Town of Fairfield

Fairfield Ludlowe High School
Conceptual Study
Proposed 2013 Plan

First Selectman
Michael Tetreau

Superintendent of Schools
Dr. David G. Title

Head Master
Greg Hatzis – Fairfield Ludlowe High School

Report Date: January 22, 2013

Prepared by:

SILVER/PETRUCELLI+ASSOCIATES
Architects / Engineers / Interior Designers

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(203) 230-9007

**** * * Acknowledgements * * ****

We wish to thank the Town of Fairfield for the opportunity to serve the town's educational facilities needs and the Fairfield Ludlowe High School in this manner. We would also like to thank the town staff, local officials, Board of Education, administrators, teachers and staff of the high school, and Mr. Greg Hatzis for their enthusiasm, helpfulness and input, as their feedback and comments have been invaluable in the development and thoroughness of this report.

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EXECUTIVE SUMMARY

This report is the result of a study commissioned by the Town of Fairfield, Connecticut to assist the Fairfield Board of Education with the conceptual planning and budgeting for the renovations and potential additions at Fairfield Ludlowe High School. Our scope of work included the evaluation and development of options for window replacement, locker additions, renovation of all gang toilet rooms, evaluation of parking issues, addressing storage needs and expanding the kitchen storage as well as the renovation and expansion of the classrooms as well as cafeteria construction.

This study addressed the above deficiencies, along with all other documented and observed deficiencies through the use of comprehensive building and site recommendations utilizing cost effective design solutions. In addition, the architects reviewed, vetted and integrated the broad list of program requests and needs prepared by the high school staff in order to provide design solutions at the level necessary to meet the district's academic needs for the anticipated high school enrollment.

This report was prepared by Silver / Petrucelli + Associates, Inc. (S/P+A) of Hamden, Connecticut, a firm specializing in municipal and school programming, planning and design, feasibility analyses and building condition investigations including building envelope surveys and window / roof repair and replacement. Environmental analyses and reports were prepared by Fuss & O'Neill EnviroScience, LLC (F&O) of Manchester, Connecticut.

Process

The information contained in this report was gathered by S/P+A, F&O, with assistance from the Board of Education staff via meetings and interviews with school administrators and the headmaster, the Board of Education and the high school educators and staff. On-site facilities evaluations were conducted by the architects and environmental consultants. This data was organized and appears in sections of this report in the form of narratives and spreadsheets, along with recommendations including conceptual plans and cost estimates. Additional information can be found in the F&O report found in Appendix A.

Report Findings

Fairfield Ludlowe High School is in need of several improvements including science lab and general classroom additions, additional lockers to meet enrollment projections, cafeteria expansion to include a student lounge, a new senior lounge and faculty dining room, and kitchen storage expansion including a walk-in freezer and dry storage. Additionally, approximately 85% of the schools windows and doors need to be replaced and additional parking spaces are needed.

The school building and grounds do not fully comply with current building codes, and do not meet some of the Federal ADA accessibility guidelines. For example, toilet room fixtures are non-compliant in many locations and should be considered for updating as part of future construction and renovation process.

Conclusions and Recommendations

This report evaluated two options. Scheme 1 identifies the possible locations of the recommended additions and alterations recommend for Fairfield Ludlowe High School. This scheme focuses on centralizing all the additions and renovations to one location in the school. This scheme looks at adding on to the back of the school to increase the size of the cafeteria, while using some of the space that was originally the student union and part of the existing cafeteria to infill with 4 additional classes to meet the school's future space needs. It also provides space in an existing courtyard to be used as a new student union on the lower level adjacent to the new cafeteria and allows for two additional stories above where the two new science labs could be located. This scheme also recommends relocating the faculty lounge to the lower level.

Scheme 2 identifies the possible locations of the required additions and alterations recommend for Fairfield Ludlowe High School. This scheme is similar to the first scheme in the way in which the cafeteria will be expanded, but it utilizes the existing student union to be a renovated space and creates space adjacent to it for the faculty lounge and senior lounge. The scheme creates a core area focused on food services / study area separated for all other functions of the school. It also allows for the expansion of the kitchen and creates space for a walk-in freezer and extra storage.

This scheme also adds four new classrooms to the high school and 2 new science classroom / lab combo rooms. The advantage of this scheme is that the classroom addition is only a two story addition as opposed to a 3 story addition and it reuses the existing faculty lounge as one of the additional needed classroom spaces.

This report, featuring the two scheme's proposed plans, identifies current and future needs of the high school and offers specific recommendations which will assist the Town in future capital and master planning. In order to meet these current and future needs, it is proposed that Fairfield Ludlowe High School undergo significant additions ranging from 9,000 SF to 12,000 SF depending on the selected option These additions will mandate that all aspects of the additions and alterations be brought up to meet current codes, including the State's High Performance Standards for energy.

Preliminary opinions of probable cost estimate the total cost for the work outlined above and detailed in this report, including all construction and soft costs, at $11.63 million with $2.45 million, or roughly 27.5%, of those costs being reimbursed to the Town by the State of Connecticut, leaving the Town's total share at $9.18 million. It is anticipated that if the RTM approval for funding of this project passes, construction of the additions at the high school can begin as early as the summer of 2014 with substantial completion as early as the opening of school in the fall of 2016.

SECTION I - INTRODUCTION

Report Overview and Purpose

Silver / Petrucelli + Associates was retained by the Town of Fairfield, Connecticut to provide conceptual planning, expansion and alterations at Fairfield Ludlowe High School. This report includes conceptual plans, narrative, and an estimate of probable construction cost along with photographs of existing conditions.

This report analyzes the current facility and grounds with regard to building and fire code compliance, accessibility (ADA), efficiency and layout with recommendations for modifications to the existing building or spaces to satisfy future enrollment projections and space requirements as stipulated in the *2011 Fairfield Public Schools Facilities Plan 2011-2015* report and stated by the high school administrators, department heads and educators.

Report Services

The following services were provided to complete the facility analysis, identify the school's needs and provide conceptual building and site plans that will fulfill these needs.

1. The project was initiated with a kick-off meeting including the architects, headmaster of Fairfield Ludlowe High School, Greg Hatzis, and the Director of Construction and Security for Fairfield Public Schools, Sal Morabito, to outline the goals and requirements of this project.

2. The architects reviewed the existing reports (*Fairfield Ludlowe High School Window Survey Report* and *Fairfield Public Schools Facilities Plans 2011-2015*) provided by Mr. Morabito.

3. A meeting was held between the architects, Greg Hatzis and Sal Morabito to discuss, update and refine the program information as necessary to meet the educational needs and requirements of the proposed renovations and additions to the high school.

4. The architects and engineers reviewed the available existing drawings of the school and field verified existing conditions to generate site and building floor plans in AutoCAD format.

5. The *Fairfield Public Schools Summary of Enrollment Projection*, developed by MGT of America, Inc., was reviewed and incorporated to predict future high school enrollment in the Town of Fairfield up to 2016.

6. Alternative, conceptual floor plans were prepared, documenting proposed areas of additions and renovations along with reorganization of spaces within the high school.

7. The architects and engineers prepared preliminary opinions of probable cost, based on the proposed conceptual plans for the high school.
8. The draft report was prepared for discussion and review by the team.

Interviews and Data Collection

An integral part of any space evaluation study and master plan is the development of an understanding of the educational program as it is currently being carried out in the school system. This includes determining the educational program elements that are working, as well as those which are not working or are deficient.

The focus of this study was on the immediate needs and deficiencies of the high school building as previously documented in the *Fairfield Public School Facilities Plan* and *Fairfield Ludlowe High School Window Survey Report*, as well as the future needs of the high school as discussed by interviews with the headmaster. Emphasis was given to gathering information regarding future projected enrollment needs and lack of space requirements to house an expected expanding student population in the coming school years. Where possible, the high school faculty was asked to identify current trends in their programs and foreseeable future needs to assist in master planning for the proposed additions and renovations.

Codes Governing School Construction

The following is a list of the current building codes which are applicable for the State of Connecticut. Please note that these codes have not all been thoroughly reviewed for this conceptual study.

