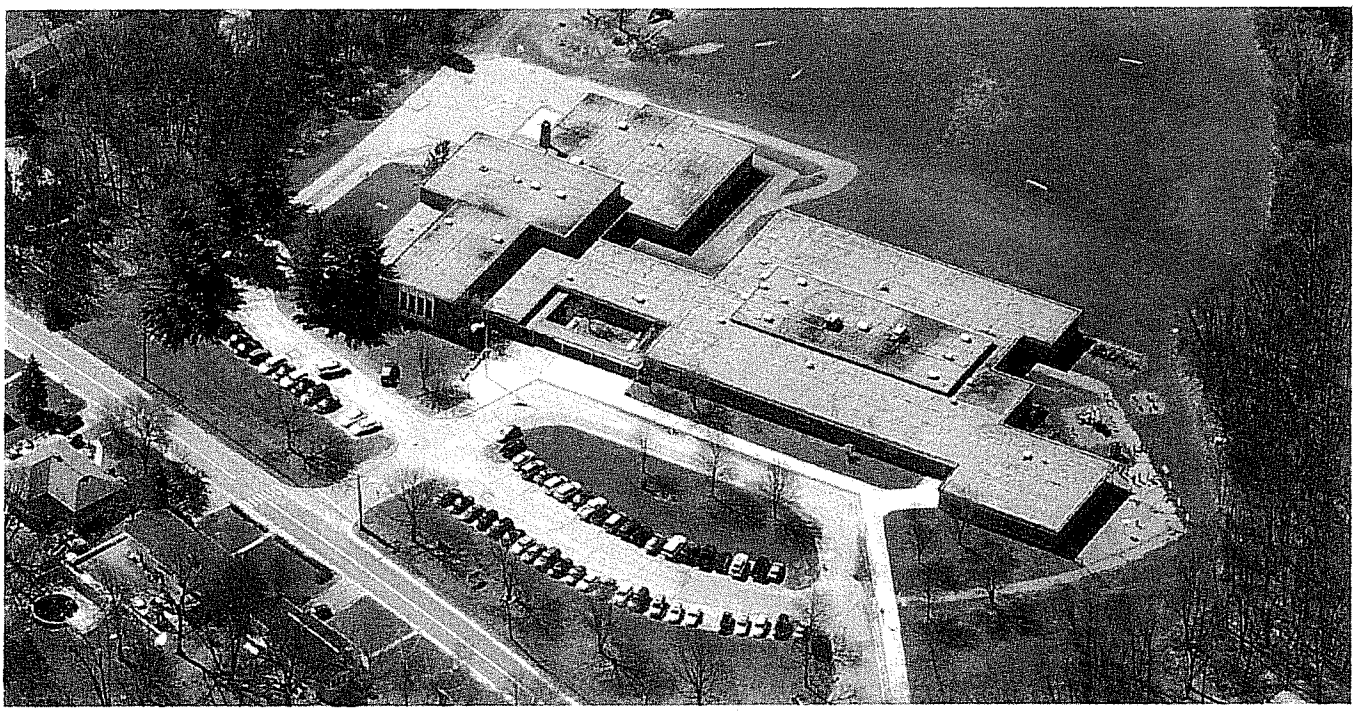
FULLER
D'ANGELO
P.C.
ARCHITECTS
PLANNERS

CITY OF DANBURY
FACILITY PLANNING STUDY FOR
ELEMENTARY SCHOOL ADDITION

STADLEY ROUGH ELEMENTARY SCHOOL
25 KAREN ROAD, DANBURY, CT 06811



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City Engineer: Farid Khouri, PE
Superintendent: Dr. Sal V. Pascarella
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SECTION 1. PROJECT OVERVIEW
EXECUTIVE SUMMARY

INTRODUCTION:

Stadley Rough Elementary School is located on 25 Karen Road, Danbury, CT 06811 just north of downtown Danbury in a suburban setting. The site totals 15.93 acres and the school has a large field area to the south west of the building proper.

Stadley Rough Elementary School was originally constructed in 1971 and later planning took place in 1988, as the original building consisted of an open plan school, which was closed, partitioning off individual rooms, around the centralized Media Center and individual classrooms construction was completed in 1989. The building is a single level structure with a basement area on the most south portion of the building. Currently, the main portions of the classroom spaces circulate around the Media/Computer room. The Gymnasium and Cafeteria with stage are placed towards the south east side of the building. The main entrance faces north and has a large lobby.

The basement contains a boiler room, outdoor storage, and was originally going to contain locker rooms however these do not appear to ever have been constructed. This basement space remains empty for storage and currently has a fall-out shelter with stored emergency materials. This basement storage open area has exiting and is below grade with no exterior windows. It is not suitable for classrooms without significant modifications; even with same it would be limited.

See the existing plan in Section 2

The building contains 55,175 sq ft, including an exterior canopy overhang at the front entrance of the building, comprising approximately 900 sq ft.

Our firm is not aware of any prior feasibility studies for other construction projects at this school.

Mission Statement:
Stadley Rough School is committed to equipping students with the tools they need for academic, personal and social achievement.

Stadley Rough School enables every student to reach their highest potential by establishing a curriculum that meets or exceeds government standards for education; providing extracurricular programs that develop children's mental, physical and social skills; and partnering with parents and the community to create an environment geared to the success of all students.

Taken from the school website.

Stadley Rough Elementary School has two sister schools and, since Stadley Rough has more land than its sister schools ,and an easier logistically correct site in which to construct, it has been chosen by Danbury for an addition.

The overall enrollment will include some students from sister school increased counts.

Stadley Rough's sister Schools consist of Great Plain Elementary and Hayestown Elementary Schools.

Current student enrollment at Stadley Rough School is 477 students and Danbury is anticipating enrollment of 574, an increase of 97 pupils. After discussion, an addition of three classroom spaces along with other support areas will be added for educational facilities.

Project Constraints include setbacks and drive access to the lower floor of the building on the eastern side of the school. The school is fairly close to the property line on the East and on the opposing west side, there is a heavily wooded area as well as playground and emergency vehicle access around both sides of the building, the East side houses the current Kindergarten wing. To the north is the main entrance and parking area. An expansion in these directions does not seem feasible, except in front of the Cafeteria.

The open land area is to the south of the existing building.

Attached in Section 2 of this report, one can find existing plans of the building with current space labeling.

Per the attached minutes in the appendix portion of the report, one can find the student enrollment data which calls for the increases of students throughout the district. Danbury has extrapolated these figures. Sister school counts have been added to the increase at Stadley Rough and this was the makeup of the projected 97 student increase.

Development of Educational Program in the recommended solution is being enhanced in several ways.

Firstly, adjacencies are being slightly regrouped, keeping the 5th Grade, 4th Grade and 3rd Grade, circumnavigating the Media Center. Adjacent to the 5th Grade, down a short corridor, shall be a new Art Room, larger in size, than the previously re-captured classroom, which was previously turned into an Art Room. Also, with the addition

placement in the south, the second and first grade cluster becomes more streamlined to same.

There shall be a new open courtyard, to the south of the Administration, which will now be secure to the occupants of the building.

In the lower basement area, no work is being planned; however, an optional elevator is being placed for future accessibility to same and space below the new addition.

The above combinations of proper school design will greatly enhance ability of the educational programs to deliver better program spaces, in which to teach. This redevelopment of space enhancement along with new spaces also improves educational program adjacencies.

Site selection for the addition became relatively evident for one area, Area A, as this area provides the most positive attributes and was clearly a prominent location delivering a student circulation loop between the current east and west student classroom wings. Tying these two together became clearly the most feasible building, and also allows students from the 5th Grade wing and Media Center another accessible route to the Gymnasium, Cafeteria and other asset areas of the school.

The student portion of the building is handicapped accessible and is noted above that by adding an elevator, it would also make the lower floor level accessible, and however these existing spaces are all "interior" in nature and not suitable for classrooms.

Our understanding of the schedule from Danbury Engineering and Board of Education is that it will take approximately one year to obtain City/State approvals, one year for design and City/State approvals, and another year for construction. The first step are for EDO-49's to be approved and submitted by the City and filed with the State to allow the BSF to register the proposed expenditure with the State.

The school shall require Cafeteria expansion of approximately 1,200 sq. ft. in order to provide additional tables for the students. This is easiest to accomplish by pushing the front face of the Cafeteria out towards Karen Road, there would still be room for parking expansion in front of same. Currently, the kitchen serving area is modular and placed inside the Cafeteria as the old service line is limited and would require heavy modification to provide new within the kitchen area.

The budget for this planned Concept addition and other expansions and improvements is based on the following design parameters:

A new classroom wing	5,000 sq. ft.
An elevator (ALT)	80 sq. ft.
A Cafeteria Addition (ALT)	1,200 sq. ft.

Re-distribution of classrooms
Revised site work improvements
Adjusted parent/bus traffic pattern and circulation (ALT)
Some additional parking (ALT)

(ALT)= A bidding Alternate to the project to assist in controlling overall project costs.

Additionally the cost estimate includes hard and soft costs, alternates are included under the base costs.

The Hard Costs include material and labor escalations to mid-point of construction duration dates and project contingencies.

The contingency figure includes fees, project development costs, surveys, borings, bonding costs, FFE, IT, Legal and other standard items.

The soft costs include A/E/Hazmat fees, special consultants, project development costs, escalation, and a contingency figure.

Conceptual Base Project Budget:

Hard Cost Total:	$ 2,119,910
Soft Cost Total:	$ 593,575
Project Total:	$ 2,713,485

The project will be submitted for BSF reimbursement at the City of Danbury rate of approximately 53%. If the State reimbursement is attained, the base work cost to the City of Danbury for this project should be $1,275,337.

Land Use Approvals for the City of Danbury will include the usual departments and processes, along with a full Bureau of Schools Facilities (BSF) review and approval to competitively bid process.

Community use of the fields to the north is significant after school hours and mostly on weekends. Parking and drives are being expanded mostly in the north area, which is not directly contingent to the fields, however, provides additional parking. The placement of this building addition does not affect any open "GREEN" area athletic space directly, and further will not impact same during the construction process.

Fuller and D'Angelo's building design has always been sustainable. We understand that the schools can impact the environment especially through use of solid, quality recyclable materials, and these materials are what should be used in a heavily trafficked and long term expectancy structure. Also, this type of design enlightens students about the "GREEN design" aspects of a building. Further, it is truly important,

with the use of proper quality materials and various insulating values, to save energy costs as much as possible. This provides a good "long term value".

Currently Information Technology (IT) in the building includes various smart board technologies and a computer room as part of the media center, we understand that this Smart Board technology will continue to move through and be incorporated into the new building. This is of course the same with the PA and telephone systems, see the separate write up by AKF engineer's on same.

Security in schools is also very important. This building placement creates an inner courtyard for students to enjoy and continue with their experimentation. Currently, there is a growing garden, water feature and other such items within this courtyard. These will now be better protected and expandable within the school courtyard proper. Access to the inner courtyard will not be available from the outside and shall have proper exiting from within; however, new exits shall be required by Code.

Furniture, Fixtures and Equipment for standard new classrooms are anticipated to be included in the interior build-out of the addition. Existing furniture would be used in the remainder of the School.

The Architects' main thrust for the site circulation is to separate bus and car traffic as much as possible. Proper Fire Code circulation around the entire perimeter of the building will need to be considered at a later date and possible incorporated into the further development phases upon the square footage review and various fire areas, etc.

With regard to circulation adjustments for cars and busses, it is conceived that two loops shall be created, pushing the parking a little closer to Karen Road, the existing road, closest to the school would be used for buses and a new roadway further from the School for parents. Proper designated crossing areas will be required and as school bus personnel are well trained, this scheme seems to be most suitable.

The Stadley Rough ES addition was programmed along with the City of Danbury and Danbury Board of Education Administration. The classroom counts and adjacencies of new spaces have been reviewed and agreed to by the parties, Administrators, and also the school building Principal reviewed and confirmed additional spaces, placement and the size of additions to be been completed.

Initial conceptual cost estimates have been reviewed by the City. Final conceptual costs are included within this report.

DESIGN PROCESS AND SCHOOL PROFILE:

During the design process, our firm reviewed the site, the current utilities, and site and building constraints. With the agreed student enrollment increase, logistics of construction and adjacencies, and student flow were a controlling factor in the proper design of the school addition. The site requires to be constructed while school is in session as the construction duration shall extend past a single summer.

This building shall require creative exiting during the construction process, however, can be constructed while school is in session.

Construction impact for this site and its imposition on the educational process was discussed with various personnel. Minutes of these meeting can be found in the Appendix of the report. All discussions were open to one another, in order to create a positive and streamlined, inclusive concept design process.

The below parties have conceived, reviewed the new building area, enrollment and project size, and a consensus was reached to construct the three rooms along with the support spaces and new toilets for the school. The resulting design Concept Plan can be found after this section.

PROJECT TEAM:

City:	
Director of Public Works	Antonio Iadarola
City Engineer	Farid Khouri
City Construction Engineer	Thomas Hughes
Public Buildings Superintendent	Richard Palanzo
Danbury Public Schools:	
Assistant Superintendent	Dr. Bill Glass
Stadley Rough ES Principal	Ms. Mary Johnson
Design Team – Fuller and D'Angelo, PC:	
Lead Architectural Principal	Joseph Fuller AIA
Chief Designer	Said Zomorrodian
Project Architect	Frank DiFato RA
Engineers	
Lead Engineering Principal	Ryan Malin, PE
Mechanical Engineer	Joseph Macaluso, PE
Electrical Engineer	Fred Michelson, PE

CREATING THE CONCEPT DESIGN:

The programming and planning of the project started with the site containing an existing school building. The positioning and fabric of the facility as it stands is the fundamental element in the design of a school addition. The process of design from this point involves Danbury's sister school concept with a projection of increased enrollment as noted by the Administration. This was derived from enrollment projections with additional sister school facility enrollments factored into the addition sizes, thereby projecting the number of additional classes required. A net to gross factor was added and support spaces increased after a review of the school by the Architects and Engineers.

The process included enrollment discussions, planning concepts, student flow criteria, and size of addition agreements between all parties. Economy was a factor.

The resultant solution marries all of the above factors of concept design to meet the District's program goals and budgets, while also planning for the future with an expandable building concept.

A. Firstly, the design team reviewed the school site and then met with the educators and City to confirm information and gather data, which can be found in the Appendix. Data as a summary is included within this section, including existing and new program requirements. Objectives were determined and discussed as was the survey provided by the City for the property.

   Current space conditions and adjacencies were obtained and can be found in the attached plan of the school. The chart indicates the various room spaces.

   The current space includes basic Danbury Elementary School required classes, including a smaller Art Room and internal Music class. A new larger Art Room with north light is being added with the addition. The former Art Room, a classroom size space, is suggested to be converted to a 3rd Classroom Grade.

B. The planning criteria were analyzed and evaluated by the architectural team and a single site concept area became prominent.

SUMMARY OF DISCUSSIONS:

C. The basis of design of the development of the building can be found in discussions which were documented in Minutes of Meetings in the Appendix portion of the report. They include discussions of existing requirements and proposed requirements for additional spaces, as identified.

Adjacencies were closely discussed particularly as to how they can best suit the educational program and also deliver an environment for the pupils, administrators and staff within the facility to better respond to educational issues.

SPACE PROGRAM REQUIREMENTS:

D. Space program requirements were revised again with the Administration and the City with regard to new spaces required. This is based on the City and Administration review of the demographic studies, their sister school enrollment increases, and the City's plan as to which students from sister schools and that count of students shall attend the Stadley Rough ES.

Educational Facility design guidelines need to be considered during the schematic, design development and construction document phases of the project. The current final program, as received from Danbury, includes twenty-five students per classroom occupancy and conforms to an educational specification with separate Art Rooms and Music Rooms within the school. This is a maximum style program design, as was noted to Danbury by the Architect.

E. The final program and design concepts derived several different build areas. With the City of Danbury input, the design team was able to easily evaluate the best site logistics, ease of construction and the least amount of disruption of the educational program while the building process is on-going. It also addresses site restrictions, zoning, and increase of parking count and utilities, which shall be required with the new building addition.

F. The current boiler plant is new and can easily support this addition and is fairly close to same for an economic factor of providing various mechanical support to the design of the addition.

G. The Architects reviewed option A and the CAF addition with the Administrators and the City for their review and comment, and this option was accepted.

H. The next step was costing and budgeting for the design solution.

Concept plans were derived from the selected building addition in Area and submitted to Construction Program Solutions (CPS) for professional cost estimating of educational facilities.

Stuart Schiller then provided take-offs analyzed with the Architect's input including the quality of materials for construction, and provided final budget estimates based on the scope of work reflected for the addition. Also, the new elevator, the Cafeteria Extension and Parking expansion/ new Drop offs with related site work was included in the cost estimates, as an alternate, so as to break down the overall costs of the project.

I. Both the design concept and also the budgets shall be reviewed by the City of Danbury and Board of Education seeking budget approval after a PowerPoint slide presentation is made by the Architects.

J. The Board of Education shall be required to approve this feasibility report and authorize the Superintendent's office to submit the Grant Application to the State of Connecticut Bureau of School Facilities in Hartford to commence this project.

STADLEY ROUGH ELEMENTARY SCHOOL MISSION STATEMENT:

Mission Statement:

Stadley Rough School is committed to equipping students with the tools they need for academic, personal and social achievement.

Stadley Rough School enables every student to reach their highest potential by establishing a curriculum that meets or exceeds government standards for education; providing extracurricular programs that develop children's mental, physical and social skills; and partnering with parents and the community to create an environment geared to the success of all students.

Taken from the school website.

SECTION 2: EXISTING BUILDING AND PROGRAM

The building consists of 55,175 square feet, with a front entrance exterior canopy totaling 900 square feet.

Stadley Rough Elementary School is located on 25 Karen Road, Danbury, CT 06811 just north of downtown Danbury in a suburban setting. The site totals 15.93 acres and the school has a large field area to the south west of the building proper.

Stadley Rough Elementary School was originally constructed in 1971 and later planning took place in 1988, as the original building consisted of an open plan school, which was closed, partitioning off individual rooms, around the centralized Media Center and individual classrooms construction was completed in 1989.

The land is mostly flat except as it moves from the building edges towards the south, the land drops quickly by approximately 14 feet to a new lower plateau area, which is also flat to the south, containing the playground and athletic fields.

The front of the school building faces Karen Avenue and to the north and between the school and Karen Avenue is the current parking and combined parent and bus circulation loop. Both the east and west sides of the building are wooded, and are fairly close to their property line boundaries. The playgrounds and athletic fields are almost entirely bordered by wooded tree areas.

The original building was designed as educational usages and the school's main entrance faces Karen Avenue and would be adequate to handle the suggested student population increase of 574 students, as pre-assembly area within the front door is fairly large.

The building is fully handicapped accessibility on the main levels however, the lower level of building, which does not include students, does not have vertical elevator transportation.

The main floor contains all of the standard classroom spaces and standard support room areas.

The basement contains a boiler room, outdoor storage, and was originally going to contain locker rooms however these do not appear to ever have been constructed. This basement space remains empty for storage and currently has a fall-out shelter with stored emergency materials. This basement storage open area has exiting and is below grade with no exterior windows. It is not suitable for classrooms without significant modifications; even with same it would be limited.
The school building currently has a gym auditorium of 4,600 sq ft located on the north-west corner.

The Cafeteria contains a stage and is smaller in area; the serving line is within the cafeteria space now.

The most significant issues of the Stadley Rough Elementary School are the adequacy of the current program space, especially with an increase in enrollment.

It has become necessary to creatively utilize many small existing spaces within the building including some rooms on the lower level and some overlapping of program spaces on the upper level.

The existing program currently further lacks a Music Room and Art Room, which are both taught al-la-carte. Also, the Cafeteria appears close to its maximum capacity handling the current three-shift lunch periods.

It should be noted that all classrooms do have natural light. With an addition, the increase of student enrollment can be overcome and related program goals can be met.

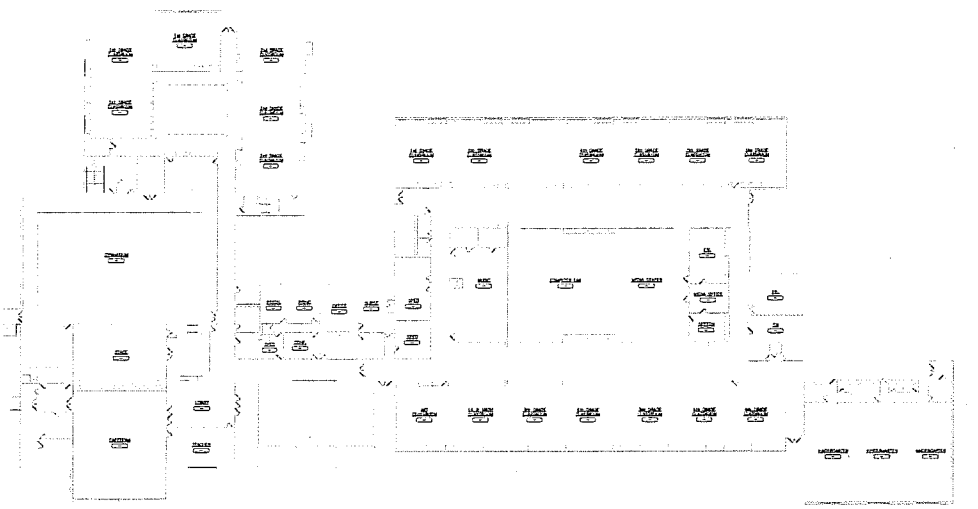
The only road providing vehicular accessibility to the site is Stadley Rough. Attached please find an existing floor plan.

The existing Stadley Rough Elementary School program can be found below in Table P-1. Further, in order to relate the program to the existing plans, please find the existing Architectural floor plans in Table P-2.

Stadley Rough Elementary School
Existing Classroom Chart per grade

Grade	Existing
K	3
1	4
2	3
3	3
4	4
5	3
Music	1
Art	1
ESL	3
Speech	1
Computer	1
Media	1
Gymatorium	1
Cafeteria	1
	30

P-1



1 PLAN

P-2

BUILDING INFRASTRUCTURE OVERVIEW

Mechanical/Electrical/Plumbing for the Stadley Rough Elementary School were reviewed with the Architect and also AKF Engineers. As part of the conceptual feasibility requirement, AKF was asked to visually review the school's existing spaces and comment on the Mechanical/Electrical/Plumbing systems of the school to determine the impact of a proposed building addition of the school complex.

Information of the systems can be found below as well as a brief description of a conceptual scope of work for new Mechanical/Electrical/Plumbing systems for the addition.

1. Mechanical

Heating Plant: Two gas/oil fired hot water boilers of 4600 MBH each. One boiler is new; installed under boiler replacement project. The capacity of each boiler with the proposed building addition is 100% of estimated full load and is sufficient for the planned addition. Heating is provided by perimeter radiation.

Existing classroom ventilation is provided by exhaust. New classrooms should be provided with ventilation supply systems; recommend heat recovery type rooftop systems.

The Media Center is the only central air conditioned space. No additional air conditioning is planned.

Automatic control system is pneumatic and can be extended into the proposed addition.

2. Electrical

Electric Service: 1200Amp rated at 208/120Volt, 3Phase, 4Wire, 60Hertz from an interior transformer vault on utility meter #89179651. General Electric service switchboard appears original consisting of a main fused switch, metering compartment, and circuit breaker distribution. Actual fusing of main switch could not be observed as this determines service size (i.e. 1000Amp) possibly less than the 1200Amp equipment rating.

Electric Upgrade: The peak KW power demand over a 2year period will be required from Utility Company to determine available capacity in the service for the approximate 80KW of diversified load by the planned addition. Due to age of switchboard, replacement is recommended. Subject to available service

capacity, a 1200 or 1600Amp service size is anticipated and a new exterior pad mount transformer typically is required by the Utility Company. Distribution feeders to the new building addition are anticipated to go underground.

Intercom/Public Address: Bogen switch rack interfaced to the building telephone system with administrative desktop phones as the primary means for communications. Rack is an older generation, appears serviceable, and capable to support the planned addition with some upgrade to switching.

Clock: American Time & Signal programmable master clock controller with synchronous or impulse signaling to hard-wired clocks. Controller is an older generation, system appears serviceable, and capable to support the planned addition with the aid of booster power supplies.

Fire Alarm: Simplex control panel with zoned peripheral smoke detectors, pull stations, audible/visual signals, and auxiliary devices for other systems. Panel is current, peripherals are old, system appears serviceable, and capable to support the planned addition with the aid of booster power supplies and additional controls. ADA compliance of the visual signals requires further evaluation with potential replacement and additions.

3. Plumbing

Water and sanitary Service: City water supply and sewer connection.

Domestic Hot Water: Primary; Storage tank with heat exchanger fed from boilers. Summer: Gas-fired independent water heater.

These services are sufficient to support the planned addition with no expansion of the kitchen.

SECTION 3. ENROLLMENT REVIEW
STADLEY ROUGH ES ENROLLMENT PROJECTIONS

City of Danbury received a report dated November 21, 2011 from Peter M. Prowda,, PhD, for Danbury Public Schools enrollments projected through 2021. After their review, they quickly reacted to the projections by requesting the Board of Education and other City personnel to come agreement on how the projected increase of students would be handled throughout. Our understanding is that a sister school concept was created and that three main elementary schools, all of which have more buildable areas and land than others, were selected as the primary sister, namely Park Avenue, Shelter Rock and Stadley Rough Elementary schools.

Stadley Rough ES sister schools are Great Plain and Hayestown.

The Figure 1 chart below depicts Danbury enrollment and the State pattern.

