby is served by one roof top gas fired heating and air conditioning unit.

The existing chilled and hot water systems do not have the capacity to support the new addition. The future MCPS plan is to demolish the entire school except for the gymnasium and this proposed addition when the school is modernized

E. EXISTING PLUMBING SYSTEMS

The existing school has one 8" combination domestic/fire water service and low pressure gas service located at the main boiler room. The entire school is protected with a wet sprinkler system.

A new sanitary sewer shall be run to serve the new addition. The new sewer line will exit the addition and connect to the existing sewer line outside the building. Storm water will be collected via roof drains and connected to the storm system.

IV. EXISTING CONDITIONS SUMMARY

F. EXISTING FIRE PROTECTION SYSTEM

The existing water and fire service is adequate to serve the addition. Fire and domestic water for the addition will be provided by extending the existing services. A new domestic hot water heater shall be provided to serve the addition.

G. EXISTING ELECTRICAL POWER DISTRIBUTION SYSTEM

The existing electrical service comes underground into the main electrical room. The main service consists of an 800 Amp C/T cabinet which feeds the 800 Amp 277/480V, 3 Ph, 4W main distribution panel. The MDP currently has the following:

- One 3P 125 Amp Circuit Breaker Identified as Serving Potable.
- One 3P 150 Amp Circuit Breaker Not Identified.
- One 3P 60 Amp Circuit Breaker Not Identified.
- One 3P 60 Amp Circuit Breaker Identified as Serving PNL "BR".
- One 3P 150 Amp Circuit Breaker Not Identified.
- One 3P 150 Amp Circuit Breaker Not Identified.
- One 3P 150 Amp Circuit Breaker Not Identified.
- One 3P 200 Amp Circuit Breaker Identified as Serving 150 KVA Transfer.
- One 3P 200 Amp Circuit Breaker Identified as Serving PNL. "HL".
- One 3P 200 Amp Circuit Breaker Not Identified.

The C/T bus has been tapped to serve a G.E. 3P + S/N 30 Amp 600V fused disconnect switch to serve the emergency loads.

Utility Demand Records indicate that the maximum demand (summer) for the school is 203.0 KW. The maximum ampacity draw on the MDP, assuming an 80% power factor, is approximately 320 Amperes. With the deletion of the electrical load to the portable classrooms, the 800 amp service though border line appears adequate to serve the proposed addition.

During the design phase of the addition, if the estimated electrical loads are higher than currently estimated, a heavy up of the service will be required with the objective of leaving the incoming service at its current location. A new electrical service will be required with the modernization.

V. DESCRIPTION OF OPTIONS

H. EXISTING FIRE ALARM

The existing fire alarm system consists of a Fire-Lite by Honeywell consisting of the following: one control panel M59600UDLS, one audio command center ACC – 25/50, one fire alarm communicator, and four power supply panel box FCPS24FS8. The existing fire alarm system can be expanded to accommodate the new addition. The annunciator panel will have to be modified accordingly.

I. EXISTING PA/CLOCKS/TELEPHONES AND COMMUNICATION SYSTEMS

The incoming telephone service is located in equipment storage located in communication room beside the media center with the distribution equipment. There is another equipment closet by the main administrative office area with distribution equipment.

The existing sound system is a Rauland Telecenter. It appears to be in good condition. The existing sound rack has three 25 switch banks. A new SW25 switch assembly will be provided to handle the new addition.

J. EMERGENCY SYSTEM

A G.E. 3P + S/N 30 Amp fused disconnect switch is tapped to the bus ahead of the main to serve the emergency load via a 70 Amp 3 Phase 4 wire Generac Automatic Transfer Switch. The Emergency System is backed up by a 15.0 KW Generac Propane Generator. The existing emergency service was installed in 1989. The emergency system and generator will need to be replaced to meet new N.E.C. Standards. The generator is fired with propane.

K. GAS SERVICES

The existing low pressure gas service is not adequate to support the proposed addition. A new 2 psig service will be required. The existing propane fired emergency generator will be replaced with a new gas fired generator

V. DESCRIPTION OF OPTIONS

A. GENERAL

Three conceptual options have been developed in response to the MCPS Educational Specifications and goals of the Feasibility Study participants. Each option consists of a site solution and a building addition solution. Further more each option must demonstrate the addition will be able to meet MCPS Educational Specifications for a future modernization of the school while retaining the proposed addition.

B. COMMON ELEMENTS FOR EACH OPTION

i. PROPOSED HVAC SYSTEM

The new heating and ventilation system for the addition will be one that will be designed to current MCPS standards. It will be designed so that it can be retained to connect to a future geothermal system that will be designed for the modernization.

The new addition will be served by a closed loop water source heat pump system completely independent of the existing central heating and cooling systems. The system will consist of multiple vertical water cooled heat pumps with variable speed compressors. One heat pump will be provided for each classroom. The heat pumps will be located outside of the classrooms in mechanical closets with access from the main corridor. Typically, there will be two vertical heat pump units per mechanical closet. The supply and return air to each classroom will be ducted. The heat pumps will be selected to operate in both a current boiler/cooling tower closed loop distribution system and a future geothermal distribution loop system. The distribution piping will be insulated in the addition.

The closed loop boiler/cooling tower heat pump loop system will be designed to maintain the loop supply water temperature between 60°F to 95°F. The re-circulation system shall be designed for variable water flow. High efficiency gas fired hot water pulse boilers located in a new mechanical room at the rear of the addition and in close proximity to the future geothermal field, will provide the necessary heat to maintain the minimum 60°F supply temperature. Natural gas service will be extended from the location of the existing incoming service at the main boiler room to the addition.

An open condenser water system consisting of a circulation pump, plate heat exchanger and a cooling tower will provided to maintain the supply water temperature at no higher than 95°F. The cooling tower will be located on grade adjacent to the new mechanical room. The closed loop heat pump system shall be designed in such a manner that it can connect to the future geothermal heat pump system that will serve the school when modernized. The geothermal fields for the modernization are planned to be located in the play

V. DESCRIPTION OF OPTIONS

field at the rear of the addition. With the modernization, the boilers and cooling towers will be removed. The existing indoor recirculation piping loop serving the addition shall be modified and connected to the new geothermal loop distribution system.

The code required ventilation shall be provided with a roof mounted dedicated outdoor air cooled –gas fired ventilation systems. The dedicated outside air systems will be provided with high efficiency variable speed compressors and heat recovery wheels. The ventilation systems will deliver neutral 70°/75°F & 55% RH air to each classroom via overhead ductwork. The dedicated ventilation units are provided with a return/exhaust by-pass damper for early morning warm-up of the classrooms.

The addition and modernization to the existing entrance and administration suite will be heated and air conditioned by air cooled variable refrigerant flow systems. The system will consist of roof mounted air cooled condensers and multiple recessed ceiling mounted cassette units. Ventilation will be provided by dedicated outside air units similar to those describe for the classrooms.

ii. PROPOSED ELECTRICAL SYSTEM

Power

The existing 800 Amp 277/480V 3 Ph, 4W main distribution panel will be replaced with a new main distribution panel. A new electrical closet will be located in a new addition to accommodate new panel-boards, transformer, etc. Classroom electrical outlets shall be provided per MCPS Design Standards. The emergency system and generator will be replaced with new to meet new N.E.C. Standards. The generator will be gas fired.

Lighting

An energy efficient lighting system will be provided throughout the addition. Standard classroom lighting will be MCPS standard pendant mounted direct/indirect 2 lamp fluorescent fixtures. Offices and corridors will be provided with standard lenses, 2x4 -2 lamp fluorescent fixtures, with corridor fixtures space 14 ft. on center. Building exterior wall packs will be 100% cut-off with 150 watts high pressure sodium lamps.

Sound System

A new SW25 switch assembly will be provided to handle the new addition. New intercom devices including call switches and speakers in all teaching areas per MCPS standards.

V. DESCRIPTION OF OPTIONS

Fire Alarm

Pull stations, detectors, and notification appliances will be provided as required by Code and the memorandum of understanding between MCPS and the Fire Marshal. Devices will be provided according to Code requirements. A new annunciator panel will be required.

Voice Data, And Video Cabling Systems

Raceways and provisions for voice, data, and video cabling will be provided to accommodate program functions and room configurations as per MCPS standards. All video head-end distribution equipment will be located in the main telecommunications room. Provisions for interactive white boards will be included. Telecommunications closets will be located throughout the addition to limit the length of cabling to each data outlet. Provisions for a fiber optic backbone for data and copper riser cable will connect each of the closets to the telecommunications room.

Existing Emergency System

The existing 1989, 15.0 KW Generac Propane Generator and transfer switch will be replaced with a new larger capacity gas fired generator and two new transfer switches will be provided (one for life safety systems and one for other non life safety equipment.) The emergency distribution system will be modified as required to serve the proposed addition.

V. DESCRIPTION OF OPTIONS

C. OPTION 1 - DESCRIPTION

i. SITE

Option 1 provides separate entrances for buses and cars. The Prelude Drive entrance will be used for parent drop-off/pick up and teacher parking. The entrance from Childs St. will be used by bus traffic and teacher parking. New parent/teacher parking would be provided from the Prelude Dr. entrance. New hardscape play areas would added. Due to the location of the addition the new entrance drive from Prelude Drive will require a site retaining wall.

ii. BUILDING

i Addition

Option 1 consists of adding an addition to the north side of the existing school. The new two-story addition will extend thru the current media center at the main level of the existing school and create a loop corridor connection to the existing two story portion of the school. The existing two story wing would remain and a new stair and elevator would be constructed at the north end of the existing wing to provide accessibility. A new media center would be created as part of the addition in this option. Several existing classrooms will be renovated to provide space for the Music, Instrumental Music, and Small Instructional Support Rooms. The current Vice Principals office space will be renovated into a Conference/training room and a new administration space will be added to the west end of the building adjacent to the current administration space.

iii. OPTION 1 ADVANTAGES

- Provides separation of parent/teacher traffic and bus traffic
- New loop corridor enhances building circulation
- New construction is focused in one location
- Does not decrease the available outdoor play fields
- Does not require a new elevator to be constructed in the existing school

