

EDUCATIONAL SPECIFICATIONS



EXTENSION / ALTERATION
Ponus Ridge Magnet School
21 Hunter Lane, Norwalk, Connecticut
June 7, 2017

Project Overview:

The 10-year facility, demographic, and utilization study for Norwalk Public Schools (NPS) has confirmed a growing student population in the City of Norwalk. The study, which took two years to complete, included the October 1, 2015 and October 1, 2016 actual enrollment numbers, which documents and confirms the high growth scenario projected in the base study. This rate of student growth has effectively been ongoing since 2010. It is currently evidenced by overcrowding in numerous schools, the necessity to utilize substandard educational spaces, and the 15 portable classrooms deployed in the district.

The study revealed that the NPS student per square foot formula is, in fact, 106% of the State's average of 75%.¹ This overcrowding was then further confirmed in the detailed space analysis for each school based on the per seat classroom model. The study also revealed that NPS buildings are 20% smaller than the state average for school size and 10 years older than the state average (refer to the 2013 comprehensive State data). The student population growth and overcrowding in the small, aging schools limits the options available to address the district's future educational needs.

The focus on student population growth was studied based on numerous demographic methods to effectively identify where and how the growth was occurring. The City and County residential building "boom" initially appeared to be the driving factor for the Norwalk school district's population increase. However, the study revealed that the existing City's housing, both public and private, provides ample lower income residency and in-migration, and that the student population growth was concentrated in existing housing and not in new construction. The growth is concentrated along the I-95 corridor.

Norwalk's growth also coincides with national trends.² NPS is now a minority student population district composed of 69% minority students.

Once the growth basis was established, the need to expand the district led to an extensive study of available schools and school sites that would accommodate this growth. Of the million square feet and 240 total acres that make up Norwalk's elementary and middle schools, Ponus Ridge M.S. was identified as the ideal school and site for expansion. The largest of four middle schools at 104,350 sf, Ponus Ridge's location on 41 acres led to its selection as the first and most ideal school for expansion and alteration.

¹ Using the OSCGR Space Standards template for the 16 Elementary school and 4 Middle Schools and compare this to the Report on the Conditions of CT's Public School Facilities 2013, see study.

² UCLA Civil Rights Project, Brown at 62: School Segregation by Race, Poverty and State, May 16, 2016.

Norwalk's other 16 school sites average 12.5 acres and are already fully utilized, and also feature small school facility sizes, many of which are over-utilized. This led to the conclusion that Ponus Ridge M.S. is an anomaly in the district, and that a new site would need to be located. Therefore, the City and Norwalk Board of Education (BOE) determined that a new school, the first in over four decades, was needed to meet the educational needs of the district.

I. RATIONALE FOR THE PROJECT

The Ponus Ridge Middle School was identified as the prime (and only practical) existing school site for the creation of a new PreK to 8th grade "Choice or Intra District Magnet" school. While numerous factors lead to this conclusion, the key factors are location, roughly at the center of the entire district, the most overcrowded Middle School, and the size of the site. The City-owned 41-acre property was developed for a school in 1957 and is as the name implies, on a ridge elevated above the surrounding neighborhoods. The one and two story school building is set back from the entry road, Hunter's Lane by over 700 feet. This setback location and size of the site allows ample space for increasing the driveways for busses, vehicles, recreation, and as well as addition(s) to the school.

The original school building is 104,400 square feet and included limited improved in the 1990s for an approximate budget of \$900,000 and then a "significant" alteration project in 2005 for \$7,610,000. This occupied middle school is an ideal and cost effective selection for a school alteration and expansion project, and is in very serviceable condition given the now 60-year-old facility.

The economic study of the Ponus Ridge school project site includes several considerations for additional costs to be included in the project cost. First, assumed rock removal, typical of a ridge; second, storm water and wetland improvements to accommodate additional impervious surfaces (additions and drives); third, converting a walkway to a gated drive for safety, and finally some limited off-site improvements, such as a turn lane or sight lines. The total additional site costs are minimal when compared to any other school site or potential site in the City near this location and of course there is no property acquisition costs for an occupied school.

Simultaneously and included in the study, as part of the district's Strategic Operating Plan, the BOE and NPS determined that the pathway to racial balance in the schools would be to create a choice of neighborhood and intra-district magnet schools. This districtwide model will effectively deliver diversity. Educational pathways at Norwalk's two high schools already include the accredited International Baccalaureate (IB) diploma program at Brien McMahon HS, and a

STEM-based program in Norwalk Early College Academy (NECA) at Norwalk High, the State's first early college program. These pedagogues are most effective in a Pre-K to 12 section model. Because the high schools have these established programs already in place, the BOE elected to create new Pre-K to 8th grade schools. The new Pre-K to 8th grade schools will start at two school locations: the new South Norwalk School at Ely and the expanded Ponus Ridge Middle School. NPS is continuing this educational pathway and alignment of the pedagogy across the district. Once these first two schools are in place, the model will begin to function and allow families more choice.

The choice program is one of attraction. Parents may choose to apply to a number of intra-district themed schools. This flexibility will allow the district to operate all schools within State Board of Education racial balance guidelines.

This approach will accomplish three essential goals, adding 900 new seats districtwide, creating choice in the district, and effectively serving the education of the student population.

The education program is the key factor for the selection of these two sites and the proposed Pre-K to 8th grade model. The additions to the Ponus Ridge Magnet School could be immediately occupied by the existing (severely overcrowded) Jefferson Elementary School and/or used as swing space for the current middle school while the existing school is altered and reconfigured (renovated). The current 5.3-acre Jefferson site is not effectively large enough to support the growth and expansion of this educational model and currently has 10 portable classrooms in use on the site. The master plan and enrollment projections call for the Jefferson school to move into the new Ponus Ridge Magnet School. Once the Ponus Ridge Magnet School is complete and occupied, the Jefferson E.S. may be emptied. In the future, the Jefferson E.S. could then be renovated as an unoccupied school and then re-occupied to serve the same underserved neighborhood as well as the growing student population as a PreK to 5th grade school again.

Therefore, these Educational Specifications are written around a Specialized Educational program for intra-district choice. The pedagogy is based on a specialized STEM (Science, Technology, Engineering & Math) program and will be Norwalk's first STEM school. This core educational focus should be the basis for the school, the classrooms, and all the support spaces. The classrooms should offer the flexibility to gather grades together and breakout into smaller team learning environments with learning spaces across the entire facility and school environment. The specialized STEM environment is best focused or "themed" such as Maritime and Environmental, and should be a LEED project or a "green school". Ultimately this focus will lead to the specialized design of the spaces, starting from within the classroom to the entire school and the site environments.