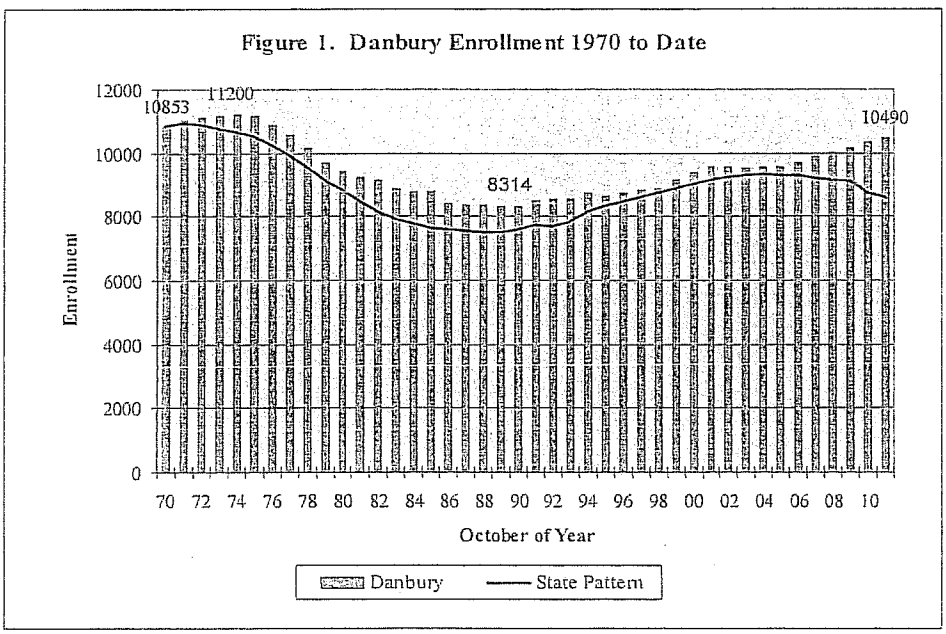


Figure 1

It is apparent as one views towards the right-hand side of the chart, that Danbury is exceeding State patterns. This is most probably due to the fair business and housing environment within Danbury during current economic times, with the tax base being

lower than adjacent towns and cities. Also with a higher rental property distribution, this increased enrollment conclusion appears easily evident.
Please see Figure 1 chart below which was extracted from the report. The report notes that the Danbury School Organization of K-5, 6-8 and 9-12 should be self-explanatory and the report includes 41 years of enrollment for a wide historical perspective. The report also includes its projection methods, total district enrollment, enrollment by Grade and other such valuable planning information.

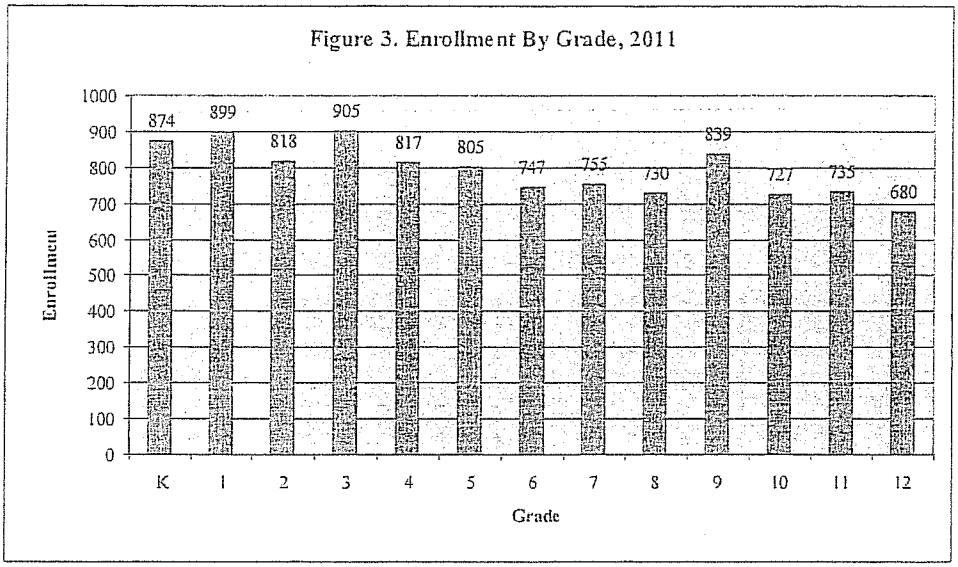


Figure 1

The City of Danbury, after analyzing this report, as well as the Board of Education, have slated Stadley Rough ES and the two sister schools, Great Plain and Hayestown, for a student population increase of 97 students.

This is from the existing pupil enrollment of 477 to a projected pupil enrollment of 574.

In order to accomplish this, five new classrooms are being added, within the new addition building

Further, the existing enrollment provides 115 sq ft per student, below the school construction space requirements for Pre-K and K, and Grades 1-4 of 120 and below the Grade 5-6 maximum allowable square footage per person. Further, please find the February 15, 2011 School Construction Space Requirements in the Appendix of this report.

It should be noted with the classroom addition to Stadley Rough Elementary School, a new figure of 105 sq ft per pupil shall be below the maximum allowable square footage and therefore the District should be allotted full reimbursement for its State Grant compilation purposes. Please see Chart 1 below.

State Space Specification for Reimbursement Purposes

Projected Enrollment	Grades				
	Pre-K and K	1 to 4	5 to 6	7 to 9	10 to 12
	Maximum Allowable Square Footage per Pupil				
0-350	124	124	156	180	194
351-750	120	120	152	176	190
751-1500	116	116	148	170	184
Over 1500	112	112	142	164	178

Chart 1

The full report can be found in the Appendix.

SECTION 4. CONCEPTUAL DESIGN SOLUTION

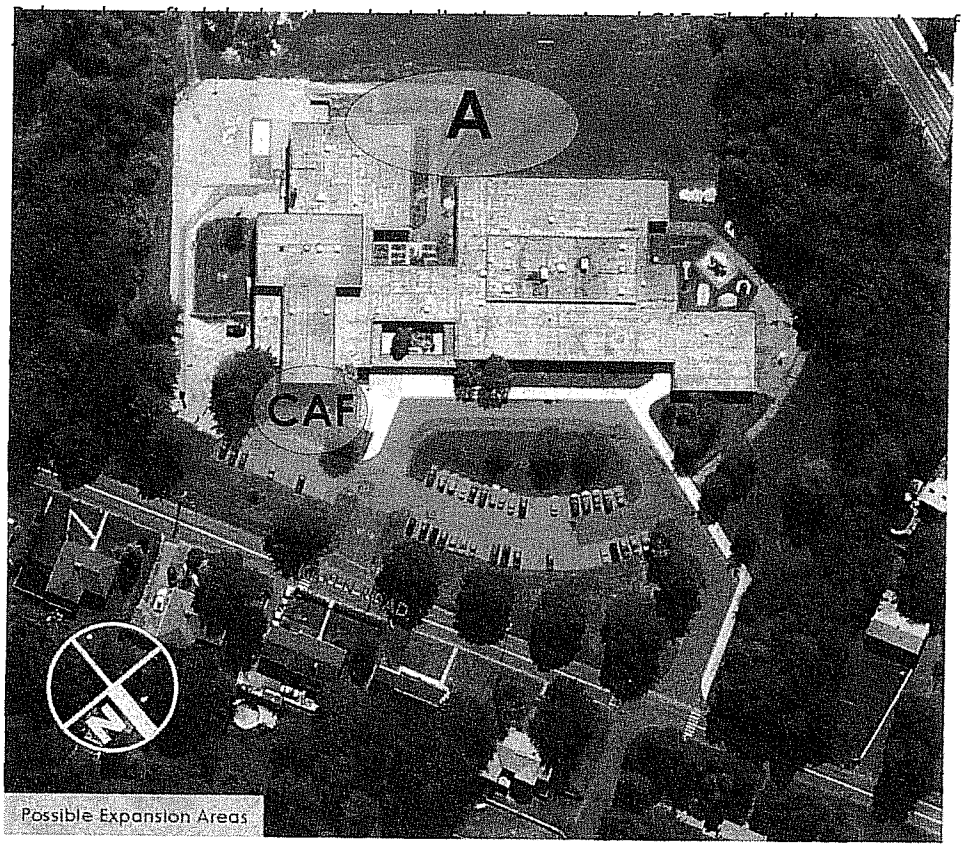
Fuller and D'Angelo reviewed the existing Educational Program. We are familiar with the enrollment projects and the reviews completed by the City of Danbury with regard to their increase in student population. After several meetings with the City of Danbury, all parties agreed to the size of the new building addition – Please see the attached existing/new program Chart.

Stadley Rough Elementary School
Classroom Chart per grade

Grade	Existing	New
K	3	3
1	4	4
2	3	4
3	3	4
4	4	4
5	3	4
Music	1	1
Art	1	1
ESL	3	3
Speech	1	1
Computer	1	1
Media	1	1
Gymatorium	1	1
Cafeteria	1	1
Final Program Chart	30	33

Once agreed upon, site selection for the addition became the next critical element in the design process. Firstly, wetland area reviews investigated and analyzed, and it should be noted that there are no flood plains located within the Stadley Rough site. To the south of the property, there is a lower athletic field and the drainage appears satisfactory. There is a flood plain map received from the City of Danbury in the Appendix of this report.

An area for the addition placement was reviewed, and quickly came to the forefront as a compatible solution based on several important factors. Also the Cafeteria expansion towards Karen Road was a simple design solution.



Location Plan

The constraints quickly excluded the north, east and west side of the building site around the location of the existing school. The site circulation was reviewed including existing parking area existing bus drop off areas, which currently are both intertwined in the front of the school. Our goal is to separate the bus drop off and pickup, and parent drop off and pick up in the afternoon. Both of the afternoon pickups for buses and especially cars shall require additional queuing space for those parents waiting in their various vehicles. The existing longer front drive accomplishes this.

A new parking plan can be found attached, slight increase in front of the Cafeteria is planned. It should be noted that proper cross walk signage, striping and other such safety factors shall be required to be incorporated as well as continued exterior supervision for this particular scheme, as it does not seem feasible to provide a parent pickup on the east or west sides of the school, more significantly separating buses and

cars from the proposed plan herewith. The parking and site circulation improvements are designed as an alternate scope.

As noted above, the south side is the only apparent area to construct due to the building constraints on the other side.

In selecting the site to build the addition, the site quickly came to the forefront, which also does not infringe on the existing playing fields to the south. This is a sloped site and further basement space is possible, even unfinished future classroom space if the elevator is installed.

Our understanding of the Danbury program is that three classrooms are required in order to fulfill a proper classroom balance for the necessary student increase, as per the attached plans. These show the proposed building expansion floor plans. Further, a Cafeteria expansion is suggested of approximately 1,200 sq ft towards the front of the building. With the cafeteria expansion, it will allow for the additional tables so as to allow the three period lunches to be maintained.

The grouping of the 3 existing Kindergartens shall remain the same and new groupings of 3rd Grade, 4th Grade and 5th Grade are recommended to circumnavigate the media computer area. Likewise, the 1st and 2nd Grade groups are slightly separate by an open courtyard. After this addition is complete the entire building student flow egress would become linked.

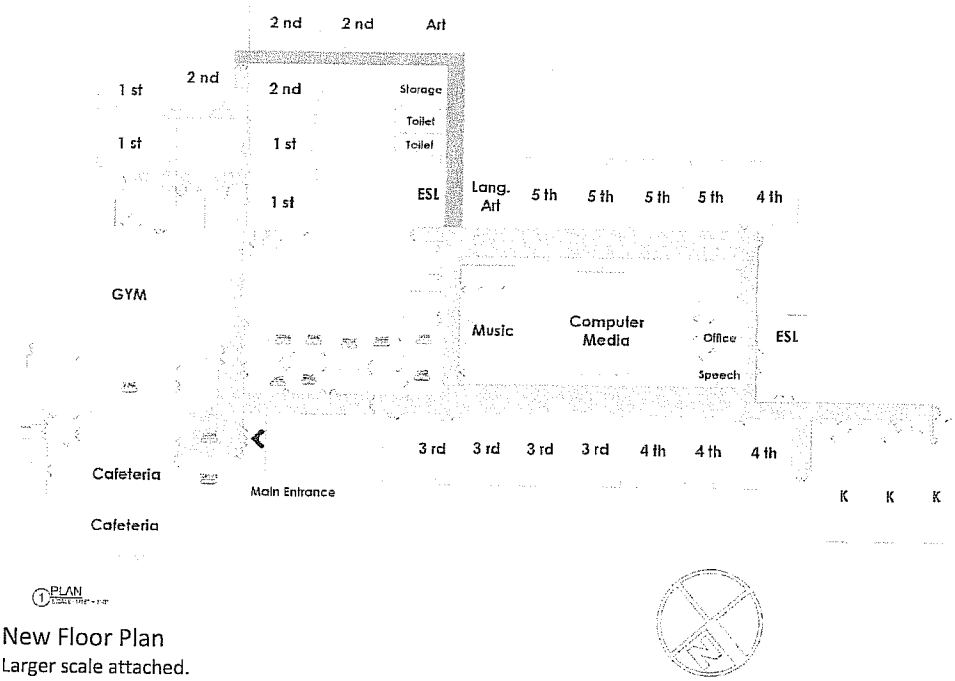
A new Art Room would be built in the new addition adjacent expanded in size and be provided with north light It is suggested that an elevator be included to provide accessibility to the lower level below the first and second grade wing to the south of the gym. This will provide for storage and other support facilities, though no windows nor is natural ventilation provided within these lower level spaces at present.
The corridor location minimizes travel distances and allows for better adjacencies.

The current mechanical room has a new boiler, which will be able to adequately support the addition for the building.

In 2009, the building received a new roof over the entire complex, including new fascias, and the building is now well insulated. This roofing project maintains a twenty-year warranty/guarantee.

The front entrance can accommodate the increased student population as it has a fairly large pre-assembly space.

Below please find the new floor plans proposed for the Stadley Rough Elementary School addition.



New Floor Plan
Larger scale attached.

It should also be noted that with the addition a new secure inner courtyard for outside activities will be available. This is where the school can expand its current special gardening education activities and low depth water feature.

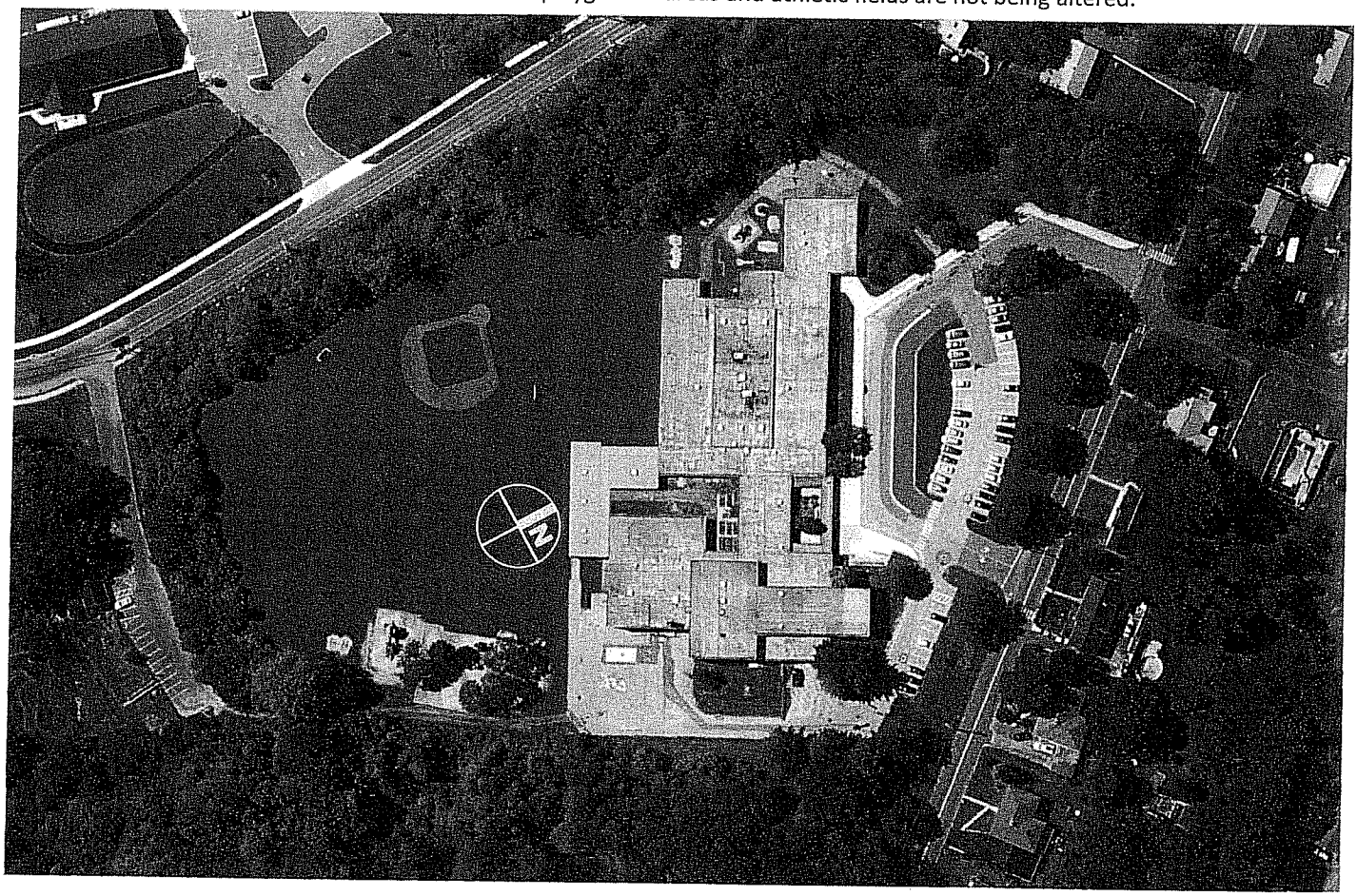
It does appear that the addition can be constructed with slight disruption to the educational program, however, not to the point of none.

The three classroom addition shall be placed into the hill and be able to have a basement also. This area in the future may be utilized, dependent on final designs. The elevator would provide access to same.

An additional pod of the addition would include new toilets and support spaces as needed.

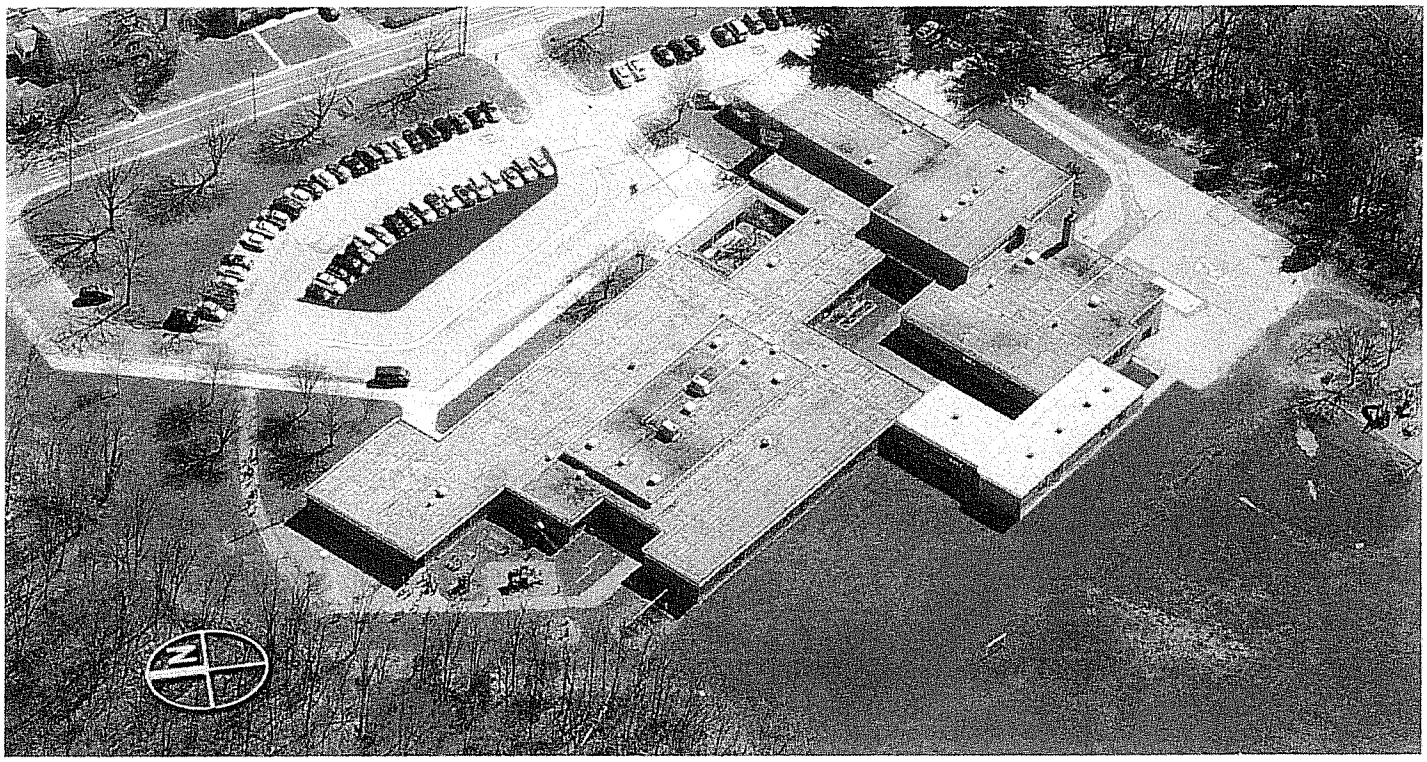
Further, additional parking shall be required in order to provide for the additional staff. This parking would be staged near the front of the cafeteria. This also can be viewed in the aerial rendering.

Exterior playground areas and athletic fields are not being altered.



Overall New Site Plan
Larger scale attached

Attached also please find an overhead view of the addition facility, which depicts an addition as described above and also an aerial rendering looking from north towards the south.



Aerial view

For further detailed plan information see attached.

COST ESTIMATING AND DESIGN, APPROVALS and CONSTRUCTION SCHEDULE

Professional Cost Estimating has been completed for the selected design solution, as performed by CPS Construction Program solutions, Inc. Mr. Stuart Schiller has been providing this service to Architects, CM's and Owners for numerous years and is close to many School building industry contractors being able to gauge current pricing levels of school construction.

The estimates include the hard cost subtotal of construction. In addition to this figure, material and labor escalation is added. The escalation is to the midpoint of construction duration. This is an estimated percentage of 4%. Also, a contingency at this early stage of the project at 15% is added. All of these items total the hard cost figure.

Costs were reviewed with the City and alternates selected to add to the projects should the budgets allow for same, alternates were selected to define specific work areas or groups of projects, i.e. parking is estimated including new curbs, walks, drainage, site lighting and landscaping items of work.

Soft costs are then added including, A/E/Hazmat fees, borings, FFE, IT, surveys, legal, bonding costs, etc. This amount is estimated at 28%.

Please refer to the attached "Notes" and "Conditions and Qualifications" for additional information.

Alternates:

Parking and traffic circulation, this would improve traffic flow and better distribute cars and busses on the site.

The elevator would access the lower areas of the school, for potential future space.

Also the Cafeteria addition was selected as an alternate cost, it would allow to keep three shifts lunch period, versus a four shift lunch cycle.

Schedule:

A preliminary schedule is added at the end of the Appendix which reflects the known timeline at this stage of the project.

Stadley Rough ES

NOTES

1 - UNIT COST IN 2012 DOLLARS
2 - ESCALATION FACTOR OF 4% TO MIDPOINT OF CONSTRUCTION (APRIL 2014)
3 - ESTIMATING CONTINGENCY OF 15% TO BE REDUCED UPON DEVELOPMENT OF FINAL PROGRAM AND SCOPE
4 - SOFT COSTS OF 28% INCLUDES PROFESSIONAL FEES, INVESTIGATIONS AND TESTING, OWNER COSTS, FFE, CONTINGENCY, ETC.
5 - ELEMENTARY SCHOOL ROOF REPLACEMENT NOT INCLUDED.
6 - TRASNFORMER TO BE REMOVED FROM INTERIOR AND NEW TRANSFORMER INSTALLED AT EXTERIOR. ASSUMES ELECTRICAL SERVICE FEEDER AND CONDUITS TO BE RE-USED.

CONDITIONS AND QUALIFICATIONS

- THIS COST ESTIMATE IS BASED ON CONCEPTUAL SKETCHES PREPARED BY FULLER & D'ANGELO, P.C.
- BIDDING IS ASSUMED TO OCCUR IN SPRING 2013.
- CONSTRUCTION PERIOD IS ASSUMED TO BE JULY 2013 THROUGH DECEMBER 2014.
- PROJECT TO BE PUBLICLY BID WITH AT LEAST 5 BIDS RECEIVED FOR EACH PRIME CONTRACT.
- PREVAILING WAGE RATES APPLY
- NO COSTS ARE INCLUDED FOR OVERTIME/PREMIUM LABOR EXCEPT WHERE REQUIRED FOR "SWITCHOVER" OF MECHANICAL AND ELECTRICAL SYSTEMS.
- NO COSTS ARE INCLUDED FOR CONSTRUCTION OF TEMPORARY CLASSROOMS OR OTHER SPACES FOR PHASING.
- THE ESTIMATE DOES NOT ACCOUNT FOR UNUSUAL MARKET CONDITIONS SUCH AS LABOR AND/OR MATERIAL SHORTAGES, AVAILABILITY OF BIDDERS, INFLATION, AND OTHER FACTORS.