State and Federal Codes Governing School Construction
Current Building Codes
State of Connecticut
Effective December 31, 2005

2005 State of Connecticut Building Code
2009 Connecticut Building Code Supplements
2005 Connecticut Fire Safety Supplement
2003 International Building Code (IBC)
2003 International Fire Code
2005 National Electrical Code
2003 Life Safety Code (NFPA 101)
2003 International Mechanical Code
2003 International Plumbing Code
2009 International Energy Conservation Code
2003 ICC/ANSI A117.1 Handicapped Accessibility Code
1973 Uniform Federal Accessibility Standards (UFAS)
Section 504, Rehabilitation Act of 1973
2009 Connecticut Public Health Code
1999 Connecticut O.S.H.A. Regulations - Title 29 Dept of Labor
1996 U.S. Consumer Product Safety Commission – Playground Safety
2010 Americans with Disabilities Act (ADA) Standards for Accessible Design
- Title II State and Local Government Facilities, Services and Activities
- Title III Public Accommodations and Commercial Facilities

As the codes are updated, they will ultimately affect the information contained in this report, and the facilities should be reviewed for the applicable changes in the codes, revising the report and cost estimates accordingly. Most importantly, the codes that are in effect at the time the building permit is applied for by the Contractor for any work at the school are the ultimate determinant codes, so changes in the codes and their adoption dates should be closely monitored and planned for.

Code Review

It was not our charge to perform a code evaluation of the existing building, and therefore, the school building and site were not surveyed to determine compliance with current fire, life safety, building and health codes and regulations. Areas being affected by renovations will have to be compliant with the current building code during construction. For example, all work to renovate the gang style toilet rooms will need to be ADA-compliant

SECTION II - PROGRAMMING

This section of the report identifies the programmatic needs of the proposed renovations and additions to Fairfield Ludlowe High School as determined through meetings with the educators from the high school, review of enrollment projection reports, and analysis of classroom utilization information created by the current high school academic programmers.

The difference between a program space need and request is often open to interpretation and therefore, all information gathered and developed during the course of this conceptual study has been included in this report for discussion by the school staff and administrators, members of the Board of Education, Town administration and concerned citizens. The architects were asked to rely on the staff, previous reports and the school educators for specific areas of immediate concern.

Board of Education Space Needs Summary

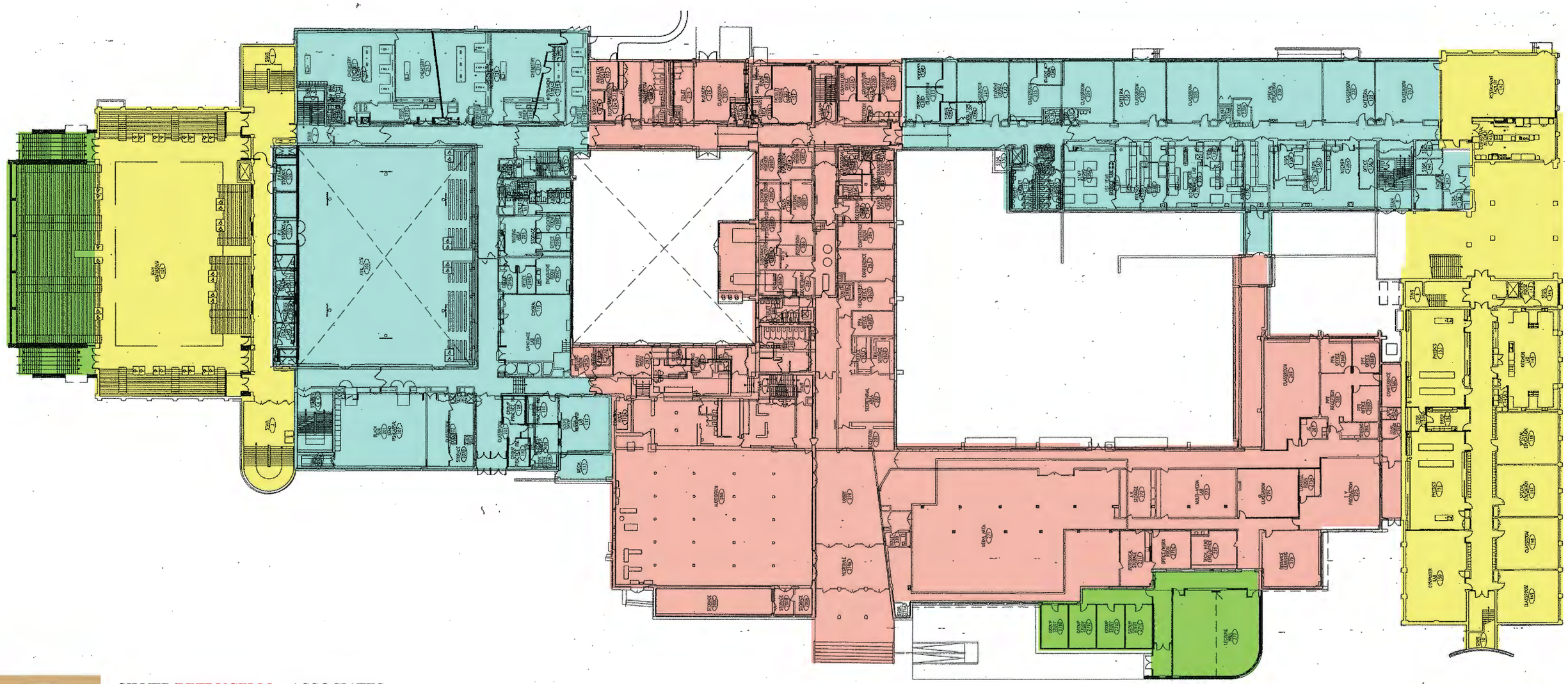
- 4 new general purpose classrooms
- 2 new science classrooms / labs with prep room
- Cafeteria expansion with seating for 450 student
- 1 student lounge
- 1 faculty lounge
- Additional kitchen storage including walk-in freezer
- Additional lockers for increased student population

1950's

1960's

1970's

2000's



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Fairfield Ludlowe High School

Renovation History

SECTION III – WINDOW & DOOR ANALYSIS

Fairfield Ludlowe High School is an approximately 296,000 SF multi-story building constructed in 1950. The building has seen multiple additions and upgrades since its original construction – in 1963, 1972, 1995, and 2005. Approximately 50% of the window and doors in the facility are original and in need of immediate replacement. In addition, a majority of the windows contain hazardous materials or within their surrounding caulking and will need to be replaced. Approximately 85% of the schools windows and doors need to be replaced. All the windows with the exception of the newest windows in the 2005 additions should be replaced. Any windows testing positive for hazardous material should be replaced.

The existing doors & windows at the school consist of fixed & operable single pane & double pane windows set in non-thermally broken steel frames. This means that the aluminum and steel frames do not have a "break" between interior & exterior creating a poor R-value scenario. The existing single pane glazing (which makes up 98% of the opening) is currently achieving an R-value of less than 1.0 (likely around an R-value of .90)

The existing window walls in all areas except the 2005 additions will be replaced with an exterior window wall constructed of thermally broken aluminum storefront framing. The glazing shall be 1" insulated tinted glass, with the interstitial spaces filled with energy efficient argon gas. The third, inner light of the two glass panes shall be coated with a low emissive coating, called low –E. Blinds or shades will be provided for the windows. Refer to the plans for building age window replacement locations.

The new doors & frames & window system will be much improved from the existing units. Conceptually, all operable & fixed units will be replaced one to one. The aluminum frames will be thermally broken; thus meaning that the interior portion of the aluminum and exterior portion of the aluminum are not contiguous resulting in a higher performing frame. The frames will have a baked-on coating of a "Kynar 500" color which has a 20 year warranty and comes in many different color options.

The glass, (again being the largest area of the units) is where the greatest improvement in technology has occurred in the past 20 years. The proposed glazing is going to be a 1" insulated glazing unit (IGU) consisting of 2 panes of Low E glass (tinted) with an argon gas air space between them. This proposed unit will have an R-value of approximately 4.0 which is an increase of 400% above the existing windows at the school.

- Replace the existing single glazed & double glazed windows with energy efficient windows: The existing single glazed aluminum-framed windows are a very poor thermal barrier. The window system at all exposures make up almost 30% of the entire exterior façades, therefore, much of the school's heating costs escape directly "out the window". With the advancement in window system technology, large areas of windows systems can be installed with exceptional thermal protection. These windows can be designed with numerous operable options; tinting techniques which reduce excessive glare, and inter-glazing materials that produce high thermal coefficients. The design of the windows can recapture the image of the past while introducing modern materials, systems and colors. Hazardous material that is discovered during the course of the work will be abated and replacement materials may be required should hazardous materials be bonded with the existing construction.

Most of the doors at the facility appear to be original to their construction periods. These will be replaced coincidental with the windows so they can be of one integral system. Replacing the doors will allow the school system to upgrade all exterior door hardware to meet current ADA and egress standards as well as improving building security.