The existing middle school was built with a fully functional auditorium, media center, gym and auxiliary gym and these spaces will serve the educational programs well, and the integration of the STEM focus, as each of these spaces are altered. The Auditorium can serve to gather lower and upper school grades as a cohesive educational community. Existing music and choral performance spaces are integrated into the STEM environment as well. The addition and expansion of labs for physical and biological science and engineering enable the school's experiential focus and "hands-on" learning environment. Beginning with STEM program goals in mind, the alterations, additions and improvements will result in a technology rich, cohesive educational environment with the capacity to teach science, engineering and math in an integrated fashion.

II. LONG-RANGE EDUCATIONAL PLAN

Constructing a new Ponus Ridge Magnet School will enable the district to achieve many long-range plans: (in no specific order)

- Expand a school campus with a new total of 1,056-student capacity
- Eliminate the two portable classrooms at Ponus and the 12 portables at Jefferson E.S.
- Eliminate overcrowding and accommodate some of the growth over the next 10 years.
- "Right size" the neighborhood schools, and "reconnect" the school to the community, including the use of the community spaces after school.
- Expand the science program into an enhanced, themed STEM school model, now adding the PreK through 5th grade into this pedagogy.
- Allow for movement, ample physical education with age appropriate environments.
- Improve the educational spaces with access to daylight, technology in enclosed classrooms, media, and smaller classroom settings.
- Improve and continue to incorporate the core secondary instructional spaces: art, music, life and social skills in the STEM educational model.
- Create a new educational media center / learning commons to support and enhance the STEM programs.
- Update heating, and cooling central systems to improve indoor air quality and allow the school to function year-round.
- Update electrical systems and infrastructure to allow for technology in all instructional spaces as well as wireless access.
- Provide a new roof structure for long term (20-year minimum) weather tight envelope as well the potential for roof top garden, PV, wind and other energy conservation measures.
- Ensure a safe, secure and inviting school environment, meeting all the SSIC recommendations.
- Allow for some space all staff and educators to meet and collaborate across STEM disciplines

III. LEARNING / EDUCATIONAL ACTIVITIES

The current Ponus Ridge Middle School will be renovated and expanded to become a new Pre-K to 8th grade STEM school. STEM education is generally defined as an interdisciplinary approach to learning where academic concepts are coupled with real-world lessons teaching students to apply science, engineering, and mathematics in a technology rich environment. State and national evidence demonstrating a growing future need for STEM careers, and that STEM literacy will serve all educational pathways in the future. As a result, the Norwalk BOE is expanding the model in NPS and as a primary focus of interdisciplinary STEM curriculum at the new Ponus Ridge (intra district) Magnet School.

The educational models at NPS and Ponus are changing, first by the creation of three “houses” or small learning communities at the current Ponus MS, and second by the expansion of the Teach To One personalized math program at Nathan Hale MS. The highly successful Teach to One Math lab will be designed into the new school at Ponus in place of math classrooms. By aligning with a STEM curriculum, it is expected that many of the students attending the current Jefferson ES, as well as the first set of neighborhood and magnet students, will occupy the Ponus Ridge K-8 Magnet school. These system-wide changes and alignment will then be in place to serve the future educational needs of Norwalk students.

The core Ed Specs team has selected the Charles H Barrows Magnet school in Windham as a model school to benchmark and use as an example of K-8 STEM education. For numerous reasons, Barrows embodies many of the desired criteria for K-8 STEM education. A study of the specific curriculum, meetings, tours, and review of the facility, including a review of the Barrows interdisciplinary units of study, reveals a fully functional STEM program across the PreK to 8th grades and a ready educational model for emulation and adaptation to both the existing renovated school and the new construction.

A review of the activities needed for STEM education as it applies to this school reveal that Lab spaces need to be age appropriate, integrated into each unit of study, and will include Oceanography and all sciences. Oceanography is most effective with a saltwater aquarium tank/environment in operation 24/7. This lab will be designed around the aquarium and aquatic study and the space and technology to support this environment (generators, etc.). From there, a mix of semi-traditional lab classrooms (no gas, limited chemical storage, and no laminar flow hoods are needed) with high bench tables with sinks and acid waste, can be combined with several new science labs. These new labs will have high moveable tables (benches) in a lab with perimeter counters with several sinks and storage for microscopes, devices, and technology based equipment. There will be two new engineering labs capable of supporting benches for work on Cisco routers, electronic components, 3-D printing, modeling components, assembly, and robotics. The lower grades will be served by a “Lego Lab” which ranges from the simple blocks to the mechanized robots, vehicles etc., and will need storage and age

appropriate furniture. Ultimately, the design of the lab spaces should allow for flexibility and adaptability to serve numerous STEM programs designed for each unit of study.

The Learning Commons (formerly library or media center) will be led by a media curator, with the goal of engaging, interactive, collaborative, and dynamic personal learning available to staff and students. The commons are analogs to the school “village green” where the school will showcase high quality teaching and learning. This dynamic hub will serve the school and will also foster new ideas, experimentation in teaching and technology before benefiting and rolling out to the entire school. The space will have limited book shelves on wheels, flexible division of space, tables, and chairs, including relaxing seats, in a space capable of supporting and allowing for numerous activities, from green screen production, to research for up to 2 to 3 classrooms.

A clinic and nursing services will be integrated into a School Based Health Center currently transitioning across the NPS. This school model seeks to break down barriers by integrating mental health professionals and to serve the total health of the students. Activities include exams, vaccines, daily care and health maintenance, screening, counseling, and health education. A simple health center suite with reception, social worker, and nurse’s office and an exam room a unisex toilet room will ensure privacy at all levels.

The kitchen and cafeteria experience is changing across the NPS. A recent food service study suggests a systematic change to the food service for the entire approximately 12,600 students served daily. The new kitchen should be designed for preparing and serving from scratch meals with more fresh and local foods, eliminating frozen, and prepackaged meals. While the central kitchen and or middle school based model has not been determined, this along with the food service provider, a district chef and inclusion of salad bars which will ultimately result in whole sale changes. The new kitchen design will require the entire existing kitchen to be demolished, and a new kitchen design implemented to serve the nutritional needs of the 1,000 plus students.