SECTION 5. APPENDIX:

MINUTES OF MEETINGS
ENROLLMENT STUDY DOCUMENT
AERIAL VIEWS EXISTING SITE
SITE PLANS & BUILDING PLANS
MAPS
COST ESTIMATE
SURVEY
SCHEDULE
SOIL BORINGS AND DATA SHEETS

Submitted by: Fuller and D'Angelo, PC
Architects and Planners
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FULLER D'ANGELO P.C.
ARCHITECTS PLANNERS

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PRESIDENT

JOSEPH FULLER JR.,AIA
EXECUTIVE VICE PRESIDENT

JOHN D'ANGELO, ARA
EXECUTIVE VICE PRESIDENT

MAY 14, 2012 (VIA E-MAIL)

MINUTES OF MEETING NO. 5

DATE: MAY 10, 2012

RE: CITY OF DANBURY
ARCHITECTURAL/ENGINEERING SERVICES
CITY OF DANBURY – ELEMENTARY AND MIDDLE SCHOOL FEASIBILITY STUDIES
F&D PROJECT NO: 12083.00

PLACE: CITY OF DANBURY

PRESENT:	A. IADAROLA	-	CITY OF DANBURY
	F. KHOURI	-	CITY OF DANBURY
	T. HUGHES	-	CITY OF DANBURY
	R. PALANZO	-	CITY OF DANBURY
	H. ROSVALLY, JR.	-	DANBURY PUBLIC SCHOOLS
	P. JOAQUIM	-	DANBURY PUBLIC SCHOOLS
	W. GLASS	-	DANBURY PUBLIC SCHOOLS
	K. ZALETA	-	DANBURY PUBLIC SCHOOLS
	S. ZOMORRODIAN	-	FULLER AND D'ANGELO, PC, ARCHITECTS
	J. FULLER, JR.	-	FULLER AND D'ANGELO, PC, ARCHITECTS

THE FOLLOWING WAS REVIEWED:

MILL RIDGE ES:

1. A. Iadarola opened up the meeting to review, with all present, the improvements and expansion to Mill Ridge Intermediate School. A. Iadarola suggested that Mill Ridge Intermediate be reviewed with all parties, including the current Principal of STEM, Administrators and other Greenwich Public Schools personnel at the meeting.

2. The Architect and Chief Designer of Fuller and D'Angelo presented their concept design, which includes taking over of the CRC space for engineering labs, re-working most of the southern half of the current building, providing a new media center and cafeteria extension, and grouping and grades with other adjacencies. It was noted that a new curtain wall would also be included.

3. The Architects presented an exterior site plan, separating buses and car traffic, and making the site more navigable, including additional queuing and other such features.

4. It was confirmed that site work would be performed with all bituminous materials, including curbs and sidewalks.

5. A. Iadarola noted that there is a limited Danbury budget with regard to providing improvements at all of the schools.

6. It was noted that the CRC building does have a roof top unit and a small boiler in the basement areas.

7. After further discussion and review of various spaces, all parties agreed on the concept.

8. The Architects noted that lockers will need to be reviewed in later phases as they are not necessarily part of the concept design, but could be included either in alcoves and/or perhaps single-sided in the corridors, should existing clearances be Code-conforming.

9. It was noted that small locker rooms and small toilets need to be included in the Middle School space study.

10. It was noted that the existing playground shall be relocated by Danbury.

11. It was noted that the existing roof is currently at its end of life span, and should be estimated as an Alternate.

12. It was noted that the planned school should fit just fewer than 600 children.

13. The Architects noted designing at 100% capacity is not standard procedure. The Architects commented that the Danbury educational planning schedule is somewhat aggressive.

14. It was agreed that Science Rooms could be only typical classroom size for 6th and 7th Grades, for spaces to fit within the existing footprint.

15. Science Rooms are to include a couple of sinks, as the Science Room curriculum does not require chemicals or excessive cleaning of beakers and other instruments used.

16. All parties agreed to the proposed concept design for the Mill Ridge Intermediate School.

17. The Architects noted that all costing and square footages need to be reviewed, refined and provided to Danbury.

18. Next three Elementary Schools, namely, Park Avenue, Shelter Rock and Great Plain, for planned expansions at those campuses was discussed after Ms. Joaqium, Ms. Zaleta and H. Rosvally departed.

<u>PARK AVENUE ES:</u>

19. The Architects proposed to provide a new addition to the rear of the current Park Avenue School allowing for a triangular set up and proper student flow on the first floor level.

20. It was noted that a lower level addition, creating a new media center, would align with the proposed 5th Grade wing, located in the existing building.

21. It was noted that the current Media Center would be turned into an Art Room and Language Arts.

22. It was noted that the current office would be slightly moved to the west, encompassing the current Language Arts space, enabling the lobby area and egress areas to increase.

CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS – AND ELEMENTARY FEASIBILITY STUDY REVIEWS
MINUTES OF MEETING 5/10/12

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23. The Architects noted that the Cafeteria should be expanded in order to create more tables, however, that the existing serving line appears satisfactory and is larger than in some other elementary schools.

24. Park Avenue ES shall be receiving eight new classrooms. The adjacencies were reviewed and of course are being left flexible with regard to one grade being slightly larger or smaller, based on any particular year's enrollment.

25. The Architects noted that toilets, janitor closets, mechanical rooms, electrical closets and other such support spaces are mandatory items to be included within the 8 standard classroom addition.

Shelter Rock ES:

26. Shelter Rock ES was presented similarly to Park Avenue ES with Option 1 and Option 2. Option 1 connected to the second and third, and fourth and fifth grade wings, and Option 2 connected to the Kindergarten and second/third grade wings.

27. All parties, after reviewing same, agreed that connecting to the Kindergarten wing and Option 2 was more logistically feasible for construction, and created slightly less hardship on the educational program while being constructed.

28. The Architects suggested also providing more windows for the current Media Center.

29. The Architects provided an improved site plan with separated car and bus traffic. After further discussions it was noted that the current parking lot and circle area in front of the main office and Kindergarten area would remain as-is. Provision of final costing for same was approved by Danbury.

Great Plain ES:

30. Great Plain ES was reviewed and it was noted that a three-classroom addition should be built towards the rear of the school.

31. There is a 50' setback in this area, which can either be adhered to with irregular shaped classrooms or a variance can be requested to provide standard rectangular shaped classrooms.

32. The Architects noted that the Cafeteria would also require an expansion due to an additional six tables of ten needing to be placed within same.

33. The Architects noted that the serving line in this school is too small.

34. After some discussion, it was noted that site is still on septic and this would require to be modified to a sewer system in order to properly add classrooms and make modification to toilet areas for the additional students.

35. After further discussion, Danbury requested the Architects to abandon the addition concept at Great Plain and concentrate on the Stadley Rough School, a "sister" school to Great Plain, along with Hayestown School. Stadley Rough having more land and perhaps an easier building area appears a more logical space for an addition.

36. The Architects shall expand their Scope of Work to include Stadley Rough School, as additional services to Danbury.

Stadley Rough ES:

37. Stadley Rough ES was reviewed. The Architect noted that a retaining wall and a large window could be placed in the lower level area and would represent 8% of the total area allowed to be built, i.e. a glass to floor area ratio. It was noted that this space would need to be made accessible if used as a school, via a new elevator.

38. The Architects, per the previous Minutes, reviewed the concepts of moving the music room to the lower level allowing the Art Room to go to the Music Room and a new classroom to be placed where the current Art Room is, on an outside wall with exterior glass facing east. However, after some review and a short cost analysis, it was noted that placing students in the lower level area of Stadley Rough School does not appear cost-effective on a dollar per student cost basis. An elevator would be mandatory, per Code.

39. Danbury and the Architects reviewed the Stadley Rough School briefly and noted that a three classroom addition could be placed at Stadley Rough School in lieu of Great Plain School.

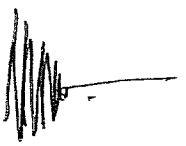
40. Various areas were reviewed briefly and the Architects stated that they would "go back to the drafting board" in order to review the best design possible, taking into account adjacencies, location of support facilities, circulation, cost of building with regard to grade and topographies, and other such design criteria.

41. The Architects noted they would forward a Change Order request for this additional service to the City of Danbury.

42. The Architects requested Danbury to review, on a cost per square foot basis, a preliminary estimate.

CITY OF DANBURY
FEASIBILITY STUDIES:
MILL RIDGE MS – AND ELEMENTARY FEASIBILITY STUDY REVIEWS
MINUTES OF MEETING 5/10/12

It is assumed that these minutes are a true summary of the meeting. Any corrections or omissions should be brought to the attention of the writer. If not, they will be considered substantially correct.



Submitted by: _____
Joseph Fuller, Jr., AIA

JFF/cm

cc: D. Petrovich
P. Ellsworth
D. Stasny

FULLER D'ANGELO P.C.
ARCHITECTS PLANNERS

45 KNOLLWOOD ROAD, ELMSFORD, NEW YORK 10523

NICHOLAS A D'ANGELO, FARA, CSI
PRESIDENT

JOSEPH FULLER JR.,AIA
EXECUTIVE VICE PRESIDENT

JOHN D'ANGELO, ARA
EXECUTIVE VICE PRESIDENT

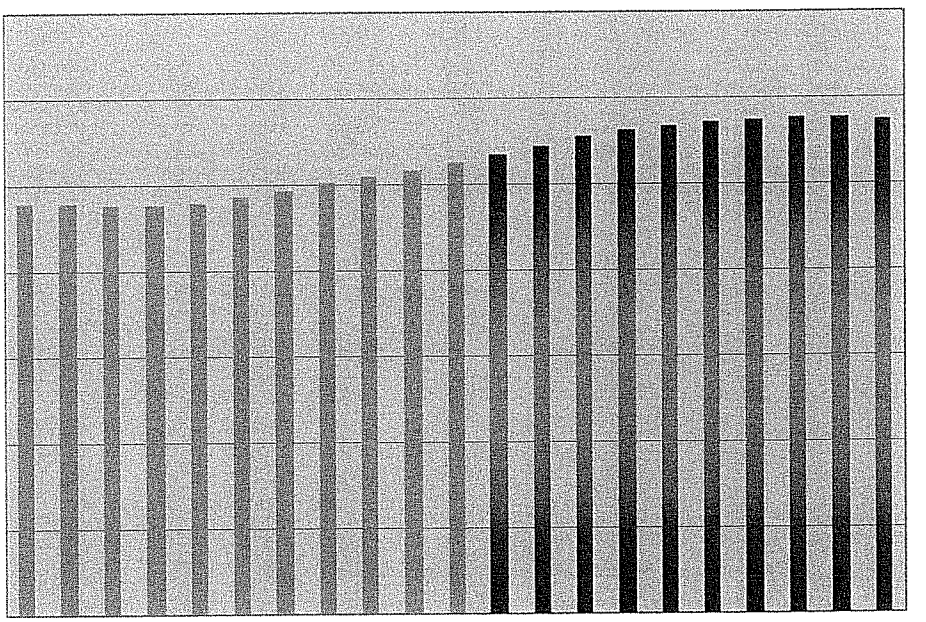
FIELD VISIT 5/1/12 – PRELIMINARY NOTES
STADLEY ROUGH ES, 25 KAREN ROAD, DANBURY, CT 06811

Principal: Ms. Mary Johnson

- The existing media center and classrooms was previously an" open plan" style school and had no inner walls. Sometime later, the south and north walls were incorporated, closing in the Media Center and surrounding classrooms.
-
- The building is being reviewed to add one room only for now. Future reviews for an addition may be required, dependent on Great Pains school review, a sister school.
- The shelter space in the basement was reviewed and the exterior grade is high, as you go to the north. On south end, one room may be acquired, but would be difficult, ADA accessibility would be required.
- Educationally, adding one space down below would not have any proper adjacencies.
- Originally the current Music Room was the Art Room.
- The current Music Room has the potential of becoming a classroom; however, there are no exterior windows, even though there is mechanical ventilation system.
- Music Room could be located to the lower floor on the south-west corner, however, it would be an isolated space.
- Instrumental Music Room could also be in the basement area.
- Another option would be to move the current Art room somewhere; the Art room was a Classroom previously.
- Apossible solution for one class is, Music could be placed downstairs along with Choral and Music. The current Classroom 7, which is now an Art Room, becomes a classroom and the old Art Room, which is now a Music Room, again becomes the Art Room. This picks up one classroom in the school.
- Currently, Music runs four days a week. Instrumental music is a day and a half, therefore, one large space downstairs for Music could be used five days a week. However, the additional half day for instrumental music would need to be moved back to the stage. This is difficult with music stands, instrument storage and the like.

- If a class/teaching space is placed below elevator, an elevator is required.

DANBURY PUBLIC SCHOOLS
ENROLLMENT PROJECTED TO 2021



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November 21, 2011

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Introduction

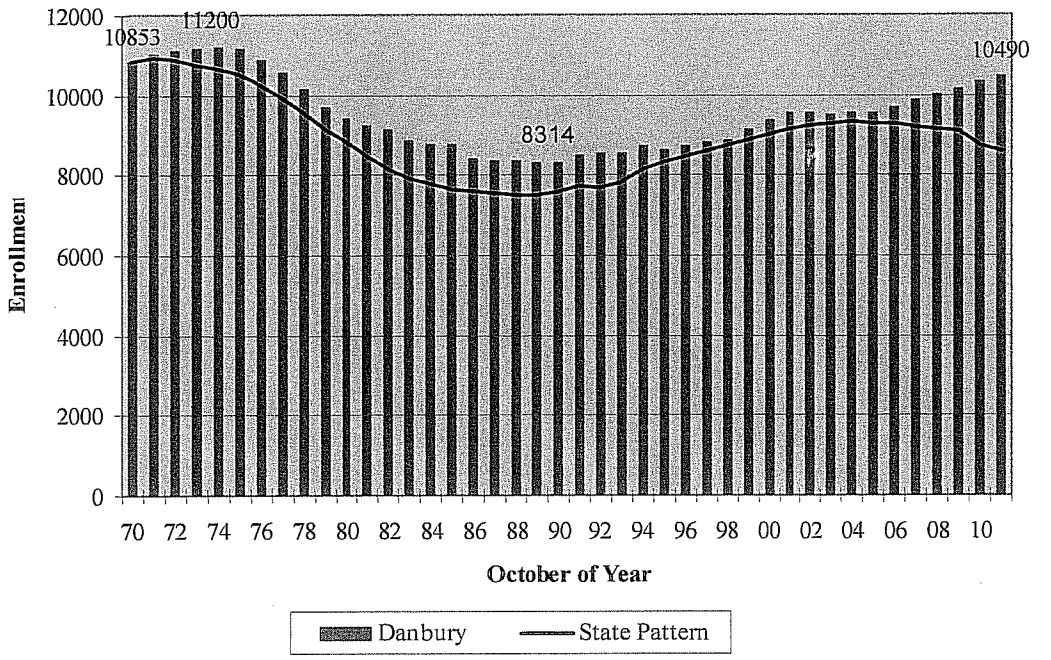
This report presents a ten-year projection of enrollment for the Danbury Public Schools. It is based on students enrolled in Danbury schools. The projection is divided into the three grade levels that represent how the Danbury schools are organized: K-5, 6-8 and 9-12. The report includes 41 years of enrollment to place the projection into a wider historical perspective. One of the primary drivers of future enrollment is births to residents. The report examines births and their relationship to kindergarten enrollment. Several factors that influence school enrollment - city population, women of child-bearing age, the workforce, housing, non-public enrollment, non-resident enrollment in Danbury schools, resident enrollment in other public schools, retention in Grade 9 and migration - are presented. Finally, the accuracy of earlier projections is examined.

Enrollment projections are a valuable planning tool. For budgeting, the numbers can place requested expenditures into a per pupil context. This can inform the public about which expenditures represent continuing expenditures to support on-going programs and expenditures for school improvement and program expansion. They are an essential step in determining the staffing that will be needed in the future. This may facilitate the transfer of teachers from one grade to another or allow the hiring process to start earlier, which can increase the likelihood of attracting the best teachers in the marketplace. Projections are a critical and required step in planning for school facilities. The State of Connecticut requires eight-year projections as a critical component of determining the size of the project for which reimbursement is eligible. In some communities the projection can determine the number of places they can make available to urban students as part of a regional desegregation effort.

Perspective

Enrollment projections typically use the most recent five years of data. While the most recent past is viewed as the best predictor of the near future, it is informative to look at a broader perspective. Figure 1 shows the enrollment in Danbury from 1970 to date.

Figure 1. Danbury Enrollment 1970 to Date



Enrollment in the Danbury Public Schools grew from 10,853 students in 1970 to 11,200 in 1974. Between then and 1990, enrollment moved downward to 8,314 students. In those 16 years, enrollment declined by 2,886 students or 25.8 percent. Between 1990 and 2011 enrollment grew by 2,176 students or 26.2 percent. The 2011 enrollment of 10,490 was last at this level in 1977.

Danbury's enrollment pattern is different than that of the state's public schools. Between its 1971 peak and 1988, Connecticut public school enrollment declined by 31.5 percent. State enrollment hit a secondary peak in 2004. It grew 24.5 percent between the 1988 low and 2004. State enrollment declined by 2.8 percent between 2004 and 2010. The 1974 to 1990 decline in Danbury was about the same duration but less deep than the state's. The subsequent enrollment gain in Danbury has yet to abate and has been more robust than the state's. While the state entered a second cycle of decline in 2005, Danbury has yet to do so. Had Danbury followed the state pattern of enrollment since 1970, it would have had 8,629 students in October of 2011 instead of the 10,490 that were enrolled on that date.

Current Enrollment

Table 1 and Figure 2 provide a picture of where Danbury residents attended school in October of 2011. The non-public enrollment is projected and the home schooled count is from 2010. They show that 86.2 percent of Danbury's school-age residents attended the Danbury Public Schools in 2011. An estimated 10.5 percent of the school-age residents attended non-public schools in state. The number attending private schools out-of-state is not known. Other school-age residents attended Henry Abbott Technical High School (2.8 percent) or public schools in other districts (0.3 percent). Few (24 children or 0.2 percent) were reported as being home schooled. There were 181 non-residents enrolled in the Danbury Public Schools in 2011. The projections in this report are based upon the 10,163 residents and 181 non-residents who attend the Danbury Public Schools in 2011.

Table 1. 2011 Enrollment

	Number	Percent
Residents		
A. Danbury Public	10,163	86.2%
B. Tech	335	2.8%
C. Other Public	30	0.3%
D. Non-Public	1,233	10.5%
E. Home Schooled	24	0.2%
Total (A+B+C+D+E)	11,785	
F. Non-Residents	181	
Total Enrollment (A+F)	10,344	

Figure 2. Schools Attended by Town Residents, 2011

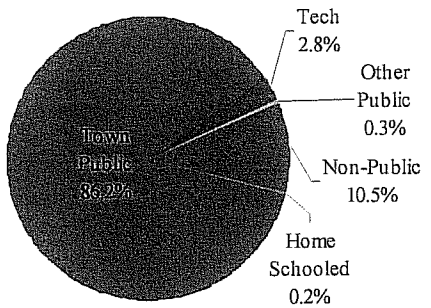
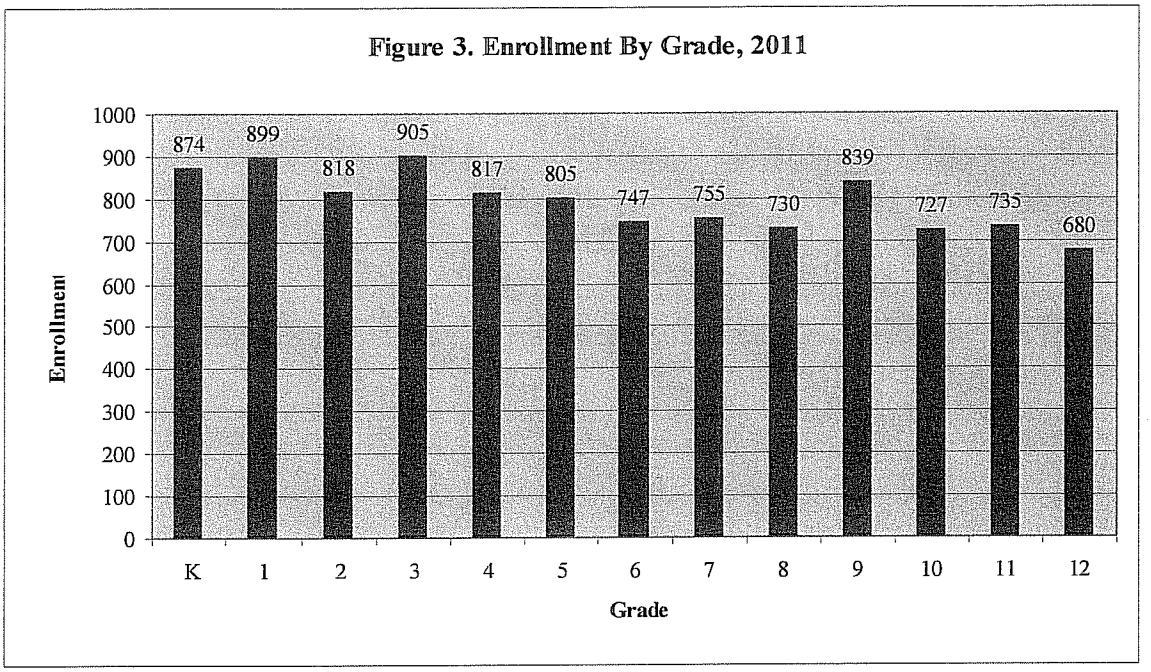


Figure 3 shows the October 2011 grade-by-grade enrollment by of students in the Danbury Public Schools. The children in pre-kindergarten programs are not shown. Grade 3 had the largest enrollment with 905 students. This was followed by Grade 1 with 899 students and Kindergarten with 874 students enrolled. Grade 12 was the smallest class with only 680 students followed by Grade 8 with 730 students and Grade 10 with 727 students. If current conditions continue, this year's Kindergarten class of 874 students will have 874 students when it enters Grade 6 in middle school in 2017 and 1,036 students when it enters Grade 9 in 2020. Both these figures are above the current enrollment in each of those grades. The current year enrollment by grade is the starting point for this projection. How it moves forward is discussed below.



Projection Method

The projections in this report were generated primarily using the cohort survival method. This is the standard method used by people running enrollment projections. For the grades above kindergarten, I compute grade-to-grade growth rates for ten years (see Appendices A and B). For example, if the number of fourth graders this year is 795 and the number of third graders last year was 800, then the growth rate is 0.994. Growth rates above 1.000 indicate that students moved in, transferred from non-pubic schools or other public schools or were retained. Growth rates below one mean that students moved out, transferred to private or other public schools, dropped out, or were not promoted from the prior grade. For each grade I calculate four different averages of the year-to-year growth rates: a ten-year median, a 3-year average, a five-year average and a weighted five year average. I choose the average that seems to best fit the data. The average growth rate for a grade is applied to the current enrollment from the prior grade. The projection builds grade by grade and year by year.

To project enrollment of students in Danbury schools, I utilized, in most cases, a five-year weighted average of the annual growth rates. This usually responds more rapidly to recent trends. In Danbury's case, however all four of the averages I computed were very close. I broke kindergarten into five year olds, six year olds entering kindergarten for the first time. and repeaters. I used the five-year weighted average of each component in the projection. I assumed that the Western Connecticut Academy of International Studies would accept 30 non-residents annually in Kindergarten. This figure should keep non-resident enrollment in the school at or above 40 percent of the enrollment. In 2011, 3.3 percent of the Danbury Public School kindergarten enrollment was students who entered late and 2.5 percent was students who had been retained. I believe that this approach will improve the kindergarten projection modestly.

In Grade 6 I had to make an adjustment for the magnet school students who will return to their home districts. I recalculated the Grade 6 individual growth rates based on Danbury residents in Grade 5 and then applied the weighted five-year average to the adjusted rates.

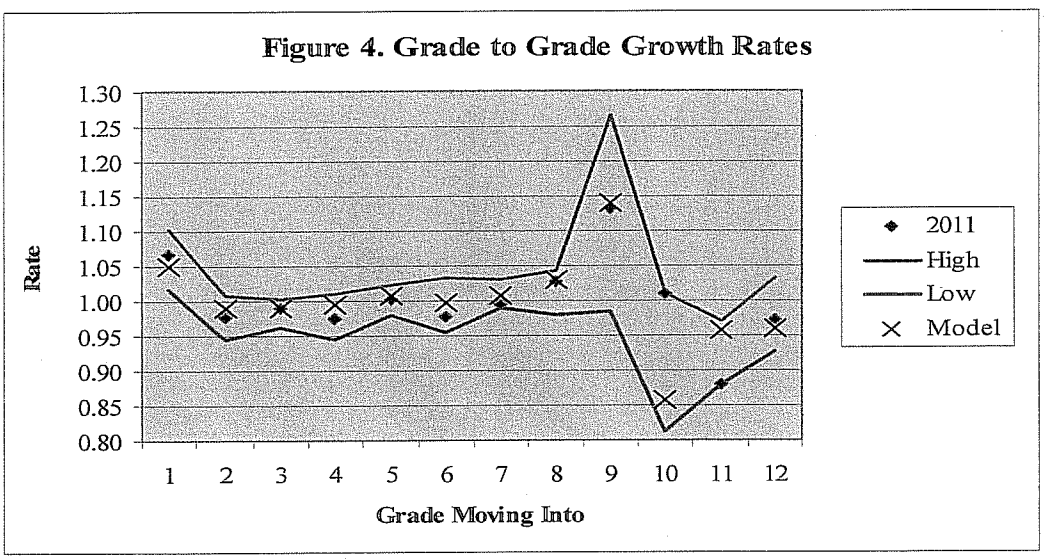
I had to make adjustments to the growth rates in high school because the policy of not retaining students in Grade 9 that was introduced in 2010 was abandoned in 2011. I based the Grade 9 growth rate on the

average of the 2011, 2009 and 2008 growth rates. I based the grade 10-12 growth rates on the average of 2007, 2008 and 2009 growth rates.

To extend the projections beyond four years, I needed to estimate births for the years 2011 to 2016. The Connecticut State Department of Public Health recorded 1,176 births to Danbury residents as their preliminary count for 2009. To estimate births in 2010, I used the 1,088 that were recorded in state in 2010 plus 52 that occurred out-of-state in 2010 plus four that were recorded in New York City in 2009 (the most recent data available). There were 758 in-state births through September of 2011 compared to 843 through September of 2010. I added to the 2011 count the average number of births in 2009 and 2010 that occurred in October to December and the estimated births that occurred out-of-state in 2010. To estimate births in 2012 to 2016, I utilized the Connecticut State Data Center's (CtSDC) projection of children ages 0-4 in 2010, 2015 and 2020. I calculated the projected growth in this interval, annualized it and applied it to the running two-year average of births starting with 2010 and 2011 to get an estimate for 2012 and beyond.

