TOWN OF KILLINGLY
KILLINGLY MEMORIAL SCHOOL
339 Main Street, Danielson, Connecticut

FEASIBILITY ASSESSMENT STUDY
DRAFT SUBMISSION – NOVEMBER 2021

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Introduction

1.1 Executive Summary

Introduction

Killingly Public Schools currently has a total enrollment of approximately 2,800 students served by five public schools within the district. Killingly Memorial School is one of the District's three elementary age schools and houses 2nd through 4th grades.

Originally constructed in 1953 with portable classrooms added in 1973 and 2002, the school has a current building area of approximately 70,039 square feet.

With the incremental availability of funding, the Town of Killingly has implemented several limited improvement projects for Killingly Memorial School. One of the largest projects addressed issues of accessibility for the school through the provision of at least one fill accessible classroom per grade; the introduction of chair lifts to negotiate floor level changes at two locations in the existing school's corridors; the provision of accessible toilet room facilities and accessible door hardware for publicly accessed space such as classrooms and the Gymnasium-Auditorium.

In 2018, the existing school's roof was replaced with modified bitumen roof system and in 2019 break resistant glazing assemblies were installed in existing window systems located with seven feet of adjacent grade.

In 2019 the Town consulted with a professional design firm to develop a proposed an 18,950 sq. ft. addition to the existing school that would add a Media Center, seven general classrooms; art, science and music classrooms; resource rooms for special needs learners; and office space. The addition would replace the two existing portable classrooms which were schedule to be demolished as part of the project. The introduction of the addition further added a courtyard and contemplated the modification of existing traffic flows on site.

The Town of Killingly applied for State grant funding in June 2020 for the project with a maximum anticipated project cost of $16,550,000.00. In November 2020, the CT Department of Administrative Services, Office of School Construction Grants and Review expressed concern regarding the disparity between unconditioned classrooms located within the existing 1953 school compared with the contemporary amenities afforded to spaces located within the planned Addition. Project funding was made contingent upon the Town of Killingly's commitment to upgrade the

existing school spaces making them comparable to those of the proposed new addition. The Office of School Construction Grants and Review cited the following specific areas requiring improvement:

- A full mechanical system upgrade to replace the existing steam-based system with a hot water-based heating system and air conditioning throughout.
- Full electrical system upgrades necessary to support the mechanical system upgraded. At the time the grant application was made, the Town had initiated plans to replace existing interior lighting with LED fixtures.
- Abatement of asbestos containing materials located in public corridors identified in the school's management plan.
- Full replacement of the existing food service equipment including an updated to the adjacent serving area.
- Barriers free access to the existing stage located within the Gymnasium – Auditorium
- The introduction of an elevator designed to connect the main entry level with occupied floor levels above and below.

With these improvements, and recently completed updates to the roof and windows, the Town of Killingly anticipated that the building could obtain renovation status. On December 15, 2020, the Town of Killingly received approval of their request for Renovation Status for Killingly Memorial School. The amended grant application, with its total project cost increasing to $34,000,000.00 was also accepted by the State.

The following facilities assessment study has been compiled to specifically support the Town of Killingly's Renovation Status application in accordance with the requirements set forth by the Office of School Construction Grants and Review upon condition of the school's Renovation Status approval.

The following representatives from the Town of Killingly and Killingly Public Schools provided have vital input, contributions and oversight related to the development of this Feasibility Assessment:

Town Representatives

Town of Killingly

Mary Calorio, Town Manager
Mary Bromm, Permanent Building Committee Liaison
Michael Vassar, Operations and Maintenance Supervisor

School District

Killingly Public Schools

Robert Angeli, Superintendent of Schools
Tina Chahanovich, Principal, Killingly Memorial School

Assessment Team

The Killingly Memorial School Facilities Assessment Team is composed of the following firms and individuals, who are collectively responsible for the work that resulted in the development of this Assessment Study:

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David C. Ferris, Associate, Project Manager
Patti McKeon, Senior Associate, Interior Designer

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Kent Gannon P.E., Associate, Project Manager

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Thomas C. Hardin, Cost Estimator

1.3 Use and Reliance Restriction

Statement of Use

Antinozzi Associates PC, Construction Solutions Group (CSG); Stantec Consulting Services, Inc., Consulting Engineering Services (CES), and the Fusco Corporation, hereinafter referred to as the "Conceptual Study Team," have produced the content of this document under agreements between Antinozzi Associates PC and the Branford Board of Education. All terms and conditions of that agreement are included within this document by reference. Other than the Branford Board of Education, the Conceptual Study Team disclaims any obligations to any other person with respect to any material presented in this document, and no person may rely upon this document without advance and express written consent from Antinozzi Associates, PC and such person's written agreement is to bound by the limitations, qualifications, terms conditions and indemnities to Antinozzi Associates, PC set forth in that agreement.

The Assessment Study Team specifically states that their review of the property in question is subject to monetary and time restraints, as well as scope limitations. Given those restraints and limitations, they have made what is in their opinion a reasonable investigation and analysis. The materials presented in this document shall be considered "to the best of the Assessment Study Team's collective knowledge." This phrase means materials presented reflect the Assessment Study Team's actual knowledge of the subject matter after such inquiry the Assessment Study Team considered reasonable in light of the restraints and limitations upon the contracted scope of work.

The extent of the physical observation for the production of this Assessment Design Study has been limited to walk-around visual inspections of the property and conversations with representatives of the Town of Killingly, Killingly Public Schools, and other support personnel. Limited plans of the building and/or its systems were available for review. Assumptions regarding the overall condition of the property has been developed based upon observation of representative areas of the subject site and review of previous studies and drawings. As such, the development of conceptual design and improvements, along with associated costs, is based upon the team's prior knowledge of the facility from the extension and alternation of the original school the overview observation and is also limited with respect to completeness.

2.0
Enrollment and Permitting Data

Projected Enrollment The following information was included as part of the project's grant application and serves as the basis for the determination that the highest projected enrollment is anticipated to be 564 students.

Mr. Steven Rioux
Superintendent of Schools
srioux@killinglyschools.org

KILLINGLY PUBLIC SCHOOLS

Great Things Happen Here!

Mr. Paul Brenton
Assistant Superintendent
pbrenton@killinglyschools.org

29th day of June 20

EMILY K. ROSS
NOTARY PUBLIC OF CONNECTICUT
Comm. # 172792
My Commission Expires 1/30/2021

6/24/2020

Date: June 24, 2020
To: DAS
From: Steve Rioux, Superintendent of Schools
Re: 10-Year Enrollment Projections

The table below reflects a ten-year enrollment projection for Killingly Memorial School in Killingly, CT

Killingly Memorial School 10-year Actual and Estimated Grade Enrollments						
Birth Year	Births	School Year	Second	Third	Fourth	KMS Total (Grades 2-4)
2012	193	17-18	176	165	168	509
2013	204	18-19	162	171	160	493
2014	180	19-20	190	174	179	543
2015	185	20-21	187	190	174	551
2016	176	21-22	187	187	190	564
2017	175	22-23	187	187	187	561
2018	174	23-24	187	187	187	561
2019	168	24-25	187	187	187	561
2020	166	25-26	187	187	187	561
2021	162	26-27	187	187	187	561
2022	165	27-28	187	187	187	561
2023	167	28-29	187	187	187	561
2024	170	29-30	187	187	187	561

Killingly, CT Historical Enrollment

School District: Killingly, CT

11/20/2019

Historical Enrollment By Grade

Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2004	228	2009-10	98	192	212	184	199	217	185	209	187	210	221	192	175	199	0	2582	2680
2005	216	2010-11	76	199	180	202	187	200	225	190	217	192	235	200	192	163	0	2582	2658
2006	214	2011-12	100	185	197	182	196	182	193	215	189	216	248	227	184	162	0	2576	2676
2007	193	2012-13	99	174	179	186	179	183	186	192	217	196	308	222	208	156	0	2586	2685
2008	210	2013-14	115	159	180	175	171	177	188	180	193	200	271	219	185	180	47	2525	2640
2009	193	2014-15	135	178	167	163	169	167	172	176	177	190	242	209	173	171	0	2354	2489
2010	197	2015-16	160	176	171	167	157	161	165	164	179	180	256	195	187	203	0	2361	2521
2011	187	2016-17	164	162	176	169	164	160	163	163	175	181	215	233	183	210	0	2354	2518
2012	193	2017-18	158	185	163	176	165	168	170	157	165	182	232	198	192	181	0	2334	2492
2013	204	2018-19	148	174	187	162	171	160	165	164	153	166	230	210	184	188	0	2314	2462
2014	190	2019-20	146	179	182	183	172	171	152	172	169	156	212	200	195	172	0	2315	2461

Historical Enrollment in Grade Combinations

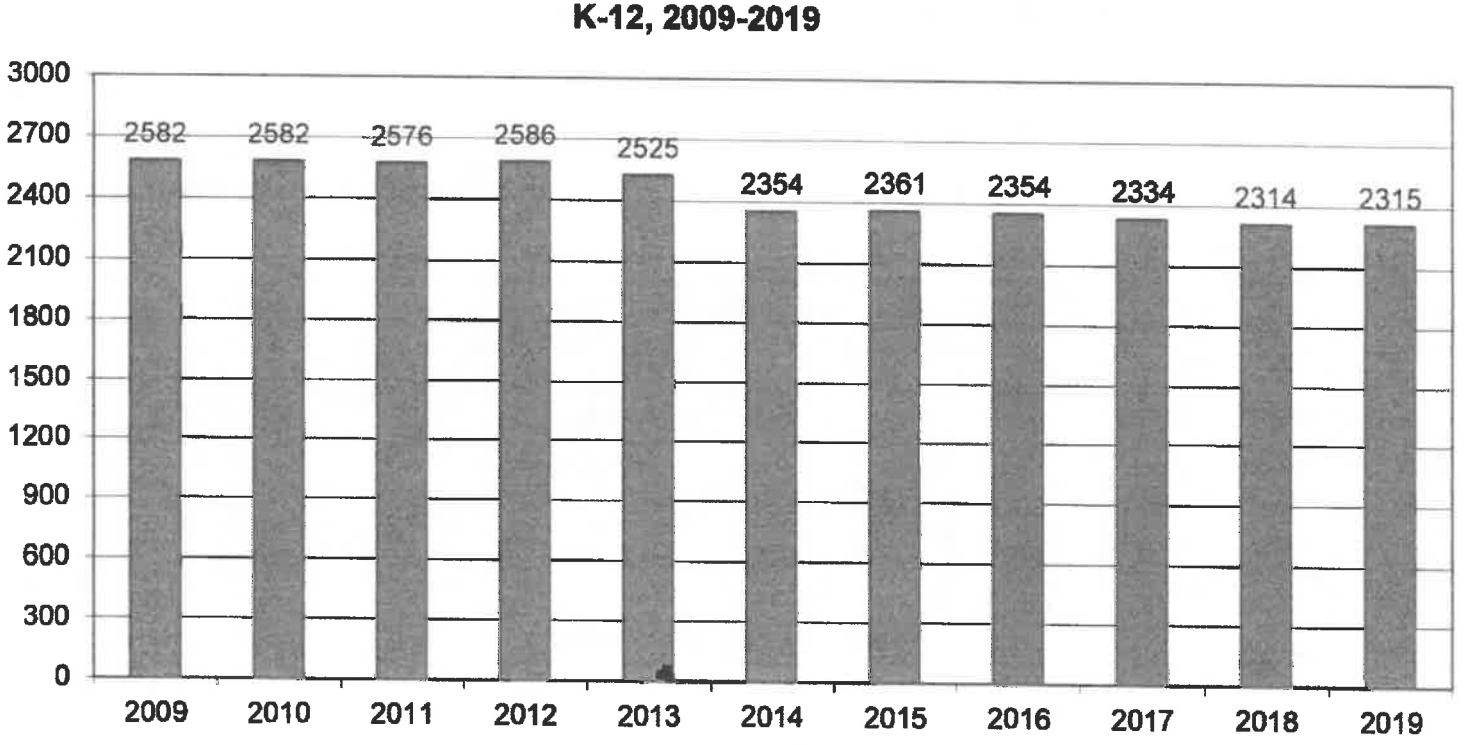
Year	K-4	K-5	K-6	K-8	5-8	6-8	7-8	7-12	9-12
2009-10	1004	1189	1398	1795	791	606	397	1184	787
2010-11	988	1193	1383	1792	824	599	409	1199	790
2011-12	942	1135	1350	1755	813	620	405	1226	821
2012-13	901	1087	1279	1692	791	605	413	1307	894
2013-14	862	1050	1230	1623	761	573	393	1248	855
2014-15	844	1016	1192	1559	715	543	367	1162	795
2015-16	832	997	1161	1520	688	523	359	1200	841
2016-17	831	994	1157	1513	682	519	356	1197	841
2017-18	857	1027	1184	1531	674	504	347	1150	803
2018-19	854	1019	1183	1502	648	483	319	1131	812
2019-20	887	1039	1211	1536	649	497	325	1104	779

Historical Percentage Changes

Year	K-12	Diff	%
2009-10	2582	0	0.0%
2010-11	2582	0	0.0%
2011-12	2576	-6	-0.2%
2012-13	2586	10	0.4%
2013-14	2525	-61	-2.4%
2014-15	2354	-171	-6.8%
2015-16	2361	7	0.3%
2016-17	2354	-7	-0.3%
2017-18	2334	-20	-0.8%
2018-19	2314	-20	-0.9%
2019-20	2315	1	0.0%
Change		-267	-10.3%

NESDEC

Killingly, CT Historical Enrollment



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Killingly, CT Projected Enrollment

School District: Killingly, CT

11/20/2019

Enrollment Projections By Grade*

Birth Year	Births		School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2014	190		2019-20	146	179	182	183	172	171	182	172	169	156	212	200	195	172	0	2315	2461
2015	185		2020-21	147	170	183	180	184	172	171	180	174	173	199	190	180	189	0	2315	2462
2016	149		2021-22	148	137	174	181	181	184	172	169	162	178	220	179	171	174	0	2272	2420
2017	190	(prov.)	2022-23	149	174	140	172	182	181	184	170	171	165	227	198	161	165	0	2280	2429
2018	153	(prov.)	2023-24	150	140	178	139	173	182	181	182	172	175	198	204	178	156	0	2258	2408
2019	173	(est.)	2024-25	151	159	143	176	139	173	182	179	184	176	223	178	184	172	0	2268	2419
2020	170	(est.)	2025-26	152	156	162	142	177	139	173	180	181	188	224	200	160	178	0	2260	2412
2021	167	(est.)	2026-27	153	153	159	161	142	177	139	171	182	185	240	201	180	155	0	2245	2398
2022	171	(est.)	2027-28	154	157	156	158	162	142	177	138	173	186	236	216	181	174	0	2256	2410
2023	167	(est.)	2028-29	155	153	160	155	159	162	142	175	139	177	237	212	194	175	0	2240	2395
2024	170	(est.)	2029-30	156	156	156	159	155	159	162	141	177	142	226	213	191	188	0	2225	2381

Note: Ungraded students (UNGR) often are high school students whose anticipated years of graduation are unknown, or students with special needs - UNGR not included in Grade Combinations for 7-12, 9-12, etc.

Based on an estimate of births | Based on children already born | Based on students already enrolled

Projected Enrollment in Grade Combinations*

Year	K-4	K-5	K-6	K-8	5-8	6-8	7-8	7-12	9-12
2019-20	687	1039	1211	1536	849	497	325	1104	779
2020-21	689	1060	1210	1557	868	497	347	1105	758
2021-22	657	1029	1198	1528	671	499	330	1074	744
2022-23	649	1033	1203	1529	680	496	328	1077	751
2023-24	612	993	1175	1522	710	529	347	1083	736
2024-25	790	972	1151	1511	721	539	360	1117	757
2025-26	776	949	1129	1498	722	549	369	1131	782
2026-27	792	931	1102	1469	677	538	367	1143	776
2027-28	775	952	1090	1449	674	497	359	1166	807
2028-29	789	931	1106	1422	633	491	316	1134	818
2029-30	785	947	1088	1407	622	480	319	1137	818

Projected Percentage Changes

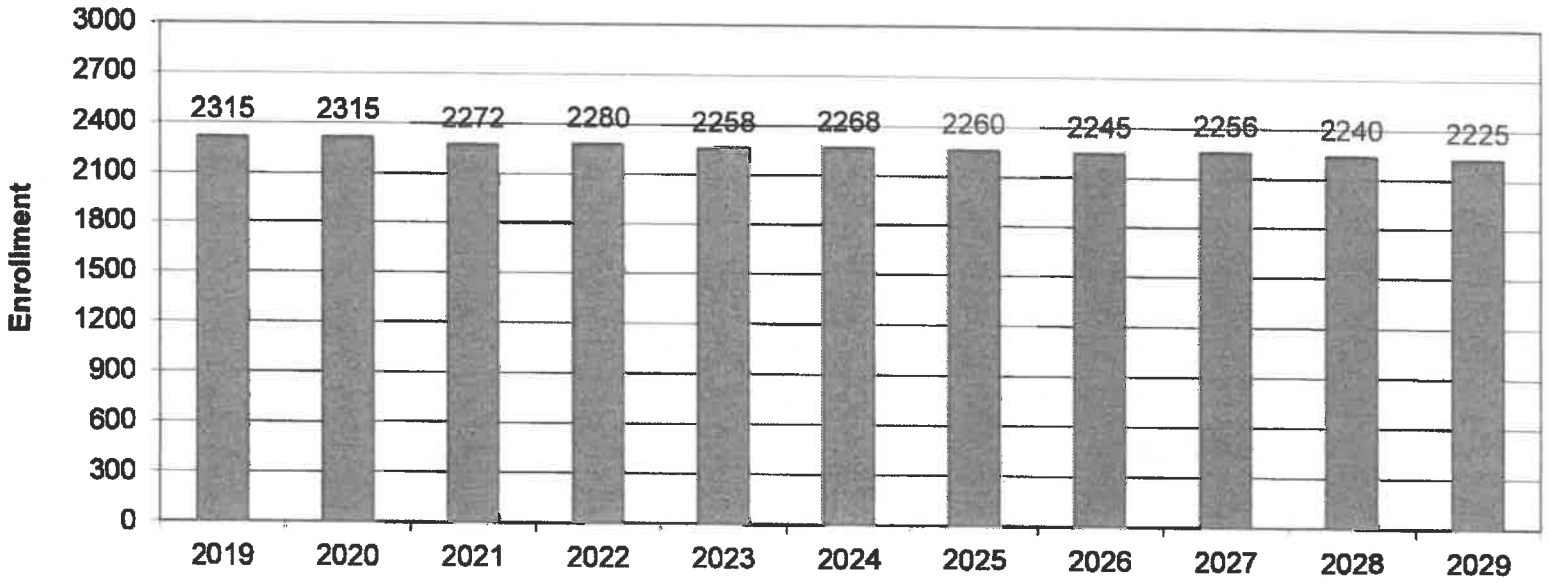
Year	K-12	Chg	%
2019-20	2315	0	0.0%
2020-21	2315	0	0.0%
2021-22	2272	-43	-1.9%
2022-23	2280	8	0.4%
2023-24	2258	-22	-1.0%
2024-25	2268	10	0.4%
2025-26	2260	-8	-0.4%
2026-27	2245	-15	-0.7%
2027-28	2256	11	0.5%
2028-29	2240	-16	-0.7%
2029-30	2225	-15	-0.7%
Change		-90	-3.9%

*Projections should be updated annually to reflect changes in in/out-migration of families, real estate sales, residential construction, births, and similar factors.

NESDEC

Killingly, CT Projected Enrollment

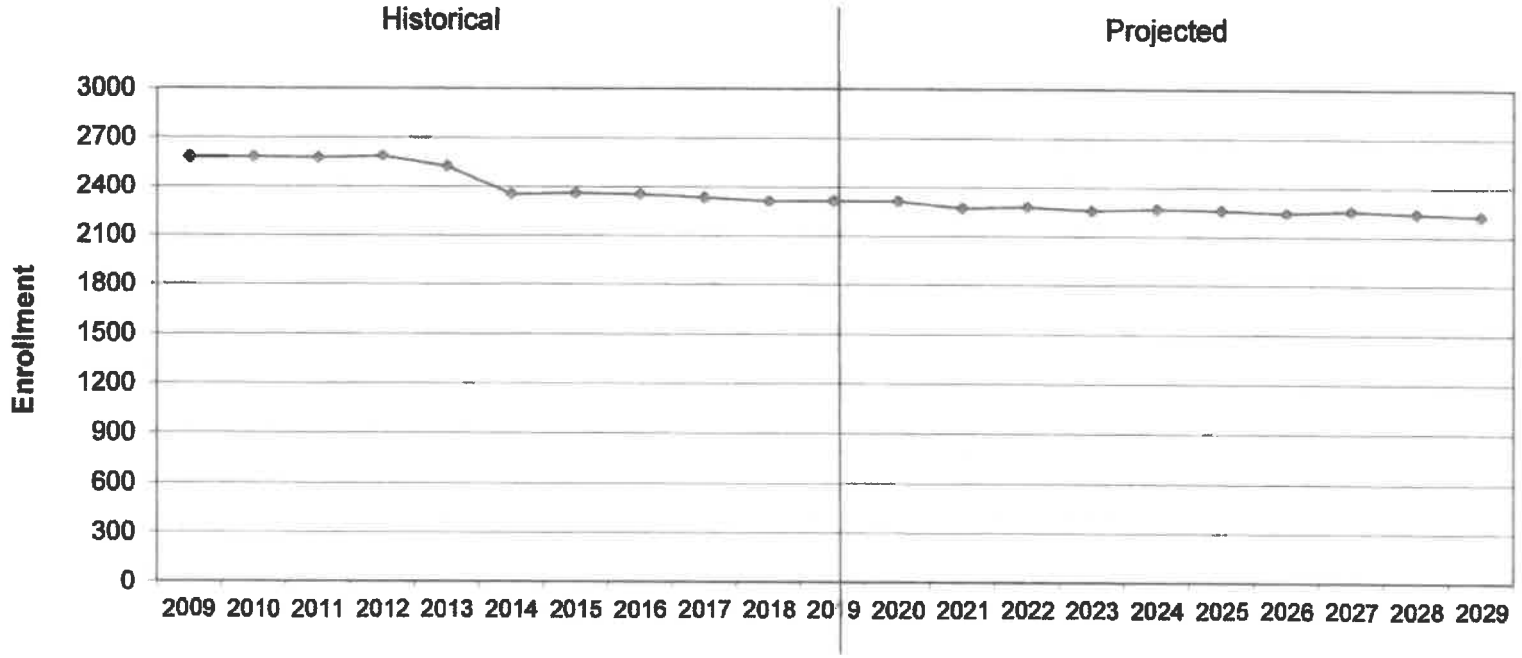
K-12 To 2029 Based On Data Through School Year 2019-20



NESDEC

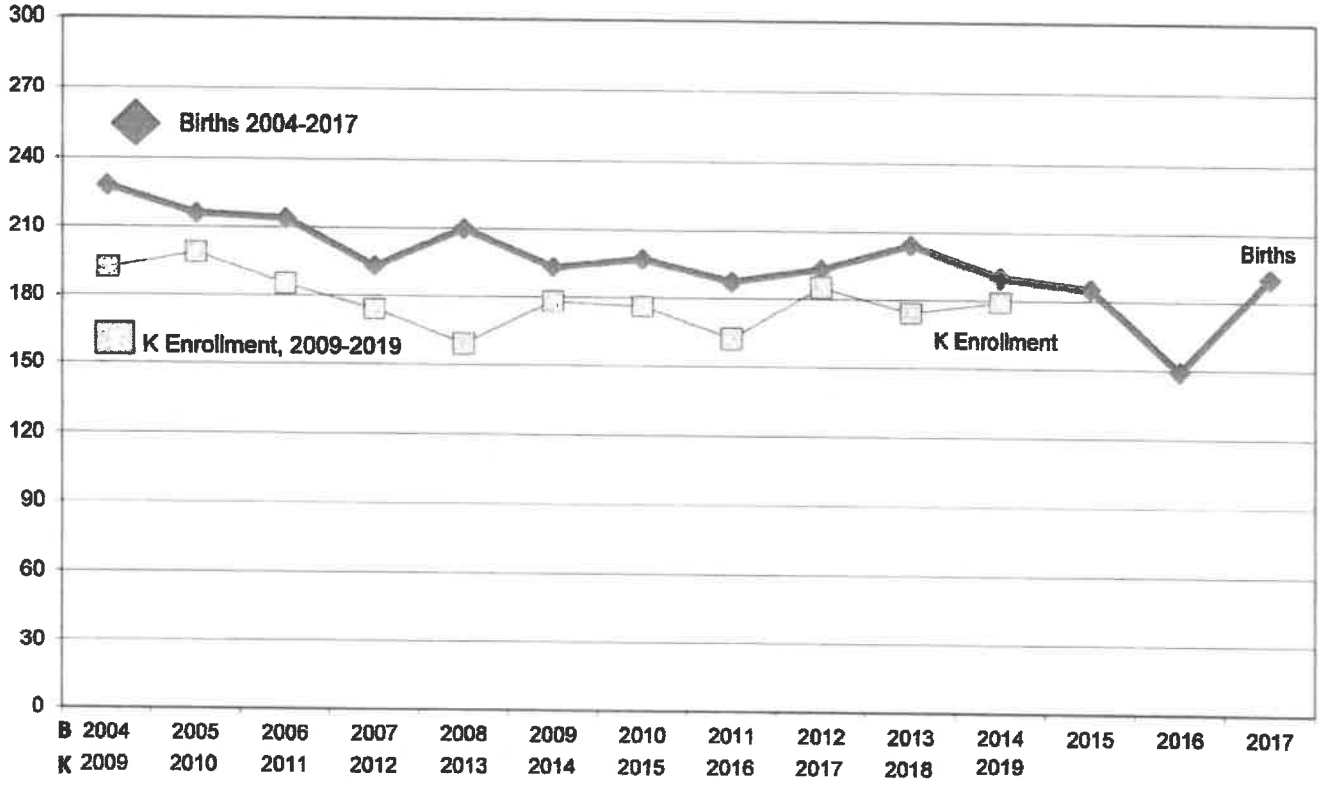
Killingly, CT Historical & Projected Enrollment

K-12, 2009-2029



NESDEC

Killingly, CT Birth-to-Kindergarten Relationship



Killingly, CT Additional Data

Building Permits Issued		
Year	Single-Family	Multi-Units
2005	122	0
2015	14	6
2016	45	0
2017	30	0
2018	50	0
2019	0 to date	0 to date

Source: HUD and Building Department

Enrollment History		
Year	Career-Tech 9-12 Total	Non-Public K-12 Total
2005-06	167	184
2015-16	159	102
2016-17	144	89
2017-18	133	70
2018-19	122	78
2019-20	125	67

Residents in Non-Public Independent and Parochial Schools (General Education)														
Enrollments as of Oct. 1	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12 TOTAL
	4	11	13	3	9	10	6	5	6	0	0	0	0	67

K-12 Home Schooled Students	
2019	56

K-12 Residents in Charter or Magnet Schools, or "Choiced-out"	
2019	56

K-12 Special Education Outplaced Students	
2019	71

K-12 Tuitioned-in, Choiced-in, & Other Non-Residents	
2019	227

The above data were used to assist in the preparation of the enrollment projections. If additional demographic work is needed, please contact our office.

Space Standard

The following table provides a statutorily-based space standard calculation utilizing a maximum allowable square footage per pupil; for a facility with total enrollment ranging between 351 to 750 students, as set forth by Table 1: State Space Specifications for Reimbursement Purposes of CT General Statutes §10-283. For the purposes of this calculation, the highest projected enrollment over an 8-year period for the Killingly Memorial School is 564 students.

The CT Department of Administrative Services (CT-DAS) Office of School Construction Grants and Review (OSCG&R) has indicated that a statutorily-based space standard calculation is appropriate for a conceptual level of project analysis. It should be anticipated that the OSCG&R may employ alternative means of establishing Space Specifications for reimbursement as the project progresses.

Completed for : *Killingly Memorial School - State Project No. 069-0069*

This worksheet should be completed and submitted with the application for any N (new), E (extension), A (alteration), or RENO (renovation) project, or combination of such types of project.

Space Standard Space Specifications

		Grades												
Projected Enrollment		Pre-K and K	1	2	3	4	5	6	7	8	9	10	11	12
	(Y/N)	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N

Allowable Square Footage per Pupil

		Pre-K & K	1	2	3	4	5	6	7	8	9	10	11	12
0	350	124	124	124	124	124	156	156	180	180	180	194	194	194
351	750	120	120	120	120	120	152	152	176	176	176	190	190	190
751	1500	116	116	116	116	116	148	148	170	170	170	184	184	184
Over	1500	112	112	112	112	112	142	142	164	164	164	178	178	178

1. Under the column headed "Projected Enrollment", find the range within which your school's highest projected 8 year enrollment falls.
2. Using the figures on that line, complete the grid below for only those grades housed within the school

Pre-K & K	0	6	0
1	0	7	0
2	120	8	0
3	120	9	0
4	120	10	0
5	0	11	0
		12	0

(a) Total (grades Pre-K through 12)	360
(b) Number of Grades Housed	3
(c) Average [(a)/(b)]	120.00
(d) Highest Projected 8-year Enrollment	564
(e) Maximum Sqaure Footage [(c)x(d)]	67680

3. Total Square footage at completion of the project:

a. Existing area constructed pre-1950.	0
b. Multiply "a." by 80%	0
c. Area (at completion of project) constructed 1950 or later.	75991

d. Square footage for space standards computation (b+c). 75991

If line 2(e) is greater than line 3(d) there is no grant reduction.

If line 3(d) is greater than line 2(e), divide line 2(e) by 3(d). 0.890631785 *

* This factor will be used to reduct total eligible costs because of space in excess of the maximum eligible for reimbursement.

If a project exceeds the standards solely as the result of extraordinary programmatic requirements, the superindendent may submit a request to the Commissioner for a waiver. A detailed list of space allocations for all extraordinary programs with explanations must be included with the request.

General

The Killingly Memorial School is located on a 10.5-acre parcel of land at the northwest corner of the intersection of Main Street (Ct Route 12) and Hutchins Road within the Borough of Danielson, Connecticut. According to the Zoning Map for the Town of Killingly, the site is identified as Borough Residential High (RH) district regulated by Section 420 of the Borough Zoning Regulations governing development on the project site.

Special Permit Use

In accordance with 420.2 Uses Allowed by Special Permit, C. Educational Institutions are permitted in Residential High (RH) districts by Special Permit, provided that "Adequate buffering and off-street parking shall be provided as deemed necessary by the Commission."

The requirements for securing Special Permit are defined by Article VII of the Zoning Regulations. The Commission has 65 days to review a submission and requires a public hearing 65 days after acceptance of an application.

Existing Use

420.1 Permitted Uses, C. further indicates that municipal land uses in place prior to the date of adoption of the regulations allow existing buildings to be expanded or altered; and the construction of new buildings on the same lot provided that doing so does not "substantially alter" the present land use; and any expansion conforms to the dimensional requirements of the Zoning Regulations. The expansion or alteration may also be permitted through receipt of a variance by the Zoning Board of Appeals.

Lot Dimensions

Dimensional Requirements - RH District

The following dimensional requirements are indicated by Table A under Section 470 of the Borough Zoning Requirements for Residential High-Density districts:

- Minimum Lot Frontage (on accepted street line): 60 feet

- Setbacks
  Street Line: 25 feet setback
  Side Line: 10 feet setback
  Rear Line: 10 feet setback

- Maximum Height of Structure: 60 feet

- Maximum lot coverage: 30%

  Lot Size Calculation:

  10.5 acres x 43,560 sf/acre = 457,380 sf Lot Size

  Allowable Lot Coverage Calculation:

  457,380 sf x .30 = 137,214 sf Allowable Lot Coverage

3.0
Existing Facility Assessments

3.1 Civil and Landscape Design Narrative

Zoning and Parking Analysis

The school parcel is approximately 10.5 acres and is in the "Residential High Density" district within the Borough of Danielson. The school use is a permitted use in the zone by special permit. A special permit public hearing will be required for the project. The proposed new building addition will be conforming to zone regulations.

There are 110 striped parking spaces on site. The proposed number of spaces is 143.

Utilities

The stormwater system at the site currently involves a collection system of catch basins that eventually drain to storm sewers located within Main Street (Route 12) and Hutchins Street. (Additional stormwater connections and routing may be present onsite and will be confirmed once a survey has been completed).

The proposed stormwater management system will be designed in accordance with Town of Killingly regulations and the CT DOT Drainage Manual. It will be designed to remove sediment, reduce peak flows, and improve water quality at the site.

The project may require new utility connections for sanitary and stormwater. All other utilities are anticipated to connect to existing services onsite.

Parking and Circulation

All new full depth paving on site is anticipated to consist of 2 inches HMA S0.375 bituminous on 2 inches HMA S0.5 bituminous 12-inches of subbase. Cast in place concrete curbing will be used throughout the site.

All onsite sidewalks will be concrete and consist of 5 inches of reinforced concrete on 8 inches of granular fill.

A new parent drop-off loop will be constructed which will allow parents to queue within the site instead of along adjacent roadways, or in lieu of utilizing the former Killingly High School site for additional queue length. The parent drop-off loop will be accessed off Hutchins Street utilizing the same entrance currently available to access the back of the school

site. Buses will have a separate drop off lane on the southeast side of the building. A new entrance drive is proposed for bus access off Main Street (Route 12). The existing connection to Hutchins Street near the school's main entrance as well as redundant driveways along Main Street (Route 12) will be eliminated.

Grading/Earthwork

The site high point is generally located near the school main entrance, and slopes both southeast and west-northwest from this point. Some material will be needed to raise the grade so that the site can match the proposed school addition finished floor elevation. New retaining walls are proposed in order to construct proposed drives and transition elevation to adjacent properties without impact.

Overall, existing grading and drainage patterns will be maintained to the greatest extent possible.

Landscape and Site Design

The intent of the planting design is to include shade and ornamental trees to provide cooling, screening where appropriate, aesthetic value and definition of major building entry points. Maintenance of plantings is a major concern, so the design will favor well-spaced trees over smaller, denser plantings. Plantings will be placed to visually guide pedestrians to key access points at the school from the parking areas. All plantings have been chosen for their low maintenance and non-invasive properties.

Existing playgrounds will be maintained to the greatest extent possible. Additional playground elements can be included to supplement existing equipment. Space has been provided adjacent to the existing eastern wing of the building for future playground or outdoor classroom space.

Outdoor classrooms will be designed into the site. These spaces will utilize tiered elements to create an amphitheater type setting for outdoor instruction or will be include bench style seating at grade with the teacher.

Overview

Killingly Memorial School was constructed in 1953 on a 10.5 acres lot at the corner intersection of Main Street (CT Route 12) and Hutchins Street in Danielson, a borough in the town of Killingly, Connecticut. The school is bordered on the east and south by residential properties.

The original school is composed of single and double-story masonry walls with a reinforced concrete foundation and structural steel frame. Double-loaded interior corridors, up to ten feet wide, connect the individual wings of the building that are interrupted by three feet level changes. The Gymnasium-Auditorium of the school is located in the southern half of the building and is surrounded on all four sides by office and instructional spaces.

Portable classrooms were added to the school in 1973 and 1999. Both portable classrooms are connected to the school through ramped corridors. The portable classrooms are planned to be removed.

Existing Site

The existing site slopes generally from the northeast toward the southwest. Existing natural grass fields shared with the property at 79 Westfield Avenue (former Killingly High School) flank the northern and western boundaries of the school.

An aerial view of Killingly Memorial School.

Building Envelop

Exterior Walls

The existing walls appear to be comprised of unit masonry walls assembled from multiple wythes of fired clay brick or a combination of concrete masonry units (cinder block) backing up exterior face brick. Though no destructive testing was performed for verification, it is assumed that exterior masonry was constructed as mass walls, rather than more contemporary cavity walls. This is supported by limited historic information available from the school's original construction documents, and the absence of weeps or vents at the building exterior.

Minor cracking and a spauled face brick observed below the roof cornice of the middle wing's north elevation.

Upon initial inspection, the exterior mortar joints generally appear intact and no evidence of water staining or microbial growth was observed. In a few instances, cracked exterior brick was observed. The mortar is dense and contains small shells suggesting that beach sand may have been used when mixing the mortar. In some locations, a fine separation line was observed between the brick and mortar.

Evidence of staining and repair of separated mortar joints at a chimney above the Gymnasium – Auditorium roof.

An exterior site wall with loose cap stones and cracking masonry.

Roof System

The existing roof above the existing school comprises approximately 55,460 square feet of coverage area including the school's entrance canopy. The low slope roof was replaced in 2018 under a CT State grant fund. A modified bitumen roof system covers with light gray granular surface covers the majority of the school. However, approximately 3,000 square feet of the roof over a single-story section of the school's north most end was finished in EDPM during the 2018 roofing project. The reason for the use of EPDM membrane roofing at this section of the building could not be determined.

View of the modified bitumen roof system installed above the existing school's north wing (view toward the north). Roof penetrations consist of plumbing vents and roof vents.

The Gymnasium – Auditorium roof in the foreground exhibiting some minor ponding. The roof pitch suggests that a drain or supper was intended for this location. The EPDM roof of the western portable classrooms is visible in the background.

The EPDM roof system installed above the northeast portion of the existing school. A view of the eastern portable classroom's asphalt shingle roof is visible in the background.

Roof drainage is accomplished through the use of internal roof drains for the majority of the roof assembly. In instances where a portion of the building rises above its surrounding spaces, such as the Gymnasium – Auditorium, short sections of roof leaders, and in some instances roof scuppers, transfer rain water from the higher roof onto a lower roof. A splash block is typically present beneath the rain leader's outlet to protect the lower roof surface.

A roof leader conveys rain water from a conductor head at a supper outlet at the Gymnasium – Auditorium roof to a roof level below.

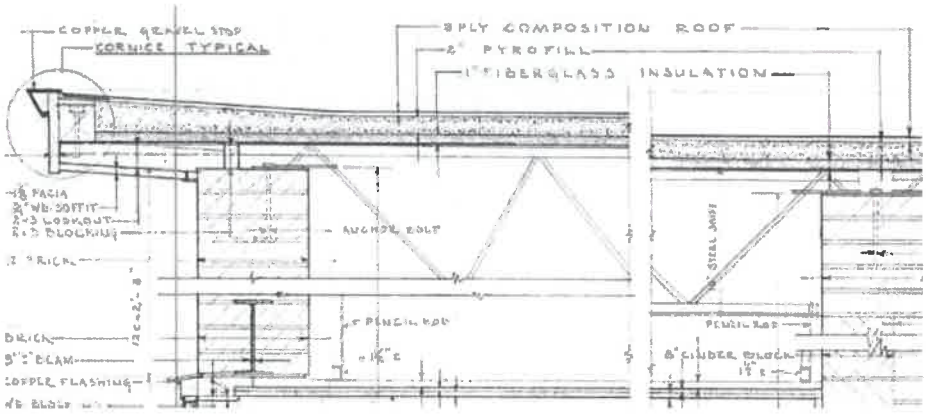
An example of a typical internal roof drain located within a depressed sump.

Roof vent for an existing exhaust within the modified bitumen roof system.

The existing roof substrate appears to be made up of a 1-inch fiberglass insulation over existing open-web steel joists installed without pitch. Visual confirmation of the fiberglass insulation and steel bar joist roof framing was made from an interior room with an exposed ceiling.

Fiberglass insulation board installed over open-web steel joist framing.

A light weight cementitious material (Pyrofill, see Appendix) having a minimum 2-inch thickness appears to have been utilized as a decking material that provides positive pitch for drainage. Lacking the opportunity for destructive testing, the presence of the 2-inch cementitious roof substrate could not be confirmed.



Typical roof section from 1950 era Construction Documents.

The roof edge appears to have been built-up to accommodate added thickness resulting from increased insulation. Details from 2017 Roof

Replacement Construction Documents specify a minimum R-value of 24 which could be achieved with approximately 4-inches of polyisocyanurate roof insulation. Details included within this drawing set also reference the use of tapered rigid insulation in several locations. As a result, a fascia composed of multiple sections has been used to conceal the roof edge.

The image above contains representative examples of the roof edge metal fascia assembly, a reglet flashing termination for the roof at the existing wall and a roof expansion joint.