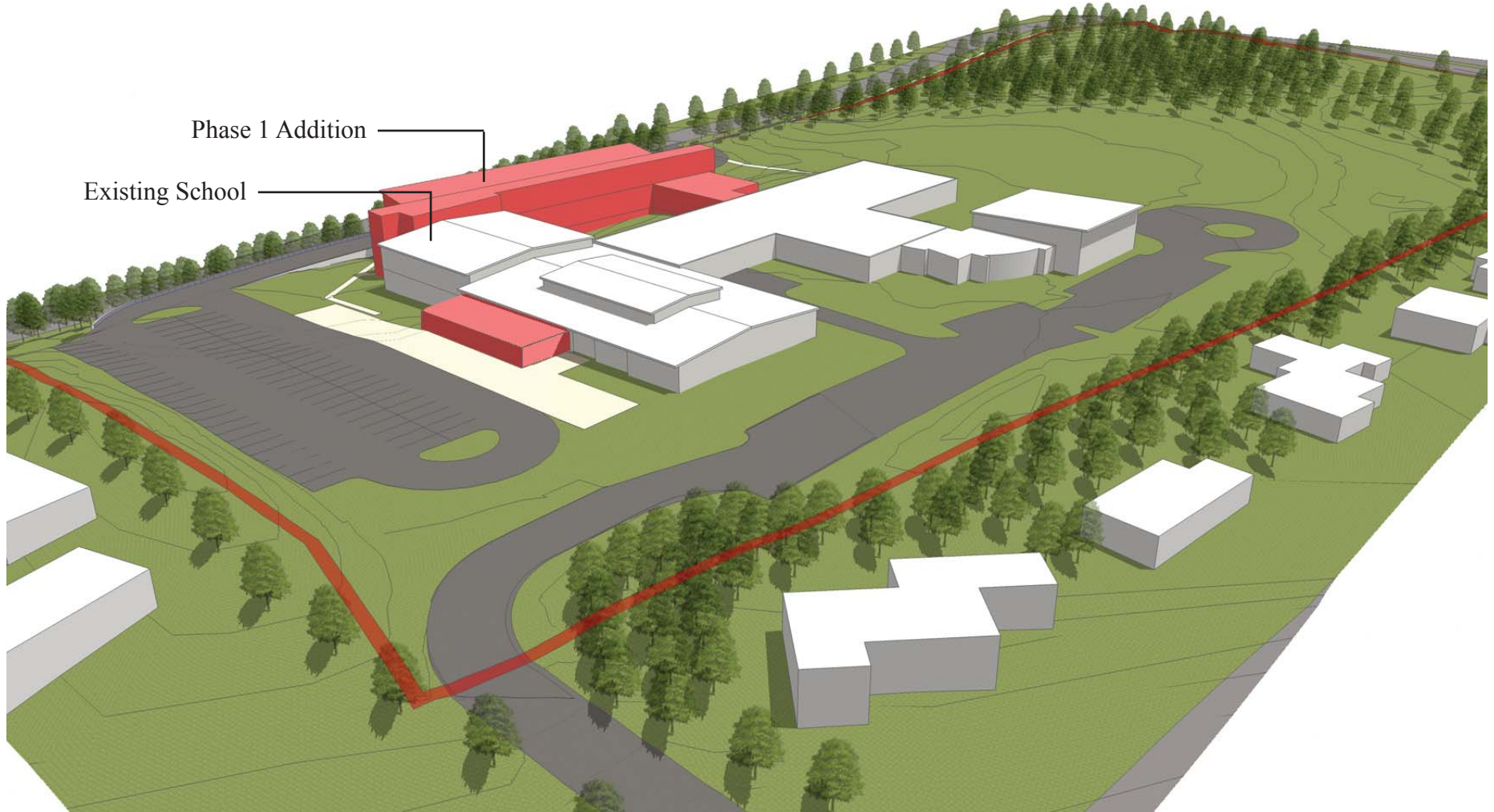
iv. OPTION 1 DISADVANTAGES

- Site retaining wall is required
- Addition would make school 3 levels though the lowest level would be mechanical space
- Modernized school will have the smallest footprint resulting in the maximum outdoor play area

V. DESCRIPTION OF OPTIONS

Option 1

Massing Model (Phase 1)



Phase 1 Addition

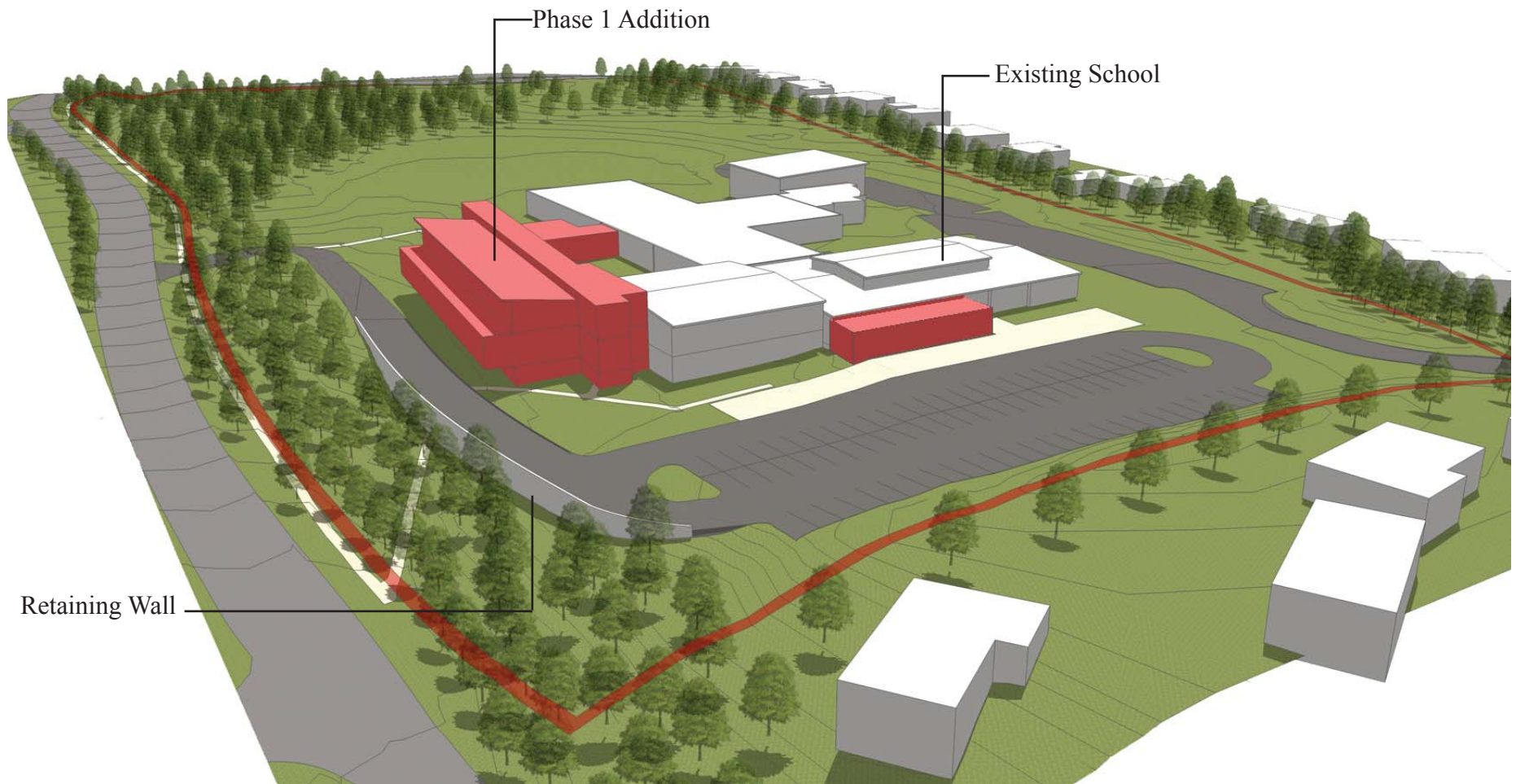
Existing School

Arial View From South West

V. DESCRIPTION OF OPTIONS

Option 1

Massing Model (Phase 1)



Arial View From North West

V. DESCRIPTION OF OPTIONS

Option 1

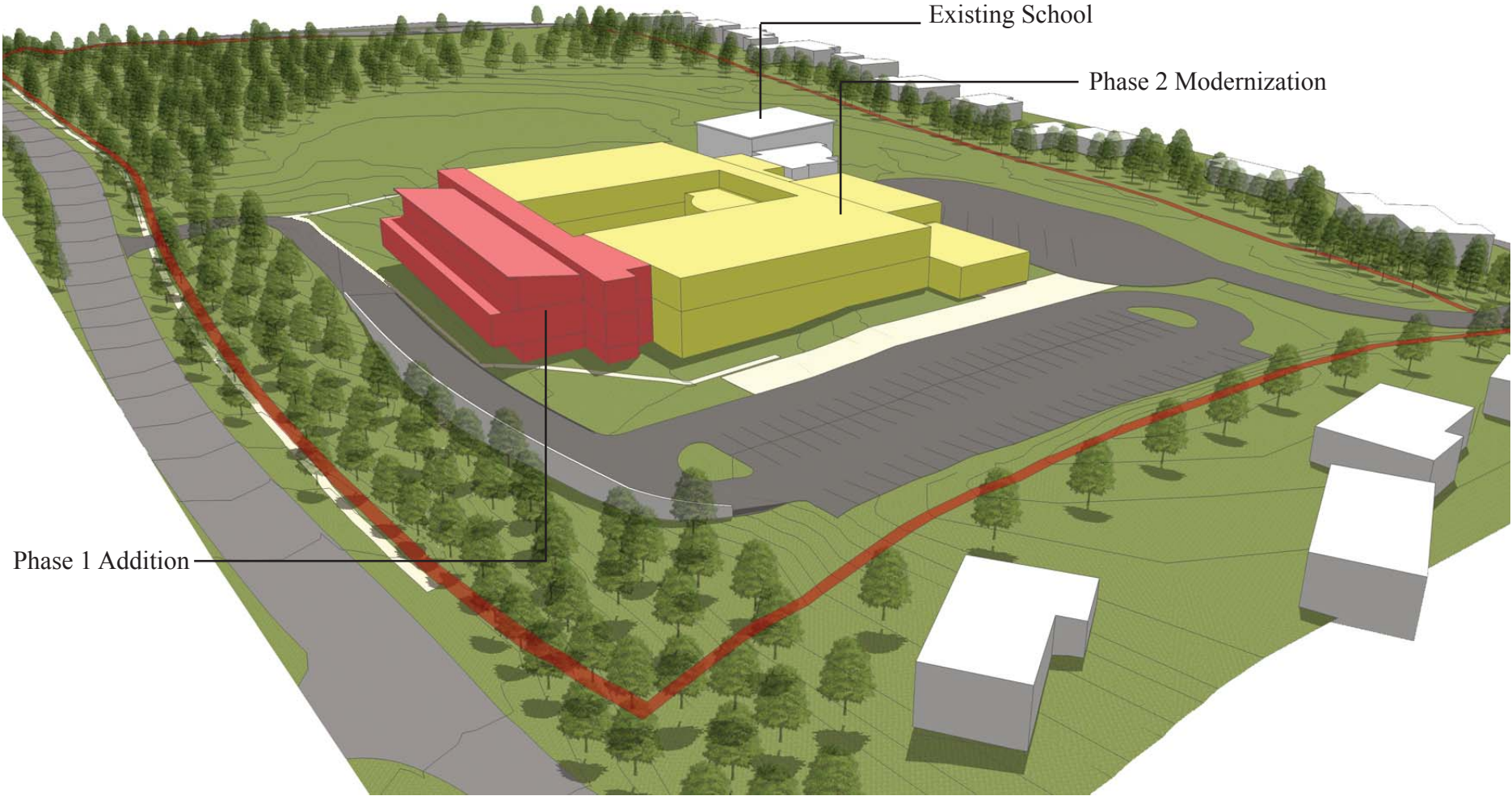
Massing Model (Phase 2)



Arial View From South West

V. DESCRIPTION OF OPTIONS

Option 1 Massing Model (Phase 2)



Arial View From North West

V. DESCRIPTION OF OPTIONS

D. OPTION 2 - DESCRIPTION

i. SITE

Option 2 provides separate bus and drop off entrances. The Childs St. entrance will be used for parent drop off/pick up and teacher parking. The new entrance from Prelude Drive will be used by buses. The existing parking will be expanded to provide additional teacher parking. New hardscape play areas will be needed as the addition occupies current hardscape.

ii. BUILDING

a. Addition

Option 2 consists of a two-story addition to east end of the school connecting the existing main east/west corridor and creating a new loop corridor connection to the gymnasium around a courtyard. The lower level will contain six kindergarten classrooms, two new regular classrooms and new toilets. The upper level will contain six regular classrooms. To provide accessibility to the existing split level wing, a new elevator will be added. Several existing classrooms will be renovated to provide space for the Music, Instrumental Music, and Small Instructional Support Rooms. The current Vice Principals office space will be renovated into a Conference/training room and a new administration space will be added to the west end of the building adjacent to the current administration space.

iii. OPTION 2 ADVANTAGES

- Provides separation of automobile traffic and bus traffic
- Minimal site retaining walls required
- New loop provides convenient building circulation
- New construction is focused primarily in one location

