

# BRONXVILLE UNION FREE SCHOOL DISTRICT

## FIVE YEAR CAPITAL PLAN

APRIL 3, 2017



Foreword

This document is a brief narrative summary of the work that preceded and was completed more recently in order to create a Five Year Capital Plan for the Bronxville Union Free School District. The professional service firms that contributed to this process included KG+D Architects, their consulting systems engineer, Damiano-Barile Consulting Engineers and roof consultant, Watsky Associates. The District also commissioned Wesley Stout Associates, Landscape Architects to create a Landscape Master Plan and a portion of that work has been incorporated into this planning process. Similarly, the Bronxville Foundation funded a study that focused on the High School spaces by Fielding Nair (FNI), an educational consulting and architecture firm and a portion of their work has also been incorporated into the Five Year Capital Plan.

Contents

1. Introduction .....1

2. Process .....3

    a. Building Conditions Survey (BCS)

    b. Building Capacity Analysis & Enrollment

3. Sitework .....4

4. Infrastructure .....5

5. Program Related Improvements.....6

    a. Cafeteria / Courtyard Addition & Health Suite Relocations

    b. Meadow Avenue Classroom / Guidance Addition

    c. Third Floor Learning Community

6. Landscape .....7

7. Budget Development & Cost Control .....8

8. Phasing & Implementation .....9

9. Conclusion.....11

10. Appendix: ..... after page 11

    a. List of Drawings:

        i. Building Floor Plans – Grade Level Classrooms

        ii. Roof Plan – Showing proposed Roof Repair

        iii. Partial Floor Plan @ Cafeteria / Courtyard Addition

        iv. Partial Plans 1<sup>st</sup>, 2<sup>nd</sup> & 3<sup>rd</sup> Floor – Meadow Avenue Classroom and Guidance Addition

        v. Partial Plan @ New Entrance Addition on Meadow Avenue

        vi. Partial Plan @ 3<sup>rd</sup> Floor Learning Community – Small Expansion – FNI

        vii. Partial Plan @ 3<sup>rd</sup> Floor Learning Community – Full Expansion – FNI

        viii. Partial Plan @ Fourth Floor Resource Community Renovations – FNI

        ix. Landscape Master Plan Aerial View – Wesley Stout

    b. Budget Worksheets

    c. FNI Powerpoint presentation

    d. Capital Project History (2006-2016)

Introduction

The New York State Education Department requires that public school districts complete a Building Conditions Survey every five years that is then developed into a Five Year Capital Plan. This Plan is required to be submitted when the District requests approval for any capital project from the State. The intent is to have a thoughtful, prioritized list of capital improvements identified to maintain the District’s facilities. This plan should act as a guiding document for the District. Projects that are not specifically mentioned in the Plan can be accomplished but they should be consistent with the overall intent of the Plan. The process may also identify additional improvements that may be completed in years after the end of the current Plan.

It is best to adopt a comprehensive and balanced approach to maintaining and upgrading facilities that addresses exterior and interior conditions as well as the ability to support the educational and community missions of the School District. The proposed improvements are consistent with Bronxville’s promise to innovate and lead.

With a balanced approach in mind the recommendations for implementing the plan are discussed in categories as follows:

- **Sitework & Landscape** – These address areas on the site and grounds that need work that were identified by the professional teams that were involved. The Landscape category is exclusively those items that are included in the Landscape Master Plan.
- **Infrastructure** – These items of repair or replacement emerged primarily from the Building Conditions Survey. They are generally required to keep the existing buildings and grounds in “overall good” condition and as such do not reflect upgrades so much as capital maintenance. The guidance from the State on evaluation of existing conditions is to use the building code that was in place at the time the building was constructed as a minimum standard. Given the age of the Bronxville School and the expectation for considerably more contemporary standards some evaluations are based on current codes and standards. Additionally, due to the considerable amount of both exterior and interior improvements that have been completed over the past ten years these completed projects are also used as the standard of design and quality for the proposed upgrades. It is typical that the items identified in a BCS are implemented through a variety of funding methods over a period of years.
- **Program Related Improvements** – The core purpose of the grounds and facilities is to fulfill its community role as the center of public education in Bronxville and so the Five Year Capital Plan must also address the capability of the buildings and grounds to fulfill this role. The educational process continually evolves and the facilities need to keep pace and provide an appropriate and flexible environment that enables the full range of programs offered by Bronxville. Improvements related to educational adequacy often generate the most return on investment as the community directly benefits from the new or renewed element of the facility. Good recent examples of these types of improvements are the renewed auditorium and middle school science facilities.

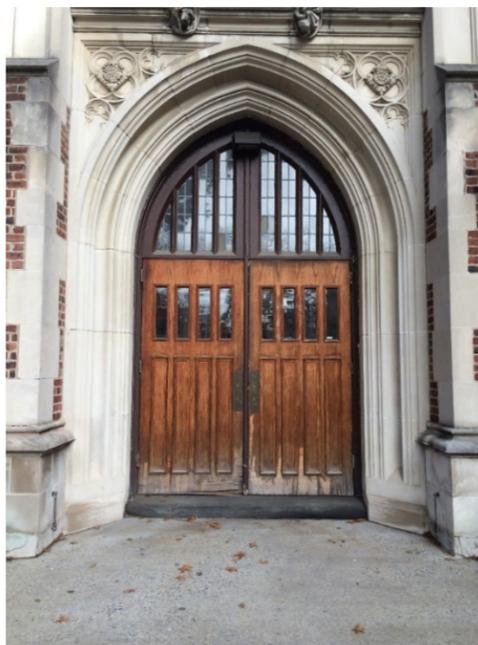
There was considerable input from the Board of Education, the Board Facilities Committee and the Bronxville administration as this process developed. A set of priorities was then proposed which has become the focus of the initial phase of implementation which is anticipated to be through authorization of bond funding subject to voter approval.

## Process

This Five Year Capital Plan is to review all of the District's buildings and grounds and create a prioritized list of what portions of the Plan should be addressed first. It is a compilation of the work of the Building Conditions Survey, the Landscape Master Plan and a review of the Building's use and its ability to accommodate the educational program. The process included site survey work, meetings with administrators and teachers as well periodic reviews with the Board Facilities Committee and the Board of Education.

**Building Conditions Survey** – In 2015 the BCS inspections were completed in compliance with NYSED guidelines and the required forms and related documents were filed with the State. The survey team was led by Kaeyer Garment + Davidson Architects and included Damiano Barile Engineers for review of mechanical, electrical, and plumbing systems and evaluation of roofs building envelope systems by Watsky Associates. The survey is comprehensive in nature with visual inspection and review of the buildings from the foundations to the roofs as well as the overall site. The team interviewed facilities and administrative staff as part of the initial survey work and reviewed the results to confirm the survey findings in the preliminary reports.

The BCS survey report includes detailed work items broken into categories in accordance with SED filing requirements. The direct cost of each work item was estimated based on quantities and unit prices for the related work and the associated costs for project implementation and escalation are included in the overall costs. The resulting work items were prioritized and grouped into potential projects for incorporation into the planning process.



Although this report served as the starting point for the Five Year Capital Plan, further review of facilities needs and project priorities took place under the direction of the Board Facilities Committees. The final categories of infrastructure and landscaping work included in this report reflect the prioritization of this work in response to budgetary guidelines. While some work will be accomplished through annual facilities maintenance budgets, other work identified in the Building Conditions Survey will be deferred as future capital work.

The previous Building Conditions Survey and Five Year Capital Plan process completed in 2010 identified similar types of improvements to those recommended in this report. This work became the basis of the maintenance and capital project work which has been completed in recent years such as the Auditorium Renovation and Lobby Addition and the Middle School Science Classroom Renovations. Flood recovery, emergency ceiling repairs, Flood Mitigation and other work was also completed that was not part of the 2010 plan. Other infrastructure work such as HVAC improvements and renovations to older portions of the building remain to be addressed as part of future capital project work.

**Building Capacity Analysis & Enrollment** – A key aspect of program accommodation is to review the required spaces that are necessary to deliver the educational program and compare this with the current capacity of the building and student enrollment. The use of each space in the building was reviewed with the administration and a set of updated floor plans was generated. These plans were then used to confirm use and identify a number of space deficiencies and inappropriate locations and adjacencies. A detailed capacity analysis was also completed that is based on preferred class sizes and the educational program and schedules for each division within the school.

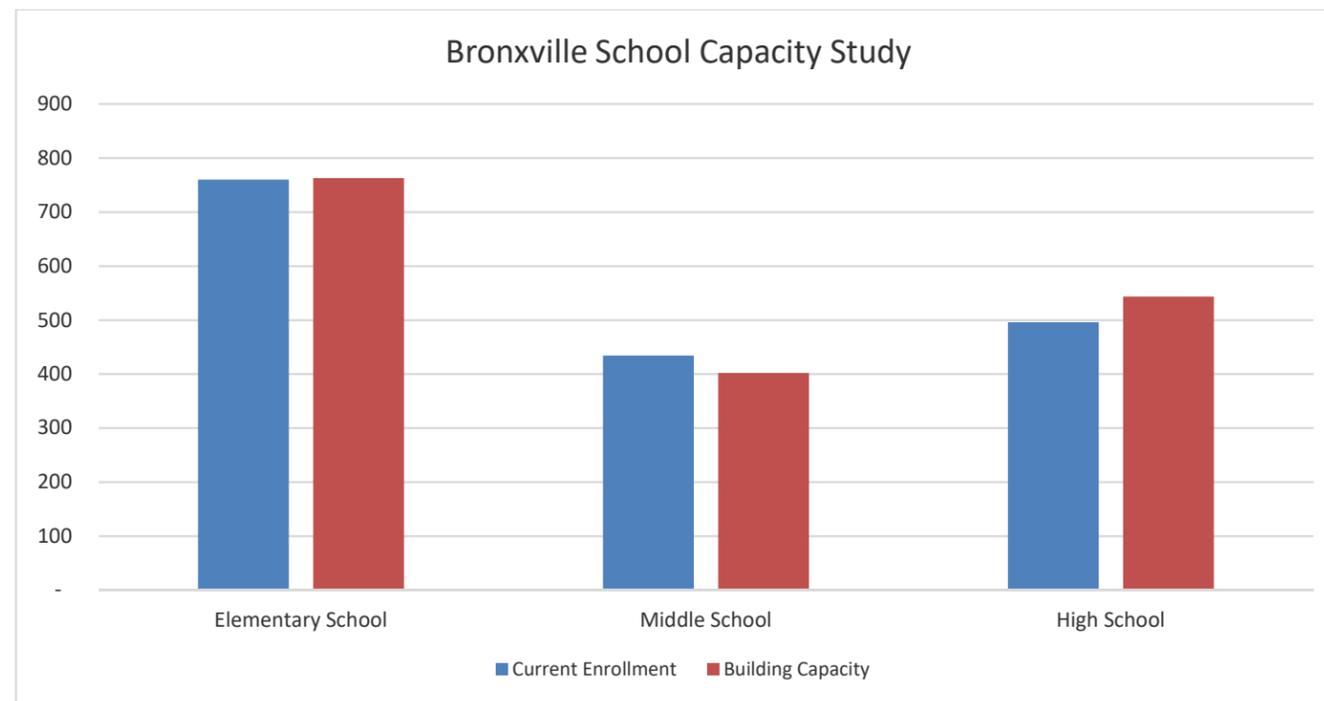
The capacity analysis method used for this Plan is a customized approach that utilizes the minimum classroom sizes and quantities as listed in the New York State Facilities Planning standards and is then combined with efficiency factors and room utilization rates that are also based on State standards and the method used by New York City Schools to determine overall building capacity. The key factors in the capacity analysis include:

- **Model Program** – A listing of the spaces, including quantity and size required, that are needed to minimally accommodate the educational program at the elementary, middle and high school levels.
- **Preferred Class Sizes** – The overall capacity of the school was determined using the following class sizes:
  - Kindergarten – 18 students
  - Grades 1 – 5 – 22 students
  - Grades 6-12 (regular ed.) – 25 students
  - Grades 6-12 Science – 24 students
  - Special Education Class sizes are based on the Individual Education Plans (IEP) of each student.
- **Programming and Scheduling Efficiency Factor** – This is used to account for the ability to completely fill a section or classroom to its preferred size. For this analysis, a 90% factor was used that indicates that each scheduled class or section will be close to the preferred size. As grade levels fluctuate from year to year and electives at the Middle and High School levels emerge it is important to incorporate this factor to represent the ever-changing programming and enrollment variances.
- **Actual Room Sizes** – The Bronxville School has a wide variety of room sizes some of which do not meet the minimum recommended standard sizes. This capacity analysis adjusts the capacity of rooms for the actual square footage based on a uniform square footage per student for each grade level grouping.
- **Room Utilization Ratio** – This factor only applies to the Middle and High School rooms that are part of a rotating schedule. It represents the standard use rates for each type of room based on State and National standards. It does not assume that teachers have sole use of any room as it is necessary to share rooms in order to fully utilize classrooms.

Process (continued)

The results of this analysis and the current enrollment are shown on the table and graph below:

	Fall 2016 Enrollment	Building Capacity
Elementary School	760	763
Middle School	434	402
High School	496	543
MS/HS Combined	930	945
Total Building	1,690	1,708



The result of the capacity analysis confirms that the building is well utilized and that it is not any statistically significant amount above or below capacity. The total building is shown to be 18 students under capacity which represents 1% of the building’s capacity. While the building has previously and could in the future hold more students this would result in larger class sizes or fewer offerings to better fill rooms and increase utilization of every teaching space. There are however a few shortcomings which became evident through this process related to undersized or poorly located spaces:

- **Cafeteria** – This is the only fully dedicated space for students to eat in the building. At a total net (useable) square footage of approximately 3,400 its maximum capacity is 227 students. Typically cafeterias are sized to house the student body in 3 seatings. Therefore a cafeteria designed for the entire school would need to be at least 8,450 net square feet (nsf) or if used for just the MS/HS it would need to be 4,650 nsf. This represents a significant shortcoming for a major common area and has a major impact on the experience of many middle and high school students.
- **Health Suite** – This critical support space serves all three age level groupings and is in a converted classroom that totals approximately 650 nsf. The role of a health suite has evolved as more students are in need of support for health issues including the storage and distribution of medication. It is also poorly located in the elementary school and is typically best located closer to the cafeteria and gymnasium. In addition to being poorly located it is an unusual layout that does not provide adequate privacy and rest areas. A properly sized health suite is more typically accommodated in 800 – 1,000 nsf.
- **Elementary School Classroom 404** – This 5<sup>th</sup> grade level classroom has no windows to the exterior. The space has been used for a variety of uses and it is believed that it was originally a lunch room. New York State regulations indicate that windows that take up a minimum of 50% of one exterior wall, with a view to the exterior and a low window sill (32” AFF) are a minimum requirement for elementary level classrooms. The lack of view or access to fresh air can negatively impact the students and teachers who spend most of their day in this space. This space could be used for a special subject or ideally a support space but should not be used as a grade level classroom.
- **Elementary School Classrooms 501 & 502** – These two rooms occupy an assembly space known as Gwynn Hall. It was a modest sized large group space with considerable charm and architectural qualities. The subdivision of the space is accomplished with a partition running lengthwise in the room yielding two classrooms of poor proportions and again limited views and windows. Of greater concern is that these two grade level classrooms are the only spaces in use for this purpose on the 5<sup>th</sup> floor. Not only are they isolated from the rest of the elementary school classrooms it is also a long trip down to common areas such as the gym and cafeteria. It is very unusual to have an elementary school occupy more than two or three levels. The travel time and isolation also can negatively impact the experience of students and teachers who spend their entire day in these spaces.
- **Gwynn Hall** – It has long been an aspiration of the School to restore this space to its historic origins. If completed it would be highly sought after as a large group instruction space or small performance or presentation venue. Similar to the Auditorium and Library which have both been revived, Gwynn Hall is one of those unique and defining spaces in the original Bronxville School. Of course this can only become possible if there is an alternative location for the grade level classrooms.