The perimeter roof edge where it intersects walls is typically terminated with counter flashing that has been let into the existing masonry wall. The counter flashing is detailed by the 2019 Roof Replacement Construction Documents to have a cant along the roof's intersection with the wall, but evidence of the condition was not observed during the field observation.

Fenestration

Both punched openings with the masonry wall and large expanses of window wall are present at Killingly Memorial High School. The majority of existing fenestration replaced as part of a CT State grant funded window replacement project in 2019. The schools existing windows were replaced with insulated glazing units in thermally broken aluminum frames. Window glazing assemblies within 7 feet above the adjacent grade

were further supplemented with an interlayer (DuPont's Sentryglas) for break resistance in accordance with School Security Infrastructure Council's recommendations for perimeter hardening.

Punched window openings to offices along the main entry level and a view of the translucent panel glazing system at the south side of the Gymnasium – Auditorium, above.

Classrooms typically have expansive window walls spanning the full room width along the exterior wall above radiant heating in millwork enclosures,

The original construction drawings indicate that the Gymnasium-Auditorium was originally glazed with glass block wall systems. The glass block was replaced with an insulated translucent fiberglass faced wall panel system.

An exterior view of the translucent panel glazing system installed along the north wall of the Gymnasium – Auditorium.

Conveying

To provide access between intermediate floor levels, two chair lifts have been incorporated into the school.

One of the school's two existing chair lifts providing access for the main entrance level to the intermediate floor level to the north. The lower level of the school's south wing is currently inaccessible from upper floors.

Currently, there is no accessible route to the stage located in the Gymnasium – Auditorium for the physically impaired. The top of stage is approximately 3 feet above the gymnasium floor.

A view of the proscenium opening and wooden stage front from within the Gymnasium.

Building Interior

Interior Finishes – General

As a result of incremental building improvement projects executed with limited funding as available, the existing school exhibits a wide variety of finishes.

Interior Floor Finishes

Building corridors are typically finish in resilient tile flooring. These floors have been identified in the school management plan to be asbestos containing. Abatement and replacement of floor tiles is recommended.

Classrooms appear to have originally been finished in a 9 by 9-inches resilient floor tile. In some classrooms, a 12 by 12-inches resilient floor tile, or more current 12 by 48-inches resilient plank flooring has been installed over the existing asbestos containing floor tile.

A representative double-loaded corridor serving academic spaces with existing resilient floor tile, painted brick masonry walls and suspended acoustic tile ceilings. Instead of a resilient base, the lower two coursed of brick have been painted in a mid-tone gray color to distinguish it from the white wall surfaces.

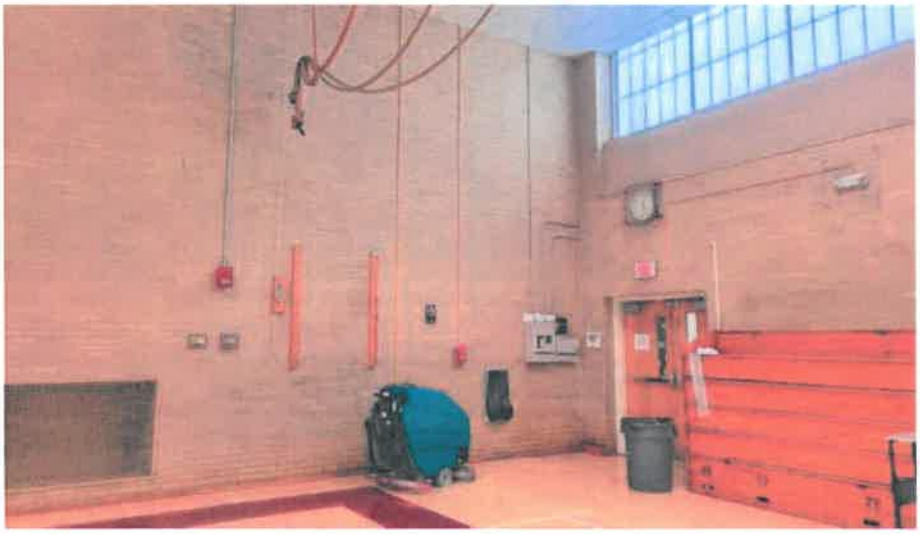
Interior Wall Finishes

The majority of interior walls and partitions within corridors are painted unit masonry (brick). The wall surfaces are general sound, well maintained and appear to have been recently repainted.

A plaster infill above painted metal lockers located along corridors.

Interior walls and demising walls within Instructional spaces appear to be painted plaster with a painted finish and are similarly sound. A transparent finish wood based has been observed at the room perimeter that is in some instances covered with a 4-inch resilient base.

A smooth face unfinished tan brick has used on interior surfaces of the Gymnasium – Auditorium.



Interior smooth faced brick in the Gymnasium - Auditorium.

Interior Ceiling Finishes

The majority of existing classrooms have original 12 by 12-inches perforated acoustic ceiling tiles adhered to an existing ceiling surface. The tiles exhibit varying degrees of wear and in limited cases have begun to delaminate from the substrate to which they are adhered.

An example of an original classroom ceiling consisting of 12 by 12-inches adhered acoustic tiles.

A contemporary 24 by 24-inches tegular acoustic ceiling with 24-inches perimeter gypsum board soffit assembly in the existing Cafeteria.

A 24 by 48-inches vinyl faced ceiling panels in a suspended grid is installed above the existing serving and kitchen of the school. The ceiling panels are heavily stained from cooking activities.

Classrooms 209 and 210 in the existing school have a unique, partially vaulted 24 by 48-inches suspended acoustic panel ceiling. The pads show signs of sagging.

Interior Doors and Frame

The majority of interior doors are flush wood with glass lites. The earliest wood doors have been retrofitted with lever handle hardware and contain wired glass lites. Doors serving the Gymnasium – Auditorium have been outfitted with egress hardware and more contemporary tempered glass lites.

The building exhibits what appears to be different period of interior doors installations with reflect different frame conditions. All doors have been outfitted or retrofitted with lever handle hardware. Assembly spaces like the Main Gymnasium have emergency hardware assemblies. The original interior classrooms doors have been installed in wooden frames. Other interior door assemblies include steel frames.

Older doors with vision lites have retained wired glass. More contemporary doors with vision lites have been outfitted with laminated or tempered safety glass.

Unequal paired doors leading to the gymnasium with mortised hardware, safety glass lites and a steel door frame.

An example of a flush wood door with retrofitted level hardware, wired glass vision lite installed in a steel frame (above, left). A classroom door shows retrofitted lever hardware, large wired vision glass lite and a wooden door frame set into a painted brick masonry wall (above, right).

Existing Sanitary

The main sanitary piping for the school consist of a 6" main pipe that leaves the boiler room. The observable main sanitary and vent piping appeared to be over twenty-five (25) years old and in good condition.

Existing Domestic Water

The domestic water service and water meter is located in the meter room on the ground floor of the school building. The 3" main piping and valves appear to be fourteen (14) years old and have signs of normal wear and aging.

Domestic hot and cold water is distributed through the pipe tunnels under the school. The piping is insulated and where it was observed has no signs of leakage. Due to the insulation the age of the piping was not determined.

Existing Domestic HW The domestic hot water the for school is provided by two (2) gas fired water heaters located in the boiler room. The water heaters were manufactured by the Bock Company in 2009 and appear to be in good condition. Due to the age and condition of the water heaters they should remain in service.

Natural Gas Service

The school currently has three (3) natural gas service meters, one (1) for the main school building (boilers/water heaters), one for the kitchen and one for the library portable building. The boiler room meter and service piping will need to be replaced due to the new addition. The kitchen meter would require final determination by the utility company and owner. Removal of the library portable building will eliminate he natural gas service to that building.

Plumbing Fixtures

The west wing of the school has classrooms equipped with small sinks. The sinks appeared to be over twenty (20) years old and in fair condition. Removal and replacement warranted due to age, new fixtures will be hands free and low water consumption.

Service sinks located though out the school require replacement. The fixtures are over twenty years old and in bad condition. Some did not appear to be functioning.

Lavatories located in the boys and girls west wing bathrooms appeared to be in good condition and recently replaced. The manual faucets will be replaced with hands free fixtures.

Wall mounted urinals located in the boy's west wing bathrooms appeared to be in good condition and recently replaced. The manual flush valves will be replaced with hands free valves.

Water closets located in the boys and girls west wing bathrooms appeared to be in fair condition and some have been recently replaced. The manual flush valves will be replaced with hands free valves.

ADA restrooms located near the main office appear to have newer lavatories and water closets that are in good condition. The manual flush valves and faucets will be replaced with hands free fixtures.

The restroom water closet and lavatory within the nurse's office appear to be older with manual faucet and flush valve. The water closet and lavatory

will be replaced with low consumption fixtures and the flush valve/faucet will be replaced with hands free fixtures.

The restrooms water closet and lavatory within the north wing classrooms appear to be older with manual faucet and flush valve. The water closet and lavatory will be replaced with low consumption fixtures and the flush valve/faucet will be replaced with hands free fixtures.

The majority of the water fountains appear to be older and are currently covered and out of service. Replace all water fountains with filtered water bottle fill fixtures.

The existing commercial kitchen is to be removed in its entirely and the existing plumbing fixtures, lavatory, water closet, sinks, grease interceptors an associated accessories will be removed and replaced for the new kitchen.

HVAC Systems

Existing Heating System

Two (2) cast iron sectional steam boilers with dual fuel burners provide steam heating to the school. The boilers are manufactured by the Weil Mclain Company and the burners are manufactured by the Webster Company. Each piece of equipment appeared to be over twenty (20) years old, in poor condition and will be replaced with high efficiency condensing hot water boilers.

The existing steam system is equipped with a condensate receiver/boiler feed tank manufactured by the Dunham Bush Company, shot feeder and piping throughout the boiler room. Each piece of equipment appeared to be over twenty (20) years old, in fair condition and should be removed.

Main steam and condensate piping is routed from the boiler room via pipe tunnels to the radiation located throughout the school. The piping appears to be original to school with areas of leakage and will be removed and replaced with insulated copper hot water piping.

The pneumatic control system for the school consists of a compressor, dryer, control panels, pneumatic tubing, control valves and associated accessories. The system appears to be over twenty-five (25) years old, in poor condition and will replaced with an electronic HVAC building management system.

Existing offices, classrooms, bathrooms, gymnasium and have steam radiation for heating located on the exterior walls. The radiation appears to be original to the school, in poor condition and is to be replaced with hot water fin tube radiation.

Heating for the existing kitchen is provided by a ceiling mounted hot water unit heater that appears to be original to the school and will be replaced with Dedicated packaged outside air unit with heating and cooling.

Existing Ventilation Systems

The existing gymnasium heating and ventilation system is provided by two (2) air handling units located in the mechanical penthouse. The system appears to be over twenty-five (25) years old, in poor condition and will replaced with new air handling units with heating and cooling

The existing classroom ventilation system is provided by Several utility type exhaust fans located within the mechanical penthouse. The fans were manufactured by the New York Blower Company and appeared to be original to the school old, in poor condition and will be removed and replaced with Dedicated Outside Air Units with heating and cooling.

All ductwork associated with the utility fans will be replaced.

The existing bathroom exhaust system is provided by utility type exhaust fans located within the mechanical penthouse and roof mounted fans The utility fans are manufactured by the New York Blower Company, appeared to be in poor condition and original to the school. The roof mounted fans are manufactured by the Greenheck Company, appeared to be in good condition and approximately seven years old. Remove and replace the existing utility exhaust fans.

All ductwork associated with the utility fans will be replaced.

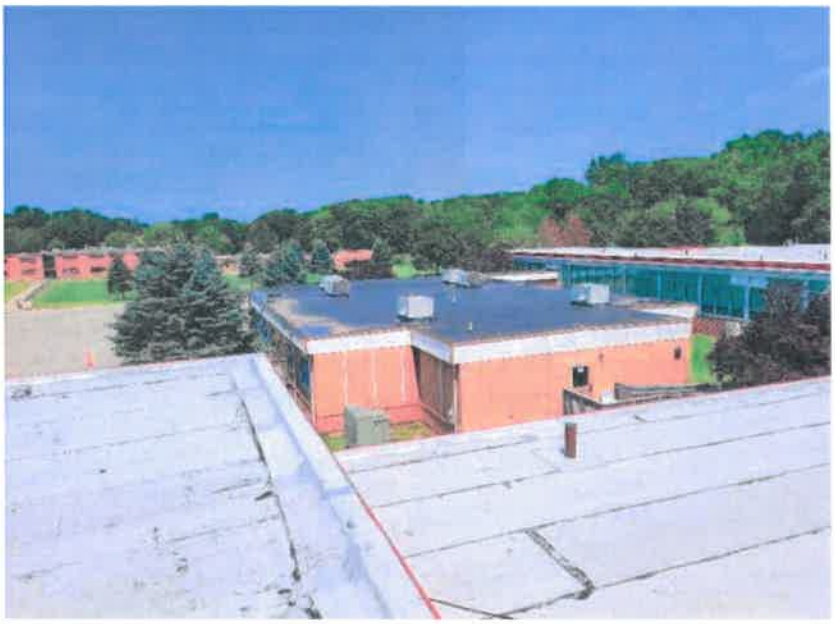
The existing cafeteria ventilation system is provided by several unit ventilators mounted on an exterior wall. The units appear to be manufactured by the Trane Company and appeared to be over twenty years old, in poor condition and should be removed and replaced with Dedicated Outside Air Units with heating and cooling.

Existing Cooling Systems

The main offices and several classrooms have ductless split heat pump systems manufactured by the Mitsubishi Company. The units appear to be a few years old and in good condition. Depending on the final HVAC design the units may be reused.

Portable Building HVAC

The existing split system furnaces with air cooled condensing units will be demolished in association with library portable building. The existing packaged rooftop units will be demolished in association with the classroom portable building.



Electrical

Electrical services, distribution, emergency power systems, general purpose electrical power, lighting, telecommunications, electronic safety and security.

Existing Electrical Services

The main building is served by an 800A, 120/208V, 3Ph, 4W switchgear located in the lower level electrical and is original to the building. The utility feed to the switchgear is via a transformer vault located adjacent to the electrical room. The vault is only accessible from an exterior, below grade, area way.

Existing 800A, 120/208V, 3Ph, 4W switchgear in main building.

Existing main building utility service:
Remove existing utility service to main building and eliminate transformer vault and associated transformers.

The West portable is served by a 600A, 120/208V, 3Ph, 4W service entrance (SE) cabinet located in the electrical room and is original to the building. The utility feed to the SE cabinet is via an exterior pad mounted transformer located adjacent to the electrical room.

Existing West portable pad mounted transformer.

Existing West portable utility service: Remove existing utility service to West portable inclusive of SE cabinet, meter, pad mounted transformer and all conductors/conduits.

The East portable is served by an underground 120/240V, utility service with each room having its own 200A service disconnect.

Existing East portable electrical service meter and disconnect enclosures.

Existing East portable utility service: Remove existing utility service to East portable inclusive of all enclosures, disconnects, meter and all conductors/conduits.

Proposed Service

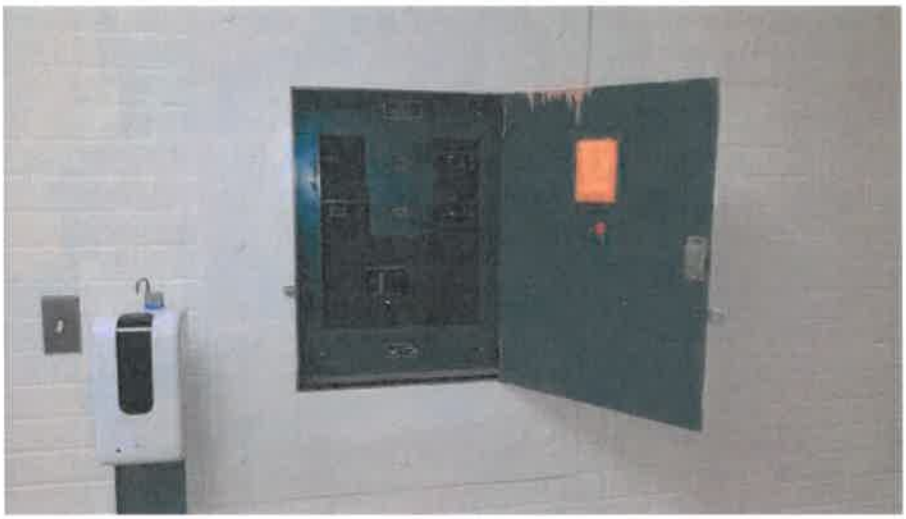
New 120/208V, 3Ph, 4W electrical service is proposed for the building with an exterior mounted switchgear rated at 3000A, 120/208V, 3Ph, 4W fed by a pad mounted transformer.

Proposed switchgear shall feed the existing 800A, 120/208V, 3Ph, 4W switchgear in the main electrical room as well as a main distribution panelboard dedicated for the proposed Addition loads.

Due to age consideration should be given to replacing the existing 800A switchgear should funds allow.

Existing Electrical Distribution

The existing 800A, 120/208V, 3Ph, 4W switchgear provides power to twenty-two (22) existing panelboards located throughout the main building. The vast majority of these panelboards are original.



Existing 200A power distribution panelboard in lower level hallway.

Existing panelboards main building: The age of the panelboards varies with the majority appearing to be original to the building. Intent is for existing to remain with only the penthouse panelboards for HVAC equipment and kitchen panelboard being replaced due to amperage ratings.
Consideration should be given to replacement of all panelboards should funding allow it.

Existing panelboards West and East portables: To be demolished in their entirety inclusive of all wiring and conduits.

Proposed Electrical Distribution
A 1200A, 120/208V, 3Ph, 4W main distribution panelboard feed from proposed 3000A electrical switchgear shall be provided for the Addition. This panelboard shall feed panelboards and HVAC equipment dedicated to the Addition. Currently four (4) 225A and one (1) 100A, 120/208V, 3Ph, 4W rated panelboards are envisioned for the Addition.

Existing main building penthouse panelboards to be replaced with two (2) 225A, 120/208V, 3Ph, 4W rated panelboards fed from proposed 3000A electrical switchgear.

Existing kitchen panelboard to be replaced with one (1) 400A 120/208V, 3Ph, 4W rated panelboard fed from proposed 3000A electrical switchgear.

The existing 800A, 120/208V, 3Ph, 4W switchgear in the main electrical room shall be refed from proposed 3000A electrical switchgear.

Consideration should be given to replacement of existing panelboards should funding allow.

Existing Emergency Power Systems

Existing emergency power systems consisted of dual head emergency lighting units with battery backup are located within corridors, restrooms, gym, cafeteria, kitchen, main and nurses offices and music room. Single head emergency lighting units with remote battery where located in the stage area.

Exit signs with battery backup provide the egress lighting.

Emergency power for the fire alarm system is provided by batteries.

Dual head emergency lighting unit in corridor.

Existing emergency power systems: Existing emergency lighting units as well as fire alarm system battery backup to remain and be reused.

Proposed Emergency Power Systems

A 150KW, 120/208V, 3Ph, 4W, natural gas optional standby generator within a weatherproof level II sound enclosure, associated 600A automatic transfer switch and one (1) 600A, 200A and 100A panelboards is proposed.

The proposed generator shall provide power to the proposed elevator, fire alarm system, access/security systems, building management system, HVAC heating systems only, kitchen walk-in coolers, freezers and refrigeration units.

Integral emergency battery packs to be provide within LED luminaires for Addition as required to comply with Code requirements. Proposed exterior LED luminaires at proposed entry/exit doorways of Addition shall also be provided with emergency battery backup.

Egress luminaires to be located as required mark the path of egress per Code requirements.

Existing General Purpose Electrical Power

General purpose power to existing HVAC equipment is provided via antiquated starters and disconnects.

Existing disconnects and starters for HVAC equipment in upper level mechanical room.

Existing disconnects, starters and associated wiring/conduit for equipment being demolished should be removed back to last active source.

Proposed General Purpose Electrical Power

General purpose power to be provided to all proposed equipment and systems.

Classrooms within the Addition shall be provided with quad receptacle at teacher station as well as duplex receptacles spaced along the perimeter of each room as well as for projector and white board with personal offices containing quad receptacles. Media center to contain duplex receptacles as well as floor boxes.

Existing Lighting

Lighting within the main building is provided by LED luminaires throughout with exception of upper level mechanical rooms. The LED luminaires have been in place approximately one (1) year.

Existing recessed 2x4 LED luminaires in main level corridor.

Existing LED luminaires within main building to remain and be reused. Existing luminaires within portables being demolished to be removed in their entirety.

Proposed Lighting

Existing LED luminaires within the main building shall remain and be reused. Luminaires within upper level mechanical rooms to be removed and replaced with LED luminaires with additional LED luminaires provided to provide increased light levels and even distribution within said space. Emergency battery packs to be provided these luminaires as required to comply with Code.

LED luminaires shall be provided within all areas of the Addition as well as at exterior of all entry/exit doorways and perimeter of building.

Controls for proposed LED luminaires of Addition shall be as required to comply with the current adopted State Building Code and shall include daylight harvesting as well as vacancy and occupancy sensors.

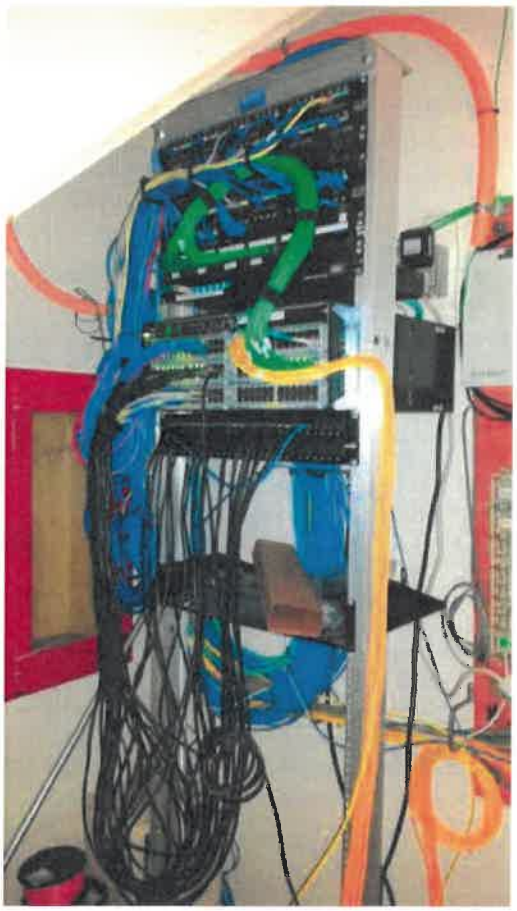
Existing Tele-communications

Telecommunication racks were located within certain areas of the main building including the MDF rack in the IT room and an IDF rack located next to the stage under the stairway to the upper level HVAC penthouse.

IDF racks were also observed with both the West and East each portable buildings as well.

Classrooms and offices contained surface mounted telecommunication outlets as well as phones, public address and clock systems.

WiFi access points were observed within the majority of classrooms as well as the cafeteria.



Existing IDF rack below stairway next to stage.

- Existing telecommunications systems with main building to remain and be reused.
- Existing telecommunications systems within portables being demolished to be removed in their entirety.

Proposed Tele-Communications

New IDF rack and associated patch panels in data closet of Addition. Fiber optics between IDF and MDF. CAT 6/6A cabling for data outlets. Data outlets at computer stations, teachers desks, printers, copiers, wireless access points, video displays, etc. in Addition.
Public address and clock systems for all classrooms, offices, media center, conference room and faculty lounge of Addition with interconnection to respective system in main building.

Existing Electronic Safety & Security

Existing Access Control

Access into the school is provided via a video intercom located at the main entry doors. Once access is approved the door release is activated allowing access into the building.

Exterior video intercom entry system.

- Existing video intercom entry system should remain and be reused.

Proposed Access Control

Existing access into the school via video intercom located at the main entry doors should remain as is. Consideration should be given to installation of additional video intercom located at kitchen perimeter door for notification of delivery.

Existing Video Surveillance

Video surveillance cameras are located at the main building's main entry exterior as well as corridor outside main office and corridor outside cafeteria. Cameras are also located on the main building exterior opposite the athletic fields. Video camera system monitor is located in the main office.

Existing exterior video surveillance cameras at main entry.

- Existing video surveillance cameras should remain and be reused.

Proposed Video Surveillance

IP type video surveillance cameras should be provided at all perimeter doors as well as all vestibules, corridors, stairways, telecommunication, computer rooms and all other areas deemed sensitive. Cameras should be low light level with iris and varifocal lens. Camera system shall contain network video recorder and be viewable remotely.

Existing Intrusion Detection System

Intrusion detection consists of door contacts on exterior entry/exit doors with the West and East portables also containing wall mounted motion detection devices.

The control panel for the intrusion detection system is located in the main entry vestibule for the main building.

Existing door contact.

- Existing intrusion detection within main building should remain and be reused.
- Existing intrusion detection devices within portables being demolished to be removed in their entirety.

Proposed Intrusion Detection System

Door contacts should be provided at all perimeter doors. Motion detection devices should be located in all corridors, media center, computer rooms and all other areas deemed 'high value'. Control panels compatible with existing intrusion detection system should be provided and interconnected.

Existing Fire Detection

Fire detection and alarm consists of detection devices located within corridors, cafeteria, stage, storage, boiler and equipment rooms. HVAC equipment also contained duct mounted smoke detection devices. West and East portables also have detection devices located within the classrooms. Initiation devices consist of manual pull stations located near exit doorways.

Notification devices consist of audible/visual devices located within the corridors, cafeteria, and kitchen and stage areas. West and East portables also contained audible/visual devices within the classrooms as well.

Main fire alarm control panel is located within the main office with a voice evacuation panel located in the gym. Fire alarm system NAC booster panels are located within the main building as well as the West and East portables.

Remote annunciator is located within the main entry vestibule.

Existing fire alarm voice evacuation panel and NAC booster panel in gym.

- Existing fire alarm control panel is over 20 years old, no longer in production by manufactured and should be replaced. Existing devices within main building should be removed and replaced due to age with existing cabling being reused where possible.
- Existing fire alarm devices and equipment located within portables being demolished to be removed in their entirety.

Proposed Fire Detection

Existing Simplex fire alarm control panel should be removed and replaced with new addressable fire alarm control panel. Existing detection and initiation devices should also be removed and replaced.

Detection, initiation and notification devices should be installed throughout the Addition. Smoke/heat detection should be located in all

rooms, corridors and stairways (type dependent upon area). Ducted smoke detection provided for HVAC equipment with CFM requiring them.

Dual action manual pull stations located at all perimeter doors. Notification speaker/strobes and strobes located in all rooms and corridors as required by Code. NAC booster panels and modules provided as required.

Kitchen hood ansul system to be interconnected to building fire alarm system. Fire alarm system to also provide elevator recall for proposed elevator and monitor proposed building fire suppression system.

Remote annunciators shall be installed at perimeter door locations requested by local Fire Marshal.

3.6 Technology & Security Systems Narrative

Introduction

The following summarization defines the Technology Systems, along with their functionality, that are intended to be designed and specified into Killingly Memorial School.

The Technology Systems described within this section shall include Tele-Data-Video-Security Communication cabling infrastructure, Telephone, Audio Visual, Clocks, Public Address, and Physical Security Systems.

Installation of entirely new technology systems shall not be required within the existing school. Many of the existing technology systems shall remain and be expanded upon to accommodate the new addition as explained in the following.

Technology

Communication Cabling Infrastructure

Shall consist of Ethernet cabling to support the Phone, Data, Audio-Video, and Security systems.

The existing school shall not require replacement of the existing communication cabling except for the rooms that are being reconfigured as part of this project.

There will be one new TR located in the new addition to accommodate the new areas requiring Ethernet cabling.

The new Ethernet cabling infrastructure shall accommodate all current and future technologies via TCP/IP. All cabling infrastructure for each technology system described within this summary shall utilize a Star Network Topology. All workstation and equipment cabling shall terminate within a TR. The TR shall connect directly to the existing Main Equipment Room (MER) via fiber optic and copper backbone cabling described below.

Ethernet horizontal distribution cabling shall consist of Category 6 (250 Mhz minimum per pair) UTP, 24 AWG copper, plenum rated cabling for all device connectivity. All cabling shall be terminated onto RJ45 style jacks at each end device and 19" rack mounted RJ45 style, category 6 rated patch panels within the new TR. This horizontal communication network cabling shall deliver a minimum of 1Gps to each endpoint and shall support all

3.6 Technology & Security Systems Narrative

Internet, Voice, Data, Security Systems and A/V content via TCP/IP. All Ethernet cabling installation shall conform to TIA/EIA-568-C.2.

Ethernet horizontal distribution cabling for the Wireless Access Points shall consist of Category 6A (500 Mhz minimum per pair) UTP, 24 AWG copper, plenum rated cabling for device connectivity. All cabling shall be terminated onto RJ45 style jacks at each end device and 19" rack mounted RJ45 style, category 6A rated patch panels within the new TR. This horizontal communication network cabling shall deliver a minimum of 10Gps to each endpoint and shall support all Wireless content via TCP/IP. All Ethernet cabling installation shall conform to TIA/EIA-568-C.2.

Typical classrooms Ethernet cabling shall consist of:

- Teachers station: 2 Data cables.
- Wi-Fi cabling: 1 Data cable coiled above ceiling.
- Interactive Display: 1 Data cable.
- Administration Offices: 2 Data cables.

Telephone System

All phone cabling shall be category 6 plenum rated cabling as described previously.

Handsets shall be located within all administration areas, conference rooms, mechanical and data rooms, large storage rooms, work areas and within the teaching classrooms mounted at the teacher's desks. The voice system shall interface with the Public Address (PA) system to allow for secured access to the controls of the PA system via any handset on the VoIP system.

3.6 Technology & Security Systems Narrative

Audio Visual Systems

Classroom Audio Visual Systems shall consist of an Interactive Display, remote ceiling speakers, audio-video inputs, control plates, voice uplift, and an ADA assisted listening system.

The Interactive Display Monitor shall be fixed to the instructional teaching wall with a minimum of two ceiling mounted speakers centered above the student seating spaces. These speakers shall include a priority override to cutout during an announcement from the Public-Address System.

The audio-video input plates shall be located at the instructor's teaching area to accommodate the instructor to transmit content to the speakers & Interactive Display Monitor from the instructor's CPU, laptop and/or a discrete device (DVD or iPod). All controls for the interactive display shall be via a handheld remote control for on/off, volume up and down.

Digital Signage Monitors

Displays will be located as defined by the owner during needs assessment interviews.

Clocks

Clocks shall be installed into every teaching space, administration office, and public gathering areas. The clocks will integrate into the existing Master Clock System.

Public Address System

All public-address speakers installed shall be cabled as a home run back to the TR to accommodate two-way communication via each classroom speakers between classrooms and main office. Zoning shall be created via programming of the system.

The system to accommodate routine communications, All-Call and automated emergency broadcasting during an emergency event. The PA system shall completely integrate with the phone system so that any

phone handset can utilize the PA system for communication to all locations with PA speakers installed.

The public address speakers and devices shall integrate into the existing Public Address System.

Security

Physical Security Systems is specifically referring to Intrusion Detection Systems, Access Control Systems, and Video Surveillance Systems. The Security Systems within the new addition shall be designed in accordance to the State of Connecticut's School Safety Infrastructure Council's Report, and to the requests and direction of local first responders and security program stakeholders. The physical security system devices listed below shall integrate into the existing physical security systems.

Intrusion Detection System

The system shall include a combination of passive infrared detector (PIR motion detectors) within all corridors and/or glass-break sensors at all ground level windows throughout the entire facility. Door position switches will be installed at each exterior door for both the new and existing doors. The controller keypad(s) shall be located within the school as defined by KPS and may be included at several locations as required. All devices shall be wired back to the security panels, which shall be located within the allocated TR.

This Intrusion system may include duress buttons that shall notify the police department in the event of an emergency, there shall be panic/duress buttons placed throughout the facility as required by KPS. This system may also activate a "lock-down" of the access control system for preventing un-authorized personnel to enter the facility during an emergency, as stated above.

This system shall interface with the Fire Alarm, mass notification system and the other security systems as mandated by local code and KPS.

The intrusion detection system shall integrate into the existing intrusion detection system headend.

Access Control

Minimally, this system shall consist of proximity readers, request to exit devices at all exterior doors for egress, and door position switches (door contacts) which shall allow permitted entry into the school during hours described by the Owner, along with documentation report features. They system shall be integrated with the fire alarm and all other security systems, particularly the video surveillance, which shall allow for efficient research of recorded reports and events.

Credential readers shall be located at exterior doors specified by KPS. This system shall consist of proximity readers, request to exit devices and door position switches to allow permitted entry into the facility during hours described by KPS. This system shall furnish report documentation features and shall be integrated with the fire alarm, mass notification systems and the video surveillance systems as required by KPS.

The Access Control system shall integrate into the existing Access Control System.

Video Surveillance System

The existing VMS system along with all existing video surveillance cameras shall remain. The storage device shall be increased, and new camera licenses shall be included to accommodate all the new cameras added into the new addition.

The new addition shall include IP, high definition, multi-megapixel cameras and spot monitors as directed by KPS. This Video Management system shall integrate with the new Access Control system to allow for efficient research of recorded reports and events.

The IP cameras shall be specified as required by the security needs assessment with KPS and local authorities.

The intent of this design anticipates the inclusion of the following:

Interior cameras

- Interior cameras shall be installed at Each program entrance in an effort to obtain facial descriptions with high-resolution images and video of people entering and exiting the facility. These camera locations will be at approximately 7' AFF and/or ceiling mounted.
- Interior cameras shall be installed into the main corridor areas.

Exterior cameras

- Exterior cameras shall be installed at each door entry in an effort to obtain facial descriptions with high-resolution images and video of people entering the facility. These camera locations will be at approximately 7' AFF in an effort to obtain the faces of all people entering the facility.
- Exterior cameras shall be installed on the exterior of the facility in an effort to obtain overall coverage of all parking lots, front entrance, student drop off areas, play areas, field and general coverage

Spot Monitors

- Spot monitors shall be located in the Main Office area.
- Monitors shall be 60" LCD professional style displays to accommodate efficient viewing of all the existing and new cameras. Two monitors with micro i7 CPUs mounted behind the monitors are anticipated. Controls of the CPU shall be via wireless mouse and keyboards.

Storage Device shall be increased based on the following calculations:

- Recorded Video Compression Rate: H.264
- Frame Recorded Per Second: Fifteen (15).
- Stored data shall be saved for thirty (30) calendar days.
- Interior cameras shall record eighteen (18) hours per day.
- Exterior cameras shall record twenty-four (24) hours per day.

3.6 Technology & Security Systems Narrative

3.7 Food Service Equipment Narrative

Introduction

Raymond/ Raymond Associates has been engaged in many educational design projects, as well as private work, through our tenure. Through our experience in the food service industry, RRA will be tasked with helping create a functional kitchen and student servery (cafeteria) that will serve the student and faculty population a breakfast and lunch program on a daily basis.

The educational specifications and owner meeting/ walk-thru are being used as a benchmark for the Schematic Design. Raymond/Raymond Associates will incorporate specific cooking equipment, cold and hot holding, as well as production support equipment to serve the student population.

Kitchen Area

The Kitchen Area design prioritizes use of efficient equipment, technology and operational flexibility. The following items are to be considered:

Walk-in Refrigerator
Walk-in Freezer
Dry Storage for Food and Non-Food Products
Preparation Tables with Sinks
Hand Washing Stations
Pot Wash / Dishwasing Area
Range
Convection Ovens
Steamers
Exhaust Hoods with Fire Suppression System
Mixers, Slicers and Food Processors
Janitor's Closet w Adequate Chemical Storage
Lockers and Toilet for Employees

Servery Area

The Servery Area will contain adequate serving counters to meet the population demand. Counters will consist of the following:

Hot Food Station
Cold Food Station
Flat Top Station for Flexible Options
Refrigerated Cooler for Milk/ Juice
Multiple Point of Sale (Cashier)

3.7 Food Service Equipment Narrative

Strategic Concept

We will be implementing and coordinating proper code, utility requirements and recommendations as per the requirements of the Educational Specifications. Additionally, ADA compliant work stations will be incorporated for ADA accessibility and code compliance. We will work closely with the desired manufacturers listed in the documents to ensure proper sizing of refrigeration, exhaust systems, etc.

An initial meeting with the design team and school District stakeholders to confirm the scope will be scheduled. After all necessary information, established above, has been collected, we will begin design development layouts that will address the project scope, along with a schedule for the selected equipment associated with design.

During the construction process, we will review all kitchen contractor submittals for proper compliance and coordination with the contract documents. The design team will meet with the contractors to review the progress of the food service portion of the project. We will provide quality control during construction by inspecting the electrical and plumbing rough-ins for equipment, inspection of delivered equipment for noticeable defects and proper equipment installation.

We will review kitchen contractor/ supplier as-built drawings, operation and maintenance manuals, warrantees and spare parts for compliance to project contract documents and close-out procedures as they pertain to food service.

Schedule is a very high priority with school food service and the overall project schedule. Attention to detail, equipment selection and working closely with the entire Design Team will offer the greatest success to the overall client satisfaction.

Overview

The following summarizes acoustic design criteria for the Killingly Memorial School project. These criteria are based on ANSI Standard S12.60-2010: Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools.

As the project progresses and additional information becomes available, we will provide specific recommendations to meet the Criteria.

Background Noise Level

Background sound levels in furnished, unoccupied spaces, including sounds from outdoors, building services and utilities operating at maximum levels, shall not exceed the following:

Table 1 – Maximum Background Sound Levels in dBA (A-weighted decibels) & equivalent NC Level

Room	dBA	NC
Classrooms	35	30
Offices	35	30
Media Center	35	30
Conference Rooms	35	30
Gymnasium/Auditorium	40	35
Cafeteria	40	35
Corridors	45	40
Remaining Occupied Spaces	45	40

Reverberation Time

Reverberation times in occupied spaces, for sound pressure levels in octave bands with midband frequencies of 500 Hz, 1,000 Hz, and 2,000 Hz, shall not exceed the following:

Table 2 – Maximum Reverberation Times (in seconds)

Gymnasium / Auditorium	1.3
Classrooms	0.6
Music Classroom	0.7
Offices	0.6
Conference Rooms	0.6
Cafeteria	0.9
Media Center	0.7
Corridors	0.9

Sound Isolation

Minimum STC ratings for single or composite interior wall and floor-ceiling assemblies, for various adjacencies, shall be per Table 3. All exterior wall and roof-ceiling assemblies shall be selected to meet similar minimum STC ratings. However, the primary factor in exterior assembly selection will be providing adequate exterior sound isolation to meet the background sound levels shown in Table 1.

Table 3 – Minimum Interior Assembly STC Ratings & Recommended Partition Construction

Music Classroom / Science Classroom	60	(3) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (3) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.

Music Classroom / Corridor	55	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (3) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Conference / Bathrooms	55	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (3) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Conference / Corridor	50	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (2) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Art Classroom / Office	50	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (2) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Classroom / Classroom	50	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (2) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Media Center / Corridor	50	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (2) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Media Center / Lounge	45	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Classroom / Corridor	45	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant

		gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Office / Office	45	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Office / Corridor	45	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Corridor / Bathrooms	45	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Storage, Vestibules, etc.	40	(1) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.

Minimum STC ratings for interior entry doors into various spaces shall be as follows:

Table 4 – Minimum Door STC Ratings

Classrooms	30	Solid core wood doors with full perimeter acoustical gasket hardware.
Offices and Conference Rooms	30	Solid core wood doors with full perimeter acoustical gasket hardware.
Music Classroom	40	Pre-fabricated STC rated wood acoustical door complete with full perimeter seals.

4.0
Educational Specifications

4.0 Educational Specifications

Project

Priority – School Renovations with Addition – Killingly Memorial School, 339 Main Street, Killingly, CT 06239

Project Rationale

The Killingly Memorial School complex is comprised of three separate buildings connected by hallways. Building one, the original main school building was constructed in 1953 - a steel superstructure with concrete and brick masonry. The school's interior was constructed with the existing topography in multiple levels. Over the past several years, the main building was upgraded including a new roof, new windows and ADA improvements. This project will address the renovations including new HVAC system including heating, cooling and make-up air, upgrade the electrical system, complete renovation of the kitchen with new freezer, and hazardous material removal/replacement as required.