The cafeteria experience is changing radically too. The lunch experience is by far one of the greatest stressor in the school system, from timing, noise, allergies, dietary choices, and inclusion, it is clear the entire lunch experience needs to change from the current “prison/military” style to a family/community dining experience. Pre-K and K grades may eat in their classrooms, and this trend works well with the educational model, however the upper grades should be paired together; 1-2; 3-4; 5-6; 7-8 and seated in round tables with pivot seats set in groupings to enhance the social dining experience. Including an adjacent teacher/staff dining area will connect the dining experience as one educational community.

The educational environment will be an inviting, inspirational, open, secure, 21st century learning environment for PreK to 8th grade students designed to support and enhance a state-

of-the-art STEM education. Completely overhauling the existing building and rebuilding the site entry drives with additional space and site circulation to transform the current middle school into a school that attracts student district wide. Large, open and flexible classrooms, with enough storage, access to natural light and the ability to control daylight and lighting are key concepts. The overall school should be secure and promote wellbeing, meeting teachers' needs for workspace and students' need for inspirational educational environment that will result in both students and staff looking forward to each day in the new school.

IV. ENROLLMENT DATA AND PROPOSED PROJECT CAPACITY

The Ponus Ridge Magnet School is envisioned with a preference for students attending from the immediate adjacent neighborhood, aka attendance zone, as well as the Jefferson ES neighborhood. To meet racial balance requirements, the balance of students would be drawn from an intra-district magnet component consisting of students from across Norwalk. The school is intended to operate as a three section per grade model, in the lower school (K-5) and three houses in the upper school (6-8), serving a target population of approximately 1050 students.

The Lower School would operate as a three-section-per-grade model, serving approximately 450 students drawn from both the existing Jefferson attendance zone (lottery preference) and the district at large via an intra-district magnet component. The Upper School would operate as a nine-section-per-grade, 600 student program extending the STEM programming of the Lower School, with lottery preference to students in the Lower School, Kendall, Jefferson, and Fox Run elementary schools.

Projected enrollments for the Ponus Ridge Magnet School are based on the guiding principle that each school admit as many students from their preference areas as possible, subject to the constraint of racial balance considerations and the school's target size. Students drawn from the preference area are projected to be demographically representative of the existing student population in that area, while students drawn from outside the preference area are projected to match the demographics of the Norwalk Public Schools.

The proposed population is based on the highest projected eight (8) year enrollment of 1,056 students in the 2018-2019 school year. This includes the addition of two new Pre-K classrooms (18 students in each) and continues through the 8th grade. The students are organized in three (3) sections progressing through the elementary and middle school educational path from early development to their advancement into high school.

Size of Facility and proposed project capacity

These specifications provide for a new school facility to serve 1,056 students based on the OSCG&R Space Standards. The proposed new school will therefore be no greater than the space standards or a total 140,659 square feet.

The two Pre-K classrooms with 18 students in each will now create the need for a more specialized school spaces as well as a parent drop off, where the child in a car seat is less mobile than traditional school age children. This parent drop-off is envisioned as a new separate loop from the balance of the bus and vehicular traffic. The inclusion of these 36 PreK students will begin the alignment of the educational pathway as well as identification of their individual educational needs.

Attached are the programming matrix and summary based on this population which includes all proposed spaces as defined by the educational needs of the staff, the District and the BOE.

Also attached is the Norwalk School Facility Utilization Plan, dated April 2017 prepared by Milone & MacBroom, which provides the enrollment projects for the Ponus Ridge Magnet School (and the New South Norwalk School at the Ely Site, aka “the new *Nathaniel Ely* School”) on pages 45 through 49.

V. DETAILED DESCRIPTION - BEFORE, DURING, AFTER AND SUPPLEMENTAL

The current Ponus Ridge Middle School is functioning with two portable classrooms and the auxiliary gym subdivided into two classrooms. This middle school is at or exceeds its capacity. Improvements begun in 2005 and completed in 2007 included new windows, numerous heating and ventilation systems, some split cooling systems, science room improvements and various code and accessible improvements. Each of these improvements will have to be evaluated on a standalone basis to determine the useful life expectancy of the improvement and for the suitability of integrating these components into the new STEM school.

The main entry is set back via an open court and covered canopy walk. The administration offices are remote from the entry location and allows visitors to enter directly into the school without direct access to administration. This entry location is central to the intersection of the two primary corridors, as well as the elevator (2007) to the second floor. The school was constructed with two primary corridors in a T-shaped layout crossing approximately at the main entry. The second floor is an L-shaped double loaded corridor aligned with this main central axial corridor network. Therefore, by reconfiguring the entire administration wing the main entry location can remain in the current location and be rebuilt to a secure main entry with secondary direct entry into the administration offices.

Most of the classrooms are adequate size, however approximately 1/4 of the total are 720 square feet, which is small by most standards. These classrooms should be reconfigured with the new STEM model in mind. The double loaded corridors result in windows along one classroom wall throughout the school. The flooring, ceilings, lighting, and most all of the finishes are in need of improvement or replacement throughout.

The site paving, exterior lighting and storm drainage are at the end of their useful life. A steeply graded walkway to the north of the site could be rebuilt to allow for secondary emergency access and to allow for secure, defined and well-lit neighborhood access to the north. The other site walkways may well lend to a design for their adaptation to environmental study, leading through the wooded site near the wetlands.

The cafeteria and kitchen need expansion and replacement. Both are too small and out of date to serve the current population, let alone an expanded population. Separating the cafeteria into a minimum of two sections will serve the ages and size of school. Current nutrition programs result in new kitchens and new approaches to the selection of menu options.

The auxiliary gym, currently partitioned into classrooms should be altered to allow for PreK to 5th grade athletic program. The new (auxiliary) gym and the current gym can then be renovated and provide larger interior open space to support many of the STEM programs, and events, such as generating electric power on stationary bikes and adaptive P.E. for students with special needs.

The recent 10-year master plan and feasibility study identified numerous capital needs throughout this school and across all disciplines, building systems, and site elements. These needs now take on a different “meaning” when incorporated into an expansion and alteration project. For instance, Norwalk’s 504/ADA coordinators plan and the new CT Building Code alter this aspect of capital needs to include the entire project, instead of only the primary route. The building is partially sprinklered with a standpipe at the stage, elevator machine room, and storage rooms and this takes on new meaning when viewed against an alteration project of this scale, suggesting sprinklers for the entire school and not just the addition and the current limited areas. While the boilers were replaced in 2007, the 60-year-old fin tube radiation was not in many locations and is at the end of its useful life. The various heating and ventilation units as well as some of split cooling roof top units will need to be subject of detailed design investigation once the altered floor plan reaches the schematic phase to determine the most cost effective approach to HVAC.