Figure 4 gives a perspective of the grade-to-grade growth rates for students attending the Danbury schools. An "x" indicates the average growth rate used in this projection. The diamond is the growth observed between last year and this year. The upper line indicates the largest growth rate observed over the past ten years and the lower line, the lowest. In general, the narrower the gap between the two lines is, the greater the accuracy of the projection. The growth rates used in the projection were based on a weighted five-year average of the observed grade-to-grade growth.

The elementary growth rates have been in a fairly narrow band for the past 10 years. The wide bands in high school reflect to some extent the recent policy change. The wide bands introduce some uncertainty into the high school projection. The growth rates in grades 2 to 7 are all right around 1.000 which indicates a balance between students entering and leaving the system. The high rate at Grade 1 is fairly typical for systems that do not offer universal full-day kindergarten. The high rate in Grade 9 is a reflection of retention in that grade. The lower rates in grades 10-12 are usually an indicator of drop-outs.



Enrollment data from 2001 to 2010 were taken from the files of the Connecticut State Department of Education. The public school data are available on the Department's website at www.sde.ct.gov under the Grants Management section. Data for 2011 were provided by the Department's Bureau of Data Collection, Research and Evaluation. All enrollment data after 2009 are subject to minor changes as they are reviewed and audited. Births from 1980 to 2011 were provided by the Healthcare Quality, Statistics, Analysis and Reporting Unit of the State Department of Public Health.

Total Enrollment

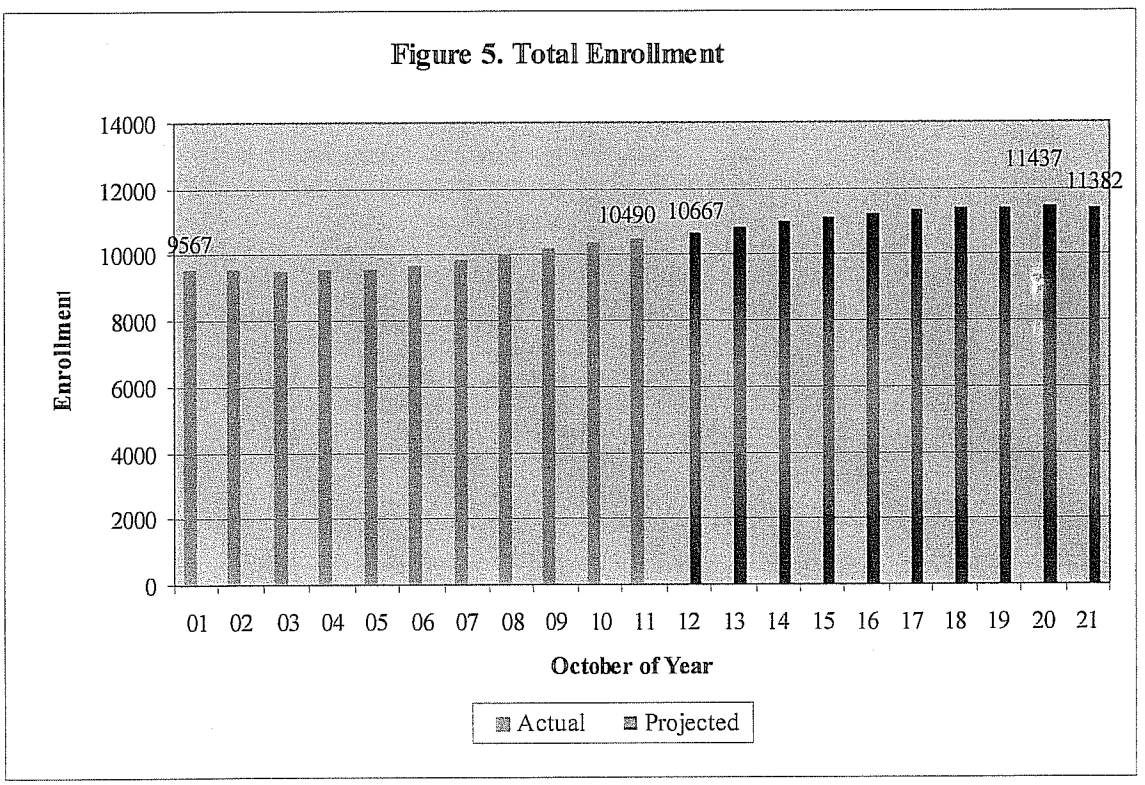
Table 2 and Figure 5 present the observed total enrollment in Danbury schools from 2001 to 2011 and projected enrollment through 2021. Detailed grade-by-grade data may be found in Appendices A and B. Total enrollment in Danbury increased from 9,567 students in 2001 to 10,490 in 2011. That was an increase of 923 students or 9.6 percent. Without the addition of non-residents at the magnet school, the increase would have been 751 students or 7.8 percent. Statewide public school enrollment declined 2.8 percent in that period. Between 2001 and 2011, the enrollment gain in Danbury was greater than similar towns in the area. Stamford enrollment grew by 3.0 percent and Norwalk's by 0.2 percent. Meriden's enrollment declined by 5.0 percent and West Haven's declined by 17.7 percent.

I project that your enrollment will continue to grow through 2020. Next year, I anticipate that total enrollment will increase by 170-185 students. Danbury should surpass its current peak enrollment of 11,200 in 2016. At its peak, I expect an enrollment of about 11,400 students. By the year 2021, enrollment should be about 11,380 students. The projected 10-year growth is over 890 students or between 8 and 9 percent. In the state's public schools, I am projecting an 8.6 percent decline between 2011 and 2021. Total enrollment in Danbury should average about 11,180 students over the ten-year projection period compared to an average total enrollment of 9,883 students over the past ten years.

Table 2. Total Enrollment

Year	Students	Percent Change
2001	9567	
2002	9559	-0.1%
2003	9521	-0.4%
2004	9556	0.4%
2005	9586	0.3%
2006	9707	1.3%
2007	9875	1.7%
2008	10040	1.7%
2009	10179	1.4%
2010	10344	1.6%
2011	10490	1.4%
2012	10667	1.7%
2013	10837	1.6%
2014	10996	1.5%
2015	11146	1.4%
2016	11250	0.9%
2017	11327	0.7%
2018	11379	0.5%
2019	11418	0.3%
2020	11437	0.2%
2021	11382	-0.5%

Figure 5. Total Enrollment



K-5 Enrollment

Table 3 and Figure 6 present actual enrollment in grades K-5 in 2001 to 2011 and projected enrollment to 2021 at your 13 elementary schools. Enrollment by grade may be found in Appendix A. Enrollment in grades K-5 rose from 4,360 students in 2001 to 5,118 students in 2011. This was a gain of 758 students and represented 17.4 percent of the enrollment in 2001. Some of the gain can be attributed to 172 non-residents in your magnet school. Without them, the gain would have been 13.4 percent. Public school enrollment statewide in grades K-5 declined by 8.2 percent in that period.

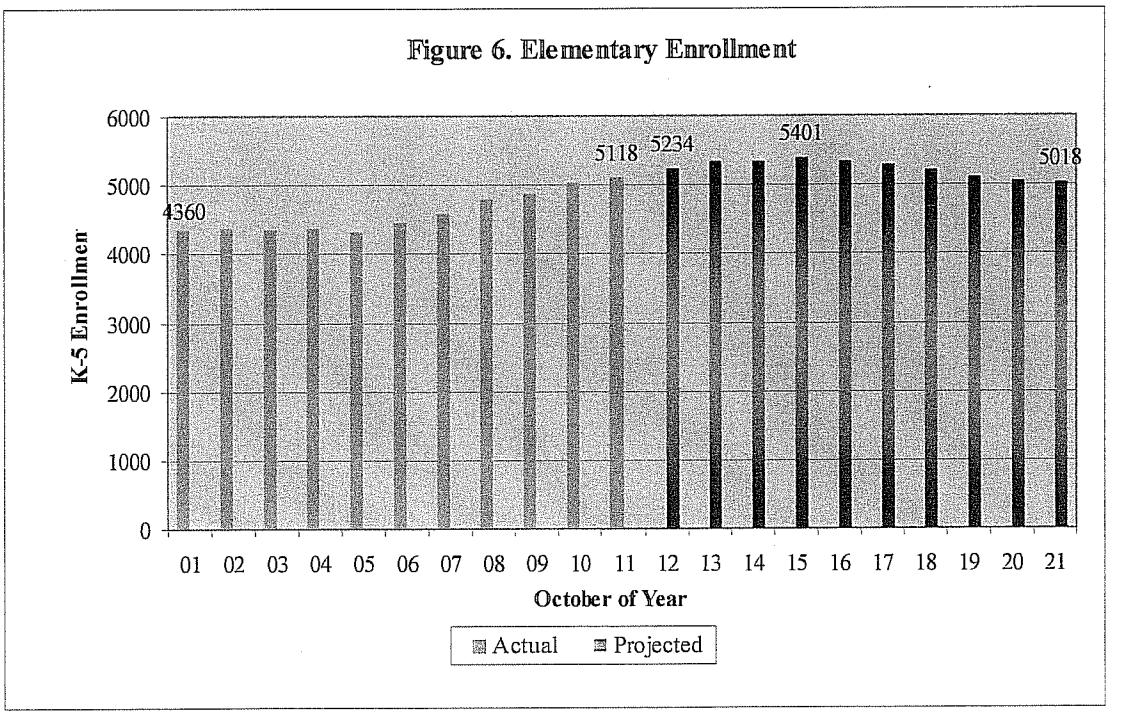
Table 3. Grade K-5 Enrollment

Year	Students	Percent Change
2001	4360	
2002	4379	0.4%
2003	4355	-0.5%
2004	4369	0.3%
2005	4336	-0.8%
2006	4444	2.5%
2007	4578	3.0%
2008	4794	4.7%
2009	4876	1.7%
2010	5019	2.9%
2011	5118	2.0%
2012	5234	2.3%
2013	5348	2.2%
2014	5340	-0.1%
2015	5401	1.1%
2016	5347	-1.0%
2017	5288	-1.1%
2018	5206	-1.6%
2019	5111	-1.8%
2020	5051	-1.2%
2021	5018	-0.7%

I expect that enrollment will continue to move upward for four more years, but end the projection fairly close to the current enrollment. Next year, I anticipate that enrollment in these grades will increase by 110-120 students. The peak enrollment should come in 2015 when I anticipate that enrollment will be about 5,400 students. By 2021 I project that grade K-5 enrollment will fall to about 5,020 students. That is roughly the number enrolled in 2010. This will be about 100 students less than 2011, a loss of about two percent. In grades K-5 in the state's public schools, I am projecting a 9.3 percent enrollment decline. Over the ten-year projection period, I believe enrollment in grades K-5 will average about 5,230 students compared to the average of 4,627 students observed over the past ten years.

These figures do not include the children in your pre-kindergarten programs. I the past ten years, pre-kindergarten enrollment ranged from 106 to 323 children. There were 159 children in these programs in 2011. My projection model keeps pre-kindergarten enrollment at 159 children for the next ten years.

Figure 6. Elementary Enrollment



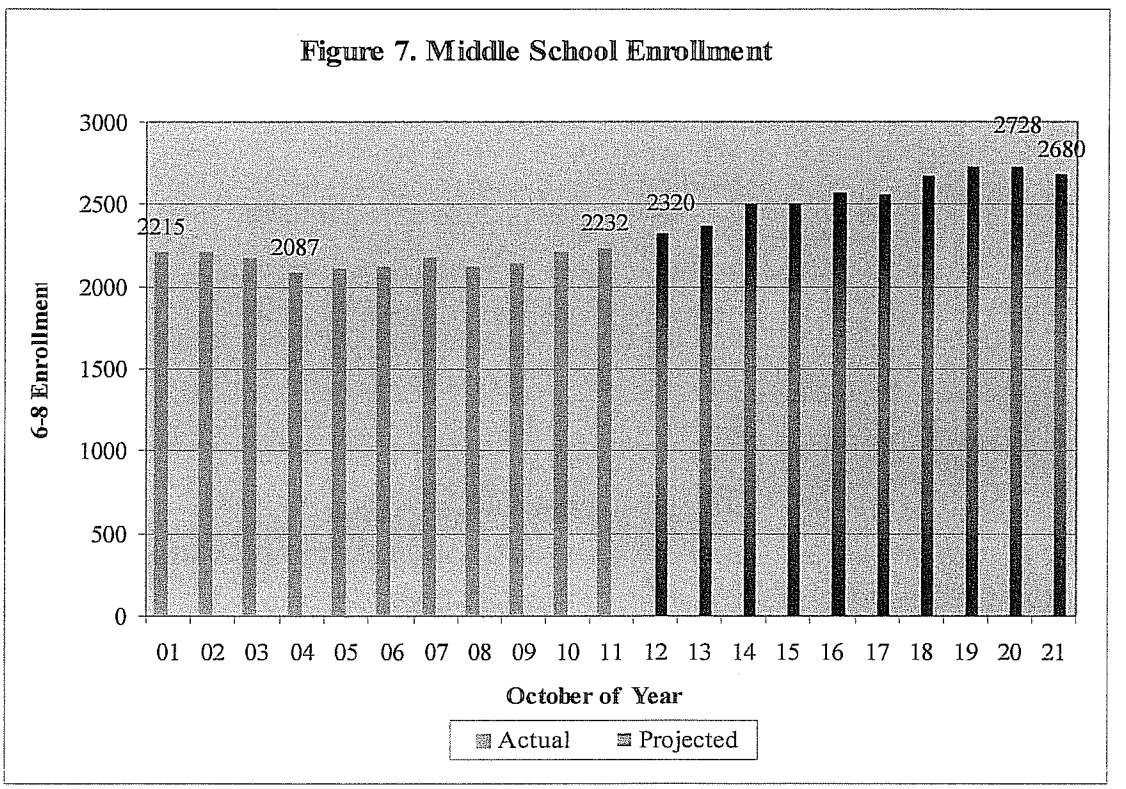
Middle School Enrollment

Table 4 and Figure 7 present actual enrollment in middle school in grades 6-8 in 2001 to 2011 and projected enrollment at Broadview and Rogers Park middle schools to 2021. Enrollment by grade may be found in Appendix B. Middle school enrollment declined from 2,215 students in 2001 to 2,087 students in 2004 and then rebounded to 2,232 students in 2011. Between 2001 and 2011 enrollment at the schools grew by 17 students or 0.8 percent. Enrollment in grades 6-8 declined by 6.9 percent in that period in the state's public schools.

I believe that future enrollment at Broadview and Rogers Park middle schools will move upward through 2019 or 2020. Next year I anticipate an increase of almost 90 students. I expect the peak enrollment will come in 2019 or 2020 at almost 2,730 students. At the projection's end, I believe enrollment will be about 2,680 students. Over the ten-years, I project a net increase of almost 450 students or 20 percent. Over the ten-year projection period, I believe enrollment at the schools will average about 2,560 students compared to the average of 2,159 students observed over the past ten years. You have reported the combined capacity of the two schools as 2,451 students. It appears that you will be operating the schools above capacity starting in 2014. In the state's public schools, I project that enrollment in grades 6-8 will decline by 12.0 percent in that period.

Table 4. Middle School Enrollment

Year	Students	Percent Change
2001	2215	
2002	2208	-0.3%
2003	2178	-1.4%
2004	2087	-4.2%
2005	2114	1.3%
2006	2121	0.3%
2007	2176	2.6%
2008	2125	-2.3%
2009	2144	0.9%
2010	2209	3.0%
2011	2232	1.0%
2012	2320	3.9%
2013	2370	2.2%
2014	2504	5.7%
2015	2505	0.0%
2016	2568	2.5%
2017	2560	-0.3%
2018	2669	4.3%
2019	2725	2.1%
2020	2728	0.1%
2021	2680	-1.8%



High School Enrollment

In most districts, Grade 9 is the time when the opportunity to attend state technical high schools and agriculture science and technology centers first becomes available. In October 2011, 85.8 percent of Danbury residents enrolled in Grade 9 were enrolled in the district. An estimated 4.5 percent were enrolled in non-public schools in state. 9.5 percent were enrolled in a state technical high school. Only two students (0.5 percent) were enrolled in other public schools.

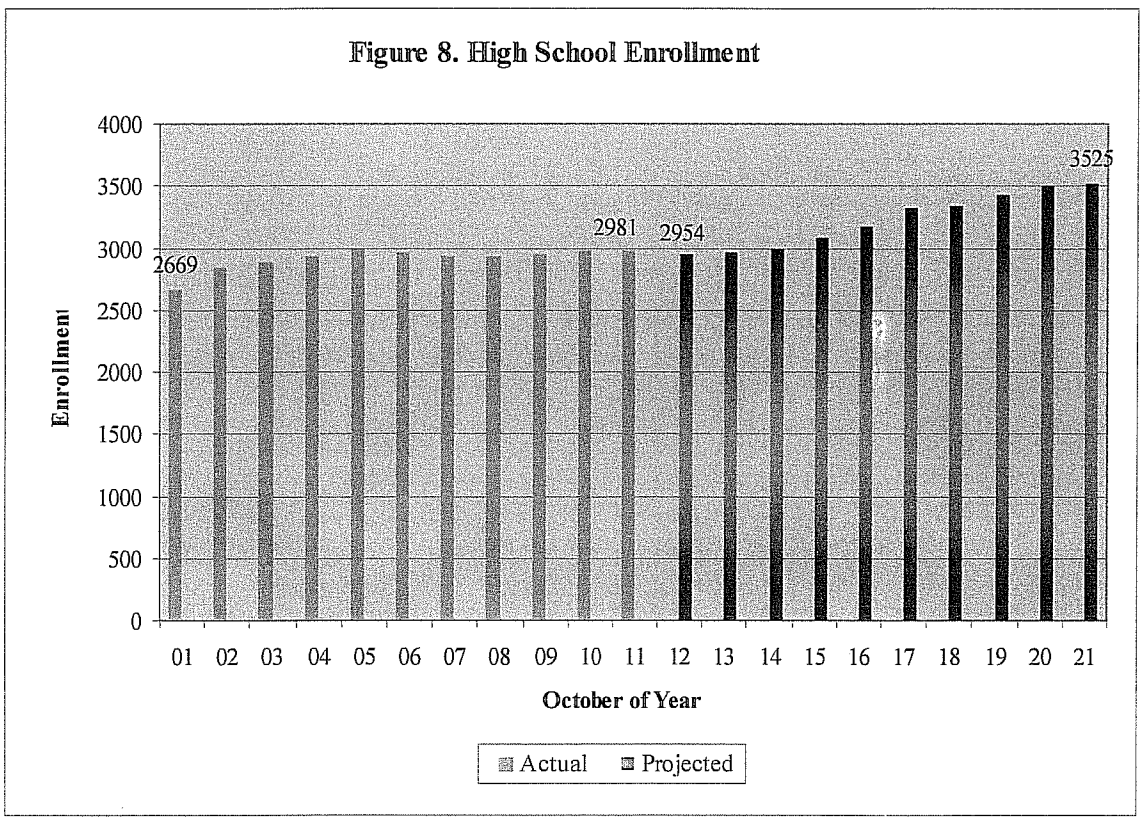
Table 5 and Figure 8 present enrollment at the Danbury High School and the Alternative Center for Excellence. Grade-by-grade enrollment may be found in Appendix B. Enrollment grew from 2,669 students in 2001 to 2,981 in 2011. In that 10-year span, grade 9-12 enrollment increased by 312 students or 11.7 percent. Statewide, enrollment in grades 9-12 grew 6.9 percent in that period.

I expect that next year's high school enrollment will be 25-30 students less than this year. I then anticipate that enrollment will grow to 3,525 students by 2021. That will be almost 550 students (18.2 percent) more than the October 2011 count. Statewide, I have projected a 9.2 percent decline in public school grade 9-12 enrollment between 2011 and 2021. I believe enrollment in grades 9-12 will average about 3,225 students over the next ten years compared to the average of 2,937 students observed over the past ten years.

Table 5. High School Enrollment

Year	Students	Percent Change
2001	2669	
2002	2848	6.7%
2003	2882	1.2%
2004	2932	1.7%
2005	2986	1.8%
2006	2966	-0.7%
2007	2933	-1.1%
2008	2925	-0.3%
2009	2942	0.6%
2010	2978	1.2%
2011	2981	0.1%
2012	2954	-0.9%
2013	2960	0.2%
2014	2993	1.1%
2015	3081	2.9%
2016	3176	3.1%
2017	3320	4.5%
2018	3345	0.8%
2019	3423	2.3%
2020	3499	2.2%
2021	3525	0.7%

Figure 8. High School Enrollment



Factors Affecting the Elementary Projection

The primary reasons for elementary enrollment change lie in the births and yield from the birth cohort. Figure 9 presents the births from 1980 to 2009 and estimated births through 2016. Births ranged from a low of 848 in 1981 to a high of 1,223 in 1990. There were 1,176 births in 2009. From recorded births in-state and out-of-state births less New York City through December, I estimate there will be 1,144 births in calendar year 2010. Based on in-state births through September of 2011, I estimate there will be 1,081 births in 2011. In the 1990s there was an average of 1,099 births annually. In the five years from 2002 to 2006 (this fall's kindergarten through 4th graders) births averaged 1,140. Births in the 2007 through 2011 period will likely average 1,169. The projection in years 2017 to 2021 assumes an average of 1,102 births annually between 2012 and 2016. This is based in part upon the Connecticut State Data Center projection of Danbury children ages 0-4.

Figure 9. Births Since 1980

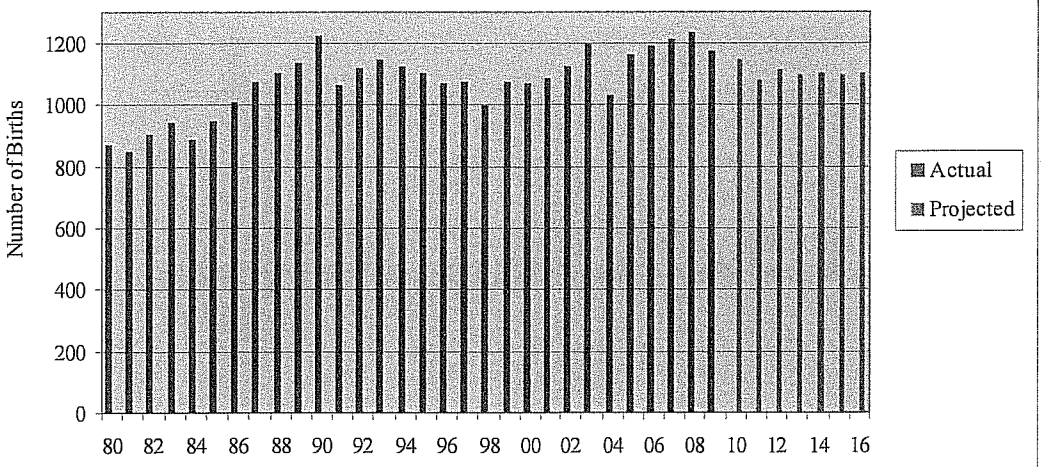
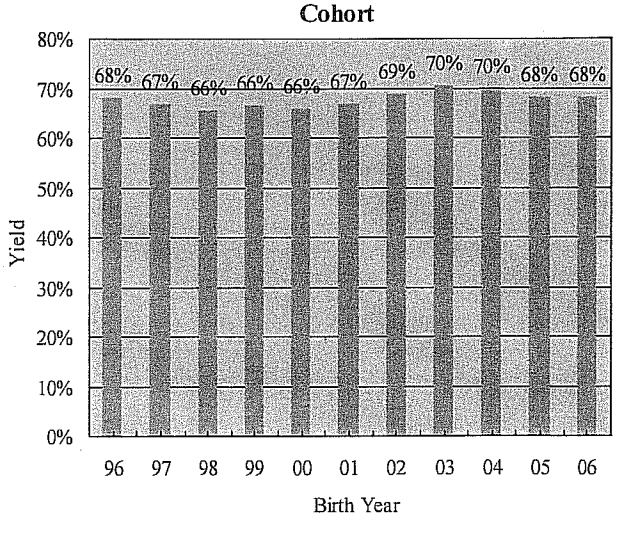


Figure 10 depicts the kindergarten yield five and six years later from the birth cohorts of 1996 to 2006 for Danbury residents attending kindergarten in Danbury. For example, there were 1,165 births in 2005 and 767 children enrolled in Danbury kindergarten at age five in 2010 and an additional 29 who first enrolled in kindergarten at age six in 2011. That is a yield of 68.3 percent. The yield from the birth cohort ranged from a low 66 percent in 1998 to a high of 70 percent in 2003 and 2004. The estimated yield for births in 2006 is 68 percent. Note that 2006 yield is an estimate because we will not know the actual number of children who will enter kindergarten for the first time as six-year olds until October 2012. Yields below 100 percent generally mean that parents

Figure 10. Kindergarten Yield From Birth Cohort



move out of town after giving birth in town or choose another school system for their child. In the five-year look-back period for the projection, the yield was 69 percent with three percent retentions.

Table 6 gives a history of enrollment in kindergarten since 2001 and relates the components of kindergarten enrollment back to the appropriate birth cohort. Retention is tied to the prior year's kindergarten enrollment. To estimate kindergarten enrollment, I used the five-year weighted average of retentions, and yields from births five and six years ago. I estimated kindergarten from 66.7 percent of births five years ago, 2.3 percent of births six years ago, and 3.0 percent of current kindergarten students retained.