## Process (continued)

- **High School Guidance Suite** – In the aftermath of the flood recovery project where many critical facilities were relocated to the first floor, the guidance suite was hastily relocated to a former classroom space. This function is critical to student success and has been operating in considerably less than ideal space for a number of years. A larger space with access to adjacent conference and meeting space is critical to providing quality space for College visits and meetings with students.
- **Innovation Space / Alternative Learning Space** – The Foundation commissioned FNI to work with High School stakeholders to identify how best to accommodate the alternate learning modalities that are emerging in 21<sup>st</sup> century schools. They proposed a series of modifications to the third floor to create flexible environments that respond to the trend towards more collaborative group work and student lead research. Their presentation is included in the Appendix to this report.
- **Learning Resource Center** – FNI also worked with the High School to identify an alternative approach to providing support for students with special needs. They developed a proposal for renovating a portion of the fourth floor to provide the needed resource space.
- **Meadow Avenue High School Entrance** – This entrance is accomplished by creating an alley between the older building and the 2000 wing. On the north side of the building, it is a cold and shaded space that could be better defined and if expanded it could provide some much-needed common space for High School students.

After identifying the capacity and program related issues KG+D and FNI worked with their contacts within the District to develop conceptual architectural approaches to the issues. These proposals were reviewed in meetings with the administration and the Board Facilities Committee and the Board of Education.

After several discussions, the proposed projects in each category were prioritized by the District and developed into an initial group of projects that would be funded by the issuance of bonds after voter approval. The following sections of this report include a description of the prioritized projects included in each category.

## Sitework

Exterior work included in this Plan was developed by KG+D Architects through discussions with administration and staff about current needs and intended use of the facilities and grounds. Some landscape elements are included as part of the work recommended, but this work is supplemental to the Landscape Master Plan prepared by Wesley Stout Associates.

The replacement and improvement of the Elementary School Playground is recommended in the next five years. This is due to the deterioration of play surfaces and equipment at the current Playground which is nearing the end of its useful life. Redesign and reconfiguration of this area should be considered in coordination with the construction of the new Hayes Field this year and changes in curriculum needs for outdoor play.

The Chambers Turf Field is also nearing the end of its useful life and in need of resurfacing including the related track and athletic event areas. This project is expected to include organic infill as specified for the new Hayes Field but to reuse the existing subbase and drainage structures. Fencing and other landscape improvements are included in this work, but further study will be needed regarding construction of new or replacement storage and accessory structures.

Reconstruction of the front main entry area is recommended to improve the safety, appearance, and usefulness of this prominent portion of the campus. The proposed work will improve handicapped accessibility and reconfigure the main entry landing and stair to facilitate annual events, photos and student gatherings. The work also includes restoration of the front façade of the building and replacement of aging exterior windows in this area.



### Infrastructure

Building-wide infrastructure needs were identified through the Building Conditions Survey process and have been separated into categories for implementation as described below.

The first category of recommended work involves repairs and maintenance of roof areas and related portions of the building envelope as identified by Watsky Associates. This work includes replacement of some flat roof areas nearing the end of their useful life and repairs to damaged slate roofs, metal flashings, and other roof materials which are described in the Roof Report. Also included are masonry repairs to chimneys and parapets, replacement of steel lintels at some window locations, selective brick repointing and other envelope improvements. Refer to the roof plan in the Appendix for locations of the proposed work.

The second category is related to general interior improvements to keep the building in overall good condition. Recommended electrical upgrades include replacement of original electrical panels, occupancy sensors for lighting in classrooms and a synchronized clock system. Powered ventilation and air conditioning is required for the B-D connector area and replacement of non-safety glazing in corridors. Other recommended renovations to corridor areas include flooring replacement and improvements to wall finishes, ceilings and lighting in near the auditorium.



The original storefront system which forms the exterior walls of a portion of the Elementary School have reached the end of their useful life and should be replaced. This work involves replacement of related heating and ventilating systems and other related impacts to interior floors, ceilings, and walls at these locations. We recommend renovation of the individual toilet rooms in each classroom in coordination with this work. The new exterior envelope system will improve the energy efficiency, appearance, and comfort of the classrooms effected.

Many of the infrastructure items identified during the Building Conditions Survey are related to general maintenance of the facility and are planned for completion as part of ongoing facilities upkeep work. Such work includes general improvements to exterior sidewalks, drainage, railings, and driveways. Also on this list are repairs to interior ceilings and replacement of selected interior doors, walk-off mats and stair treads. Rather than being part of capital projects, the District will continue to complete these infrastructure improvements as part of their typical operations budgets.

The last category of infrastructure work is for future improvements that should be budgeted for completion in the next Five Year Capital Plan process. This deferred work includes renovation of the balance of individual toilet rooms and abatement and replacement of the remaining asbestos containing plaster ceilings. Also recommended is replacement of unit ventilators with energy recovery units throughout the building and provision of powered ventilation and air conditioning to fourth and fifth floor areas. This remaining infrastructure work should be included as part of future capital improvements as each portion of the building is brought to overall good condition.

Program Related Improvements

The District administration and Board Facilities Committee prioritized three of the program related improvements which are further described below. Conceptual floor plans of all three proposals are included in the appendix to this report.

**Cafeteria / Courtyard Atrium Addition & Health Suite Relocations** – This proposal includes a one-story addition in the enclosed courtyard adjacent to the cafeteria and related work. The proposed use of the space is as an expanded cafeteria and common space for use by all grade levels. The current courtyard (shown below) is not well utilized and is difficult to maintain. The proposed addition would have windows to the west and a skylit roof. Two adjacent grade level elementary classroom spaces need to be relocated as a result of placing this addition in this location as all grade level classrooms require windows. They can be relocated to the south of the main corridor to spaces now occupied by the Health suite and a faculty room which were formerly classrooms and have adequate windows. This allows the Health suite to be re-designed, expanded to approximately 1,000 sf and be better located closer to the gym and cafeteria. This space can also be used for multiple purposes during and after the school day and provide a home for the many High School activities that benefit from a space for informal gathering.



Due to the proposed location of this space and the fact that there are other spaces and stairs that may exit through this room it seems prudent to budget for the installation of a fire sprinkler system in these key assembly spaces. This system may not be required, which can be explored as the design develops, but it is advisable in any assembly space of the size of the existing cafeteria and expanded courtyard / atrium addition.

**Meadow Avenue Classroom / Guidance Addition** – This proposed three story addition on the north side of the building solves a number of the issues related to program shortfalls identified in the Plan. It both provides a new home for the High School guidance department as well as results in the provision of three additional grade level classrooms. With these additional classrooms, it is no longer necessary to utilize the non-compliant fourth floor space (401) or the two classrooms (501 & 502) in Gwynn Hall. The addition is conceived as a continuation of the existing older building on an under-utilized corner of the site. It is reasonable to speculate that when the original building was constructed this was the back exit stair adjacent to the boiler room and the large masonry boiler flue chimney. Now that the boiler room has been relocated and the 2000 wing has been constructed this area is adjacent to one of the principal entrances to the Building and deserves some re-design.

The concept is to extend the building on all three levels (see photo at right) so that it continues with another three classrooms immediately to the south. When completed, similar to the Auditorium Lobby Addition, it should appear to be a seam-less continuation of the older, existing building. The utilitarian exit stair will be replaced with a wider and better lit stair around the corner so that it will be more likely to be used by students for travel between levels. This arrangement will allow for a window at the end of the corridor on each level which will significantly improve this end of the building. The relocated stair will also conceal the former boiler chimney which will be partially removed as it is no longer in use.



The lowest level will contain the relocated guidance suite which will be expanded into what is now known as the Fireplace Room and an adjacent under-utilized space. A guidance suite of this size, more than double its current size, with an adequate meeting space and an improved location will be a significant improvement. Located on a prominent corner of the site, adjacent to the High School entrance it will signal the importance of guiding Bronxville students to the College of their choice. The two levels above guidance will be additional grade level classrooms and the area now occupied by guidance will be converted back into a general classroom.

Program Related Improvements (Continued)

**Third Floor Learning Community** – This proposal was developed by FNI and a group of stakeholders from the High School. The proposal is to incorporate a portion of the corridor on the third floor and two existing Science classrooms and one general classroom and create a new learning community at the west end of the 2000 addition. The spaces proposed are flexible environments with a variety of small and large rooms as well as generous open, flexible space. There were three versions of this proposal explored:

- The first option involving only renovation of the areas listed above.
- The second option involving the same amount of renovation as well as a small building addition on the roof of the gym below to create an additional learning studio and a project deck. The small addition is proposed to be located to the south of the existing walkway.
- The third option involved all of the same features as the second option but added a larger addition on the roof of the gymnasium below to the north of the walkway.

While all involved saw the full benefit of the third option, the second option is included in the prioritized proposal with the hope that, similar to the fund raising that took place in advance of the Auditorium project, that private fundraising may add funds to the project so that the third approach can be realized.

Landscape

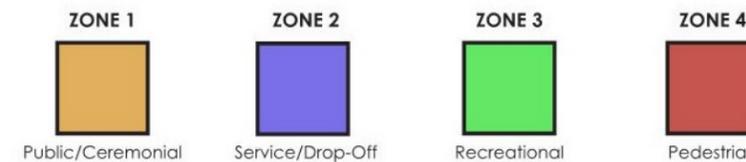
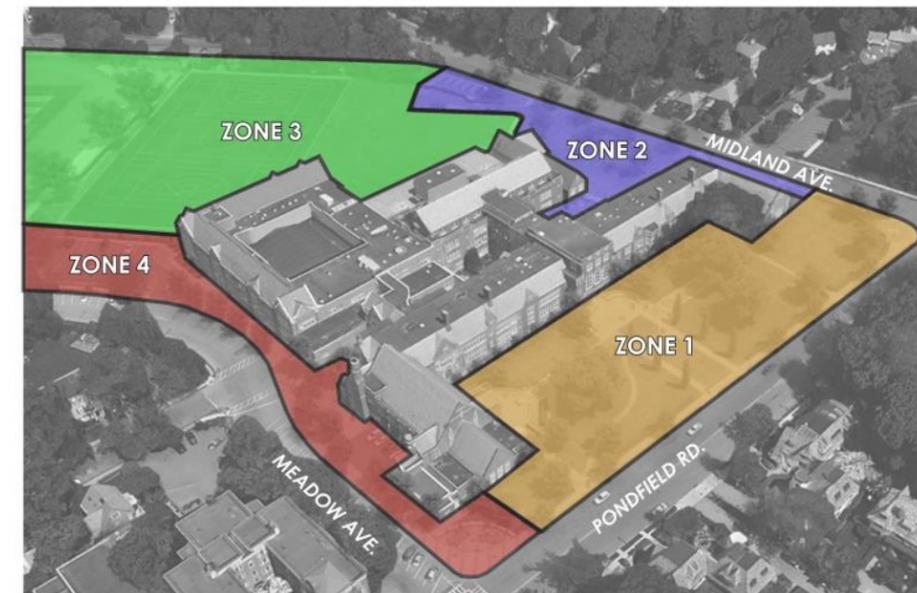
The recommendations of the Landscape Master Plan prepared by Wesley Stout Associates are independent of other site related improvements included in the Building Conditions Survey and Five Year Capital Plan process. The work of the Plan is divided into four zones some of which have been prioritized for construction in the next five years while other areas are to be considered as part of future work.

The first zone is the front section of the grounds along Pondfield Road with emphasis on development of the Midland Avenue corner and improvements to lawn and planting areas. This work includes new walkways and restored hedges as well as a memorial brick walk which will tie in to the front entry improvements included as part of the Building Conditions Survey work. This portion of the Landscape Master Plan work is recommended to be included with the capital projects as part of first phase of the Five Year Capital Plan.

The second zone in the Landscape Master Plan is related to the parking and service areas on the Midland Avenue side of the campus. This work includes additional plantings and improvements to parking lot areas and a screen wall to separate service and loading access from staff and visitor parking areas. This portion of the Landscape Plan was not considered to be as high a priority as other areas and will be considered for implementation as future work.

The athletic and field areas at the back of the property are the focus of zone three of the Landscape Master Plan. This work includes development of plantings and gathering areas along Midland Avenue, coordinated with the fields and related structures and at the rear perimeter of the campus. This work includes the idea of a “pocket park” behind the track at Meadow Avenue and an outdoor dining plaza near the concession stand between the two turf fields. Although some aspects of this work may be incorporated into the Chambers track and field improvements included above most of the work in zone three will be considered for implementation as part of future work.

Meadow Avenue and the connection to downtown Bronxville is the focus of the fourth zone of the Landscape Master Plan. Proposed work includes reconstruction of sidewalk and planting areas along the street to improve and enhance the pedestrian experience and create integrated seating, parking, and gathering areas. This work would be coordinated with the proposed Classroom/Guidance addition near Meadow Avenue building entrance. This zone also includes a well-developed plaza at the corner of Pondfield Road and Meadow Avenue with low walls, plantings and seating platforms that bring definition and gathering space to a heavily utilized area of the campus. The proposed work in this zone was seen to be of high value to the Bronxville School and is recommended as an option for the proposed capital projects due to budget considerations.



## Budget Development & Cost Control

The development of reasonable and achievable budgets is critical to the success of any publicly funded capital project. During the planning phase of a project budgets are developed based on the final cost per square foot of similar building projects completed in the region. The plans used to determine the overall type of space and quantities are conceptual or pre-schematic and represent only about 2-3% of the design effort that will eventually be expended to produce complete project documentation. To create a comprehensive project budget or total cost to the District it is necessary to add reasonable design and construction contingencies, the cost of related demolition, site development or utility upgrades, allowances for hazardous material abatement, estimates of projected cost escalation to the beginning of construction, allowances for new furniture needed for the project and all related project costs (soft costs).

The inclusion of contingencies in budgets is a common and advisable practice for this stage of project development. Two types of contingencies are included; design and construction. A design contingency is typically an amount of funding set aside for items that arise during the more detailed design phases of the project. These can range from additional features requested to be included by the Owner to increases in complexity and thus cost for items that were originally included that become better known as the design develops. At the conclusion of the Design Development Phase, the design contingency utilization should be known and if not expended, the budget can be reduced by this amount or the balance can be retained by the Owner as additional construction contingency.

Construction contingencies are typically held aside for additional items that occur after the bids have been accepted and the project is underway. These types of items also have a range from additional requests for work by the Owner, unforeseen conditions either underground or hidden in existing buildings, additional work required to complete the intended work of the project that were not shown on drawings to additional hazardous material abatement. The construction contingency is typically expended by the issuance of change orders and if not fully utilized the Owner can reduce the budget for the project.

Project Costs or “soft costs” are the funds necessary for the District to complete the project that are not expended on “hard” construction. These typically include professional fees for architects, engineers, attorneys, financial advisors, surveyors, testing laboratories as well as printing, shipping, custodial overtime and other project related administrative expenses. For a project of the size being discussed as the initial implementation for this plan, the agreed upon professional design fees are less than half of the overall project cost allowance. The project costs are typically administered by the District and if not fully needed for the project, the budget can be reduced.

The conceptual budget that is developed during the planning phase often establishes a fixed budget for the project that then is used as a maximum budget target for the subsequent design and construction phases. As issues arise during the development of the project, typically after the budget is approved, the design and construction contingency are utilized and or the scope or quality of the project is adjusted as necessary to stay within budget.

For public school construction in New York State (outside of New York City) it is fairly typical that budgets are fixed based only on conceptual work due to some peculiar restrictions in State law that prohibit Districts from investing in “complete” design prior to obtaining funding approval. This is a challenging process and somewhat unusual in the design and construction industry.

It is generally thought that once a project’s design and documentation is developed to a 60% level or what is the end of what is known as the Design Development phase a fixed budget can be accurately determined. Beyond this level there should be no need to adjust scope, quantity or quality to deliver the project. In fact in the private sector, many building contractors will enter into a guaranteed maximum price (GMP) contract to build the project at this point in the process. Cost control over the course of any project is best achieved by developing appropriate estimates or budget checks at each phase of development; Conceptual Design, Schematic Design, Design Development and Construction Documents. This system of iterative estimating, adjusting and then ultimately bidding the project to the market is the best way to deliver a project on budget.