- Replace Existing aluminum and hollow metal exterior doors with new energy efficient doors. The existing single glazed aluminum doors along with the existing hollow metal doors are in need of replacement due to age and also have a very poor thermal barrier. The door systems, at all exposures makes up a large portion of the entire exterior façades, therefore, much of the school's heating costs escape directly through these openings. We recommend removing the existing doors & frames along with the fixed door glazing & hardware that was installed when the facility was first constructed.

Based on a review of the hazardous materials testing performed, EnviroScience concludes and recommends the following related to the windows:

1950, 1961, and 1971 Building Window Systems

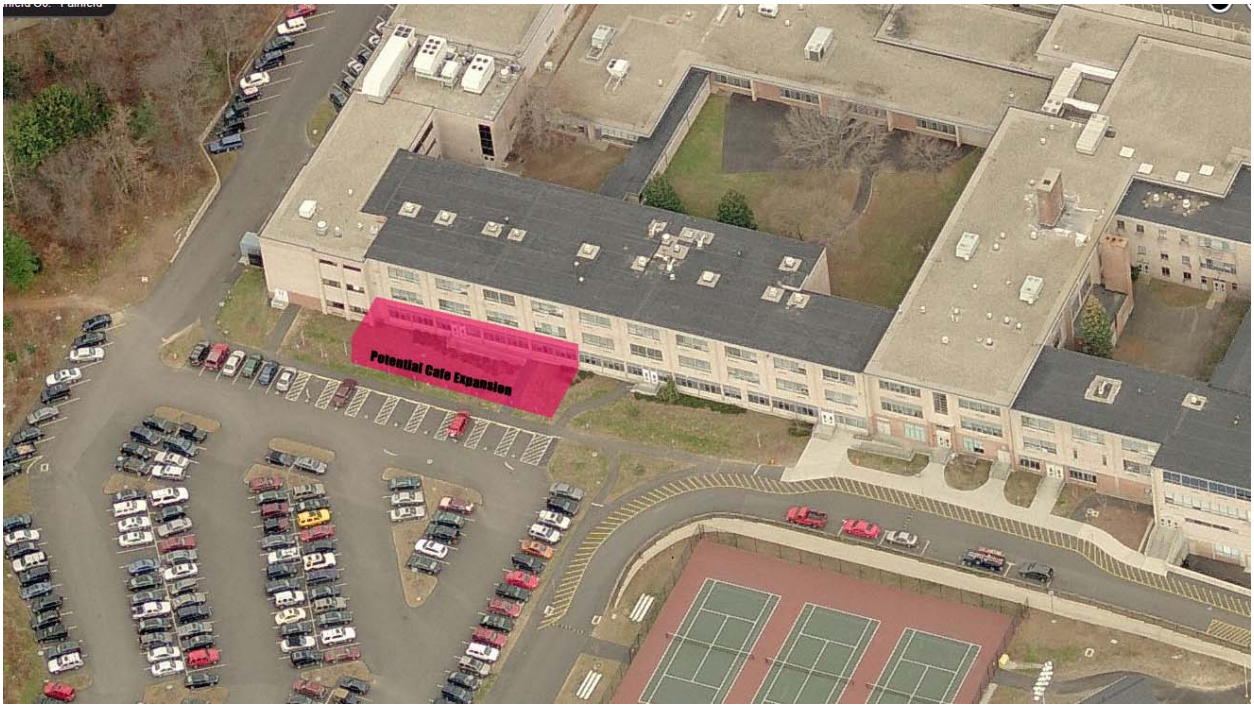
- Additional sampling of materials needs to be performed to characterize the asbestos content and PCB content to be in compliance with CTDPH and EPA regulations and

guidance documents. The CTDPH requires a minimum of two (2) samples to adequately characterize a material as non-ACM while the EPA requires a minimum of three (3) samples to adequately characterize a materials as <50 ppm PCB containing or <1 ppm PCB containing.

- Adjacent surface sampling of the porous brick and soil, concrete, and/o asphalt located under the >50 PPM exterior window caulking and glazing compounds needs to be performed to determine if the materials are PCB contaminated.
- A Self Implementing Cleanup and Disposal Plan needs to be developed for the remediation of the window systems if the project is funded through BSF.
- Following removal, verification sampling would need to be performed of the adjacent brick, block, and/or asphalt following remediation.

SECTION IV – CAFETERIA ANALYSIS

The cafeteria at Fairfield Ludlowe High School was constructed in the early 1960's. It is an old and unwelcoming space and currently too small to meet the needs of the existing school enrollment let alone the anticipated increase in students. The room, with its long hallway-like design and large columns does not meet the need for a multi-purpose space for presentations and assemblies. It is projected that each lunch period will feed up to 450 students per sitting and we have been asked to look into the size implications of a space that would hold that many students. By today's codes, the new space would need to be approximately 6,750 SF. Fairfield Ludlowe High School is also in need of a student union and lounge area that the faculty and administration would like to see be connected to or in conjunction with the redesign and expansion of the current cafeteria. The administration would also like to relocate the current faculty lounge on the first floor to be adjacent to the new cafeteria.



SECTION V

LEED© - LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN and HPBS

On January 1, 2009, in the State of Connecticut, new legislation will be implemented by amending General Statute Section 16a-38k which will require school building projects costing $5 million and the reimbursement is exceeding $2 million or more must be designed in compliance with or exceed the equivalent of the silver building rating of the Leadership in Energy and Environmental Design – LEED© – rating system, as established by the United States Green Building Council. This new standard has been sanitized by the Connecticut Department of Construction Services to be the CT High Performance Building Standards.

This new legislation will require that school construction projects seeking state reimbursement funds, will be designed and constructed to meet energy conservation standards and 'green' building practices.

Other measures that contribute points to the rating system, in addition to energy efficiency, are the use of renewable energy, water conservation, environmentally sensitive site design, redevelopment of brownfields (contaminated land and/or building areas), and storm water management.

While this project is not scheduled to be designed around a LEED standard, it will be designed around the "High Performance Building Standard" which meets the State of Connecticut's equivalent standard thus maintaining eligibility for State reimbursement.

SECTION VI – PROPOSED PLANS

Proposed Conceptual Plan – Scheme 1

The following plan identifies the possible locations of the recommended additions and alterations recommend for Fairfield Ludlowe High School. This scheme focuses on centralizing all the additions and renovations to one location in the school. This scheme looks at adding on to the back of the school to increase the size of the cafeteria, while using some of the space that was originally the student union and part of the existing cafeteria to infill with 4 additional classes to meet the school's future space needs. It also provides space in an existing courtyard to be used as a new student union on the lower level adjacent to the new cafeteria and allows for two additional stories above where the two new science labs could be located. This scheme also recommends relocating the faculty lounge to the lower level.