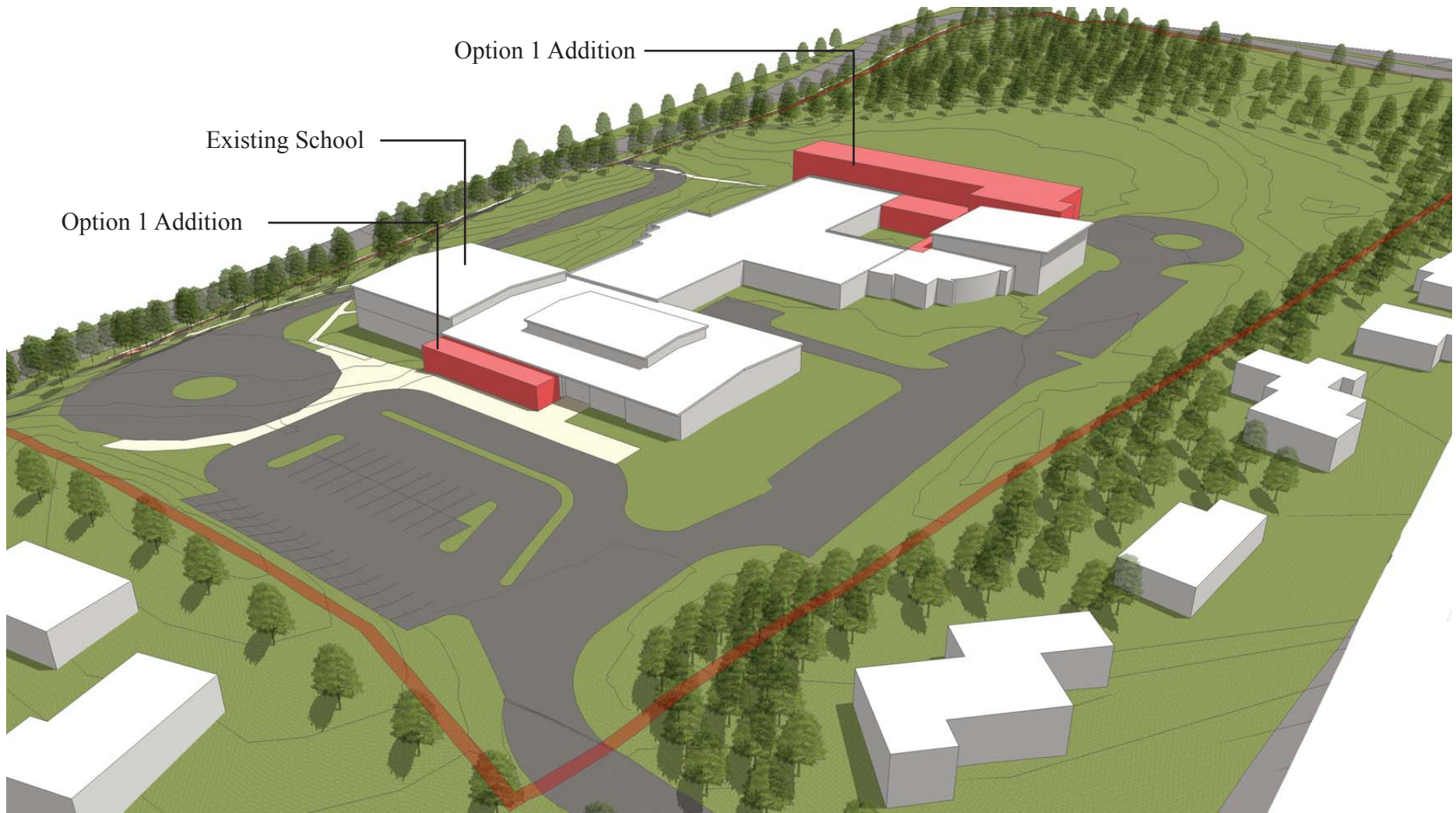
iv. OPTION 2 DISADVANTAGES

- Two elevators are required, one to access the existing 2 story wing and the other to access the new addition
- Construction of a new elevator in the existing school will be difficult
- Expands into current play areas
- Provides less area for fields in the Modernization

V. DESCRIPTION OF OPTIONS

Option 2

Massing Model (Phase 1)

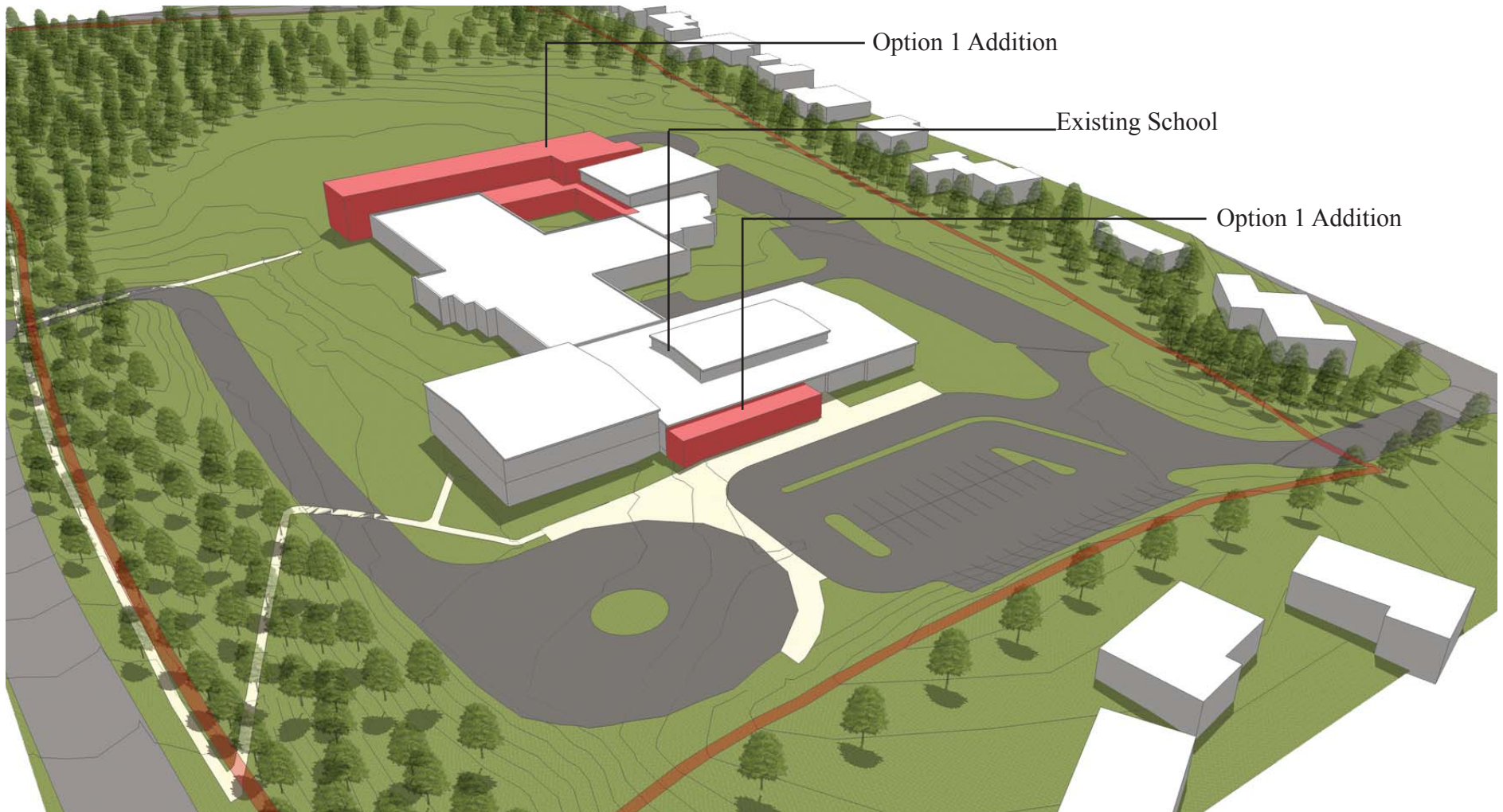


Arial View From South West

V. DESCRIPTION OF OPTIONS

Option 2

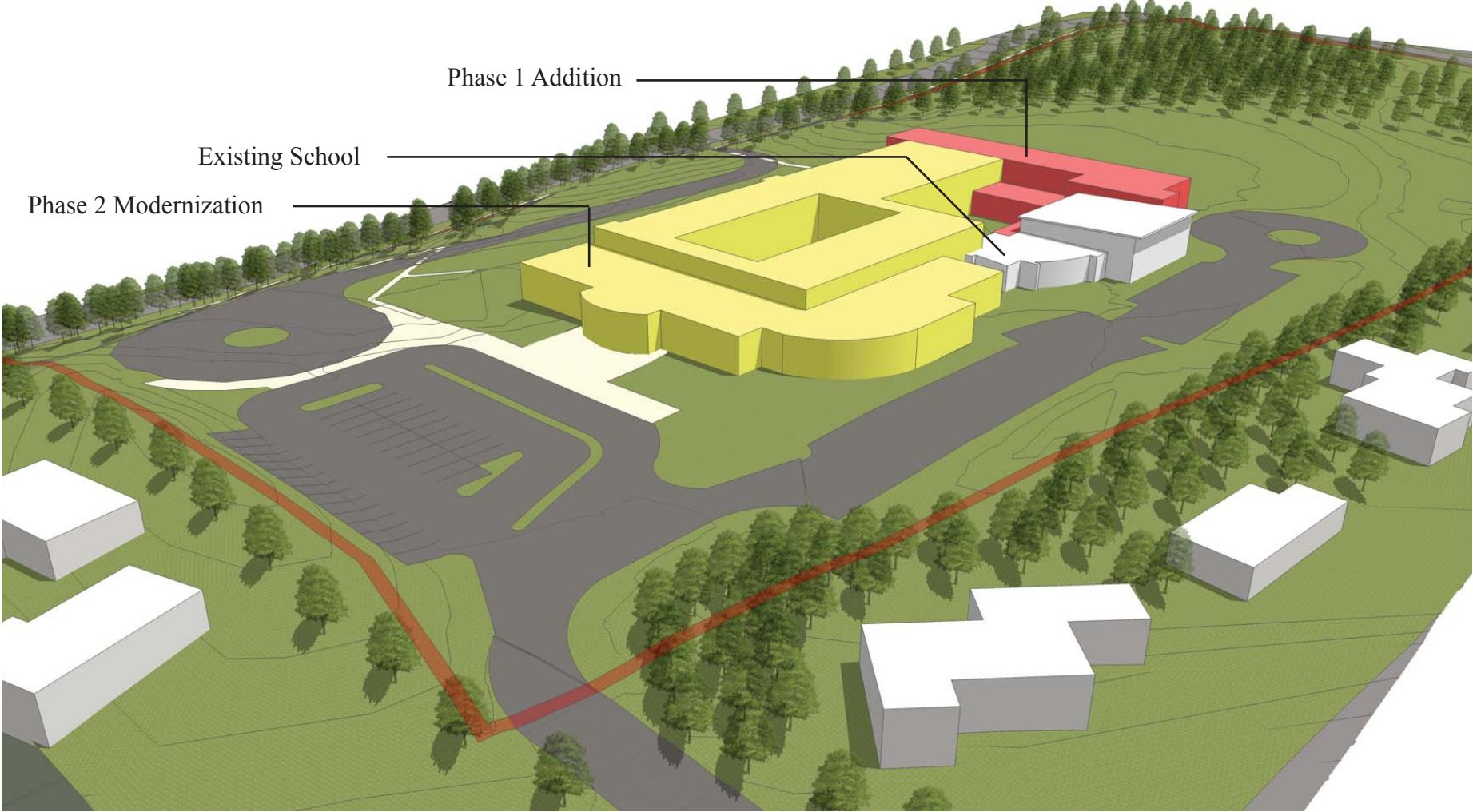
Massing Model (Phase 1)



Arial View From North West

V. DESCRIPTION OF OPTIONS

Option 2 Massing Model (Phase 2)



Arial View From South West

V. DESCRIPTION OF OPTIONS

Option 2

Massing Model (Phase 2)



Arial View From North West

V. DESCRIPTION OF OPTIONS

E. OPTION 3 - DESCRIPTION

i. SITE

Option 3 site retains the Childs St. entrance for both buses and cars. The parking and bus loop will be revised to accommodate the required parking and to provide a parent drop off zone. The intersection between the bus loop and the parent drop off will be redesigned to better define the traffic flow.