Building two (4,500 SF) – Modular classrooms were added to the structure in 1972 that have far outlived its useful life. The portable houses the school library and a classroom. The roof leaks and the flooring in the bathroom is beyond repair.

Building three (6,100 SF) – Modular classrooms with a connecting hallway were added in 2002 that have also are past due for removal. The classrooms are too small for regular classroom space and is currently used to support related resource services and intervention services.

The school does not meet the space needs for the existing and future populations. The necessity of removing the two portable structures will exacerbate the space needs of the school. The project will also remove both portable structures and construct a new 18,500 +/- SF one story addition which will replace the eliminated spaces plus add spaces that are for future growth. The project will also complete the required Phase II ADA work including lift access to the stage area in the gymnasium, door hardware as required and an accessible pathway to the front school door.

Long Range Plan

The long-range plan for the school facilities in Killingly calls for the provision of a safe, accessible and appropriate learning environment. The addition will meet the current needs with anticipated growth capacity into the future. Killingly plans to continue to utilize the Killingly Memorial School in its current capacity and with appropriate maintenance, as an elementary school for the next twenty years.

The Project

Killingly proposes a non-priority renovation/addition project, including HVAC, electrical, kitchen upgrades, hazardous material removal and the removal of the 2 portable units at Killingly Memorial School in order to remove old and outdated spaces and construct a new one-story addition to include: a media center, 10 classrooms, 2 conference rooms, 2 resource rooms, 1 restorative room, 5 offices, 1 staff lounge, 2 staff bathrooms and 2 student bathrooms. The project will also install an elevator at the connection to the multi-story wing of the school.

Current Space

In addition to the renovations described above, the project will remove the portable units (approx. 10,600 SF) and construct a new addition (approx. 17,500 SF) to include the media center, classrooms, offices, bathrooms, conference rooms, resource and restorative rooms, a staff lounge and install an elevator.

Construction

There will be one new TR located in the new addition to accommodate the new areas requiring Ethernet cabling.

Final Space

See *Current Space*, above.

FF&E

Teacher and student desks, conference tables and chairs, office desks and chairs, worktables.

Building Systems

Security
Security for the new addition will need to be tied into the existing facility.

Technology
Not Applicable.

Phone System
Phone system will need to be tied into the existing system

Clocks
Clocks in the new rooms will be required.

Interior Environment

Acoustics
Ceilings: Drop ceilings will be installed in all rooms and hallway(s).
Walls: Walls will be required in all rooms and hallway(s)

Lighting
Energy efficient lighting will be installed in all rooms and hallway(s) in the existing school as needed and in the new addition.

HVAC
Heating and cooling will be installed in all rooms and hallway(s) in the existing school as well as the new addition.

Plumbing
Staff and student bathrooms will be included in the addition

Windows/Doors
Windows and doors will be installed in all spaces of the new addition and door hardware will be changed as needed.

Site Development

Site Acquisition
Not applicable

Parking
The parking area will be reconfigured to accommodate the new addition

Drives
The drives will be impacted due to the removal of the portable structures. Traffic flow will be reconfigured.

Walkways
Walkways will be increased near the new addition; existing walkways may be modified

Outdoor Athletic Facilities
Not applicable

Landscaping
Not applicable

Site Improvements
Site improvements will be required to redesign the traffic flow on the property and an accessible pathway to the front door will be installed.

Construction Bonus

The Killingly Memorial School does not house any of the special programs eligible for a school construction bonus.

School Readiness:	Not applicable
Lighthouse Schools:	Not applicable
CHOICE:	Not applicable
Full-day Kindergarten:	Not applicable
Reduced Class Size:	Not applicable
Regional Vo-Ag Center:	Not applicable
Inter-district Magnet School:	Not applicable
Inter-district Cooperative School:	Not applicable
Regional Special Education Center:	Not applicable

Community Uses

Killingly Memorial School is designed for community uses during the school hours, before and after school hours and on some weekends, throughout the school year and summer. The uses to include but not be limited to:

- PTO
- The Recreation Department
- Summer Enrichment Programs
- Community choral and other performances

Killingly Memorial School Space Program					
Project Number: 21025	B.O.E Spec			Rev. #	Date: 08/10/2021
Programmed Space	Room #	Area		Total	Notes
Instructional Areas					
Elementary Classrooms					
2nd Grade	199				
2nd Grade	200				
2nd Grade	202				ADA
2nd Grade	204				
2nd Grade	206				
2nd Grade	207				
2nd Grade	208				
2nd Grade	209				
2nd Grade	210				
3rd Grade	201				
3rd Grade	203				
3rd Grade	205				
3rd Grade	305				
3rd Grade	306				
3rd Grade	307				ADA
3rd Grade	308				
3rd Grade	309				
4th Grade	100				
4th Grade	101				
4th Grade	102				
4th Grade	300				ADA
4th Grade	301				
4th Grade	302				
4th Grade	303				
4th Grade	304				
Classroom		1,103 SF			Addition
Classroom		1,103 SF			Addition
Classroom		1,094 SF			Addition
Classroom		998 SF			Addition
Classroom		801 SF			Addition
Classroom		801 SF			Addition
Classroom		802 SF			Addition
Classroom		802 SF			Addition
Classroom		793 SF			Addition
Classroom		791 SF			Addition
Total, Elementary					
Resource Classrooms					
Music Classroom	198/199				
Science Classroom	401				Portable Unit

		Tier 3 Classroom	402				Portable Unit
		Tier 3 Classroom	404				Portable Unit
		Art Classroom	212				Portable Unit
		OT/PT	211				Portable Unit
		T.M.R.	310				
		Math Classroom	310a				
		Reading Room	311				
		Resource Room	312				
		SPED	313				
		Conf. Room	314				
		Speech Therapist	315				
		Psych. Speech	316				
		SPED	317				
		Math Classroom	400				Portable Unit
		Reading Room	403				Portable Unit
		Reading Room	405				Portable Unit
		Restorative		112 SF			Addition
		Resource Room		140 SF			Addition
		Resource Room		140 SF			Addition
	Total, Resource						
	Media Center						
		Library					Portable Unit
		Computer Lab					Portable Unit
		Media Center		2,170 SF			Addition
		Total, Media Center					
	Physical Education						
		Gymnasium/Auditorium					
		Stage					
		GYM Storage					
	Total, Physical Education						
Total, Instructional Areas							
Support Areas							
	Main Office Suite						
		Principal Office					
		Main Office					
		Asst. Principal Office					
		Conference Room					
		Staff Work Room					
		Mail/ Copy					
		Toilet Room					
		Toilet Room (Staff)		122 SF			Addition
		Office		146 SF			Addition
		Office		146 SF			Addition
		Office		146 SF			Addition
		Office					To Add

		Office		146 SF			Addition
		Conference Room		143 SF			Addition
		Conference Room		143 SF			Addition
	Subtotal, Administrative						
	Health Suite						
		Nurses Office					
		Exam Room					
		Exam Room					
		Toilet Room					
	Subtotal Health Suite						
	Food Service						
		Cafeteria					
		Receiving					
		Kitchen & Servery					
		Staff Lounge		367 SF			Addition
		Toilet Room (Staff)		122 SF			Addition
	Total, Food Service						
	Building Support						
		Student Toilets (Boys)					Portable Unit
		Student Toilets (Girls)					Portable Unit
		Student Toilets (Boys)					
		Student Toilets (Girls)					
		Gas Meter Room					
		Electrical Closet					
		Boiler Room					
		Custodial Closets					
		Building Storage					
		Student Toilets (Boys)		382 SF			Addition
		Student Toilets (Girls)		382 SF			Addition
		Building Storage		91 SF			Addition
		Building Storage		91 SF			Addition
		Classroom Storage		112 SF			Addition
		Classroom Storage		109 SF			Addition
		Resource Storage		32 SF			Addition
	Total, Building Support						
Total, Support Areas							
Building Circulation							
		Lower Level Circulation					
		North Corridor					
		Stair#					
		Stair#					
	Subtotal, Lower Level Circulation						

		Entry Level Circulation					
		Corridor					
		Corridor					
		Corridor					
		Vestibule					
		Stair#					
		Stair#					
		Stair#					
		Stair#					
	Subtotal, Entry Level Circulation						
		Mid Level Circulation					
		Corridor					
		Corridor		2,128 SF			Addition
		Stair#					
		Stair#					
		Elevator					Addition
		Vestibule					
	Subtotal, Mid Level Circulation						
Total, Circulation Areas							

5.0
Conceptual Outline Specifications

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
010000	GENERAL CONDITIONS	Throughout			Assume building/site WILL be occupied during construction. Anticipate the execution of work over multiple construction phases. Provide temporary separations between occupied spaces and construction zones.	3 construction phases
022600	HAZARDOUS MATERIALS			sf	Assume $20/sf for anticipated abatement of selective hazardous materials at existing school to remain.	
		1973 Portable (East)		sf	Assume $35/sf for abatement of existing portable.	
		2002 Portable (West)			Based upon the age of constructuon, 1990 era portable is not anticipated to have hazardous materails.	
024000	DEMOLITION					
		1973 Portable (East)		sf	Mass demolition and removal of existing single-story portable structure installed on reinforced concrete pier foundations. Include complete removal of connecting corridor structure to exterior face of existing school..	
		2002 Portable (West)		sf	Mass demolition and removal of existing single-story portable structure installed on reinforced concrete pier foundations. Include complete removal of connecting corridor structure to exterior face of existing school..	
		South Wing		sf	Selective demolition of north façade of south wing to accommodate connection of addition.	
		East Wing		sf	Selective demolition of west façade of east wing to accommodate connection of addition.	
		Existing Steam Boiler Plant			The existing steam boilers, burners, boiler feed unit, steam piping, condensate piping, pneumatic valves, venting and associated accessories to be removed.	
		Classrooms	26	QTY	Existing steam radiation, piping (within tunnels) valves, sidewall exhaust grilles, ductwork, pneumatic sensors and associated accessories to be removed.	
		Gymnasium	N/A	N/A	Existing steam radiation, piping, valves, sidewall supply/return grilles, ductwork, pneumatic sensors and associated accessories to be removed.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Cafeteria	N/A	N/A	Existing steam radiation, piping, valves, two (2) unit ventilators, pneumatic sensors and associated accessories to be removed.	
		Main Office Wing	N/A	N/A	Existing steam radiation, piping, valves, pneumatic sensors and associated accessories to be removed.	
		Mechanical Penthouses	N/A	N/A	Existing utility fans for classrooms (2), locker rooms (2) toilet rooms (2), gymnasium (2), ductwork, louvers, controls and associated accessories to be removed. Existing heating/ventilation units for the gymnasium (2), ductwork, louvers, controls and associated accessories to be removed.	
		Portable Classrooms			West Portables and East Portables: 1. Completely demolish of all existing HVAC units, services for West Portables and East Portables which are being completely demolished.	
		Controls			The existing pneumatic control system, compressor, dryer, control panels, valves, thermostats, tubing and associated accessories to be removed.	
		Water Heaters	2	QTY	Existing gas fired water heaters (2) and associated piping serving existing areas of school to remain.	
		Classrooms	26	QTY	Existing sinks, water fountains and associated accessories to be removed.	
		Bathrooms	20	QTY	Existing plumbing fixtures including, but not limited to, water closets, lavatories, urinals, and associated accessories to be removed.	
		Pavement	46,000	sf	Remove existing bituminous pavement, concrete walk for proposed construction.	
030000 CONCRETE						
		Foundations		lf	Foundations – presumed soil bearing (dependent upon the findings of the geotechnical investigation and report): - 16" concrete walls (4,500 psi) with 8" brick shelves where below masonry walls. Reinforce with #5@16"o.c. vertical and #4@12"o.c. horiz. each face. - Continuous wall footing: 12"thick x 3'-0"wide reinforced with (3)-#5 cont.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Slabs	18,950	sf	Slabs on Grade (Interior): 5" thick normal weight concrete slab (3,500 psi) reinforced with 6x6-W2.9xW2x.9 welded wire fabric supported on continuous steel wire chairs. Macro/Micro fiber reinforcement may be substituted for the welded wire fabric reinforcement. All interior slabs shall be placed over a 15 mil vapor retarder on a compacted processed aggregate base material. All concrete for the slabs on grade shall have a moisture vapor reducing admixture to control the transmission of moisture vapors thru the slab. Floor depressions, as well as any areas of specialized floor finishes shall be located and specified by the Architect. Control joints shall be installed at a maximum grid of 12 feet on center.	
				sf	Slab on Grade (Exterior): 5-inch thick concrete slab on grade (4,500 psi) with topically applied penetrating colloidal silac concrete treatment, reinforced with WWF 6x6-W1.4xW1.4 placed over absorptive "blotter" layer over Class A vapor barrier, sawcut control joints each direction at approximately 12 feet - pitch for drainage	
		Slab Infills in Existing Building		sf	Composite Structural Floor Slab: 5-1/4 inch-deep floor slab: 3 1/4 inch lightweight concrete slab, with topically applied penetrating colloidal silica concrete treatment, on 2 inch deep, 20 gauge minimum composite metal floor deck with no fireproofing on underside of metal deck (1 hour fire rating).	
		Miscellaneous		sf	Raised Exterior Concrete Seating Steps: 8" thick radiused reinforced slabs and frost walls with (2) 24" deep tiers at 18" & 32" in height.	
			3	each	Exterior Concrete Ramps: 1:12 sloped surface with 8-inch rubbed cheek walls (both sides).	
			1	each	Provide (1) 4-feet by 4-feet radon collection pits below new concrete slabs. Seal slab pipe pentrations and joints, typical.	
040000 MASONRY						

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
New Addition		Exterior Walls:			Typical Brick Veneer Cavity Wall System (15 feet story height): - Brick veneer w/ lateral reinforcing at 16-inches, horizontally & vertically - Air space - 3-inch rigid cavity insulation - Fluid applied air infiltration barrier - 5/8" Type X Exterior Gypsum Sheathing - Cold-formed steel framing - Interior Gypsum Board (Painted) Provide Cast Stone sills and heads at punched openings. Note: Provide galvanized relieving angles for masonry walls exceeding 15 feet.	2 face brick colors
		Exterior Walls: Freezer Addition			8" CMU wall reinforced with #5@32"o.c. vertical with horiz. ladder type joint reinforcing	
		Interior Walls: Corridors		lf	Non-Load Bearing: 8 inch lightweight CMU with #4 bar in fully grouted cell at 48 inches on center with horizontal ladder type joint reinforcement at 16 inches on center - extend to underside of deck above.	
				lf	Non-Load Bearing: 6 inch lightweight CMU with #4 bar in fully grouted cell at 48 inches on center with horizontal ladder type joint reinforcement at 16 inches on center - extend to underside of deck above.	
		Music Room		lf	Non-Load Bearing: 12 inch lightweight fully grouted CMU with #5 bar in fully grouted cells at 32 inches on center with horizontal ladder type joint reinforcement at 16 inches on center. Sound absorbing CMU blocks on 25% of vertical surface - extend to top of exterior wall.	
		Rated CMU Stair and Elevator Enclosures		lf	8" CMU wall assembly providing a 2-hour fire rated separation laterally braced to building structure. CMU reinforcing: #5@32"o.c. vertical with horiz. ladder type joint reinforcing - Elevator Pit: 12" thick base slab reinforced with #5@12"o.c. each way bottom. 12" thick concrete pit walls reinforced with #4@12"o.c. each way, each face.	
Existing School		Window sills and Exterior wall bands		lf	Architectural cast stone units, shapes as shown on drawings	
		Masonry Repair	2,500	lf	Provide allowance for pointing existing masonry joints.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Masonry Repair	10,000	sf	Provide allowance for replacement of damaged or broke unit masonry.	
051000	STRUCTURAL STEEL					
	New Addition	Structural Frame			Composite steel wide flange beams: at approximately 6 to 9 feet on center with ¾ inch diameter 3½ inch high steel stud shear connectors at approximately 12 inches on center. Steel columns: W8 or HSS8x8 columns	
		Lateral System			Lateral Force Resisting System for Wind/Seismic: Combination of ordinary steel moment frames and ordinary reinforced masonry shear walls. a. CMU Shear Walls: 8 inch lightweight CMU with #5 bar in fully grouted cell at 32 inches on center; (3) #8 each end of wall and each side of all vertical control joints. b. Ordinary steel moment frames. c. Heavy steel wide flange and hollow tube columns with full strength moment connection welds to steel girders.	
		Roof Framing	Typical Roof		1-1/2 inch deep x 20 gage metal roof deck. Primarily open web steel joists at approximately 6 feet on center. Wide flange steel girders and spandrel beams on column lines.	
			Gymnasium Roof		Structural steel frame with moment frames; unrated non-combustible structure. Long span steel joists and acoustic metal roof decking.	
		Entry Canopy			Structural steel frame with moment frames; unrated non-combustible structure. Steel beams and metal roof decking.	
	Existing School	Supplemental Steel Framing			Include an allowance for the supplememtation of existing roof framing to support items such as rooftop mounted mechanical equipment.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
055000 METAL FABRICATIONS						
	Interior Stairs		per stair		Interior steel stair assembly: Miscellaneous steel channels, angles and tubular steel 2-inch concrete filled metal pans and risers; 1-1/2-inch square posts/top & bottom rails; 3/4-inch square pickets; 1-1/2-inch round steel handrails, both sides.	
	Masonry Openings		per punched opening/door		Galvanized steel lintels at exterior wall openings, typical. For openings up to 6 ft, provide (1)-L5x3 1/2x5/16 lintel for each 4-inches of masonry. Dimension at opening width + 16-inches.	
	Roof Frames/Roof Drains				Provide L6x3 1/2x5/16 frame at roof openings and roof drains. Provide joist reinforcing at all concentrated loads on joists not located directly over top chord panel points.	
	Restoration of joist bridging				Restore any cut joists bridging with horizontal bridging	
	Cold-Form Metal Framing		Exterior Walls		6" - 18 gage Metal studs spaced at 16"o.c.	
	Roof Access Ladder				Galvanized steel ladder providing addition roof access.	See 080000 Openings,
060000 WOOD						
New Addition	Roofing Systems				Fire rated wood blocking. Provide allowance based upon roof system requirements.	
070000 BUILDING ENVELOPE						
New Addition	Low Slope Roof System: New Addition		18,950	sf	SBS Modified-bitumen Roof Assembly (New): - Roof membrane - 8-inches rigid insulation (R-48) - Self-adhering vapor barrier - 5/8-inch Type X exterior gypsum roof sheathing - Sloping structural roof framing (1/4-inch per foot minimum) - 20-year non-prorated, no dollar limit full roof system warranty.	
	Roof Copings			lf	Prefinished .040 aluminum, copings typical.	
	Roofs, typical		300	lf	Insulated roof system expansion joint assemblies. Three locations.	
	Metal Panels			sf	Aluminum-faced composite panels - Alucabond or equivalent	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
080000	OPENINGS					
		Exterior Glazing, Punched Openings		each	4 ft x 5 ft - Fixed, thermally broken aluminum frame storefront assemblies with 1-inch insulating glass. EFCO Corporation 2" x 4-1/2" Series 403 T, Thermal Storefront Framing system. Windows within 8 ft of ground shall be break resistant (School Guard Glass or equivalent).	
				each	same as above - 6 ft. x 6 ft. w/ divided lites	
		Main Entry Vestibule (Existing)	12	lf	Exterior (10 ft) - Thermally broken aluminum storefront with 1" security glazing - EFCO Corporation 2" x 6 1/2" Series 406 T, Thermal Storefront Framing system. Bottom 8 ft of glazing shall be break resistant (School Guard Glass or equivalent).	
			2	each	Exterior - fully glazed double leaf thermally broken aluminum storefront door with electronic strike and card reader with man-trap fail secure overide, aluminum threshold, panic hardware set.	
			12	lf	Interior (8 ft) - Aluminum storefront with 1/4" glazing - EFCO Corporation 1-3/4" x 4-1/2" Series 402 NT, Non-Thermal Storefront Framing system. All glazing shall be break resistant (School Guard Glass or equivalent).	
			2	each	Interior - fully glazed double leaf aluminum storefront door with electronic strike and card reader, panic hardware set.	
			1	each	Interior - fully glazed single leaf aluminum storefront door with electronic strike and card reader, panic hardware set.	
		Curtain Wall - Typical			Exterior - Thermally broken aluminum curtian wall with 1" insulated glazing - EFCO Corporation 2-1/2" x 8" Series 5600, Thermal Curtain Wall Framing system. Bottom 8 ft of glazing shall be break resistant (School Guard Glass or equivalent).	
		Exterior Curtain Wall - Classrooms			Exterior - Thermally broken aluminum curtian wall with 1" insulated glazing - EFCO Corporation 2-1/2" x 8" Series 5600, Thermal Curtain Wall Framing system. Bottom 8 ft of glazing shall be break resistant (School Guard Glass or equivalent). Include integral horizontal sun screens at West Elevation, only.	
		Secondary Building Exits		each	Exterior - double leaf FRP door assembly in thermally broken aluminum storefront, (1) 100 sq in 3" wide max. vision lite centered in door outfit with panic release hardware, electronic strike with card reader, threshold	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Courtyard	Media Center		Exterior - Thermally broken aluminum storefront with 1"insulated glazing - EFCO Corporation 2-1/2" x 8" Series 5600, Thermal Curtain Wall Framing system. Provide captured vertical glass and structural sealant at horizontal mullions.	
			Vestibules		Exterior - Entries - Thermally broken aluminum storefront with 1"insulated glazing - EFCO Corporation 2" x 4 1/2" Series 403 T, Thermal Storefront Framing system.	
					Exterior - fully glazed double leaf thermally broken aluminum storefront door with electronic strike and card reader, aluminum threshold, panic hardware set.	
		Interior Aluminum Storefronts		lf	Interior (9 ft) - Aluminum storefront with 1/4" glazing - EFCO Corporation 1-3/4" x 4-1/2" Series 402 NT, Non-Thermal Storefront Framing system.	
				each	Interior - fully glazed double leaf wood flush door with accessible hardware, panic hardware set, aluminum storefront frame	
				each	Interior - single leaf wood flush door, (1) 100 sq in 3" wide max. vision lite centered in door, accessible hardware, aluminum storefront frame	
		Interior Doors / Classrooms / Office (Typical)		each	Single leaf interior wood flush door, (1) 100 sq in 3" wide max. vision lite centered in door, accessible hardware, perimeter sound gasketing. Painted steel frame.	
		Music, Art, Science		each	Double leaf interior wood flush doors, (1) 100 sq in 3" wide max. vision lite centered in each leaf, accessible hardware, perimeter sound gasketing. Painted steel frame.	
				each	Single leaf interior wood flush door, accessible hardware, painted steel frame	
		Kitchen / Serving		each	Single leaf interior wood flush door, accessible hardware, threshold, painted steel frame	
				each	Double leaf interior wood flush door, accessible hardware, threshold, painted steel frame	
				each	16 ft L x 9 ft H coiling overhead open stainless steel security grille for servery counter, manual crank and/or motorized operation	
				each	Interior - 12 ft. x 10 ft. insulated metal coiling overhead door with manual and motorized operation.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Interior Doors Boiler / Main		each	Interior 1-hour rated wood doors, 100 sq in centered vision lite; positive latching, panic hardware. Painted steel frame.	
		Toilet Rooms		each	Single leaf interior wood flush door, push-pull hardware, stainless steel kick plates, closer, threshold, painted steel metal frame	
				each	Single leaf interior wood flush door, accessible hardware, privacy function latchset, threshold, painted steel metal frame	
				each	30-inches by 40-inches Stainless steel frame mirror with wall mount cleats, one per sink, typical.	
				each	full length mirror, stainless steel frame with wall mount cleats, one per toilet room.	
090000	FINISHES					
	New Addition	Classrooms, Science, Art, Corridors		sf	Luxury vinyl tile (LVT); 4-inch resilient base. Acoustic ceiling system, 2'-0" x 2'-0" pads, 15/16" grid. Allow 5% for gyp. bd. soffits.	
		North Corridor		sf	Vinyl wallcovering	
		Media Center, Office, Conf. Room		sf	Carpet tiles, 30" x 30" tiles; 4-inch resilient base. Tectum clouds ceiling system, NRC 0.70. Allow 10% for gyp. bd. soffits.	Acoustic Update 11/02/2021
		Music Room		sf	Acoustic vinyl sheet flooring (Johnsonite Optima Acoustiflor) - 78" wide rolls	
				sf	Acoustic ceiling system, 2'-0" x 2'-0" pads in 50% of area, 15/16" grid. NRC 0.80	Acoustic Update 11/02/2021
				sf	Painted gypsum board ceilings & soffits.	
				ea	Sound reflecting panels, 4 ft by 4 ft inverted pyramidal panels within suspended ceiling system (50% of area).	
			700	sf	Acoustical wall panels, 2" thick fabric covered with rigid fiberglass core, NRC=1.0	Acoustic Update 11/02/2021
		Exit Stairs		sf	Rubber stair management system, integral rubber treads and risers with contrasting nosing color; landings.	
		Vestibules		sf	Walk-off mat system, frameless, elevated mat	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Toilet Rooms		sf	Ceramic floor and wall tile. Provide painted gypsum board ceilings.	
		Janitor,Custodian Storage, Storages		sf	Epoxy resin floor system and wall base. Acoustic ceiling system, 2'-0" x 2'-0" pads, 15/16" grid.	
		Mechanical		sf	Unfinished concrete floor & CMU walls. Ceiling open to deck above w/ 4" thick x 48" wide black fiberglass duct liner boards (50% coverage)	
		Interior Gypsum Partitions		lf	4-7/8" gypsum board wall: (1) layer 5/8" impact resistant gyp. bd. (painted) on each side of 3-5/8" metal studs @ 16" o.c. Refer to Acoustical Narrative.	Acoustic Update 11/02/2021
				lf	5-1/2" STC rated gypsum board wall: (2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed. Refer to Acoustical Narrative.	Acoustic Update 11/02/2021
	Existing Building	Serving		sf	Luxury vinyl tile (LVT); 4-inch resilent base.	
				sf	Raised presentation platform - wood look vinyl tile on	
				sf	Provide suspended acoustical ceiling assembly NRC 0.80. Include adjusted lighting, mechanical system distribution and sprinkler system. Allow 10% for gypsum board soffits.	Acoustic Update 11/02/2021
		Kitchen, Receiving		sf	Epoxy resin floor system and wall base. Washable suspended ceiling system with 2'-0" x 2'-0" pads, 15/16" grid, sealed washable light fixtures with unbreakable lenses.	
		Gymnasium			Painted exposed structure and deck above.	
		Corridors		sf	Acoustic ceiling system, 2'-0" x 2'-0" pads, 15/16" grid. Allow 5% for gyp. bd. soffits.	
100000 SPECIALTIES						
	New Addition	Toilet Rooms	10	each	Graffiti resistant HDPE toilet partitions, floor mounted with overhead bracing, stainless steel hardware and fittings. (1) 36" x 60" stall with 24" door. (1) 60" x 60" stall with 32" door, rear and side grab bars, one set per accessible stall	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			2	each	Toilet partitions (same as above) (2) 36" x 60" stall with 24" door. (1) 60" x 60" stall with 32" door, rear and side grab bars, one set per accessible stall	
			32	each	Toilet Tissue Dispenser (1 per watercloset), Sanitary napkin waste receptacle (1 per 2 water closets)	
			20	each	Stainless steel paper towel dispenser and waste receptacle (1 per room)	
			24	each	Soap Dispenser, 18" x 40" stainless steel framed mirror (1 per sink basin.)	
		Classrooms	25	each	Tack board surfaces, 8 ft L by 4 ft H with color impregnated cork and anodized aluminum frame (1 per classroom.)	
			25	each	US Flag & wall mount (1 per classroom)	
			25	each	Tack strips and map rail, 16 ft L.	
		Kitchen	6	each	Fully welded metal storage lockers, 12" W by 15" D, double height, for use by Kitchen staff.	
		Corridors	400	qty	Fully welded, non-locking, metal storage lockers, 12" W by 15" D by 60" H, single height, for student use grades 1-4.	
			25	each	Non-illumintaed bulletin boards	
			2	each	Display Cases	
110000 EQUIPMENT						
114000 FOOD SERVICE						
		Kitchen	Allowance	1	Replace food service equipment	$200,000.00
		Servery	Allowance	1	Servery stations, Residential/family style serving. Salad bar, smoothie stations; stainless steel counters, warmers, sneeze guards, hand wash sink	$150,000.00
120000 FURNISHINGS						
		Music Storage	15	lf	Instrument storage, Wenger or equal, allowance for the storage of a variety of instruents.	
		Industrial Shelves	50	each	18-inches deep, 94-inches high, starters and runners, 5 shelf sections per unit.	
		Trash Receptacles	4	EA	Provide trash receptacles at strategic locations.	

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		Steel Pipe Bollard	8	EA	Provide bollards for entrance and vehicle damage protection	
		Site Benches	4	EA	Provide benches at strategic locations	
123000	MANUFACTURED CASEWORK					
		Classrooms (Grades 2-4)		each	Plastic laminate base cabinets, wall hung cabinets and counters, 12'-6" long	
		Break-Out Spaces		each	(2) 8'-6" plastic laminate base cabinets, upper cabinets and counters, stainless steel sink	
		Faculty Dining		lf	Plastic laminate base cabinets, upper cabinets and counters, stainless steel sink.	
		Corridors		each	Built-in wood display case, interior fabric wrapped tackable surface, adjustable glass shelves, sliding tempered glass doors. 12'-6"L x 7'-0"H x 3'-0"D.	
130000	SPECIAL CONSTRUCTION					
142000	ELEVATORS					
		New Construction	1	qty	4000 lb. capacity MRL traction elevator, double-sided, 3-stops	
		Stage	1	qty	Platform Lift	
210000	FIRE SUPPRESSION					
		Existing School and Proposed Addition	TBD		Provide new fire service piping from Main St. for the proposed fire suppression system. Fire service riser entrance into building at mechanical room. **As of 10-22-21 a new pump is not anticipated for the fire suppression system. This is subject to change pending further exploration of the proposed fire suppression system**	
			N/A	N/A	A new fire suppression system shall be installed throughout all areas of the existing school and proposed addition .	
			TBD	QTY	Wet Alarm valves shall be installed to properly zone the sprinkler system.	
			81,500	SF	Sprinkler densities shall be as defined by NFPA 13.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			81,500	SF	Sprinklers shall be concealed, fully recessed in finished areas with ceilings. Sidewall, standard and extended coverage sprinklers shall be installed where appropriate. Upright sprinklers with protective baskets shall be installed within spaces where sprinklers are subject to damage. Quick response sprinkler heads shall be used in light hazard locations. Sprinklers, unless noted otherwise, shall have a ½" orifice and a 165°F temperature rating. Intermediate temperature classification sprinklers shall be installed within the mechanical room, skylights and other areas, as required by NFPA 13.	
			TBD	QTY	Inspector's test connections and drains shall be provided at remote areas of the building. Drains shall terminate at the building exterior at a splash block.	
			1	QTY	The building elevator shall be provided with an intermediate temperature upright sprinkler at the top of the shaft and a sidewall sprinkler 24" above the finished elevator pit floor. The water supply to sprinkler at these shafts shall be monitored with a flow switch. (Sprinkler protection shall be not be required if the elevator shaft, cab & hydraulic fluid are non-combustible).	
			81,500	SF	Piping for the sprinkler system shall be steel pipe, ASTM A-53; Schedule 40 carbon steel. Schedule 10 pipe shall be allowed for pipe sizes larger than 2" diameter when roll grooved mechanical couplings are used. Sprinkler piping shall be installed above ceilings and concealed within chases where applicable.	
			81,500	SF	Fittings shall be grooved mechanical fittings: ANSI A21.10 ductile iron; ASTM A47 grade malleable iron. Couplings shall be ASTM A 536 ductile iron or malleable iron housing, EPDM gasket with nuts, bolts, locking pin, locking toggle or lugs to secure roll grooved pipe and fittings.	
220000 PLUMBING						
		Domestic Water Systems	19200	SF	Domestic cold water, domestic hot water, and domestic hot water recirculation piping shall be Type L copper conforming to ASTM B 88. Domestic water piping shall be insulated with rigid molded, noncombustible glass fiber insulation conforming to ASTM C335. Domestic water piping throughout shall be installed above ceilings and concealed within walls. PVC jacketing shall be provided on piping in exposed areas.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Plumbing Fixtures	43	QTY	Water closets shall be wall mounted, vitreous china, low consumption (1.28 gallons per flush), by Kohler or approved equal. Flush valves shall be automatic flushometer hard wired, by Sloan or approved equal.	
			4	QTY	Urinals shall be wall mounted, vitreous china, by Kohler or approved equal. Urinal low flow flush valves (.125 gallons per flush) automatic flushometer hard wired, by	
			65	QTY	Lavatories shall be wall mounted, vitreous china, by Kohler or approved equal. Faucets shall be low consumption (0.5 gpm), automatic hard wired valves, by Kohler or approved equal.	
			36	QTY	Wall hangers for water closets, urinals, and lavatories shall be heavy duty adjustable height type installed within chase spaces provided behind fixtures, by J.R. Smith or approved equal.	
			TBD	QTY	All plumbing fixtures required to be accessible shall be in accordance with the Americans with Disabilities Act (ADA), 504 and UFAS standards.	
			11	QTY	Drinking fountains shall be stainless steel, wall recessed, bi-level, ADA style, vandal resistant with integral bottle fillers, manufactured by Elkay or approved equal.	
			1	QTY	Mop basins shall be floor mounted, 24"x24", molded stone, with wall mounted faucet with vacuum breaker & trim, by Fiat or approved equal.	
			20	QTY	Wall Hydrants shall be installed on exterior walls every 100 feet of the building perimeter. Wall hydrants shall be lockable, keyed and non-freeze, backflow	
			TBD	QTY	Reduced pressure backflow preventers shall be provided on the domestic water connections to mechanical equipment as needed to comply with local AHJ. Backflow drains shall terminate indirectly at floor drains. Backflow devices shall be located at	
			TBD	LF	Water supply piping shall be redistributed and connected to proposed kitchen equipment per individual equipment installation requirements. Sanitary piping shall be configured to accommodate floor sinks and proposed kitchen equipment.	
		Sanitary Drainage	2	QTY	Art room sinks shall be provided with plaster traps to prevent paint, plaster chips and other materials from entering the waste stream. The interceptor shall be located below the fixture and shall be provided with clearance to removal and cleaning. Interceptors shall be JR Smith or approved equal.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			1	QTY	A 2500-gallon concrete, grease interceptor shall be installed below grade at the exterior of the building to serve grease producing fixtures in the kitchen. The waste connection exiting the grease interceptor shall connect to the sanitary sewer system on site serving the building. The interceptor shall prevent grease from entering the municipal sanitary system. The grease interceptor shall be designed & specified by the civil engineer.	
			150	LF	Trenching for proposed sanitary drainage at kitchen area for all required piping and fixtures.	
			TBD	QTY	Floor sinks/drains shall be provided where necessary. Trap primers shall be installed at floor sinks where necessary. Kitchen equipment with indirect drainage shall be routed to floor sinks in kitchen area.	
			700 Limited to Edge of Foundation Wall	LF	Waste and vent piping shall be hubless cast iron with standard torque clamps, conforming to CISPI 301 for above ground piping and hub and spigot cast iron conforming to ASTM A74 for piping installed below the floor slab. Waste and vent piping shall be concealed within chases and walls where possible.	
		Storm Drainage	550	LF	Storm piping shall be hubless cast iron with standard torque clamps, conforming to CISPI 301 for above ground piping and hub and spigot cast iron conforming to ASTM A74 for piping installed below the floor slab. Storm piping shall be concealed within chases and walls where possible. Storm services shall exit the building and connect to architectural downspouts. The secondary storm system shall be via overflow drains with piping.	
		Specialty Systems	TBD		The hot water distribution system for the kitchen shall include 140°F piping for the kitchen (boosted to 180°F at the dishwasher only, by others) and 110°F piping to serve the remainder of the fixtures. An automatic High/Low tempering valve, by Symmons or approved equal, will reduce to the water to 110°F for the building piping. A second tempering valve will be installed on the kitchen water supply, limiting the temperature to 140°F.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			TBD		Hot water recirculation systems shall be installed to maintain the appropriate temperatures in the domestic hot water system throughout the area. The pump shall be controlled by the BMS system to minimize energy consumption. Hot water recirculation piping shall be installed at the most remote fixture locations to provide adequate hot water within 15 seconds of faucet activation. Balancing valves shall be provided to ensure proper system flow.	
			1	QTY	The kitchen shall be equipped 119 gallon 400 MBH gas fired condensing water heaters/storage tanks by Lochinvar or equal.	
			1	QTY	A new 3" gas service shall be provided from the street to a new meter assembly outside the main mechanical room.	
			75	LF	Gas piping at the kitchen to be distributed to proposed kitchen equipment as required.	
230000	MECHANICAL					
	Heat Generation		78,000	SF	Heating to be provided by high efficiency gas fired boilers producing hot water and is distributed via base mounted pumps and piping routed to the various heating coils and radiation located throughout the school.	
			3	QTY	The heating plant shall consist of three (3) gas fired condensing boilers with integral controls sized at 6,000,000 Btu/Hr each based on Lochinvar or equal.	
			5	QTY	The heating hot water pumping system shall consist of two (2) base mounted, end suction pumps for the house loop and three (3) inline pumps. The base mounted pumps shall provide 800 gpm each and the inline pumps to provide 580 GPM each. All pumps shall be served by variable frequency drives (VFD's). The inline pump drives are to be integral to the pump. Pumps are based on Bell and Gossett or equal.	
			TBD	QTY	Hot water mains and branches shall be sized for low velocities and reduced pressure drop (8"ø supply and return mains) to reduce overall operating pressure and motor HP.	
			1	QTY	Hot water system shall operate with 33% propylene glycol/water solution. Provide 100 gallon glycol tank/pump feed system with glycol refractometer to automatically monitor and report percent glycol in the system. Tank based on Wessels or equal.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			3	QTY	Each boiler shall be served by an individual metal flue system installed up through the roof. Combustion air shall be routed from the boilers to the exterior utilizing PVC piping.	
	Cooling Generation	Cooling Plant Option #1 VRF	50,000	SF	Cooling Plant Option #1: Each space shall be served by VRF units (variable refrigerant flow) to provide cooling and supplemental heating if needed. System shall contain three pipes to provide energy recovery at certain times of the year. The heat pump units will be located on the roof and will be sized at eight (8) tons each. VRF units are based on Mitsubishi or equal.	
		Cooling Plant Option #2 Chillers	78,000	SF	Cooling Plant Option #2: Two (2) air cooled chillers with dual compressors shall produce chilled water and will be distributed via base mounted pumps to the various cooling coils located throughout the school.	
		Cooling Plant Option #2 Chillers	2	QTY	The cooling plant shall consist of two (2) air cooled chillers with integral pumps, controls and piping sized at two hundred and fifty (250) tons each. Chillers are based on Carrier or equal.	
		Cooling Plant Option #2 Chillers	2	QTY	The chilled water pumping system shall consist of two (2) base mounted, end suction pumps and for the house loop. The base mounted pumps will provide 500 gpm each and will be served by variable frequency drives (VFD's). Pumps are based on Bell and Gossett or equal.	
		Cooling Plant Option #2 Chillers	N/A	N/A	Chilled water mains and branches shall be sized for low velocities and reduced pressure drop (8"ø supply and return mains) to reduce overall operating pressure and motor HP.	
	Air Side	Classroom Wings (Existing School) Cooling Plant Option #1	30	QTY	The classrooms are to be served by one (1) cassette style VRF unit located within the ceiling grid and sized at four (4) tons. VRF units are based on Mitsubishi or equal. Acoustically rated at 35dBA (MAX) per ARI-350.	Acoustic Update 11/02/2021
		Class/Office Wing (Existing School) Cooling Plant Option #1 & #2	10	QTY	Each classroom/office are to served by one (1) cassette style VRF unit located within the ceiling grid and sized at two (2) tons. VRF units are based on Mitsubishi or equal. Acoustically rated at 35dBA (MAX) per ARI-350.	Acoustic Update 11/02/2021