EXISTING SPACE CONVERTED TO CLASSROOMS

NEW CLASSROOM ADDITION

NEW STUDENT LOUNGE

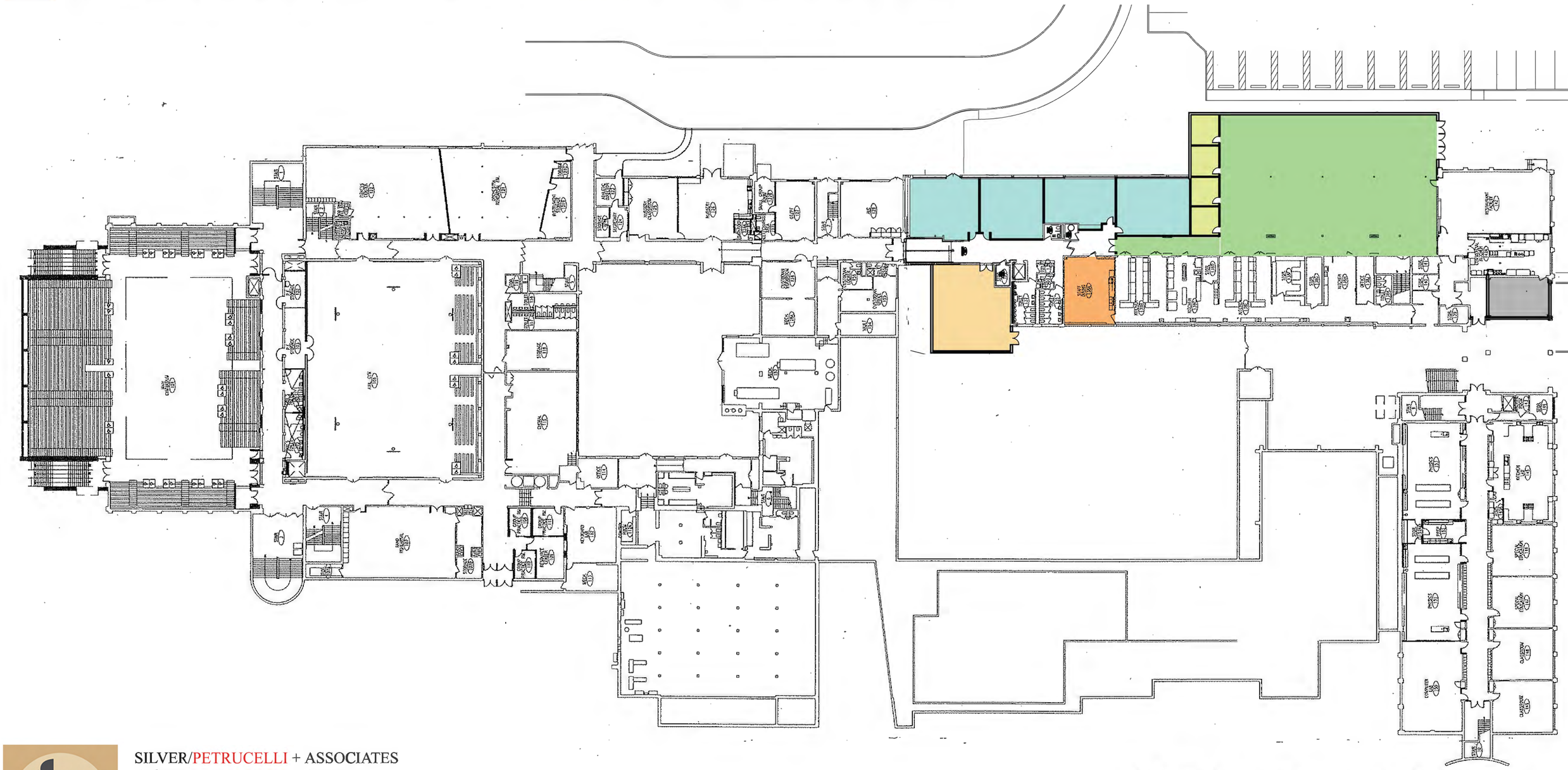
EXISTING SPACE CONVERTED TO FACUILTY LOUNGE

NEW CAFETERIA

NEW KITCHEN STORAGE / WALK-IN FREEZER

NEW SCIENCE CLASSROOM / LAB & PREP ROOM

YEARBOOK / SCHOOL STORE / NEWSPAPER / ETC.



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Fairfield Ludlowe High SChool

Scheme 1 - Ground Level

EXISTING SPACE CONVERTED TO CLASSROOMS

NEW CLASSROOM ADDITION

NEW STUDENT LOUNGE

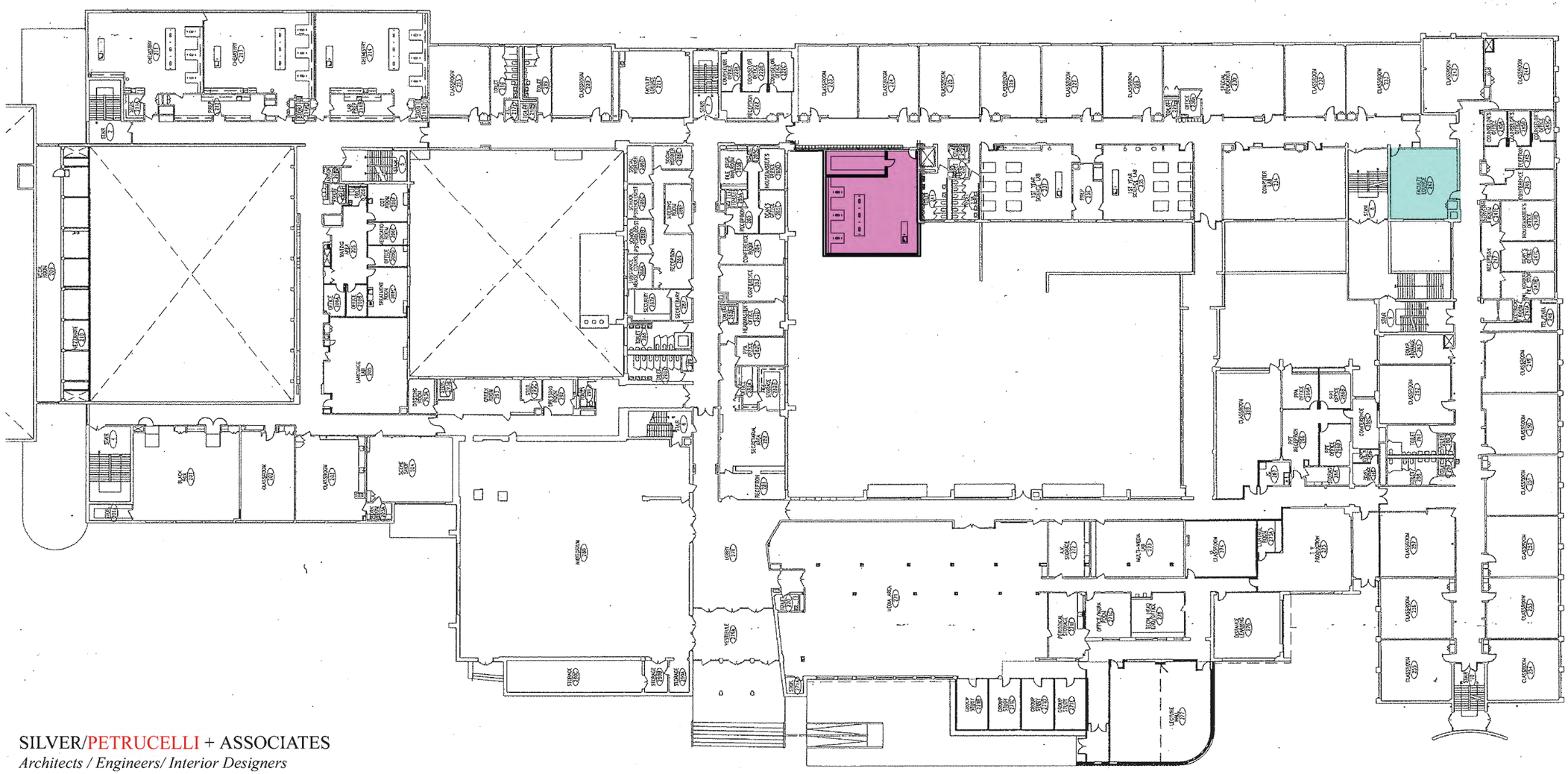
EXISTING SPACE CONVERTED TO FACUILTY LOUNGE

NEW CAFETERIA

NEW KITCHEN STORAGE / WALK-IN FREEZER

NEW SCIENCE CLASSROOM / LAB & PREP ROOM

YEARBOOK / SCHOOL STORE / NEWSPAPER / ETC.



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Fairfield Ludlowe High SChool