ii. BUILDING

a. Addition

Option 3 consists of a two-story addition to the existing split two-story wing on the north side of the school. The lower level will contain six kindergarten classrooms and the upper level will contain six regular classrooms. Two classrooms will be added at the east end of the building as well. To provide accessibility to the existing split level wing, a new elevator will be added. Several existing classrooms will be renovated to provide space for the Music, Instrumental Music, and Small Instructional Support Rooms. The current Vice Principals office space will be renovated into a Conference/training room and new administration space will be added to the west end of the building adjacent to the current administration space.

iii. OPTION 1 ADVANTAGES

- Minimal demolition to existing school
- Smallest total square footage

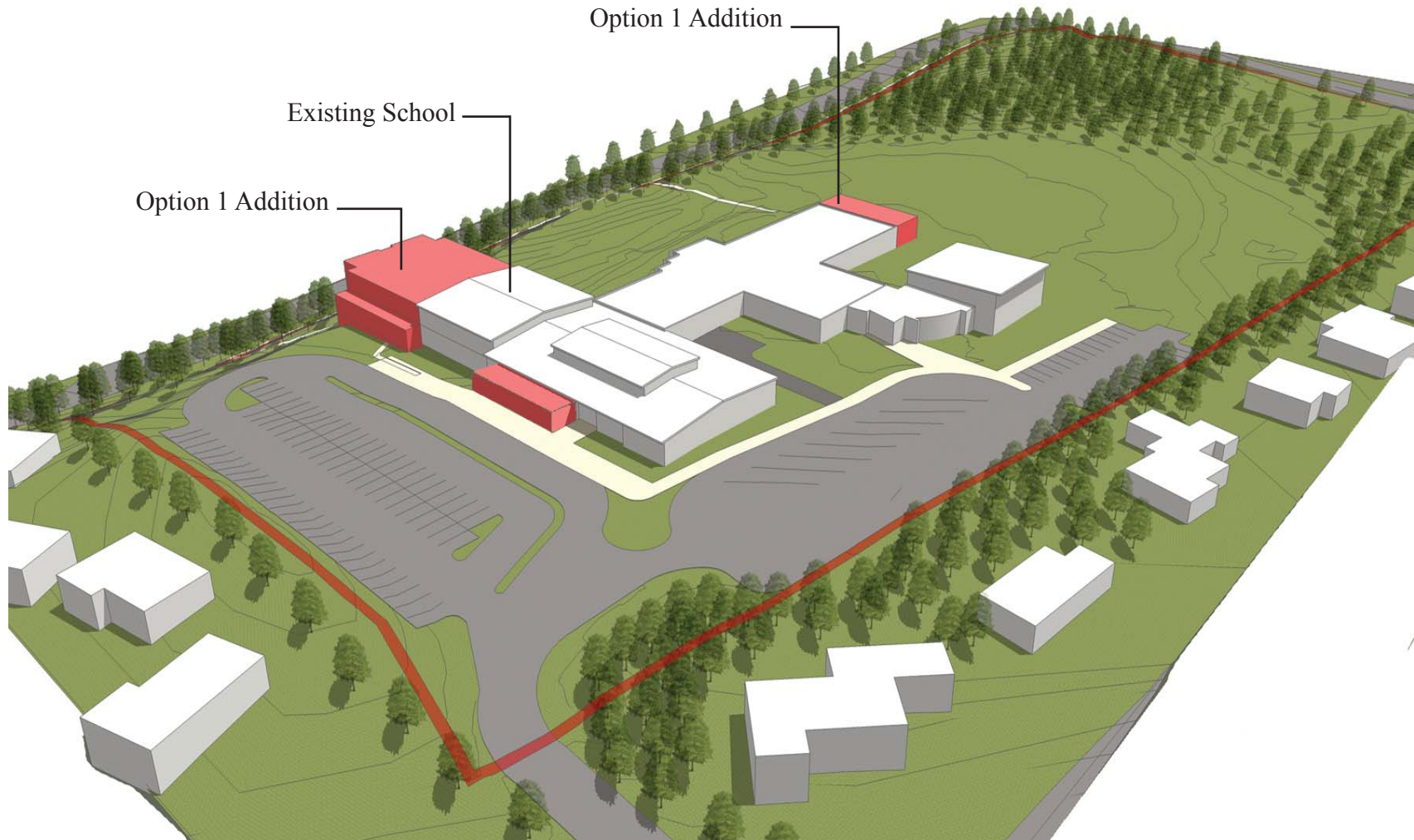
iv. OPTION 1 DISADVANTAGES

- Construction required at multiple locations around school
- Least successful site revisions - cars and buses use same entrance
- Construction of a new elevator in existing school will be difficult
- Modernization will result in a 3 level school wing
- Reduces size of the play areas

V. DESCRIPTION OF OPTIONS

Option 3

Massing Model (Phase 1)

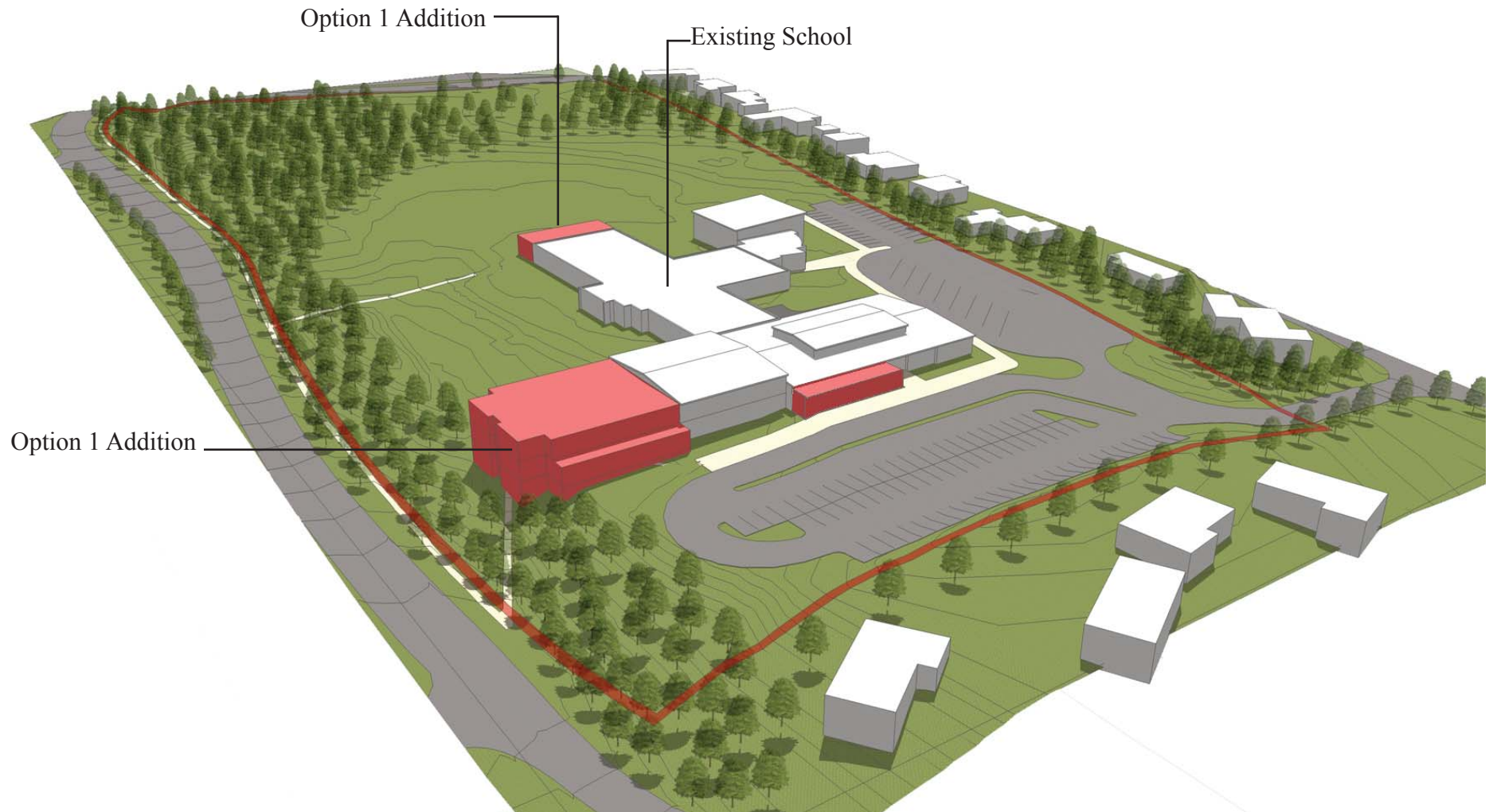


Arial View From South West

V. DESCRIPTION OF OPTIONS

Option 3

Massing Model (Phase 1)

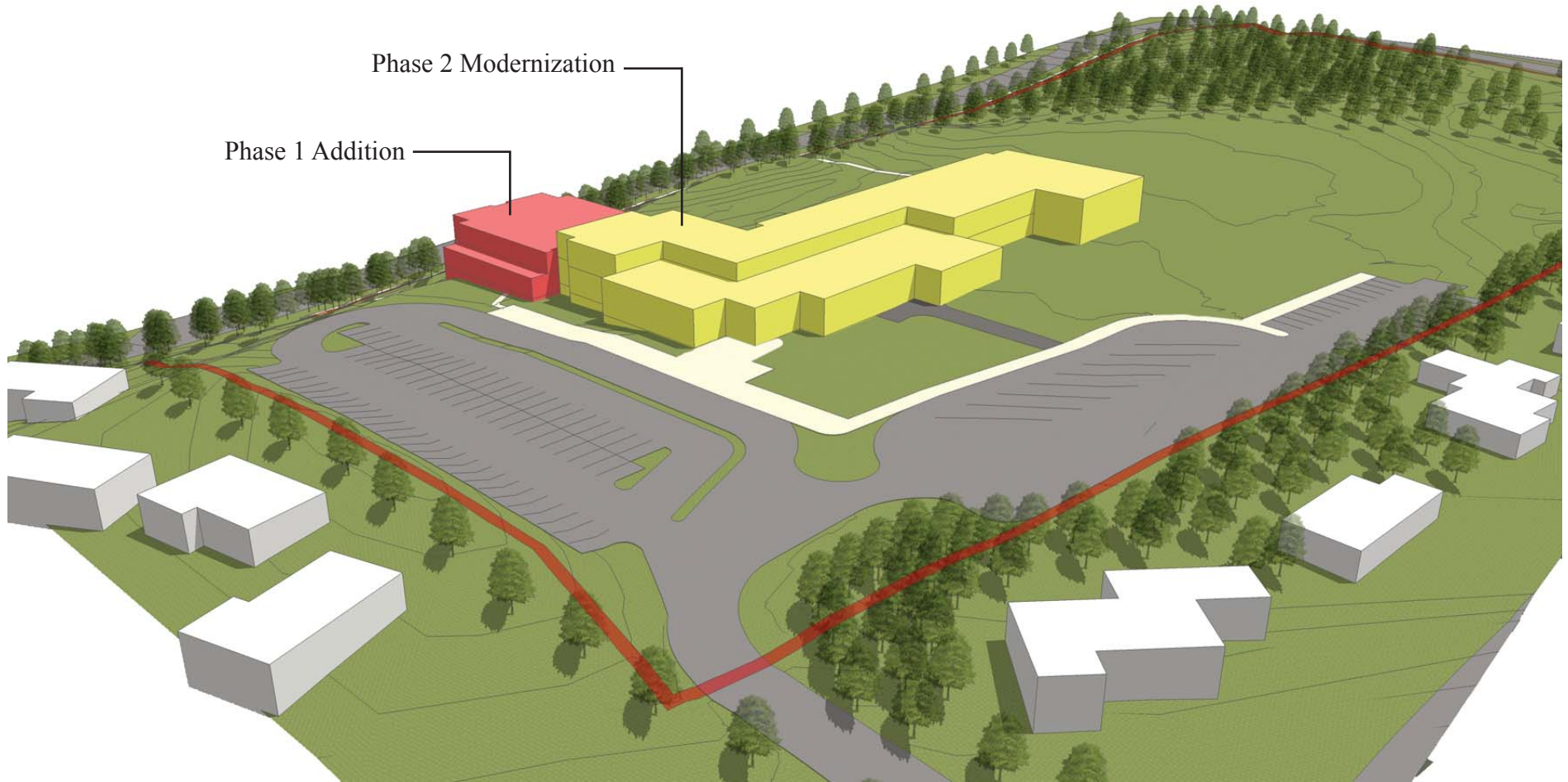


Arial View From North West

V. DESCRIPTION OF OPTIONS

Option 3

Massing Model (Phase 2)