Once the Jefferson Elementary School moves into the new Ponus Ridge Magnet as swing space, the existing Jefferson ES school will be “renovated as new,” the ten portable classrooms removed and school “right sized” as a neighborhood PreK to 5th grade school. The envisioned

improvements should also allow for buses and vehicular traffic along with the “recreation of” the recreation fields and a better integration into the immediate community and road network. The Jefferson ES location along the busy Route 7 corridor and with steep topography make this especially challenging; however, the need for neighborhood schools, enrollment demands and the 10-year Master Plan requires a smaller school to remain at this location.

VI. BUILDING SYSTEMS

- Security:** An electronic security system will be installed in the school, including cameras and state of the art entry security. The school will be designed to prevent access to instructional areas of the school when community events take place during non-school hours.
- Public Address:** The building public address system will be comprehensive, and the infrastructure installed with the building. It will be completed as part of the technology component of the project and will incorporate internal building communications as well as external communications. Concurrently, the systems for the phones, clocks, and data/voice/video will be developed.
- Technology:** Current technology standards and anticipated future standards are to be state of the art. The most up-to-date voice/video/data systems will be added to all instructional and support spaces within this school. A WAN will be installed and this building will be networked to the NPS. Wireless Access Points (WAPs) will be installed through the entire school. The New School may serve as WAP for the community.
- Phone System:** A comprehensive phone system will be integrated with the technology component of the project, and phones will be installed throughout the facility. All support and instructional spaces will be included.
- Clocks (& Bells):** The clocks, like the phone system, will be integrated into the technology component of the project. All support and instructional spaces will be included.
- HVAC:** LEED or High Performance Building Standards will be followed. A new heating system, air conditioning, and ventilation system throughout will serve the new construction
- Electrical:** Maximize daylight and allow for dimming with new Electric infrastructure and manageable LED lighting.
- Plumbing:** Low flow, energy efficient

VII. INTERIOR BUILDING ENVIRONMENT

The new school will be designed for a secure, inviting, and obvious main entry, focusing all vehicles and visitors to the main entry with an adjacent “visible” and secure administration space. The classrooms will be predominately enclosed (not open plan) allowing for window access to daylight in in each classroom space. The classroom will be reconfigured to allow for learning spaces and STEM programs and the current science classrooms will be subject of design study to identify the best options for the educational program. ADA accessible bathrooms, routes, stairs, elevator(s), and equipment throughout the entire facility will be made current. A secondary secured entry for Pre-K to 5th grade is envisioned at the entry.

The development of this educational specification lead to a new two-section classroom model for the primary grades, with two classrooms flanking a group room with a sink and moveable doors as well as two toilet rooms opening into the classrooms. (See attached program diagrams.) The spaces beyond the classrooms are also diagrammed and summarized in the attached matrix for all educational spaces. The following general description of each space:

2 Pre-Kindergarten, 3 Kindergarten, 3 First grade and 3 Second grade classrooms each approximately 900 square feet in size, with a connecting small group instruction room for each pair and including age appropriate restrooms, opening into each classroom.

For room layout, age appropriate furniture, fixtures, and equipment for the Pre-K per NAEYC accreditation recommendations, and the K to 2nd to allow for grouping (e.g. trapezoids) and flexibility (lockable wheels) of tables, not desks. Ample storage and access to technology, ultimately achieving one to one devices in each classroom. Heated radiant floors, if possible and loose instructional carpets/rugs.

3 Third grade, 3 Fourth grade and 3 Fifth grade classrooms, each approximately 700 to 850 +/- square feet in size, and 2 World Language Classrooms.

For room layout, based for grouping and flexibility of tables not desk for grouping (e.g. trapezoids) and flexibility (lockable wheels) of tables, not desks. Ample storage and access to technology, ultimately achieving one to one devices in each classroom.

Common to all new classrooms above and existing Ponus 6-8 classrooms (now organized into 3 teams or “houses”).

- 1 teaching station per classroom - Teacher’s desk, chair, 4 drawer file cabinet, lockable storage/wardrobe cabinet, lockable
- Cabinets for secured storage and project display/storage for learning materials
- Teacher voice module for phone and control of all technology.
- Electrical convenience power, and USB charging outlets.

- Integrated modern technology with 1:1 devices, Wireless Access Point (WAP) in each classroom.
- Floor electrical outlets (in new construction)
- Touchscreen, Smart-board, or Overhead projection racks with screen, most current school technology on the teaching wall.
- White boards and tack boards
- Seamless vinyl/rubber high density flooring and base and vitreous painted walls with acoustic ceilings
- Air conditioned and provided with adequate air ventilation to meet current codes
- Parabolic LED lighting with variable light level switching or addressable.
- Interconnected fire alarm system with horn/strobe notification
- Interconnected school-wide intercom system
- Sprinkler system
- Emergency lighting as required by code

1 Math Lab (“Like” Nathan Hale MS and the Teach To One methodology serving grades 4-8), 4,200 square feet

- Space for 250 +/- students in open continuous spaces with handicapped accessibility, and walking space around perimeter.
- Furniture, tables; combination of round, trapezoid, and rectangular, and student task chairs; books cases or open storage shelving, secured to floor or stable and mobile. Whiteboard mobile walls.
- 5-6 teaching stations in workroom area or room with - Teacher's desk, chair, 4 drawer file cabinet, lockable storage/wardrobe cabinet, lockable
- Finishes, carpet, sound damping panels on painted walls, TTO signs.
- Touchscreen, Smart-board, or Overhead projection racks with screen, most current school technology, in several locations.
- Electrical and low voltage, WAP to support up to 300 users simultaneously.
- Parabolic LED lighting with variable light level switching or addressable.
- Air conditioned and provided with adequate air ventilation to meet current codes
- Interconnected fire alarm system with horn/strobe notification
- Interconnected to school-wide intercom system
- Sprinkler system
- Emergency lighting as required by code

4 Science STEM labs totaling 4,300 square feet

- Space for 26-28 students in each classroom with handicapped accessibility
- Uninterrupted science counter top space with cabinets for secured science storage and student projects.
- Teacher's lab station with instructional counter and desk area, chair, 4 drawer file cabinet, storage/wardrobe cabinet
- Student peninsulas and teacher demo station, with sinks and local acid waste drain.
- Classroom area with desks and chairs
- Touchscreen, Smart-board, or Overhead projection racks with screen, most current school technology on the teaching wall.
- Integrated modern technology with 1:1 devices, WAP.
- White boards and tack boards
- Science storage room to support both labs with code compliance venting cabinets.