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Classroom Wings (Existing School) Cooling Plant Option #2	1	QTY	The classrooms will be served by one (1) 22,000 CFM variable air volume direct drive air handling unit. Equipped with hot/chilled water coils and variable frequency drives. New ductwork will be provided throughout the classrooms with hot water reheat VAV boxes. Air handling unit and VAV boxes are to be based on Carrier or equal. Ductwork downstream from VAV boxes shall be acoustically lined.	Acoustic Update 11/02/2021
		Classroom Wings (New Addition) Cooling Plant Option #1	3	QTY	The proposed addition will be served by three (3) packaged modular rooftop units with hot water coils for heating and energy recovery. The eight (8) classrooms will be served by one (1) twenty five (25) ton RTU with ductwork and hot water reheat VAV boxes. Three (3) science/art classrooms and adjacent offices will be served by one (1) twenty (20) ton RTU with ductwork and hot water reheat VAV boxes. The Media center and surrounding offices will be served by one (1) ten (10) ton RTU with ductwork and hot water reheat VAV boxes. Rooftop units are based on Carrier or equal. Ductwork downstream from VAV boxes shall be acoustically lined.	Acoustic Update 11/02/2021
		Classroom Wings (New Addition) Cooling Plant Option #2	3	QTY	The proposed addition will be served by three (3) chilled water/hot water modular rooftop units with energy recovery . The eight (8) classrooms are to be served by one (1) twenty five (25) ton RTU with ductwork and hot water reheat VAV boxes. Three (3) science/art classrooms and adjacent offices will be served by one (1) twenty (20) ton RTU with ductwork and hot water reheat VAV boxes. The Media center and surrounding offices will be served by one (1) ten (10) ton RTU with ductwork and hot water reheat VAV boxes. Rooftop units are based on Carrier or equal. Ductwork downstream from VAV boxes shall be acoustically lined.	Acoustic Update 11/02/2021
		Gymnasium Cooling Plant Option #1	2	QTY	The gymnasium will be served by two (2) 15,000 CFM single zone variable air volume air handling units, equipped with hot water and DX coils, sound attenuators, variable frequency drives and demand control ventilation which will modulate the amount of outside air to the space based on occupancy and Co2. The existing ductwork will be reused, cleaned and insulated. Two (2) air cooled condensing units will be located on the roof and will serve the DX coils. Air handling/condensing units are based on Carrier or equal.	Acoustic Update 11/02/2021

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Gymnasium **Cooling Plant Option #2**	2	QTY	The gymnasium will be served by two (2) 15,000 CFM single zone variable air volume air handling units, equipped with hot/chilled water coils, variable frequency drives and demand control ventilation which will modulate the amount of outside air to the space based on occupancy and Co2. The existing ductwork will be reused, cleaned and insulated. Air handling units are based on Carrier or equal.	
		Cafeteria Cooling Plant Option #1	1	QTY	The cafeteria will be served by one (1) 5,000 CFM single zone variable air volume direct drive air handling unit. Equipped with hot water and DX coils, variable frequency drives and demand control ventilation which will modulate the amount of outside air to the space based on occupancy and Co2. New acoustically lined ductwork will be provided throughout the cafeteria. One (1) air cooled condensing unit will be located on the roof and will serve the DX coil. Air handling/condensing unit are based on Carrier or equal.	Acoustic Update 11/02/2021
		Cafeteria Cooling Plant Option #2	1	QTY	The cafeteria will be served by one (1) 5,000 CFM single zone variable air volume direct drive air handling unit. Equipped with hot/chilled water coils, variable frequency drives and demand control ventilation which will modulate the amount of outside air to the space based on occupancy and Co2. New acoustically lined ductwork will be provided throughout the cafeteria. Air handling unit is based on Carrier or equal.	Acoustic Update 11/02/2021
		Corridors/ Miscellaneous Areas	N/A	N/A	The corridors shall be served by one (1) 1-ton VRF cassette unit spaced at approximately 100 ft intervals. VRF units based on Mitsubishi or equal.	
		Kitchen	2	QTY	Kitchen exhaust (Grease) fan shall be a roof mounted up-blast exhaust fan with ventilated curb. Fan serving grease hood shall be sized for 3,000 CFM, by Captive Aire or equal. New double wall stainless steel grease ductwork shall connect the new grease fan to the kitchen hood. Make up air and conditioning shall be provided by a gas-fired packaged Dedicated Outside Air Unit. The unit will provide fifteen (15) tons of cooling and 2,700 CFM, by Captive Aire or equal.	
	Hot water Heating	Classroom Wings (Existing School)	800	LF	Provide new fin tube radiation along perimeter. The fin tube will run wall to wall and have a double slope enclosure, by Rittling or equal.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Class/Office Wing (Existing School)	100	LF	Provide new fin tube radiation along perimeter. The fin tube will run wall to wall and have a double slope enclosure, by Rittling or equal.	
		Main Office Wing (Existing School)	100	LF	Provide new fin tube radiation along perimeter. The fin tube will run wall to wall and have a double slope enclosure, by Rittling or equal.	
		Gymnasium	100	LF	Provide new fin tube radiation along perimeter. The fin tube will run wall to wall and have a double slope enclosure, by Rittling or equal.	
		Cafeteria	60	LF	Provide new fin tube radiation along perimeter. The fin tube will run wall to wall and have a double slope enclosure, by Rittling or equal.	
		Classroom Wings (New Addition)	500	LF	Provide hot water radiant ceiling panels along perimeter. The panels will run wall to wall and fit in a 2'x4' grid, by Rittling or equal.	
		Corridors and Miscellaneous Areas	N/A	N/A	The corridors shall be served by hot water cabinet unit heaters with control valves, these unit heaters will be installed in existing wall recesses. Units by Rittling or equal.	
		Restrooms	50	LF	Provide new fin tube radiation along perimeter. The fin tube will run wall to wall and have a double slope enclosure, by Rittling or equal.	
		Vestibules and Miscellaneous Areas	N/A	N/A	The entrances and vestibules shall be served by hot water cabinet unit heaters with control valves. All storage areas, mechanical rooms and electrical rooms shall be provided with hot water unit heaters by Rittling or equal.	
260000 ELECTRICAL						
		West & East Portables	11115	SF	West Portables and East Portables: Completely demolish of all existing electrical utility services, pad mounted transformer, primary and secondary service laterals, electrical distribution, lighting, devices, telecommunications, fire alarm, security and access control systems as well as electrical serving HVAC systems and all associated wiring and conduit for West Portables and East Portables which are being completely demolished.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Kitchen	1180	SF	Kitchen: Removal of electrical panelboard and associated disconnects, wiring, conduits serving food service equipment being demolished within kitchen.	
		Existing	1	QTY	Main Building: 1. Removal of existing transformers in below grade electrical transformer vault and associated primary servce lateral. Coordinate with local utility company. Removal of secondary service busway from transformer vault to existing 800A switchgear in main electrical room located adjacent to transformer vault. 2. Remove existing utility meter and associated enclosure. Removal of existing 800A switchgear grounding electrode conductors as well as neutral to ground bonding conductors. 3. Removal of two (2) electrical panelboards and associated wiring/conduit serving HVAC systems in upper level mechanical rooms. Removal of starters, disconnects, wiring, conduits associated with HVAC systems being demolished.	
		Electrical Service	1	QTY	One (1) – new 3,000A, 208/120V, 3Ph, 4W, NEMA 3R main building electrical service shall be provided. Electrical service switchboard shall have a main circuit breaker with LSIG functions and Arc Flash Reduction settings, indicators and maintenance switch. Switchboard shall be located exterior to the main building near the existing 1. Integral surge protection rated at 200KA /mode. 2. Utility CT metering compartment. 3. Utility meter scoket and associated wiring/conduit. 4. Customer utility grade multifunction power meter. 5. Silver plated copper bus bars. Copper ground bar 6. Provide 1-#3/0 AWG copper grounding electrode conductor in 1-inch conduit each from the main service switchgear ground to the building water main, building steel and sprinkler main. 7. Provide 1-#3/0 AWG copper grounding electrode conductor from main service switchgear ground to three (3) 3/4"x10' ground rods, driven at the exterior of the building as well as to the concrete footing rebar. 8. Provide eight (8)-4"C, 4-#500 MCM from utility company pad mounted transformer to 3000A switchgear.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Electrical Distribution	1	QTY	Refeed existing 800A switchgear in main electrical room from proposed 3,000A exterior switchgear. Provide (2) 4"C, 4-#500 MCM + #1/0 GND. Provide electrical 208/120V, 3Ph, 4W, NEMA 1 distribution panelboards for proposed electrical, lighting, telecommunications and HVAC systems. Panelboards shall consist of the following: 1. One (1) 1200A, 208/120V, 3Ph, 4W, NEMA 1 feed from proposed 3,000A switchgear in Addition electrical room. Provide (4) 3"C, 4-#350 MCM + #3/0 GND. 2. Four (4) 225A, 208/120V, 3Ph, 4W, NEMA 1 feed from proposed 1200A panelboard in Addition electrical room. Provide 2-1/2"C, 4-#4/0 AWG + #4/0 GND for each. 3. One (1) 100A, 208/120V, 3Ph, 4W, NEMA 1 feed from proposed 1200A panelboard in Addition data room. Provide 1-1/4"C, 4-#2 AWG + #6 GND plus #6 isolated ground. 4. Two (2) 225A, 208/120V, 3Ph, 4W, NEMA 1 feed from proposed 3000A switchgear in upper level mechanical rooms. Provide 2-1/2"C, 4-#4/0 AWG + #4/0 GND for each. 5. One (1) 400A, 208/120V, 3Ph, 4W, NEMA 1 feed from proposed 3000A switchgear in Kitchen. Provide 3-1/2"C, 4-#500 MCM + #3 GND. 6. One (1) 100A, 208/120V, 3Ph, 4W, NEMA 1 feed from proposed 400A kitchen panelboard in Kitchen for kitchen equipment under hood. Provide 1-1/4"C, 4-#3 AWG + #8 GND.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Emergency Power Systems	1	QTY	The building shall be provided with one pad mount gas-fired optional standby generator with remote annunciator panel. The generator shall be rated at 150KW, 208/120V, 3Ph, 4W with outdoor level II sound attenuating enclosure. Batteries, battery charger, block heater, 600A/3P circuit breaker, GFCI receptacle. Grounding sysetm for generator shall consist of six (6) 3/4" x 8' copper ground rods and #2 AWG bare copper grounding conductors. The following items shall be powered from the optional standby generator. 1. Fire alarm systems. 2. Security/Access control systems. 3. Elevator. 4. Building management system. 5. Boilers and Air Handling Systems for heating only. No cooling. 6. Kitchen walk-in coolers, freezers and refrigerators. One (1) 600A, 208/120V, 3Ph, 4W, NEMA 1 Automatic Transfer Switch. Provide two (2) 3-1/2"C, 4-#350 MCM + #1 GND. One (1) 600A, 208/120V, 3Ph, 4W, NEMA 1 standby power panelboard for Boilers air handling units, elevator and panelboards listed below. Provide two (2) 3-1/2"C, 4-#350 MCM + #1 GND. One (1) 200A, 208/120V, 3Ph, 4W, NEMA 1 standby power panelboard for kitchen walk-in coolers, freezers and refrigerators. Provide 2-1/2"C, 4-#4/0 AWG + #4 GND. One (1) 100A, 208/120V, 3Ph, 4W, NEMA 1 standby power panelboard for fire alarm systems, security/access control systems and building management system. Provide 1-1/4"C, 4-#2 AWG + #6 GND.	
		General Purpose Electrical Power	25500		Branch circuits shall be installed in EMT conduit. All EMT conduits shall have an equipment grounding conductor included with the branch circuit runs. Type MC Cable shall be limited to concealed spaces above finished ceilings in work areas or drywall type partitions after first device. EMT conduit shall be used to the first junction box in any given room served and shall be used in all masonry or CMU partitions. Provide the following branch circuits: 1. Quad receptacle (1) at every instructor's station in Addition. 2. Duplex receptacles (8), quadruplex receptacle (1), duplex receptacle (1) for interactive white board and projector per classroom, (3) circuits per classroom.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
					3. Duplex receptacles (3) and quadruplex receptacle (1) per office, (1) circuit per office. 4. Floor boxes (3) with power, (3) circuits and data in the media center. 5. Duplex receptacle (1) every 40' throughout corridors. 6. Minimum of (4) quad receptacles on (2) circuits for data room. 7. In all meeting rooms/conference rooms under 1000 sq. ft.: Duplex receptacles spaced 12 ft. on center along all walls (minimum 1 receptacle per wall), floor boxes with power and data under each conference room table. 8. Ground fault circuit Interrupter (GFCI) duplex receptacle (1) mounted above sink in each rest room. 9. Circuits for all HVAC equipment as required. 120V Wiring to control panels, control transformers, etc. shall be provided by the electrician while low voltage control wire shall be included in Division 23. 10. HVAC units located exterior to the building shall have a conduit for the feeders to the equipment NEMA 3R disconnect switch and another conduit to a 120V GFI duplex receptacle in a weather proof box mounted next to the disconnect switch. 11. Circuits to support all food service equipment. 12. Circuits for all plumbing equipment. 13. Circuits for office equipment as required. 14. Circuits for elevator, elevator cab and associated lighting & recepacles. 15. Circuits for the fire alarm equipment, sound equipment, data equipment and security equipment as required. 16. Circuits for boilers with emergency shutoff switches located at boiler room entry doors.	
	Miscellaneous Electrical Systems		25500	sf	Include the following basic materials and methods of construction:	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
					1. Wiring shall be THHN/THWN copper, installed in EMT conduits for general circuits. 2. Wiring shall be XHHW copper for installed in Sch 40 PVC conduits for underground circuits. 3. Type MC cable shall be used as prescribed in sections above. 4. Devices shall be specification grade, NEMA 5-20R etc. 5. Disconnect switches shall be fusible heavy-duty type. NEMA 1, 3R or 4X as required for locations installed. 6. Circuit breakers shall be fixed element, thermal magnetic type. 7. All circuit breakers with frame sizes 125A and above shall include factory installed handle padlocking kit. 8. Panelboards shall have copper bussing, with hinged, lockable, door-in-door trim 9. Branch circuit breakers shall be bolt-on type. 10. All conduits, circuits and devices shall be labeled. 11. Conduits underground and below slabs shall be Sch 40 PVC, with warning tape and rigid steel conduit sweeps. 12. Conduits for pad mounted trasformer secondary shall be Sch 40 PVC with warning tape and rigid steel conduit sweeps. 13. Conduits for pad mounted trasformer primaries shall be 4" Sch 40 PVC with pull string, warning tape and rigid steel conduit sweeps.	
265000 LIGHTING						
			25500	SF	Interior lighting fixtures shall utilize LED fixtures, types and selection as per areas of use. Exsiting LED lighting in main school shall remain and be reused.	
			25500	SF	Lighting circuits shall be predominantly 120 volt.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			25500	SF	Power density for the school lighting shall be a maximum of 0.7 watts/sq. ft. LED type lighting fixtures will be used throughout the school	
			25500	SF	Emergency lighting shall be accomplished via integral 90 minute emergency battery packs with integral test switches as required by Code for a 1FC average along the path of egress.	
			19200	SF	Exit signs shall be universal mounted, LED illuminated, low energy usage fixtures with 90 minute integral emergency battery, test switch and self diagnostics. 1. Exit signs shall be located no further than two hundred feet apart and in every path of egress and above each egress doorway. 2. Lighted exit signs including the Connecticut Symbol of Accessibility shall be provided at all location on the discharge level where directing people to accessible exit doorways and where ever low-level exit signs are required. These signs shall have an LED lamp source with 90 minute integral emergency battery, test switch and self diagnostics. . 3. Provide LED "Area of Refuge" signs at all area of refuge locations.	
			25500	SF	Typical average foot-candle illumination levels shall be as follows for the respective areas: 1. 15fc - Corridors, stairways and storage rooms. 2. 20fc - Restrooms, electrical, data and mechanical rooms. 3. 40fc - Offices and conference rooms. 4. 50fc - Media Center and classrooms.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			19200	SF	The following fixtures will be provided: 1. Pendant mounted direct/indirect LED fixtures are typical in each classroom media center and offices. Fixtures located within daylight zone shall be connected to room daylight harvesting sensor. All fixtures shall be equipped with 0-10V dimming drivers. 2. Recessed ceiling mounted LED fixtures in corridors and teachers lounge. 3. Recessed ceiling mounted perimeter LED and downlight LED in restrooms. 4. Surface or suspended LED fixtures with acrylic lenses in support spaces (storage closets, janitor closets, electrical rooms, tele/data rooms, etc.). 5. Industrial LED strip fixtures in mechanical spaces.	
			19200	SF	Daylight harvesting sensors shall control dimmable LED drivers and shall be provided in all classrooms conference rooms and lounges with exterior windows. Classroom controls to incorporate instruction and A/V mode lighting levels in addition to vacancy sensor operation	
			25500	SF	Emergency powered luminaires shall be provided in all egress paths, classrooms, conference rooms, resrrooms, utility and storage rooms and other areas where required by code	
			13	QTY	All classrooms, media center and faculty lounge shall be provided with ceiling mounted dual technology vacancy sensors with manual on low voltage dimmable wall switches.	
			15	QTY	All offices, conference room, copy/printer rooms, individual restrooms, storage rooms and janitor closets shall be provided with dual technology wall mounted occupancy sensors.	
			2	QTY	All multi person restrooms and lounge shall be provided with dual technology ceiling mounted occpanct sensors with wall mounted manual override switch.	
			1	QTY	Where exempt by code, rooms shall include manual controls only (electrical rooms, mechanical rooms and areas where automatic control endangers the occupants).	
			3410	SF	Corridor lighting shall be controlled by ceiling mounted dual technology occpuancy sensors with wall mounted manual override switches.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			25500	SF	All LED fixtures shall be provided with specified lumens, lumen maintenance metric and low voltage dimmable drivers	
			1	QTY	Parking lot lighting shall be accomplished using 20 to 25 foot pole mounted, 120V, LED fixtures supplemented with building mounted LED fixtures. Fixtures shall be controlled via integral photocell conrol.	
			1	QTY	Enhanced exterior lighting will be provided in areas with camera monitoring as applicable.	
270000	COMMUNICATIONS					
	Integrated Automation Facility Controls	Existing School and Proposed Addition	N/A	N/A	A Building Management System (BMS) shall be installed to integrate controls with the existing pneumatic system and proposed mechanical systems. BMS shall be Design based on Honeywell Webs-Ax.	
					The BMS shall be accessible from any Web browser, with proper authorization.	
					The BMS shall provide temperature control for all HVAC systems.	
					The system shall be programmed for occupied/unoccupied cycles for the air handling equipment, with an override feature for spaces that would be utilized after-hours.	
					The system shall monitor carbon dioxide sensors to minimize the amount of outside air being brought in to assist in energy conservation	
					All occupied areas shall be provided with combination Temperature/CO2 sensors. These sensors shall be configured to display temperature set point only. Actual space temperature or CO2 levels shall not be displayed. Provide stainless steel sensors where subject to damage.	
					Provide a network controller for VRF systems. BMS shall be connected to the network controller.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
	Communication Equipment Room Fittings Backbone Cabling	Tele-communication Closets	1	QTY	Telecommunications work shall include: 1. Minimum of (2) 4"C sleeves between data room and nearest accessible ceiling for telecommunications backbone and horizontal outlet wiring. 2. Overhead ladder type tray over free-standing racks. 3. Dedicated special purpose receptacle for UPS power mounted to side rails of ladder tray over the free-standing rack. 4. Provide a minimum of two (2) 48-port patch panels with 2 RU wire managers below each patch panel. 5. Provide a minimum of (1) 84" high free standing telecommunications 2-post racks with 6" vertical wire managers on each side. 6. Provide one (1) 24-port patch panel for wireless access points with 2 RU wire manager below patch panel. 7. Provide one (1) 24-port patch panel for surveillance cameras with 2 RU wire manager below patch panel. 8. Provide Two (2) ten ft. Cat 6/Cat 6A patch cables for each cable terminated. 9. Coordinate Cat 6 jacket colors with Owner for: voice, data, and security camera cabling. 10. Coordinate Cat 6/6A colors with Owner for wireless access point cabling. 11. Fiber Backbone between Data Rooms shall be OM4, 12 strand, 50um multi-mode fiber	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
	Communication Pathways Cable Trays Sleeves Horizontal Cabling	Horizontal & Cabling	19200	SF	Cat 6/Cat 6A cables, shall be installed in 1"conduit minimum, from 6" above the ceilings down to the outlet location. Wiring, station outlets, patch panels, wire managers, terminations and testing to be provided under this contract. The building will be provided with the following tele/data station outlets: 1. Data cabling to computer / teacher locations. 2. Data cabling to printer locations. 3. One (1) data outlet at each camera location. 4. Two (2) data outlets at each wireless access point location. 5. One (1) data outlet for each visual display. 6. One (1) data outlet wired to AV rack for each video wall monitor, installed in recessed FSR box. 7. Data cabling for security & life safety systems. 8. Quantities shall be verified during design construction document phase.	
	Audio Visual Systems	Classrooms & Media Center	11	QTY	Classroom Audio Visual Systems shall include: 1. Interactive displays 2. Dedicated sound systems for sound reinforcement 3. Priority override capability for public address & fire alarm 3. Room microphones for teacher's and students (Voice Up-Lift) 4. HDMI connectivity between source and display 5. Digital control of above-mentioned systems.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
	Public Address System & Master Clock System	Classrooms, Media Center, Offices, Conference Room, Faculty Lounge	19	QTY	The addition shall be provided with a clock and public address systems to match existing systems in use at school. 1. One (1) in each classroom. 2. One (1) in media center. 3. One (1) in office. 4. One (1) in conference room. 5. One (1) in faculty lounge. 6. GPS signal to each transmitter via Cat 6 cable connection to telecommunications server. 7. Clocks shall operate at 120 VAC, fed from nearest unswitched receptacle branch circuit. 8. Provide 12" round clocks. 9. Quantities shall be verified during design development phase.	
280000	SECURITY					
	Access Control, Video Surveillance, Intrusion Detection, Fire Detection and Alarm System				The addition shall be provided with a comprehensive electronic safety and security systems compatible with existing school systems including access control systems, IP based camera surveillance and storage, intrusion detection, and addressable fire alarm.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
	Access Control System		19200	SF	Intrusion Detection system shall include the following features and points of protection: 1 Magnetic door contacts at all perimeter man doors and overhead doors. 2 Long range motion detection in all corridors. 3 Motion detection in the Media Center, Computer Rooms, and other designated interior "high value" spaces. 4 Alarm panel to be UL 864 listed and be capable of a minimum of (50) zones and (8) programmable partitions. Expansion input/output modules shall be wired via. Communications bus for expansion throughout the building. 5 Alarm panel shall be comptaible with buildings main intrusion detection system. 6 System shall be partitioned to separate protection for areas of the building. Areas to include: Administration and classroom areas. Arming and disarming of any partition shall be password controlled. 7 Quantities and locations shall be verified during design development phase	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
	Video Surveillance System		19200	SF	The IP based surveillance camera system shall include the following features and equipment: 1. IP interior cameras at building entry/exit doors, overhead doors, lobbies, corridors, stairways, tele/data and computer rooms and other sensitive interior areas. Cameras shall be 3 MP minimum with dynamic backlight compensation and automatic iris and vari-focal lens. 2. IP fixed position exterior cameras monitoring perimeter entrances, general exterior coverage including parking areas and gathering spots. Cameras shall be low light level, 5 MP minimum, weatherproof and include automatic iris with vari-focal, motorized lenses. 3. All IP cameras to include digital zoom capability. 4. IP cameras shall be connected to network management and storage servers. 6. IP cameras shall be 100% compatible with the video management system software enabling all available camera options for configuration and use. Provide quantity of network camera licenses as required. 7. Video management system shall include password protected, web browser access. 8. Provide all required programming and configuration including resolution, recording speed, investigative and archive search, schedules, mutli-view display options, and storage options. 9. Quantities and locations for Lockdown Buttons, Duress Buttons, and Controlled doors shall be verified during design development phase. 10. System shall be compatible with existing school video surveillance system.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
	Intrusion Detection System		19200	SF	Intrusion Detection system shall include the following features and points of protection: 1 Magnetic door contacts at all perimeter man doors and overhead doors. 2 Long range motion detection in all corridors. 3 Motion detection in the Media Center, Computer Rooms, and other designated interior "high value" spaces. 4 Alarm panel to be UL 864 listed and be capable of a minimum of (50) zones and (8) programmable partitions. Expansion input/output modules shall be wired via. Communications bus for expansion throughout the building. 5 Alarm panel shall be comptaible with buildings main intrusion detection system. 6 System shall be partitioned to separate protection for areas of the building. Areas to include: Administration and classroom areas. Arming and disarming of any partition shall be password controlled. 7 Quantities and locations shall be verified during design development phase	
	Fire Detection and Alarm		25500	SF	The addition shall be provided with addressable fire alarm devices/components compatible with existing buildings Simplex 4010 fire alarm control panel. Devices shall include dual action manual pull stations, duct smoke detection; voice-evacuation and visible notification appliances throughout; smoke/heat detection in equipment and storage spaces; carbon monoxide detection in mechanical spaces with fossil fuel burning equipment; interface with Kitchen Ansul System to shut-down equipment under the ventilation hoods; remote booster panels and interface to shut-down air handling units upon duct detector activation.	
			3	QTY	Remote annunciators mounted at entry/exit doors and at locations as coordinated with the Local Fire Marshal's office.	
			25500	SF	Provide smoke detection within each room, corridors and throughout top of each stairwell, and above accessible ceilings greater than 24" in height.	
			25500	SF	Fire alarm booster panels for proposed fire alarm devices	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			16	QTY	One (1) speaker/strobe in all classrooms, restrooms, conference rooms and teaches lounge, mechanical and electrical rooms/spaces. Multi-candela strobes units to be provided, strobe candela intensity to be selected based on room dimensions.	
			2	QTY	Minimum of (2) speaker/strobe with additional strobes in media center. Multi-candela strobes units to be provided, strobe candela intensity and quantity to be selected based on room dimensions.	
			5	QTY	Minimum of (1) strobe unit in all storage and kiln rooms. Multi-candela strobes units to be provided, strobe candela intensity and quantity to be selected based on room dimensions.	
			12	QTY	Speaker/strobes within the all corridors, maximum 100 feet on center.	
			81,500	SF	Addressable modules for sprinkler tamper, pressure and flow switches.	
			14	QTY	Minimum of (2) Duct smoke detectors for each air-handling unit, (1) in the supply, and (1) in the return duct.	
			14	QTY	Addressable modules for fan shut-down and damper control.	
			1	QTY	Signal to BMS system on alarm condition.	
			12	QTY	Magnetic door hold-open devices at all required corridor doors, connected to the control modules to release on alarm condition.	
			12	QTY	Smoke detector within five feet of both sides of the corridor doors with magnetic hold-opens, where required by building fire separation.	
			1	QTY	Area of Refuge communications provided at all first and second level Area of Refuge locations. Area of Refuge locations shall be monitored at main office with off-site dialer back-up if main office location is unattended.	
			2330	SF	Heat and CO detectors in spaces containing fossil fuel burning heating equipment. CO detection to provide a separate supervisory signal. Heat detector to activate a general alarm.	
			3	QTY	Addressable modules for elevator recall system and fire hat	
			1	QTY	Addressable module for kitchen hood fire extinguishing system.	
			25500	SF	All fire alarm system cabling shall be plenum rated fire alarm MC cable where concealed and routed within EMT conduit where exposed and above suspended ceilings.	

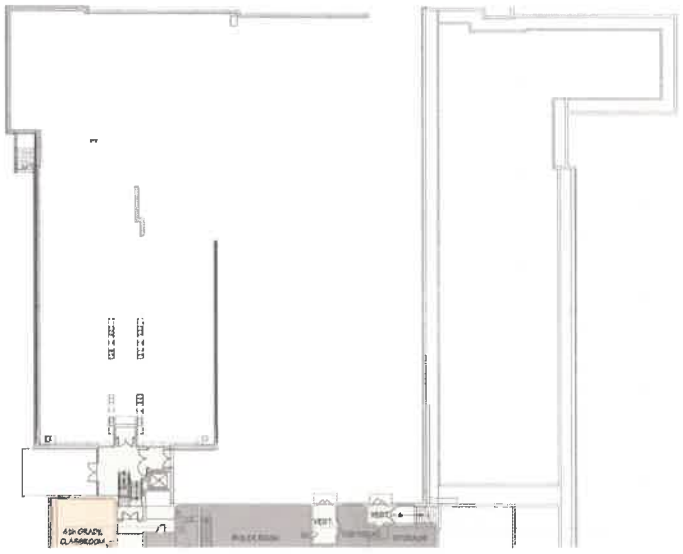
CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			25500	SF	All fire alarm work shall be in compliance with the State of Connecticut fire safety code.	
310000	EARTHWORK					
					Excavate to frost for new building foundations. Remove existing footings and sidewalks to accommodate revised vehicular and pedestrian travel.	
320000	SITE IMPROVEMENTS					
		Bus Loop			The proposed site design separates bus traffic from parent drop off. A new bus loop will be constructed along the north side of the new school.	
			2,400	SY	Construct new 24' bus loading drive with 4" bituminous on 12" stone base.	
		Parent Drop-off & Drive Aisles	3,750	SY	The parent drop off will be located along the west and north side of the building. Provide bituminous concrete pavement for accessible parking. Provide 3" bituminous on 12" stone base. Provide depressed curb at accessible drop-off.	
		Parking	2,975	SY	The parking is located throught the site. Partially within the limits of the existing parking. Assume all pavement new full depth. Provide 3" bituminous on 12" stone base.	
		Loading Area	400	SY	Reutilize existing loading area. Access the loading area for the kitchen from the new bus loop. The pavement section would consist of 4 inches of asphalt concrete on 12 inches of stone base. Where new pavement is being built on top of existing pavement, it may be possible to reuse the existing base	
		Playgrounds	10,000	sf	2nd - 4th Grade Playground Reutilize existing playground to extent possible. Construct new playground equipment near existing play area. Provide compacted wood mulch fall protection	
		Concrete Walks	18,000	SF	Concrete sidewalks will be constructed around the perimeter of the building. Concrete curbs will be used adjacent to those sidewalks. Incide tactile warnings at curb ramps.	
		Concret Curbs	4,000	LF	Concrete curbs will be used adjacent to sidewalks and along parking and drop-off loops. Incide tactile warnings at curb ramps.	
		Landscaping			Provide landscape enhancements through out site. An allowance should be provided for accent planting around the building and school campus.	$100,000.00
		Fencing	500	LF	Provide ornamental fencing between bus loop and roadway to keep students within walkway	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Retaining Wall	100	LF	Assume wall heights less than 5ft.	
		Outdoor Classrooms	3	EA	Provide three distinct outdoor classroom spaces within the courtyard space	Assume $50,000/EA
330000	SITE UTILITIES					
	Storm Drainage	Piping	1,200	LF	Provide 15" RCP storm drain piping throughout site	
		Catch Basins	20	EA	Provide precast concrete catch basins for new parking lots, parent and bus loops.	
		Retention Chambers	18,000	CF	Provide underground retention or infiltration basins for controlling stormwater flow rates and quality.	
	Site Lighting	Pedestrian	10	EA	Provide pedestrian level bollard lighting adjacent to walkways.	
		Parking Lots	20	EA	Provide site lighting within the new parking areas and drop-off loops.	

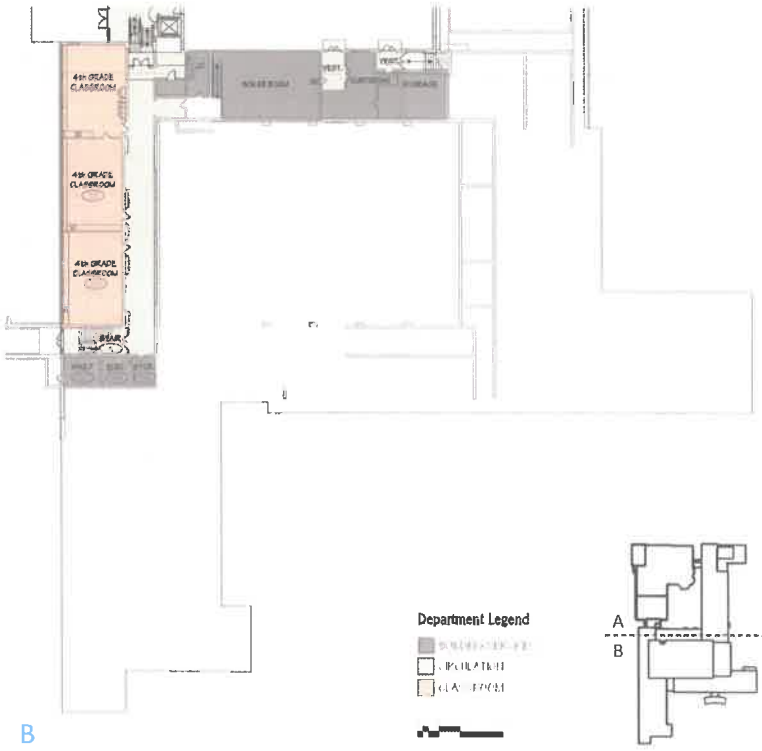
6.0
Presentation Drawings

Model Development | Conceptual Site Plan

Model Development | Lower Level

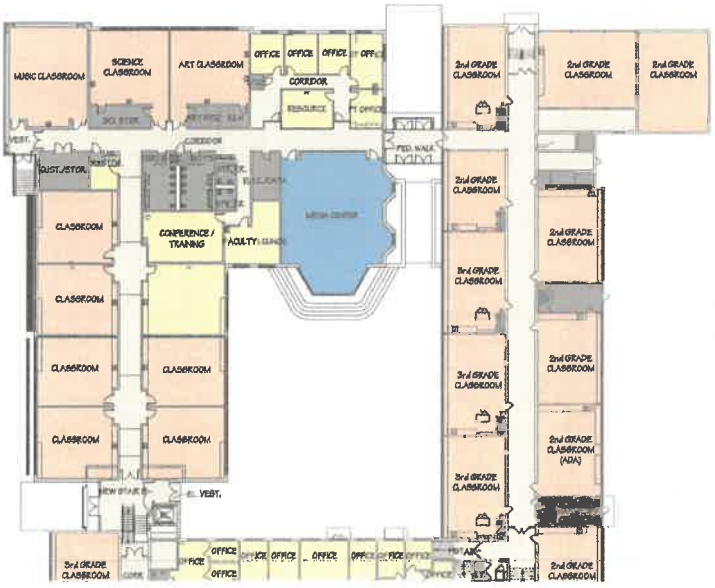


A



B

Model Development | Entry Level



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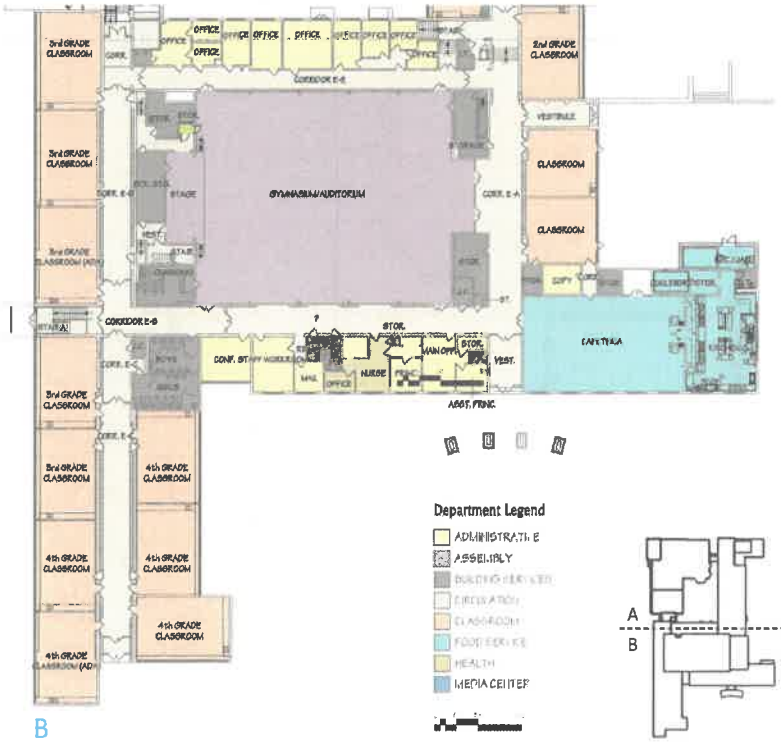
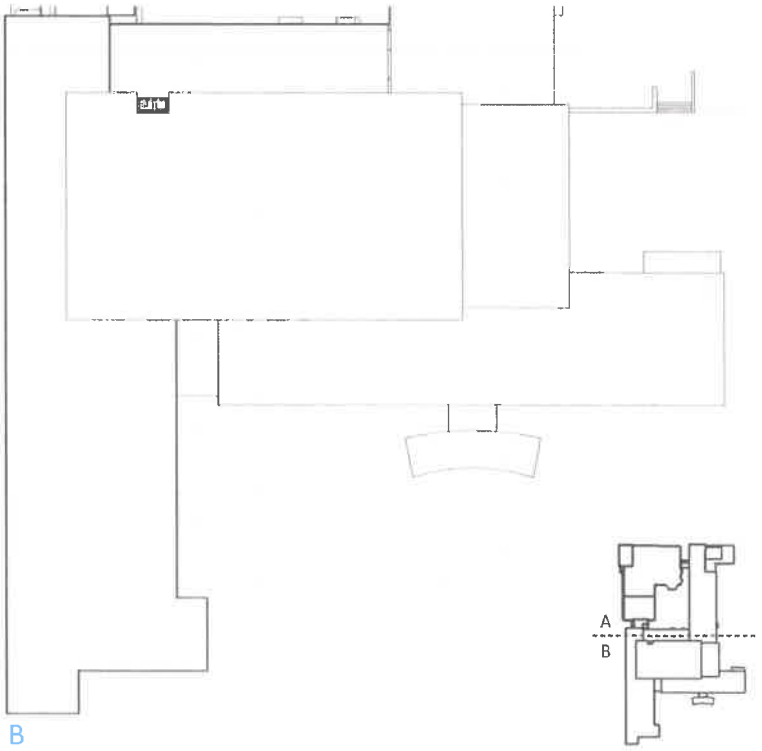