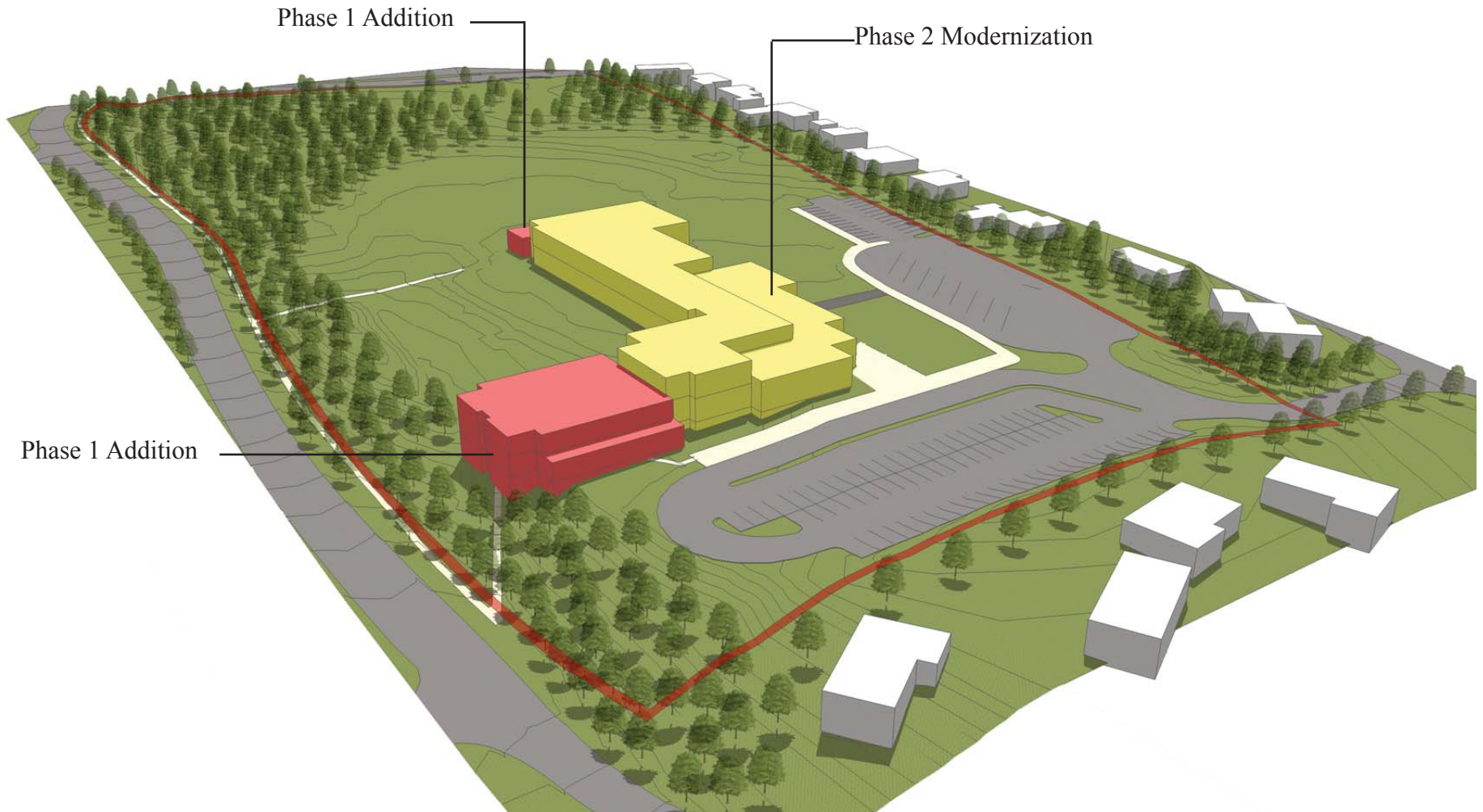


Arial View From South West

V. DESCRIPTION OF OPTIONS

Option 3

Massing Model (Phase 2)



Arial View From North West

VI. PROPOSED IMPLEMENTATION SCHEDULE

| SCHEDULE: | MONTHS | | | | | | | | | | | | MONTHS | | | | | | | | | | | | MONTHS | | | | | | | | | | | |
|------------------------|---------------------|---|---|---|---|---|---|---|---|----|----|----|--------|---|---|---|---|---|---|---|---|----|----|----|--------|---|---|---|---|---|---|---|---|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | ARCHITECT SELECTION | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SCHEMATIC DESIGN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PARTICIPANT MEETINGS | | ■ | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BOE APPROVAL | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DESIGN DEVELOPMENT | | | | | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CONSTRUCTION DOCUMENTS | | | | | | | | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | | | | | | | |
| ADVERTISE FOR BID | | | | | | | | | | | | | | ■ | | | | | | | | | | | | | | | | | | | | | | |
| BID OPENING / AWARD | | | | | | | | | | | | | | | ■ | | | | | | | | | | | | | | | | | | | | | |
| CONSTRUCTION | | | | | | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| OCCUPANCY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

VII. APPENDICES

Appendix A - Space Allocation Summary

Appendix B - Educational Specifications

Appendix C - Existing Conditions Survey

Appendix D - Photographs

VII. APPENDICES

A. SPACE ALLOCATION SUMMARY

| Burnt Mills Elementary School Addition Square Foot Summary | | | | |
|--|-----------|---------------------------|--------------------|--------------------------|
| When this project is complete, the following spaces are to be provided: Capacity after the addition will be 635 with a 640 core capacity. | | | | |
| | | | | Updated 10/21/11 |
| New Spaces in the Addition | # | Description | Net Sq. Ft. | Total Net Sq. Ft. |
| <u>Classrooms</u> | | | | |
| Kindergarten | 6 | Includes 250 s.f. storage | 1300 | 7800 |
| Grades 1-5 | 6 | Includes 150 s.f. storage | 900 | 5400 |
| <u>Support Rooms</u> | | | | |
| Music Room | 1 | Includes 250 s.f. storage | 1100 | 1100 |
| Instrumental Music Room | 1 | | 400 | 400 |
| Small Instructional Support Rooms | 3 | | 450 | 1350 |
| Conference/Training Room | 1 | | 450 | 450 |
| Total | 13 | | | 16500 |

VII. APPENDICES

B. EDUCATION SPECIFICATIONS

Introduction

- This document describes the facilities that are needed for the Burnt Mills 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 635 with a master-planned (core) capacity for 640.
- A future modernization is planned for this school. The modernization should be master planned as part of the addition project and will be for a 740 core capacity. A space summary for the modernization is included in the Additional Program Requirements section of this document.
- The educational specifications are divided into three sections.
 - The first section, the space summary, lists the type of spaces and square footage required when the project is complete.
 - The second section describes the general design, location, and specific requirements for each type of space in accordance with Montgomery County Public Schools (MCPS) standards.
 - The third section identifies any additional program requirements for the school that were identified by the Facility Advisory participants
- The architect should show the location for relocatable classrooms, should they be required in the future. The necessary utility connections, i.e. electrical power, fire alarm, public address, and data should be provided near the future location of relocatable classrooms.
- The architect will provide a space summary comparison between the programmed space requirements and the proposed after each phase of the project including but not limited to the feasibility study, schematic design, design development, and final design phase.
- For all new schools and modernizations, the project will be designed for LEED Silver certification by the United States Green Building Council (USGBC) under the LEED for Schools guidelines. If this project is a classroom addition, the certification requirement applies only if the addition doubles the existing building footprint. If this project is a building renovation, the certification requirement applies only if the renovation alters more than fifty percent of the existing building gross floor area.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

General Planning Considerations

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

- The architect is expected to be compliant with all national, state and local fire safety, life safety, and health code regulations and to follow applicable rules of the State Interagency Committee on School Construction.
- The building is to be accessible to the disabled within the meaning of the latest edition of the Americans with Disabilities Act and to conform to all the latest requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board. (The regulation can be found at <http://www.access-board.gov/adaag/html/adaag.htm>). In addition to the ADAAG, the Maryland Accessibility Code (COMAR.05.02.02) revised in 2002 also is required for public schools. (The regulation can be found at <http://mdcodes.umbc.edu/dhcd2/Title05.pdf>)
- The facility is to reflect an appealing visual, acoustic, and thermal environment and is to be properly furnished and equipped. Well chosen colors and textures are to be used. Lighting must meet current standards and provide adequate levels.
- High quality materials are to be used in the construction. The architect should refer to the MCPS Design Guidelines.
- The first impression of a building is important. The main entrance to the school should have a clear and inviting identity, and the entrance area should be designed and landscaped to emphasize its importance. A covered walkway from the bus loading area to the front door is desirable. The design of the main lobby area needs to convey a feeling of warmth and welcome. The inclusion of a lighted showcase in which children's work can be displayed is recommended.
- The design of the building and grounds must provide for a secure environment for students and staff. Isolated areas should be minimized and natural surveillance encouraged by eliminating visual barriers.
- For security purposes, all doors into classrooms, conference rooms, offices etc. must have a sidelight window with shades.
- Water coolers should be provided throughout the school.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

- Every teaching station, support space, and core area must be wired for computer, CCTV, and telephone, along with adequate electrical supply in compliance with Maryland State design guidelines for Technology in Schools and the MCPS Office of the Chief Technology Office (OCTO) guidelines. Facilities must be adaptable to accommodate rapid development in high technology and its equipment since educational program and organization in this field are dynamic. Space and power supply must be flexible to meet these changing needs.
- Core spaces such as the cafeteria, gymnasiums, and instructional media center should be easily accessible for community use and secure from the rest of the building after school hours.
- An MCPS designed alarm system will provide security for this facility. The architect will provide for this system in consultation with the Division of Construction staff.
- Building code requirements call for less than fifty percent of interior corridor space to be used for displaying flammable materials. Display areas can be provided by a 5' x 5' bulletin board per classroom or an equivalent amount of space in a larger area. Please refer to the Division of Construction for specific standards.
- Students should have ADA compliant access to the play areas from the multipurpose room. Play areas are to be protected from any vehicular traffic. Unobstructed supervision of play areas from one central area is desirable.
- The school is to be air conditioned except for the gymnasium and kitchen. Careful placement of glass is required to avoid excess heat gain in occupied areas.
- Some windows must be operable in each space in the building. Transmission of radiation through windows into various portions of the plant is to be considered in relation to heating and ventilating and in relation to planning the building for air conditioning. All instructional spaces should have windows, preferably exterior windows. If the design does not permit exterior windows, windows onto corridors should be provided.
- Zoning the plant for heating and air conditioning should be related to after hours use of various areas such as offices, gymnasium, multipurpose room, and the instructional media center. Appropriate location of parking, corridor barriers, and toilet rooms is necessary for after-hours use. Some classrooms nearby the multipurpose room should be zoned for after hour use as well.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

- 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 meeting 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.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

- 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.

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 require a separate and fenced outdoor play area that must be adjacent to the classroom. If the school does not have a prekindergarten program than the outdoor play area should be master planned so that it can be added on at a later time. The pre-kindergarten play area should include a 40’x40’ paved play area and a 40’x40’ mulched area.
- The computers should not be located next to a whiteboard where magnets might damage the hardware and software. Glare from the

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

windows on the computer screens should be eliminated as much as possible. Security for the computers should be planned in consultation with the MCPS Division of Construction (DOC). Computer/technology wiring must be in accordance with MSDE/MCPS standards.