- Sealed concrete flooring and base and painted walls with acoustic ceilings and parabolic LED lighting with variable light level switching
- Air conditioned and provided with adequate air ventilation to meet current codes
- Interconnected fire alarm system with horn/strobe notification
- Interconnected to school-wide intercom system
- Sprinkler system
- Emergency lighting as required by code

1 Robotics/STEM/Engineering classroom(s) totaling 2,400 square feet

- Space for 26 to 28 students in each classroom with handicapped accessibility
- Support Project Lead the Way
- Adequate Electrical convenience power
- Integrated modern technology
- Glass and enclosed storage space for Makers Space for Robotics and engineering (Cisco router) equipment.
- Uninterrupted flat counter top space with cabinets for secured storage and project display/storage for learning materials
- 1 teaching station per classroom - Teacher's desk, chair, 4 drawer file cabinet, storage/wardrobe cabinet
- Integrated technology with 1:1 devices, WAP.
- Touchscreen, Smart-board, or Overhead projection racks with screen, most current school technology on the teaching wall.
- White boards and tack boards
- Sealed concrete flooring and base and vitreous painted walls with acoustic ceilings and parabolic LED lighting with variable light level switching.
- Air conditioned and provided with adequate air ventilation to meet current codes
- Interconnected fire alarm system with horn/strobe notification
- Interconnected school-wide intercom system
- Sprinkler system
- Emergency lighting as required by code

3 (Band, Choral, Music practice) Music technology classrooms of ranging from approximately 500 to 1,000 square feet each, plus 150 square feet of music storage

- Accommodate both instrumental and chorus classes
- The band & choral room should accommodate risers with handicapped accessibility
- Storage of limited instruments, and devices to be available at the perimeter, program is digital music
- Uninterrupted flat counter top space with storage cabinets and open shelving
- Teacher's desk, chair, 4 drawer file cabinet, lockable, storage/wardrobe cabinet, lockable
- Incorporate new music technologies, WAP
- Electrical convenience power
- Touchscreen, Smart-board, or Overhead projection racks with screen, most current school technology on the teaching wall.
- White boards and tack boards
- Appropriate sound management materials on walls and floor
- Sealed concrete floor, Acoustic ceilings and parabolic LED lighting with variable light level switching
- Air conditioned and provided with adequate air ventilation to meet current codes
- Fire alarm system with horn/strobe notification

- School-wide intercom system
- Sprinkler system
- Emergency lighting as required by code

3 Art classrooms of approximately 1,000 square feet each, plus 150 square feet of art storage

- Accommodate digital arts and a variety of general art classes
- Preferably located on ground level
- Space for 26 to 28 students in each classroom with handicapped accessibility
- Computer area along wall
- Include ample storage space within the room and adjoining supply room for art materials
- 2-4 free standing deep utility sinks with sediment traps dispersed through the classroom
- Electrical convenience power throughout perimeter
- Uninterrupted flat counter top space with storage cabinets and open shelving including deep and wide drawer shelving with suspension hardware
- Drying racks
- Teacher's desk, chair, 4 drawer file cabinet, lockable, storage/wardrobe cabinet, lockable
- Touchscreen, Smart-board, or Overhead projection racks with screen, most current school technology on the teaching wall.
- White boards and tack boards
- Integrated modern technology, WAP
- Sealed concrete flooring in Art Classrooms with vitreous painted walls
- Acoustic ceilings and parabolic LED lighting with variable light level switching
- Air conditioned and provided with adequate air ventilation to meet current codes
- Fire alarm system with horn/strobe notification
- School-wide intercom system
- Sprinkler system
- Emergency lighting as required by code

9 Special Education Resource Rooms, Tier II Instruction and Intervention Spaces, including staff work space/offices totaling approximately 6,200 square feet and dedicated work space for related services personnel.

- General support use offices or small classrooms dispersed though out for academic and service efficiencies
- Resource Room per grade level with handicapped accessibility
- Classroom with washer, dryer, a kitchen with refrigerator, stove, oven, dishwasher, and a living room set up connected to classroom
- Physical Therapy Room
- Occupational Therapy Room
- Speech and Language Room
- Cabinets for secured storage and project display/storage for learning materials
- Integrated modern technology with 1:1 devices, WAP.
- Floor outlets
- White boards and tack boards
- Sealed concrete flooring and base and vitreous painted walls with acoustic ceilings and parabolic LED lighting with variable light level switching
- Air conditioned and provided with adequate air ventilation to meet current codes

- Interconnected fire alarm system with horn/strobe notification
- Interconnected school-wide intercom system
- Sprinkler system
- Emergency lighting as required by code

Administration offices, including Principal, Front office, Psychologist, Nurses with Health Center, staff work and meeting spaces with conference rooms totaling approximately 7,000 square feet

The main administrative offices will be located at the front adjacent to the main entry and connected by a security vestibule, allowing visual controlled access to the building through the administration reception waiting area. Glazing will be minimal and secure.

- General support office for Principal, assistant/house Principals with secure office, working desk and small meeting table, perimeter bookcase shelves. (House principal may be in house wing)
- Open staff work area with desks counter and storage. Lockable records storage.
- Carpet, painted walls, acoustic ceilings with LED lighting with variable light level switching, addressable.
- Meeting rooms large enough for 10-12 people at a conference table.
- Teacher work rooms with counters, storage, and space to assemble study material. Might be adjacent Admin or teacher dining room, or per house.
- Psychologist or Social worker and Nurse with secure office and storage, meeting at desk with side chair(s). Lockable record storage.
- Exam room (shared) with exam table, sink, lockable cabinets, and task seating.
- Health center to have antimicrobial (bleachable) flooring Vitreous painted or masonry walls for durability and high lay-in ceilings, durable and washable.
- Reception area(s) may need to be divided by age or accommodate different age based on privacy.