B

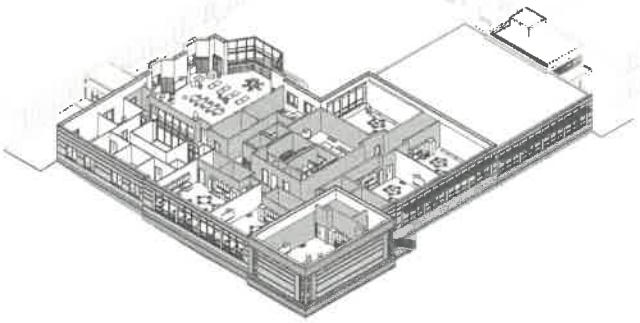
Model Development | Roof Plan

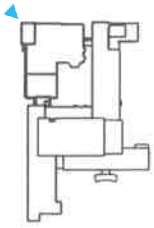
A



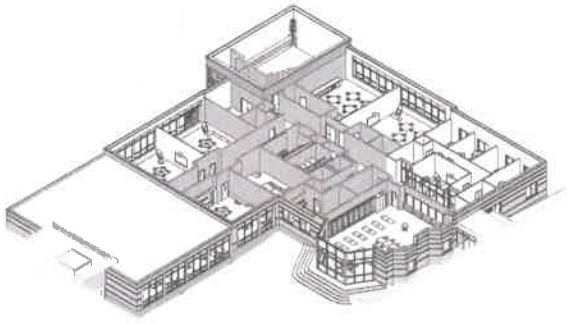
B

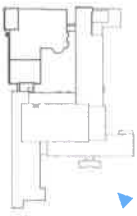
Model Development | New Addition



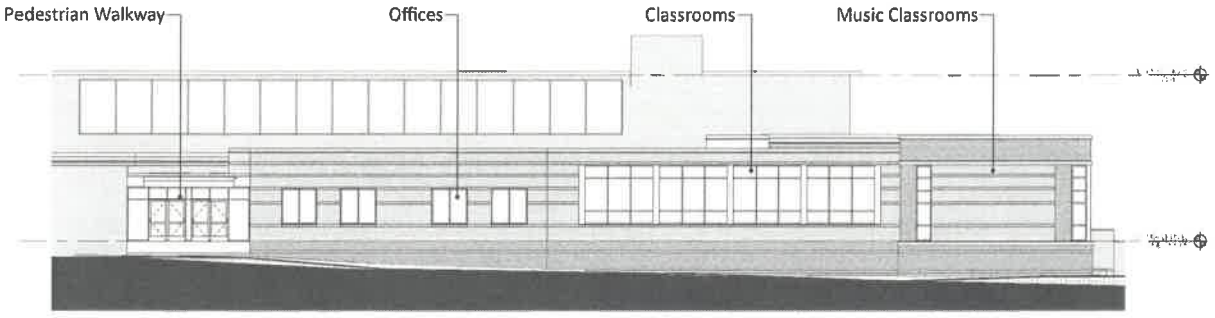


Model Development | New Addition

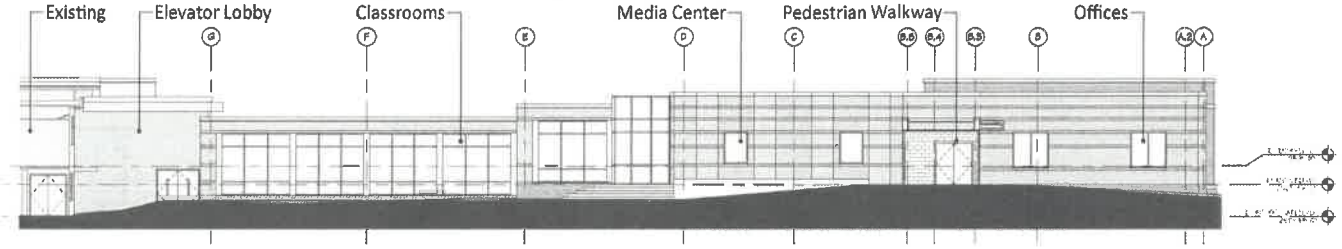




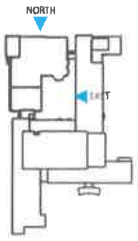
Model Development | Exterior Elevations



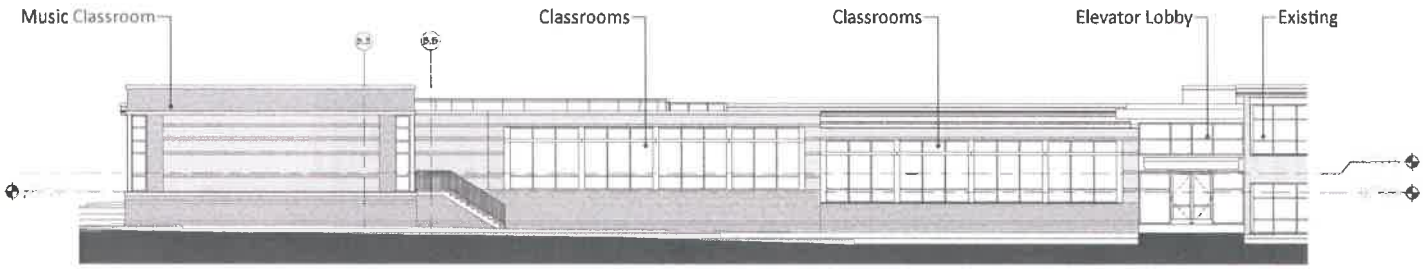
North Elevation



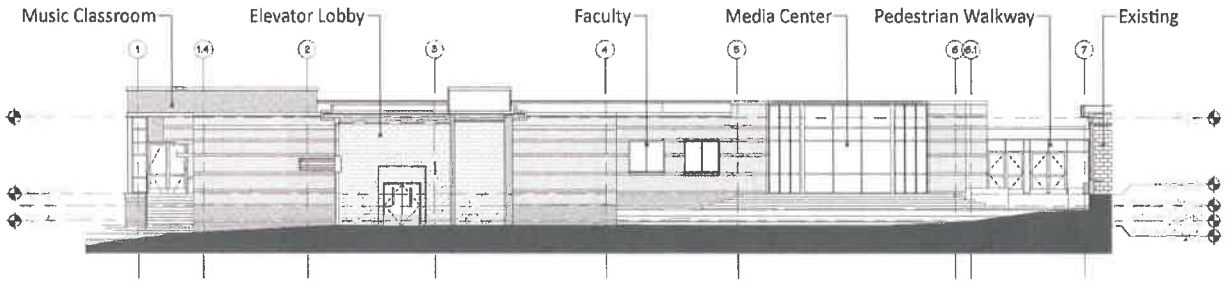
East Elevation



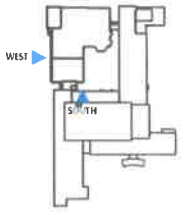
Model Development | Exterior Elevations



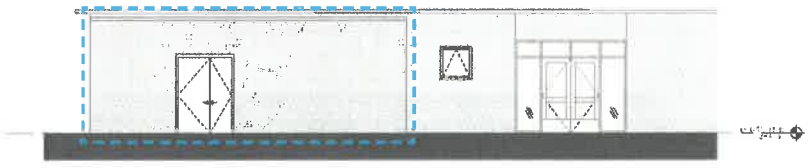
West Elevation



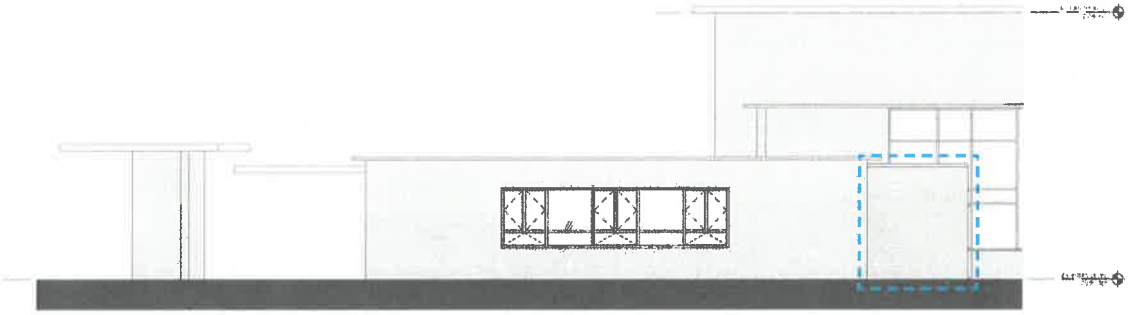
South Elevation



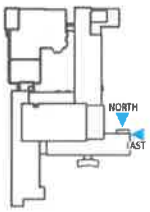
Model Development | Kitchen Exterior Elevations



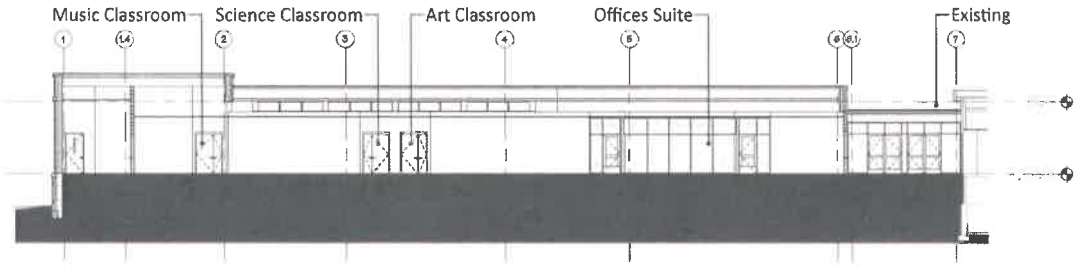
North Elevation



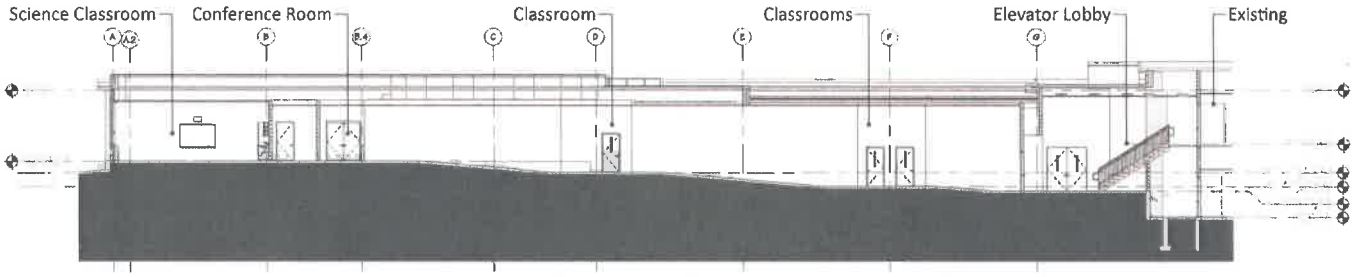
East Elevation



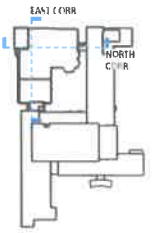
Model Development | Building Sections



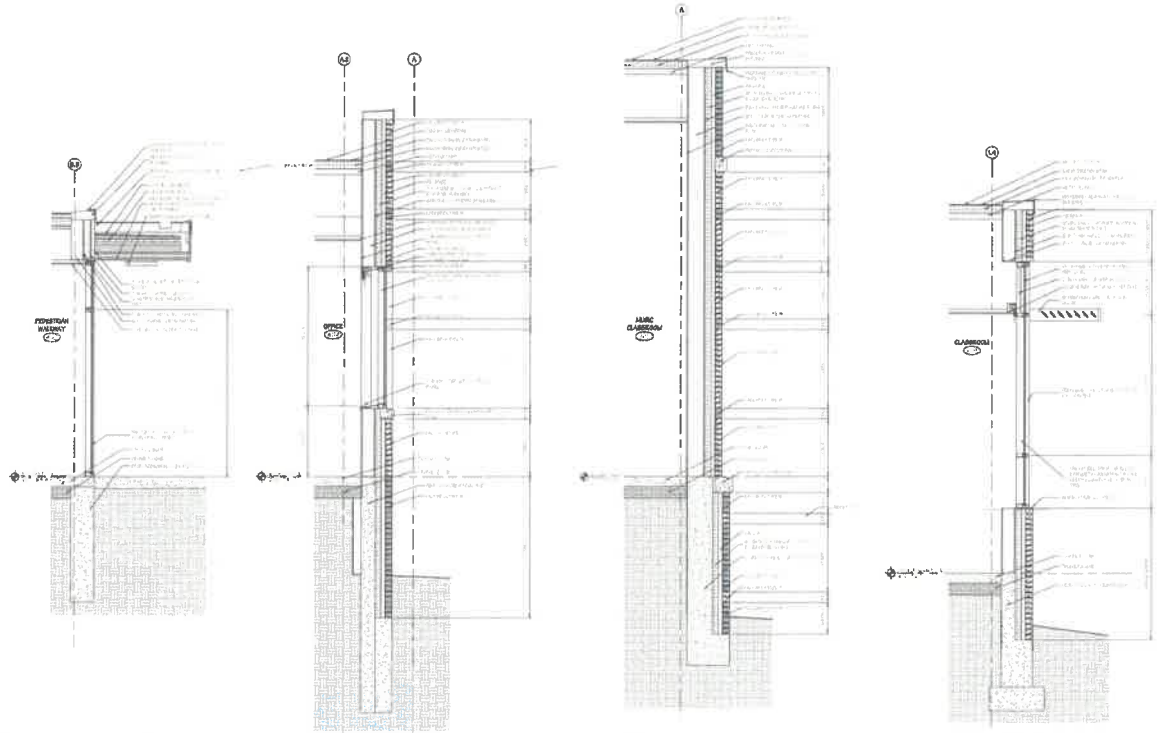
North Corridor



East Corridor



Model Development | Wall Sections



North Pedestrian Walkway | Typical Offices | Music Classroom | Typical West Classrooms

Strategic Concept

We will be implementing and coordinating proper code, utility requirements and recommendations as per the requirements of the Educational Specifications. Additionally, ADA compliant work stations will be incorporated for ADA accessibility and code compliance. We will work closely with the desired manufacturers listed in the documents to ensure proper sizing of refrigeration, exhaust systems, etc.

An initial meeting with the design team and school District stakeholders to confirm the scope will be scheduled. After all necessary information, established above, has been collected, we will begin design development layouts that will address the project scope, along with a schedule for the selected equipment associated with design.

During the construction process, we will review all kitchen contractor submittals for proper compliance and coordination with the contract documents. The design team will meet with the contractors to review the progress of the food service portion of the project. We will provide quality control during construction by inspecting the electrical and plumbing rough-ins for equipment, inspection of delivered equipment for noticeable defects and proper equipment installation.

We will review kitchen contractor/ supplier as-built drawings, operation and maintenance manuals, warrantees and spare parts for compliance to project contract documents and close-out procedures as they pertain to food service.

Schedule is a very high priority with school food service and the overall project schedule. Attention to detail, equipment selection and working closely with the entire Design Team will offer the greatest success to the overall client satisfaction.

Overview

The following summarizes acoustic design criteria for the Killingly Memorial School project. These criteria are based on ANSI Standard S12.60-2010: Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools.

As the project progresses and additional information becomes available, we will provide specific recommendations to meet the Criteria.

Background Noise Level

Background sound levels in furnished, unoccupied spaces, including sounds from outdoors, building services and utilities operating at maximum levels, shall not exceed the following:

Table 1 – Maximum Background Sound Levels in dBA (A-weighted decibels) & equivalent NC Level

Room	dBA	NC
Classrooms	35	30
Offices	35	30
Media Center	35	30
Conference Rooms	35	30
Gymnasium/Auditorium	40	35
Cafeteria	40	35
Corridors	45	40
Remaining Occupied Spaces	45	40

Reverberation Time

Reverberation times in occupied spaces, for sound pressure levels in octave bands with midband frequencies of 500 Hz, 1,000 Hz, and 2,000 Hz, shall not exceed the following:

Table 2 – Maximum Reverberation Times (in seconds)

Gymnasium / Auditorium	1.3
Classrooms	0.6
Music Classroom	0.7
Offices	0.6
Conference Rooms	0.6
Cafeteria	0.9
Media Center	0.7
Corridors	0.9

Sound Isolation

Minimum STC ratings for single or composite interior wall and floor-ceiling assemblies, for various adjacencies, shall be per Table 3. All exterior wall and roof-ceiling assemblies shall be selected to meet similar minimum STC ratings. However, the primary factor in exterior assembly selection will be providing adequate exterior sound isolation to meet the background sound levels shown in Table 1.

Table 3 – Minimum Interior Assembly STC Ratings & Recommended Partition Construction

Music Classroom / Science Classroom	60	(3) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (3) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.

Music Classroom / Corridor	55	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (3) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Conference / Bathrooms	55	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (3) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Conference / Corridor	50	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (2) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Art Classroom / Office	50	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (2) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Classroom / Classroom	50	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (2) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Media Center / Corridor	50	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (2) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Media Center / Lounge	45	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Classroom / Corridor	45	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant

		gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Office / Office	45	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Office / Corridor	45	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Corridor / Bathrooms	45	(2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.
Storage, Vestibules, etc.	40	(1) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed.

Minimum STC ratings for interior entry doors into various spaces shall be as follows:

Table 4 – Minimum Door STC Ratings

Classrooms	30	Solid core wood doors with full perimeter acoustical gasket hardware.
Offices and Conference Rooms	30	Solid core wood doors with full perimeter acoustical gasket hardware.
Music Classroom	40	Pre-fabricated STC rated wood acoustical door complete with full perimeter seals.

4.0
Educational Specifications

4.0 Educational Specifications

Project

Priority – School Renovations with Addition – Killingly Memorial School, 339 Main Street, Killingly, CT 06239

Project Rationale

The Killingly Memorial School complex is comprised of three separate buildings connected by hallways. Building one, the original main school building was constructed in 1953 - a steel superstructure with concrete and brick masonry. The school's interior was constructed with the existing topography in multiple levels. Over the past several years, the main building was upgraded including a new roof, new windows and ADA improvements. This project will address the renovations including new HVAC system including heating, cooling and make-up air, upgrade the electrical system, complete renovation of the kitchen with new freezer, and hazardous material removal/replacement as required.

Building two (4,500 SF) – Modular classrooms were added to the structure in 1972 that have far outlived its useful life. The portable houses the school library and a classroom. The roof leaks and the flooring in the bathroom is beyond repair.

Building three (6,100 SF) – Modular classrooms with a connecting hallway were added in 2002 that have also are past due for removal. The classrooms are too small for regular classroom space and is currently used to support related resource services and intervention services.

The school does not meet the space needs for the existing and future populations. The necessity of removing the two portable structures will exacerbate the space needs of the school. The project will also remove both portable structures and construct a new 18,500 +/- SF one story addition which will replace the eliminated spaces plus add spaces that are for future growth. The project will also complete the required Phase II ADA work including lift access to the stage area in the gymnasium, door hardware as required and an accessible pathway to the front school door.

Long Range Plan

The long-range plan for the school facilities in Killingly calls for the provision of a safe, accessible and appropriate learning environment. The addition will meet the current needs with anticipated growth capacity into the future. Killingly plans to continue to utilize the Killingly Memorial School in its current capacity and with appropriate maintenance, as an elementary school for the next twenty years.

The Project

Killingly proposes a non-priority renovation/addition project, including HVAC, electrical, kitchen upgrades, hazardous material removal and the removal of the 2 portable units at Killingly Memorial School in order to remove old and outdated spaces and construct a new one-story addition to include: a media center, 10 classrooms, 2 conference rooms, 2 resource rooms, 1 restorative room, 5 offices, 1 staff lounge, 2 staff bathrooms and 2 student bathrooms. The project will also install an elevator at the connection to the multi-story wing of the school.

Current Space

In addition to the renovations described above, the project will remove the portable units (approx. 10,600 SF) and construct a new addition (approx. 17,500 SF) to include the media center, classrooms, offices, bathrooms, conference rooms, resource and restorative rooms, a staff lounge and install an elevator.

Construction

There will be one new TR located in the new addition to accommodate the new areas requiring Ethernet cabling.

Final Space

See *Current Space*, above.

FF&E

Teacher and student desks, conference tables and chairs, office desks and chairs, worktables.

Building Systems

Security
Security for the new addition will need to be tied into the existing facility.

Technology
Not Applicable.

Phone System
Phone system will need to be tied into the existing system

Clocks
Clocks in the new rooms will be required.

Interior Environment

Acoustics
Ceilings: Drop ceilings will be installed in all rooms and hallway(s).
Walls: Walls will be required in all rooms and hallway(s)

Lighting
Energy efficient lighting will be installed in all rooms and hallway(s) in the existing school as needed and in the new addition.

HVAC
Heating and cooling will be installed in all rooms and hallway(s) in the existing school as well as the new addition.

Plumbing
Staff and student bathrooms will be included in the addition

Windows/Doors
Windows and doors will be installed in all spaces of the new addition and door hardware will be changed as needed.

Site Development

Site Acquisition
Not applicable

Parking
The parking area will be reconfigured to accommodate the new addition

Drives
The drives will be impacted due to the removal of the portable structures. Traffic flow will be reconfigured.

Walkways
Walkways will be increased near the new addition; existing walkways may be modified

Outdoor Athletic Facilities
Not applicable

Landscaping
Not applicable

Site Improvements
Site improvements will be required to redesign the traffic flow on the property and an accessible pathway to the front door will be installed.

Construction Bonus

The Killingly Memorial School does not house any of the special programs eligible for a school construction bonus.

School Readiness:	Not applicable
Lighthouse Schools:	Not applicable
CHOICE:	Not applicable
Full-day Kindergarten:	Not applicable
Reduced Class Size:	Not applicable
Regional Vo-Ag Center:	Not applicable
Inter-district Magnet School:	Not applicable
Inter-district Cooperative School:	Not applicable
Regional Special Education Center:	Not applicable

Community Uses

Killingly Memorial School is designed for community uses during the school hours, before and after school hours and on some weekends, throughout the school year and summer. The uses to include but not be limited to:

- PTO
- The Recreation Department
- Summer Enrichment Programs
- Community choral and other performances

Killingly Memorial School Space Program					
Project Number: 21025	B.O.E Spec			Rev. #	Date: 08/10/2021
Programmed Space	Room #	Area		Total	Notes
Instructional Areas					
Elementary Classrooms					
2nd Grade	199				
2nd Grade	200				
2nd Grade	202				ADA
2nd Grade	204				
2nd Grade	206				
2nd Grade	207				
2nd Grade	208				
2nd Grade	209				
2nd Grade	210				
3rd Grade	201				
3rd Grade	203				
3rd Grade	205				
3rd Grade	305				
3rd Grade	306				
3rd Grade	307				ADA
3rd Grade	308				
3rd Grade	309				
4th Grade	100				
4th Grade	101				
4th Grade	102				
4th Grade	300				ADA
4th Grade	301				
4th Grade	302				
4th Grade	303				
4th Grade	304				
Classroom		1,103 SF			Addition
Classroom		1,103 SF			Addition
Classroom		1,094 SF			Addition
Classroom		998 SF			Addition
Classroom		801 SF			Addition
Classroom		801 SF			Addition
Classroom		802 SF			Addition
Classroom		802 SF			Addition
Classroom		793 SF			Addition
Classroom		791 SF			Addition
Total, Elementary					
Resource Classrooms					
Music Classroom	198/199				
Science Classroom	401				Portable Unit

		Tier 3 Classroom	402				Portable Unit
		Tier 3 Classroom	404				Portable Unit
		Art Classroom	212				Portable Unit
		OT/PT	211				Portable Unit
		T.M.R.	310				
		Math Classroom	310a				
		Reading Room	311				
		Resource Room	312				
		SPED	313				
		Conf. Room	314				
		Speech Therapist	315				
		Psych. Speech	316				
		SPED	317				
		Math Classroom	400				Portable Unit
		Reading Room	403				Portable Unit
		Reading Room	405				Portable Unit
		Restorative		112 SF			Addition
		Resource Room		140 SF			Addition
		Resource Room		140 SF			Addition
	Total, Resource						
	Media Center						
		Library					Portable Unit
		Computer Lab					Portable Unit
		Media Center		2,170 SF			Addition
		Total, Media Center					
	Physical Education						
		Gymnasium/Auditorium					
		Stage					
		GYM Storage					
	Total, Physical Education						
Total, Instructional Areas							
Support Areas							
	Main Office Suite						
		Principal Office					
		Main Office					
		Asst. Principal Office					
		Conference Room					
		Staff Work Room					
		Mail/ Copy					
		Toilet Room					
		Toilet Room (Staff)		122 SF			Addition
		Office		146 SF			Addition
		Office		146 SF			Addition
		Office		146 SF			Addition
		Office					To Add

		Office		146 SF			Addition
		Conference Room		143 SF			Addition
		Conference Room		143 SF			Addition
	Subtotal, Administrative						
	Health Suite						
		Nurses Office					
		Exam Room					
		Exam Room					
		Toilet Room					
	Subtotal Health Suite						
	Food Service						
		Cafeteria					
		Receiving					
		Kitchen & Servery					
		Staff Lounge		367 SF			Addition
		Toilet Room (Staff)		122 SF			Addition
	Total, Food Service						
	Building Support						
		Student Toilets (Boys)					Portable Unit
		Student Toilets (Girls)					Portable Unit
		Student Toilets (Boys)					
		Student Toilets (Girls)					
		Gas Meter Room					
		Electrical Closet					
		Boiler Room					
		Custodial Closets					
		Building Storage					
		Student Toilets (Boys)		382 SF			Addition
		Student Toilets (Girls)		382 SF			Addition
		Building Storage		91 SF			Addition
		Building Storage		91 SF			Addition
		Classroom Storage		112 SF			Addition
		Classroom Storage		109 SF			Addition
		Resource Storage		32 SF			Addition
	Total, Building Support						
Total, Support Areas							
Building Circulation							
		Lower Level Circulation					
		North Corridor					
		Stair#					
		Stair#					
	Subtotal, Lower Level Circulation						

		Entry Level Circulation					
		Corridor					
		Corridor					
		Corridor					
		Vestibule					
		Stair#					
		Stair#					
		Stair#					
		Stair#					
	Subtotal, Entry Level Circulation						
		Mid Level Circulation					
		Corridor					
		Corridor		2,128 SF			Addition
		Stair#					
		Stair#					
		Elevator					Addition
		Vestibule					
	Subtotal, Mid Level Circulation						
Total, Circulation Areas							

5.0
Conceptual Outline Specifications

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
010000	GENERAL CONDITIONS	Throughout			Assume building/site WILL be occupied during construction. Anticipate the execution of work over multiple construction phases. Provide temporary separations between occupied spaces and construction zones.	3 construction phases
022600	HAZARDOUS MATERIALS			sf	Assume $20/sf for anticipated abatement of selective hazardous materials at existing school to remain.	
		1973 Portable (East)		sf	Assume $35/sf for abatement of existing portable.	
		2002 Portable (West)			Based upon the age of constructuon, 1990 era portable is not anticipated to have hazardous materails.	
024000	DEMOLITION					
		1973 Portable (East)		sf	Mass demolition and removal of existing single-story portable structure installed on reinforced concrete pier foundations. Include complete removal of connecting corridor structure to exterior face of existing school..	
		2002 Portable (West)		sf	Mass demolition and removal of existing single-story portable structure installed on reinforced concrete pier foundations. Include complete removal of connecting corridor structure to exterior face of existing school..	
		South Wing		sf	Selective demolition of north façade of south wing to accommodate connection of addition.	
		East Wing		sf	Selective demolition of west façade of east wing to accommodate connection of addition.	
		Existing Steam Boiler Plant			The existing steam boilers, burners, boiler feed unit, steam piping, condensate piping, pneumatic valves, venting and associated accessories to be removed.	
		Classrooms	26	QTY	Existing steam radiation, piping (within tunnels) valves, sidewall exhaust grilles, ductwork, pneumatic sensors and associated accessories to be removed.	
		Gymnasium	N/A	N/A	Existing steam radiation, piping, valves, sidewall supply/return grilles, ductwork, pneumatic sensors and associated accessories to be removed.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Cafeteria	N/A	N/A	Existing steam radiation, piping, valves, two (2) unit ventilators, pneumatic sensors and associated accessories to be removed.	
		Main Office Wing	N/A	N/A	Existing steam radiation, piping, valves, pneumatic sensors and associated accessories to be removed.	
		Mechanical Penthouses	N/A	N/A	Existing utility fans for classrooms (2), locker rooms (2) toilet rooms (2), gymnasium (2), ductwork, louvers, controls and associated accessories to be removed. Existing heating/ventilation units for the gymnasium (2), ductwork, louvers, controls and associated accessories to be removed.	
		Portable Classrooms			West Portables and East Portables: 1. Completely demolish of all existing HVAC units, services for West Portables and East Portables which are being completely demolished.	
		Controls			The existing pneumatic control system, compressor, dryer, control panels, valves, thermostats, tubing and associated accessories to be removed.	
		Water Heaters	2	QTY	Existing gas fired water heaters (2) and associated piping serving existing areas of school to remain.	
		Classrooms	26	QTY	Existing sinks, water fountains and associated accessories to be removed.	
		Bathrooms	20	QTY	Existing plumbing fixtures including, but not limited to, water closets, lavatories, urinals, and associated accessories to be removed.	
		Pavement	46,000	sf	Remove existing bituminous pavement, concrete walk for proposed construction.	
030000	CONCRETE					
		Foundations		lf	Foundations – presumed soil bearing (dependent upon the findings of the geotechnical investigation and report): - 16" concrete walls (4,500 psi) with 8" brick shelves where below masonry walls. Reinforce with #5@16"o.c. vertical and #4@12"o.c. horiz. each face. - Continuous wall footing: 12"thick x 3'-0"wide reinforced with (3)-#5 cont.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Slabs	18,950	sf	Slabs on Grade (Interior): 5" thick normal weight concrete slab (3,500 psi) reinforced with 6x6-W2.9xW2x.9 welded wire fabric supported on continuous steel wire chairs. Macro/Micro fiber reinforcement may be substituted for the welded wire fabric reinforcement. All interior slabs shall be placed over a 15 mil vapor retarder on a compacted processed aggregate base material. All concrete for the slabs on grade shall have a moisture vapor reducing admixture to control the transmission of moisture vapors thru the slab. Floor depressions, as well as any areas of specialized floor finishes shall be located and specified by the Architect. Control joints shall be installed at a maximum grid of 12 feet on center.	
				sf	Slab on Grade (Exterior): 5-inch thick concrete slab on grade (4,500 psi) with topically applied penetrating colloidal silac concrete treatment, reinforced with WWF 6x6-W1.4xW1.4 placed over absorptive "blotter" layer over Class A vapor barrier, sawcut control joints each direction at approximately 12 feet - pitch for drainage	
		Slab Infills in Existing Building		sf	Composite Structural Floor Slab: 5-1/4 inch-deep floor slab: 3 1/4 inch lightweight concrete slab, with topically applied penetrating colloidal silica concrete treatment, on 2 inch deep, 20 gauge minimum composite metal floor deck with no fireproofing on underside of metal deck (1 hour fire rating).	
		Miscellaneous		sf	Raised Exterior Concrete Seating Steps: 8" thick radiused reinforced slabs and frost walls with (2) 24" deep tiers at 18" & 32" in height.	
			3	each	Exterior Concrete Ramps: 1:12 sloped surface with 8-inch rubbed cheek walls (both sides).	
			1	each	Provide (1) 4-feet by 4-feet radon collection pits below new concrete slabs. Seal slab pipe pentrations and joints, typical.	
040000 MASONRY						