While it is preferable to not fix the budget until the Design Development phase, the further the design is developed, even to the schematic level (+/-30%), a better expectation of what will be achieved and how much it will cost can be communicated. During the Schematic Design phase more stakeholder input can generate a more tailored approach and a better sense of the scope and quality of the project. With this work complete a more detailed and reliable budget can be developed. The completion of at least the Schematic level also yields more drawings and descriptions so that those who are to make a decision on the funding of the project can do so with adequately detailed information. While the State prohibits the completion of complete design prior to funding they have not objected to the completion of Schematic Design prior to approval of funding. This is how both the Middle School science and Auditorium projects for Bronxville were recently completed and could be in part why they were so widely supported and delivered within the budget set at the end of the Schematic Design Phase.

The budgets for the improvements proposed in this Five Year Capital Plan were generated based on conceptual drawings. The estimate for each item is included in the appendix to this report. Some of the key unit prices being utilized in the conceptual estimate include:

- New Construction per square foot - \$475.
- Extensive Interior Renovations per square foot - \$300.
- Design Contingency – 15% of construction costs for Program Improvements, 10% for BCS Work Items
- Construction Contingency – 10% of all construction costs
- Project Costs – 18% of all costs

Unit costs include a projection for escalation (+6%) based on receipt of bids in the first quarter of 2019. It may be helpful to develop some aspects of the approved program further prior to fixing budgets and requesting approval of funding.

## Budget Development & Cost Control (continued)

It is also important to note that there are several factors that make school construction in New York State costly especially when compared to private sector work of similar scale and complexity:

- **Multiple Prime Contracting (Wicks Law)** – New York is one of the few, if not only, states remaining that mandates that public school districts (and other public entities) complete construction projects with multiple prime contractors. This results in the District hiring a minimum of a Contractor for General Construction, HVAC Contractor, Plumbing Contractor and Electrical Contractor in order to complete a building project of any significant scale. While this law was put into place to curb corruption early in the last century it has long outlived its usefulness. This method has been cited as a major reason that many high quality contractors avoid the public market and studies have identified that this project delivery method creates unnecessary coordination issues, litigation, delays, additional management costs resulting in 10 – 30% higher costs. Many entities across the State including some State agencies and New York City Schools have been deemed exempt from this arduous project delivery method.
- **Prevailing Wage Rates** – All publicly funded work in New York State requires that workers be paid prevailing wage rates and benefits as defined and enforced by the New York State Department of Labor.
- **Special Regulations for Construction in Occupied School Buildings** – State Law also has a comprehensive requirement that is included in every construction contract that provides for the health and safety of occupants during the construction process. These requirements are sensible and appropriate but do add cost to the construction process.
- **Construction Schedule Restrictions based on continued use of school buildings** – It is fairly typical that an even modestly complex project will take more than the 8-10 weeks available during the summer recess. This often involves a requirement that construction work either be accelerated or completed on overtime shifts. It can also result in the creation of temporary space, barriers or exits and even temporary utilities to keep adjacent areas in service while the project is under construction.
- **Delayed permitting and project construction** – Building permits for school projects are issued at the State level. It is fairly common, however unfortunate, that it can take up to a full year to get a permit after the design is 100% complete. When this is combined with the fact that most of the design does not take place until after the funding is approved and that many projects need to start during summer recess it can result in the construction of a project not commencing until 2 years after the voters approved the project. As a result the budget needs to include the best estimate of cost escalation that can be obtained so that the budget is appropriate when the project is finally issued for bids.



## Phasing & Implementation

There are several ways that a School District can complete a capital improvement project including voter authorized bond funding for projects of a defined scope, capital expenditures approved as part of annual budgets and minor projects paid from operating budgets. By far the most common is the first option which issues voter approved bonds and the debt and is paid back, with State Aid, in accordance with the bond funding the durations of which are typically related to the expected useful life of the items being funded. The initial implementation of the Five Year Capital Plan is proposed to be funded by this method. There are several steps required to complete a project by this method:

1. Board of Education adopts a plan to move forward with the Capital Project.
2. OPTIONAL - Additional Design work is completed prior to finalizing the budget (refined conceptual design, Schematic Design...).
3. State Environmental Quality Review Act (SEQRA) is satisfied. This requires Board resolutions and can take 30 – 60 days, require the completion of an Environmental Assessment Form (EAF) and issuance of public notices. For the Bronxville School it will also likely involve a preliminary review by the State Historic Preservation Office (SHPO).
4. Once SEQRA is complete the Board can schedule a public vote to approve the funding. This must be accomplished a minimum of 45 days prior the proposed election date.
5. Once the funding is approved the project is fully designed, with additional stakeholder input up to the Construction Documents phase. Cost estimates will be completed after each phase of design and approval to proceed for each phase will be sought from the District. If some design work is completed prior to the vote for funding this phase can be abbreviated.
6. The Construction Documents are then filed with the State to obtain a building permit.
7. Once a permit is approved, the project can be issued for public bids.
8. Once bids are approved, the project can proceed into the construction phase.

Phasing & Implementation (continued)

For this specific set of projects for Bronxville it makes best sense to implement it in two packages of work: The first for site related infrastructure improvements and the second package for all other site and building work. This approach allows the sitework, specifically the replacement of Chambers Field’s synthetic turf, to occur faster as it is both needed right away and projects of this limited nature have an expedited review process at the State. We have estimated durations (in weeks) for the various steps of the process in the chart below:

	Sitework	Site & Building Project
Schematic Design (SD)	8	12
Design Development (DD)	10	16
Construction Documents (CD)	12	20
SED Permitting	5	30
Bidding & Contract Award	6	6
Construction Phase	20	62
Project Closeout	8	12
<b>Total</b>	<b>69/1.3 years</b>	<b>158/3.0 years</b>



These schedule estimates are subject to change and have many variables. The design phases allow some time for updating estimates and obtaining District approvals at the end of each phase. The SED permitting duration can vary significantly and we are using the State’s estimate of review time as of the writing of this document. The SED review period has been as long as a full calendar year and is known to change significantly without prior notice. Schedules also vary (earlier and later) based on how the milestones coordinate with the school calendar.

Of course, the starting point for design is a critical decision as well as when to start the more detailed design process. A few specific scenarios are roughed out below:

	Site Project		Site & Building Project	
	Bond Vote	Substantial Completion	Bond Vote	Substantial Completion
SD & DD prior to vote	10/19/17	8/6/18		
SD prior to vote			10/19/17	5/14/20
All design post vote	10/19/17	12/20/18	10/19/17	8/6/20
SD & DD prior to vote	3/6/18	5/7/19		
SD prior to vote			3/6/18	9/29/20
All design post vote	3/6/18	1/1/19	3/6/18	12/22/20

You can see by the estimates above that depending on the timing of the vote to approve funding it can be advantageous to complete some design earlier which not only provides a better estimate and project description but also can result in the project being available a semester (or sports season) earlier. Some portions of most projects can be done (and useable) prior to the entire project completion and these estimates are for the entire project. More detailed phasing and implementation plans are refined during the design phases.

Conclusion

After prioritization, the initial phase of implementation of the Five Year Capital Plan (Option A) has a budget of \$23,470,000. The budget summary is included below:

		OPTIONS			
Projects	Budget	A	B	C	
SITE	Elementary School Playground	\$ 400,000	\$ 400,000		
	Chambers Field Replacement & Track Improvements	\$ 2,250,000	\$ 2,250,000		
	Front Entry & Façade Restoration	\$ 840,000	\$ 840,000		
Subtotals		\$ 3,490,000	\$ -	\$ -	
INFRASTRUCTURE	Roof Repairs & Building Envelope Restoration	\$ 1,500,000	\$ 1,500,000		
	Interior Infrastructure Improvements	\$ 1,450,000	\$ 1,450,000		
	D-Wing Curtainwall & Toilet Room Renovations	\$ 1,740,000	\$ 1,740,000		
Subtotals		\$ 4,690,000	\$ -	\$ -	
PROGRAM	Cafeteria Atrium Addition / Health Suite Renovations	\$ 4,600,000	\$ 4,600,000		
	Meadow Avenue Classroom / Guidance Addition	\$ 5,700,000	\$ 5,700,000		
	Third Floor Learning Community Renovation Cost w/ 900 SF Expansion	\$ 3,950,000	\$ 3,950,000		
	Additional Cost for 3700 SF Expansion	\$ 2,050,000		\$ 2,050,000	
	Fourth Floor Resource Community Renovations	\$ 1,750,000		\$ 1,750,000	
	First Floor Boiler Room Renovation/Expansion	\$ 1,130,000			\$ 1,130,000
	Meadow Avenue Entrance Addition	\$ 1,460,000			\$ 1,460,000
	Renovate Gwynn Hall	\$ 1,380,000			\$ 1,380,000
	Fourth Floor Room 404 Renovation	\$ 410,000			
	Art Room Renovation	TBD			
Subtotals		\$ 14,250,000	\$ 3,800,000	\$ 3,970,000	
LANDSCAPE	Pondfield Road Improvements	\$ 1,040,000	\$ 1,040,000		
	Meadow Avenue Redevelopment	\$ 1,120,000		\$ 1,120,000	
	Midland Service/Drop-off	\$ 380,000			
	Athletic Field/Plaza Landscaping	\$ 310,000			
Subtotals		\$ 1,040,000	\$ 1,120,000	\$ -	
<b>Totals</b>		<b>\$ 23,470,000</b>	<b>\$ 4,920,000</b>	<b>\$ 3,970,000</b>	

In addition to the program improvements not currently in Option A and the infrastructure listed above there was an additional \$5,270,000 of work identified during the Building Condition Survey which needs to be accomplished either as part of annual budgeted maintenance work or future capital project planning.

The cost of physical improvements is significant and it is reasonable to seek some perspective on whether or not the expenditures proposed are within industry standards for school buildings. Based on some research there is no definitive, fixed standard for what is reasonable to spend on facilities. Most of the data and benchmarks are related solely to work that is described as infrastructure in this report or the capital maintenance that is required to keep the school in overall good condition. This definition does not include the program upgrades required to properly function. There is however one method of analysis that is used in the real estate and facilities management industry.

The most applicable benchmark that is used for many building types is to express maintenance cost as a percentage of estimated replacement value (MC/ERV). While the definition of maintenance cost varies somewhat it is commonly thought to include all annual expenses to keep the buildings fit for its intended purpose. Best practices indicate that the MC/ERV should be approximately 2% - 3% and could be reasonable at as high as 5%. If the figure falls well below this range it can indicate that the Owner is under-investing in its facilities and accumulating a backlog of deferred maintenance or program related updates.

The Bronxville School has a very substantial replacement value. As a 284,000 gsf building and fully developed site and using similar parameters to arrive at the estimated replacement value as were used for developing budgets in this plan the ERV comes out to be approximately 170 Million Dollars. For Bronxville we completed this analysis for maintenance costs in two ways:

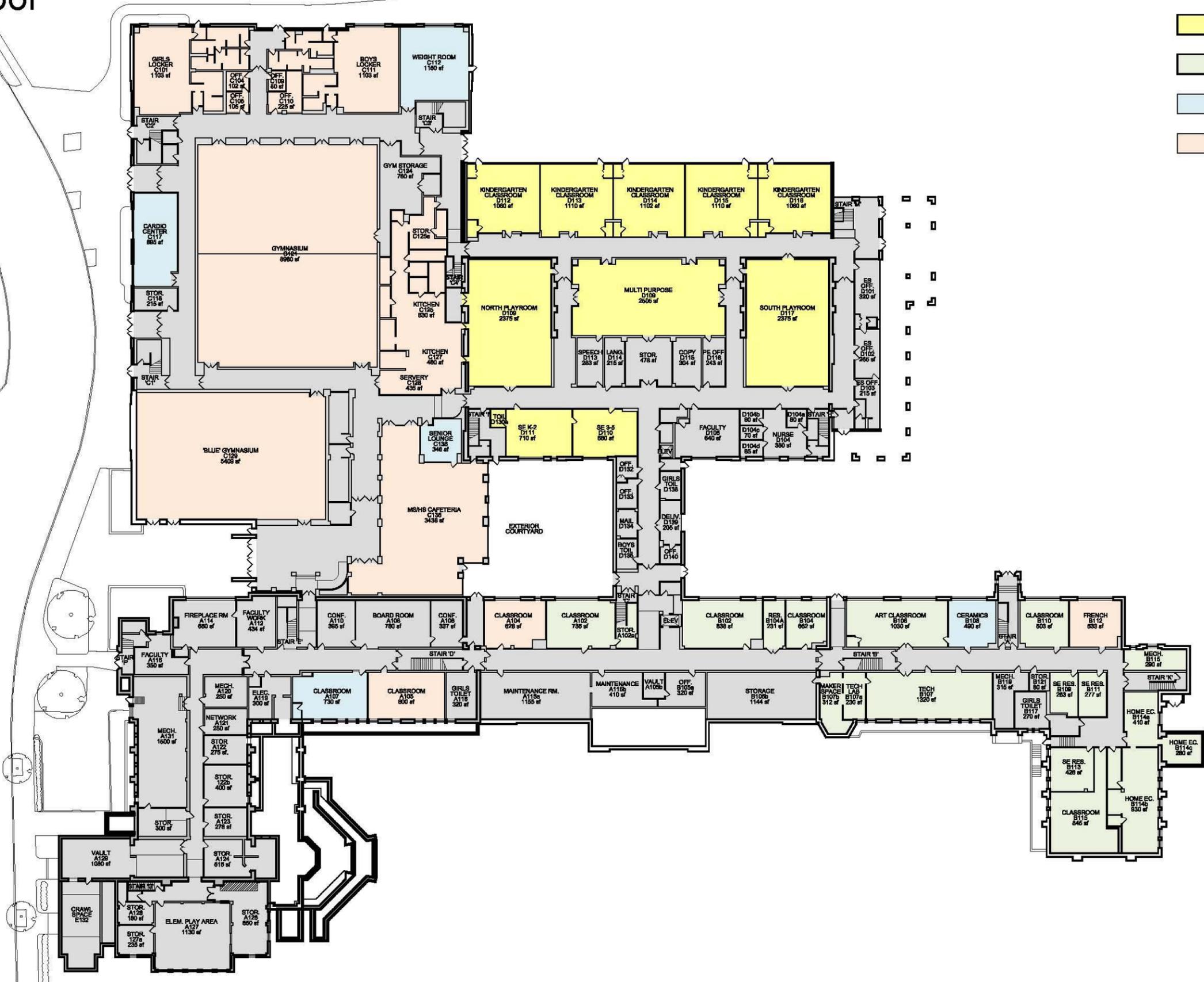
- Total (major) Capital Projects completed in the last ten years (complete list is included in Appendix) of 26 Million or an annual expense of 2.6 Million. The MC/ERV for this version of the analysis is 1.5%.
- Annual Capital debt service (2017) and budgeted annual maintenance and repair costs is approximately 3.3 Million (provided by the District). The MC/ERV for this version of the analysis is 1.9%.

We believe this analysis indicates that the District is within the range of reasonable spending on its facilities in recent years. Given that the initial phase of implementation of this plan will maintain this level of investment (replaces existing debt service) it also seems like a reasonable level of capital expenditure.

The proposed implementation of this Five Year Capital Plan would be transformative to the Bronxville School's Buildings and Grounds and will successfully continue the District's responsible stewardship of its most valuable physical assets.