2 Learning Commons (plus computer & server rooms) of approximately 5,900 square feet

- Age appropriate (two) to serve 50+/- to 75+/- students, with two major entry points and emergency access
- Classroom capacity for two classes of students (50) or 3 classrooms (75)
- Preferred location is at the physical center of the school
- One of these instructional spaces to be equipped with 24 computer stations
- Minimum of three WAP and some supplemental data jacks located throughout for student access to LAN and internet
- Monitors throughout space.
- Library checkout/management area
- Rolling book shelves for a limited collection of books with open sight lines possible for optimum adult supervision
- Seating for 24 students at six person tables
- Areas with comfortable seating
- Makers space
- Technology space for video production with a green screen for distance learning
- Carpet and walls with acoustic treatment and parabolic LED lighting with variable light level switching
- Ample windows/natural light
- Air conditioned and provided with adequate air ventilation to meet current codes
- Interconnected fire alarm system with horn/strobe notification

- Interconnected school-wide intercom system
- Sprinkler system
- Emergency lighting as required by code

Auditorium approximately 6,700 square feet,

Replace all seating, flooring, walls, and ceiling to bring to new 20-year standard.

Refurbish stage

- New curtain, rigging, proscenium curtain and back stage curtain.
- Lighting and sound systems to support the education and instructional use of the space
- Refurbish Sound Booth
- State of the art public technology including but not limited to a projector and pull down screen at stage
- Acoustical treatment of wall and ceiling to support the use of the space
- Handicap access to stage
- Band and Choral room will have easy access/adjacencies to stage
- Air conditioned and provided with adequate air ventilation to meet current codes
- Interconnected fire alarm system with horn/strobe notification
- Interconnected school-wide intercom system
- Sprinkler system
- Emergency lighting as required by code

Two age appropriate Gymnasium of approximately 12,175 square feet, including changing rooms of approximately 3,600 square feet.

- 2 full-sized gyms, existing and auxiliary gym for PreK to 2nd.
- Space and age appropriate to meet the needs of physical education program for both boys and girls
- Adjustable bleachers with 3 rows minimum
- Ropes, nets, rock climbing wall, basketball hoops, drop down batting cage
- Weight room/Fitness
- Padding on walls and floor for physical education programs
- Suspension equipment and/or storage rooms for pads
- Room dividing curtain/mesh to bisect the space for dual activities
- Modern storage for day to day use inside and outside
- Separate storage for extra curricula activities
- Male and female locker rooms with sufficient ventilation that adjoin the gym
- Physical education office to be shared with Health
- Wood floor suitable for running, ball sports such as basketball, kickball, etc.
- Tile floor at locker rooms, no showers
- High output LED lighting for efficiency and color correction for multipurpose activities.
- Acoustic deck and/or acoustic wall panels or suspended panels/clouds
- Fire alarm system with horn/strobe notification and voice evacuation as required by code
- Air conditioned and ventilated to current air-quality standards
- Interconnected school-wide intercom system
- Sprinkler system
- Emergency lighting as required by code

Kitchen (and serving area) of approximately 2,000 square feet

The district provides breakfast as well as lunch at most schools and this will be true in the new school. The district wide change will be directed to the kitchen consultants who will provide the final guidance on the kitchen layout and the equipment which is appropriate for a school of this type and size and the additional educational need. Separate food storage space(s) must be planned in accordance with health codes, and surfaces must be washable, including the ceiling. An office for the food service manager must be constructed. A toilet room for food service staff should be constructed adjacent to the kitchen.

Cafeteria (and Servery) space(s) of approximately 4,500 square feet

The cafeteria sized with the potential for subdivision to create smaller areas by age group into groupings of K-2, 3-5 and three 6-8 houses is needed. The typical acoustical treatments for the walls to dampen sound are needed. The cafeteria should be constructed adjacent to the kitchen. Multiple student traffic flow should be considered in the design of the food serving line. The Community use of the cafeteria as well as after school program is leading towards the potential to see this effectively used after school and weekends as well, could net a long-term improvement to the nutritional needs of many.

- Space to seat approximately 200 students per 5 lunch waves: groupings of K-2, 3-5 and three 6-8 houses.
- Sealed concrete, durable and washable, with slip resistant finish
- Provide windows with abundant natural light and create relationships to exterior
- Acoustical treatment of wall and ceiling to support the use of the space
- Provide exterior dining
- Vitreous painted or masonry walls for durability and high lay-in ceilings, durable and washable
- High out-put LED lighting for efficiency and color correction for dining and multipurpose activities
- Portable (fold in half on wheels) cafeteria round tables and built in round seats
- Convenience power for cleaning equipment and staff/visitor laptops
- Numerous WAP for LAN and internet use by staff, students, and visitors
- Several Monitors throughout space.
- Fire alarm system with horn/strobe notification and voice evacuation as required by code
- Air conditioned and ventilated to current air-quality standards
- Interconnected school-wide intercom system
- Sprinkler system
- Emergency lighting as required by code

VIII. SITE DEVELOPMENT

The site is approximately 41.1 acres with a single main, one way entry drive from Hunters Lane that continues along the high ridge line past two baseball field and then loops in front of the school in a single vehicular and bus pick-up/drop off loop, retuning to Hunters Lane parallel the one-way entry drive.

A new main entry drive is envisioned to be re-designed to allow for the “best practice” planning concept of separate and dedicate drive networks, one for busses and the other for vehicles. This will allow for organized drop off and pick-up of the students regardless of schedule. Parking in the bus loop is typically dedicated to staff and parking in the vehicular loop is for parents. Visitor parking should be designed in separate and visually obvious locations near the main entry, promoting natural surveillance. Stand-off distances and vehicular separation from the school should be included wherever possible. The school parking needs have expanded greatly in the last 40 to 50 years creating a need for more parking. The need for a dedicated PreK parking and drop-off and pick up loop remains and included in the design concept.

The entire ridge hill site has visible rock outcropping, changes in the natural topography indicates that rock or “ledge” are present on this site. Relatively flat open space adjacent the current cafeteria is an ideal location for the proposed main addition. This would also result in limited rock removal. The topography, and geology of the ridge may be an ideal STEM study subject.

Given the scale of the change to the existing school on the site and lack of traffic problems in the road/Lane there may not be a need for a traffic study. Sidewalks, public transportation, walking, and recreation paths should be included in site planning, however aside from no secondary access there are no know off-site “problems” related to this school.

The wetlands are on the southern boundary of the site. The wetlands have not been flagged or surveyed, however they appear to be a part of a natural drainage system and are visible on state and local GIS/databases. The wetlands and watershed are ideal environmental STEM subjects as a natural on site “model.”