Scheme 1 - First Level

EXISTING SPACE CONVERTED TO CLASSROOMS

NEW CLASSROOM ADDITION

NEW STUDENT LOUNGE

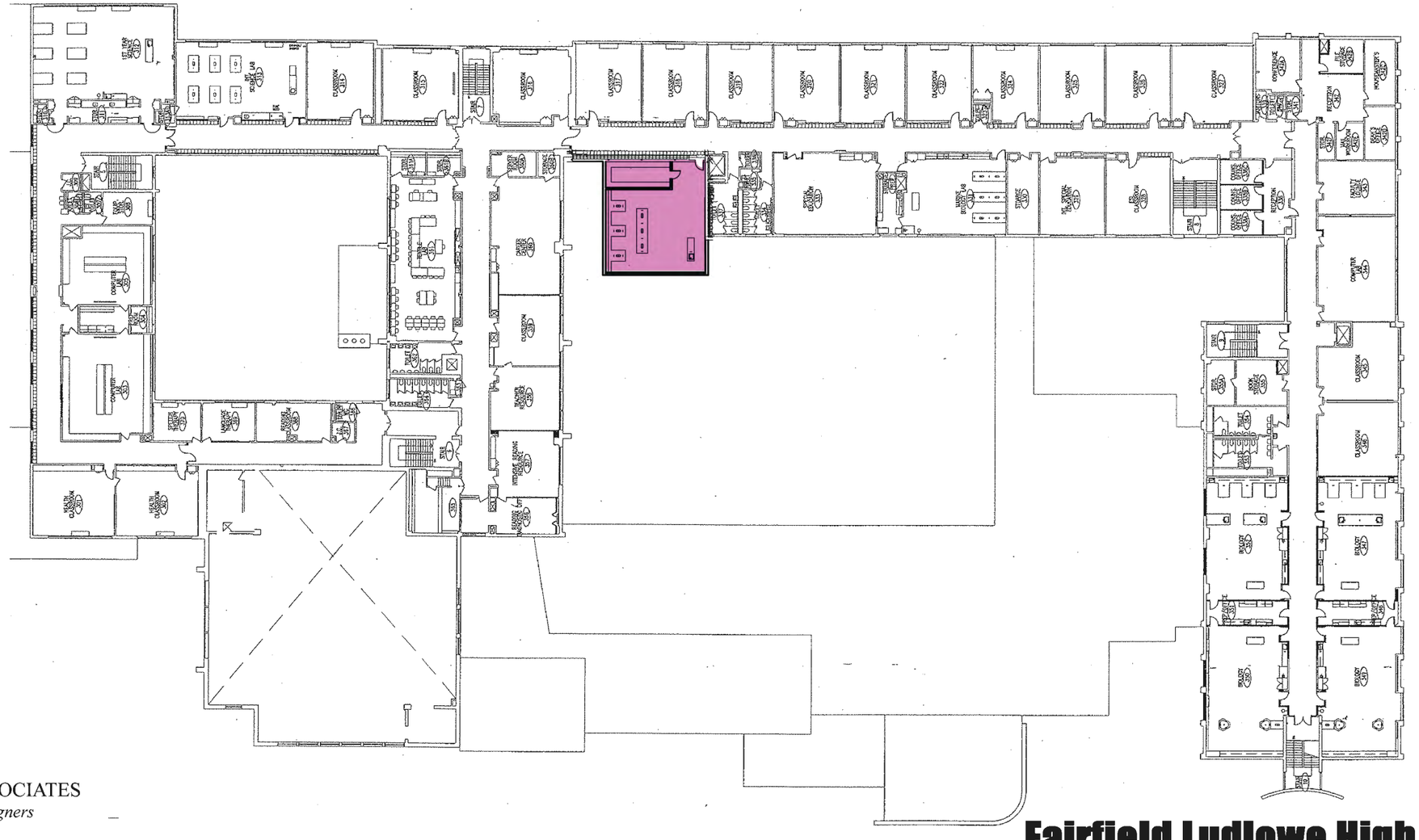
EXISTING SPACE CONVERTED TO FACUILTY LOUNGE

NEW CAFETERIA

NEW KITCHEN STORAGE / WALK-IN FREEZER

NEW SCIENCE CLASSROOM / LAB & PREP ROOM

YEARBOOK / SCHOOL STORE / NEWSPAPER / ETC.



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Fairfield Ludlowe High SChool

Scheme 1 - Second Level

Proposed Conceptual Plan – Scheme 2

The following plan identifies the possible locations of the required additions and alterations recommend for Fairfield Ludlowe High School. This scheme is similar to the first scheme in the way in which the cafeteria will be expanded, but it utilizes the existing student union to be a renovated space and creates space adjacent to it for the faculty lounge and senior lounge. The scheme creates a core area focused on food services / study area separated for all other functions of the school. It also allows for the expansion of the kitchen and creates space for a walk-in freezer and extra storage.

This scheme also adds four new classrooms to the high school and 2 new science classroom / lab combo rooms. The advantage of this scheme is that the classroom addition is only a two story addition as opposed to a 3 story addition and it reuses the existing faculty lounge as one of the additional needed classroom spaces.

EXISTING SPACE CONVERTED TO CLASSROOMS

NEW CLASSROOM ADDITION

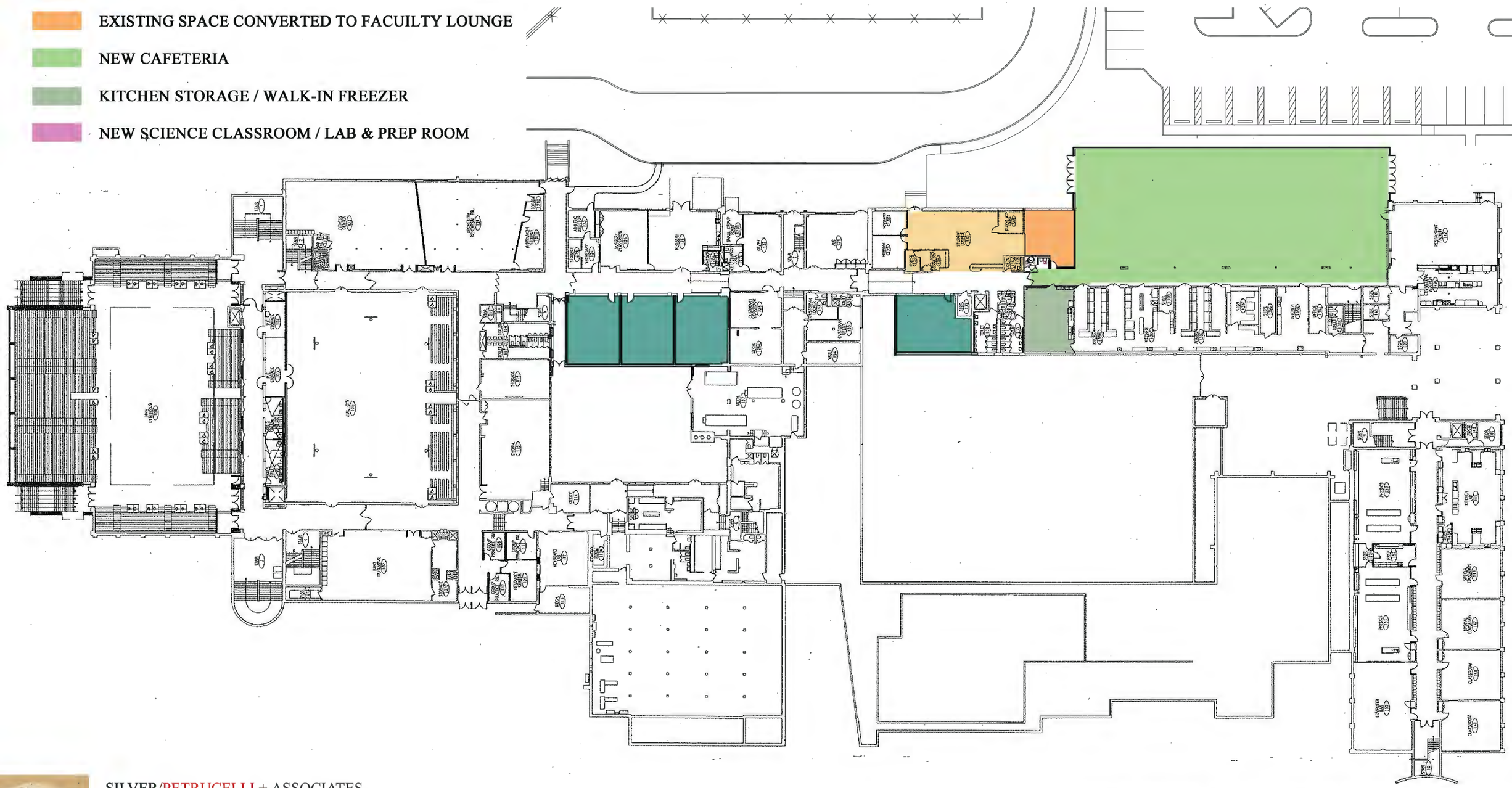
EXISTING SPACE CONVERTED TO STUDENT LOUNGE

EXISTING SPACE CONVERTED TO FACUILTY LOUNGE

NEW CAFETERIA

KITCHEN STORAGE / WALK-IN FREEZER

NEW SCIENCE CLASSROOM / LAB & PREP ROOM



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Fairfield Ludlowe High SChool