- Every classroom must have computer outlets for five student workstations and one teacher workstation. The building information and communications distribution system and other aspects of the building design must comply with the February 2002 revision of the MSDE Maryland Public School Standards for Telecommunications Distribution Systems.
- The main teaching wall layout should be in accordance to DOC construction standards.
- A sink with a drinking fountain must be provided, with cabinets above and below.
- The built in student wardrobe area must provide 24 individual compartments to store students' belongings. The architect is to refer to the DOC construction standards 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. The clock should not be mounted behind the projection screen.
- All classrooms should be equipped with a handicapped accessible sink with drinking bubbler.
- A full-length mirror should be installed.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

Standard Classroom

- Each room must have an open classroom area with moveable furniture.
- 150 square feet of casework storage is needed in the classroom.
- The computers should not be located next to a whiteboard where magnets might damage the hardware and software. Glare from the windows on the computer screens should also be eliminated as much as possible. Security for the computers should be planned in consultation with the MCPS Division of Construction (DOC). Computer/technology wiring must be in accordance with DOC/MSDE/OSTA standards.
- Every classroom must have computer outlets for 5 student workstations and 1 teacher workstation. The building information and communications distribution system and other aspects of the building design must comply with the latest edition of MSDE Maryland Public School Standards for Telecommunications Distribution System.
- Approximately 30 to 35 linear feet of magnetic white board and 20 to 24 linear feet of tackboard, both with tack strips and map rails above the boards, should be installed in each classroom. White boards should be located so as to reduce glare. Tack strip is needed on all available walls. The architect should refer to the DOC construction standards for the main teaching wall layout.
- Thirty built in individual compartments in the wardrobe area for storing student personal property are required. The architect should refer to the DOC construction standards for a typical cubby design for grades K-1 and grades 2-5. Lockers in the hallway may be used in place of the classroom cubbies.
- All classrooms should be equipped with a handicapped accessible sink with drinking bubbler.
- A storage area is needed to hold at least two science kits (approximate 27" x 17" x 12" each) and one math kit in each classroom.
- General storage space must be built in and must accommodate 24 by 36 inch paper and a 4-drawer file cabinet. Each classroom must include 48 linear feet of built-in adjustable shelving.
- A small lockable teacher's wardrobe must be provided, as per DOC construction standards.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

- Designated shelf space, not near a window, for an aquarium/terrarium with nearby electrical outlet, is desirable.
- Each classroom should be equipped with window blinds. The specifications for the window blinds will be provided by DOC.
- Each classroom should be equipped with a retractable projection screen (7' x 7'). The projection screen should not be mounted near any emergency lighting tracks. All areas of the screen should be illuminated and readable when the lights are dimmed.
- Electrical and data outlets should be provided in the ceiling for a ceiling mounted LCD projector.
- Battery operated clocks will be installed. The clock should not be mounted behind the projection screen.
- Shelving or cabinetry should be provided in every teaching station for the VCR and television. A school may choose to place the television and VCR on a cart. Appropriate CCTV receptacles and a duplex outlet should be provided nearby for the operation of the TV and VCR. Placement of the TV should be to maximize student viewing and not be unduly influenced by exterior or interior extraneous light.
- A school may consider reducing the size of each classroom to create small break-out rooms in the school. The number and design of these breakout rooms may be determined by school and MCPS staff.

| |
|---|
| Spatial Needs |
| Music Room (includes 250 sq. ft. storage) |
| Instrumental Music Room |

- The music room and instrumental music room should be located adjacent to each other with a shared storage room.
- These rooms should be located near the multipurpose room to allow easy access to the platform.
- The rooms must be acoustically treated for isolation and reverberation.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

Music Room

- The music room should have a clear circular area of at least 20 feet in diameter and access to the music storage room.
- A 150-square foot secure closet area to store instruments, equipment, choral music, and instructional charts is necessary with access from the music room.
- Variable sized shelving must allow for storage of books, records, and small instruments.
- The music room needs a child height sink with a work area and drinking fountain.
- Window blinds and a wall-mounted retractable projection screen are required.
- Approximately 20 feet of white board and 4 feet of tack board must be provided. Continuous tack strips are needed around the room.
- Specific storage and shelving specifications are available through Montgomery County Public School's Division of Construction.
- Eight duplex electrical outlets are to be provided (where feasible, quadruplex outlets may be utilized).
- This room must be acoustically treated.
- Doors into the music room and stage platform must be wide enough to accommodate the passage of a piano.

Instrumental Music Room

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

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

- A sink and countertop area should be provided for cleaning and repairing musical instruments.
- The Instrumental Music Room must be soundproofed.
- Doors into the instrumental music room must be wide enough to accommodate the passage of a piano.

Support Rooms

| |
|----------------------------------|
| Spatial Needs |
| Small Instructional Support Room |

Small Instructional Support Room

- These rooms are primarily used for ESOL instruction.
- 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 DOC construction standards 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 DOC construction standards.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

- 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.

Conference/Training Room

- This room will be used for staff training needs and should be located near the Administration suite or at least be centrally located within the building.
- This room should include ample shelving for training materials.
- The room should be able to comfortably accommodate up to 20 participants seated around a conference table.
- A whiteboard and tack board should be installed.
- The wiring for an overhead LCD projector and computer drops should be provided.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

Site Requirements

The following information is provided for reference purposes. If the proposed addition impacts one of the site requirements, the architect is to re-store the site element using the following the specifications.

Physical Education Instructional Site Requirements

- The site should be designed to provide a clear view of all play areas and to facilitate supervision from one location.
- Protective fencing may need to be provided near heavily wooded areas, busy streets, steep hills, parking lots and turnaround areas.
- Metal drains/grates should not be located in the playing fields and paved play.
- Paved areas and fields must be as level as possible. Water should not collect on paved areas
- The items described below are for a school with a site meeting the 12-acre requirement. At schools with smaller sites, the architect is to work with MCPS staff, including the Physical Education Curriculum Coordinator, Safety Director, and school staff to determine layout of the play areas. The outdoor physical educational instructional space should not be compromised for playground equipment.

Softball Fields

- Two softball fields should be provided with the following design requirements:
- 250' radius, with a soccer field superimposed should be provided if possible. See below for the soccer field dimensions.
- The site size will determine the number and dimension of the softball fields.
- Softball fields should have metal benches protected by fencing for each team's use.
- The fencing and benches should not interfere with soccer field usage.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

- The softball backstops (2) shall be in diagonal corners of the field or in corners on the same side. See diagram in Architect's Guide provided by Division of Construction.
- Softball infields are not skinned for elementary schools. However, one field may be skinned if it does not significantly impact the soccer playing area.

Soccer

- The site size will determine the size of the soccer fields. The elementary school size soccer field is 150'x240' however the minimum size field should be 105' x 180'.
- No permanent goals or temporary goals should be installed on the soccer fields.
- Paved Play Areas
- Two paved areas, 80' x 100' should be provided if the site permits. On small sites, one paved play area.
- If located adjacent to one another, a grassy strip of at least 20' should be between the two paved areas.
- One area should have four basketball goals with appropriate striping (see diagram in Architect's Guide available from the Division of Construction).
- A second area, designated for primary use, shall be striped according to drawings provided in the Architect's Guide available from the Division of Construction.

Kindergarten Paved Play Area

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

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

Playground Equipment Areas (mulched areas)

- One or two areas shall be provided near the playing fields and large paved play area for playground equipment. Each area should be approximately 40'x40'. The size and shape of the play area will be developed during the design process in consultation with MCPS staff.
- The area shall be level, bare ground, unseeded, and no sod. MCPS will provide equipment dimensions for these areas.
- An underground drainage system must be provided.
- The loose-fill surfacing material (engineered wood fiber) must meet ADA requirements. A border must be provided to contain the filler. The surfacing materials must meet or exceed safety specifications for shock absorbing qualities as outlined by US CPSC.

Kindergarten Play Area (mulched area)

- A mulched kindergarten play area of 40' x 60' should be located adjacent to the kindergarten paved play area described in the physical education section for playground equipment. The size and shape of the play area will be developed during the design process in consultation with MCPS staff.
- The area shall be level bare ground, unseeded, and no sod. MCPS will provide equipment dimensions for this area.
- Protective fencing should enclose the area.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

- 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.

Site Requirements

- The site should be designed to provide a clear view of all play areas and to facilitate supervision from one location.
- At schools with class-size reduction, 100 parking spaces should be provided.
- Protective fencing may need to be provided near heavily wooded areas, busy streets, steep hills, parking lots and turnaround areas.
- Metal drains/grates should not be located in the playing fields, paved play areas and mulched playground equipment areas.
- Paved areas and fields must be as level as possible. Water should not collect on paved areas or in mulched areas.
- Playground equipment areas should not be located at the bottom of hills unless a provision is made to channel water away from the equipment areas.

Driveway and Service Drive

- The driveway must be 24' wide, 50' radius for turnaround, for buses, with a separate entrance and exit or turnaround is required.
- Bus traffic should be separated from car traffic at all times, when possible. Bus loading zones should be able to accommodate the entire student body.
- All driveways must be arranged so that children do not cross them to get to the play areas. Access to the Head Start and future day care areas must be considered.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

- Pedestrian access to the school facilities should be designed to make the best use of community rights of way and should not require students to cross in loading zone areas.
- The design must follow ADAAG 4.1.2(5)c, which stipulates that when a passenger loading zone is provided, a portion of it shall comply with ADAAG 4.6.6. At a minimum, the established car loop for passenger drop off should not interfere with the accessible parking spaces.
- Driveway aprons are to be perpendicular to the centerline of the street; and if there is an intersecting street on the opposite side from the proposed driveways, the driveway apron is to line up with the intersecting street.
- The grade of the driveways shall not exceed eight percent and should provide for a minimum centerline radius of 50 feet to provide adequate turning space for buses.
- A service drive 15' wide with an adequate turnaround is required to service the kitchen, boiler room, and general delivery area.
- Where necessary, oil filler pipes, with adequate overflow pipes, are to be easily accessible for a tractor trailer.

Landscaping

- Planting should include screen planting and other planting needed for erosion control.
- Existing plant stock, if on site, is to be evaluated for use and protected accordingly.
- Landscaping to support energy conservation and to relate the building to the site with aesthetic appeal must be included.
- Planting areas along sidewalks and wooded and flowered areas are to be situated to enable the physical education program to be carried on without undue disturbance to the classrooms.
- Provision for outdoor watering must be included.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

- The landscaping plan should include areas for outdoors environmental education programs.
- Areas should be identified where plowed snow could easily be piled.

Additional Program Requirements

- Burnt Mills Elementary School is on the modernization schedule so the modernization of the school should be included in the feasibility study and should be master planned along with the addition. A preliminary space summary for the future modernization is included for master planning purposes.
- The design team should refer to the Facility Assessment with Criteria and Testing (FACT) Report of July 21, 2011 to note the current deficiencies of the educational program and physical infrastructure.
- This school has a Spanish Immersion program. The classroom requirements for Spanish Immersion are the same as standard classrooms.
- It is very important to keep the Kindergarten team together.
- The architect should assess the feasibility of adding an elevator.
- The architect should build one of the new standard classrooms as a computer lab and repurpose the existing computer lab, room 28, as a standard classroom.
- The architect should come up with a plan to improve the student drop-off and pedestrian and vehicular circulation on site.
- Crosswalks and sidewalks are desirable.