# The Bronxville School

- LEGEND**
- ELEMENTARY SCHOOL
  - MIDDLE SCHOOL
  - HIGH SCHOOL
  - MS/HS COMMON

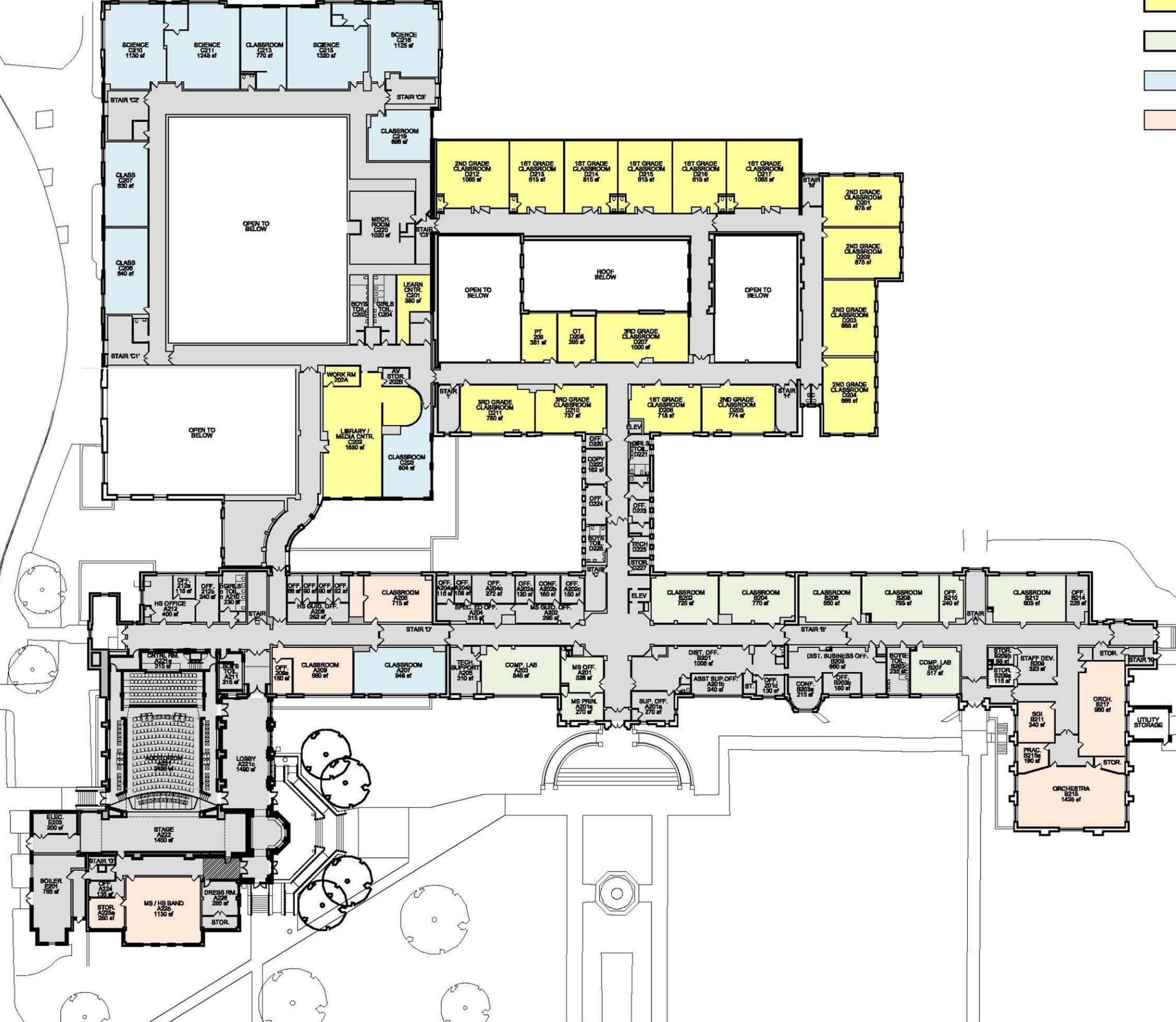


## First Floor Plan

Scale: 1" = 50'-0"

# The Bronxville School

- LEGEND**
- ELEMENTARY SCHOOL
  - MIDDLE SCHOOL
  - HIGH SCHOOL
  - MS/HS COMMON



## Second Floor Plan

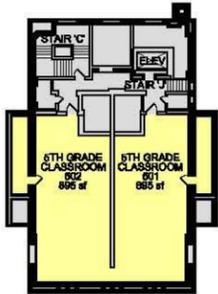
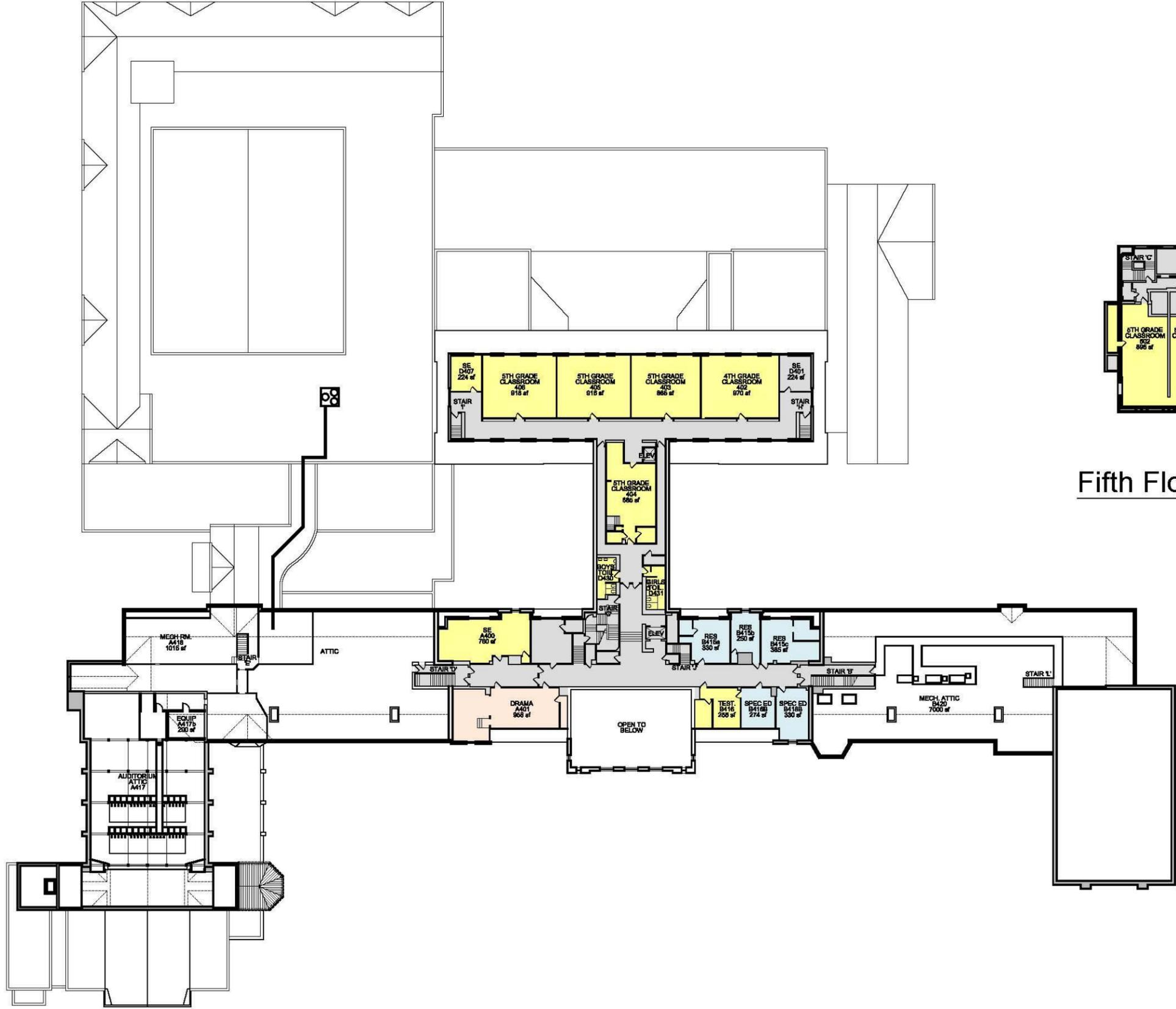
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# The Bronxville School

**LEGEND**

- ELEMENTARY SCHOOL
- MIDDLE SCHOOL
- HIGH SCHOOL
- MS/HS COMMON

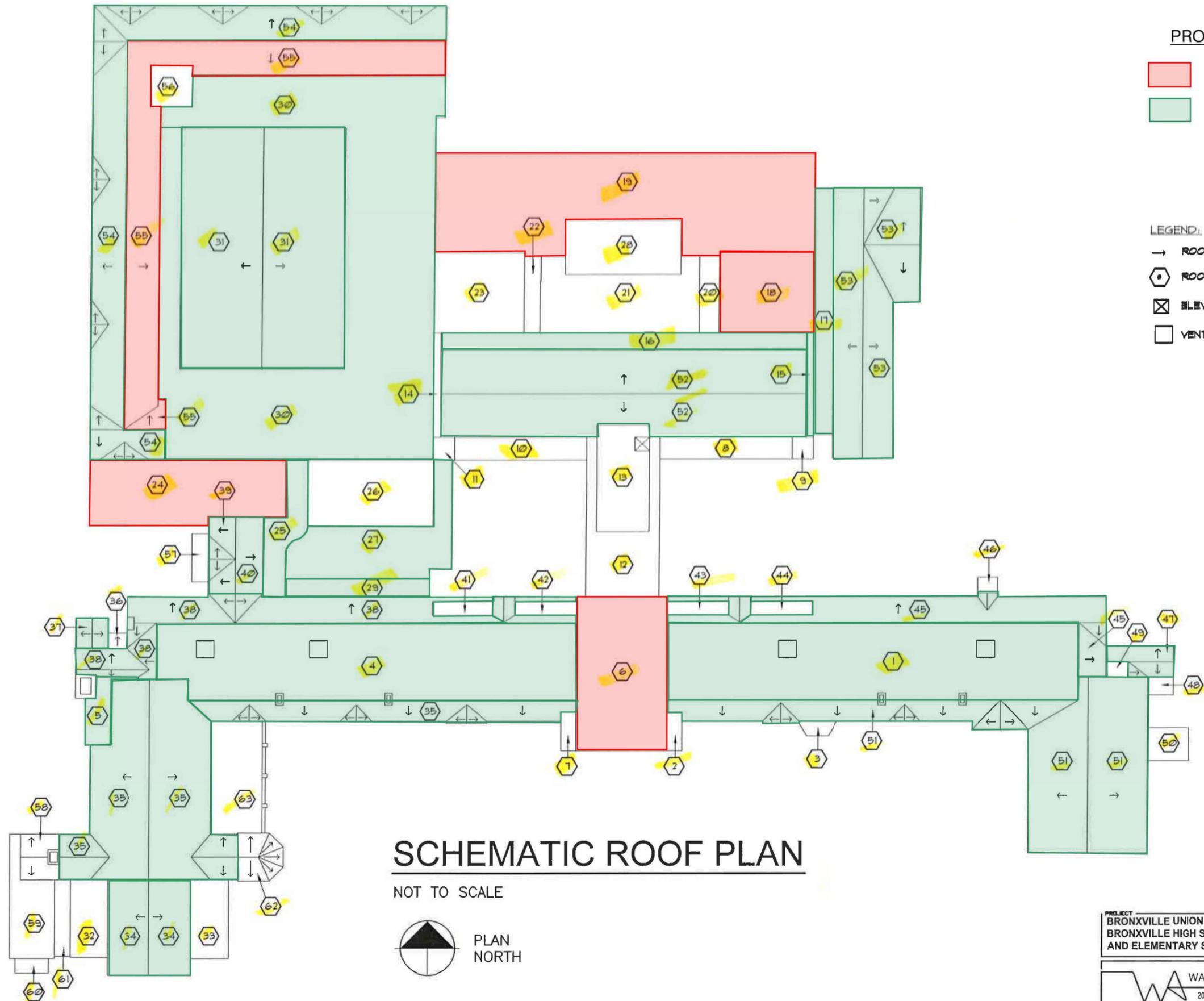


Fifth Floor Plan



**Fourth Floor Plan**

Scale: 1" = 50'-0"



**PROPOSED WORK**

- ROOF REPLACEMENT
- MINOR ROOF REPAIRS

**LEGEND:**

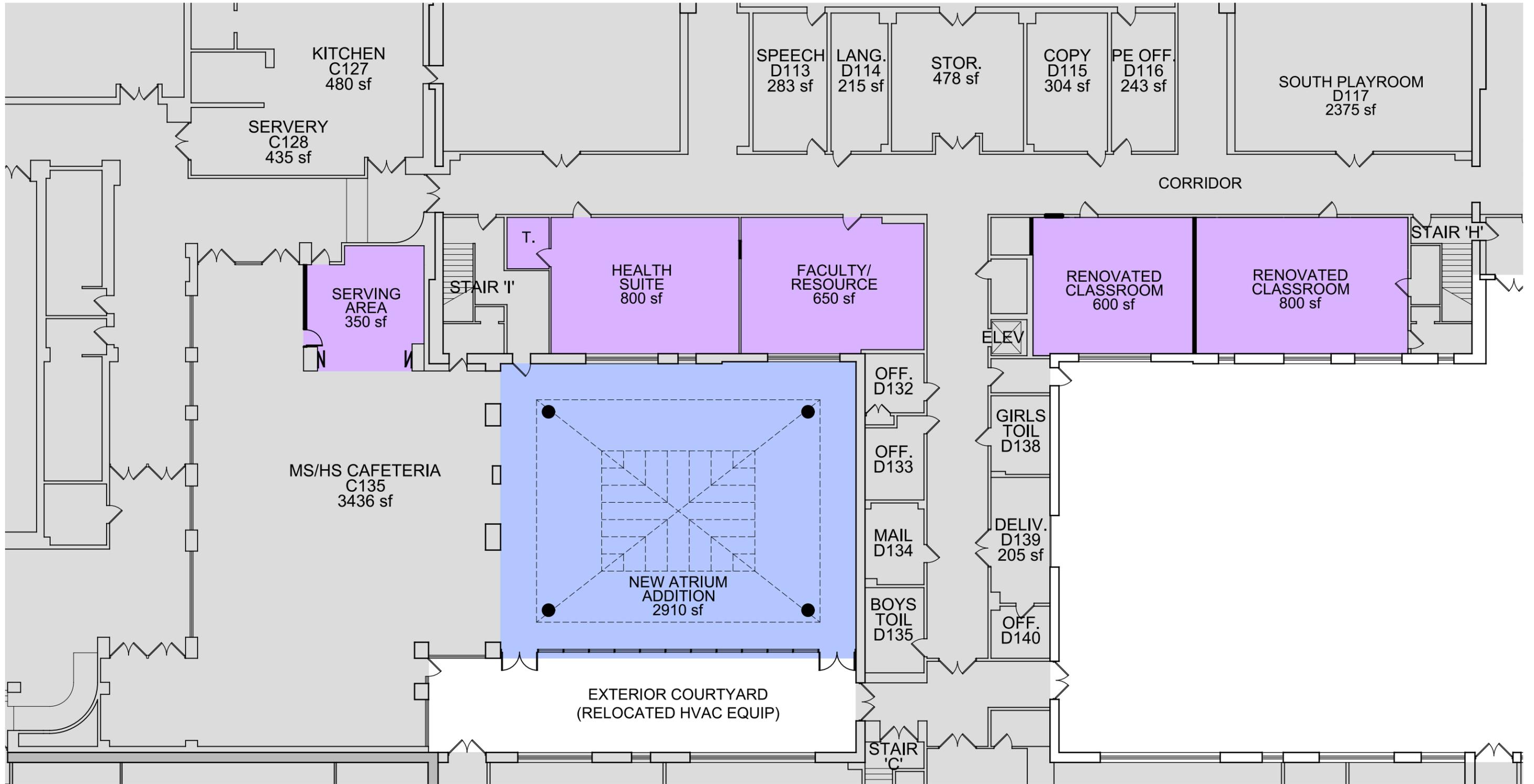
- ROOF SLOPE DESIGNATION
- ROOF AREA DESIGNATION
- ELEVATOR BULKHEAD
- VENT SHAFTS