Scheme 2 - Ground Level

EXISTING SPACE CONVERTED TO CLASSROOMS

NEW CLASSROOM ADDITION

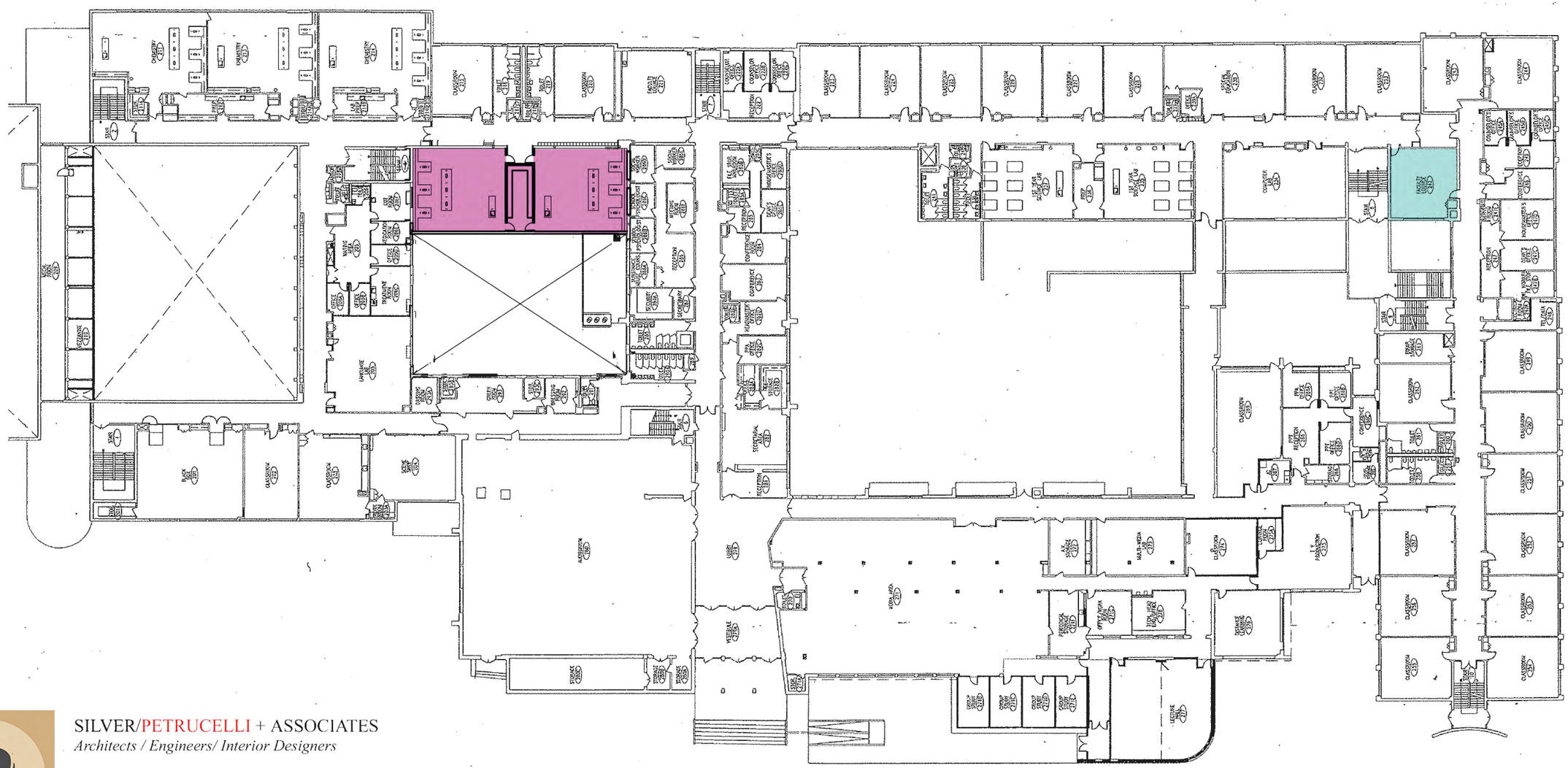
EXISTING SPACE CONVERTED TO STUDENT LOUNGE

EXISTING SPACE CONVERTED TO FACUILTY LOUNGE

NEW CAFETERIA

KITCHEN STORAGE / WALK-IN FREEZER

NEW SCIENCE CLASSROOM / LAB & PREP ROOM



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Fairfield Ludlowe High SChool

Scheme 2 - First Level

SECTION VII – OPINIONS OF PROBABLE CONSTRUCTION COST and POTENTIAL PROJECT SCHEDULE

Opinion of Probable Construction Cost

The following opinion of probable construction costs outline the anticipated costs associated with conceptual Schemes 1 & 2. These costs were developed with insightful input from the Town and other project consultants familiar with the project needs and complete scope of work.

At this conceptual stage of the project, final construction and soft costs can be very difficult to accurately estimate due to yet-to-be-revealed conditions of the existing building, fluctuation in the construction industry and market, and general US and world economic conditions. For these reasons and others, contingencies and inflation factors are commonly added to estimates at this stage of the project. Additionally, it is not uncommon for programs and plans to change significantly between conceptual design and construction, especially with educational technologies, State educational requirements and teaching theory are constantly evolving to meet the needs of the students and district. It is anticipated that as these project designs, program and details evolve; updated opinions of probable cost will be developed to accurately reflect any and all changes.

Additions and Alterations 7-Jan-13

Windows, Additions, & Roof

FAIRFIELD LUDLOWE HIGH SCHOOL

785 Unquowa Road
Fairfield, CT 06824
Opinion of Probable Construction Costs
12,000 s.f. New windows and doors
11,400 s.f. Renovated Space
6,900 s.f. Additions

QUANTITY	UNIT	TASK	COST/UNIT	SUBTOTAL
6,500	S.F	CAFETERIA EXPANSION & ALTERATIONS	$280.00	$1,820,000.00
700	S.F	KITCHEN RENOVATIONS	$280.00	$196,000.00
2,600	S.F	2 SCIENCE CLASSROOM /LAB ADDITIONS (1100sf clab + 200sf prep ea)	$300.00	$780,000.00
3,400	S.F	4 CLASSROOM ADDITIONS (850sf ea)	$275.00	$935,000.00
100	E.A.	NEW LOCKERS	$300.00	$30,000.00
1	L.S.	ABATEMENT CAFETERIA AREA	$48,750.00	$48,750.00
		SUBTOTAL:	$3,809,750.00	
12,000	S.F	NEW WINDOWS	$150.00	$1,800,000.00
55	EACH	NEW DOORS AND HARDWARE	$5,000.00	$275,000.00
1	L.S.	PCB ABATEMENT WINDOWS	$1,250,000.00	$750,000.00
		SUBTOTAL:	$2,825,000.00	
120,000	SF	ROOF REPLACEMENT	$22.00	$2,640,000.00
		SUBTOTAL:	$2,640,000.00	

CONSTRUCTION TOTAL	$9,274,750.00
A/E CONSTRUCTION DESIGN, BID & CA	$463,737.50
ENVIRONMENTAL TESTING, DESIGN & CA FEES	$116,000.00
BID PRINTING & LEGAL NOTICES	$5,000.00
BORINGS	$10,000.00
MISCELLANEOUS FEES, MATERIAL TESTING	$10,000.00
DESIGN / CONSTRUCTION CONTINGENCY 15%	$1,391,212.50
SOFT COST TOTAL	$1,995,950.00

4	EA	GENERAL CLASSROOM	$50,000.00	$200,000.00
2	EA	SCIENCE CLASSROOM AND LABS	$55,000.00	$110,000.00
1	EA	CAFETERIA	$50,000.00	$50,000.00

FIXTURES, FURNITURE & EQUIP.	$360,000.00
TOTAL PROJECT COST	$11,630,700.00

EXCLUDES FINANCING COSTS
EXCLUDES ALL OFF SITE DEVELOPMENT INCLUDING UTILITIES
ESTIMATE BASED ON 2013 COSTS - ESCALATE 5% FOR EVERY YEAR THEREAFTER