The designation of the entire site boundary with fencing or obvious demarcation of the school property is not entirely necessary, however given the size, some specific work still needs to be done. Natural surveillance of the school site should be included in the planning. The northern walkway should be reconfigured as a gate emergency access drive with lighting and clear demarcation as a drive suitable for emergency vehicles, walking, bikes, and community access.

The two baseball fields, open play area, playgrounds and existing hard playscapes serve the school’s physical education and recreation needs. This too needs further discussion to envision how both the fields and hardscapes should be improved and aligned for younger children and the STEM focus.

IX. CONSTRUCTION BONUS REQUESTS

The Norwalk BOE is not seeking any school bonus at the new Ponus Ridge Magnet School.

- School Readiness Program (C.G.S. Section 10-285a(e))
- Lighthouse School (C.G.S. Section 10-285a(f))
- Out-of-District Students (CHOICE) (C.G.S. Section 10-285a(g))
- Full-Day Kindergarten or Reduced Class-Size (C.G.S. Section 10-285a(h))

X. COMMUNITY USES

The existing school is used regularly by the community and once a week by a church group in the auditorium. Other community groups use the auditorium for meeting and public presentations. The gym is in use every night by numerous parks and recreation groups as well as school athletic programs. The community fairs, sales, and demonstrations occur in the school after hours and occur in the auditorium, gym and available spaces as scheduled through School/NPS.

The school improvements should further enhance and simplify the after-school hours use of the Learning Commons, Auditorium, Gyms, Kitchen, Cafeteria, Music, and Art as community used spaces.

The Norwalk Parks and Recreation Department maintains and uses the recreation fields. The two baseball/softball fields on site are heavily used and will be improved as part of the overall building program.

XI. PROGRAM DIAGRAMS AND PROGRAM MATRIX

The following program attachments are included in the Educational Specifications to supplement, clarify, and augment the above information

Norwalk Public Schools - Feasibility Study

Ponus Ridge Magnet School- Proposed Architectural Program

Projected Enrollment: 1,050 Students

Space Division	Quantity	Square footage	Subtotal
GENERAL CLASSROOMS			
TOTAL	53		43,299
SPECIAL SUPPORT			
TOTAL	11		13,355
MEDIA CENTER			
TOTAL			5,925
PHYSICAL EDUCATION			
TOTAL			12,175
AUDITORIUM			
TOTAL			6,715
CAFETERIA			
TOTAL			6,499
ADMINISTRATION			
TOTAL			6,999
BUILDING INFRASTRUCTURE			
TOTAL			7,521
CIRCULATION			
Gross Square Foot Factor	1.26	0	36,882

TOTAL

139,370

State Space Standards for 1,050

139,860



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Norwalk Public Schools - Feasibility Study

Ponus Ridge Magnet School- Proposed Architectural Program Projected Enrollment: 1,050 Students

Space Division	Quantity	Square footage	Subtotal
PreK - Grade 2 General Classrooms			
Pre-Kindergarten Classroom	2	925	1850
Toilets	2	64	128
Kindergarten Classroom	3	900	2700
Toilets	3	64	192
Grade 1 Classroom	3	900	2700
Toilets	3	64	192
Grade 2 Classroom	3	900	2700
Toilets	3	64	192
Grade 3 Classroom	3	900	2700
Toilets	3	64	192
Group Room	6	280	1680
Grade 4 - Grade 8 General Classrooms			
Grade 4 Classroom	1	729	729
Grade 4 Classroom	1	855	855
Grade 4 Classroom	1	843	843
Grade 5 Classroom	3	723	2169
Team A Classroom (grades 6,7,8)	3	737	2211
Team A Classroom (Grades 6,7,8)	3	724	2172
Team B Classroom (grades 6,7,8)	4	724	2896
Team B Classroom (Grades 6,7,8)	1	711	711
Team B Classroom (Grades 6,7,8)	1	817	817
Team C Classroom (Grades 6,7,8)	2	724	1448
Team C Classroom (Grades 6,7,8)	2	673	1346
Team C Classroom (Grades 6,7,8)	2	840	1680
World Language Classroom	2	718	1436

Norwalk Public Schools - Feasibility Study

Ponus Ridge Magnet School- Proposed Architectural Program Projected Enrollment: 1,050 Students

Space Division	Quantity	Square footage	Subtotal
STEM Program			
Math Lab	1	4185	4185
Science Lab (Exg)	2	940	1880
Prep/Storage (Exg)	2	93	186
Prep/Storage (Exg)	1	45	45
Science Labs	2	1232	2464
Engineering Technology Lab	1	2407	2407
Lego Lab (within Learning Commons)	1	733	733
TOTAL	53		43,299

SPECIAL SUPPORT			
General Art Classroom	1	1130	1130
General Art Classroom	1	1169	1169
Art Storage/Kiln	1	358	358
Elementary Art Classroom	1	803	803
Band Classroom	1	1407	1407
Choral Music Classroom	1	1128	1128
Music/Tech Classroom	1	1183	1183
Music Storage (various total)	1	789	789
SPECIAL EDUCATION			
OT/PT	1	704	704
Special Education Rooms	2	682	1364
Resource PK-2	1	533	533
Grade 4&5 - Intervention	1	724	724
Team A- Intervention	1	729	729
Team B- Intervention	1	524	524
Team C- Intervention	1	538	538
Special Education Room	1	272	272
TOTAL	11		13,355

Norwalk Public Schools - Feasibility Study

Ponus Ridge Magnet School- Proposed Architectural Program Projected Enrollment: 1,050 Students

Space Division	Quantity	Square footage	Subtotal
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LEARNING COMMONS			
Office	1	120	120
Circulation Desk/Media	1	120	120
Book Stack Area	1	800	800
Work Table/Seating Area	2	630	1260
Computer Resource Lab	2	800	1600
Production Room	1	300	300
Storage/Work Room	1	125	125
PK-2 LEARNING COMMONS			
Office	1	100	100
Circulation Desk/Media	1	100	100
Book Stack Area	1	500	500
Work Table/Seating Area	1	500	500
Reading/Storytelling Space	1	400	400
TOTAL			5,925

PHYSICAL EDUCATION			
Existing gymnasium	1	5478	5478
Existing Auxiliary gymnasium	1	2400	2400
Existing Storage & Lockers	1	3593	3593
Health Classroom	1	704	704
TOTAL			12,175

AUDITORIUM			
Existing Auditorium and Stage	1	6715	6715
TOTAL			6,715

CAFETERIA			
Dining Room & Servery	1	4520	4520
Existing Kitchen	1	1979	1979
TOTAL			6,499