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
New Addition		Exterior Walls:			Typical Brick Veneer Cavity Wall System (15 feet story height): - Brick veneer w/ lateral reinforcing at 16-inches, horizontally & vertically - Air space - 3-inch rigid cavity insulation - Fluid applied air infiltration barrier - 5/8" Type X Exterior Gypsum Sheathing - Cold-formed steel framing - Interior Gypsum Board (Painted) Provide Cast Stone sills and heads at punched openings. Note: Provide galvanized relieving angles for masonry walls exceeding 15 feet.	2 face brick colors
		Exterior Walls: Freezer Addition			8" CMU wall reinforced with #5@32"o.c. vertical with horiz. ladder type joint reinforcing	
		Interior Walls: Corridors		lf	Non-Load Bearing: 8 inch lightweight CMU with #4 bar in fully grouted cell at 48 inches on center with horizontal ladder type joint reinforcement at 16 inches on center - extend to underside of deck above.	
				lf	Non-Load Bearing: 6 inch lightweight CMU with #4 bar in fully grouted cell at 48 inches on center with horizontal ladder type joint reinforcement at 16 inches on center - extend to underside of deck above.	
		Music Room		lf	Non-Load Bearing: 12 inch lightweight fully grouted CMU with #5 bar in fully grouted cells at 32 inches on center with horizontal ladder type joint reinforcement at 16 inches on center. Sound absorbing CMU blocks on 25% of vertical surface - extend to top of exterior wall.	
		Rated CMU Stair and Elevator Enclosures		lf	8" CMU wall assembly providing a 2-hour fire rated separation laterally braced to building structure. CMU reinforcing: #5@32"o.c. vertical with horiz. ladder type joint reinforcing - Elevator Pit: 12" thick base slab reinforced with #5@12"o.c. each way bottom. 12" thick concrete pit walls reinforced with #4@12"o.c. each way, each face.	
Existing School		Window sills and Exterior wall bands		lf	Architectural cast stone units, shapes as shown on drawings	
		Masonry Repair	2,500	lf	Provide allowance for pointing existing masonry joints.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Masonry Repair	10,000	sf	Provide allowance for replacement of damaged or broke unit masonry.	
051000	STRUCTURAL STEEL					
	New Addition	Structural Frame			Composite steel wide flange beams: at approximately 6 to 9 feet on center with ¾ inch diameter 3½ inch high steel stud shear connectors at approximately 12 inches on center. Steel columns: WB or HSS8x8 columns	
		Lateral System			Lateral Force Resisting System for Wind/Seismic: Combination of ordinary steel moment frames and ordinary reinforced masonry shear walls. a. CMU Shear Walls: 8 inch lightweight CMU with #5 bar in fully grouted cell at 32 inches on center; (3) #8 each end of wall and each side of all vertical control joints. b. Ordinary steel moment frames. c. Heavy steel wide flange and hollow tube columns with full strength moment connection welds to steel girders.	
		Roof Framing	Typical Roof		1-1/2 inch deep x 20 gage metal roof deck. Primarily open web steel joists at approximately 6 feet on center. Wide flange steel girders and spandrel beams on column lines.	
			Gymnasium Roof		Structural steel frame with moment frames; unrated non-combustible structure. Long span steel joists and acoustic metal roof decking.	
		Entry Canopy			Structural steel frame with moment frames; unrated non-combustible structure. Steel beams and metal roof decking.	
	Existing School	Supplemental Steel Framing			Include an allowance for the supplememtation of existing roof framing to support items such as rooftop mounted mechanical equipment.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
055000 METAL FABRICATIONS						
	Interior Stairs		per stair		Interior steel stair assembly: Miscellaneous steel channels, angles and tubular steel 2-inch concrete filled metal pans and risers; 1-1/2-inch square posts/top & bottom rails; 3/4-inch square pickets; 1-1/2-inch round steel handrails, both sides.	
	Masonry Openings		per punched opening/door		Galvanized steel lintels at exterior wall openings, typical. For openings up to 6 ft, provide (1)-L5x3 1/2x5/16 lintel for each 4-inches of masonry. Dimension at opening width + 16-inches.	
	Roof Frames/Roof Drains				Provide L6x3 1/2x5/16 frame at roof openings and roof drains. Provide joist reinforcing at all concentrated loads on joists not located directly over top chord panel points.	
	Restoration of joist bridging				Restore any cut joists bridging with horizontal bridging	
	Cold-Form Metal Framing		Exterior Walls		6" - 18 gage Metal studs spaced at 16"o.c.	
	Roof Access Ladder				Galvanized steel ladder providing addition roof access.	See 080000 Openings,
060000 WOOD						
New Addition	Roofing Systems				Fire rated wood blocking. Provide allowance based upon roof system requirements.	
070000 BUILDING ENVELOPE						
New Addition	Low Slope Roof System: New Addition		18,950	sf	SBS Modified-bitumen Roof Assembly (New): - Roof membrane - 8-inches rigid insulation (R-48) - Self-adhering vapor barrier - 5/8-inch Type X exterior gypsum roof sheathing - Sloping structural roof framing (1/4-inch per foot minimum) - 20-year non-prorated, no dollar limit full roof system warranty.	
	Roof Copings			lf	Prefinished .040 aluminum, copings typical.	
	Roofs, typical		300	lf	Insulated roof system expansion joint assemblies. Three locations.	
	Metal Panels			sf	Aluminum-faced composite panels - Alucabond or equivalent	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
080000 OPENINGS						
		Exterior Glazing, Punched Openings		each	4 ft x 5 ft - Fixed, thermally broken aluminum frame storefront assemblies with 1-inch insulating glass. EFCO Corporation 2" x 4-1/2" Series 403 T, Thermal Storefront Framing system. Windows within 8 ft of ground shall be break resistant (School Guard Glass or equivalent).	
				each	same as above - 6 ft. x 6 ft. w/ divided lites	
		Main Entry Vestibule (Existing)	12	lf	Exterior (10 ft) - Thermally broken aluminum storefront with 1" security glazing - EFCO Corporation 2" x 6 1/2" Series 406 T, Thermal Storefront Framing system. Bottom 8 ft of glazing shall be break resistant (School Guard Glass or equivalent).	
			2	each	Exterior - fully glazed double leaf thermally broken aluminum storefront door with electronic strike and card reader with man-trap fail secure overide, aluminum threshold, panic hardware set.	
			12	lf	Interior (8 ft) - Aluminum storefront with 1/4" glazing - EFCO Corporation 1-3/4" x 4-1/2" Series 402 NT, Non-Thermal Storefront Framing system. All glazing shall be break resistant (School Guard Glass or equivalent).	
			2	each	Interior - fully glazed double leaf aluminum storefront door with electronic strike and card reader, panic hardware set.	
			1	each	Interior - fully glazed single leaf aluminum storefront door with electronic strike and card reader, panic hardware set.	
		Curtain Wall - Typical			Exterior - Thermally broken aluminum curtian wall with 1" insulated glazing - EFCO Corporation 2-1/2" x 8" Series 5600, Thermal Curtain Wall Framing system. Bottom 8 ft of glazing shall be break resistant (School Guard Glass or equivalent).	
		Exterior Curtain Wall - Classrooms			Exterior - Thermally broken aluminum curtian wall with 1" insulated glazing - EFCO Corporation 2-1/2" x 8" Series 5600, Thermal Curtain Wall Framing system. Bottom 8 ft of glazing shall be break resistant (School Guard Glass or equivalent). Include integral horizontal sun screens at West Elevation, only.	
		Secondary Building Exits		each	Exterior - double leaf FRP door assembly in thermally broken aluminum storefront, (1) 100 sq in 3" wide max. vision lite centered in door outfit with panic release hardware, electronic strike with card reader, threshold	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Courtyard	Media Center		Exterior - Thermally broken aluminum storefront with 1"insulated glazing - EFCO Corporation 2-1/2" x 8" Series 5600, Thermal Curtain Wall Framing system. Provide captured vertical glass and structural sealant at horizontal mullions.	
			Vestibules		Exterior - Entries - Thermally broken aluminum storefront with 1"insulated glazing - EFCO Corporation 2" x 4 1/2" Series 403 T, Thermal Storefront Framing system.	
					Exterior - fully glazed double leaf thermally broken aluminum storefront door with electronic strike and card reader, aluminum threshold, panic hardware set.	
		Interior Aluminum Storefronts		lf	Interior (9 ft) - Aluminum storefront with 1/4" glazing - EFCO Corporation 1-3/4" x 4-1/2" Series 402 NT, Non-Thermal Storefront Framing system.	
				each	Interior - fully glazed double leaf wood flush door with accessible hardware, panic hardware set, aluminum storefront frame	
				each	Interior - single leaf wood flush door, (1) 100 sq in 3" wide max. vision lite centered in door, accessible hardware, aluminum storefront frame	
		Interior Doors / Classrooms / Office (Typical)		each	Single leaf interior wood flush door, (1) 100 sq in 3" wide max. vision lite centered in door, accessible hardware, perimeter sound gasketing. Painted steel frame.	
		Music, Art, Science		each	Double leaf interior wood flush doors, (1) 100 sq in 3" wide max. vision lite centered in each leaf, accessible hardware, perimeter sound gasketing. Painted steel frame.	
				each	Single leaf interior wood flush door, accessible hardware, painted steel frame	
		Kitchen / Serving		each	Single leaf interior wood flush door, accessible hardware, threshold, painted steel frame	
				each	Double leaf interior wood flush door, accessible hardware, threshold, painted steel frame	
				each	16 ft L x 9 ft H coiling overhead open stainless steel security grille for servery counter, manual crank and/or motorized operation	
				each	Interior - 12 ft. x 10 ft. insulated metal coiling overhead door with manual and motorized operation.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Interior Doors Boiler / Main		each	Interior 1-hour rated wood doors, 100 sq in centered vision lite; positive latching, panic hardware. Painted steel frame.	
		Toilet Rooms		each	Single leaf interior wood flush door, push-pull hardware, stainless steel kick plates, closer, threshold, painted steel metal frame	
				each	Single leaf interior wood flush door, accessible hardware, privacy function latchset, threshold, painted steel metal frame	
				each	30-inches by 40-inches Stainless steel frame mirror with wall mount cleats, one per sink, typical.	
				each	full length mirror, stainless steel frame with wall mount cleats, one per toilet room.	
090000	FINISHES					
	New Addition	Classrooms, Science, Art, Corridors		sf	Luxury vinyl tile (LVT); 4-inch resilent base. Acoustic ceiling system, 2'-0" x 2'-0" pads, 15/16" grid. Allow 5% for gyp. bd. soffits.	
		North Corridor		sf	Vinyl wallcovering	
		Media Center, Office, Conf. Room		sf	Carpet tiles, 30" x 30" tiles; 4-inch resilient base. Tectum clouds ceiling system, NRC 0.70. Allow 10% for gyp. bd. soffits.	Acoustic Update 11/02/2021
		Music Room		sf	Acoustic vinyl sheet flooring (Johnsonite Optima Acoustiflor) - 78" wide rolls	
				sf	Acoustic ceiling system, 2'-0" x 2'-0" pads in 50% of area, 15/16" grid. NRC 0.80	Acoustic Update 11/02/2021
				sf	Painted gypsum board ceilings & soffits.	
				ea	Sound reflecting panels, 4 ft by 4 ft inverted pyramidal panels within suspended ceiling system (50% of area).	
			700	sf	Acoustical wall panels, 2" thick fabric covered with rigid fiberglass core, NRC=1.0	Acoustic Update 11/02/2021
		Exit Stairs		sf	Rubber stair management system, integral rubber treads and risers with contrasting nosing color; landings.	
		Vestibules		sf	Walk-off mat system, frameless, elevated mat	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Toilet Rooms		sf	Ceramic floor and wall tile. Provide painted gypsum board ceilings.	
		Janitor,Custodian Storage, Storages		sf	Epoxy resin floor system and wall base. Acoustic ceiling system, 2'-0" x 2'-0" pads, 15/16" grid.	
		Mechanical		sf	Unfinished concrete floor & CMU walls. Ceiling open to deck above w/ 4" thick x 48" wide black fiberglass duct liner boards (50% coverage)	
		Interior Gypsum Partitions		lf	4-7/8" gypsum board wall: (1) layer 5/8" impact resistant gyp. bd. (painted) on each side of 3-5/8" metal studs @ 16" o.c. Refer to Acoustical Narrative.	Acoustic Update 11/02/2021
				lf	5-1/2" STC rated gypsum board wall: (2) layers of 5/8" impact resistant gypsum board (painted), 3-5/8" metal studs @ 16" o.c., acoustical batt insulation, (1) layer 5/8" impact resistant gypsum board (painted) - to deck above with all penetrations acoustically sealed. Refer to Acoustical Narrative	Acoustic Update 11/02/2021
	Existing Building	Serving		sf	Luxury vinyl tile (LVT); 4-inch resilent base.	
				sf	Raised presentation platform - wood look vinyl tile on	
				sf	Provide suspended acoustical ceiling assembly NRC 0.80. Include adjusted lighting, mechanical system distribution and sprinkler system. Allow 10% for gypsum board soffits.	Acoustic Update 11/02/2021
		Kitchen, Receiving		sf	Epoxy resin floor system and wall base. Washable suspended ceiling system with 2'-0" x 2'-0" pads, 15/16" grid, sealed washable light fixtures with unbreakable lenses.	
		Gymnasium			Painted exposed structure and deck above.	
		Corridors		sf	Acoustic ceiling system, 2'-0" x 2'-0" pads, 15/16" grid. Allow 5% for gyp. bd. soffits.	
100000 SPECIALTIES						
	New Addition	Toilet Rooms	10	each	Graffiti resistant HDPE toilet partitions, floor mounted with overhead bracing, stainless steel hardware and fittings. (1) 36" x 60" stall with 24" door. (1) 60" x 60" stall with 32" door, rear and side grab bars, one set per accessible stall	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			2	each	Toilet partitions (same as above) (2) 36" x 60" stall with 24" door. (1) 60" x 60" stall with 32" door, rear and side grab bars, one set per accessible stall	
			32	each	Toilet Tissue Dispenser (1 per watercloset), Sanitary napkin waste receptacle (1 per 2 water closets)	
			20	each	Stainless steel paper towel dispenser and waste receptacle (1 per room)	
			24	each	Soap Dispenser, 18" x 40" stainless steel framed mirror (1 per sink basin.)	
		Classrooms	25	each	Tack board surfaces, 8 ft L by 4 ft H with color impregnated cork and anodized aluminum frame (1 per classroom.)	
			25	each	US Flag & wall mount (1 per classroom)	
			25	each	Tack strips and map rail, 16 ft L.	
		Kitchen	6	each	Fully welded metal storage lockers, 12" W by 15" D, double height, for use by Kitchen staff.	
		Corridors	400	qty	Fully welded, non-locking, metal storage lockers, 12" W by 15" D by 60" H, single height, for student use grades 1-4.	
			25	each	Non-illumintaed bulletin boards	
			2	each	Display Cases	
110000 EQUIPMENT						
114000 FOOD SERVICE						
		Kitchen	Allowance	1	Replace food service equipment	$200,000.00
		Servery	Allowance	1	Servery stations, Residential/family style serving. Salad bar, smoothie stations; stainless steel counters, warmers, sneeze guards, hand wash sink	$150,000.00
120000 FURNISHINGS						
		Music Storage	15	lf	Instrument storage, Wenger or equal, allowance for the storage of a variety of instruents.	
		Industrial Shelves	50	each	18-Inches deep, 94-Inches high, starters and runners, 5 shelf sections per unit.	
		Trash Receptacles	4	EA	Provide trash receptacles at strategic locations.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Steel Pipe Bollard	8	EA	Provide bollards for entrance and vehicle damage protection	
		Site Benches	4	EA	Provide benches at strategic locations	
123000	MANUFACTURED CASEWORK					
		Classrooms (Grades 2-4)		each	Plastic laminate base cabinets, wall hung cabinets and counters, 12'-6" long	
		Break-Out Spaces		each	(2) 8'-6" plastic laminate base cabinets, upper cabinets and counters, stainless steel sink	
		Faculty Dining		lf	Plastic laminate base cabinets, upper cabinets and counters, stainless steel sink.	
		Corridors		each	Built-in wood display case, interior fabric wrapped tackable surface, adjustable glass shelves, sliding tempered glass doors. 12'-6"L x 7'-0"H x 3'-0"D.	
130000	SPECIAL CONSTRUCTION					
142000	ELEVATORS					
		New Construction	1	qty	4000 lb. capacity MRL traction elevator, double-sided, 3-stops	
		Stage	1	qty	Platform Lift	
210000	FIRE SUPPRESSION					
		Existing School and Proposed Addition	TBD		Provide new fire service piping from Main St. for the proposed fire suppression system. Fire service riser entrance into building at mechanical room. **As of 10-22-21 a new pump is not anticipated for the fire suppression system. This is subject to change pending further exploration of the proposed fire suppression system**	
			N/A	N/A	A new fire suppression system shall be installed throughout all areas of the existing school and proposed addition .	
			TBD	QTY	Wet Alarm valves shall be installed to properly zone the sprinkler system.	
			81,500	SF	Sprinkler densities shall be as defined by NFPA 13.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			81,500	SF	Sprinklers shall be concealed, fully recessed in finished areas with ceilings. Sidewall, standard and extended coverage sprinklers shall be installed where appropriate. Upright sprinklers with protective baskets shall be installed within spaces where sprinklers are subject to damage. Quick response sprinkler heads shall be used in light hazard locations. Sprinklers, unless noted otherwise, shall have a ½" orifice and a 165°F temperature rating. Intermediate temperature classification sprinklers shall be installed within the mechanical room, skylights and other areas, as required by NFPA 13.	
			TBD	QTY	Inspector's test connections and drains shall be provided at remote areas of the building. Drains shall terminate at the building exterior at a splash block.	
			1	QTY	The building elevator shall be provided with an intermediate temperature upright sprinkler at the top of the shaft and a sidewall sprinkler 24" above the finished elevator pit floor. The water supply to sprinkler at these shafts shall be monitored with a flow switch. (Sprinkler protection shall be not be required if the elevator shaft, cab & hydraulic fluid are non-combustible).	
			81,500	SF	Piping for the sprinkler system shall be steel pipe, ASTM A-53; Schedule 40 carbon steel. Schedule 10 pipe shall be allowed for pipe sizes larger than 2" diameter when roll grooved mechanical couplings are used. Sprinkler piping shall be installed above ceilings and concealed within chases where applicable.	
			81,500	SF	Fittings shall be grooved mechanical fittings: ANSI A21.10 ductile iron; ASTM A47 grade malleable iron. Couplings shall be ASTM A 536 ductile iron or malleable iron housing, EPDM gasket with nuts, bolts, locking pin, locking toggle or lugs to secure roll grooved pipe and fittings.	
220000 PLUMBING						
		Domestic Water Systems	19200	SF	Domestic cold water, domestic hot water, and domestic hot water recirculation piping shall be Type L copper conforming to ASTM B 88. Domestic water piping shall be insulated with rigid molded, noncombustible glass fiber insulation conforming to ASTM C335. Domestic water piping throughout shall be installed above ceilings and concealed within walls. PVC jacketing shall be provided on piping in exposed areas.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Plumbing Fixtures	43	QTY	Water closets shall be wall mounted, vitreous china, low consumption (1.28 gallons per flush), by Kohler or approved equal. Flush valves shall be automatic flushometer hard wired, by Sloan or approved equal.	
			4	QTY	Urinals shall be wall mounted, vitreous china, by Kohler or approved equal. Urinal low flow flush valves (.125 gallons per flush) automatic flushometer hard wired, by	
			65	QTY	Lavatories shall be wall mounted, vitreous china, by Kohler or approved equal. Faucets shall be low consumption (0.5 gpm), automatic hard wired valves, by Kohler or approved equal.	
			36	QTY	Wall hangers for water closets, urinals, and lavatories shall be heavy duty adjustable height type installed within chase spaces provided behind fixtures, by J.R. Smith or approved equal.	
			TBD	QTY	All plumbing fixtures required to be accessible shall be in accordance with the Americans with Disabilities Act (ADA), 504 and UFAS standards.	
			11	QTY	Drinking fountains shall be stainless steel, wall recessed, bi-level, ADA style, vandal resistant with integral bottle fillers, manufactured by Elkay or approved equal.	
			1	QTY	Mop basins shall be floor mounted, 24"x24", molded stone, with wall mounted faucet with vacuum breaker & trim, by Fiat or approved equal.	
			20	QTY	Wall Hydrants shall be installed on exterior walls every 100 feet of the building perimeter. Wall hydrants shall be lockable, keyed and non-freeze, backflow	
			TBD	QTY	Reduced pressure backflow preventers shall be provided on the domestic water connections to mechanical equipment as needed to comply with local AHJ. Backflow drains shall terminate indirectly at floor drains. Backflow devices shall be located at	
			TBD	LF	Water supply piping shall be redistributed and connected to proposed kitchen equipment per individual equipment installation requirements. Sanitary piping shall be configured to accommodate floor sinks and proposed kitchen equipment.	
		Sanitary Drainage	2	QTY	Art room sinks shall be provided with plaster traps to prevent paint, plaster chips and other materials from entering the waste stream. The interceptor shall be located below the fixture and shall be provided with clearance to removal and cleaning. Interceptors shall be JR Smith or approved equal.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			1	QTY	A 2500-gallon concrete, grease interceptor shall be installed below grade at the exterior of the building to serve grease producing fixtures in the kitchen. The waste connection exiting the grease interceptor shall connect to the sanitary sewer system on site serving the building. The interceptor shall prevent grease from entering the municipal sanitary system. The grease interceptor shall be designed & specified by the civil engineer.	
			150	LF	Trenching for proposed sanitary drainage at kitchen area for all required piping and fixtures.	
			TBD	QTY	Floor sinks/drains shall be provided where necessary. Trap primers shall be installed at floor sinks where necessary. Kitchen equipment with indirect drainage shall be routed to floor sinks in kitchen area.	
			700 Limited to Edge of Foundation Wall	LF	Waste and vent piping shall be hubless cast iron with standard torque clamps, conforming to CISPI 301 for above ground piping and hub and spigot cast iron conforming to ASTM A74 for piping installed below the floor slab. Waste and vent piping shall be concealed within chases and walls where possible.	
		Storm Drainage	550	LF	Storm piping shall be hubless cast iron with standard torque clamps, conforming to CISPI 301 for above ground piping and hub and spigot cast iron conforming to ASTM A74 for piping installed below the floor slab. Storm piping shall be concealed within chases and walls where possible. Storm services shall exit the building and connect to architectural downspouts. The secondary storm system shall be via overflow drains with piping.	
		Specialty Systems	TBD		The hot water distribution system for the kitchen shall include 140°F piping for the kitchen (boosted to 180°F at the dishwasher only, by others) and 110°F piping to serve the remainder of the fixtures. An automatic High/Low tempering valve, by Symmons or approved equal, will reduce to the water to 110°F for the building piping. A second tempering valve will be installed on the kitchen water supply, limiting the temperature to 140°F	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			TBD		Hot water recirculation systems shall be installed to maintain the appropriate temperatures in the domestic hot water system throughout the area. The pump shall be controlled by the BMS system to minimize energy consumption. Hot water recirculation piping shall be installed at the most remote fixture locations to provide adequate hot water within 15 seconds of faucet activation. Balancing valves shall be provided to ensure proper system flow.	
			1	QTY	The kitchen shall be equipped 119 gallon 400 MBH gas fired condensing water heaters/storage tanks by Lochinvar or equal.	
			1	QTY	A new 3" gas service shall be provided from the street to a new meter assembly outside the main mechanical room.	
			75	LF	Gas piping at the kitchen to be distributed to proposed kitchen equipment as required.	
230000 MECHANICAL						
	Heat Generation		78,000	SF	Heating to be provided by high efficiency gas fired boilers producing hot water and is distributed via base mounted pumps and piping routed to the various heating coils and radiation located throughout the school.	
			3	QTY	The heating plant shall consist of three (3) gas fired condensing boilers with integral controls sized at 6,000,000 Btu/Hr each based on Lochinvar or equal.	
			5	QTY	The heating hot water pumping system shall consist of two (2) base mounted, end suction pumps for the house loop and three (3) inline pumps. The base mounted pumps shall provide 800 gpm each and the inline pumps to provide 580 GPM each. All pumps shall be served by variable frequency drives (VFD's). The inline pump drives are to be integral to the pump. Pumps are based on Bell and Gossett or equal.	
			TBD	QTY	Hot water mains and branches shall be sized for low velocities and reduced pressure drop (8"ø supply and return mains) to reduce overall operating pressure and motor HP.	
			1	QTY	Hot water system shall operate with 33% propylene glycol/water solution. Provide 100 gallon glycol tank/pump feed system with glycol refractometer to automatically monitor and report percent glycol in the system. Tank based on Wessels or equal.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			3	QTY	Each boiler shall be served by an individual metal flue system installed up through the roof. Combustion air shall be routed from the boilers to the exterior utilizing PVC piping.	
	Cooling Generation	Cooling Plant Option #1 VRF	50,000	SF	Cooling Plant Option #1: Each space shall be served by VRF units (variable refrigerant flow) to provide cooling and supplemental heating if needed. System shall contain three pipes to provide energy recovery at certain times of the year. The heat pump units will be located on the roof and will be sized at eight (8) tons each. VRF units are based on Mitsubishi or equal.	
		Cooling Plant Option #2 Chillers	78,000	SF	Cooling Plant Option #2: Two (2) air cooled chillers with dual compressors shall produce chilled water and will be distributed via base mounted pumps to the various cooling coils located throughout the school.	
		Cooling Plant Option #2 Chillers	2	QTY	The cooling plant shall consist of two (2) air cooled chillers with integral pumps, controls and piping sized at two hundred and fifty (250) tons each. Chillers are based on Carrier or equal.	
		Cooling Plant Option #2 Chillers	2	QTY	The chilled water pumping system shall consist of two (2) base mounted, end suction pumps and for the house loop. The base mounted pumps will provide 500 gpm each and will be served by variable frequency drives (VFD's). Pumps are based on Bell and Gossett or equal.	
		Cooling Plant Option #2 Chillers	N/A	N/A	Chilled water mains and branches shall be sized for low velocities and reduced pressure drop (8"ø supply and return mains) to reduce overall operating pressure and motor HP.	
	Air Side	Classroom Wings (Existing School) Cooling Plant Option #1	30	QTY	The classrooms are to be served by one (1) cassette style VRF unit located within the ceiling grid and sized at four (4) tons. VRF units are based on Mitsubishi or equal. Acoustically rated at 35dBA (MAX) per ARI-350.	Acoustic Update 11/02/2021
		Class/Office Wing (Existing School) Cooling Plant Option #1 & #2	10	QTY	Each classroom/office are to served by one (1) cassette style VRF unit located within the ceiling grid and sized at two (2) tons. VRF units are based on Mitsubishi or equal. Acoustically rated at 35dBA (MAX) per ARI-350.	Acoustic Update 11/02/2021

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Classroom Wings (Existing School) Cooling Plant Option #2	1	QTY	The classrooms will be served by one (1) 22,000 CFM variable air volume direct drive air handling unit. Equipped with hot/chilled water coils and variable frequency drives. New ductwork will be provided throughout the classrooms with hot water reheat VAV boxes. Air handling unit and VAV boxes are to be based on Carrier or equal. Ductwork downstream from VAV boxes shall be acoustically lined	Acoustic Update 11/02/2021
		Classroom Wings (New Addition) Cooling Plant Option #1	3	QTY	The proposed addition will be served by three (3) packaged modular rooftop units with hot water coils for heating and energy recovery. The eight (8) classrooms will be served by one (1) twenty five (25) ton RTU with ductwork and hot water reheat VAV boxes. Three (3) science/art classrooms and adjacent offices will be served by one (1) twenty (20) ton RTU with ductwork and hot water reheat VAV boxes. The Media center and surrounding offices will be served by one (1) ten (10) ton RTU with ductwork and hot water reheat VAV boxes. Rooftop units are based on Carrier or equal. Ductwork downstream from VAV boxes shall be acoustically lined.	Acoustic Update 11/02/2021
		Classroom Wings (New Addition) Cooling Plant Option #2	3	QTY	The proposed addition will be served by three (3) chilled water/hot water modular rooftop units with energy recovery . The eight (8) classrooms are to be served by one (1) twenty five (25) ton RTU with ductwork and hot water reheat VAV boxes. Three (3) science/art classrooms and adjacent offices will be served by one (1) twenty (20) ton RTU with ductwork and hot water reheat VAV boxes. The Media center and surrounding offices will be served by one (1) ten (10) ton RTU with ductwork and hot water reheat VAV boxes. Rooftop units are based on Carrier or equal. Ductwork downstream from VAV boxes shall be acoustically lined.	Acoustic Update 11/02/2021
		Gymnasium Cooling Plant Option #1	2	QTY	The gymnasium will be served by two (2) 15,000 CFM single zone variable air volume air handling units, equipped with hot water and DX coils, sound attenuators, variable frequency drives and demand control ventilation which will modulate the amount of outside air to the space based on occupancy and Co2. The existing ductwork will be reused, cleaned and insulated. Two (2) air cooled condensing units will be located on the roof and will serve the DX coils. Air handling/condensing units are based on Carrier or equal.	Acoustic Update 11/02/2021

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Gymnasium Cooling Plant Option #2	2	QTY	The gymnasium will be served by two (2) 15,000 CFM single zone variable air volume air handling units, equipped with hot/chilled water coils, variable frequency drives and demand control ventilation which will modulate the amount of outside air to the space based on occupancy and Co2. The existing ductwork will be reused, cleaned and insulated. Air handling units are based on Carrier or equal.	
		Cafeteria Cooling Plant Option #1	1	QTY	The cafeteria will be served by one (1) 5,000 CFM single zone variable air volume direct drive air handling unit. Equipped with hot water and DX coils, variable frequency drives and demand control ventilation which will modulate the amount of outside air to the space based on occupancy and Co2. New acoustically lined ductwork will be provided throughout the cafeteria. One (1) air cooled condensing unit will be located on the roof and will serve the DX coil. Air handling/condensing unit are based on Carrier or equal.	Acoustic Update 11/02/2021
		Cafeteria Cooling Plant Option #2	1	QTY	The cafeteria will be served by one (1) 5,000 CFM single zone variable air volume direct drive air handling unit. Equipped with hot/chilled water coils, variable frequency drives and demand control ventilation which will modulate the amount of outside air to the space based on occupancy and Co2. New acoustically lined ductwork will be provided throughout the cafeteria. Air handling unit is based on Carrier or equal.	Acoustic Update 11/02/2021
		Corridors/ Miscellaneous Areas	N/A	N/A	The corridors shall be served by one (1) 1-ton VRF cassette unit spaced at approximately 100 ft intervals. VRF units based on Mitsubishi or equal.	
		Kitchen	2	QTY	Kitchen exhaust (Grease) fan shall be a roof mounted up-blast exhaust fan with ventilated curb. Fan serving grease hood shall be sized for 3,000 CFM, by Captive Aire or equal. New double wall stainless steel grease ductwork shall connect the new grease fan to the kitchen hood. Make up air and conditioning shall be provided by a gas-fired packaged Dedicated Outside Air Unit. The unit will provide fifteen (15) tons of cooling and 2,700 CFM, by Captive Aire or equal.	
	Hot water Heating	Classroom Wings (Existing School)	800	LF	Provide new fin tube radiation along perimeter. The fin tube will run wall to wall and have a double slope enclosure, by Rittling or equal.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Class/Office Wing (Existing School)	100	LF	Provide new fin tube radiation along perimeter. The fin tube will run wall to wall and have a double slope enclosure, by Rittling or equal.	
		Main Office Wing (Existing School)	100	LF	Provide new fin tube radiation along perimeter. The fin tube will run wall to wall and have a double slope enclosure, by Rittling or equal.	
		Gymnasium	100	LF	Provide new fin tube radiation along perimeter. The fin tube will run wall to wall and have a double slope enclosure, by Rittling or equal.	
		Cafeteria	60	LF	Provide new fin tube radiation along perimeter. The fin tube will run wall to wall and have a double slope enclosure, by Rittling or equal.	
		Classroom Wings (New Addition)	500	LF	Provide hot water radiant ceiling panels along perimeter. The panels will run wall to wall and fit in a 2'x4' grid, by Rittling or equal.	
		Corridors and Miscellaneous Areas	N/A	N/A	The corridors shall be served by hot water cabinet unit heaters with control valves, these unit heaters will be installed in existing wall recesses. Units by Rittling or equal.	
		Restrooms	50	LF	Provide new fin tube radiation along perimeter. The fin tube will run wall to wall and have a double slope enclosure, by Rittling or equal.	
		Vestibules and Miscellaneous Areas	N/A	N/A	The entrances and vestibules shall be served by hot water cabinet unit heaters with control valves. All storage areas, mechanical rooms and electrical rooms shall be provided with hot water unit heaters by Rittling or equal.	
260000 ELECTRICAL						
		West & East Portables	11115	SF	West Portables and East Portables: Completely demolish of all existing electrical utility services, pad mounted transformer, primary and secondary service laterals, electrical distribution, lighting, devices, telecommunications, fire alarm, security and access control systems as well as electrical serving HVAC systems and all associated wiring and conduit for West Portables and East Portables which are being completely demolished.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Kitchen	1180	SF	Kitchen: Removal of electrical panelboard and associated disconnects, wiring, conduits serving food service equipment being demolished within kitchen.	
		Existing	1	QTY	Main Building: 1. Removal of existing transformers in below grade electrical transformer vault and associated primary servce lateral. Coordinate with local utility company. Removal of secondary service busway from transformer vault to existing 800A switchgear in main electrical room located adjacent to transformer vault. 2. Remove existing utility meter and associated enclosure. Removal of existing 800A switchgear grounding electrode conductors as well as neutral to ground bonding conductors. 3. Removal of two (2) electrical panelboards and associated wiring/conduit serving HVAC systems in upper level mechanical rooms. Removal of starters, disconnects, wiring, conduits associated with HVAC systems being demolished.	
		Electrical Service	1	QTY	One (1) – new 3,000A, 208/120V, 3Ph, 4W, NEMA 3R main building electrical service shall be provided. Electrical service switchboard shall have a main circuit breaker with LSIG functions and Arc Flash Reduction settings, indicators and maintenance switch. Switchboard shall be located exterior to the main building near the existing 1. Integral surge protection rated at 200KA /mode. 2. Utility CT metering compartment. 3. Utility meter scoket and associated wiring/conduit. 4. Customer utility grade multifunction power meter. 5. Silver plated copper bus bars. Copper ground bar 6. Provide 1-#3/0 AWG copper grounding electrode conductor in 1-inch conduit each from the main service switchgear ground to the building water main, building steel and sprinkler main. 7. Provide 1-#3/0 AWG copper grounding electrode conductor from main service switchgear ground to three (3) 3/4"x10' ground rods, driven at the exterior of the building as well as to the concrete footing rebar. 8. Provide eight (8)-4"C, 4-#500 MCM from utility company pad mounted transformer to 3000A switchgear.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Electrical Distribution	1	QTY	Refeed existing 800A switchgear in main electrical room from proposed 3,000A exterior switchgear. Provide (2) 4"C, 4-#500 MCM + #1/0 GND. Provide electrical 208/120V, 3Ph, 4W, NEMA 1 distribution panelboards for proposed electrical, lighting, telecommunications and HVAC systems. Panelboards shall consist of the following: 1. One (1) 1200A, 208/120V, 3Ph, 4W, NEMA 1 feed from proposed 3,000A switchgear in Addition electrical room. Provide (4) 3"C, 4-#350 MCM + #3/0 GND. 2. Four (4) 225A, 208/120V, 3Ph, 4W, NEMA 1 feed from proposed 1200A panelboard in Addition electrical room. Provide 2-1/2"C, 4-#4/0 AWG + #4/0 GND for each. 3. One (1) 100A, 208/120V, 3Ph, 4W, NEMA 1 feed from proposed 1200A panelboard in Addition data room. Provide 1-1/4"C, 4-#2 AWG + #6 GND plus #6 isolated ground. 4. Two (2) 225A, 208/120V, 3Ph, 4W, NEMA 1 feed from proposed 3000A switchgear in upper level mechanical rooms. Provide 2-1/2"C, 4-#4/0 AWG + #4/0 GND for each. 5. One (1) 400A, 208/120V, 3Ph, 4W, NEMA 1 feed from proposed 3000A switchgear in Kitchen. Provide 3-1/2"C, 4-#500 MCM + #3 GND. 6. One (1) 100A, 208/120V, 3Ph, 4W, NEMA 1 feed from proposed 400A kitchen panelboard in Kitchen for kitchen equipment under hood. Provide 1-1/4"C, 4-#3 AWG + #8 GND.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Emergency Power Systems	1	QTY	The building shall be provided with one pad mount gas-fired optional standby generator with remote annunciator panel. The generator shall be rated at 150KW, 208/120V, 3Ph, 4W with outdoor level II sound attenuating enclosure. Batteries, battery charger, block heater, 600A/3P circuit breaker, GFCI receptacle. Grounding sysetm for generator shall consist of six (6) 3/4" x 8' copper ground rods and #2 AWG bare copper grounding conductors. The following items shall be powered from the optional standby generator. 1. Fire alarm systems. 2. Security/Access control systems. 3. Elevator. 4. Building management system. 5. Boilers and Air Handling Systems for heating only. No cooling. 6. Kitchen walk-in coolers, freezers and refrigerators. One (1) 600A, 208/120V, 3Ph, 4W, NEMA 1 Automatic Transfer Switch. Provide two (2) 3-1/2"C, 4-#350 MCM + #1 GND. One (1) 600A, 208/120V, 3Ph, 4W, NEMA 1 standby power panelboard for Boilers air handling units, elevator and panelboards listed below. Provide two (2) 3-1/2"C, 4-#350 MCM + #1 GND. One (1) 200A, 208/120V, 3Ph, 4W, NEMA 1 standby power panelboard for kitchen walk-in coolers, freezers and refrigerators. Provide 2-1/2"C, 4-#4/0 AWG + #4 GND. One (1) 100A, 208/120V, 3Ph, 4W, NEMA 1 standby power panelboard for fire alarm systems, security/access control systems and building management system. Provide 1-1/4"C, 4-#2 AWG + #6 GND.	
		General Purpose Electrical Power	25500		Branch circuits shall be installed in EMT conduit. All EMT conduits shall have an equipment grounding conductor included with the branch circuit runs. Type MC Cable shall be limited to concealed spaces above finished ceilings in work areas or drywall type partitions after first device. EMT conduit shall be used to the first junction box in any given room served and shall be used in all masonry or CMU partitions. Provide the following branch circuits: 1. Quad receptacle (1) at every instructor's station in Addition. 2. Duplex receptacles (8), quadruplex receptacle (1), duplex receptacle (1) for interactive white board and projector per classroom, (3) circuits per classroom.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
					3. Duplex receptacles (3) and quadruplex receptacle (1) per office, (1) circuit per office. 4. Floor boxes (3) with power, (3) circuits and data in the media center. 5. Duplex receptacle (1) every 40' throughout corridors. 6. Minimum of (4) quad receptacles on (2) circuits for data room. 7. In all meeting rooms/conference rooms under 1000 sq. ft.: Duplex receptacles spaced 12 ft. on center along all walls (minimum 1 receptacle per wall), floor boxes with power and data under each conference room table. 8. Ground fault circuit interrupter (GFCI) duplex receptacle (1) mounted above sink in each rest room. 9. Circuits for all HVAC equipment as required. 120V Wiring to control panels, control transformers, etc. shall be provided by the electrician while low voltage control wire shall be included in Division 23. 10. HVAC units located exterior to the building shall have a conduit for the feeders to the equipment NEMA 3R disconnect switch and another conduit to a 120V GFI duplex receptacle in a weather proof box mounted next to the disconnect switch. 11. Circuits to support all food service equipment 12. Circuits for all plumbing equipment. 13. Circuits for office equipment as required. 14. Circuits for elevator, elevator cab and associated lighting & recepacles. 15. Circuits for the fire alarm equipment, sound equipment, data equipment and security equipment as required. 16. Circuits for boilers with emergency shutoff switches located at boiler room entry doors.	
	Miscellaneous Electrical Systems		25500	sf	Include the following basic materials and methods of construction:	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
					1. Wiring shall be THHN/THWN copper, installed in EMT conduits for general circuits. 2. Wiring shall be XHHW copper for installed in Sch 40 PVC conduits for underground circuits. 3. Type MC cable shall be used as prescribed in sections above. 4. Devices shall be specification grade, NEMA 5-20R etc. 5. Disconnect switches shall be fusible heavy-duty type. NEMA 1, 3R or 4X as required for locations installed. 6. Circuit breakers shall be fixed element, thermal magnetic type. 7. All circuit breakers with frame sizes 125A and above shall include factory installed handle padlocking kit. 8. Panelboards shall have copper bussing, with hinged, lockable, door-in-door trim 9. Branch circuit breakers shall be bolt-on type. 10. All conduits, circuits and devices shall be labeled. 11. Conduits underground and below slabs shall be Sch 40 PVC, with warning tape and rigid steel conduit sweeps. 12. Conduits for pad mounted trasformer secondary shall be Sch 40 PVC with warning tape and rigid steel conduit sweeps. 13. Conduits for pad mounted trasformer primaries shall be 4" Sch 40 PVC with pull string, warning tape and rigid steel conduit sweeps.	
265000 LIGHTING						
			25500	SF	Interior lighting fixtures shall utilize LED fixtures, types and selection as per areas of use. Exsiting LED lighting in main school shall remain and be reused.	
			25500	SF	Lighting circuits shall be predominantly 120 volt.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			25500	SF	Power density for the school lighting shall be a maximum of 0.7 watts/sq. ft. LED type lighting fixtures will be used throughout the school	
			25500	SF	Emergency lighting shall be accomplished via integral 90 minute emergency battery packs with integral test switches as required by Code for a 1FC average along the path of egress.	
			19200	SF	Exit signs shall be universal mounted, LED illuminated, low energy usage fixtures with 90 minute integral emergency battery, test switch and self diagnostics. 1. Exit signs shall be located no further than two hundred feet apart and in every path of egress and above each egress doorway. 2. Lighted exit signs including the Connecticut Symbol of Accessibility shall be provided at all location on the discharge level where directing people to accessible exit doorways and where ever low-level exit signs are required. These signs shall have an LED lamp source with 90 minute integral emergency battery, test switch and self diagnostics. . 3. Provide LED "Area of Refuge" signs at all area of refuge locations.	
			25500	SF	Typical average foot-candle illumination levels shall be as follows for the respective areas: 1. 15fc - Corridors, stairways and storage rooms. 2. 20fc - Restrooms, electrical, data and mechanical rooms. 3. 40fc - Offices and conference rooms. 4. 50fc - Media Center and classrooms.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			19200	SF	The following fixtures will be provided: 1. Pendant mounted direct/indirect LED fixtures are typical in each classroom media center and offices. Fixtures located within daylight zone shall be connected to room daylight harvesting sensor. All fixtures shall be equipped with 0-10V dimming drivers. 2. Recessed ceiling mounted LED fixtures in corridors and teachers lounge. 3. Recessed ceiling mounted perimeter LED and downlight LED in restrooms. 4. Surface or suspended LED fixtures with acrylic lenses in support spaces (storage closets, janitor closets, electrical rooms, tele/data rooms, etc.). 5. Industrial LED strip fixtures in mechanical spaces.	
			19200	SF	Daylight harvesting sensors shall control dimmable LED drivers and shall be provided in all classrooms conference rooms and lounges with exterior windows. Classroom controls to incorporate instruction and A/V mode lighting levels in addition to vacancy sensor operation	
			25500	SF	Emergency powered luminaires shall be provided in all egress paths, classrooms, conference rooms, resrrooms, utility and storage rooms and other areas where required by code	
			13	QTY	All classrooms, media center and faculty lounge shall be provided with ceiling mounted dual technology vacancy sensors with manual on low voltage dimmable wall switches.	
			15	QTY	All offices, conference room, copy/printer rooms, individual restrooms, storage rooms and janitor closets shall be provided with dual technology wall mounted occupancy sensors.	
			2	QTY	All multi person restrooms and lounge shall be provided with dual technology ceiling mounted occpanct sensors with wall mounted manual override switch.	
			1	QTY	Where exempt by code, rooms shall include manual controls only (electrical rooms, mechanical rooms and areas where automatic control endangers the occupants).	
			3410	SF	Corridor lighting shall be controlled by ceiling mounted dual technology occpuancy sensors with wall mounted manual override switches.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			25500	SF	All LED fixtures shall be provided with specified lumens, lumen maintenance metric and low voltage dimmable drivers	
			1	QTY	Parking lot lighting shall be accomplished using 20 to 25 foot pole mounted, 120V, LED fixtures supplemented with building mounted LED fixtures. Fixtures shall be controlled via integral photocell conrol.	
			1	QTY	Enhanced exterior lighting will be provided in areas with camera monitoring as applicable.	
270000	COMMUNICATIONS					
	Integrated Automation Facility Controls	Existing School and Proposed Addition	N/A	N/A	A Building Management System (BMS) shall be installed to integrate controls with the existing pneumatic system and proposed mechanical systems. BMS shall be Design based on Honeywell Webs-Ax.	
					The BMS shall be accessible from any Web browser, with proper authorization.	
					The BMS shall provide temperature control for all HVAC systems.	
					The system shall be programmed for occupied/unoccupied cycles for the air handling equipment, with an override feature for spaces that would be utilized after-hours.	
					The system shall monitor carbon dioxide sensors to minimize the amount of outside air being brought in to assist in energy conservation	
					All occupied areas shall be provided with combination Temperature/CO2 sensors. These sensors shall be configured to display temperature set point only. Actual space temperature or CO2 levels shall not be displayed. Provide stainless steel sensors where subject to damage.	
					Provide a network controller for VRF systems. BMS shall be connected to the network controller.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
	Communication Equipment Room Fittings Backbone Cabling	Tele-communication Closets	1	QTY	Telecommunications work shall include: 1. Minimum of (2) 4"C sleeves between data room and nearest accessible ceiling for telecommunications backbone and horizontal outlet wiring. 2. Overhead ladder type tray over free-standing racks. 3. Dedicated special purpose receptacle for UPS power mounted to side rails of ladder tray over the free-standing rack. 4. Provide a minimum of two (2) 48-port patch panels with 2 RU wire managers below each patch panel. 5. Provide a minimum of (1) 84" high free standing telecommunications 2-post racks with 6" vertical wire managers on each side. 6. Provide one (1) 24-port patch panel for wireless access points with 2 RU wire manager below patch panel. 7. Provide one (1) 24-port patch panel for surveillance cameras with 2 RU wire manager below patch panel. 8. Provide Two (2) ten ft. Cat 6/Cat 6A patch cables for each cable terminated. 9. Coordinate Cat 6 jacket colors with Owner for: voice, data, and security camera cabling. 10. Coordinate Cat 6/6A colors with Owner for wireless access point cabling. 11. Fiber Backbone between Data Rooms shall be OM4, 12 strand, 50um multi-mode fiber	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
	Communication Pathways Cable Trays Sleeves Horizontal Cabling	Horizontal & Cabling	19200	SF	Cat 6/Cat 6A cables, shall be installed in 1"conduit minimum, from 6" above the ceilings down to the outlet location. Wiring, station outlets, patch panels, wire managers, terminations and testing to be provided under this contract. The building will be provided with the following tele/data station outlets: 1. Data cabling to computer / teacher locations. 2. Data cabling to printer locations. 3. One (1) data outlet at each camera location. 4. Two (2) data outlets at each wireless access point location. 5. One (1) data outlet for each visual display. 6. One (1) data outlet wired to AV rack for each video wall monitor, installed in recessed FSR box. 7. Data cabling for security & life safety systems. 8. Quantities shall be verified during design construction document phase.	
	Audio Visual Systems	Classrooms & Media Center	11	QTY	Classroom Audio Visual Systems shall Include: 1. Interactive displays 2. Dedicated sound systems for sound reinforcement 3. Priority override capability for public address & fire alarm 3. Room microphones for teacher's and students (Voice Up-Lift) 4. HDMI connectivity between source and display 5. Digital control of above-mentioned systems.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
	Public Address System & Master Clock System	Classrooms, Media Center, Offices, Conference Room, Faculty Lounge	19	QTY	The addition shall be provided with a clock and public address systems to match existing systems in use at school. 1. One (1) in each classroom. 2. One (1) in media center. 3. One (1) in office. 4. One (1) in conference room. 5. One (1) in faculty lounge. 6. GPS signal to each transmitter via Cat 6 cable connection to telecommunications server. 7. Clocks shall operate at 120 VAC, fed from nearest unswitched receptacle branch circuit. 8. Provide 12" round clocks. 9. Quantities shall be verified during design development phase.	
280000	SECURITY					
	Access Control, Video Surveillance, Intrusion Detection, Fire Detection and Alarm System				The addition shall be provided with a comprehensive electronic safety and security systems compatible with existing school systems including access control systems, IP based camera surveillance and storage, intrusion detection, and addressable fire alarm.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
	Access Control System		19200	SF	Intrusion Detection system shall include the following features and points of protection: 1 Magnetic door contacts at all perimeter man doors and overhead doors. 2 Long range motion detection in all corridors. 3 Motion detection in the Media Center, Computer Rooms, and other designated interior "high value" spaces. 4 Alarm panel to be UL 864 listed and be capable of a minimum of (50) zones and (8) programmable partitions. Expansion input/output modules shall be wired via. Communications bus for expansion throughout the building. 5 Alarm panel shall be comptaible with buildings main intrusion detection system. 6 System shall be partitioned to separate protection for areas of the building. Areas to include: Administration and classroom areas. Arming and disarming of any partition shall be password controlled. 7 Quantities and locations shall be verified during design development phase	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
	Video Surveillance System		19200	SF	The IP based surveillance camera system shall include the following features and equipment: 1. IP interior cameras at builiding entry/exit doors, overhead doors, lobbies, corridors, stairways, tele/data and computer rooms and other sensitive interior areas. Cameras shall be 3 MP minimum with dynamic backlight compensation and automatic iris and vari-focal lens. 2. IP fixed position exterior cameras monitoring perimeter entrances, general exterior coverage including parking areas and gathering spots. Cameras shall be low light level, 5 MP minimum, weatherproof and include automatic iris with vari-focal, motorized lenses. 3. All IP cameras to include digital zoom capability. 4. IP cameras shall be connected to network management and storage servers. 6. IP cameras shall be 100% compatible with the video management system software enabling all available camera options for configuration and use. Provide quantity of network camera licenses as required. 7. Video management system shall include password protected, web browser access. 8. Provide all required programming and configuration including resolution, recording speed, investigative and archive search, schedules, mutli-view display options, and storage options. 9. Quantities and locations for Lockdown Buttons, Duress Buttons, and Controlled doors shall be verified during design development phase. 10. System shall be compatible with existing school video surveillance system.	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
	Intrusion Detection System		19200	SF	Intrusion Detection system shall include the following features and points of protection: 1 Magnetic door contacts at all perimeter man doors and overhead doors. 2 Long range motion detection in all corridors. 3 Motion detection in the Media Center, Computer Rooms, and other designated interior "high value" spaces. 4 Alarm panel to be UL 864 listed and be capable of a minimum of (50) zones and (8) programmable partitions. Expansion input/output modules shall be wired via. Communications bus for expansion throughout the building. 5 Alarm panel shall be comptaible with buildings main intrusion detection system. 6 System shall be partitioned to separate protection for areas of the building. Areas to include: Administration and classroom areas. Arming and disarming of any partition shall be password controlled. 7 Quantities and locations shall be verified during design development phase	
	Fire Detection and Alarm		25500	SF	The addition shall be provided with addressable fire alarm devices/components compatible with existing buildings Simplex 4010 fire alarm control panel. Devices shall include dual action manual pull stations, duct smoke detection; voice-evacuation and visible notification appliances throughout; smoke/heat detection in equipment and storage spaces; carbon monoxide detection in mechanical spaces with fossil fuel burning equipment; interface with Kitchen Ansul System to shut-down equipment under the ventilation hoods; remote booster panels and interface to shut-down air handling units upon duct detector activation.	
			3	QTY	Remote annunciators mounted at entry/exit doors and at locations as coordinated with the Local Fire Marshal's office.	
			25500	SF	Provide smoke detection within each room, corridors and throughout top of each stairwell, and above accessible ceilings greater than 24" in height.	
			25500	SF	Fire alarm booster panels for proposed fire alarm devices	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			16	QTY	One (1) speaker/strobe in all classrooms, restrooms, conference rooms and teaches lounge, mechanical and electrical rooms/spaces. Multi-candela strobes units to be provided, strobe candela intensity to be selected based on room dimensions.	
			2	QTY	Minimum of (2) speaker/strobe with additional strobes in media center. Multi-candela strobes units to be provided, strobe candela intensity and quantity to be selected based on room dimensions.	
			5	QTY	Minimum of (1) strobe unit in all storage and kiln rooms. Multi-candela strobes units to be provided, strobe candela intensity and quantity to be selected based on room dimensions.	
			12	QTY	Speaker/strobes within the all corridors, maximum 100 feet on center.	
			81,500	SF	Addressable modules for sprinkler tamper, pressure and flow switches.	
			14	QTY	Minimum of (2) Duct smoke detectors for each air-handling unit, (1) in the supply, and (1) in the return duct.	
			14	QTY	Addressable modules for fan shut-down and damper control.	
			1	QTY	Signal to BMS system on alarm condition.	
			12	QTY	Magnetic door hold-open devices at all required corridor doors, connected to the control modules to release on alarm condition.	
			12	QTY	Smoke detector within five feet of both sides of the corridor doors with magnetic hold-opens, where required by building fire separation.	
			1	QTY	Area of Refuge communications provided at all first and second level Area of Refuge locations. Area of Refuge locations shall be monitored at main office with off-site dialer back-up if main office location is unattended.	
			2330	SF	Heat and CO detectors in spaces containing fossil fuel burning heating equipment. CO detection to provide a separate supervisory signal. Heat detector to activate a general alarm.	
			3	QTY	Addressable modules for elevator recall system and fire hat	
			1	QTY	Addressable module for kitchen hood fire extinguishing system.	
			25500	SF	All fire alarm system cabling shall be plenum rated fire alarm MC cable where concealed and routed within EMT conduit where exposed and above suspended ceilings.	