**SCHEMATIC ROOF PLAN**

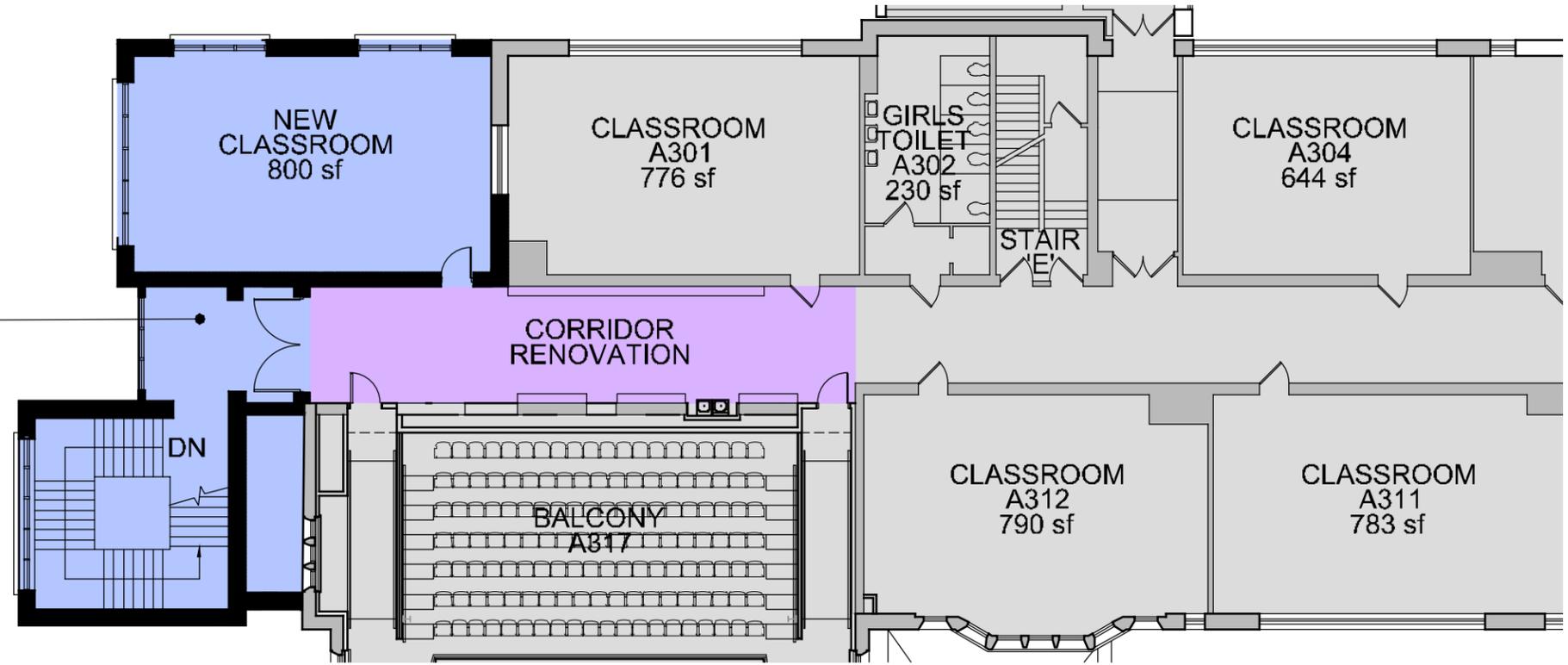
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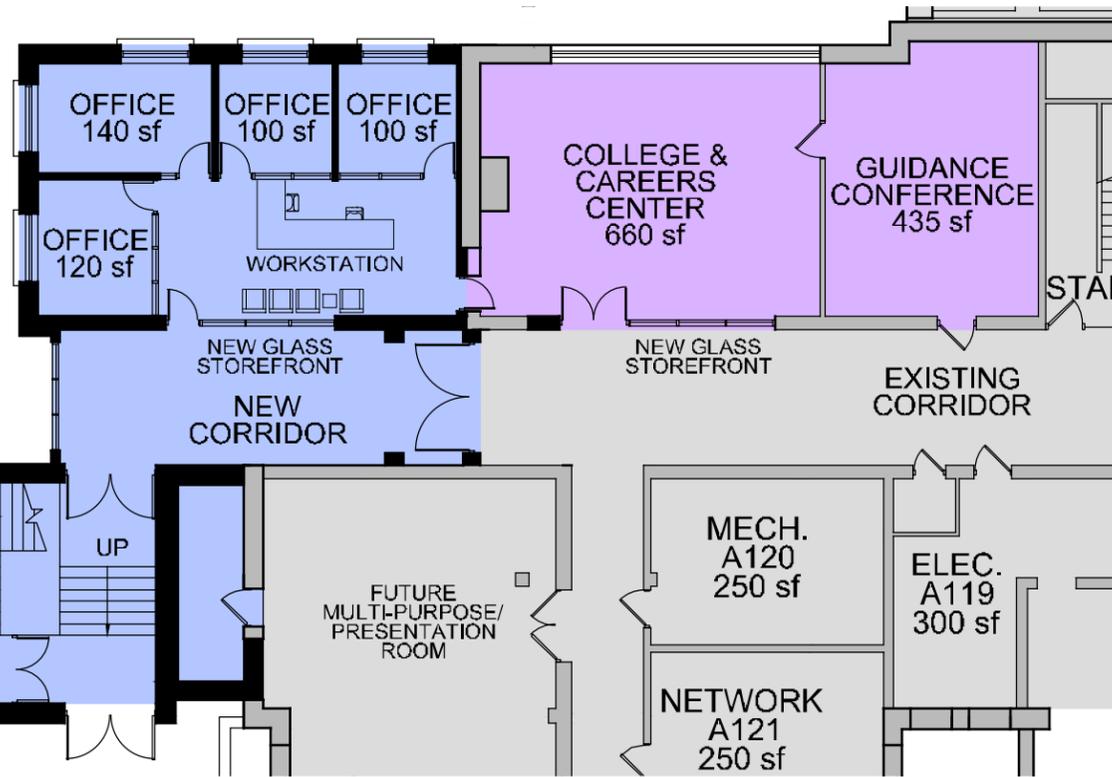
PROJECT BRONXVILLE UNION FREE SCHOOL DISTRICT BRONXVILLE HIGH SCHOOL, MIDDLE SCHOOL AND ELEMENTARY SCHOOL	SCALE NTS
	DATE 01/11/2016
WATSKY ASSOCIATES, INC. 20 Madison Avenue Valhalla, New York 10595	DRAWING NO. WA-1



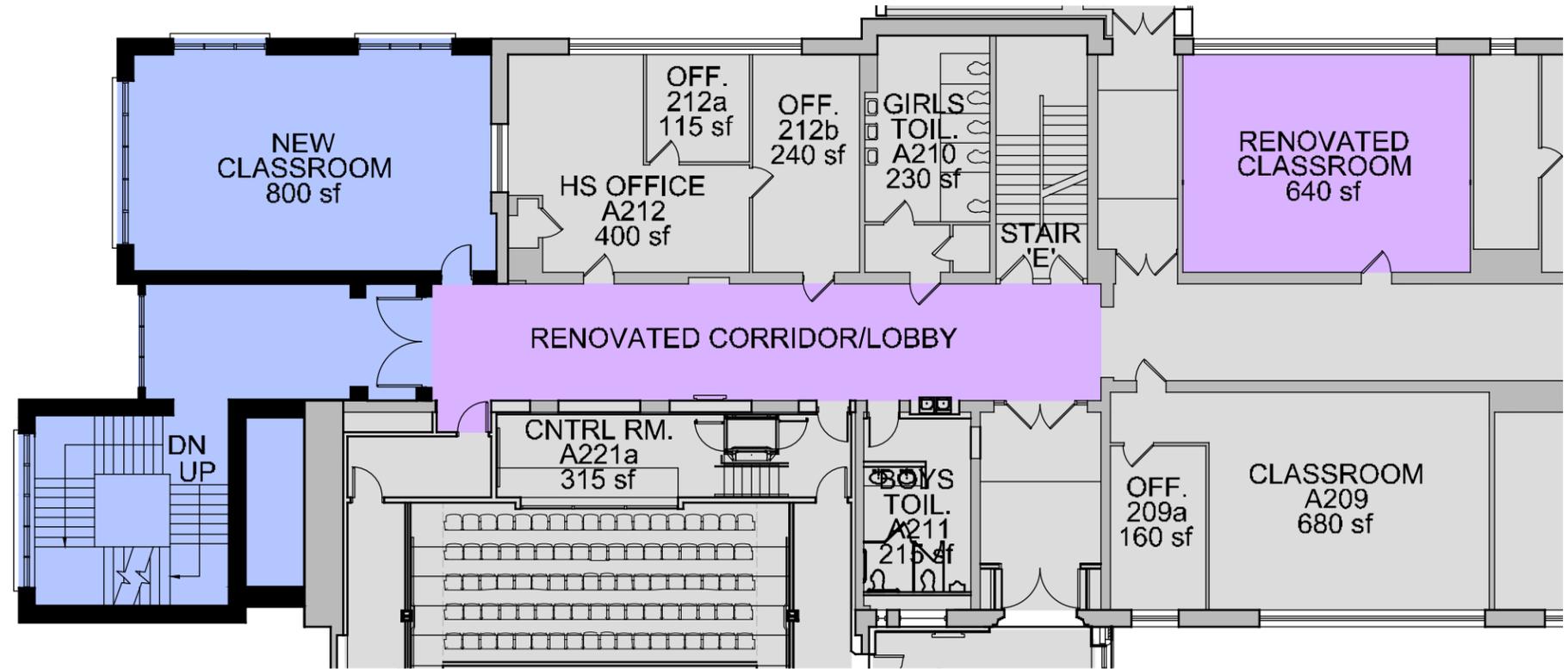
NORTH  
ADDITION  
1900 sf



3RD FLOOR

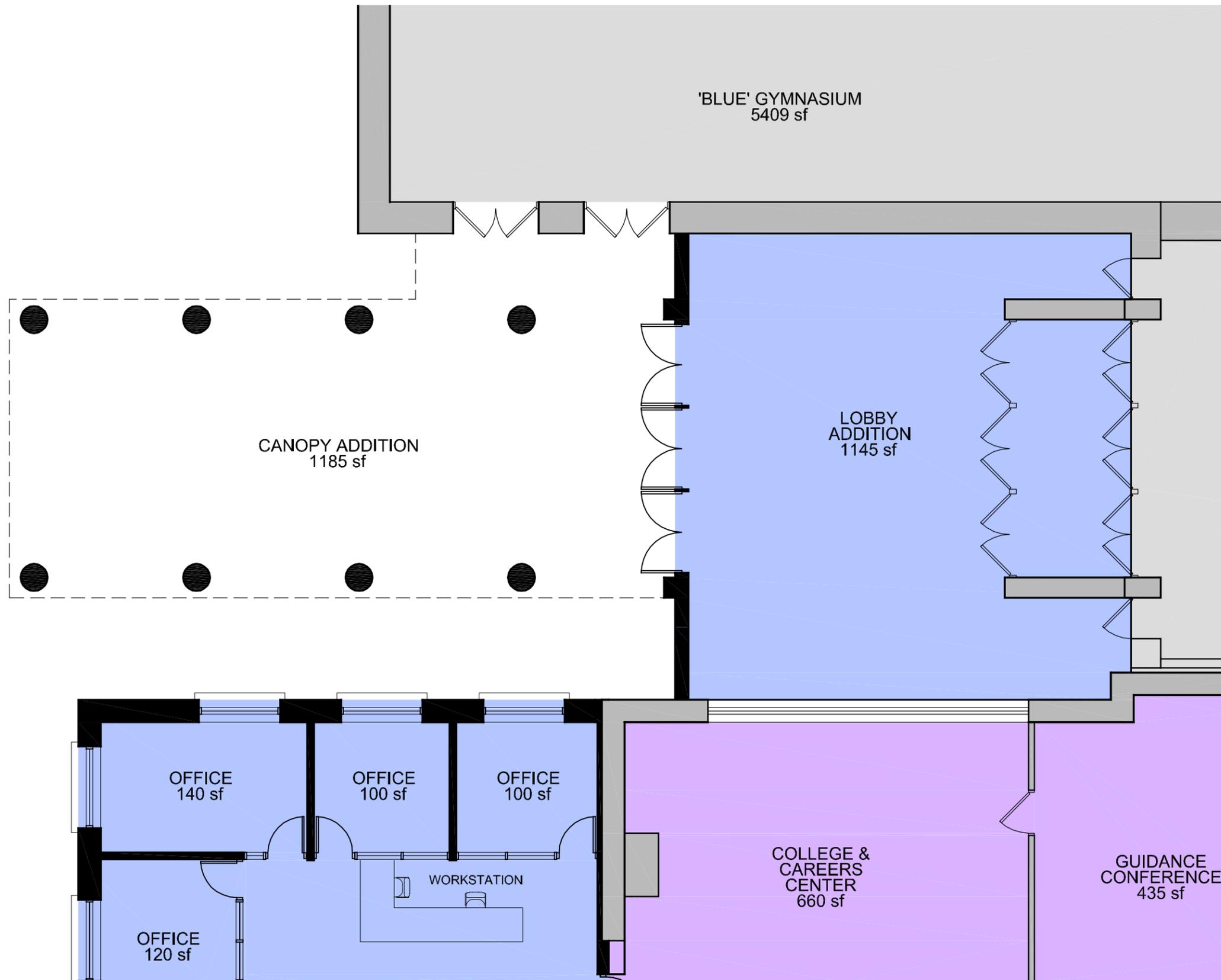


1ST FLOOR



2ND FLOOR





3rd FLOOR

# LEARNING COMMUNITY

OPTION 2  
900sf EXPANSION

- 1 Learning Commons
- 2 Small Group Room
- 3 Learning Studio
- 4 Research Room
- 5 Prep. Room
- 6 Project Deck



SCHEMATIC DESIGN

3rd FLOOR

# LEARNING COMMUNITY

OPTION 3  
3700sf EXPANSION

- 1 Learning Commons
- 2 Small Group Room
- 3 Learning Studio
- 4 Research Room
- 5 Prep. Room
- 6 Project Deck
- 7 Teacher Collab. Workroom

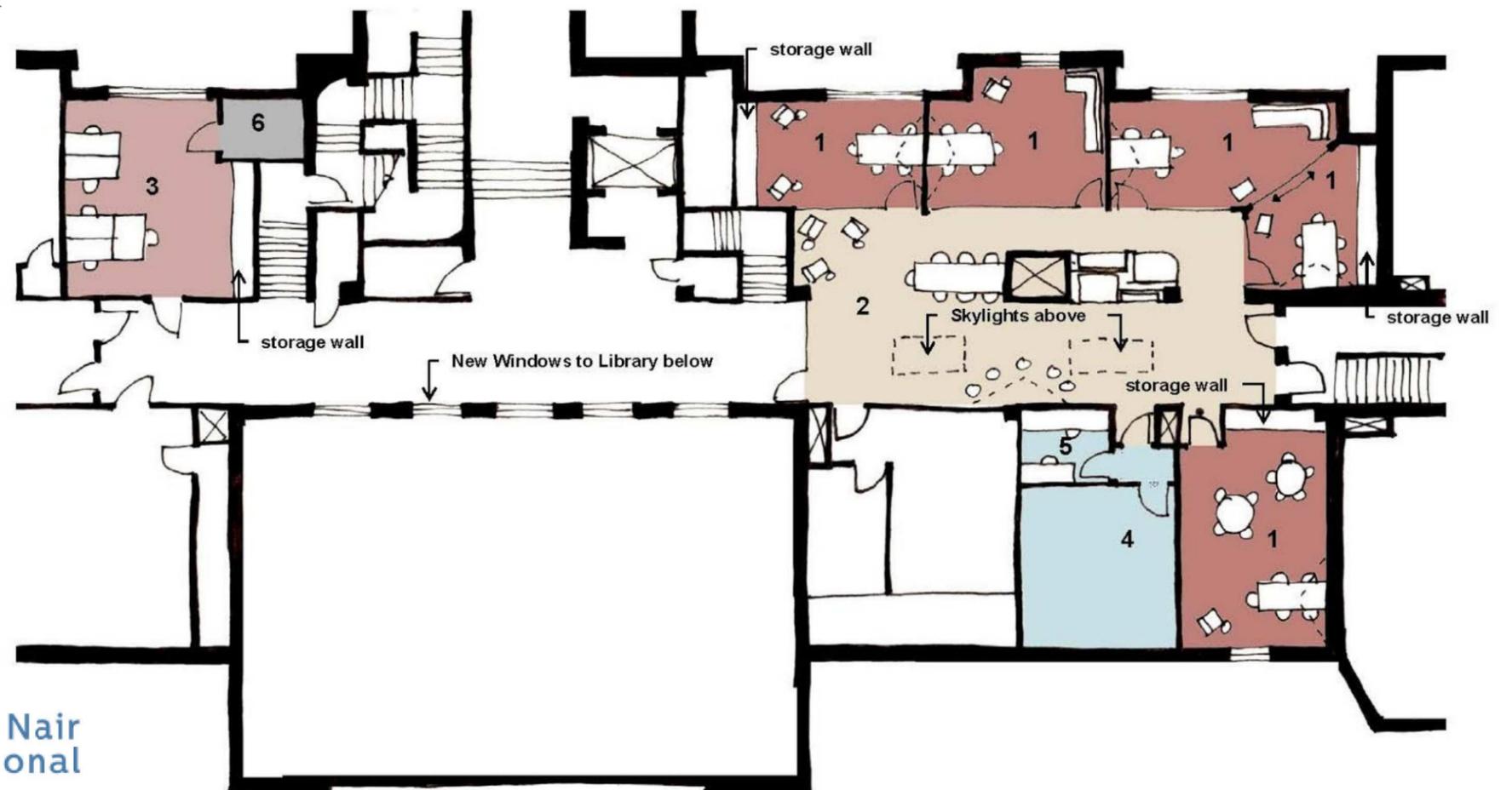


## SCHEMATIC DESIGN

4th FLOOR

# RESOURCE COMMUNITY

- 1 Resource Group Room
- 2 Resource Commons
- 3 Teacher Collaborative Workroom
- 4 TV Studio
- 5 TV Control Room
- 6 Storage Room