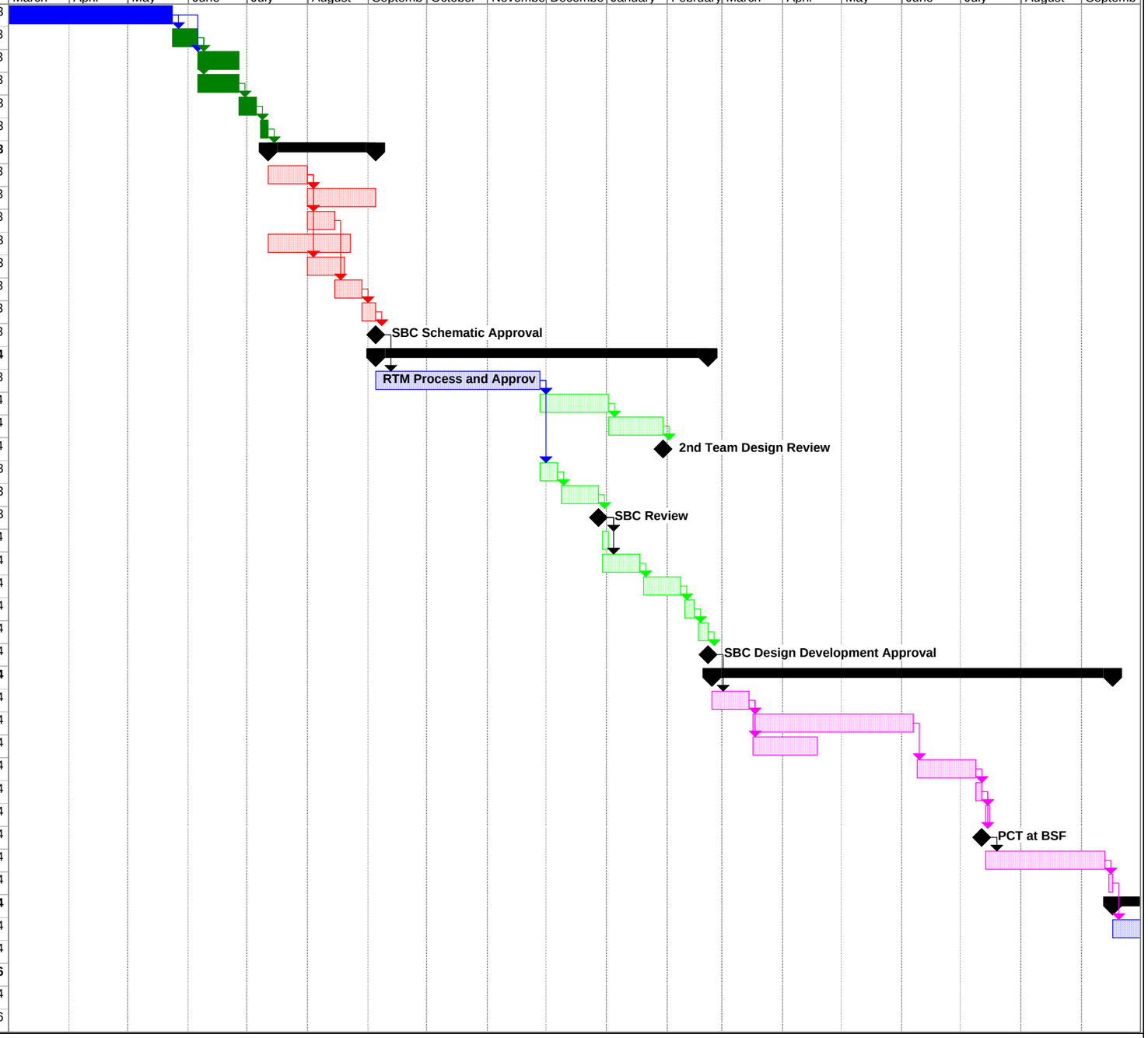
Preliminary Project Schedule

The following project schedule outlines the anticipated tasks and milestones required to take this project from the inception of the study through final State review of the documents and first phase of the project. This schedule contains many assumptions including the passing of the RTM bonding to issue funding for the project, the selection of a design architecture/engineering firm and directive to proceed with schematic design shortly after the funding approval and the timely review and approval of all construction documents by the State Department Construction Services (DCS) and Bureau of School Facilities (BSF). With all of these assumptions, it is anticipated that bid documents can be ready in May of 2014, allowing for the start of construction in the summer of that year.

Fairfield Ludlowe High School

Expansion and Alterations Schedule
Town of Fairfield

ID	Task Name	Duration	Start	Finish
1	A/E Team RFP, Interview and Selection	60 days	Fri 3/1/13	Thu 5/23/13
2	Kickoff Meeting/Feasibility Study Program Review	9 days	Fri 5/24/13	Wed 6/5/13
3	Field Surveys	15 days	Thu 6/6/13	Wed 6/26/13
4	Development Option Reviews and Selection for more Study	15 days	Thu 6/6/13	Wed 6/26/13
5	Draft Report and Review	7 days	Thu 6/27/13	Fri 7/5/13
6	Estimating and Feasibility Study Complete	4 days	Mon 7/8/13	Thu 7/11/13
7	**Schematic Design Phase**	**39 days**	**Fri 7/12/13**	**Wed 9/4/13**
8	1st Design Concepts	14 days	Fri 7/12/13	Wed 7/31/13
9	Reviews at school and Bldg Committee (SBC) to develop floor plans	25 days	Thu 8/1/13	Wed 9/4/13
10	Revise design/engineering designs and approach	10 days	Thu 8/1/13	Wed 8/14/13
11	HazMat/PCBs Testing	30 days	Fri 7/12/13	Thu 8/22/13
12	Geotechnical Borings and Engineering	13 days	Thu 8/1/13	Mon 8/19/13
13	A/E Estimating	10 days	Thu 8/15/13	Wed 8/28/13
14	Reconcile Detailed Estimates with CM, review with SBC	5 days	Thu 8/29/13	Wed 9/4/13
15	SBC Schematic Approval	0 days	Wed 9/4/13	Wed 9/4/13
16	**RTM Approval and Design Development**	**122 days**	**Thu 9/5/13**	**Fri 2/21/14**
17	RTM Process and Approval	60 days	Thu 9/5/13	Wed 11/27/13
18	Develop Plans and Details	25 days	Thu 11/28/13	Wed 1/1/14
19	Develop Elevations, Details, Schedules	20 days	Thu 1/2/14	Wed 1/29/14
20	2nd Team Design Review	0 days	Wed 1/29/14	Wed 1/29/14
21	Re-Field Survey	7 days	Thu 11/28/13	Fri 12/6/13
22	Develop Building Details	15 days	Mon 12/9/13	Fri 12/27/13
23	SBC Review	0 days	Fri 12/27/13	Fri 12/27/13
24	Plan Review with Local Officials	3 days	Mon 12/30/13	Wed 1/1/14
25	Design Development Specifications	15 days	Mon 12/30/13	Fri 1/17/14
26	CM Estimating	15 days	Mon 1/20/14	Fri 2/7/14
27	Reconcile Detailed Estimates with CM, review with SBC	5 days	Mon 2/10/14	Fri 2/14/14
28	Reconciliation with Program Team	5 days	Mon 2/17/14	Fri 2/21/14
29	SBC Design Development Approval	0 days	Fri 2/21/14	Fri 2/21/14
30	**Construction Document Phase**	**147 days**	**Mon 2/24/14**	**Tue 9/16/14**
31	Detailed Field Surveys and Engineering Verifications	15 days	Mon 2/24/14	Fri 3/14/14
32	100% CDs	60 days	Mon 3/17/14	Fri 6/6/14
33	CD Specifications	25 days	Mon 3/17/14	Fri 4/18/14
34	CM Estimating	22 days	Mon 6/9/14	Tue 7/8/14
35	Bldg Committee + BOE Approval	3 days	Wed 7/9/14	Fri 7/11/14
36	Coord Bid Docs with CM and Finance Dept	2 days	Mon 7/14/14	Tue 7/15/14
37	PCT at BSF	0 days	Fri 7/11/14	Fri 7/11/14
38	BSF Plan Review (duration??)	45 days	Mon 7/14/14	Fri 9/12/14
39	State DOE BSF Approval to Bid	2 days	Mon 9/15/14	Tue 9/16/14
40	**Bidding**	**50 days**	**Wed 9/17/14**	**Tue 11/25/14**
41	CM Bidding	35 days	Wed 9/17/14	Tue 11/4/14
42	SBC Bid Reviews and Award	15 days	Wed 11/5/14	Tue 11/25/14
43	**Construction**	**490 days**	**Wed 11/26/14**	**Tue 10/11/16**
44	Mobilize and Shop Drawings	20 days	Wed 11/26/14	Tue 12/23/14
45	Construction Duration (Guesstimate at this point)	470 days	Wed 12/24/14	Tue 10/11/16



Conceptual Stage Project Schedule
Date: Tue 1/22/13

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Silver/Petrucelli & Associates, Inc.
Architects / Engineers / Interior Designers

SECTION VIII –CT DOE GRANT OPTIONS

Below is a description of the standard Department of Education reimbursement process that will likely be sought for this project, comparable to that recently completed for the expansion and alterations at Stratfield Elementary School and at Fairfield Woods Middle School:

'Standard Reimbursement'

-Only state recognized alterations/upgrades are allowable for reimbursement from the State.

-The specified alterations are reimbursed by the State at the Town's reimbursement rate.

-Replacement or repair of systems, finishes, equipment etc. is NOT considered to be eligible for reimbursement.

-Typically, the Town picks up most of the cost for these types of repairs, replacements and updates.

Using either scheme 1 or 2 as a base for this analysis, the Conceptual Design Estimate is approximately $11.63 million; however, only about $8.8 million of this amount will be eligible for reimbursement from the State at Fairfield's current alteration/expansion rate of 27.5%. Therefore, approximately $2.45 million will be reimbursed, resulting in a net project cost to the Town of about $9.18 million.