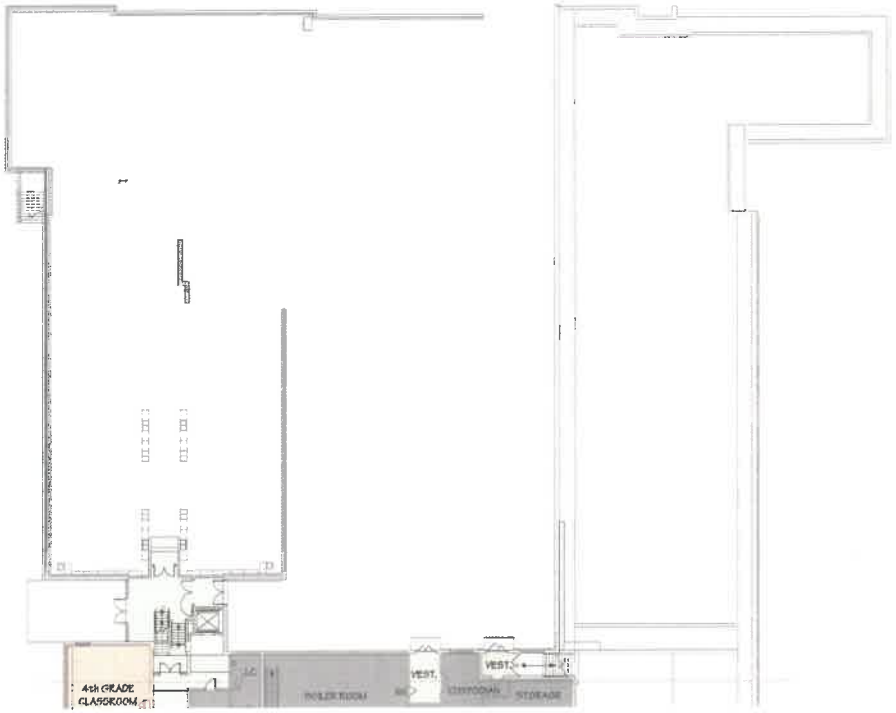
CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
			25500	SF	All fire alarm work shall be in compliance with the State of Connecticut fire safety code.	
310000	EARTHWORK					
					Excavate to frost for new building foundations. Remove existing footings and sidewalks to accommodate revised vehicular and pedestrian travel.	
320000	SITE IMPROVEMENTS					
		Bus Loop			The proposed site design separates bus traffic from parent drop off. A new bus loop will be constructed along the north side of the new school.	
			2,400	SY	Construct new 24' bus loading drive with 4" bituminous on 12" stone base.	
		Parent Drop-off & Drive Aisles	3,750	SY	The parent drop off will be located along the west and north side of the building. Provide bituminous concrete pavement for accessible parking. Provide 3" bituminous on 12" stone base. Provide depressed curb at accessible drop-off.	
		Parking	2,975	SY	The parking is located throught the site. Partially within the limits of the existing parking. Assume all pavement new full depth. Provide 3" bituminous on 12" stone base.	
		Loading Area	400	SY	Reutilize existing loading area. Access the loading area for the kitchen from the new bus loop. The pavement section would consist of 4 inches of asphalt concrete on 12 inches of stone base. Where new pavement is being built on top of existing pavement, it may be possible to reuse the existing base	
		Playgrounds	10,000	sf	2nd - 4th Grade Playground Reutilize existing playground to extent possible. Construct new playground equipment near existing play area. Provide compacted wood mulch fall protection	
		Concrete Walks	18,000	SF	Concrete sidewalks will be constructed around the perimeter of the building. Concrete curbs will be used adjacent to those sidewalks. Incide tactile warnings at curb ramps.	
		Concret Curbs	4,000	LF	Concrete curbs will be used adjacent to sidewalks and along parking and drop-off loops. Incide tactile warnings at curb ramps.	
		Landscaping			Provide landscape enhancements through out site. An allowance should be provided for accent planting around the building and school campus.	$100,000.00
		Fencing	500	LF	Provide ornamental fencing between bus loop and roadway to keep students within walkway	

CSI DIV OR SECTION	CSI NAME	LOCATION	AREA OR QUANTITY	UNITS	DESCRIPTION/COMMENTS	RECOMMENDATION
		Retaining Wall	100	LF	Assume wall heights less than 5ft.	
		Outdoor Classrooms	3	EA	Provide three distinct outdoor classroom spaces within the courtyard space	Assume $50,000/EA
330000	SITE UTILITIES					
	Storm Drainage	Piping	1,200	LF	Provide 15" RCP storm drain piping throughout site	
		Catch Basins	20	EA	Provide precast concrete catch basins for new parking lots, parent and bus loops.	
		Retention Chambers	18,000	CF	Provide underground retention or infiltration basins for controlling stormwater flow rates and quality.	
	Site Lighting	Pedestrian	10	EA	Provide pedestrian level bollard lighting adjacent to walkways.	
		Parking Lots	20	EA	Provide site lighting within the new parking areas and drop-off loops.	

6.0
Presentation Drawings

Model Development | Conceptual Site Plan

Model Development | Lower Level



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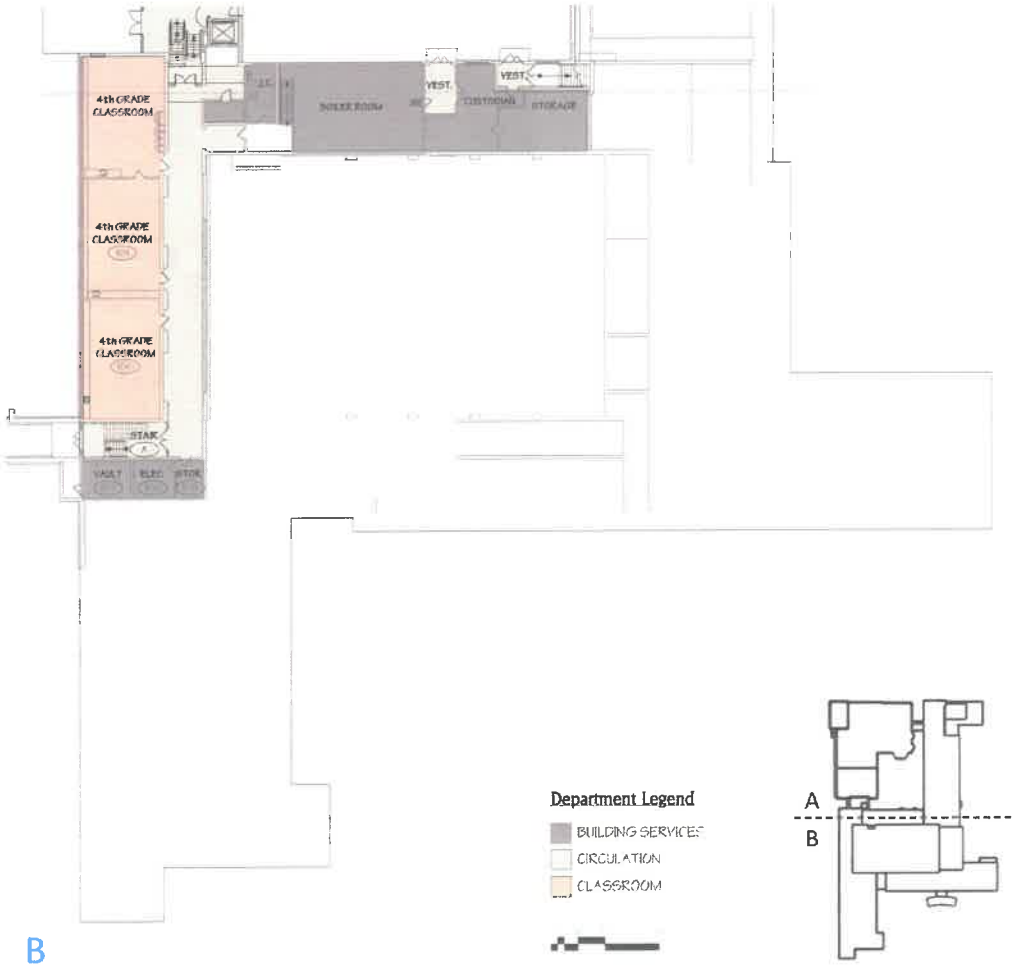
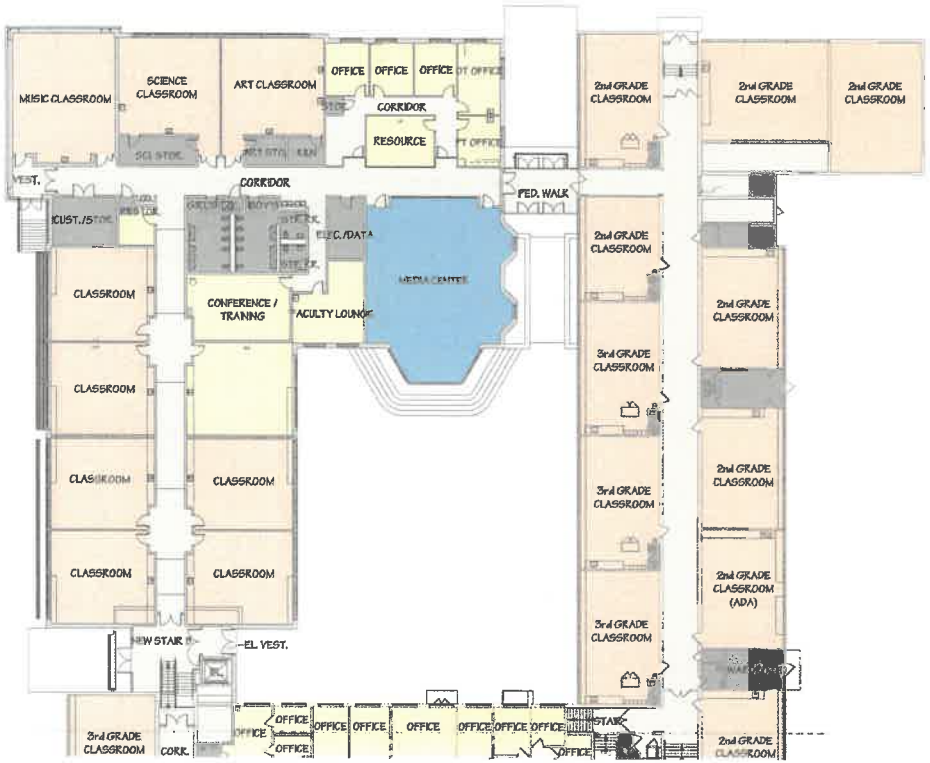


B

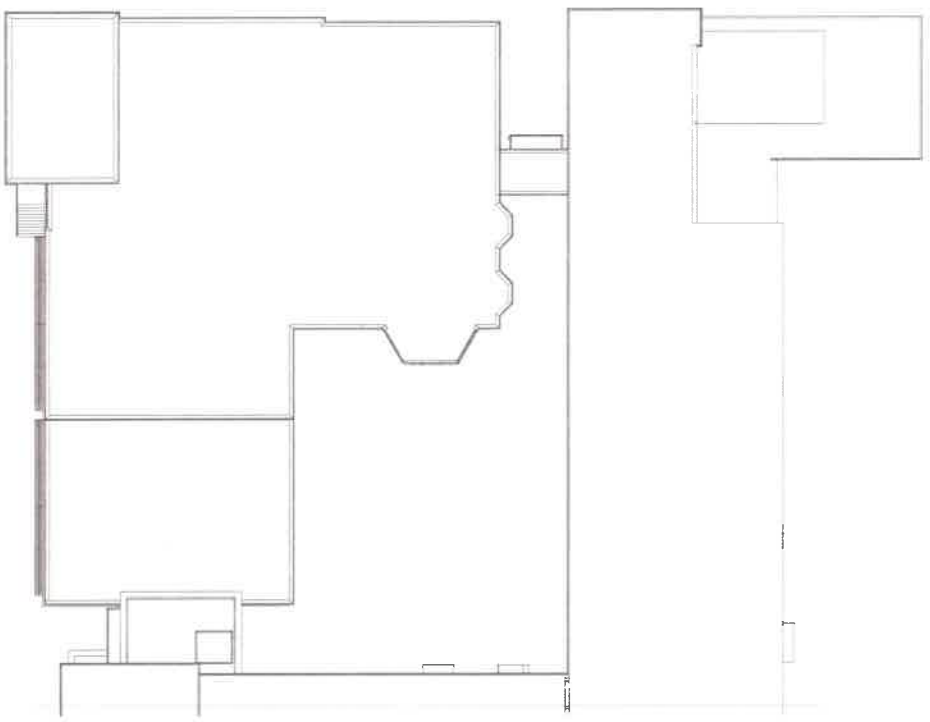
Department Legend

- BUILDING SERVICES
- CIRCULATION
- CLASSROOM

Model Development | Entry Level



Model Development | Roof Plan



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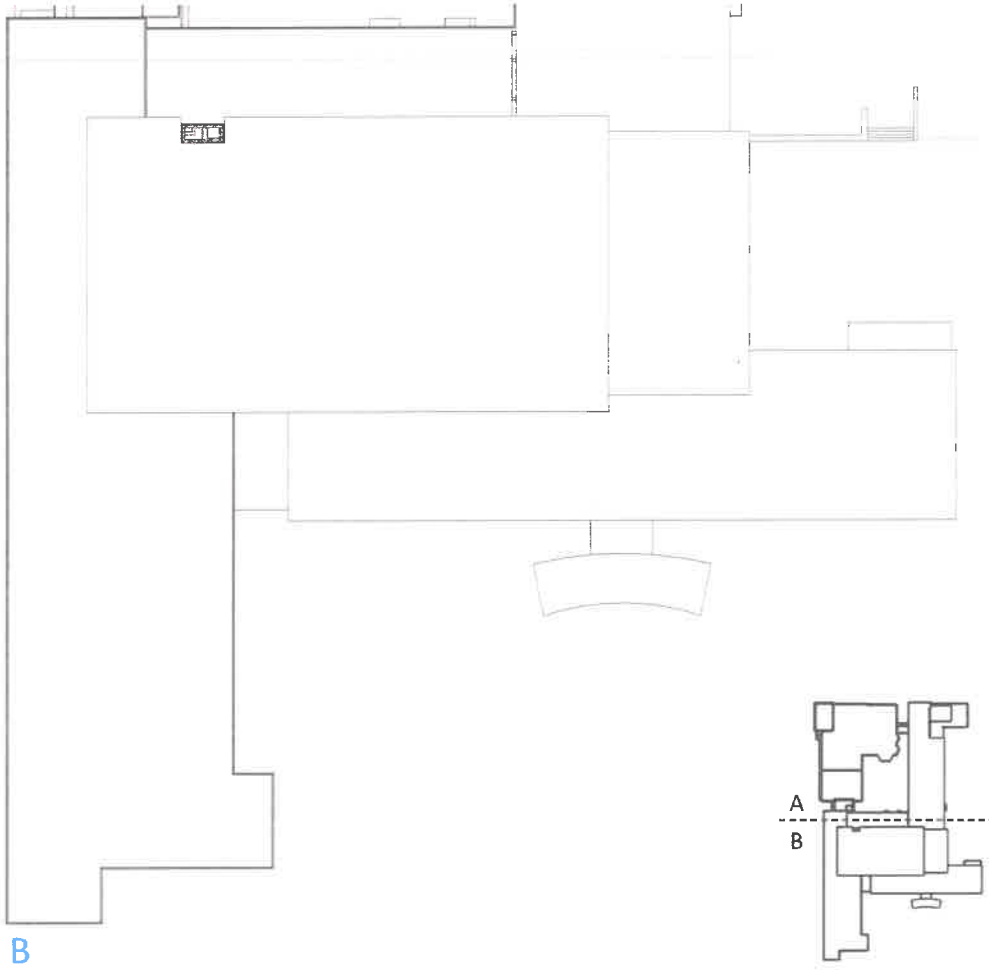
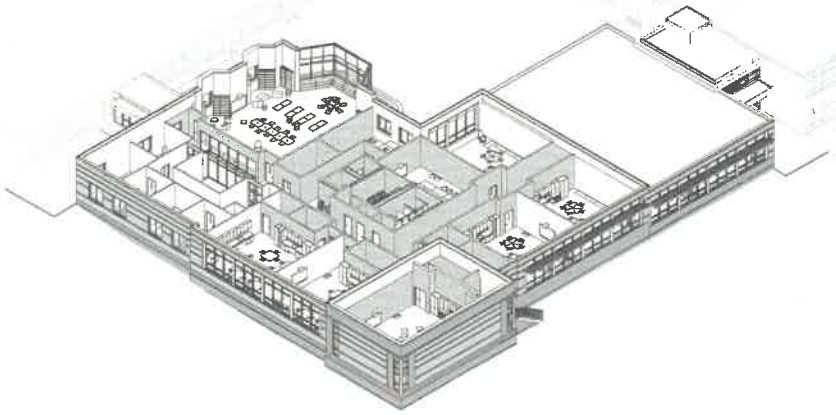
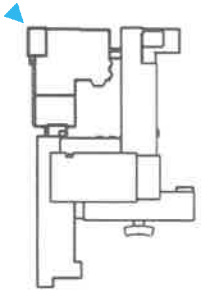


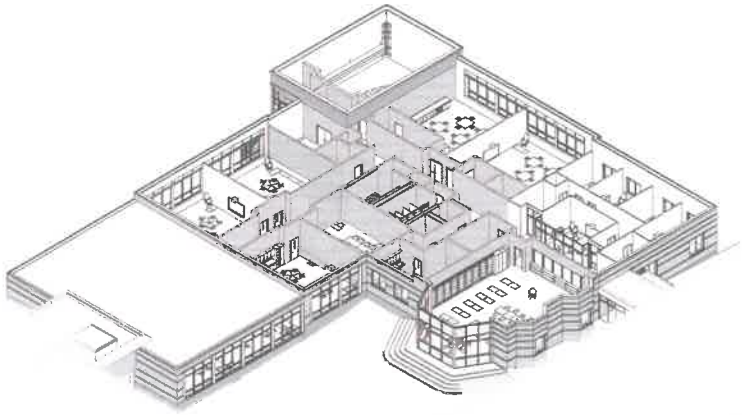
B

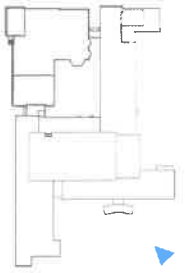
Model Development | New Addition



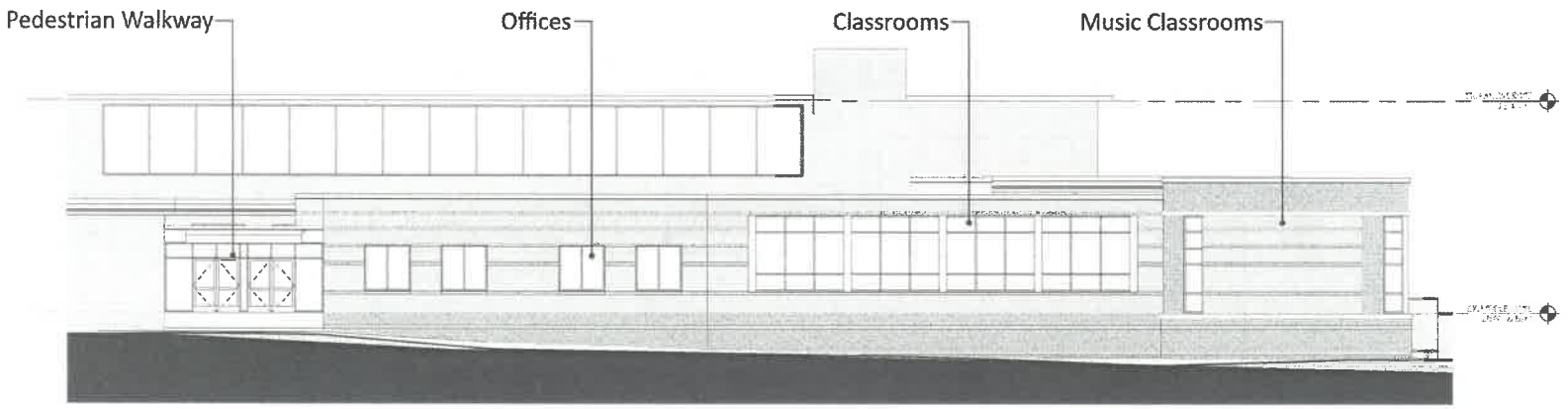


Model Development | New Addition

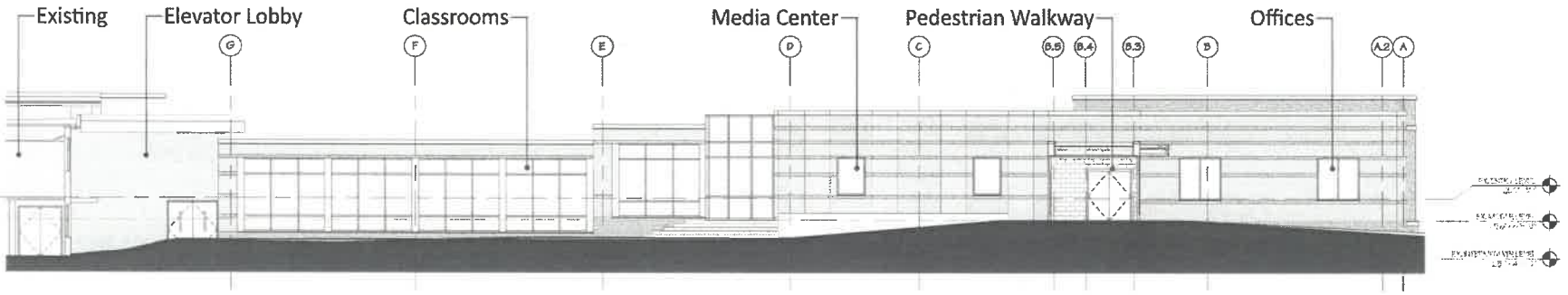




Model Development | Exterior Elevations

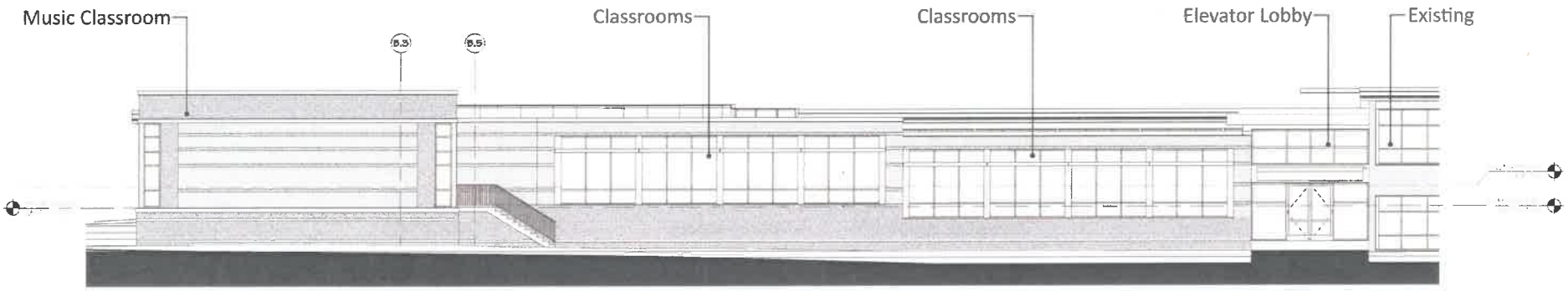


North Elevation

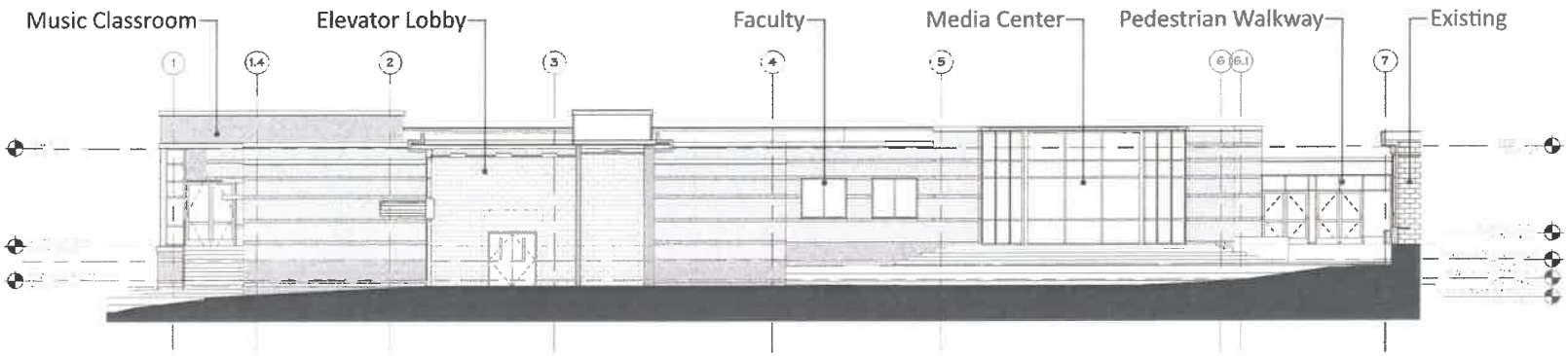


East Elevation

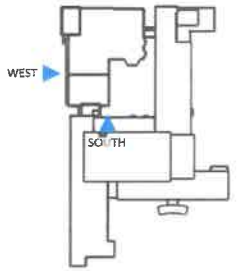
Model Development | Exterior Elevations



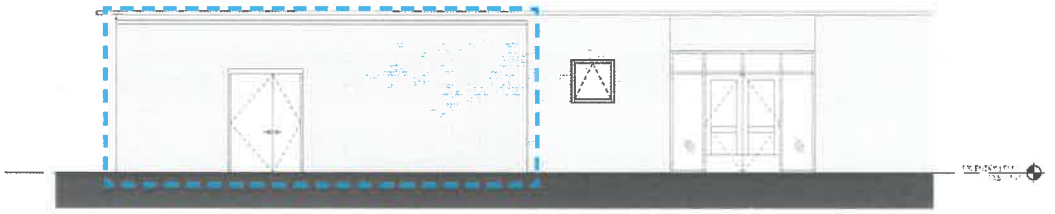
West Elevation



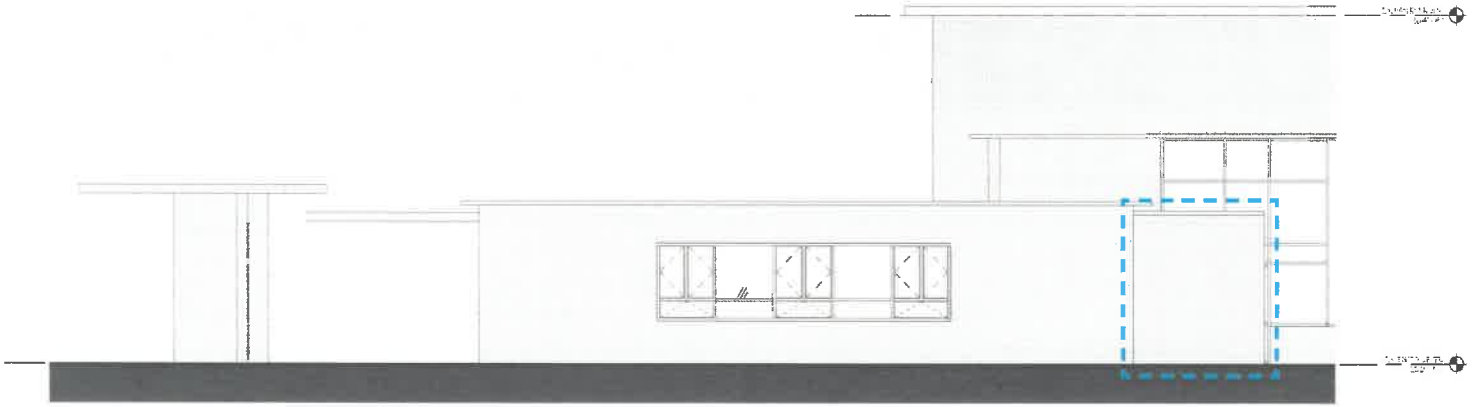
South Elevation



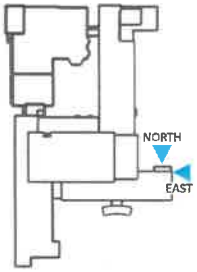
Model Development | Kitchen Exterior Elevations



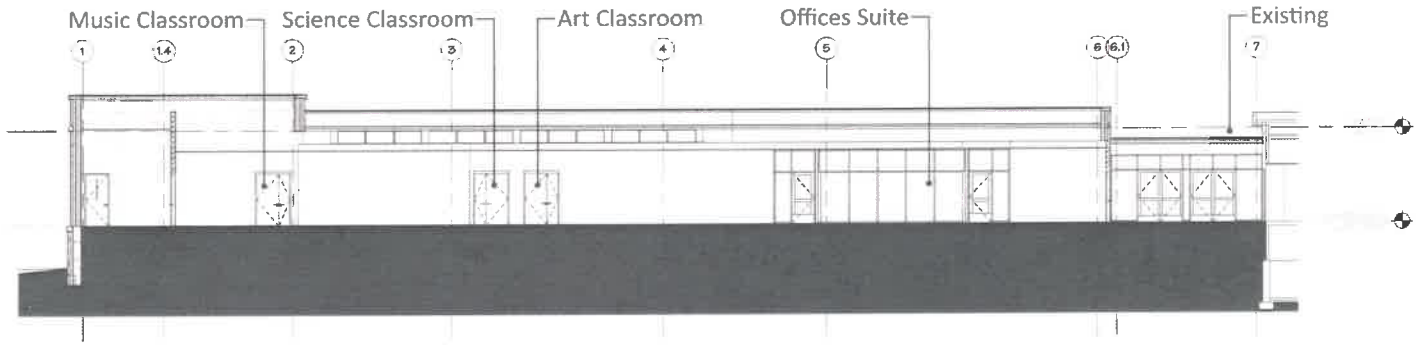
North Elevation



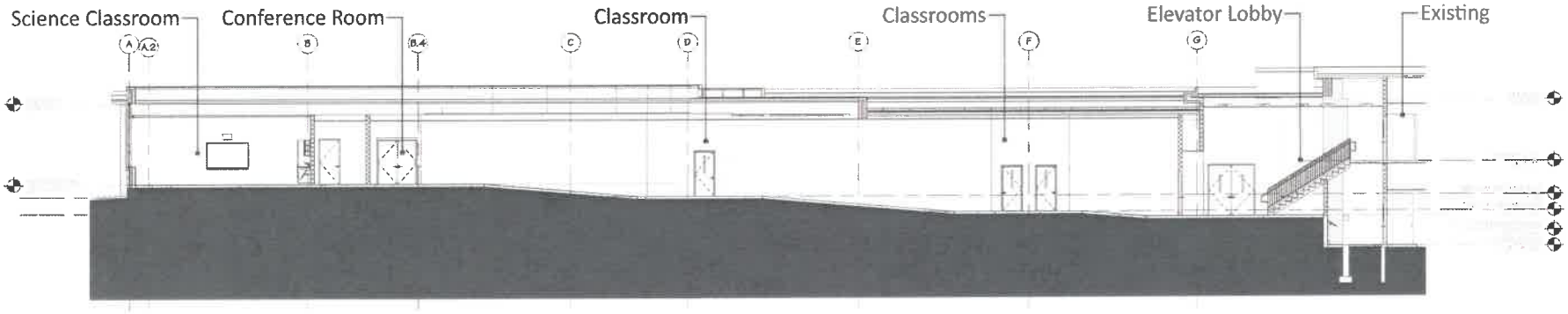
East Elevation



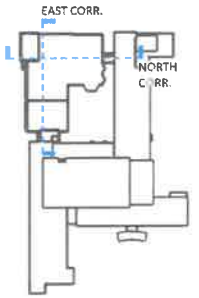
Model Development | Building Sections



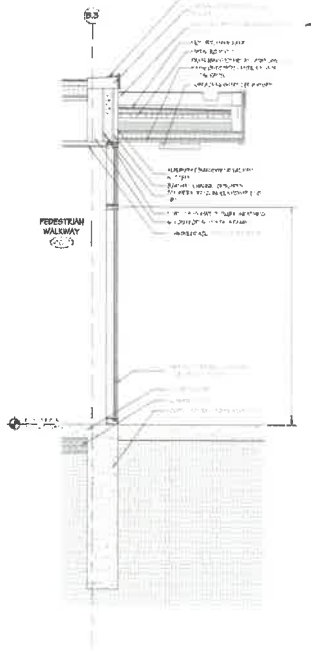
North Corridor



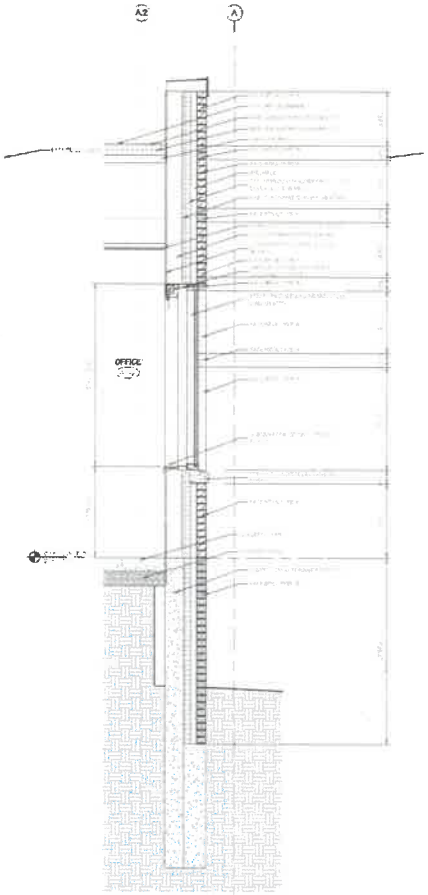
East Corridor



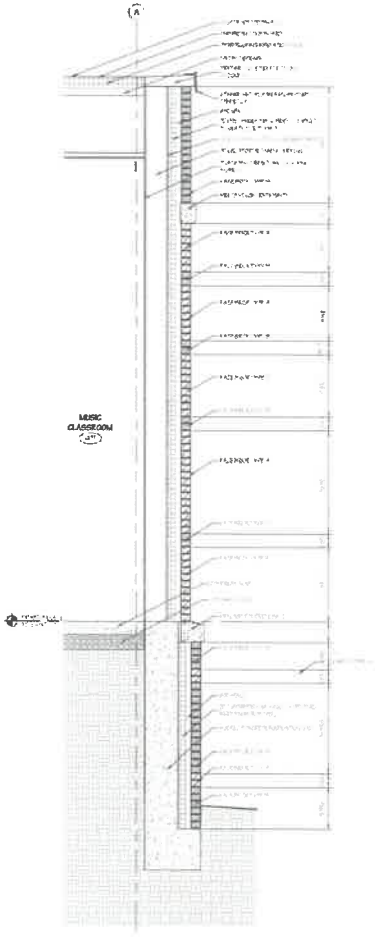
Model Development | Wall Sections



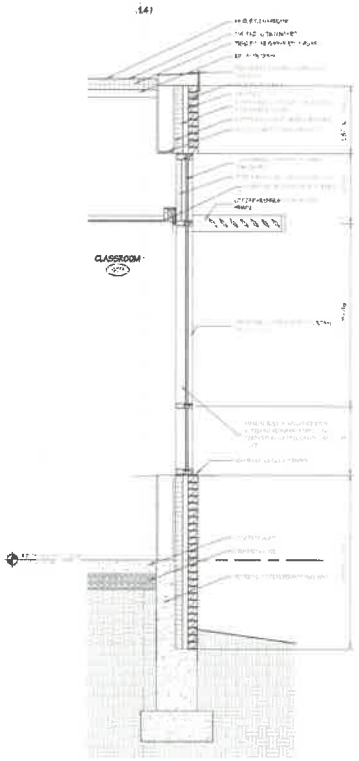
North Pedestrian Walkway



Typical Offices

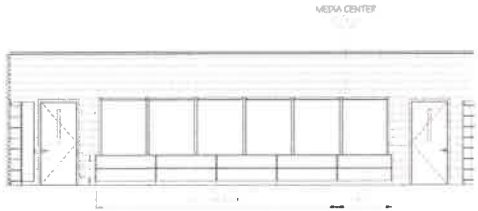


Music Classroom

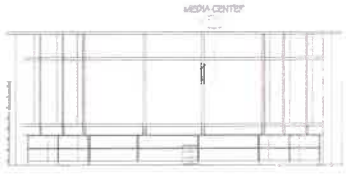


Typical West Classrooms

Model Development | Interior Elevations



Media Center



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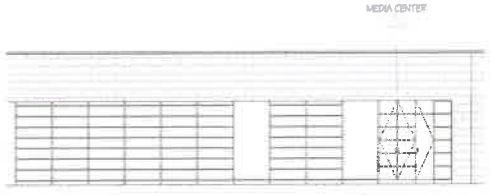
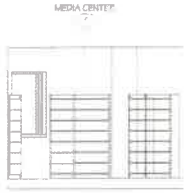
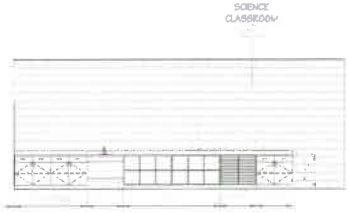