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Prepared by:  
Wesley Stout Associates  
Landscape Architects and Planners

Bronxville Union Free School District  
Five Year Capital Plan  
Proposed Capital Project Options

Projects		Budget	OPTIONS		
			A	B	C
SITE	Elementary School Playground	\$ 400,000	\$ 400,000		
	Chambers Field Replacement & Track Improvements	\$ 2,250,000	\$ 2,250,000		
	Front Entry & Façade Restoration	\$ 840,000	\$ 840,000		
	Subtotals		\$ 3,490,000	\$ -	\$ -
INFRASTRUCTURE	Roof Repairs & Building Envelope Restoration	\$ 1,500,000	\$ 1,500,000		
	Interior Infrastructure Improvements	\$ 1,450,000	\$ 1,450,000		
	D-Wing Curtainwall & Toilet Room Renovations	\$ 1,740,000	\$ 1,740,000		
	Subtotals		\$ 4,690,000	\$ -	\$ -
PROGRAM	Cafeteria Atrium Addition / Health Suite Renovations	\$ 4,600,000	\$ 4,600,000		
	Meadow Avenue Classroom / Guidance Addition	\$ 5,700,000	\$ 5,700,000		
	Third Floor Learning Community - 900 SF Expansion	\$ 3,950,000	\$ 3,950,000		
	Additional Cost - 3700 SF Expansion	\$ 2,050,000		\$ 2,050,000	
	Fourth Floor Resource Community Renovations	\$ 1,750,000		\$ 1,750,000	
	First Floor Boiler Room Renovation/Expansion	\$ 1,130,000			\$ 1,130,000
	Meadow Avenue Entrance Addition	\$ 1,460,000			\$ 1,460,000
	Gwynn Hall Renovation	\$ 1,380,000			\$ 1,380,000
	Fourth Floor Classroom 404 Renovation	\$ 410,000			
	Art Studio Renovation	TBD			
	Subtotals		\$ 14,250,000	\$ 3,800,000	\$ 3,970,000
LANDSCAPE	Pondfield Road Improvements	\$ 1,040,000	\$ 1,040,000		
	Meadow Avenue Redevelopment	\$ 1,120,000		\$ 1,120,000	
	Midland Service/Drop-off	\$ 380,000			
	Athletic Field/Plaza Landscaping	\$ 310,000			
Subtotals		\$ 1,040,000	\$ 1,120,000	\$ -	
<b>Totals</b>			<b>\$ 23,470,000</b>	<b>\$ 4,920,000</b>	<b>\$ 3,970,000</b>

Bronxville Union Free School District  
Five Year Capital Plan  
Proposed Addition/Alteration Project Budgets

**Meadow Avenue Classroom / Guidance Addition**

Description	Quantity	Unit	Unit Price	Subtotal
Demolition	1,400	gsf	\$ 50	\$ 70,000
Site Development	1	allowance	\$ 75,000	\$ 75,000
Stair Construction - 4 levels	2,700	gsf	\$ 475	\$ 1,282,500
New Addition - Basement	1,270	gsf	\$ 475	\$ 603,250
New Addition - Second Level	1,270	gsf	\$ 475	\$ 603,250
New Addition - Third Level	1,270	gsf	\$ 475	\$ 603,250
Basement Renovation	1,600	nsf	\$ 300	\$ 480,000
Furniture Allowance	1	allowance	\$ 100,000	\$ 100,000
Subtotal				\$ 3,817,250
Design Contingency	15%			\$ 572,588
Subtotal				\$ 4,389,838
Construction Contingency	10%			\$ 438,984
Construction Subtotal				\$ 4,828,821
Project Costs	18%			\$ 869,188
Project Total				\$ 5,698,009
			Round To	<b>\$ 5,700,000</b>

**First Floor Boiler Room Renovation/Expansion**

Description	Quantity	Unit	Unit Price	Subtotal
Demolition	500	gsf	\$ 50	\$ 25,000
New Addition - Basement	500	gsf	\$ 350	\$ 175,000
MP / Innovation Lab Renovation	1,700	nsf	\$ 300	\$ 510,000
Furniture Allowance	1	allowance	\$ 50,000	\$ 50,000
Subtotal				\$ 760,000
Design Contingency	15%			\$ 114,000
Subtotal				\$ 874,000
Construction Contingency	10%			\$ 87,400
Construction Subtotal				\$ 961,400
Project Costs	18%			\$ 173,052
Project Total				\$ 1,134,452
			Round To	<b>\$ 1,130,000</b>

Bronxville Union Free School District  
 Five Year Capital Plan  
 Proposed Addition/Alteration Project Budgets

**Third Floor Learning Community - Renovation Only**

Description	Quantity	Unit	Unit Price	Subtotal
Demolition	6,000	gsf	\$ 50	\$ 300,000
Third Floor Renovation	5,830	nsf	\$ 300	\$ 1,749,000
Furniture Allowance	5,830	nsf	\$ 20	\$ 116,600
Ed Tech (IT)	5,830	nsf	\$ 10	\$ 58,300
Subtotal				\$ 2,223,900
Design Contingency	15%			\$ 333,585
Subtotal				\$ 2,557,485
Construction Contingency	10%			\$ 255,749
Construction Subtotal				\$ 2,813,234
Project Costs	18%			\$ 506,382
Project Total				\$ 3,319,616
			Round To	<b>\$ 3,320,000</b>

**Third Floor Learning Community - 900 SF Expansion**

Description	Quantity	Unit	Unit Price	Subtotal
Demolition	6,000	gsf	\$ 50	\$ 300,000
New Addition - Third Level	900	nsf	\$ 375	\$ 337,500
Third Floor Renovation	5,830	allowance	\$ 300	\$ 1,749,000
New Roof Deck	600	gsf	\$ 100	\$ 60,000
Furniture Allowance	6,730	nsf	\$ 20	\$ 134,600
Ed Tech	6,730	nsf	\$ 10	\$ 67,300
Subtotal				\$ 2,648,400
Design Contingency	15%			\$ 397,260
Subtotal				\$ 3,045,660
Construction Contingency	10%			\$ 304,566
Construction Subtotal				\$ 3,350,226
Project Costs	18%			\$ 603,041
Project Total				\$ 3,953,267
			Round To	<b>\$ 3,950,000</b>

Bronxville Union Free School District  
Five Year Capital Plan  
Proposed Addition/Alteration Project Budgets

**Third Floor Learning Community - 3700 SF Expansion**

Description	Quantity	Unit	Unit Price	Subtotal
Demolition	5,800	gsf	\$ 50	\$ 290,000
Third Floor Renovation	5,800	gsf	\$ 300	\$ 1,740,000
New Addition - Third Level	3700	nsf	\$ 425	\$ 1,572,500
New Roof Deck	700	gsf	\$ 150	\$ 105,000
Furniture Allowance	10200	nsf	\$ 20	\$ 204,000
Ed Tech Budget	10,200	nsf	\$ 10	\$ 102,000
Subtotal				\$ 4,013,500
Design Contingency	15%			\$ 602,025
Subtotal				\$ 4,615,525
Construction Contingency	10%			\$ 461,553
Construction Subtotal				\$ 5,077,078
Project Costs	18%			\$ 913,874
Project Total				\$ 5,990,951
			Round To	<b>\$ 6,000,000</b>

**Meadow Avenue Entrance Addition**

Description	Quantity	Unit	Unit Price	Subtotal
Demolition	400	gsf	\$ 50	\$ 20,000
Site Development Allowance	1	allowance	\$ 75,000	\$ 75,000
Storm/Sewer Manhole Allowance	1	allowance	\$ 50,000	\$ 50,000
New Lobby Addition	1300	gsf	\$ 475	\$ 617,500
New Canopy	1100	gsf	\$ 175	\$ 192,500
Furniture Allowance	1	allowance	\$ 25,000	\$ 25,000
Subtotal				\$ 980,000
Design Contingency	15%			\$ 147,000
Subtotal				\$ 1,127,000
Construction Contingency	10%			\$ 112,700
Construction Subtotal				\$ 1,239,700
Project Costs	18%			\$ 223,146
Project Total				\$ 1,462,846
			Round To	<b>\$ 1,460,000</b>

Bronxville Union Free School District  
Five Year Capital Plan  
Proposed Addition/Alteration Project Budgets

**Cafeteria Atrium Addition**

Description	Quantity	Unit	Unit Price	Subtotal
Demolition	1100	gsf	\$ 50	\$ 55,000
Site Development Allowance	1	allowance	\$ 150,000	\$ 150,000
New Atrium Addition	3000	gsf	\$ 475	\$ 1,425,000
Servery Renovation	400	gsf	\$ 300	\$ 120,000
Allow for Relocating Mech. Equip.	1	allowance	\$ 50,000	\$ 50,000
Fire Protection - Extend Piping	1	allowance	\$ 50,000	\$ 50,000
Fire Protection - Entry & Atrium	8000	nsf	\$ 25	\$ 200,000
Furniture & Equipment Allowance	1	allowance	\$ 150,000	\$ 150,000
Subtotal				\$ 2,200,000
Design Contingency	15%			\$ 330,000
Subtotal				\$ 2,530,000
Construction Contingency	10%			\$ 253,000
Construction Subtotal				\$ 2,783,000
Project Costs	18%			\$ 500,940
Project Total				\$ 3,283,940
			Round To	<b>\$ 3,280,000</b>

**Health Suite & Classroom Renovations**

Description	Quantity	Unit	Unit Price	Subtotal
Demolition	2900	gsf	\$ 50	\$ 145,000
Renovate for Health Suite	800	nsf	\$ 225	\$ 180,000
Renovate for Faculty/Resource	650	nsf	\$ 225	\$ 146,250
Restore Classrooms	1400	nsf	\$ 225	\$ 315,000
Furniture & Equipment Allowance	1	allowance	\$ 100,000	\$ 100,000
Subtotal				\$ 886,250
Design Contingency	15%			\$ 132,938
Subtotal				\$ 1,019,188
Construction Contingency	10%			\$ 101,919
Construction Subtotal				\$ 1,121,106
Project Costs	18%			\$ 201,799
Project Total				\$ 1,322,905
			Round To	<b>\$ 1,320,000</b>

Bronxville Union Free School District  
 Five Year Capital Plan  
 Proposed Addition/Alteration Project Budgets

**Fourth Floor Resource Community Renovations**

Description	Quantity	Unit	Unit Price	Subtotal
Demolition	3,000	gsf	\$ 50	\$ 150,000
Renovate for Resource Community	3,000	nsf	\$ 300	\$ 900,000
New Skylights	2	each	\$ 15,000	\$ 30,000
Furniture Allowance	3000	nsf	\$ 20	\$ 60,000
Ed Tech	3000	nsf	\$ 10	\$ 30,000
Subtotal				\$ 1,170,000
Design Contingency	15%			\$ 175,500
Subtotal				\$ 1,345,500
Construction Contingency	10%			\$ 134,550
Construction Subtotal				\$ 1,480,050
Project Costs	18%			\$ 266,409
Project Total				\$ 1,746,459
			Round To	<b>\$ 1,750,000</b>

**Fourth Floor Classroom 404 Renovation**

Description	Quantity	Unit	Unit Price	Subtotal
Demolition	700	gsf	\$ 50	\$ 35,000
Renovate for Elementary Shared Use	700	nsf	\$ 300	\$ 210,000
Furniture Allowance	1	allowance	\$ 30,000	\$ 30,000
Subtotal				\$ 275,000
Design Contingency	15%			\$ 41,250
Subtotal				\$ 316,250
Construction Contingency	10%			\$ 31,625
Construction Subtotal				\$ 347,875
Project Costs	18%			\$ 62,618
Project Total				\$ 410,493
			Round To	<b>\$ 410,000</b>

Bronxville Union Free School District  
Five Year Capital Plan  
Proposed Addition/Alteration Project Budgets

**Renovate Gwynn Hall**

Description	Quantity	Unit	Unit Price	Subtotal
Demolition	2,000	nsf	\$ 50	\$ 100,000
Restore as a Gathering Space	2,000	nsf	\$ 300	\$ 600,000
Lighting & AV Allowance	1	allowance	\$ 150,000	\$ 150,000
Furniture Allowance	1	allowance	\$ 75,000	\$ 75,000
Subtotal				\$ 925,000
Design Contingency	15%			\$ 138,750
Subtotal				\$ 1,063,750
Construction Contingency	10%			\$ 106,375
Construction Subtotal				\$ 1,170,125
Project Costs	18%			\$ 210,623
Project Total				\$ 1,380,748
			Round To	<b>\$ 1,380,000</b>

**Pondfield Innovation Center Addition / Alteration**

Description	Quantity	Unit	Unit Price	Subtotal
Demolition - First Floor	2,500	gsf	\$ 50	\$ 125,000
Demolition - Second Floor	2,100	gsf	\$ 50	\$ 105,000
Renovation - First Floor	2,500	gsf	\$ 225	\$ 562,500
Renovation - Second Floor	2,100	gsf	\$ 225	\$ 472,500
Site Development	1	allowance	\$ 150,000	\$ 150,000
Stair Construction - 2 levels	1,800	gsf	\$ 475	\$ 855,000
New Addition - Basement	3,500	gsf	\$ 475	\$ 1,662,500
New Addition - Second Level	3,200	gsf	\$ 475	\$ 1,520,000
Furniture Allowance	1	allowance	\$ 200,000	\$ 200,000
Subtotal				\$ 5,652,500
Design Contingency	15%			\$ 847,875
Subtotal				\$ 6,500,375
Construction Contingency	10%			\$ 650,038
Construction Subtotal				\$ 7,150,413
Project Costs	18%			\$ 1,287,074
Project Total				\$ 8,437,487
			Round To	<b>\$ 8,440,000</b>

Bronxville Union Free School District  
Five Year Capital Plan  
Proposed Addition/Alteration Project Budgets

**Art Studio Renovation**

Description	Quantity	Unit	Unit Price	Subtotal
General Construction	1,700	gsf	\$ 200	\$ 340,000
Plumbing	1	allowance	\$ 6,000	\$ 6,000
Casework & Furnishings				\$ -
4' deep storage wall	26	lf	\$ 1,800	\$ 46,800
counter, upper & lower cabinets	17	lf	\$ 600	\$ 10,200
2' deep storage wall w/glass doors	8	lf	\$ 1,000	\$ 8,000
2' deep storage wall	8	lf	\$ 875	\$ 7,000
laptop storage/print stations	2	each	\$ 2,000	\$ 4,000
Art Studio Furnishings	1,700	gsf	\$ 20	\$ 34,000
Educational Technology Budget	1	allowance	\$ 5,000	\$ 5,000
Subtotal				\$ 461,000
Design Contingency	15%			\$ 69,150
Subtotal				\$ 530,150
Construction Contingency	10%			\$ 53,015
Construction Subtotal				\$ 583,165
Project Costs	18%			\$ 104,970
Project Total				\$ 688,135
			Round To	<b>\$ 690,000</b>