Table 6. Analysis of Kindergarten Enrollment

Year	Birth Year	Births	K	Retained From Prior Year	Non-Retained Born 5-Years Prior Resident	Non-Retained Born 5-Years Prior Non-Resident	Non-Retained Born 6 Years Prior	Percent Retained	Yield From Births 5-Years Prior	Yield From Births 6-Years Prior	Total Yield From Birth Cohort
2001	1996	1067	747	11	700	0	36	1.6%	65.6%	3.3%	68.2%
2002	1997	1076	720	12	680	0	28	1.6%	63.2%	2.6%	67.0%
2003	1998	991	661	13	607	0	41	1.8%	61.3%	3.8%	65.7%
2004	1999	1076	754	22	688	0	44	3.3%	63.9%	4.4%	66.4%
2005	2000	1070	743	28	688	0	27	3.7%	64.3%	2.5%	66.0%
2006	2001	1086	763	28	700	17	18	3.8%	64.5%	1.7%	67.0%
2007	2002	1122	825	17	753	27	28	2.2%	67.1%	2.6%	69.0%
2008	2003	1196	898	27	814	36	21	3.3%	68.1%	1.9%	70.4%
2009	2004	1028	787	33	698	28	28	3.7%	67.9%	2.3%	69.9%
2010	2005	1165	842	26	767	28	21	3.3%	65.8%	2.0%	68.3%
2011	2006	1190	874	21	786	38	29	2.5%	66.1%	2.5%	*68.3%*
3-Year Average								3.2%	66.5%	2.3%	68.9%
Weighted 3-Year Average								3.0%	66.3%	2.3%	68.6%
5-Year Average								3.0%	67.0%	2.3%	69.2%
Weighted 5-Year Average								**3.0%**	**66.7%**	**2.3%**	**69.0%**

The correlation between births and kindergarten enrollment five-year later was a moderate 0.63 over the 1990 to 2011 period. If this relationship were used to predict kindergarten enrollment, the estimate would have been off by an average of 46 children annually over the past ten years. The cohort survival method, even with my breakout into five-year olds, six-year old delayed entrants and children retained, cannot overcome the underlying unpredictability of kindergarten enrollment from earlier births.

Context of the Projection

The cohort-survival method typically needs only births and a few years of recent enrollment data to generate a projection. Mathematically, nothing else matters. But enrollment changes do not occur in a vacuum. Events and policies in the district, community and region all have some bearing on enrollment. Remember that a basic assumption of the cohort-survival method is that the recent past can be a good predictor of the near future. It is incumbent for every receiver of a projection to determine what events happened in the past five years and whether they are likely to change.

To assist in this endeavor, this report examines ten factors that could affect enrollment: city population, women of child-bearing age; the size of the work force, new home construction; sales of existing homes; Grade 9 repeaters, non-public enrollment; non-resident enrollment in your magnet school, resident enrollment in other public schools and student migration.

Figure 11 presents the US Census Bureau estimate of Danbury population since July of 2000. Between 2000 and 2009, the city population is estimated to have grown from 75,139 to 79,748 people. The population growth of 6.1 percent ranked it 58th in the state. In contrast, Fairfield County grew by 1.9 percent, the state grew by 3.1 percent and communities with similar economic and need characteristics grew by 2.0 percent. The 2010 census population data show that from April 2000 to April 2010 Danbury's population grew from 74,848 people to 80,893. The 6,045 person growth was the second smallest in the past six decades. The 8.1 percent increase between 2000 and 2010 was the 55th ranked in the state. If you exclude people residing in group quarters such as dorms, prisons or nursing homes, the growth was 7.3 percent.

Figure 11. Estimated City Population 2000 to 2009

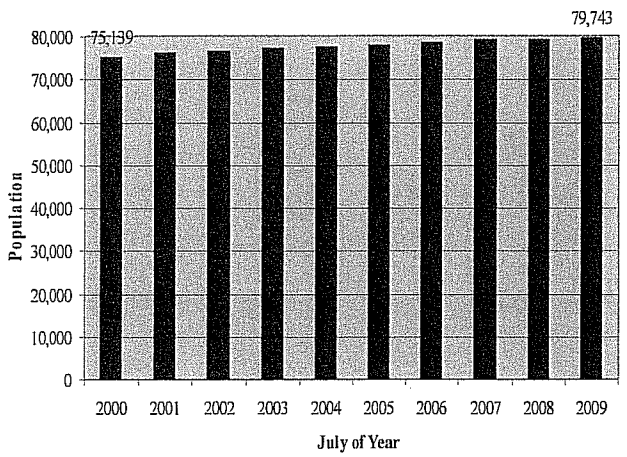


Figure 12 presents the number of women of child-bearing age from the 2000 and 2010 censuses. There were 1,070 births to Danbury residents in 2000 and an estimated 1,144 in 2010. In communities like yours, women in the 25-29 age-group have the highest rate of births. The number in this group rose 6.9 percent from 2,874 in 2000 to 3,073 in 2010. The second highest birth rate in communities like yours is women ages 30-34. The number in that age range fell 7.0 percent from 3,248 in 2000 to 3,022 in 2010. The only other age range that decreased significantly was 35-39.

Figure 12. Women of Child-Bearing Age

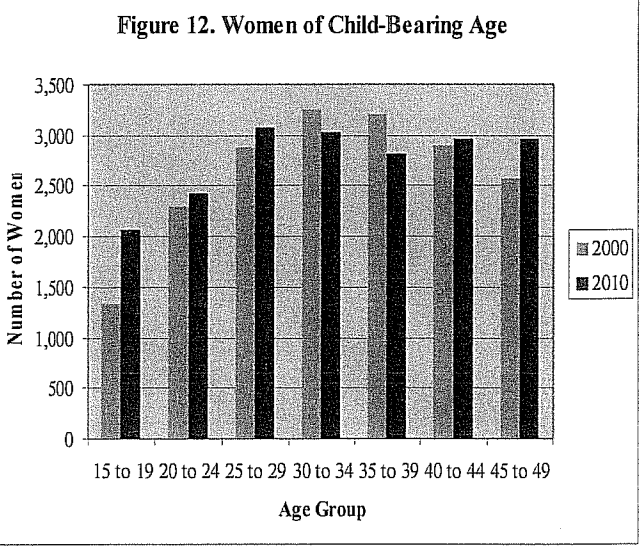


Figure 13 examines the number of people in the labor market from the US Department of Labor, Bureau of Labor Statistics. These are people 16 years of age or older who were working or actively seeking employment. Since it excludes most students and the elderly, I find it a very rough proxy of the number of school-age families. The Danbury labor force increased 2.6 percent between 2006 and 2010. This was lower than the state (3.9 percent) and Fairfield County (3.1 percent). The 2010 unemployment level of 7.9 percent was up 0.4 percentage points over 2009. It is worse than the state rate of 9.1 percent and the Fairfield County rate of 8.3 percent.

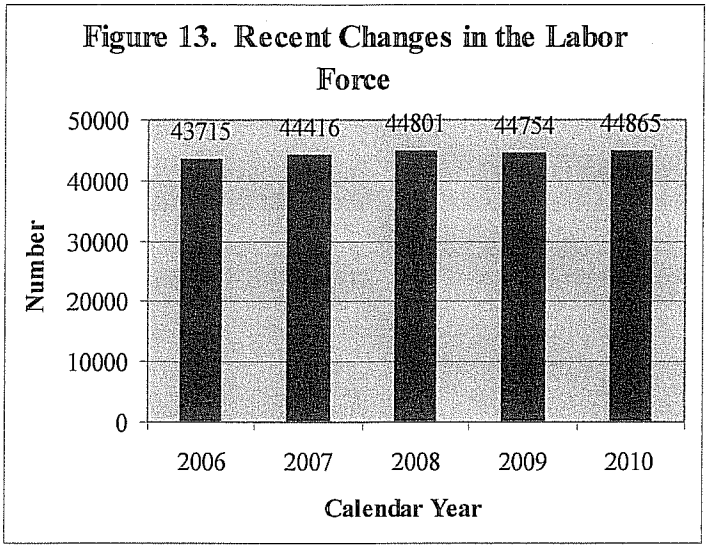


Figure 14 presents the net new housing units constructed from 2000 to 2010 from the State Department of Economic and Community Development. In the past ten years the number of net (of demolitions) new housing units constructed in Danbury ranged from a high 598 in 2005 down to a low of 81 in 2008. There were permits for 116 new housing units issued in 2010. In the five-year look-back period for this projection, there was an average of 175 net new housing units constructed. The 2010 census indicated that Danbury had 31,154 housing units of which 7.2 percent were unoccupied in April 2010. Permits issued through August indicate there will be no rebound in 2011.

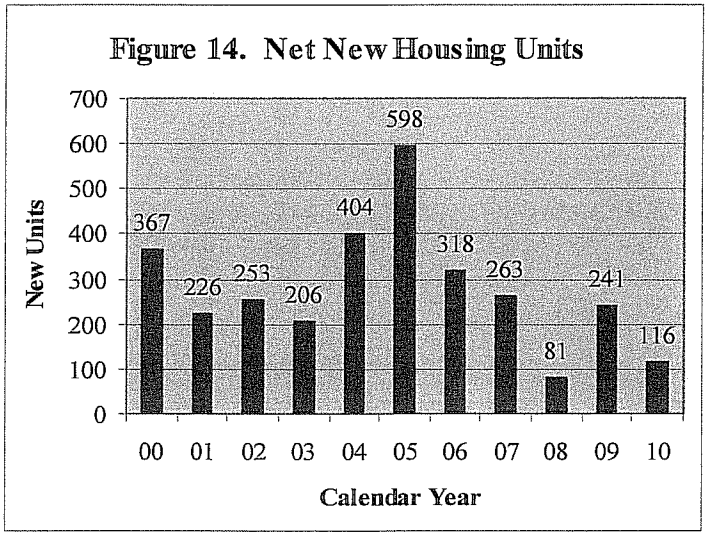


Figure 15 presents my estimate of the number of sales of existing homes. I derived it by taking the number of real estate transactions from The Warren Group/Commercial Record and subtracting the number of new single-family housing units authorized. This is an estimate because of the lag between the time a new house is authorized and it is sold. The estimated number of sales of existing homes ranged from a low of 622 in 2011 to a high of 1,568 in 2003. In the five-year look back period for the projection, there were 741 sales annually. Based on sales through July, I anticipate there will be about 575 sales of existing houses in 2011.

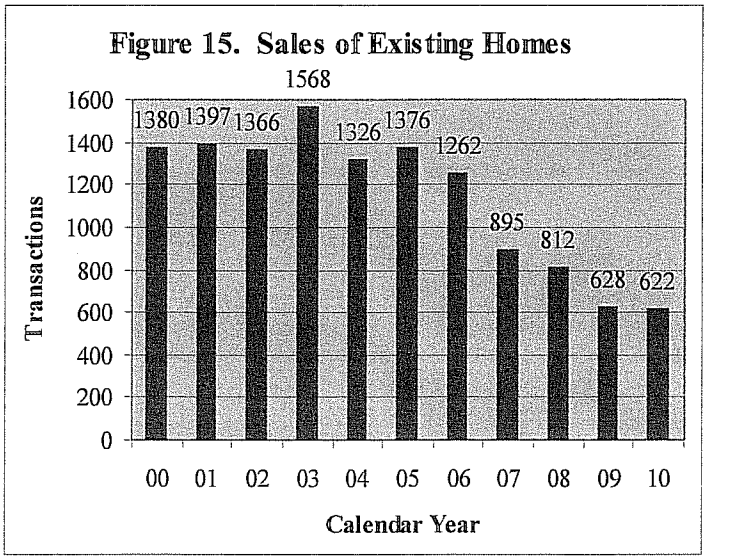


Figure 16 presents the percentage of Grade 9 students who were reported as being in that grade last year. Between 2005 and 2009 an average of 14.2 percent of the students enrolled in Grade 9 were repeating the grade. In 2010, the policy was changed and the percentage repeating plunged to 1.4 percent. In 2011, the former policy was restored and the percentage repeating was 13.2 percent. The projection used enrollment from 2008, 2009 and 2011 to project Grade 9 enrollment. The percentage repeating the grade in that period was 13.6 percent.

Figure 17 presents the non-public enrollment over the past ten years for students from the city of Danbury. The data are from the records of the Connecticut State Department of Education. Non-public enrollment ranged from a high of 1,741 students in 2000 to a low of 1,290 students in 2010, the latest data available. In the past ten years, enrollment in the non-public schools decreased by 451 students or 25.9 percent. The 2010 enrollment represented 10.9 percent of all students from Danbury. That is down from 12.6 percent in 2009 and the 13.6 percent recent high set in 2007. I expect the non-public enrollment from Danbury will be down 60 students in 2011.

Figure 18 presents the non-resident enrollment in the Western Connecticut Academy of International Studies Magnet. The magnet school opened in 2006 with grades K-4 with an initial non-resident enrollment of 85 students. They represented 33.1 percent of the school's 257-student enrollment. In 2011 there were 172 students enrolled in grades K-5 from 12 surrounding communities. That represented 44.2 percent of the school's 389-student enrollment. The projection assumed the school will enroll 30 non-resident students annually in kindergarten.

Figure 16. Repeaters of Grade 9

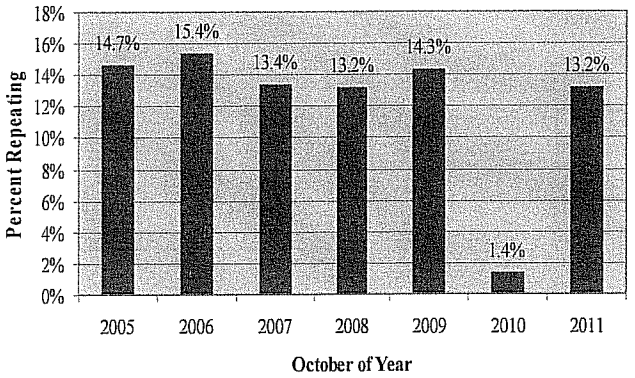


Figure 17. Non-Public School Enrollment

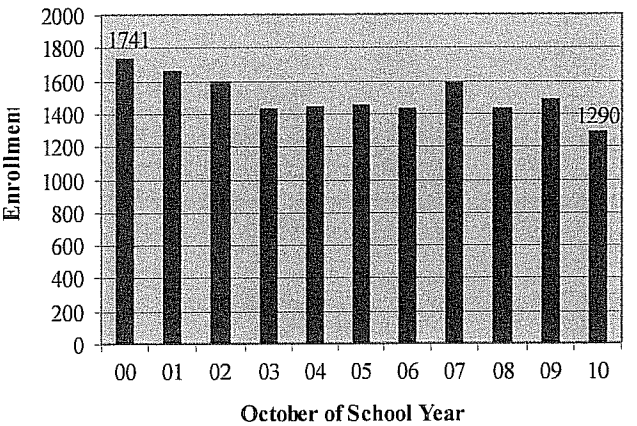


Figure 18. Non-Residents in the Academy of International Studies Magnet

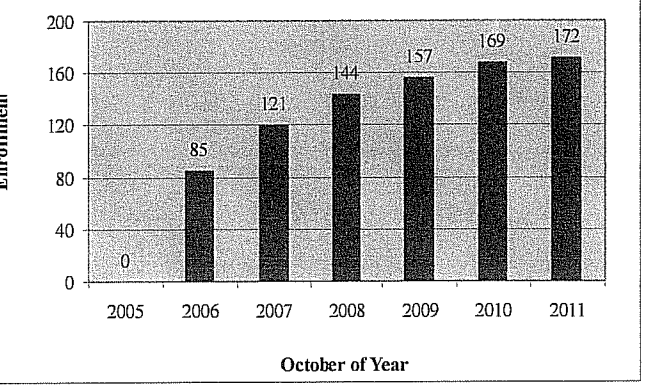


Figure 19 presents the enrollment of Danbury residents in other public schools in Connecticut from 2002 to 2011. The number educated out-of-district went from 373 in 2002 to 289 in 2006 and then recovered to 365 in 2011. Most of the students attended Henry Abbott State Technical High School. In 2011, 18 students attended a special education program run by a regional educational service center, 11 attended another public school, 335 attended Abbott Tech and one attended the agriculture science program at Nonnewaug High School.

Figure 20 presents the estimated migration of students from Danbury. The estimate takes into account non-residents in Danbury and Danbury residents attending other public schools. Estimated migration ranged from a low of -1.9 percent in 2004 to a high of +1.7 percent in 2000. The estimated migration was +1.0 percent in 2011. The data behind these figures may be found in Appendices A and B. The average migration in the projection's five-year look-back period was +0.59 percent.

Figure 19. Residents Enrolled in Other Public Schools

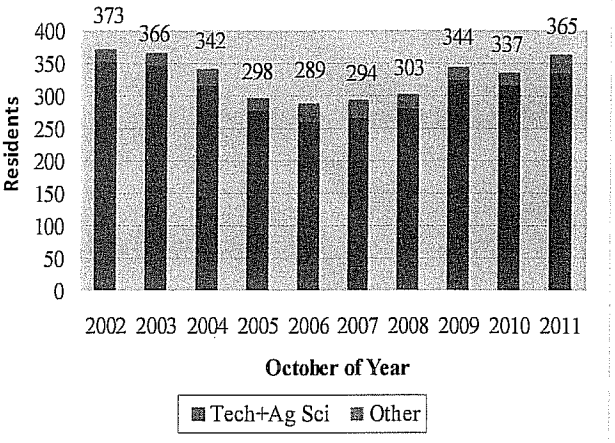
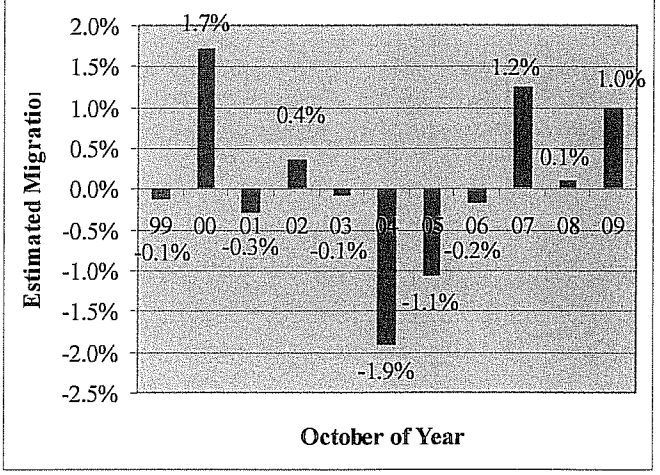


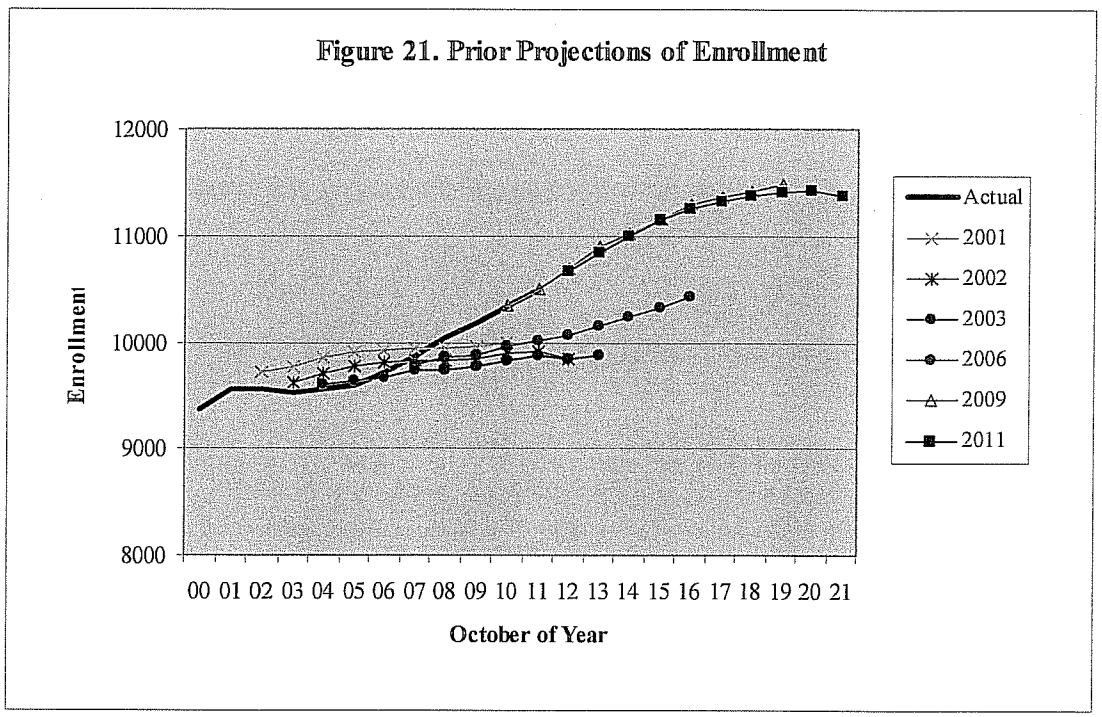
Figure 20. Estimated Student Migration



Prior Projections of Enrollment

The cohort-survival projection method works by moving forward the pattern of recent events that are subsumed within the grade-by-grade enrollment. This works very well when communities are stable. That includes places that are growing or declining at a steady rate. One way to know if that assumption is valid is to examine how past projections have fared. Figure 21 presents the enrollment projections that I have run for Danbury since 2001. The five enrollment projections that I did between 2001 and 2009 had one-year error rates that averaged 0.8 percent. The four projections done between 2001 and 2006 had an average five-year error rate of 2.6 percent, which is 0.51 percent annualized.

My 2009 projection for Danbury is running 0.01 percent high after two years. In that analysis, I projected that K-5 enrollment would be 5,068 students in 2011. The actual enrollment of 5,118 was 50 students more than projected. The projection was low by 1.0 percent over two years. I projected that enrollment in grades 6-8 would be 2,273 students in 2011. The actual enrollment of 2,232 was 41 students less than projected. The projection was high by 1.85 percent. I projected that high school enrollment would be 2,942 students in 2011. The actual enrollment of 2,981 was 39 students more than projected. The projection was low by 1.31 percent over two years. The 2011 projection kept pre-kindergarten enrollment constant at 208 children. The actual enrollment in 2011 was 159 children.



In my work I have found the cohort-survival method provides estimates that are sufficiently accurate for intermediate-range policy planning. The eight-year planning horizon for school construction grants is at the limit of the useful accuracy of the method. I analyzed the eight-year accuracy of the district projections from across the state that I ran in 1999. I found for the 66 district-level projections, the 1999 projection had a 7.5 percent error rate in predicting 2007 enrollment. The error was less than five percent in 38 percent of the projections and more than 15 percent in 11 percent of the projections. The projections run in 1999 under-estimated the 2007 enrollment by an average of 1.7 percent.

Summary

I project that total enrollment will increase 8-9 percent percent, going from 10,490 students in 2011 to about 11,380 students in 2021. The system should establish a new peak enrollment in 2016 and continue to expand through 2020. I project that K-5 enrollment will move upward from 5,118 in 2011 to about 5,400 students in 2015 and then fall back to about 5,020 students in 2021. This will be about a 100 student loss, a decline of about two percent. I believe that future middle school enrollment will move upward from 2,232 in 2011 to about 2,730 in 2019 or 2020 and then fall off to about 2,680 students at the end of the projection. The net increase between 2011 and 2021 will be about 450 students or about 20 percent. Between 2011 and 2021, I project that high school enrollment will grow from 2,981 students to about 3,525 students. That is a projected increase of 550 students, representing more than an 18 percent increase.

This 2011 projection is projecting the same basic pattern of enrollment in the future as my 2009 projection. The most the two projections vary in any year is 71 students. Births in 2010 to 2016 are lower in this projection than in 2009. The kindergarten yield from births is virtually identical in the two projections. Pre-kindergarten classes were cut in 2010 and although they grew a little in 2011, they still are about 60 children less than carried forward in 2009. The yield from Grade 8 was 1.141 percent in this projection and 1.169 percent in the 2009 projection. The underlying migration rate over the past five years was +0.59 percent in this projection and +0.45 percent in my 2009 projection.

These projections are based upon several other assumptions revolving around the notion that the recent past is a good predictor of the near future. The projection assumes that the following school policies will continue: kindergarten will remain a mixture of half- and full-day; retention policies will not change; no expansion of area magnet schools and no change in the drop-out rate. The projection assumes the following population growth factors will not change appreciably: births will average 1,102 over the 2012 to 2016 period; a 31 percent decrease between the number of births and subsequent kindergarten enrollment; and a student migration of +0.59 percent. Additionally, there will be a slight decline in non-public school enrollment; 175 new housing units will be constructed annually; there will be an average of 741 sales of existing homes and a slowly increasing labor force.

This remains a difficult time to predict future enrollment. A high unemployment rate, a sputtering economic recovery and mortgage foreclosures all make conditions today different than a couple of years ago. Danbury's 7.9 percent unemployment rate for 2010 is the highest since these data were reported in the Local Area Unemployment Statistics of the US Department of Labor starting in 1990. The economy likely played a role in the decline of non-public school enrollment. These conditions are only a part of the five-year enrollment history that is used to look forward to the next ten years. We cannot know today how long these conditions will continue. The cohort survival method relies on observed data from the recent past. The method is somewhat unresponsive to change. However, I know of no alternative data-based model that is responsive and produces grade-level data.

This projection should be used as a starting point for local planning. Examine the factors and assumptions underlying the method. You know your community best. Apply your knowledge of the specific conditions in Danbury and then make adjustments as necessary.