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

Burnt Mills Elementary School Modernization Square Foot Summary

When this project is complete, the following spaces are to be provided:
Capacity after modernization will be 740 with a 740 core capacity.

| Facility | # | Description | Net Sq. Ft. | Total Net Sq. Ft. |
|-------------------------------------|----|---------------------------|----------------|----------------------|
| <u>Classrooms</u> | | | | |
| Prekindergarten | 2 | Includes 250 s.f. storage | 1300 | 2600 |
| Kindergarten | 6 | Includes 250 s.f. storage | 1300 | 7800 |
| Grades 1-5 | 28 | Includes 150 s.f. storage | 900 | 25200 |
| Classroom (Special Education) | 1 | Includes 150 s.f. storage | 900 | 900 |
| Art | 1 | Includes 250 s.f. storage | 1100 | 1100 |
| Music | 1 | Includes 250 s.f. storage | 1050 | 1050 |
| Dual purpose Room | 1 | | 1000 | 1000 |
| <u>Support Rooms</u> | | | | |
| Instrumental Music Room | 1 | | 400 | 400 |
| Large Instructional Support Room | 2 | | 600 | 1200 |
| Small Instructional Support Room | 4 | | 450 | 1800 |
| Speech/Language Room | 1 | | 250 | 250 |
| Therapy/Support Room | 1 | | 250 | 250 |
| Testing/Conference Room | 1 | | 150 | 150 |
| Instructional Data Assistant Office | 1 | | 250 | 250 |
| Support Staff Offices | 2 | | 150 | 300 |
| Title 1 Parent Resource Room | 1 | | 500 | 500 |
| Reading Recovery | 1 | | 100 | 100 |

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

| Facility | # | Description | Net Sq. Ft. | Total Net Sq. Ft. |
|-----------------------------------|---|-------------|----------------|----------------------|
| <u>Media Center</u> | | | | |
| Main Resource Area | 1 | | 2100 | 2100 |
| Materials Preparation/Office Area | 1 | | 400 | 400 |
| Media Storage | 1 | | 350 | 350 |
| Textbook Storage | 1 | | 200 | 200 |
| Control Room and Storage | 1 | | 250 | 250 |
| Telecom. Equipment Closet | 1 | | 150 | 150 |
| Telecommunication Closet | 3 | | 80 | 240 |
| Computer Laboratory | 1 | | 900 | 900 |
| <u>Physical Education</u> | | | | |
| Gymnasium | 1 | | 3700 | 3700 |
| Office | 1 | | 150 | 150 |
| Storage | 1 | | 250 | 250 |
| Storage | 2 | | 100 | 200 |
| Outside Storage | 1 | | 150 | 150 |
| <u>Multipurpose Room</u> | | | | |
| Multipurpose Room | 1 | | 3700 | 3700 |
| Chair Storage | 1 | | 200 | 200 |
| Table Storage | 1 | | 200 | 200 |
| Platform | 1 | | 450 | 450 |
| (Before/After Care Kitchenette) | 1 | | 30 | 30 |
| (Before/After Care Storage) | 1 | | 100 | 100 |
| <u>Kitchen</u> | | | | |
| Serving Area | 1 | | 300 | 300 |
| Walk-in Cooler/Freezer | 1 | | 155 | 155 |
| Dry Storage | 1 | | 192 | 192 |

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

| Facility | # | Description | Net Sq. Ft. | Total Net Sq. Ft. |
|--------------------------------------|---|-------------|----------------|----------------------|
| Office | 1 | | 100 | 100 |
| Toilet Room | 1 | | 70 | 70 |
| Preparation Area | 1 | | 555 | 555 |
| <u>Administration</u> | | | | |
| General Office | 1 | | 500 | 500 |
| Workroom | 1 | | 350 | 350 |
| Principal's Office | 1 | | 250 | 250 |
| Assistant Principal's Office | 1 | | 150 | 150 |
| Conference | 1 | | 300 | 300 |
| Counselor's Office | 1 | | 250 | 250 |
| Telephone Booth | 1 | | 50 | 50 |
| Storage | 1 | | 100 | 100 |
| Record Room | 1 | | 100 | 100 |
| Toilet Room | 1 | | 50 | 50 |
| 2nd Floor Workroom | 1 | | 75 | 75 |
| <u>Staff Development Area</u> | | | | |
| Staff Development Office | 1 | | 100 | 100 |
| Reading Specialist Office | 1 | | 100 | 100 |
| Training/Conference Room | 1 | | 450 | 450 |
| <u>Health Services Suite</u> | | | | |
| Waiting Area | 1 | | 100 | 100 |
| Treatment/Medication Area | 1 | | 120 | 120 |
| Office/Health Assessment Room | 1 | | 100 | 100 |
| Health Assessment/Isolation Room | 1 | | 100 | 100 |
| Rest Areas | 1 | | 200 | 200 |

VII. APPENDICES

B. EDUCATION SPECIFICATIONS CONT.

| Facility | # | Description | Net Sq. Ft. | Total Net Sq. Ft. |
|---|-----------|------------------|----------------|----------------------|
| Toilet Room | 1 | | 50 | 50 |
| Storage Area | 1 | | 40 | 40 |
| Staff Lounge | 1 | | 700 | 700 |
| <u>Building Service Facilities</u> | | | | |
| Building Services Office | 1 | | 150 | 150 |
| Locker/Shower Area | 1 | | 150 | 150 |
| Compactor/Trash Room | 1 | | 150 | 150 |
| Recycling Room | 1 | | 150 | 150 |
| General Storage and Receiving | 1 | | 400 | 400 |
| General Storage | 3 | 250 sq. ft. each | 250 | 750 |
| Building Services Outdoor Storage | 1 | | 175 | 175 |
| Book Storage | 1 | | 200 | 200 |
| PTA Storage | 1 | | 150 | 150 |
| All day daycare | 1 | | | |
| Future Linkages to Learning? | | | | |
| Future School Based Health Center? | | | | |
| Total | 37 | | | 66452 |

VII. APPENDICES

C. EXISTING CONDITIONS SURVEY AND CODE ANALYSIS

i GENERAL SITE INFORMATION

The Burnt Mills Elementary School facility occupies a 13.78 Acre lot, Parcel P400, at 11211 Childs Street, Silver Spring, Maryland. The property is found on ADC Map book grid 5286-K4 and has a tax account number of 00252076. The site is zoned R-90 and is bounded on the north, west and south by detached single family homes, and on the east, across Columbia Pike (US-29), by higher density . A wood-ed 1.36-acre parcel owned by the Board of Education is adjacent to the northeast.

Based on the current Montgomery County Zoning Ordinance, dimensional regulations for the property will include the following:

Street setback (Childs Street) – 30’

Side setback– 8’

Sum of Both Sides - 25’

Rear setback – 25’

Maximum Building Height - 35’

Maximum Site Building Coverage – 30%

The zoning ordinance will also require site improvements to adhere to the landscaping, screening, and lighting requirements set forth in the code.

ii. SITE CONDITIONS

1. Adjoining Streets

The site is bounded along its eastern property line by the 100-foot Columbia Pike (US-29) right-of-way. Columbia Pike Road is a four-lane divided road with left turn lanes, signalized intersections and pedestrian circulation paths along both sides. This heavily traveled street is separated from the school property by a steep, heavily wooded hillside which provides screening from Columbia Pike. No access is available to the site from Columbia Pike. Along the northern boundary of the site, lies the 70-foot Prelude Drive right-of-way. This street is a two-way, two-lane street with sidewalks and street trees along both sides. A heavily vegetated steep slope also separates the site from Prelude Drive. The pavement and sidewalks in the Prelude Drive right-of-way are in reasonably good condition and crosswalks and handicap ramps appear to be in compliance with 2010 ADA guidelines. Finally, the vehicular entrance to the site is from the 50-foot Childs Street right of way. The portion of Childs Street adjacent to the school is a two-lane, unstriped access drive

VII. APPENDICES

C. EXISTING CONDITIONS SURVEY AND CODE ANALYSIS CONT.

that only serves the school and one residence to the southwest of the school. Sidewalk is present along the east side of this portion of Childs Street only and sidewalk slopes are not compliant with 2010 ADA guidelines for running slope.

2. Site access, parking and circulation

a. On-Site Pedestrian and Vehicular Access:

Vehicular access is currently provided by a single driveway at the end of Childs Street. This driveway offers access to both the bus loop (north of the entrance) and student drop-off loop, main parking lot and the loading/delivery area for the main school (east of the entrance).

The major challenge with site circulation is the single vehicular access driveway. Vehicular conflicts between buses and parents are likely as they must share a driveway. If possible, the student drop-off loop and bus loop should be separated from one another. Pedestrian access from the Childs Street right-of-way is afforded by the sidewalk on the east side of Childs Street, which leads to a sidewalk running east of the bus driveway and crossing the student drop-off/parking lot access drive. The site also offers some level of community connectivity by two asphalt walkways/ramps which connect the site to Prelude Drive. However, neither walkway is compliant based on 2010 ADA slope requirements, particularly at the western access point. Additionally, the western asphalt walkway is in poor condition.

b. Driveway Entrance

The site's only access driveway is a 24-foot asphalt, two-way driveway. The driveway divides into a 24-foot wide bus loop, with faculty and visitor parking adjacent, and a 24-foot driveway which leads through the main parking lot to the parent drop-off loop, which is located near the gym approximately 300' from the entrance driveway.

All driveway paving appears to be in good condition, with only very minor cracking. However, the crosswalks and handicap curb ramps at the site entrance are not compliant with 2010 ADA guidelines based on running- and cross-slope requirements.

c. Bus Loop

The school's bus loop consists of a 24-foot one-way drive aisle along the western side of the facility. With approximately 210 linear feet of queuing space and enough room for buses to pass one another, it appears that the size of the bus-loop is sufficient for

VII. APPENDICES

C. EXISTING CONDITIONS SURVEY AND CODE ANALYSIS CONT.

the five routes currently serving the school. The bus-loop is also demarcated with painted curbs and signage as a fire-lane, though some signs are in poor condition and illegible.

Overall, the pavement and associated sidewalks in and around the bus-loop appear to be in fair condition. ADA access is provided with a curb ramp, although it appears to be outdated and non-compliant with 2010 standards. Additionally, the sidewalk widths following the bus-loop are only 5-feet wide which does not meet current MCPS design guidelines (12-feet wide). There is currently no ADA passenger loading zone provided in the bus loop.

d. Student Drop-off Loop

The student drop-off loop consists of a 20-foot, one-way loop that circles and provides access to the gymnasium at the rear of the building. The queuing space provided is approximately 190-feet in length and could accommodate approximately 10 vehicles. However, if the access drive through the main parking lot is considered for queuing length (a reasonable assumption given that staff and loading vehicles will not need to enter/exit the site during student drop-off under normal conditions), then an additional 360 feet of queuing is available. 8-foot sidewalks also run the entire perimeter of the drop-off loop and provide access into the building.

In terms of ADA accessibility, there is a handicap curb ramp from the loop to the entrance at the gymnasium; however, the sidewalk area between the ramp and gymnasium entrance is not ADA compliant due to excessive running- and cross-slopes. Additionally, there is currently no ADA passenger loading zone provided in the student drop-off loop.

Overall, the pavement and associated sidewalks in and around the drop-off loop appear to be in fair condition. The major shortcomings occur in the form of ADA compliance and the narrow width of the drive aisle.

e. On-Site Parking

The main parking area consists of 53 standard parking spaces and 6 handicap parking spaces. The main parking lot offers an adequate ratio of handicap parking spaces. However, none of the handicap spaces are up to 2010 ADA guidelines with regard to maximum slope.

From the standpoint of functionality, the main parking lot is accessed by the same entrance as the bus loop, as mentioned above. Additionally, most of the parking in the main parking lot is on the opposite side of the drive aisle, meaning that in order to access a parked vehicle from the school, one would have to cross traffic headed toward the student drop-off loop. Additionally given the 20 foot width of the access aisle, if a car were to break down in the drive aisle, traffic from the school would not be able to bypass the broken down car to enter/leave the student drop-off loop. Lastly, it is not advised to have more handicap spaces than are required

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C. EXISTING CONDITIONS SURVEY AND CODE ANALYSIS CONT.

by ADA unless there is an apparent need by the facility or users. The two sets of three handicap spaces at the site are both close to the south entrance near the gym rather than providing access to different parts of the site.

f. On-Site Loading

The loading and dumpster area is located on the south side of the building and is accessed from the main parking lot/parent drop-off. The loading area is approximately 12-feet wide and 125-feet in length. The access drive to and from the loading area is asphalt, but heavy-duty concrete is utilized for the paving in the loading dock area itself. The space provides two areas for deliveries, both of which utilize a ramp to roll-up doors rather than an elevated dock. The pavement in this area appeared to be in fair condition; however, ADA access into the building is not provided.

g. Sidewalks

Although not entirely compliant with ADA standards, the site provides a fairly thorough system for pedestrian access to, and circulation around, the site. Two asphalt walkways link the facility to the Prelude Drive right-of-way, which connect to the sidewalk behind the bus loop and to the sidewalk adjacent to the mulch play area behind the school building. A connecting sidewalk is not provided around the north side of the building. Sidewalk is provided to connect the bus loop and front entrance to the hard and soft surface play areas to the south of the building and then continues around the gymnasium along the main parking lot to the parent drop-off loop and the hard and soft play areas and athletic fields at the rear of the site.