**Chambers Track Restoration & Field Replacement**

Description	Quantity	Unit	Unit Price	Subtotal
Track Resurfacing	1	lump sum	\$ 315,000	\$ 315,000
Chambers Turf Field Replacement	97,000	sf	\$ 8.50	\$ 824,500
Fence Replacement	900	lf	\$ 60	\$ 54,000
Christmas Tree Field - Grass to Turf	12,150	sf	\$ 10.00	\$ 121,500
Maintenance Building	1,500	sf	\$ 350	\$ 525,000
Landscaping	1	allowance	\$ 30,000	\$ 30,000
Subtotal				\$ 1,870,000
Design Contingency	15%			\$ 280,500
Subtotal				\$ 2,150,500
Construction Contingency	10%			\$ 215,050
Construction Subtotal				\$ 2,365,550
Project Costs	18%			\$ 425,799
Project Total				\$ 2,791,349
			Round To	<b>\$ 2,790,000</b>

# Bronxville Union Free School District

## Five Year Capital Plan Infrastructure Work Items

Location	Cat.	Description	Direct Cost	Total Cost	Priority	Project	Year
Sitework	42	Drainage at areaway adj. to Auditorium	\$ 20,000.00	\$30,886	3	0	2017
Sitework	53	Curb repair - Replace existing with new granite curbs	\$ 50,700.00	\$78,296	3	0	2017
Sitework	53	Repave asphalt driveways	\$ 60,000.00	\$92,659	3	0	2017
Sitework	54	Concrete sidewalks	\$ 36,840.00	\$56,892	3	0	2017
Sitework	54	Replace asphalt sidewalks	\$ 35,000.00	\$54,051	3	0	2017
Athletic Fields	56	Repair roofs at maintenance sheds adj. to track	\$ 22,750.00	\$35,133	3	0	2017
Sitework	65	Repair to masonry retaining walls	\$ 45,600.00	\$70,420	3	0	2017
Sitework	65	Exterior railings	\$ 27,000.00	\$41,696	3	0	2017
Sitework	65	Repair to wood retaining walls adj. to Auditorium	\$ 26,400.00	\$40,770	3	0	2017
Sitework	65	Repair to wood retaining walls adj. to Track	\$ 9,600.00	\$14,825	3	0	2017
Sitework	65	Replace existing fencing between track and neighbors	\$ 28,125.00	\$43,434	3	0	2017
Sitework	65	Repairs to masonry stairs and landings (not incl. front entrance)	\$ 4,800.00	\$7,413	3	0	2017
Flooring	73	Replace walk-off mat at atrium	\$ 6,000.00	\$9,266	3	0	2017
Ceiling	75	Select replacement of ACT ceiling tiles	\$ 16,660.00	\$25,728	3	0	2017
D-Wing Ceiling	75	Repair ceilings at North and South Playrooms	\$ 33,600.00	\$51,889	3	0	2017
Doors - Int	77	Replace interior doors	\$ 81,900.00	\$126,479	3	0	2017
Doors - Int	77	Replace hardware incl. stairway doors	\$ 31,000.00	\$47,874	3	0	2017
Stairs	78	Repair stair treads / risers - D wing and misc locations	\$ 25,000.00	\$38,608	3	0	2017
Exterior Bldg	61	Repair lintels at delivery courtyard and low at grade A & B wings	\$ 38,000.00	\$61,031	3	1	2018
Exterior Bldg	61	Repair concrete/masonry along base of bldg at east side	\$ 8,000.00	\$12,849	3	1	2018
Exterior Bldg	61	Selective brick repointing / masonry repair	\$ 17,000.00	\$27,303	3	1	2018
Exterior Bldg	62	Repair masonry at chimney	\$ 25,000.00	\$40,152	2	1	2018
Exterior Bldg	63	Parapet repair above library and 4th floor D-Wing	\$ 8,500.00	\$13,652	3	1	2018
Doors - Ext	64	Replace exterior doors	\$ 40,000.00	\$64,243	3	1	2018
Roof	68	Roof Repairs and Replacements per Roof Report	\$ 637,100.00	\$1,023,234	2	1	2018
Roof	68	Roof Related Ancillary Repairs, Masonry, Grating, Parapets, etc.	\$ 160,000.00	\$256,973	2	1	2018
Exterior Bldg	61	Masonry repairs at main entrance	\$ 113,750.00	\$182,692	4	2	2018
Sitework	65	Restoration of front entry ramp, stairs, and landing area	\$ 375,000.00	\$602,280	3	2	2018
Windows	67	Replace exterior windows	\$ 37,200.00	\$59,746	3	2	2018

# Bronxville Union Free School District

## Five Year Capital Plan Infrastructure Work Items

Location	Cat.	Description	Direct Cost	Total Cost	Priority	Project	Year
Glazing	70	Replace non safety and/or wireglass glazing at corridors	\$ 60,000.00	\$96,365	2	3	2018
Third Floor	70	Renovate Corridor outside Auditorium Balcony - Wall, Floor, Ceiling	\$ 62,500.00	\$100,380	3	3	2018
Flooring	72	Repair / replace VCT	\$ 120,200.00	\$193,051	3	3	2018
Flooring	72	Replace 9x9 VAT flooring with new VCT	\$ 14,080.00	\$22,614	3	3	2018
2nd floor A-B	73	Entry Area Terrazzo - rotunda and corridors at A & B wings	\$ 176,000.00	\$282,670	3	3	2018
Ceiling	75	Replace 1x1 ceiling tiles with ACT	\$ 10,500.00	\$16,864	3	3	2018
HS and ES	80	Replace Antiquated panelboards in various areas of building, relocate existing panelboards located on stairs and front of stair railing	\$ 135,000.00	\$216,821	3	3	2018
HS and ES	81	Provide Occupancy Sensors in some classrooms and storage area.	\$ 30,000.00	\$48,182	3	3	2018
ALL Areas	82	Provide Synchronized Wireless Clocks	\$ 75,000.00	\$120,456	3	3	2018
B & D Connector	91	Provide Powered Ventilation with AC	\$ 220,000.00	\$353,338	2	3	2018
Exterior Storefront	67	Replace Storefront at D-Wing + Related HVAC & Casework	\$ 934,200.00	\$1,500,401	3	4	2018
Toilet Rooms	87	Replace D-wing Toilet Rooms - 6 locations ( 2 single, 4 multi)	\$ 150,000.00	\$240,912	3	4	2018
Landscape Zone 1	54	Pondfield Road Improvements	\$ 650,000.00	\$1,043,953	4	5	2018
Landscape Zone 2	54	Midland Service/Drop-off Area	\$ 235,000.00	\$377,429	4	5	2018
Landscape Zone 3	54	Athletic Field Landscaping / Plaza	\$ 190,000.00	\$305,155	4	6	2018
Landscape Zone 4	54	Meadow Avenue Redevelopment	\$ 700,000.00	\$1,124,257	4	6	2018
Renovation	55	Elementary School Playground Replacement	\$ 250,000.00	\$401,520	4	7	2018
Sitework	56	Chambers & Christmas Tree Field Replacement	\$ 1,400,000.00	\$2,248,513	4	7	2018
Toilet Rooms	70	Fully renovate Toilet Rooms - 9 locations (9 single)	\$ 160,000.00	\$277,942	3	8	2020
4th and 5th Floors	75	Replace balance of ACM Plaster ceilings with GWB	\$ 158,400.00	\$275,163	3	8	2020
4th fl. Center	91	Provide Powered Ventilation with AC	\$ 275,000.00	\$477,713	3	8	2020
5th fl. Center	91	Provide Powered Ventilation with AC	\$ 200,000.00	\$347,427	3	8	2020
Second Floor A&B	92	Replace UV's with Energy Recovery Units	\$ 360,000.00	\$625,369	3	8	2020
3rd fl. A	92	Replace UV's with Energy Recovery Units	\$ 200,000.00	\$347,427	3	8	2020
2nd fl. D	92	Replace UV's with Energy Recovery Units	\$ 480,000.00	\$833,826	3	8	2020
3rd fl. D	92	Replace UV's with Energy Recovery Units	\$ 375,000.00	\$651,426	3	8	2020
4th fl. D	92	Replace UV's with Energy Recovery Units	\$ 325,000.00	\$564,570	3	8	2020



# BRONXVILLE HIGH SCHOOL DISCOVERY REPORT

*Highlights*



## THE CHALLENGE

Fielding Nair International and the Bronxville High School community worked together from November 1-2 to explore the ways that pilot learning environments might bring the school more in line with its educational vision.



## *Discovery Visit Agenda*

- Parent, Teacher & Student Focus Groups
- Educational Visioning w/District Leadership
- Educational Best Practices and Research
- Site Walk
- Design Patterns Workshop



## *The Bronxville Promise*

- Innovate
- Lead
- Think Critically
- Engage the World



## Strategic Questions

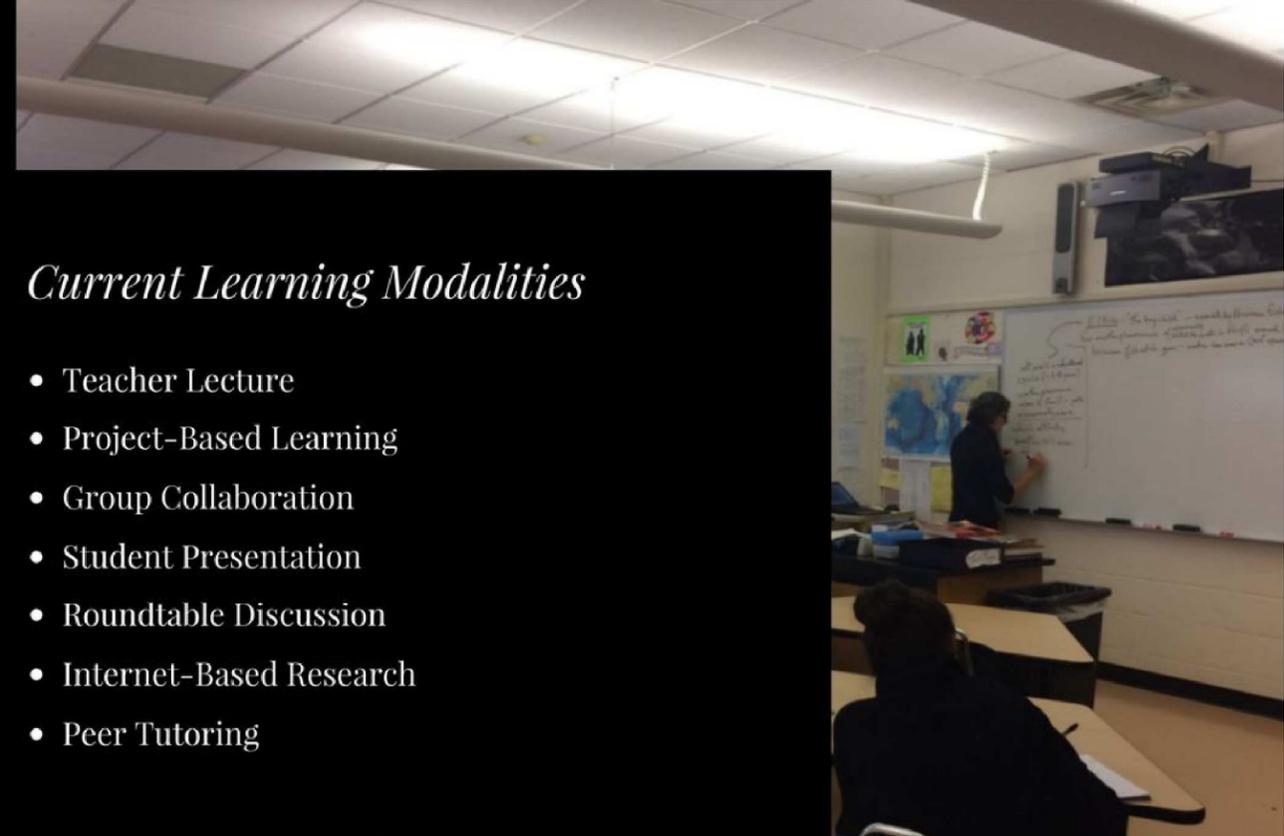
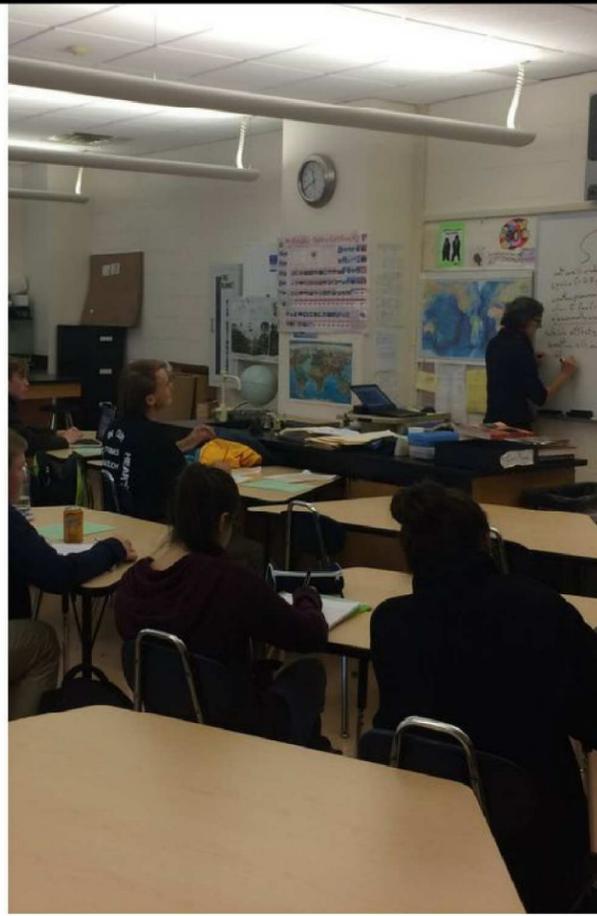
- How can we inspire all students to develop dispositions for innovation, leadership, critical thinking, and engaged citizenship?
- How can we ensure that the physical facilities are up-to-date and support innovation, leadership, critical thinking and engaged citizenship?