Norwalk Public Schools - Feasibility Study

Ponus Ridge Magnet School- Proposed Architectural Program Projected Enrollment: 1,050 Students

Space Division	Quantity	Square footage	Subtotal
ADMINISTRATION			
Main Office			
Reception/Waiting	1	250	250
Secretarial Area	1	500	500
Work Area/Mail	1	150	150
Principal Office	1	150	150
Assistant Principal Office	1	150	150
Conference Room(s)	2	250	500
Student Records	1	250	250
Office Storage	1	150	150
Toilet	1	64	64
PK-2 ADMINISTRATION			
Main Office			
Reception/Waiting	1	180	180
Secretarial Area	1	350	350
Work Area/Mail	1	120	120
Principal Office	1	150	150
Assistant Principal Office	1	150	150
Conference Room(s)	1	250	250
Student Records	1	100	100
Office Storage	1	120	120
Toilet	1	64	64
Faculty Lounge (with lavs)			
	1	945	945
Work Room (upstairs)			
	1	171	171
Remote Offices (exisitng)			
	3	100	300

Norwalk Public Schools - Feasibility Study

Ponus Ridge Magnet School- Proposed Architectural Program

Projected Enrollment: 1,050 Students

Space Division	Quantity	Square footage	Subtotal
HEALTH SUITE			
Guidance	3	120	360
School Psychologist	1	120	120
Speech Pathologist	1	120	120
Nurse Suite			
Reception/Waiting	1	115	115
Office	1	120	120
Exam	1	120	120
Cot Area	1	800	800
Toilet(s)	1	80	80
Storage	1	100	100
TOTAL			6,999

BUILDING INFRASTRUCTURE			
Custodial Office & Work Area	1	335	335
Satellite Custodial Area	4	60	240
Toilet Rooms			
Music	2	116	232
Gym	2	80	160
Café & Upstairs	2	250	500
Café & Upstairs	2	329	658
Upstairs	2	64	128
New at Café	2	154	308
New at Science	2	294	588
New staff @ PK2	2	64	128
New Upstairs student	2	205	410
New Upstairs staff	1	64	64
Storage throughout			
	1	2000	2000
Mechanical/Boiler Room			
	1	1200	1200
Electrical Closets	3	140	420
Water Room	1	150	150
TOTAL			7,521

Norwalk Public Schools - Feasibility Study

Ponus Ridge Magnet School- Proposed Architectural Program Projected Enrollment: 1,050 Students

Space Division	Quantity	Square footage	Subtotal
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CIRCULATION			
Gross Square Foot Factor	1.26		36,882

TOTAL			139,370
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State Space Standards for 1,050

139,860



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FIRST FLOOR

Ponus Ridge Magnet School: Pre-K to 8th
 Norwalk School Facilities Study
 21 Hunters Lane
 Norwalk, Connecticut

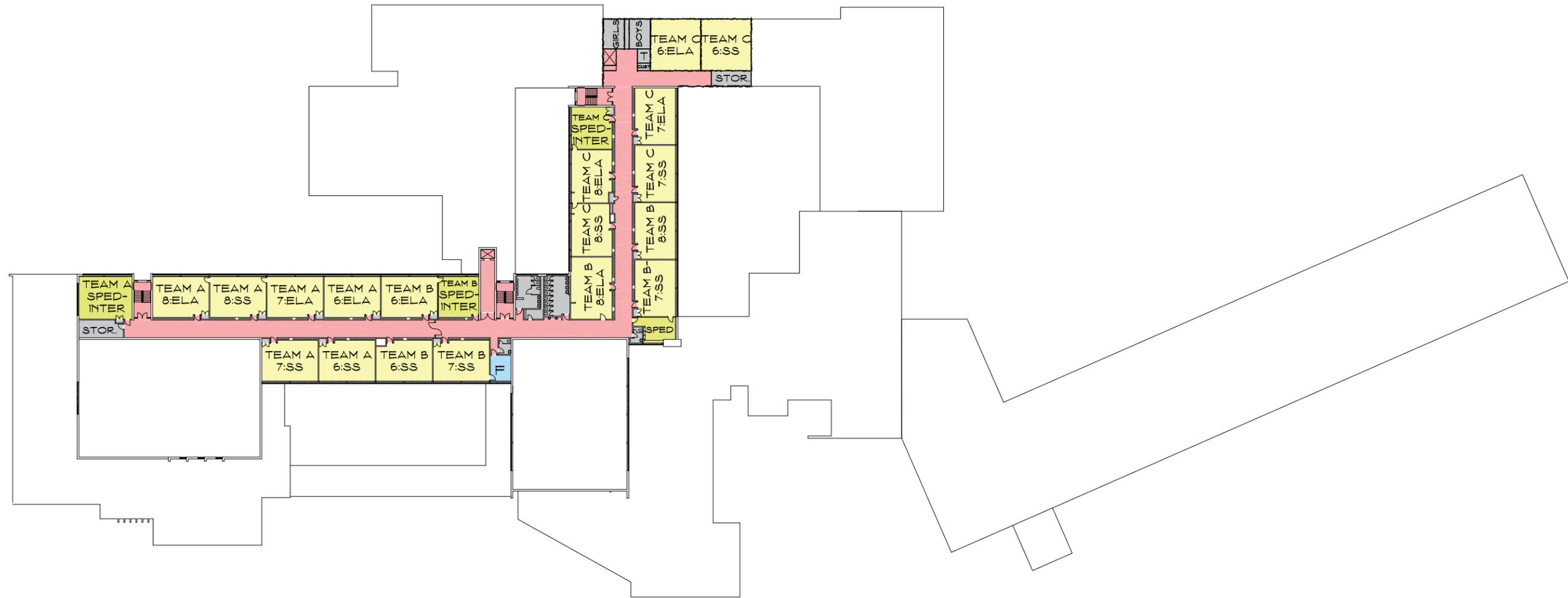


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 ASSOCIATES

Conceptual Design
 Ed Spec 1st Floor Plan

Date:
 6/5/2017
 Scale:
 1/64" = 1'-0"





SECOND FLOOR

Ponus Ridge Magnet School: Pre-K to 8th
 Norwalk School Facilities Study
 21 Hunters Lane
 Norwalk, Connecticut



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 ASSOCIATES

Conceptual Design
 Ed Spec 2nd Floor Plan

Date:
 6/5/2017
 Scale:
 1/64" = 1'-0"