In general, the concrete sidewalks on the site are in fair condition, with the exception of the sidewalk adjacent to the west gymnasium entrance and handicap parking, which are dislocated and cracked extensively. The asphalt paths leading to Prelude Drive are in poor condition, particularly the western one, and several small asphalt paths on site are in poor condition as well.

In terms of ADA compliance, numerous sidewalk areas around the site demonstrate noncompliant slopes (both running- and cross-slopes) based on the current ADA guidelines. No existing pedestrian access to the site is ADA compliant. The access paths to Prelude Drive in particular demonstrate running slopes on the order of 15-20%, well above the maximum allowable slope even on a ramp even with a handrail. The sidewalk from the property line along the Childs Street entrance has non-compliant cross-slopes. Likewise the sidewalk area in front of the handicap spots near the gym and the sidewalk around the southeast of the building are of particular concern for excessive cross-slopes.

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C. EXISTING CONDITIONS SURVEY AND CODE ANALYSIS CONT.

h. Fire Access

Currently, the bus loop area is delineated by signage and striping as an on-site fire lane. The parent drop-off area is not delineated as a fire lane. These drive aisles do both meet the dimensional requirements for a fire lane. Fire hose building coverage is not accomplished in the current layout. There is a WSSC main line fire hydrant located to the south of building's main entrance off of the bus-loop. The Fire Department Connection (FDC) is located at the main entrance, which complies with the requirement to have the FDC within 100 feet of a fire hydrant.

3. Site Topography

The site generally slopes from the southeast at the boundary of Columbia Pike (US-29) to the northwest, with a portion of the parking lots and bus loop draining to the southwest. The lowest elevations on the property are found at the northwest corner of the site, whereas the highest elevations are seen near the southeast corner in the wooded area. The steepest slopes on the property are found along the northern boundary, between the school and Prelude Drive.

4. Vegetation

Mature trees are present around the perimeter of almost the entire site. Additionally there is a wooded parcel owned by MCPS several acres in size located at the east side of the property which appears to be classified as forest under M-NCPPC definitions (actual classification will need to be determined by a Natural Resources Inventory/Forest stand Delineation).

A number of large trees within this wooded area have been cut down and/or have fallen recently due to a severe storm – the area of this impact has been mulched and planted with new trees.

It is likely that this project will be exempt from forest conservation, should impacts to the aforementioned forested area be avoided.

5. Site Soils

Per the Soil Survey of Montgomery County, Maryland the predominant soils on the site are in the Gaila, Glenelg, Glenville and Brinklow-Blocktown series. According to the USDA, the depth to bedrock in these soils is generally greater than 5 feet, with exception of the Brinklow-Blocktown soils, which are only located in a small area at the northwest corner of the site. However, this estimated depth is based upon virgin soils. Because the site was previously disturbed, bedrock could be encountered at shallower depths. It will

VII. APPENDICES

C. EXISTING CONDITIONS SURVEY AND CODE ANALYSIS CONT.

be necessary to perform site-specific borings to establish the actual depths to bedrock.

In terms of hydrology, the Glenelg and Gaila soils found around the majority of the site are characteristically known to provide good drainage and allow adequate infiltration. These soils have a hydrologic soil group classification of 'B', and typical groundwater depths in excess of 5 feet. Field observation of the site indicated ponding water on the play fields; site specific borings and infiltration tests will be required to determine if there are site areas suitable for infiltration based ESD practices.

6. Storm Drainage and Stormwater Management

Currently, the stormwater from the site is primarily conveyed to the storm drain system along Prelude Drive via an on-site storm drain system. Stormwater management quality control practices are present on site and consist of a proprietary water quality device and an underground infiltration area on the north side of the school building near the existing mulch play area. These practices were installed during the most recent addition to the building (the gymnasium area) and do not appear to be sized to provide treatment for the entire site.

Since existing impervious areas do not constitute 40% of the site area, construction work will not be classified as a "Redevelopment" project. Given this status, it is anticipated that site improvements will be required to include Environmental Site Design (ESD) to the maximum extent practicable in order to treat all areas inside the limits of disturbance. After all ESD efforts are exhausted and if the disturbed area has still not been able to reach a hydrologic state of "woods in good condition," then structural practices may be permitted as determined by the Montgomery County Department of Permitting Services.

Potential ESD stormwater management practices for the site include both micro-scale practices and alternative surfaces. Micro-scale facilities could include the utilization of bio-swales, landscape infiltration and micro-bioretention facilities in pockets of unused open space. Alternative surfaces will be considered if required to meet State and County stormwater management requirements.

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C. EXISTING CONDITIONS SURVEY AND CODE ANALYSIS CONT.

7. Flood Plains, Stream Valley Buffers and Non-Tidal Wetlands

Initial investigations reveal that the site is located outside of a floodplain in a zone “X” on FEMA Flood Insurance Rate Maps number 24031C0370D and 24031C0390D. Furthermore, according to the U.S. Fish and Wildlife Mapping services there are no wetlands or associated buffers located on or around the site.

8. Utilities

a. Water and Sewer

The existing building is served by an eight-inch sanitary sewer line from Childs Street, which collects a six-inch lateral and a four-inch lateral running from the gym area on the south side of the building and a six-inch lateral running from the northwest corner of the building. It is assumed that the sanitary sewer service is sufficiently meeting the current needs of the building and should also meet the needs of any prospective improvements.

The existing facility is served by a six-inch lateral off of an existing 10-inch water main, WSSC contract number 4068W&S, which runs along the western edge of the property from Childs Street to Prelude Drive in an existing WSSC right-of-way. It is assumed that the existing water service is of sufficient capacity to meet the needs of the prospective improvements.

The adjacent wooded parcel includes a 40’ wide WSSC right-of-way for a 36” WSSC waterline (as well as two public storm drain easements).

According to WSSC, the site is in a 495A pressure zone with a High Hydraulic Gradient (HHG) of approximately 535 and a Low Hydraulic Gradient of approximately 449. On that basis, per WSSC prescribed calculations, the water pressure at the existing connection to the water main on site is approximated to be between 21 p.s.i. and 52 p.s.i. The exact pressures and flows should be confirmed via field testing at the time of design.

b. Gas/Electric/Telephone

All dry utility service connections are apparently made with the main service lines in the Childs Street right-of-way. Electric service comes to the building via underground lines from the transformer vault located in the loading dock area. There are no overhead lines or utility poles on the site.

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C. EXISTING CONDITIONS SURVEY AND CODE ANALYSIS CONT.

iii. ARCHITECTURAL/STRUCTURAL/MEP

1. BUILDING STRUCTURE

The existing structure is constructed of non-combustible materials and is sprinklered. Exterior walls and interior partitions are primarily masonry. The structural system consists of steel framing with steel roof joists, elevated concrete slabs on metal deck and concrete floor slabs on grade.

2. BUILDING ENVELOPE

The existing building envelope consists of masonry and brick with hollow metal windows and doors.

3. MECHANICAL SYSTEMS

The school is heated and air conditioned by a two pipe hot water/chilled water system. Two gas fired hot water boilers provide the hot water for space heating and one air cooled chiller supplies the chilled water for the air conditioning for a portion of the school. The classrooms located in the original two story classroom wing are air conditioned by standard air cooled window units.

A winter/summer change over valve is used to supply hot water in winter and chilled water in summer to floor mounted classroom unit ventilators. Code required ventilation is introduced to each unit ventilator via wall louvers. The hot/chilled water piping is run overhead in the ceiling space. The lobby and multipurpose rooms are served by indoor air handlers served from the two pipe system. The boilers, air cooled chiller, pumps and the automatic temperature controls date to 1990. The automatic temperature control system is pneumatic.

The gymnasium constructed in 2000 is served by one indoor gas fired heating and ventilating unit with air to air heat recovery plate heat exchanger. The gymnasium lobby is served by one roof top gas fired air conditioning unit.

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C. EXISTING CONDITIONS SURVEY AND CODE ANALYSIS CONT.

The existing chilled and hot water systems do not have the capacity to support the new addition. The current MCPS plan is to demolish the entire school except for the gymnasium and this proposed addition when the school is modernized.

4. ELECTRICAL SYSTEMS

The existing electrical service comes underground into the main electrical room. The main service consists of an 800 Amp C/T cabinet which feeds the 800 Amp 277/480V, 3 Ph, 4W main distribution panel. The MDP currently has the following:

- One 3P 125 Amp Circuit Breaker Identified as Serving Potable.
- One 3P 150 Amp Circuit Breaker Not Identified.
- One 3P 60 Amp Circuit Breaker Not Identified.
- One 3P 60 Amp Circuit Breaker Identified as Serving PNL "BR".
- One 3P 150 Amp Circuit Breaker Not Identified.
- One 3P 150 Amp Circuit Breaker Not Identified.
- One 3P 150 Amp Circuit Breaker Not Identified.
- One 3P 200 Amp Circuit Breaker Identified as Serving 150 KVA Transfer.
- One 3P 200 Amp Circuit Breaker Identified as Serving PNL. "HL".
- One 3P 200 Amp Circuit Breaker Not Identified.

The C/T bus has been tapped to serve a G.E. 3P + S/N 30 Amp 600V fused disconnect switch to serve the emergency loads.

Utility Demand Records indicate that the maximum demand (summer) for the school is 203.0 KW. The maximum ampacity draw on the MDP, assuming an 80% power factor, is approximately 320 Amperes. With the deletion of the electrical load to the portable classrooms, the 800 amp service though border line appears adequate to serve the proposed addition.

During the design phase of the addition, if the calculated electrical loads are higher than currently estimated, a heavy up of the electric service will be required with the objective of leaving the incoming service at its current location. A service heavy up will need to be fully coordinated with PEPCO. The future modernization will require a new electric service.

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C. EXISTING CONDITIONS SURVEY AND CODE ANALYSIS CONT.

Existing Sound System:

The existing sound system is a Rauland Telecenter. It appears to be in good condition. The existing sound rack has three 25 switch banks and can be expanded to serve the addition.

Existing Fire Alarm System:

The existing fire alarm system consists of a Fire-Lite by Honeywell consisting of the following: one control panel M59600UDLS, one audio command center ACC – 25/50, one fire alarm communicator, and four power supply panel box FCPS24FS8. The existing fire alarm system can be expanded to accommodate the new addition. The annunciator panel will have to be modified accordingly.

Existing Emergency System:

A G.E. 3P + S/N 30 Amp fused disconnect switch is tapped to the bus ahead of the main to serve the emergency load via a 70 Amp 3 Phase 4 wire Generac Automatic Transfer Switch. The Emergency System is backed up by a 15.0 KW Generac Propane Generator. The existing emergency service was installed in 1989.

Existing Telephone System:

The incoming telephone service is located in equipment storage located in communication room beside the media center with the distribution equipment. There is another equipment closet by the main administrative office area with distribution equipment.

5. PUBLIC ADDRESS, FIRE ALARM AND SECURITY SYSTEMS

Existing Sound System:

The existing sound system is a Rauland Telecenter. It appears to be in good condition. The existing sound rack has three 25 switch banks and can be expanded to serve the addition.

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C. EXISTING CONDITIONS SURVEY AND CODE ANALYSIS CONT.

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Existing Telephone System:

The incoming telephone service is located in equipment storage located in communication room beside the media center with the distribution equipment. There is another equipment closet by the main administrative office area with distribution equipment.

VII. APPENDICES

D. PHOTOGRAPHS