CAMPUS TOUR

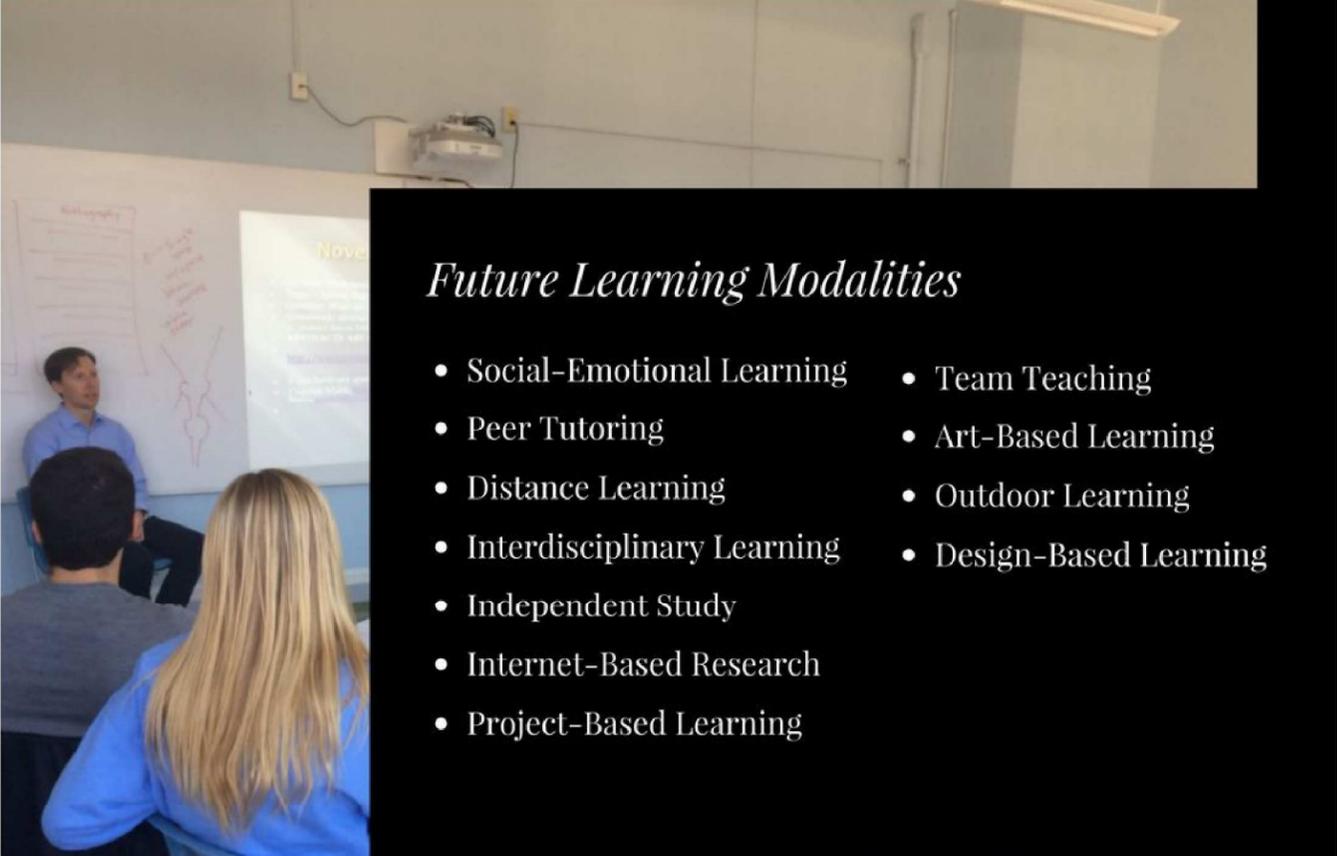
## CHALLENGES

- Lack of storage
- Inflexible furnishings
- Little natural light
- Very little relationship between the indoor and outdoor spaces in the school
- School is configured in subject area silos
- Classrooms are where students spend most of their time, yet only a small number of learning modalities are possible in classrooms



## Current Learning Modalities

- Teacher Lecture
- Project-Based Learning
- Group Collaboration
- Student Presentation
- Roundtable Discussion
- Internet-Based Research
- Peer Tutoring



## Future Learning Modalities

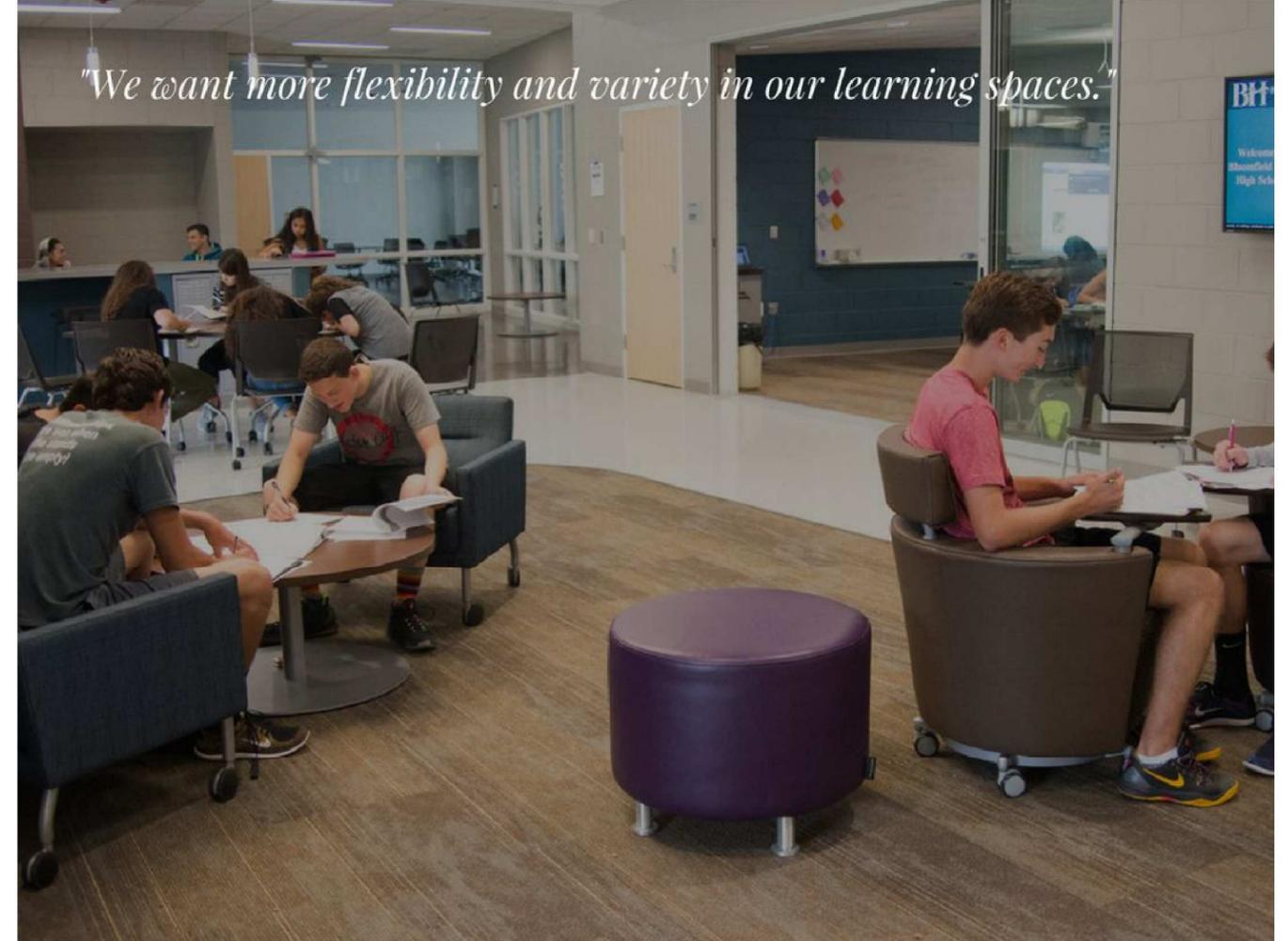
- Social-Emotional Learning
- Peer Tutoring
- Distance Learning
- Interdisciplinary Learning
- Independent Study
- Internet-Based Research
- Project-Based Learning
- Team Teaching
- Art-Based Learning
- Outdoor Learning
- Design-Based Learning



*"We need a way to break down silos and collaborate more seamlessly."*



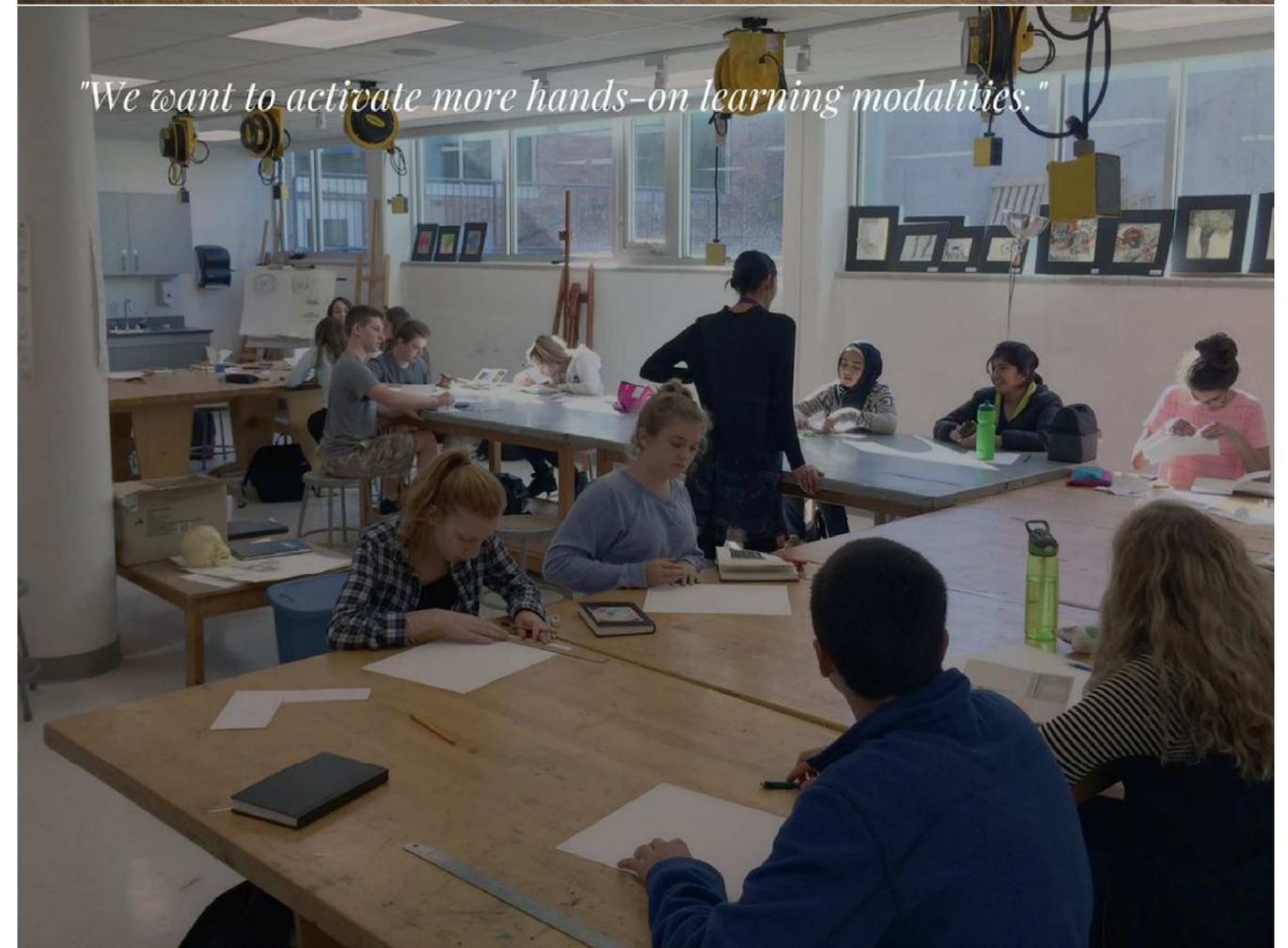
*"We want more flexibility and variety in our learning spaces."*



*"We need more access to natural light."*

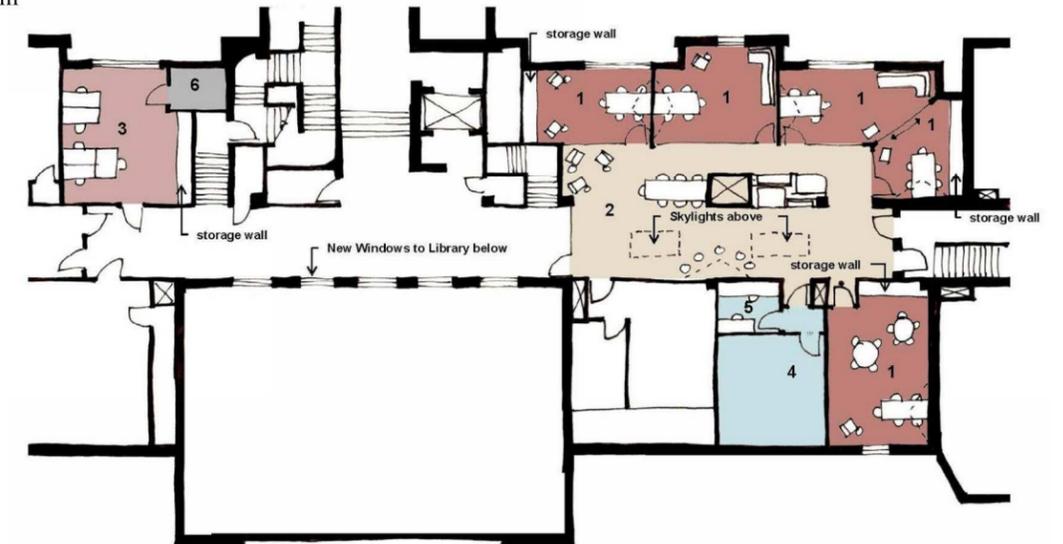


*"We want to activate more hands-on learning modalities."*



4th FLOOR  
**RESOURCE COMMUNITY**

- 1 Resource Group Room
- 2 Resource Commons
- 3 Teacher Collaborative Workroom
- 4 TV Studio
- 5 TV Control Room
- 6 Storage Room



**BRONXVILLE  
 HIGH SCHOOL  
 PROJECT AREAS**

*Schematic Design*

4th FLOOR  
**RESOURCE COMMUNITY**

**LIKES**

- Variety of seating options
- Small group learning
- Individual learning

**WISHES**

- More natural light
- Updated furnishings and technology
- Variety of options for independent study
- More focussed small group spaces for peer to peer learning



3rd FLOOR  
**LEARNING COMMUNITY**

- Space for interdisciplinary learning
- Team teaching and space for teacher collaboration
- Project-based learning spaces
- Innovative technology
- More variety in space and furnishings to support varied learning modalities



### 3rd FLOOR LEARNING COMMUNITY



### 3rd FLOOR LEARNING COMMUNITY

OPTION 2

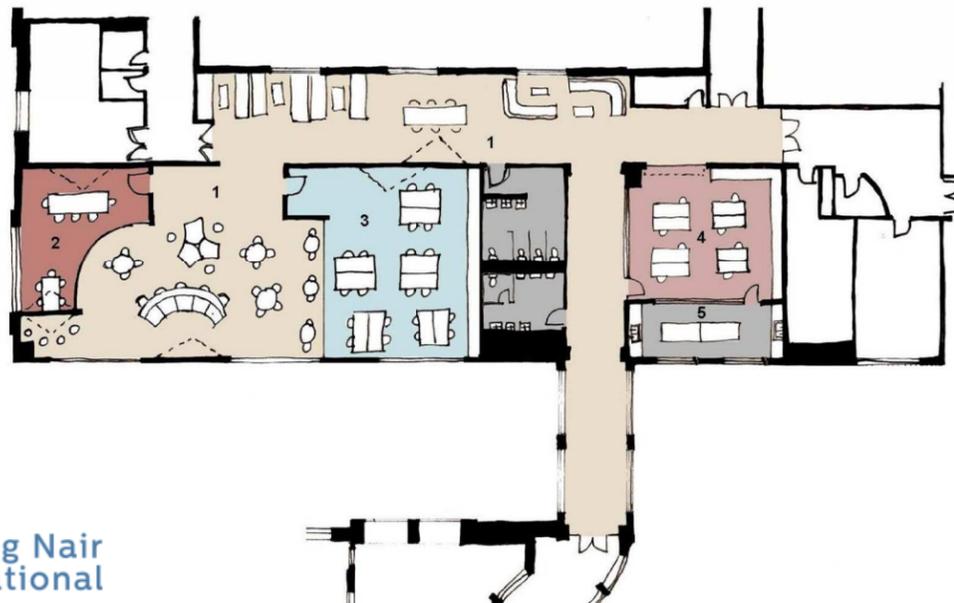
- 1 Learning Commons
- 2 Small Group Room
- 3 Learning Studio
- 4 Research Room
- 5 Prep. Room
- 6 Project Deck



### 3rd FLOOR LEARNING COMMUNITY

OPTION 1

- 1 Learning Commons
- 2 Seminar Room
- 3 Learning Studio
- 4 Research Room
- 5 Prep. Room



### 3rd FLOOR LEARNING COMMUNITY

OPTION 3

- 1 Learning Commons
- 2 Small Group Room
- 3 Learning Studio
- 4 Research Room
- 5 Prep. Room
- 6 Project Deck
- 7 Teacher Collab. Workroom





## Bronxville Union Free School District

### Five Year Capital Plan

#### Capital Project History

Year	Project	Construction Value
2016-17	Library Renovation	\$ 712,000
2016-17	HS Field Reconfiguration	\$ 1,266,000
2014-16	Auditorium + Science Rooms A&A	\$ 7,018,645
2013	Ceiling Repair	\$ 837,175
2013	Attic Abatement	\$ 125,940
2011	Flood Recovery - Gym Flooring	\$ 200,104
2011	Abatement and Flooring	\$ 67,786
2009-10	Toilet Room Renovations	\$ 344,600
2009-11	New Boiler Room	\$ 3,674,881
2008-09	Flood Recovery Projects	\$ 10,652,076
2008	Roof Replacement	\$ 714,273
2008	Rotunda	\$ 304,742
2006	Fire Alarm Upgrades	\$ 220,807
	Total Costs	\$ 26,139,028
	Annual Costs - 2006 - 2016	\$ 2,613,903