State Space Standards Worksheet

The Space Standards Worksheet is a tool created by the State Department of Education to assist districts in calculating the maximum total facility square footage eligible for reimbursement for any given project. The results of this worksheet either confirm or deny that the facility in question is within its allowable square footage and therefore, eligible or ineligible for full construction reimbursement from the State. Any overage above the allowable square footage would result in a prorated penalty or reduction in the projects allowable eligible costs.

We completed the worksheet and calculations derived from the following baseline information.

Highest Projected 8-Year Enrollment 1,839

Existing and Proposed Square Footage Summary; 305,000 SF

Utilizing this information, the Space Standards Worksheet indicates that the maximum square footage allowable for full reimbursement at Ludlowe high school is 320,905 SF. Any square footage built over this amount will receive partial reimbursement, or in the case of the conceptual schemes, the proposed square footage of 305,000 will not result in a reduction of eligible costs. It is not uncommon for schools around the State of Connecticut to exceed the maximum square footage, and fortunately Fairfield Ludlowe High School does not fall into this category.

SECTION IX - PHOTOGRAPHS

Cafeteria

Cafeteria

Cafeteria

Food Service Line

Food Prep Area

Food Storage Area

Loading Area

Courtyard

Courtyard entrence/ exit

Gang Bathroom

Enclosed Courtyard

Enclosed Courtyard

Science Classroom / Lab

Science Prep Room

Science Classroom / Lab

Science Prep Room

Science Classroom / Lab

APPENDIX A

Hazardous Materials Testing Review and Cost of Remediation Estimate Report

Hazardous Materials Testing Review and Cost of Remediation Estimate

Cafeteria, Toilet Rooms, and Window Replacement Project
Fairfield Ludlowe High School
Fairfield, Connecticut

Silver Petrucelli & Associates

Hamden, Connecticut

January 2013

Fuss & O'Neill EnviroScience, LLC
56 Quarry Road
Trumbull, CT 06611

Project No. 20110458.A2E

FUSS & O'NEILL
EnviroScience, LLC

January 10, 2013

Mr. William Silver
Silver Petrucelli & Associates
3190 Whitney Avenue
Building 2
Hamden, CT 06518

RE: Hazardous Materials Testing Review and Cost of Remediation Estimate
Cafeteria, Toilet Room, and Window Replacement Project
Fairfield Ludlowe High School
785 Unquowa Road, Fairfield, Connecticut
Fuss & O'Neill EnviroScience Project No. 20110458.A2E

Dear Mr. Silver:

Enclosed is the report for the hazardous materials testing review and cost of remediation estimate for the cafeteria, toilet rooms, and window replacement project at Fairfield Ludlowe High School located at 785 Unquowa Road in Fairfield, Connecticut.

The initial review and cost of remediation estimate is based on a review of the AHERA and PCB testing records for Fairfield Ludlow High School and a site walk thru conducted at the school by Fuss & O'Neill EnviroScience, LLC.

If you have any questions regarding the contents of this report, please do not hesitate to contact us at (203) 374-3748. Thank you for this opportunity to have served your environmental needs.

Sincerely,

Kevin McCarthy
Senior Scientist

Kevin W. Miller, Ph.D.
President

KM/nw

Enclosure

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Connecticut
Massachusetts
Rhode Island
South Carolina

FUSS & O'NEILL
EnviroScience, LLC

Table of Contents

Hazardous Materials Testing Review and Cost of Remediation Estimate Silver Petrucelli & Associates

FUSS & O'NEILL
EnviroScience, LLC

Introduction

Fuss & O'Neill EnviroScience, LLC (EnviroScience) was retained to perform a Hazardous Materials Testing Review and develop a Cost of Remediation Estimate related to the Cafeteria, Toilet Rooms, and Window Replacement Project at Fairfield Ludlowe High School, 785 Unquowa Road, Fairfield, Connecticut.

Hazardous Materials Testing Review

Following a review of the available documents, the following information was extracted:

Cafeteria

Location	Material Type	% Asbestos	Quantity
Throughout 1961 Building –Cafeteria	Floor Tile and Associated Mastic	Unknown *No testing data identified* *Materials should be tested for asbestos content*	~6,500 SF
	Dampproofing Behind Brick		

Gymnasium

Location	Material Type	% Asbestos	Quantity
Throughout 1950, 1961, and 1971 Buildings – Toilet Rooms	Pipe Insulation in Walls	Unknown *No testing data identified* *Materials should be tested for asbestos content*	~5,000 SF
	Ceramic Wall and Floor Tile		
	Mirror Mastics		

Windows

Location	Material Type	% Asbestos	PCBs (mg/kg)	Quantity
Throughout 1950, 1961, and 1971 Buildings – Exterior Windows	Exterior and Interior Window Caulking and Glazing Compounds	None Detected – 10% Chrysotile	None Detected – 660,000	~ 150 Window Systems

Conclusions and Recommendations

Cafeteria

Based on a review of the hazardous materials testing performed, EnviroScience concludes and recommends the following related to the proposed renovation of the cafeteria:

- Materials to be disturbed during renovation should be sampled for asbestos content.
- An asbestos abatement specification should be developed for removal of ACM identified.

Toilet Rooms

Based on a review of the hazardous materials testing performed, EnviroScience concludes and recommends the following related to the proposed renovation of the toilet rooms:

- Materials to be disturbed during renovation should be sampled for asbestos content.
- An asbestos abatement specification should be developed for removal of ACM identified.
- Following removal of ACM by a licensed Asbestos Abatement, re-occupancy air clearance testing is required.

Windows

Based on a review of the hazardous materials testing performed, EnviroScience concludes and recommends the following related to the windows:

- 1950, 1961, and 1971 Building Window Systems

  - Additional sampling of materials needs to be performed to characterize the asbestos content and PCB content to be in compliance with CTDPH and EPA regulations and guidance documents. The CTDPH requires a minimum of two (2) samples to adequately characterize a material as non-ACM while the EPA requires a minimum of three (3) samples to adequately characterize a materials as <50 ppm PCB containing or <1 ppm PCB containing.
  - Adjacent surface sampling of the porous brick and soil, concrete, and/o asphalt located under the >50 PPM exterior window caulking and glazing compounds needs to be performed to determine if the materials are PCB contaminated.
  - A Self Implementing Cleanup and Disposal Plan needs to be developed for the remediation of the window systems if the project is funded through BSF.
  - Following removal, verification sampling would need to be performed of the adjacent brick, block, and/or asphalt following remediation.

Cost of Remediation

Cafeteria

Item	Quantity	Unit Cost	Total Cost
Sampling of Materials for Asbestos Content	1	$1,000.00	**$1,000.00**
Development Asbestos Abatement	1	$2,500.00	**$2,500.00**
Asbestos Abatement	6,5000 SF	$7.50/SF	**$48,750.00**
Construction Administration, Project Monitoring, and Verification Sampling *Based on 2 Weeks of Remediation*	1	$10,000.00	**$10,000.00**
		Subtotal:	**$62,250.00**
		~10% Contingency:	**$6,225.00**
		Total:	**$68,475.00**

Toilet Rooms

Item	Quantity	Unit Cost	Total Cost
Sampling of Materials for Asbestos Content	1	$1,000.00	**$1,000.00**
Development Asbestos Abatement	1	$2,500.00	**$2,500.00**
Asbestos Abatement	5,000 SF	$10.00/SF	**$50,000.00**
Construction Administration, Project Monitoring, and Verification Sampling *Based on 2 Weeks of Remediation*	1	$10,000.00	**$10,000.00**
		Subtotal:	**$63,500.00**
		~10% Contingency:	**$6,350.00**
		Total:	**$69,850.00**

Windows

Item	Quantity	Unit Cost	Total Cost
Additional Sampling for Asbestos and PCB Characterization	1	$25,000.00	**$25,000.00**
Development of Self Implementing Cleanup and Disposal Plan	1	$2,500.00	**$2,500.00**
Remediation and Disposal of >50 PPM PCB Containing Window Systems, Brick, Block, and Soil, Concrete and/or Asphalt	150 Systems	$5,000.00	**$750,000.00**

Item	Quantity	Unit Cost	Total Cost
Assumes that Brick, Block, and Soil, Concrete and/or Asphalt Are PCB Contaminated			
Construction Administration, Project Monitoring, and Verification Sampling *Based on 8 Weeks of Remediation*	1	$75,000.00	**$75,000.00**
		Subtotal:	**$852,500.00**
		~10% Contingency:	**$85,250.00**
		Total:	**$937,750.00**

Report prepared by:

Kevin McCarthy
Project Manager

Report reviewed by:

Kevin W. Miller, Ph.D.
President