Appendix A. Danbury Enrollment Projected by Grade to 2021: Grades PK-5

School Year	Birth Year	Births[1]	K	1	2	3	4	5	PK	Total K-5	Total PK-5
2001-02	1996	1067	747	734	774	704	688	713	323	4360	4683
2002-03	1997	1076	720	777	721	769	688	704	124	4379	4503
2003-04	1998	991	660	781	743	721	756	694	106	4355	4461
2004-05	1999	1076	754	728	738	715	682	752	168	4369	4537
2005-06	2000	1070	743	776	699	725	711	682	150	4336	4486
2006-07	2001	1086	763	791	774	703	717	696	176	4444	4620
2007-08	2002	1122	825	802	767	763	700	721	188	4578	4766
2008-09	2003	1196	898	855	808	769	756	708	196	4794	4990
2009-10	2004	1028	787	914	845	796	773	761	217	4876	5093
2010-11	2005	1165	842	836	915	837	803	786	138	5019	5157
2011-12	2006	1190	874	899	818	905	817	805	159	5118	5277
Projected											
2012-13	2007	1212	892	919	890	810	899	824	159	5234	5393
2013-14	2008	1234	908	937	910	881	805	907	159	5348	5507
2014-15	2009	1176	870	954	927	901	876	812	159	5340	5499
2015-16	2010	1144	846	914	944	918	896	883	159	5401	5560
2016-17	2011	1081	802	889	905	935	912	904	159	5347	5506
2017-18	2012	1112	820	843	880	896	929	920	159	5288	5447
2018-19	2013	1095	811	862	834	871	891	937	159	5206	5365
2019-20	2014	1103	815	852	853	826	866	899	159	5111	5270
2020-21	2015	1099	812	857	843	845	821	873	159	5051	5210
2021-22	2016	1101	814	853	848	835	840	828	159	5018	5177
Projection Growth[2]			[3]	1.051	0.990	0.990	0.994	1.009			
Annual Growth Rates											**Estimated Migration[4]**
2002			0.669	1.040	0.982	0.994	0.977	1.023			0.37%
2003			0.666	1.085	0.956	1.000	0.983	1.009			-0.09%
2004			0.701	1.103	0.945	0.962	0.946	0.995			-1.92%
2005			0.694	1.029	0.960	0.982	0.994	1.000			-1.07%
2006			0.703	1.043	0.973	0.980	0.968	0.979			-0.19%
2007			0.735	1.051	0.970	0.986	0.996	1.006			1.24%
2008			0.751	1.036	1.007	1.003	0.991	1.011			0.09%
2009			0.766	1.018	0.988	0.985	1.005	1.007			0.98%
2010			0.723	1.062	1.001	0.991	1.009	1.017			1.47%
2011			0.734	1.068	0.978	0.989	0.976	1.002			-0.28%
5 Year Ave.			0.742	1.047	0.989	0.991	0.995	1.009			
3 Year Ave.			0.741	1.049	0.989	0.988	0.997	1.009			
Weighted 5-Year Ave.			0.740	1.051	0.990	0.990	0.994	1.009			
Median, Past 10 Years			0.713	1.047	0.976	0.987	0.987	1.006			

[1] The 2010 births were based upon in-state births and out-of-state births less New York City through December.
2011 births were based on in-state births through September.
2012 - 2016 births were derived, in part, from the Connecticut State Data Center projection of children 0-4 years old.

[2] Grades 1-5 based on 5-year weighted averages of annual growth rates by grade.

[3] Kindergarten based on five-year weighted averages of estimated yield from births five- and six-years ago and retention at each of the elementary schools.

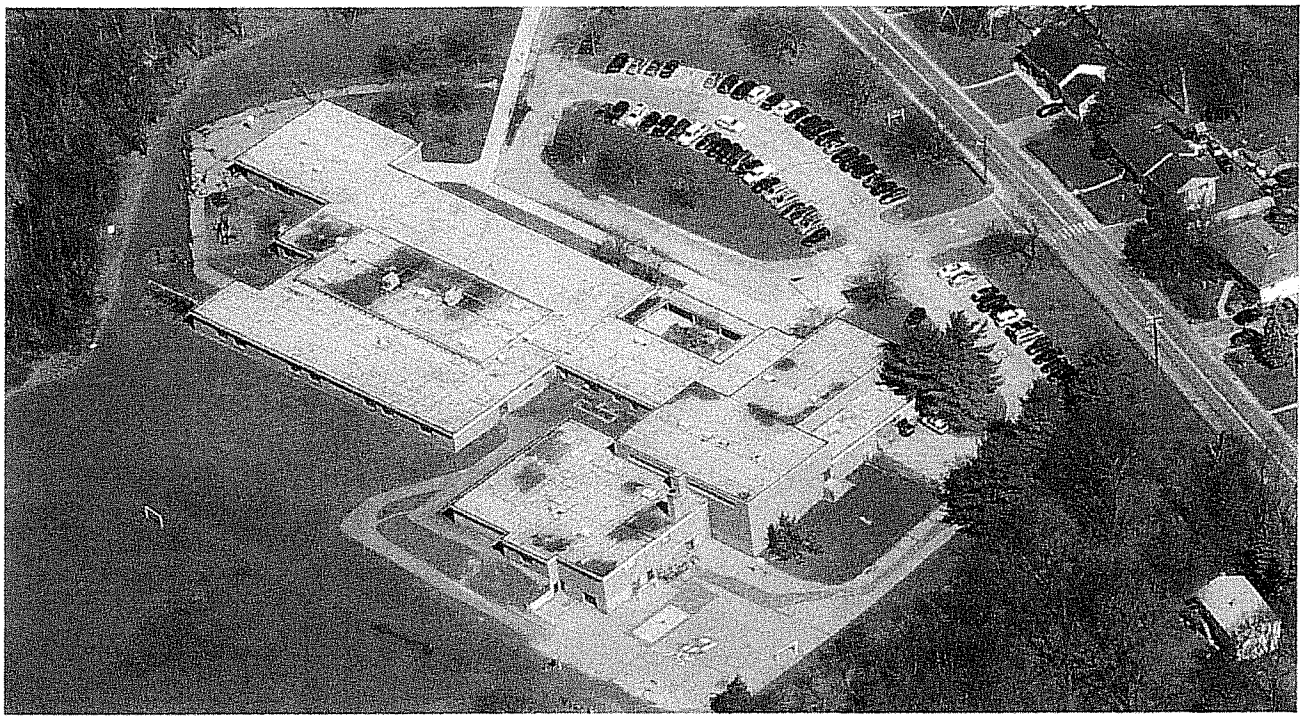
[4] Estimated by comparing the enrollment in grades 3-8 one year with the enrollment in grades 2-7 the prior year with an adjustment for residents out and non-residents in.

Appendix B. Danbury Enrollment Projected by Grade to 2021: Grades 6-12

School Year	6	7	8	9	10	11	12	6-8 Total	9-12 Total	PK-12 Total
2001-02	753	721	741	813	679	615	562	2215	2669	9567
2002-03	708	762	738	885	692	657	614	2208	2848	9559
2003-04	697	711	770	847	719	666	650	2178	2882	9521
2004-05	685	706	696	906	726	660	640	2087	2932	9556
2005-06	719	679	716	880	770	676	660	2114	2986	9586
2006-07	691	725	705	852	724	728	662	2121	2966	9707
2007-08	719	701	756	837	722	699	675	2176	2933	9875
2008-09	693	713	719	843	729	680	673	2125	2925	10040
2009-10	700	714	730	845	721	701	675	2144	2942	10179
2010-11	758	710	741	719	835	700	724	2209	2978	10344
2011-12	747	755	730	839	727	735	680	2232	2981	10490
Projected										
2012-13	789	753	778	833	720	695	706	2320	2954	10667
2013-14	798	796	776	888	715	689	668	2370	2960	10837
2014-15	879	805	820	885	762	684	662	2504	2993	10996
2015-16	789	886	830	936	759	729	657	2505	3081	11146
2016-17	859	796	913	947	803	726	700	2568	3176	11250
2017-18	874	866	820	1042	812	768	698	2560	3320	11327
2018-19	896	881	892	936	894	777	738	2669	3345	11379
2019-20	913	904	908	1018	803	855	747	2725	3423	11418
2020-21	875	921	932	1036	873	768	822	2728	3499	11437
2021-22	849	882	949	1063	889	835	738	2680	3525	11382
Projection Growth Rates[1]										
	0.999	1.008	1.031	1.141	0.858	0.956	0.961			
Annual Growth Rates										**Migration**[2]
2002	0.993	1.012	1.024	1.194	0.851	0.968	0.998			0.37%
2003	0.990	1.004	1.010	1.148	0.812	0.962	0.989			-0.09%
2004	0.987	1.013	0.979	1.177	0.857	0.918	0.961			-1.92%
2005	0.956	0.991	1.014	1.264	0.850	0.931	1.000			-1.07%
2006	1.013	1.008	1.038	1.190	0.823	0.945	0.979			-0.19%
2007	1.033	1.014	1.043	1.187	0.847	0.965	0.927			1.24%
2008	0.982	0.992	1.026	1.115	0.871	0.942	0.963			0.09%
2009	1.010	1.030	1.024	1.175	0.855	0.962	0.993			0.98%
2010	1.016	1.014	1.038	0.985	0.988	0.971	1.033			1.47%
2011	0.978	0.996	1.028	1.132	1.011	0.880	0.971			-0.28%
5 Year Ave.	1.004	1.009	1.032	1.119	0.915	0.944	0.977			
3 Year Ave.	1.001	1.014	1.030	1.097	0.952	0.938	0.999			
Weighted 5-Year	0.999	1.008	1.031	1.103	0.944	0.935	0.988			
Median, Past 10	0.992	1.010	1.025	1.176	0.853	0.954	0.984			

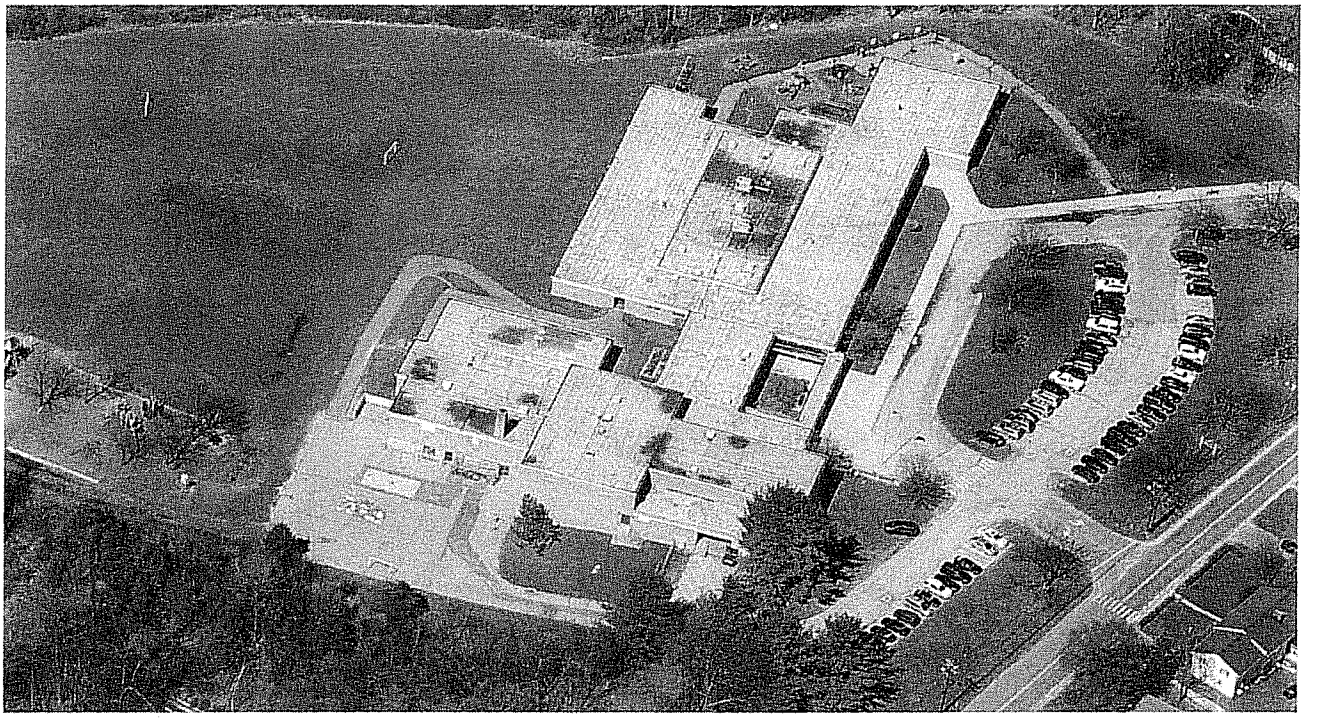
[1] Grades 7and 8 based on 5-year weighted averages of annual growth rates. Grade 6 based on resident enrollment in Grade 5. Grade 9 based on average of 2008, 2009 and 2011 to reflect change in promotion policy in 2010. Grades 10-12 based on average of 2007 to 2009 to reflect change in policy in 2010 and return to the former promotion policy in 2011.

[2] Estimated by comparing the enrollment in grades 38 one year with the enrollment in grades 2-7 the prior year with an adjustment for residents out to public schools and non-residents in to the Danbury magnet.

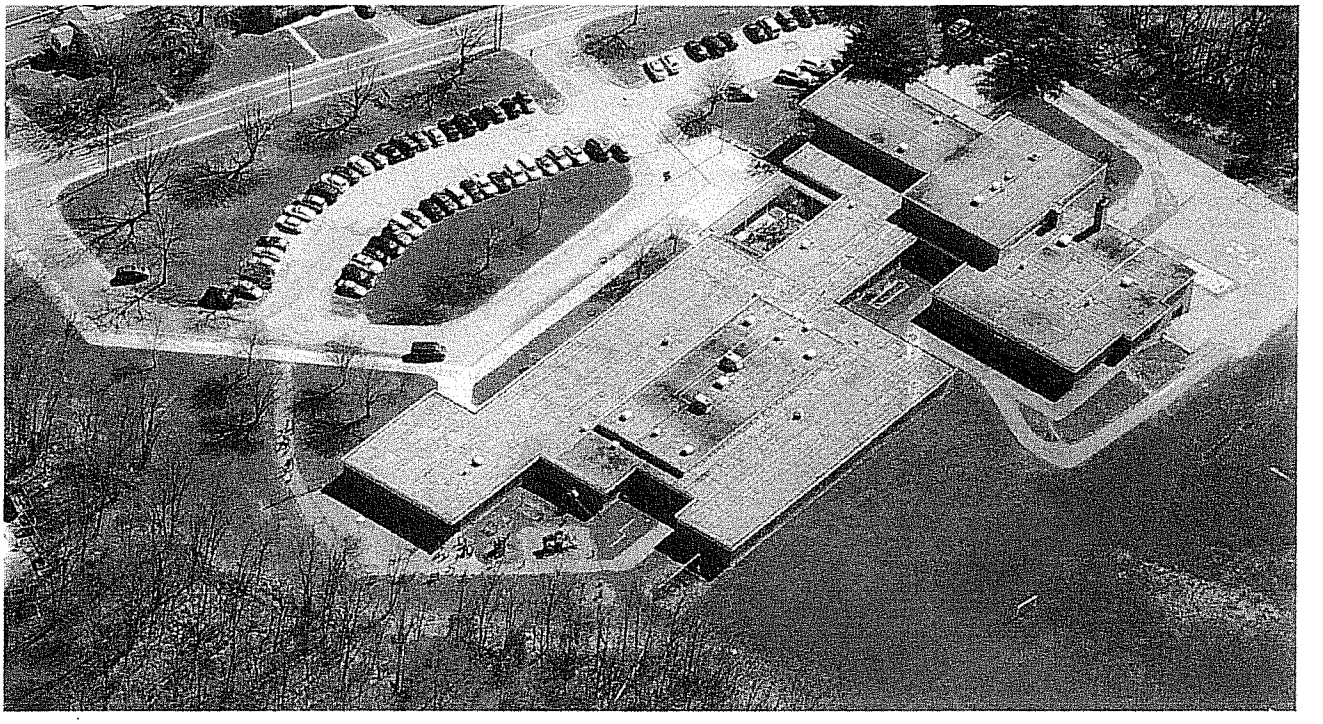


EXISTING AERIAL SOUTH TO NORTH VIEW

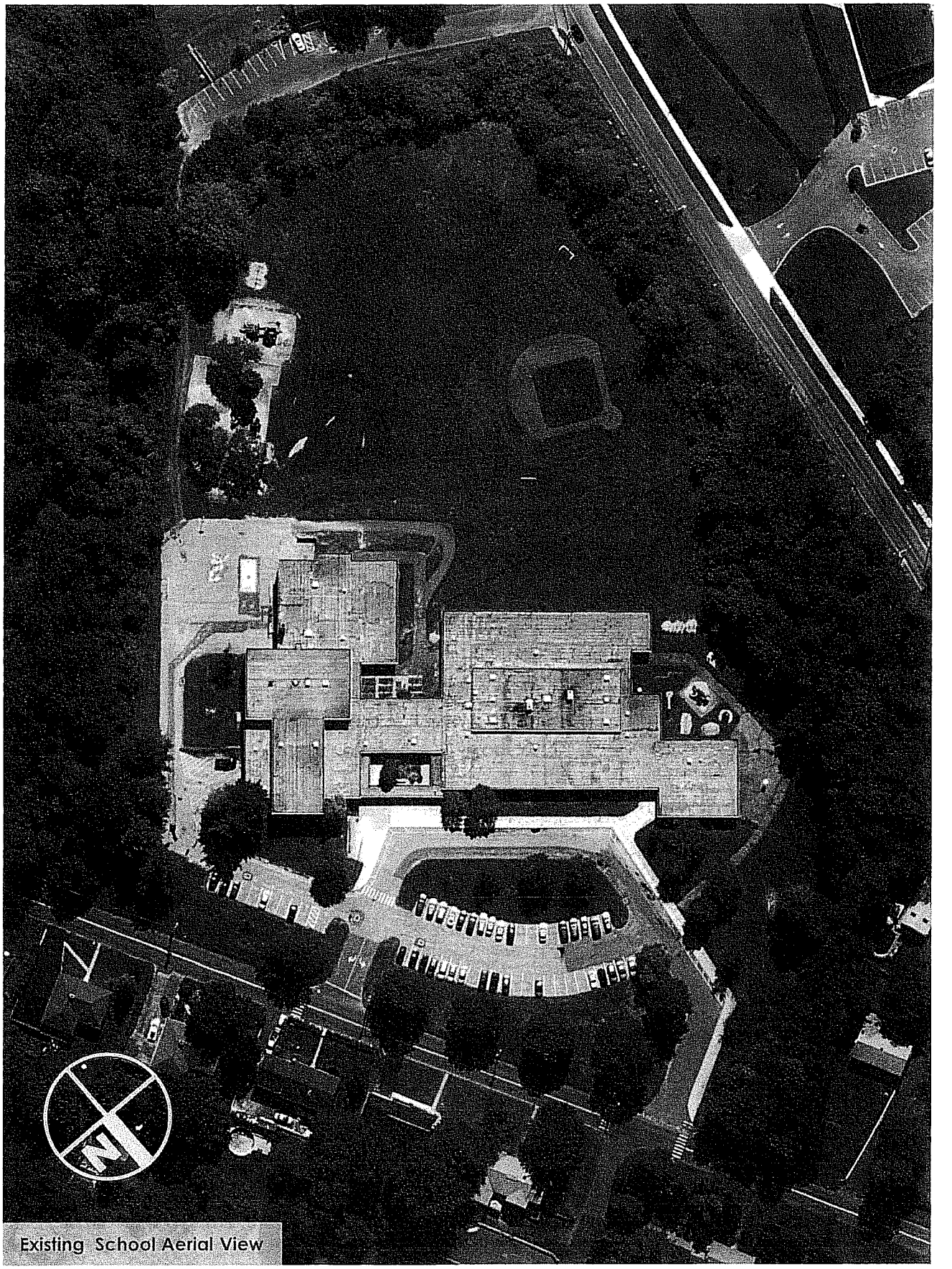
EXISTING AERIAL NORTH TO SOUTH VIEW



EXISTING AERIAL EAST TO WEST VIEW



EXISTING AERIAL WEST TO EAST VIEW



Existing School Aerial View

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ARCHITECTS PLANNERS

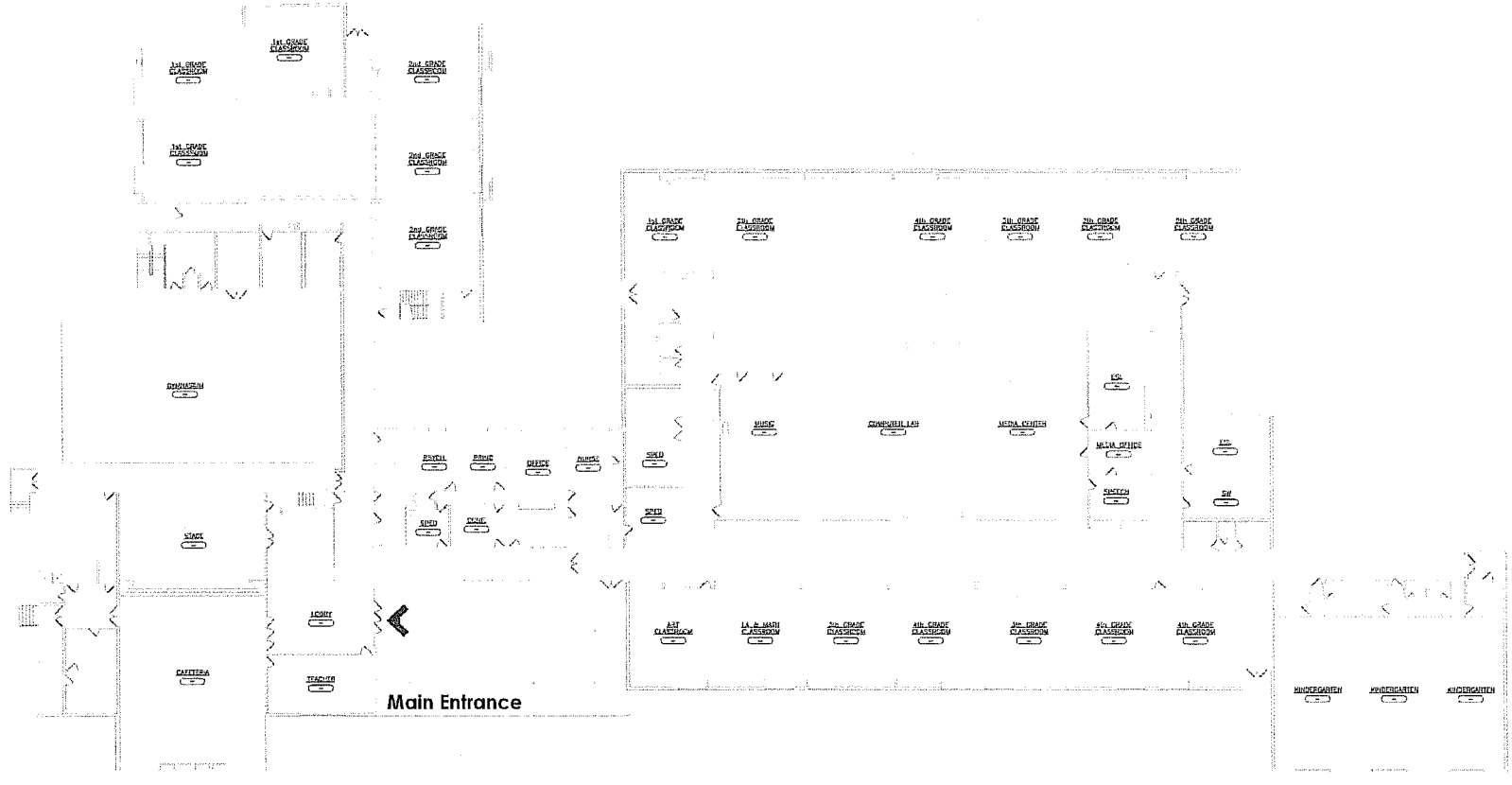
CITY OF DANBURY
STADLEY ROUGH ELEMENTARY SCHOOL
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS

FULLER D'ANGELO P.C. ARCHITECTS PLANNERS

CITY OF DANBURY

STADLEY ROUGH ELEMENTARY SCHOOL

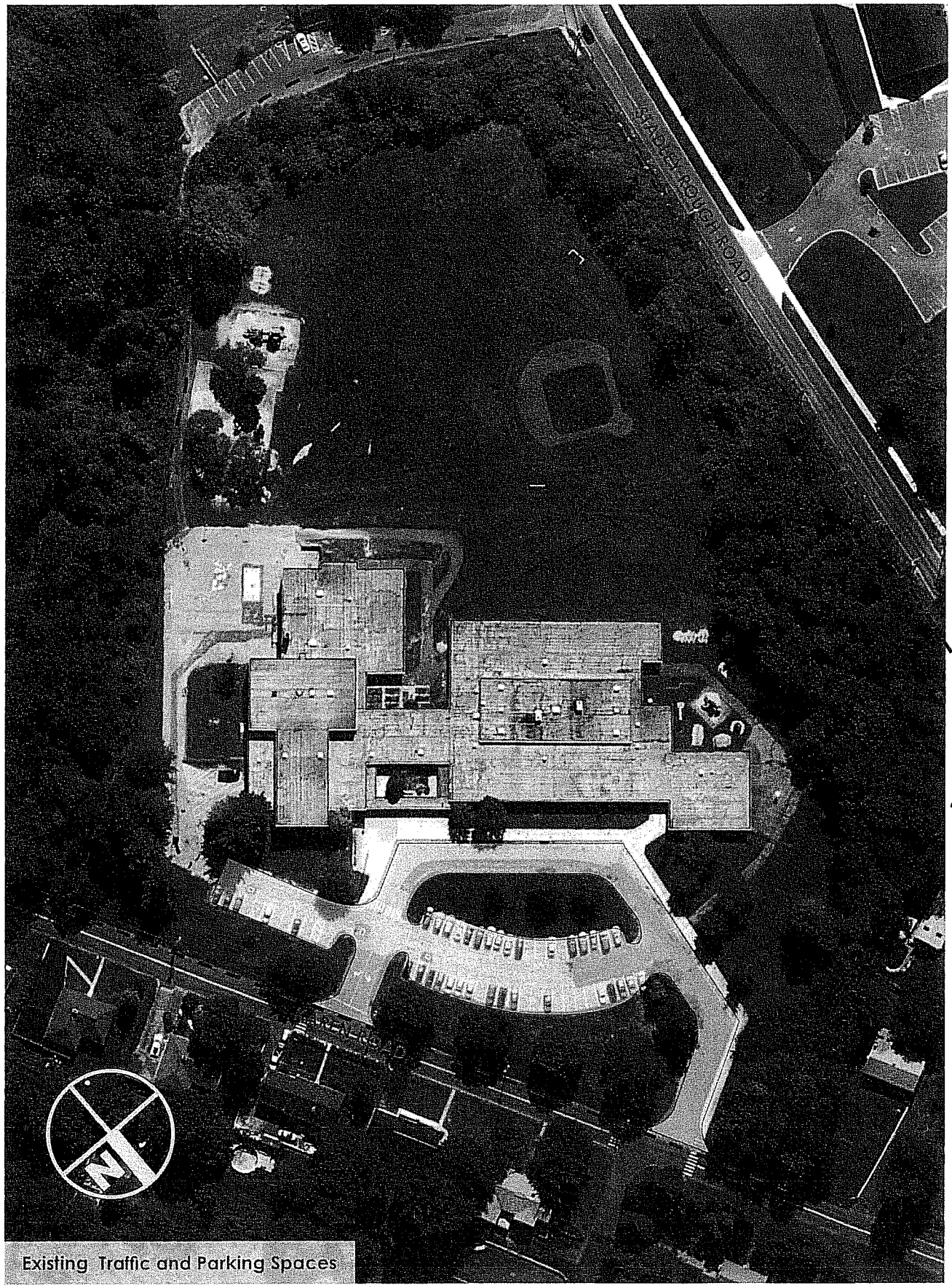
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS



1 PLAN
SCALE: 1/16" = 1'-0"

N

Existing Building Floor Plan



Existing Traffic and Parking Spaces

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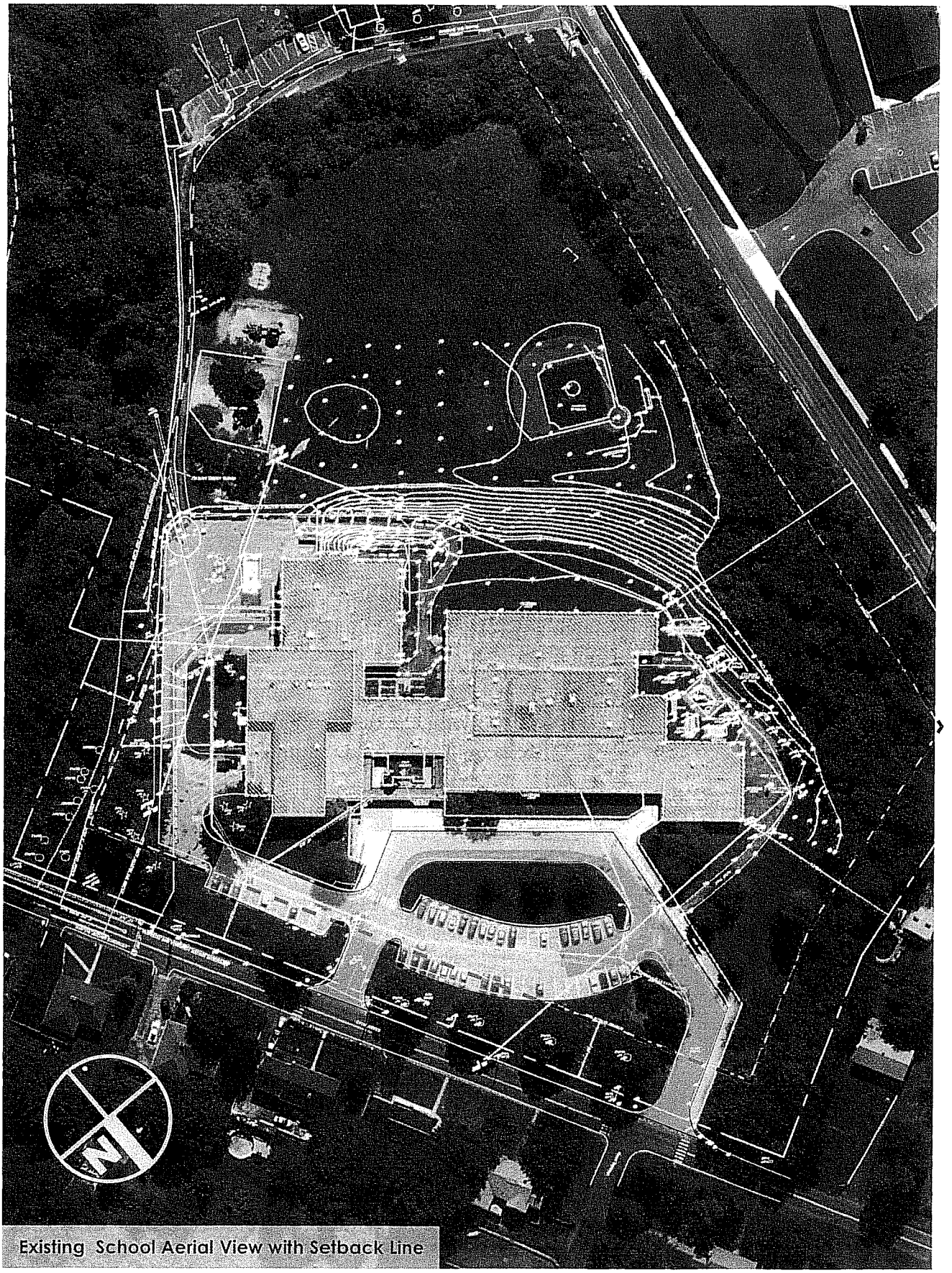
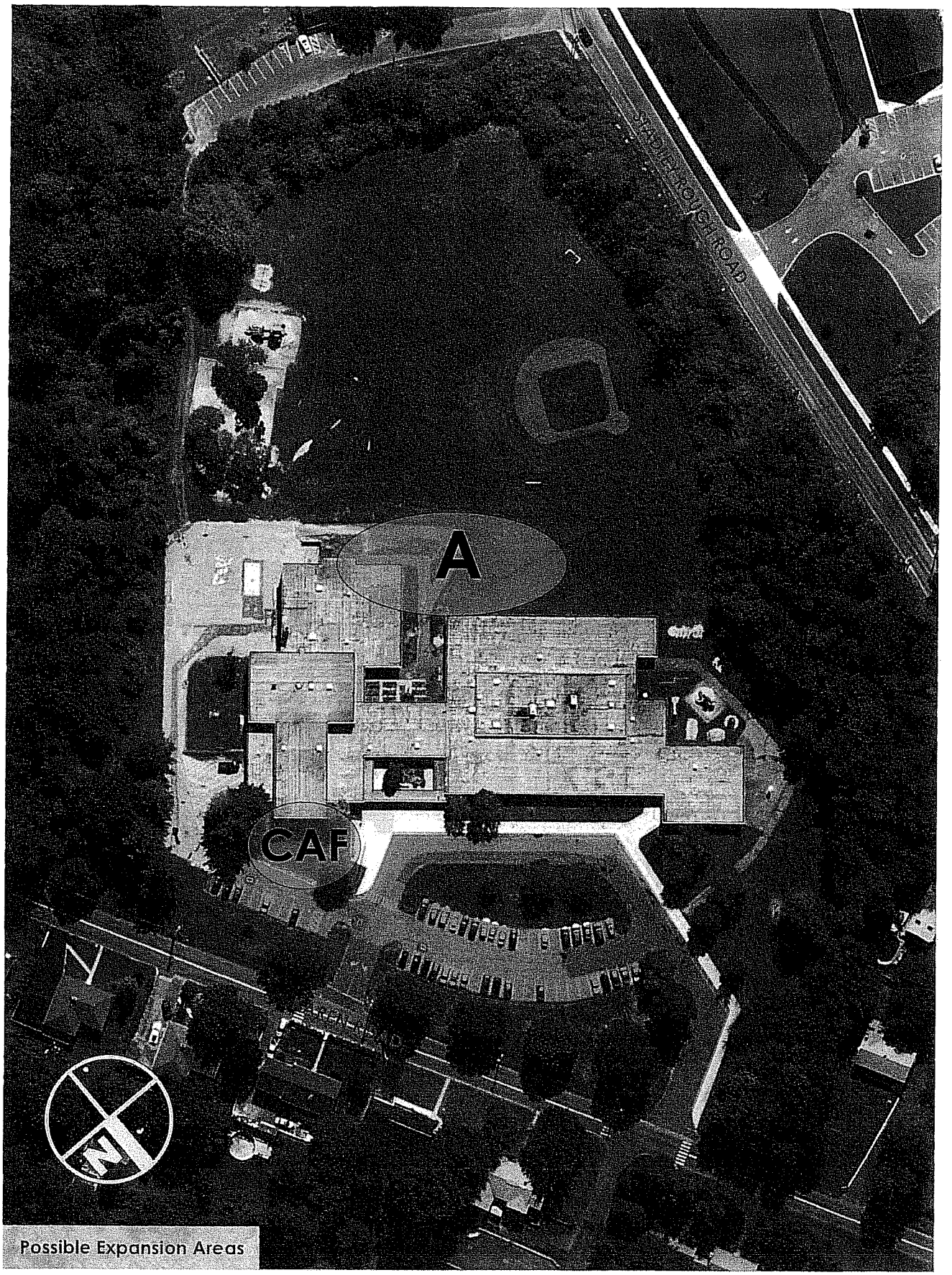
CITY OF DANBURY
STADLEY ROUGH ELEMENTARY SCHOOL
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS



Existing School Aerial View with Setback Line

FULLER D'ANGELO P.C.
ARCHITECTS PLANNERS

CITY OF DANBURY
STADLEY ROUGH ELEMENTARY SCHOOL
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS



Possible Expansion Areas

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FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS

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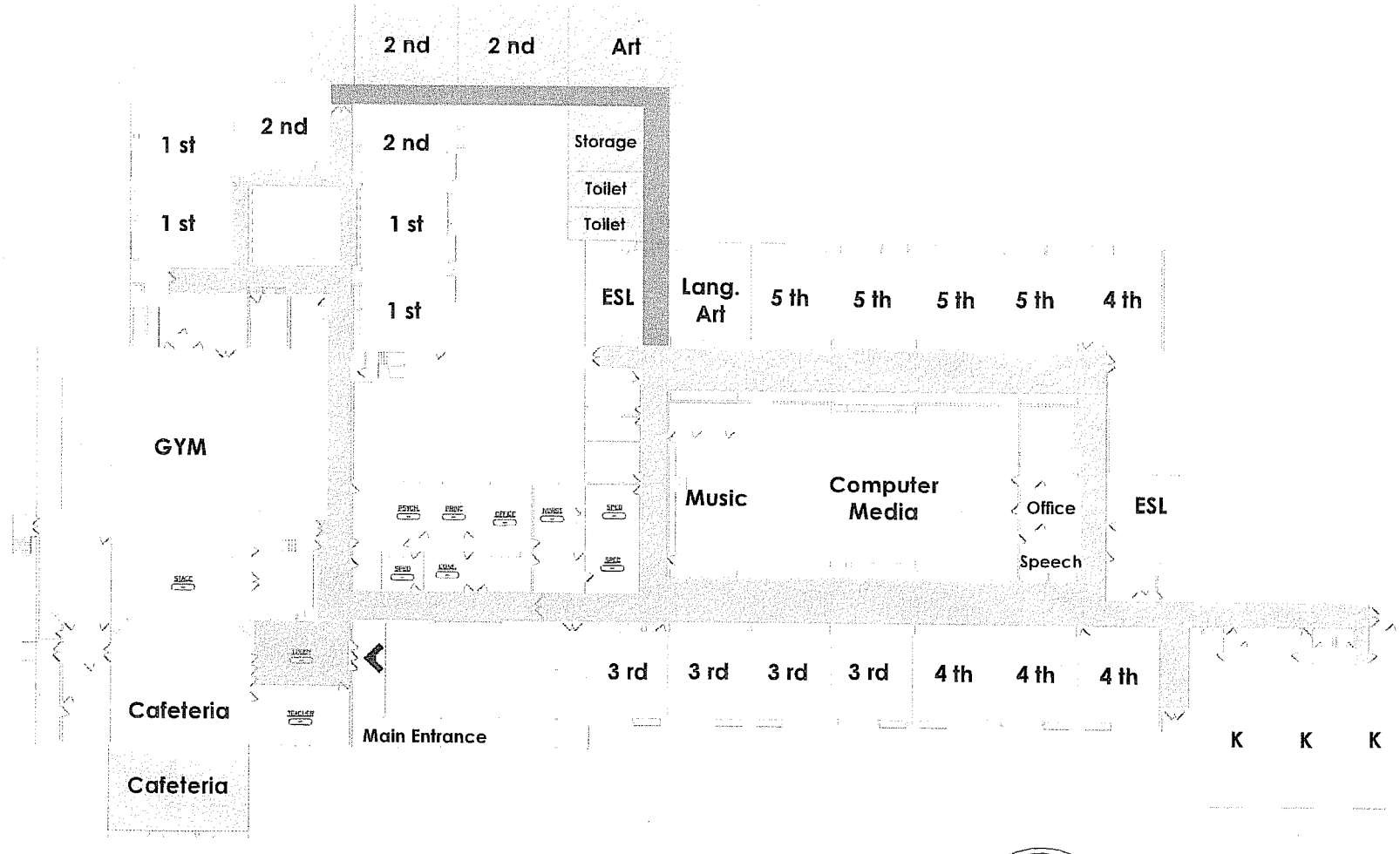
CITY OF DANBURY

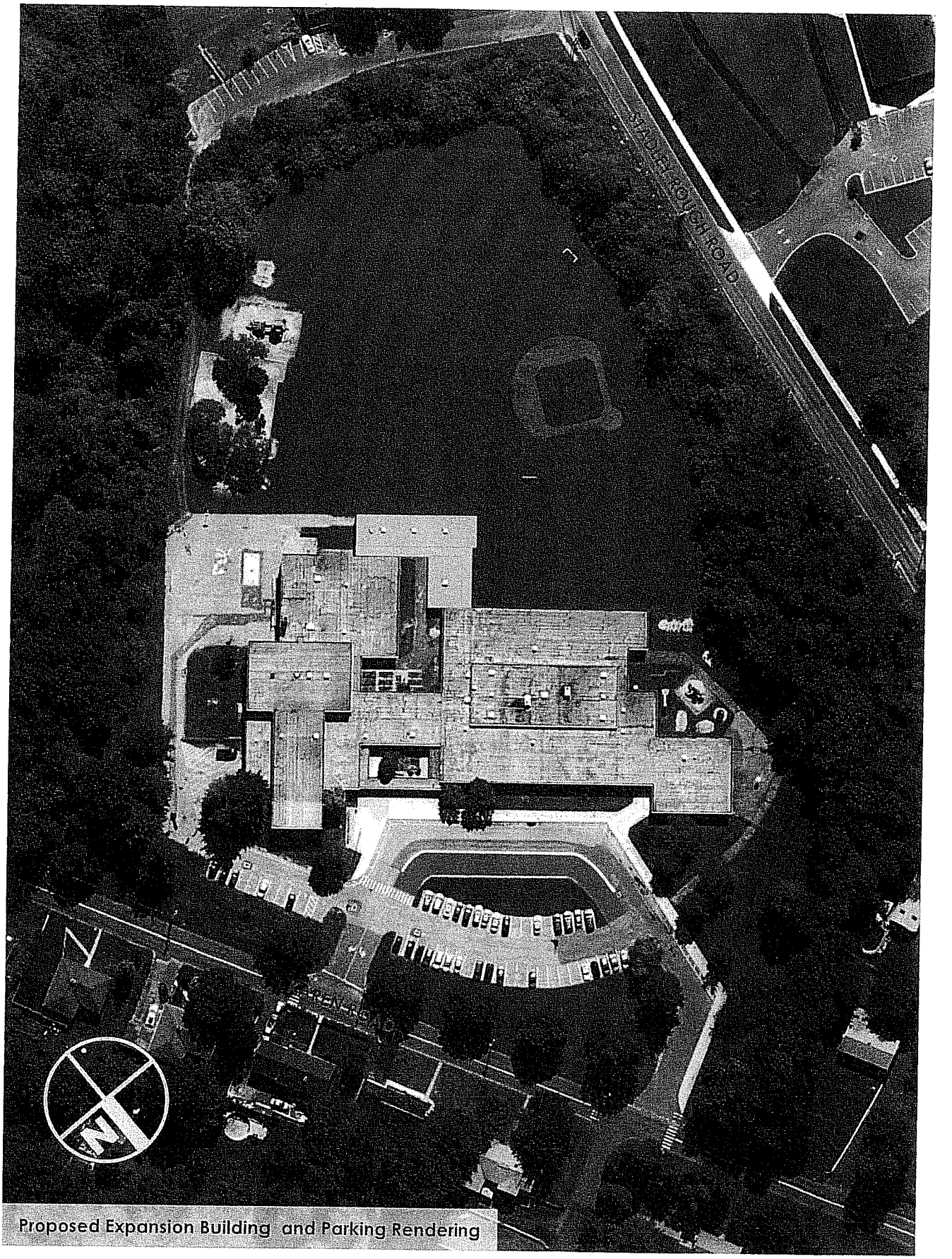
STADLEY ROUGH ELEMENTARY SCHOOL

FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS



1 PLAN
SCALE: 1/16" = 1'-0"

Proposed Expansion Building Floor Plan



Proposed Expansion Building and Parking Rendering

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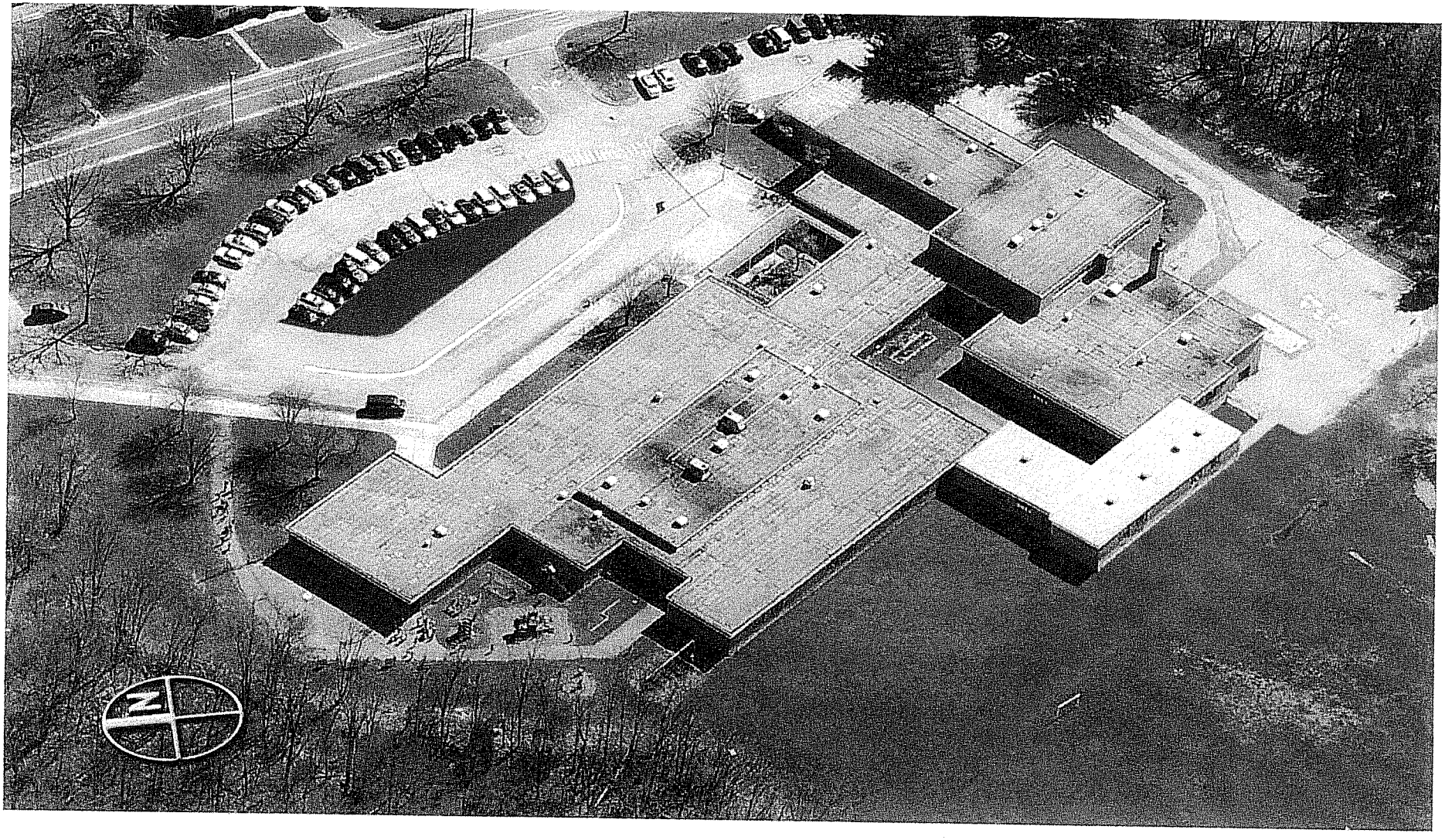
CITY OF DANBURY
STADLEY ROUGH ELEMENTARY SCHOOL
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS

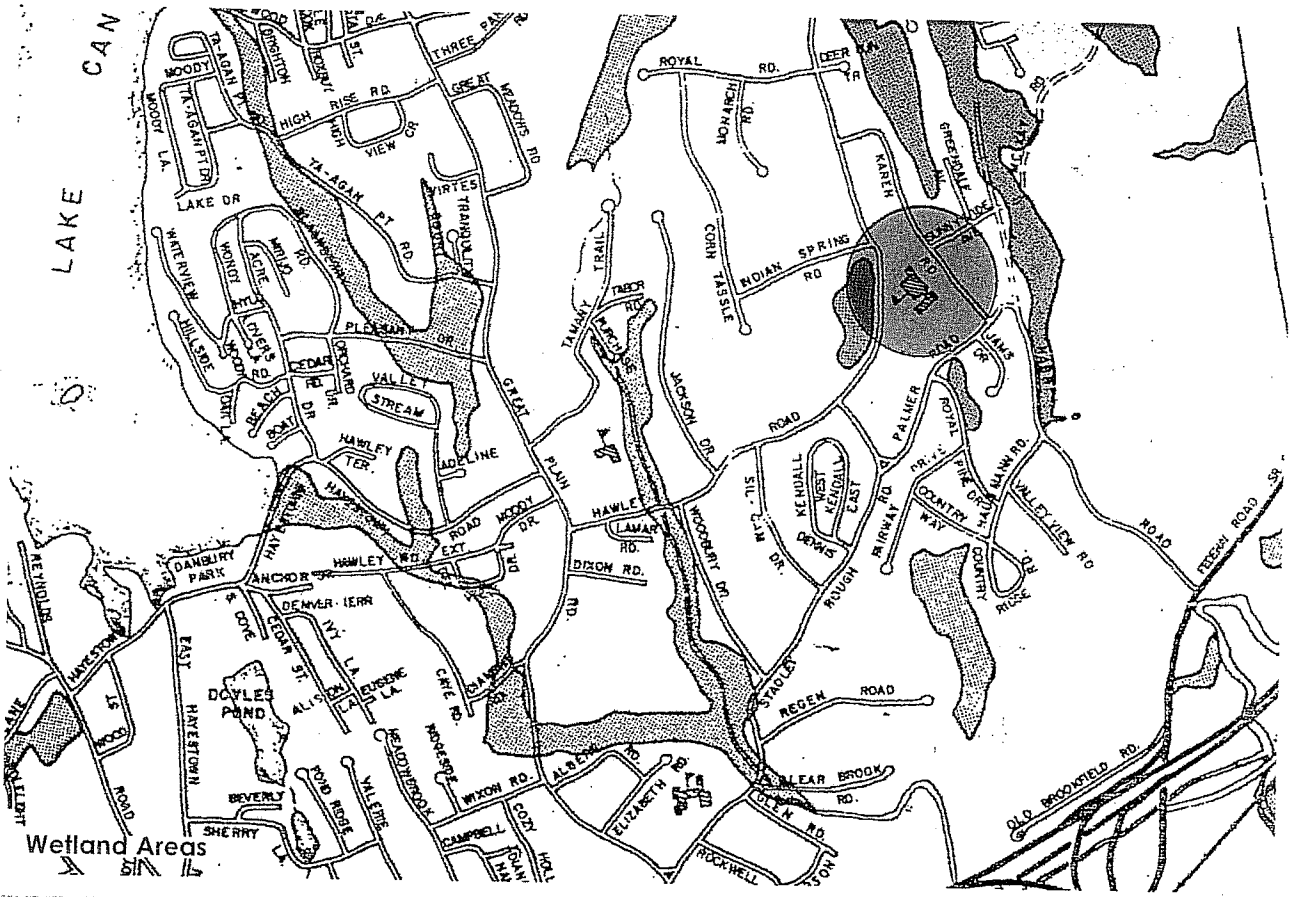


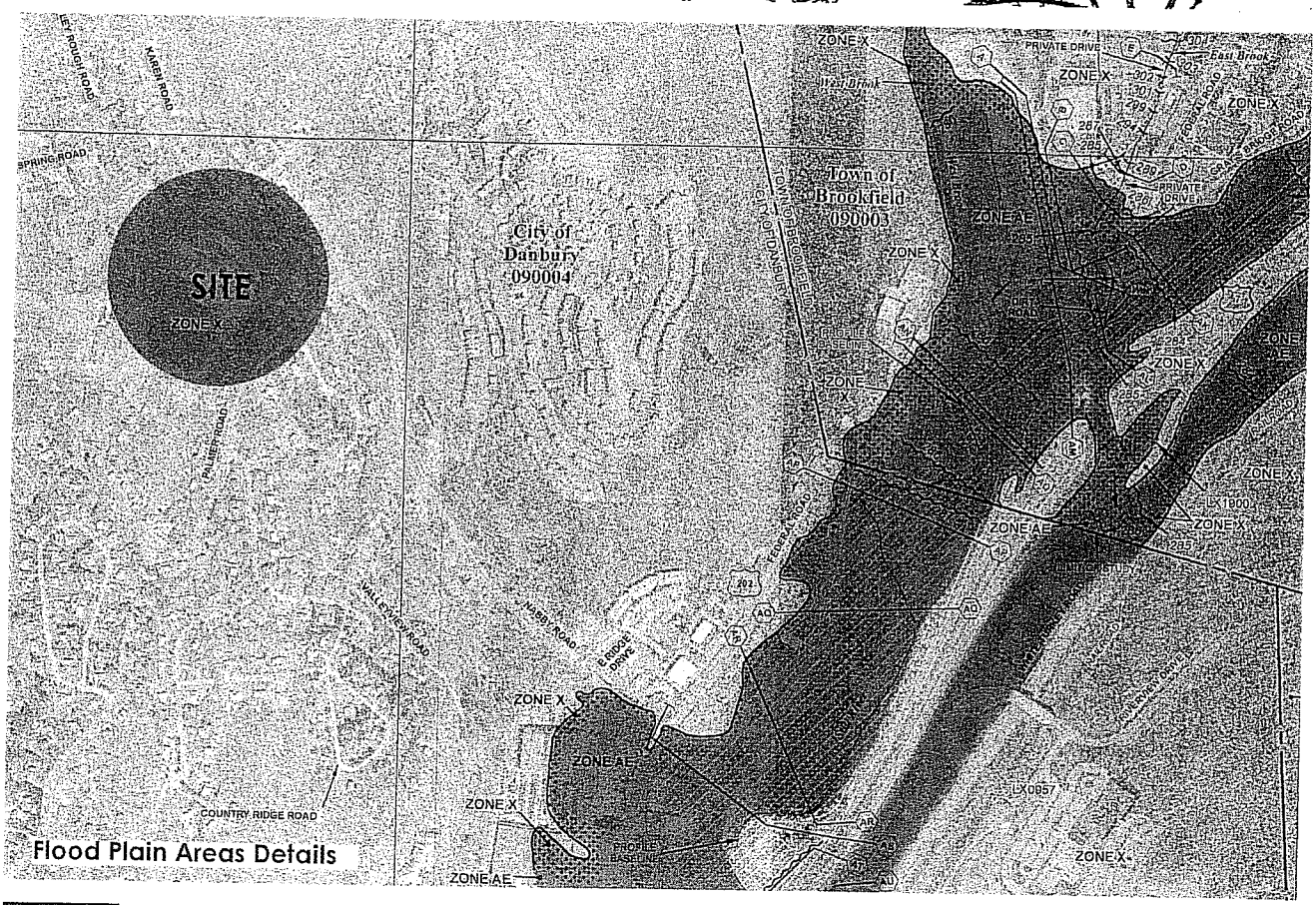
Proposed Expansion Building and Parking Rendering

FULLER D'ANGELO P.C.
ARCHITECTS PLANNERS

SEAL OF THE CITY OF DANBURY INCORPORATED 1889

CITY OF DANBURY
STADLEY ROUGH ELEMENTARY SCHOOL
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS





FULLER D'ANGELO P.C.
ARCHITECTS PLANNERS

CITY OF DANBURY
STADLEY ROUGH ELEMENTARY SCHOOL
FACILITIES PLANNING STUDY AND MASTER PLAN FOR ADDITIONS AND ALTERATIONS

CONCEPTUAL COST ESTIMATE
DETAIL

OWNER: DANBURY PUBLIC SCHOOLS
PROJECT: ADDITIONS AND RENOVATIONS

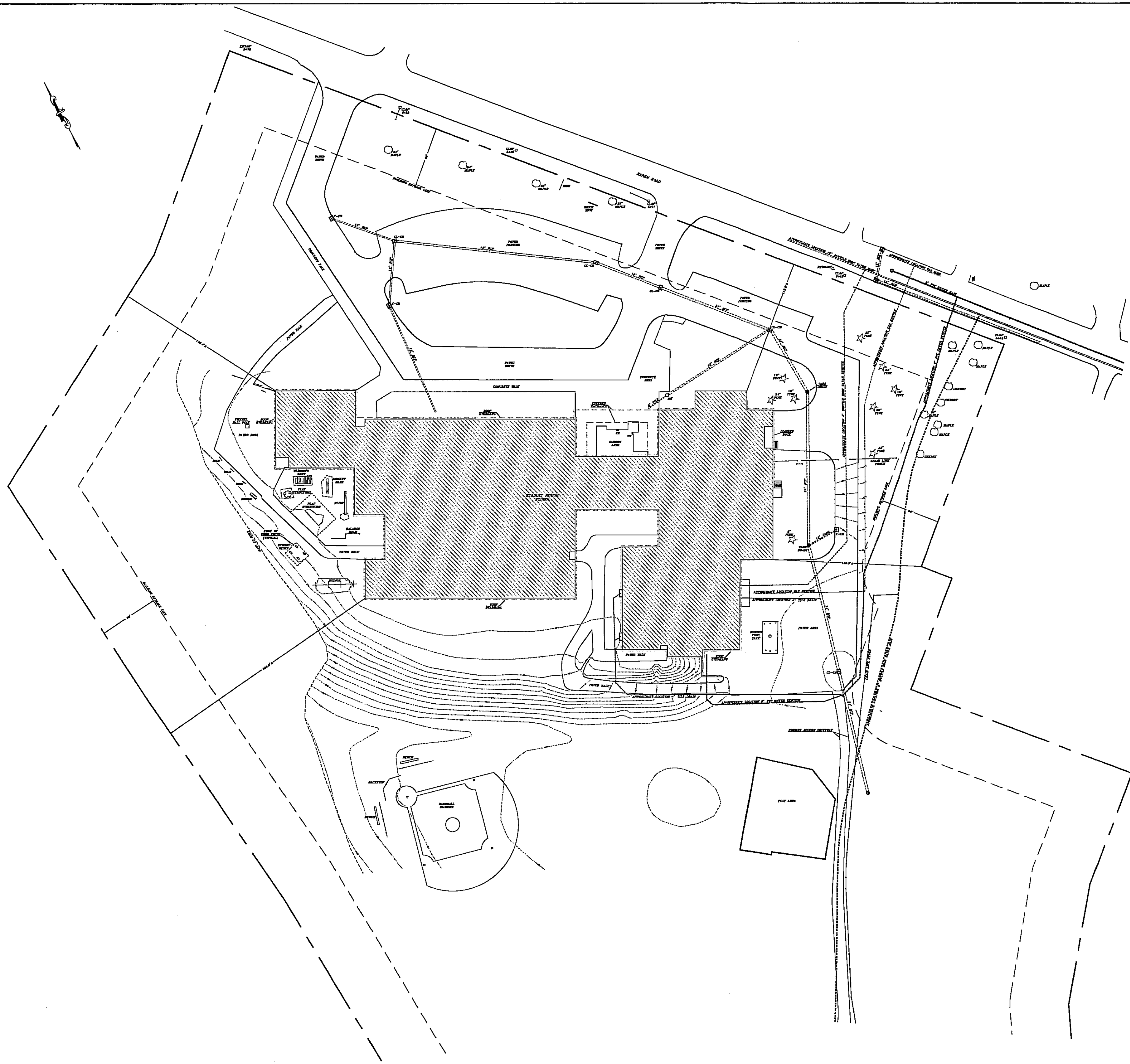
ARCHITECT: FULLER & D'ANGELO, P.C.

DESCRIPTION	QUANTITY		UNIT COST [1]	HARD COST SUBTOTAL	MAT AND LAB ESCALATION [2] 4%	ESTIMATE CONTINGENCY [3] 15%	HARD COST TOTAL	SOFT COST TOTAL [4] 28%	PROJECT TOTAL	NOTES
STADLEY ROUGH ELEMENTARY SCHOOL										
NEW CONSTRUCTION AND ASSOCIATED ALTERATIONS										
CLASSROOM ADDITION	5,000	SF	248.00	1,240,000	49,600	193,440	1,483,040	415,251	1,898,291	
MODIFICATIONS AT CONNECTION TO EXISTING	1	LS	50,000.00	50,000	2,000	7,800	59,800	16,744	76,544	
ELECTRIC SWITCHGEAR UPGRADE	1	LS	140,000.00	140,000	5,600	21,840	167,440	46,883	214,323	
ELECTRIC FEEDER TO ADDITION	1	LS	12,500.00	12,500	500	1,950	14,950	4,186	19,136	
SITEWORK AT ADDITION	1	LS	250,000.00	250,000	10,000	39,000	299,000	83,720	382,720	
RENOVATIONS [5]										
ELECTRIC TRANSFORMER REPLACEMENT [6]	1	LS	80,000.00	80,000	3,200	12,480	95,680	26,790	122,470	
STADLEY ROUGH ELEMENTARY SCHOOL TOTAL				1,772,500	70,900	276,510	2,119,910	593,575	2,713,485	
ALTERNATE: NEW ELEVATOR				230,000	9,200	35,880	275,080	77,022	352,102	
ALTERNATE: CAFETERIA ADDITION - SEATING ONLY	1,200	SF	275.00	330,000	13,200	51,480	394,680	110,510	505,190	
ALTERNATE: PARKING AND DROP-OFF	1	LS	246,100.00	246,100	9,844	38,392	294,336	82,414	376,750	

NOTES
1 - UNIT COST IN 2012 DOLLARS
2 - ESCALATION FACTOR OF 4% TO MIDPOINT OF CONSTRUCTION (APRIL 2014)
3 - ESTIMATING CONTINGENCY OF 15% TO BE REDUCED UPON DEVELOPMENT OF FINAL PROGRAM AND SCOPE
4 - SOFT COSTS OF 28% INCLUDES PROFESSIONAL FEES, INVESTIGATIONS AND TESTING, OWNER COSTS, FFE, CONTINGENCY, ETC.
5 - ELEMENTARY SCHOOL ROOF REPLACEMENT NOT INCLUDED.
6 - TRANSFORMER TO BE REMOVED FROM INTERIOR AND NEW TRANSFORMER INSTALLED AT EXTERIOR. ASSUMES ELECTRICAL SERVICE FEEDER AND CONDUITS TO BE RE-USED.

CONDITIONS AND QUALIFICATIONS

- THIS COST ESTIMATE IS BASED ON CONCEPTUAL SKETCHES PREPARED BY FULLER & D'ANGELO, P.C.
- BIDDING IS ASSUMED TO OCCUR IN SPRING 2013.
- CONSTRUCTION PERIOD IS ASSUMED TO BE JULY 2013 THROUGH DECEMBER 2014.
- PROJECT TO BE PUBLICLY BID WITH AT LEAST 5 BIDS RECEIVED FOR EACH PRIME CONTRACT.
- PREVAILING WAGE RATES APPLY
- NO COSTS ARE INCLUDED FOR OVERTIME/PREMIUM LABOR EXCEPT WHERE REQUIRED FOR "SWITCHOVER" OF MECHANICAL AND ELECTRICAL SYSTEMS.
- NO COSTS ARE INCLUDED FOR CONSTRUCTION OF TEMPORARY CLASSROOMS OR OTHER SPACES FOR PHASING.
- THE ESTIMATE DOES NOT ACCOUNT FOR UNUSUAL MARKET CONDITIONS SUCH AS LABOR AND/OR MATERIAL SHORTAGES, AVAILABILITY OF BIDDERS, INFLATION, AND OTHER FACTORS.



ZONING INFORMATION TABLE: STADLEY ROUGH SCHOOL ASSESSORS LOT: K07028
ZONE: RA-40 PRINCIPLE USE: SCHOOL
EXISTING BUILDING FOOTPRINT (INCLUDES ROOF OVERHANGS): 60,232 SQ. FT.
EXISTING LOT AREA: 693,993 SQ. FT. (15.932 ACRES)

ZONE CRITERIA	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA (ACRES)	2	15.932	———
MINIMUM FRONT YARD (FT.)	50	113.9	———
MINIMUM SIDE YARD (FT.)	50	125.9	———
MINIMUM REAR YARD (FT.)	75	N / A	———
MAXIMUM BUILDING HEIGHT (FT.)	35	34.8	———
MAXIMUM BUILDING COVERAGE (%)	15	8.68	———

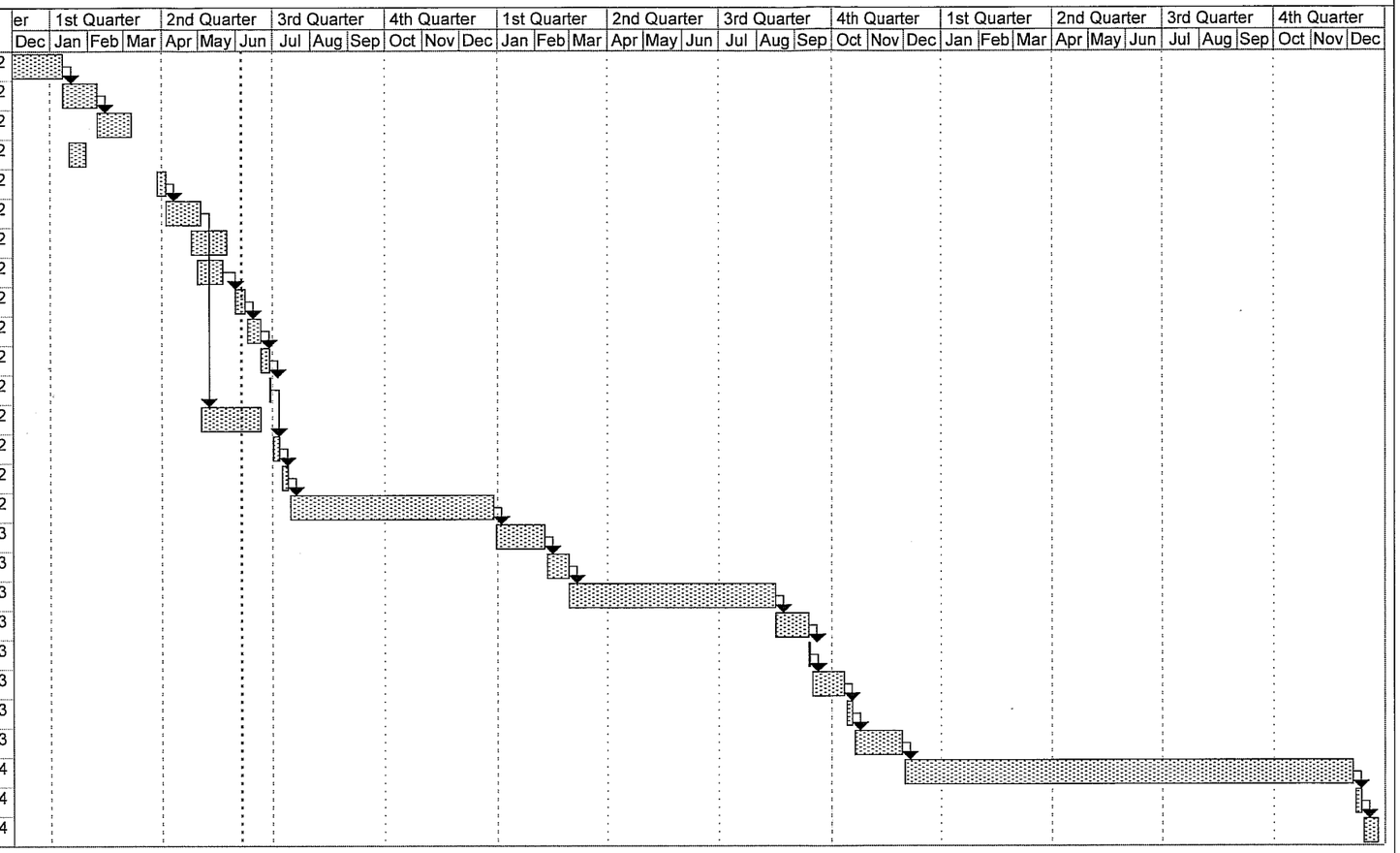
CITY OF DANBURY
ENGINEERING DEPARTMENT
FARID L. KHOURI, P.E. CITY ENGINEER

MAP SHOWING THE LAND OF
THE CITY OF DANBURY
STADLEY ROUGH SCHOOL
KAREN ROAD DANBURY, CONNECTICUT
ZONE: RA-40 AREA: 15.93 ACRES
SCALE: 1" = 40' MAY 23, 2012

40' 20' 0 40' 80' 120' 160'

DANBURY PUBLIC SCHOOLS SCHOOL
FACILITY PLANNING STUDY FOR ELEMENTARY SCHOOL ADDITIONS
MAY 25, 2012

ID	Task Name	Duration	Start	Finish
1	ENROLLMENT STUDY	30 days	Thu 12/1/11	Wed 1/11/12
2	CITY ENROLLMENT STUDY REVIEW AND PLANNING	20 days	Thu 1/12/12	Wed 2/8/12
3	BOE AND CITY MEETINGS	20 days	Thu 2/9/12	Wed 3/7/12
4	EXISITNG CLASSROOM AREA DOCUMENTATION	10 days	Tue 1/17/12	Mon 1/30/12
5	PROFFESIONAL SERVICES START OF WORK	5 days	Thu 3/29/12	Wed 4/4/12
6	BACKGROUND DRAWINGS BY ARCHITECT	21 days	Thu 4/5/12	Thu 5/3/12
7	CITY SITE SURVEYS	21 days	Thu 4/26/12	Thu 5/24/12
8	BORING PROPOSAL APPROVAL	15 days	Tue 5/1/12	Mon 5/21/12
9	BORINGS, WETLANDS AND FLOODPLAIN MAPS	6 days	Fri 6/1/12	Fri 6/8/12
10	CONCEPT DRAFT	9 days	Mon 6/11/12	Thu 6/21/12
11	PRELIMINARY COST ESTIMATING	5 days	Fri 6/22/12	Thu 6/28/12
12	REPORT DELIVERY	1 day?	Fri 6/29/12	Fri 6/29/12
13	FACILTIY PLANNING BY ARCHITECT/ ENGINEERS	35 days	Fri 5/4/12	Thu 6/21/12
14	CITY AND BOE APPROVALS	5 days	Mon 7/2/12	Fri 7/6/12
15	EDO-49	5 days	Mon 7/9/12	Fri 7/13/12
16	STATE FUNDING APPROVALS	120 days	Mon 7/16/12	Fri 12/28/12
17	CITY RFP FOR A/E SERVICES	30 days	Mon 12/31/12	Fri 2/8/13
18	A/E CONTRACT AWARD	14 days	Mon 2/11/13	Thu 2/28/13
19	A/E SERVICES FOR CONSTRCUTION DOCUMENTS	120 days	Fri 3/1/13	Thu 8/15/13
20	LAND USE APPROVALS	20 days	Fri 8/16/13	Thu 9/12/13
21	PCT MEETING BSF	1 day?	Fri 9/13/13	Fri 9/13/13
22	LOCAL REVIEW	20 days	Mon 9/16/13	Fri 10/11/13
23	BSF APPROVAL TO BID	5 days	Mon 10/14/13	Fri 10/18/13
24	BIDS AND AWARD	30 days	Mon 10/21/13	Fri 11/29/13
25	CONSTRUCTION START AND DURATION	265 days	Mon 12/2/13	Fri 12/5/14
26	CLOSE OUT AND PUNCH LIST	5 days	Mon 12/8/14	Fri 12/12/14
27	OCCUPANCY	10 days	Mon 12/15/14	Fri 12/26/14



Project: SCHEDULE 5.28.12
Date: Tue 6/5/12

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

BORING REPORT SUMMARY

The requirements, per the proposal for school feasibility reports services, were to obtain via a third party soil testing company a soil borings report for the Stadley Rough Elementary School. The findings of these bore probes and the soil boring company analysis for same are attached.

The City requested, in areas of the additions, to find information on existing soils. Although we are not engineers, we were requested to confirm soil analysis consistency and a ground water level reading. Soil collection of the top twelve feet was also performed and delivered to the City's On- Call Environmental Consultants for analysis and review of any possible soil contaminates.

The soil boring engineers' basic findings showed various soil types. Two bores were completed. However none showed rock in the areas of purposed construction. This is important knowledge which would relate to increased construction costs for the project.

It should be noted further borings shall be required during the future construction document design phases of this project.

The soils as they appear are suitable for bearing a structure this was confirmed with the soil boring consultant. The Stadley Rough ES soil material findings are comprised of the below:

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6	6 - 12	12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	16"	2'0"	5	5			dry	0'6"	TOPSOIL
							5	6			compact		olv brn SILT,sm SM sand,lit clay,tr roots
		2	ss	11"	8"	2'11"	6	50/5"			dry		olv brn CLAY,sm silt,lit FM sand,tr C sand,F gravel,cobbles 3 - 5'
											v dense		
5		3	ss	24"	20"	6'0"	7	9			moist		SAME
							14	22			compact		
		4	ss	24"	19"	8'0"	19	17			moist		SAME
							21	25			dense		
		5	ss	24"	20"	10'0"	8	13			dry		
10							12	18			compact		

Submitted by: Fuller and D'Angelo, PC
Architects and Planners
45 Knollwood Road
Elmsford, NY 10523
914.592.4444
914.592.1717
Date: May 29, 2012

Further review to access current below grade water levels at the test hole STB-1 were found at a level of 5 below grade on June 14, 2012, 7 days after the probe was drilled.

Water level findings noted ground water below the addition fairly close to footing and foundation height.

After consolation with the soil boring engineer it is thought this water is run off and can be managed through perimeter foundation drainage systems. It is not thought that the water elevation shall require under slab building draining systems.

With regard to environmental aspects of the project and any related issues we believe the city shall receive a report under separate cover from there On-Call Environmental engineers. We would appreciate a copy of this report when forwarded.

This environmental report should be added to the Appendix of the feasibility study in order to attain a complete feasibility report. It should become the last document in the Appendix directly after the schedule.

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: Fuller & D'Angelo Architects	SHEET 1 OF 1 HOLE NO. STB-1
	PROJECT NO. G88-9119-12	
	PROJECT NAME Stadley Rough Elementary School	BORING LOCATIONS per Plan
FOREMAN - DRILLER TP/tb	LOCATION 25 Karen Road Danbury, CT	
INSPECTOR	CASING / SAMPLER / CORE BAR	OFFSET
	TYPE: HSA / SS	DATE START 6/7/12
	SIZE I.D.: 3 ¾" / 1 3/8"	DATE FINISH 6/8/12
GROUND WATER OBSERVATIONS AT 25 FT AFTER 0 HOURS AT 5 FT on 6/14/12	HAMMER WT.: 140# / BIT	SURFACE ELEV.
	HAMMER FALL: 30"	GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6	6 - 12	12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	16"	2'0"	5	5			dry	0'6"	TOPSOIL
							5	6			compact		olv brn SILT,sm SM sand,lit clay,tr roots
		2	ss	11"	8"	2'11"	6	50/5"			dry		olv brn CLAY,sm silt,lit FM sand,tr C sand,F gravel,cobbles 3 - 5'
											v dense		
5		3	ss	24"	20"	6'0"	7	9			moist		SAME
							14	22			compact		
		4	ss	24"	19"	8'0"	19	17			moist		SAME
							21	25			dense		
		5	ss	24"	20"	10'0"	8	13			dry		
10							12	18			compact		
		6	ss	24"	22"	12'0"	22	21			dry		SAME
							24	28			compact		
		7	ss	24"	19"	17'0"	11	16			dry		SAME
							20	22			dense		
20		8	ss	24"	21"	22'0"	13	19			dry		SAME
							24	19			dense		
25		9	ss	24"	22"	27'0"	14	25			wet		SAME
							22	28			dense		
30		10	ss	24"	21"	32'0"	15	24			wet		SAME; gry
							27	28			v dense	32'0"	
35													E.O.B. 32'0"
													Installed 1" SCH 40 PVC Observation Well w/10' screen to 20' depth
40													

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. STB-1

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: Fuller & D'Angelo Architects	SHEET 1 OF 1 HOLE NO. STB-2
	PROJECT NO. G88-9119-12	
	PROJECT NAME Stadley Rough Elementary School	BORING LOCATIONS per Plan
FOREMAN - DRILLER TP/tb	LOCATION 25 Karen Road Danbury, CT	
INSPECTOR		OFFSET

	CASING	SAMPLER	CORE BAR
TYPE	HSA	SS	
SIZE I.D.	3 ¾"	1 3/8"	
HAMMER WT.		140#	BIT
HAMMER FALL		30"	

DATE START 6/8/12
DATE FINISH 6/8/12
SURFACE ELEV.
GROUND WATER ELEV.

GROUND WATER OBSERVATIONS
AT 30 FT AFTER 0 HOURS
AT __ FT AFTER __ HOURS

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6	6 - 12	12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	17"	2'0"	4	5			dry	0'3½"	ASPHALT
							7	9			compact		olv brn SILT,sm clay,lit FM sand,tr F gravel
		2	ss	24"	18"	4'0"	13	14			dry		olv brn SILT,sm FM sand,clay,lit F-C gravel,C sand
							13	16			compact		
5		3	ss	24"	20"	6'0"	26	14			dry		SAME
							17	21			dense		
		4	ss	24"	21"	8'0"	23	25			dry		SAME
							32	26			v dense		
		5	ss	24"	18"	10'0"	20	16			dry		SAME
10							18	21			dense		
		6	ss	24"	20"	12'0"	19	22			dry		SAME
							27	30			dense		
		7	ss	24"	20"	17'0"	12	18			dry/l mst		SAME,sm C gravel,cobbles
							29	38			dense		
													sm cobbles 17 - 20'
20													
		8	ss	24"	21"	22'0"	15	23			dry		SAME
							27	35			v dense		
													BOULDER at 23'
25													
		9	ss	24"	22"	27'0"	15	19			dry		SAME; gry
							27	30			dense		
30													
		10	ss	24"	22"	32'0"	13	23			wet		SAME; gry
							26	25			dense	32'0"	
35													E.O.B. 32'0"
40													

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. STB-2

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST
WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS
SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER
PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

JOB NO.

G88-9119-12

SOILTESTING, INC.

90 Donovan Road

Oxford, CT 06478