Media Center

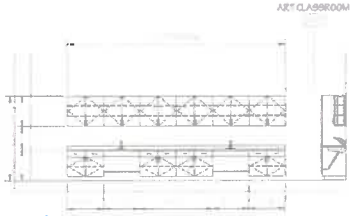


Media Center

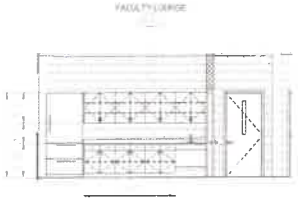


Science Classroom

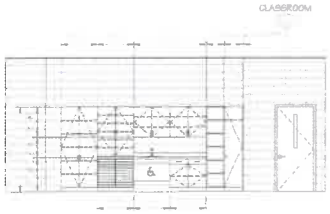
Art Classroom



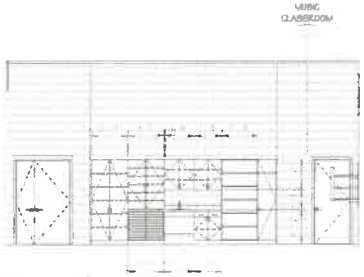
Art Classroom



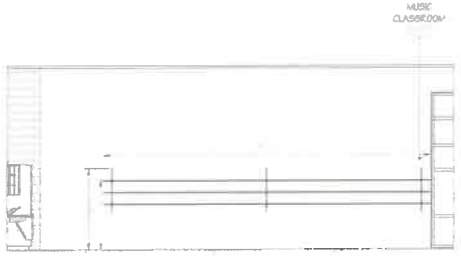
Faculty Lounge



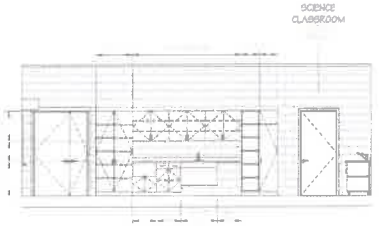
Classroom



Music Classroom

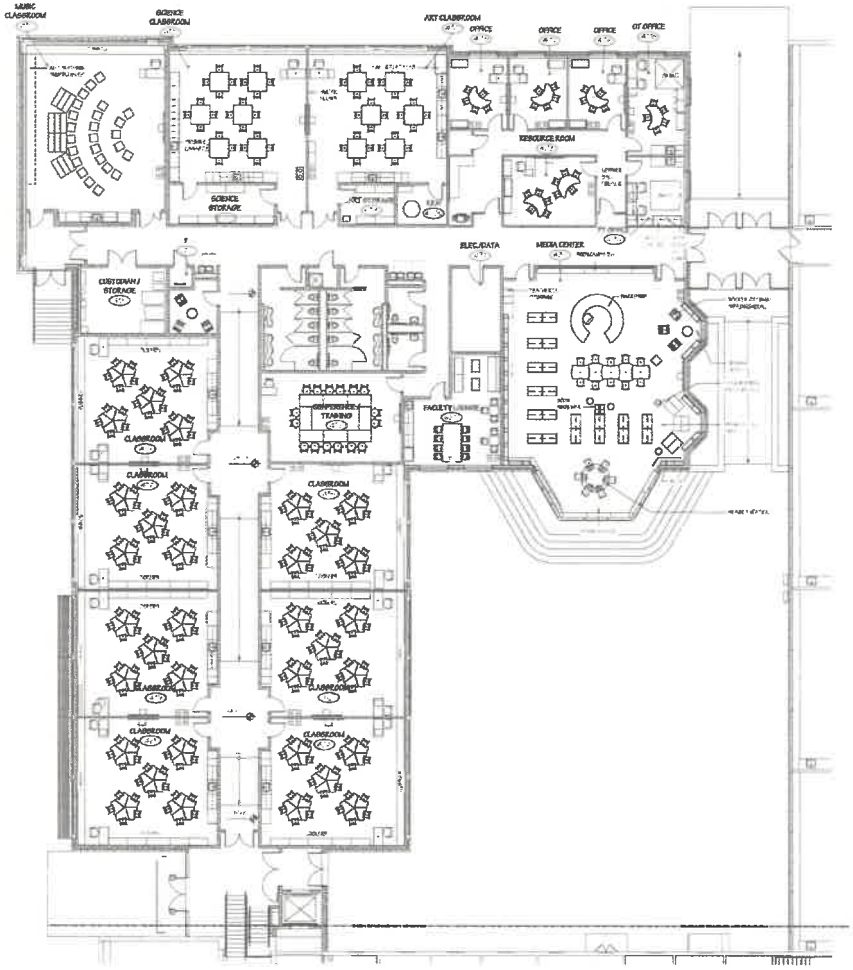


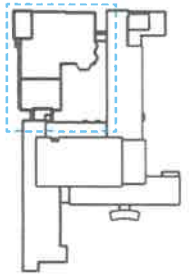
Music Classroom



Science Classroom

Interior Furnishings | Mid Level





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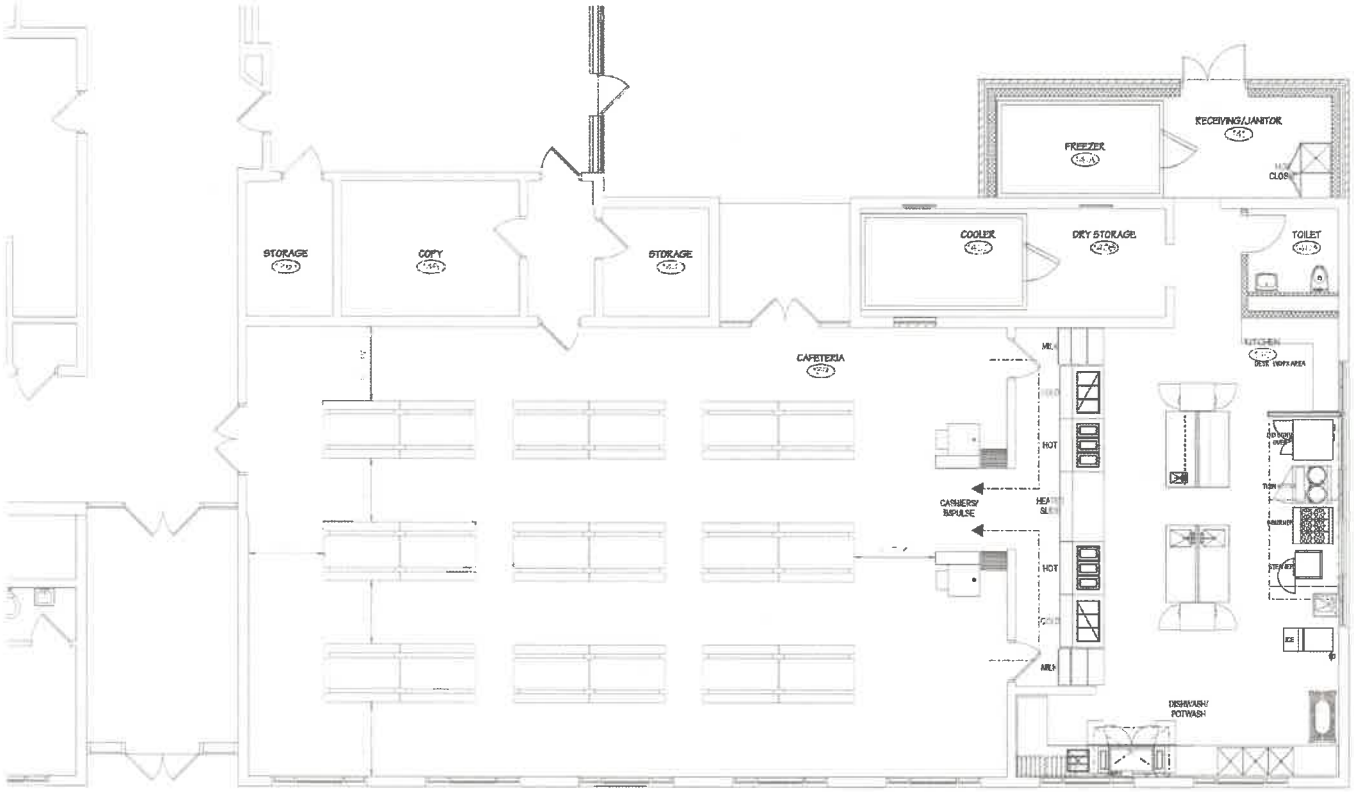
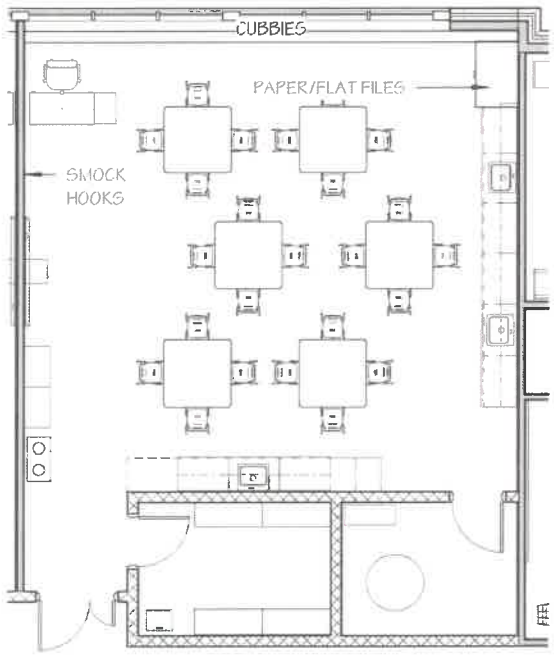
    Operator: 0xc0
    Position: 6497037

Interior Furnishings | Cafeteria + Kitchen



Art Classroom 409



ART		
	24	Chair, Student, Grades 2-4
	1	Chair, Task w/ Arms
	6	Classroom Table, Square
	2	Dry Rack
	1	Mobile Pedestal File
	1	Paper Storage, Flat File
	1	Teacher Sit To Stand Desk
	1	Waste & Recycling Receptacle

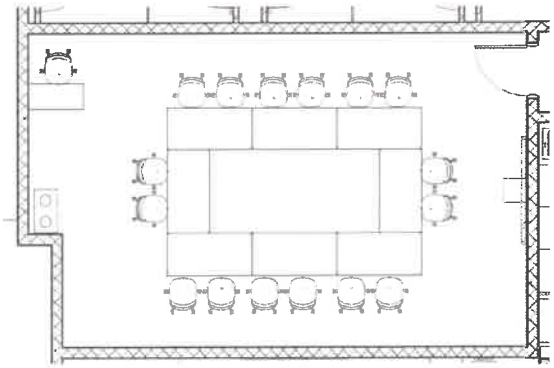
ART STORAGE		
	1	Clay Cart
	4	Industrial Shelving

KILN		
	1	Kiln
	1	Ware Cart

Classroom 415

CLASSROOM 415		
	25	Chair, Student, Grades 2-4
	2	Chair, Task w/ Arms
	25	Desk, Student
	4	Locker, 4 Unit
	1	Locker, 5 Unit
	1	Mobile Pedestal File
	2	Teacher Sit To Stand Desk
	1	Waste & Recycling Receptacle

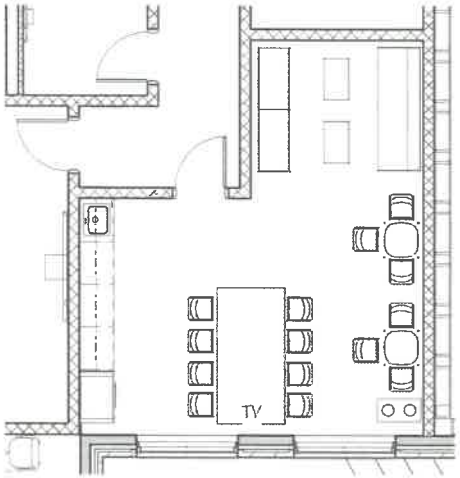
Conference 416



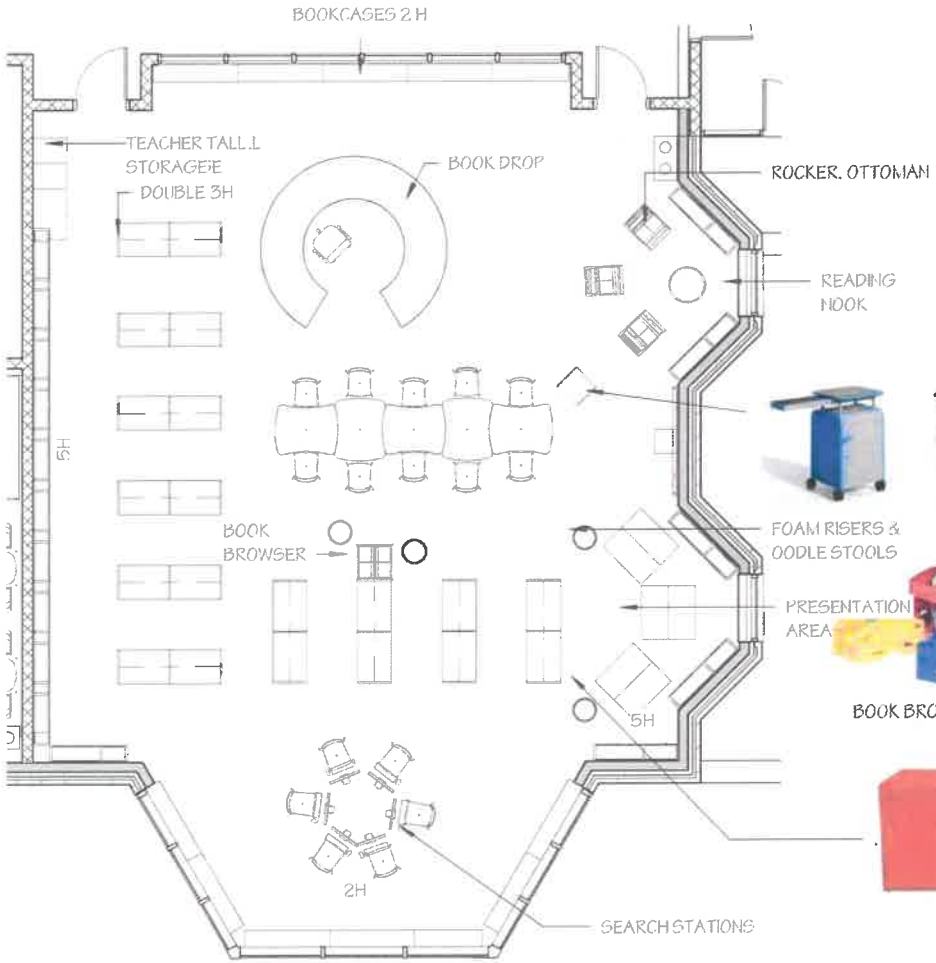
CONFERENCE_TRAINING		
	17	Chair, Task. Armless
	1	Table. Rectangle. Mobile, 39x19
	8	Table. Rectangle. Mobile, 60x24
	1	Waste & Recycling Receptacle

Faculty Lounge 430

FACULTY LOUNGE		
	2	Bench
	2	Coffee Table
	1	Sofa, 4 Seater
	14	Stool
	2	Table, Cafe
	1	Table, Campfire
	1	Waste & Recycling Receptacle



Media Center 432



MEDIA CENTER		
	1	Book Browser Unit
	10	Bookshelve, Double Sided, . 6W, 3H
	1	Chair, Task w/ Arms
	1	Foam Ottoman
	3	Foam Rocker
	3	Foam Two Step Seating
	5	Hourglass Table
	21	Library Chair
	4	Oodle Stools
	1	Storage Cabinet with Laptop Shelf
	1	Waste & Recycling Receptacle


ROCKER


OTTOMAN


BOOK BROWSER

Music Classroom 411

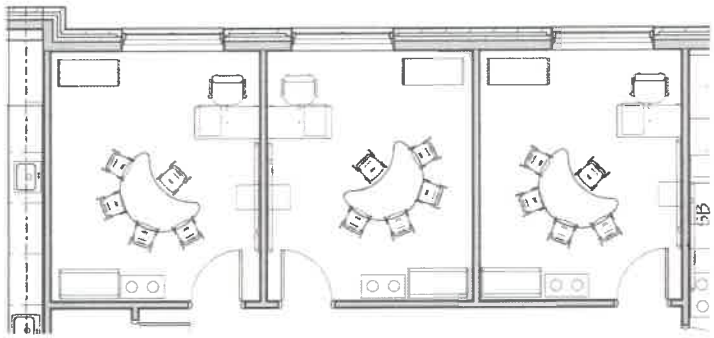
MUSIC		
	1	Chair, Task w/ Arms
	4	FlipForms
	1	Mobile Pedestal File
	25	Music Chair
	1	Teacher Sit To Stand Desk
	1	Waste & Recycling Receptacle

Offices 411 | 407 | 408

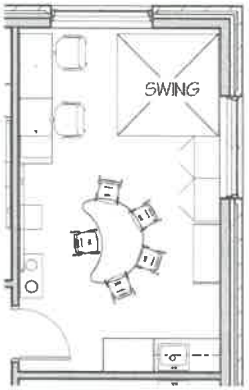
OFFICE_SMALL CLASSRM 1		
	5	Chair, Student, Grades 2-4
	1	Chair, Task w/ Arms
	1	Mobile Pedestal File
	1	Storage Cabinet with Totes
	1	Storage, Open Shelves
	1	Table, Moon
	1	Teacher Sit To Stand Desk
	1	Waste & Recycling Receptacle

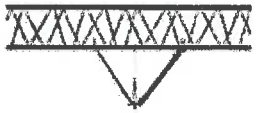
OFFICE_SMALL CLASSRM 2		
	5	Chair, Student, Grades 2-4
	1	Chair, Task w/ Arms
	1	Mobile Pedestal File
	1	Storage Cabinet with Totes
	1	Storage, Open Shelves
	1	Table, Moon
	1	Teacher Sit To Stand Desk
	1	Waste & Recycling Receptacle

OFFICE_SMALL CLASSRM 3		
	5	Chair, Student, Grades 2-4
	1	Chair, Task w/ Arms
	1	Mobile Pedestal File
	1	Storage Cabinet with Totes
	1	Storage, Open Shelves
	1	Table, Moon
	1	Teacher Sit To Stand Desk
	1	Waste & Recycling Receptacle

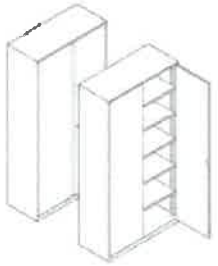


OT 405



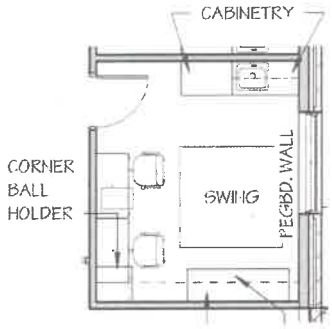


OFFICE_OT		
	5	Chair, Student, Grades 2-4
	2	Chair, Task w/ Arms
	1	Mobile Pedestal File
	2	Storage Cabinet
	1	Storage Cabinet with Cubbies
	1	Swing Joist
	1	Table, Moon
	2	Teacher Sit To Stand Desk
	1	Waste & Recycling Receptacle



PT 404

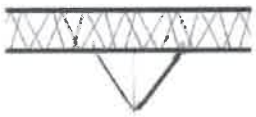
OFFICE_PT		
	2	Chair, Task w/ Arms
	1	Corner Ball Holder
	2	Folding Mat
	1	Mobile Pedestal File
	2	Pegboard Panel
	1	Swing Joist
	2	Teacher Sit To Stand Desk



(2) TEACHER STATIONS

(1) MOBILE PED

(2) FOLDING MATS



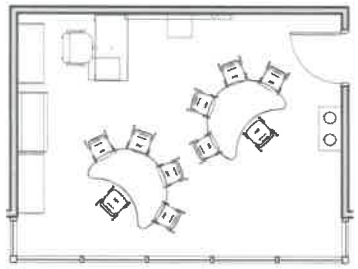
SWING JOIST

(3) WALL MOUNTED CORNER BALL HOLDERS

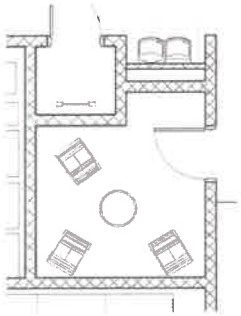
(2) WALL MOUNTED PEGBOARD PANELS, 4'X4'

Resource Room 403

RESOURCE ROOM		
	10	Chair, Student, Grades 2-4
	1	Chair, Task w/ Arms
	1	Mobile Pedestal File
	2	Storage Cabinet with Totes
	1	Storage, Open Shelves
	2	Table, Moon
	1	Teacher Sit To Stand Desk
	1	Waste & Recycling Receptacle



Restorative Room 414

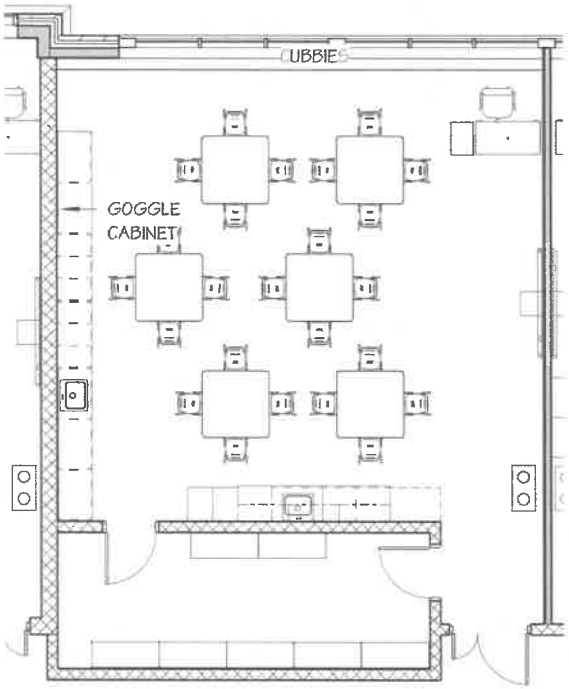


RESTORATIVE		
	1	Foam Ottoman
	3	Foam Rocker

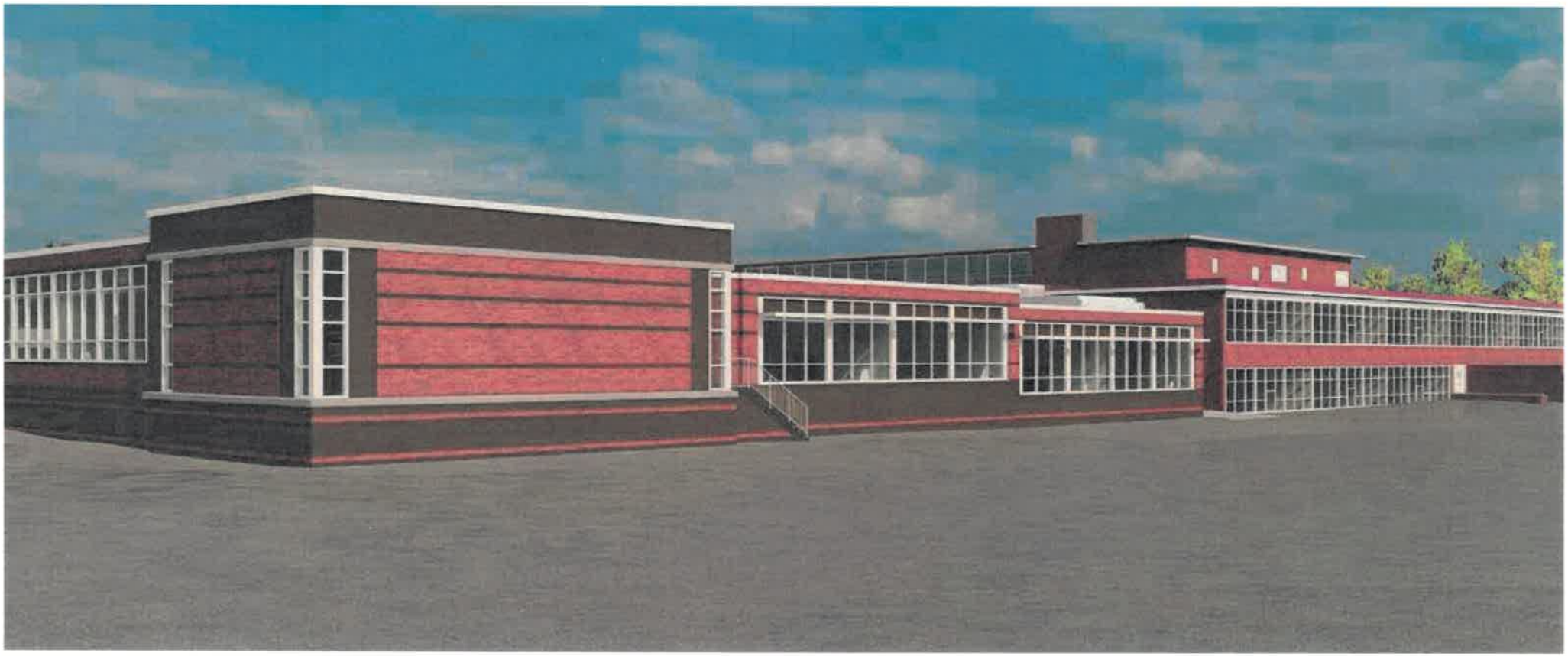
Science Classroom 410

SCIENCE		
	24	Chair, Student, Grades 2-4
	1	Chair, Task w/ Arms
	6	Classroom Table, Square
	1	Mobile Pedestal File
	1	Teacher Sit To Stand Desk
	1	Waste & Recycling Receptacle

SCIENCE STORAGE		
	7	Industrial Shelving



North View



Northwest View

Southwest View

West Connector

Presentation to the **Facilities Committee** of the Board of Education
Danielson Public Schools

Thank You | Questions

04 November 2021

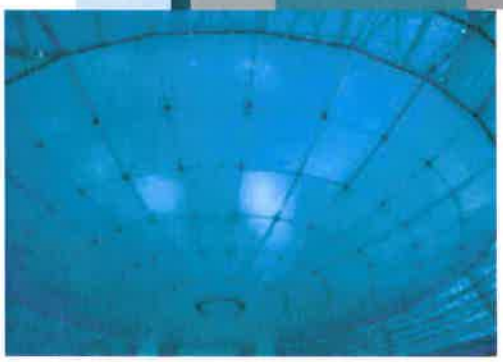
08 88 00/DUP
BuyLine 5981

DuPont™ SentryGlas®

LAMINATED GLASS INTERLAYERS

DUPONT

SentryGlas®



DuPont™ SentryGlas® is changing the way glass performs...

SentryGlas® is 100 times stiffer and 5 times stronger than traditional interlayers, helping thinner laminates meet specified wind loads or structural requirements. In facades, balustrades, stairs, flooring and overhead glazing, laminated glass made with SentryGlas® acts like an engineered composite, with low mechanical strain under loads, and outstanding post-breakage resistance to creep and collapse.

Bolted and Frameless Glass

Laminated glass made with SentryGlas® can tolerate high stress loads. This gives architects and framing system engineers greater design freedom, useful in creating innovative new bolted and point-supported systems. Clean, smooth, expansive facades can now be engineered with minimal metal exposure and reduced need for four-sided edge framing.

Butt Joined Freedom, Too

SentryGlas® laminates offer excellent edge stability performance and are less susceptible to moisture intrusion or other weather effects. In testing with widely used silicone sealants, butt-joined panels of laminated glass made with SentryGlas® interlayers show excellent compatibility, remaining free of clouding or other edge defects after years of weather exposure.

Let's Make Something Perfectly Clear

SentryGlas® starts out with a significant lower yellowness index (YI) compared to traditional interlayers and keeps its clarity after years of service. When used in combination with low-iron glass, laminates offer an ultra clear appearance that enhances daylighting and views.

Typical Physical Properties of DuPont™ SentryGlas® Interlayer

Property	Units Metric (English)	Value	ASTM Test
Young's Modulus	MPa (kpsi)	300 (43.5)	D5026
Tensile Strength	MPa (kpsi)	34.5 (5.0)	D638
Elongation	%	400	D638
Density	g/cm³ (lb/in³)	0.95 (0.0343)	D792
Flex Modulus 23°C (78°F)	MPa (kpsi)	345 (50)	D790
Heat Deflection Temperature at 0.46 MPa	°C (°F)	43 (110)	D648
Coefficient of Thermal Expansion (–20°C to 32°C)	—	10–15 x 10^{-5}/C°	D696

Typical Physical Properties of DuPont SentryGlas Interlayer (see existing SentryGlas brochure)
Notes: Thicknesses: 60, 90, and 100 mil Color: Clear only Maximum Sizes 2.5 m (width) x 6 m (length)

Ten Reasons to Use DuPont™ SentryGlas® Laminated Glass Interlayers

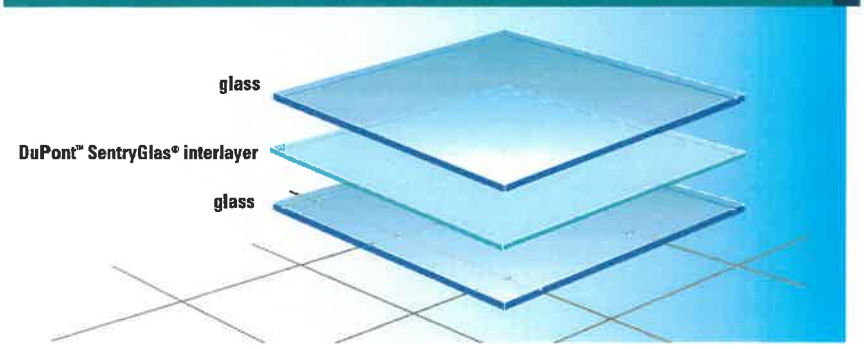
- Safety
- Impact resistance
- Blast mitigation
- Ballistics
- Structural applications
- Edge performance
- Strength
- Ultra-clear appearance
- UV Control
- Durability

Effortless, full-time protection

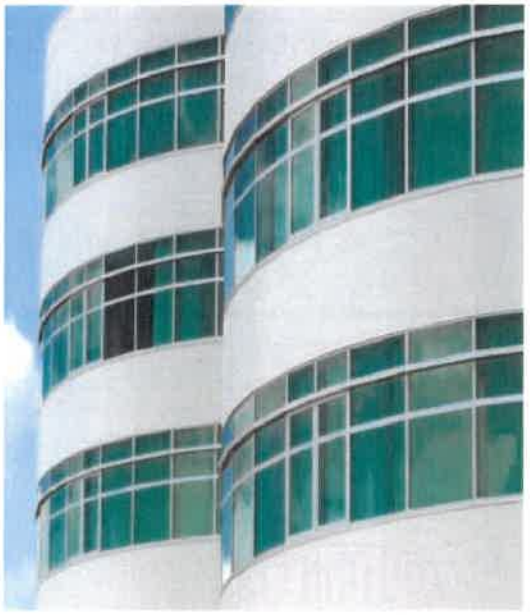
That's how building owners in hurricane-prone areas describe the dependable storm-preparedness of safety glass windows, storefront, and curtain wall systems made with DuPont™ SentryGlas®. Because SentryGlas® is stiffer and tougher than conventional interlayers, it can withstand greater impacts (stronger winds and larger objects). It can be used in larger panes of storm-protected glazing, increasing the vision area while helping to protect people and property. SentryGlas® laminates installed in exterior railing systems remain in place, even if impacted during a storm.

Homeowners also benefit from tough and durable SentryGlas® interlayers in their impact windows, doors, skylights. With no need for shutters, these systems help provide full-time protection against wind-borne debris, the leading cause of window failure and property loss. And unlike owners who rely on shutters, owners of homes and condominiums protected by SentryGlas® don't have to be there to deploy their safety system. Whether they're home or not, their protection is on duty, guarding their investment in accordance with the world's most demanding building codes.

Impact resistant laminated glass with SentryGlas®



The best way to meet building code requirements for protection of windows, doors, and skylights.



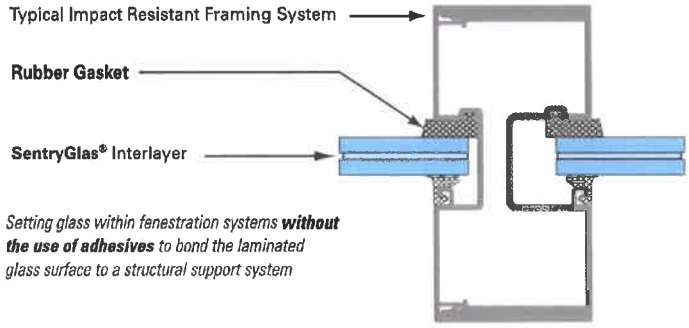
Dry Glaze Technology for Impact System Design

Dry glazing DuPont™ SentryGlas® combines the convenience, speed, and savings of dry glazing with the impact resistance of SentryGlas® interlayers. Commercial installations with Dry Glaze SentryGlas® meet large missile impact requirements without the use of structural sealants. In addition, the interlayer provides an ultra-clear appearance, limited deflection, and superior edge stability.

The benefits of the Dry Glaze SentryGlas® System are

- No structural sealant required — eliminating prep work, glazing material, labor costs, and time
- Fast, easy, and low cost installations
- Consistent installations
- Faster, easier replacements — with no old sealant to remove and replace
- Retrofit possibilities
- And SentryGlas® interlayer for toughness, edge stability and an ultra-clear appearance

Dry Glaze SentryGlas® Commercial Fenestration System



*Setting glass within fenestration systems **without the use of adhesives** to bond the laminated glass surface to a structural support system*

sentryglas.com **email: glass@dupont.com**

DUPONT®

The miracles of science™

RUBEROID®/GAFGLAS® DIAMOND PLEDGE™ NDL ROOF GUARANTEE

No G2017-00009162

ADDENDUM (over)

OWNER: TOWN OF KILLINGLY PERIOD OF COVERAGE: 20 YEARS

NAME AND TYPE OF BUILDING: KILLINGLY MEMORIAL SCHOOL

ADDRESS OF BUILDING 939 MAIN STREET DANIELSON COURT, DANIELSON, CT 06239

ROOF SPECIFICATION: I0220MG AREA OF ROOF 560.00 SQUARES

APPLIED BY: HARTFORD RESTORATION / EAST HARTFORD, CT

DATE OF COMPLETION: 09/25/2017 GUARANTEE EXPIRATION DATE 09/25/2037

THE GUARANTEE/SOLE AND EXCLUSIVE REMEDY

GAF guarantees to you, the owner of the building described above, that GAF will provide "Edge To Edge" protection by repairing leaks through the GAF roofing membrane, liquid-applied membrane or coating, base flashing, insulation, expansion joint covers, prefashed accessories, and metal flashings used by the contractor of record that meet SMACNA standards (the "GAF Roofing Materials") resulting from a manufacturing defect, ordinary wear and tear, or workmanship in applying the GAF Roofing Materials. There is no dollar limit on covered repairs. Leaks caused by any non-GAF materials, such as the roof deck or non-GAF insulation, are not covered.

GUARANTEE PERIOD

This guarantee ends on the expiration date listed above. **NOTE:** Lexsuca® and uncoated M-Curb™ flashings are covered by this guarantee **ONLY** for the first ten years.

OWNER RESPONSIBILITIES

Notification of Leaks

In the event of a leak through the GAF Roofing Materials, you **MUST** make sure that GAF is notified directly about the leak, in writing, within **30 days** by e-mail (preferred) at guaranteeleak@gaf.com or by postal mail to GAF Guarantee Services, 1 Campus Drive, Parsippany, NJ 07054, or GAF will have no responsibility for making repairs. **NOTE:** The roofing contractor is **NOT** an agent of GAF; notice to the roofing contractor is **NOT** notice to GAF.

By notifying GAF, you authorize GAF to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this guarantee, you agree to pay an investigation cost of $500. This guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

Preventative Maintenance and Repairs

A. You must perform regular inspections and maintenance and keep records of this work.
B. To keep this guarantee in effect, you must repair any conditions in the building structure or roofing system that are not covered by this guarantee but that GAF concludes may be threatening the integrity of the GAF Roofing Materials. Any such repairs must be performed by a GAF-certified roofing contractor. Failure to make timely repairs may jeopardize guarantee coverage.
C. You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAF Roofing Materials.
D. Any equipment or material that impedes any inspection or repair must be removed at your expense so that GAF can perform inspections or repairs.

EXCLUSIONS FROM COVERAGE

(e.g., items that are not "ordinary wear and tear" or are beyond GAF's control)

This guarantee does **NOT** cover conditions other than leaks. This guarantee also does **NOT** cover leaks caused by any of the following:

1. Inadequate roof maintenance, that is, the failure to follow the Scheduled Maintenance Checklists provided with this guarantee (extra copies available by calling Guarantee Services at 1-800-ROOF-411) or the failure to repair owner responsibility items.
2. Unusual weather conditions or natural disasters including, but not limited to, winds in excess of 54 miles per hour, hail, floods, hurricanes, lightning, tornados, and earthquakes, unless specifically covered by an addendum to this guarantee.
3. Impact of foreign objects or physical damage caused by any intentional or negligent acts, accidents, misuse, abuse or the like.
4. Damage to the roof constructed of the GAF Roofing Materials due to: (a) Movement, cracking, or other failure of the roof deck or building; (b) improper installation or failure of any non-GAF insulation or materials; (c) condensation or infiltration of moisture through or around the walls, copings, building structure, or surrounding materials except where high wall GAF waterproofing flashings are installed; (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil; (e) the failure of wood nailers to remain attached to the structure; (f) moisture migration from the building interior or any building component other than the GAF Roofing Materials; (g) use of materials that are incompatible with the GAF Roofing Materials; or (h) architectural, engineering, or design defects or flaws.
5. Traffic of any nature on the roof unless using GAF walkways applied in accordance with GAF's published application instructions.
6. Blisters in the GAF Roofing Materials that have not resulted in leaks unless (a) the blister is between the base sheet and insulation and a Stratavent® Perforated Venting Base Sheet is installed directly over isocyanurate insulation, or (b) the blister is in a seam and may affect the watertight integrity of the GAF Roofing Materials.
7. Changes in the use of the building or any repairs, modifications, or additions to the GAF Roofing Materials after the roof is completed, unless approved in advance in writing by GAF.
8. Conditions that prevent positive drainage or result from ponding water.

No representative, employee, or agent of GAF, or any other person, has the authority to assume any additional or other liability or responsibility for GAF, unless it is in writing and signed by an authorized GAF Field Services Manager or Director. GAF does not practice engineering or architecture. Neither the issuance of this guarantee, nor any review of the roof constructed of the GAF Roofing Materials (or the plans for the roof) by GAF shall constitute any warranty of such plans, specifications or construction or the suitability or code compliance of the GAF Roofing Materials for any particular structure. **NOTE:** Any inspections made by GAF are limited to a surface inspection only, are for GAF's sole benefit, and do not constitute a waiver or extension of any of the terms and conditions of this guarantee.

This guarantee MAY BE SUSPENDED OR CANCELLED IF THE ROOF IS DAMAGED BY any cause listed above as AN EXCLUSION FROM COVERAGE that may affect the integrity or watertightness of the roof.

TRANSFERABILITY

You may transfer or assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing to GAF at the address listed below within 60 days after ownership transfer, 2) you make any repairs to the GAF Roofing Materials or other roofing or building components that are identified by GAF after an inspection as necessary to preserve the integrity of the GAF Roofing Materials, and 3) you pay an assignment fee of $500. This guarantee is NOT otherwise transferable or assignable by contract or operation of law, either directly or indirectly.

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAF, whether any claim against it is based upon negligence, breach of warranty, or any other theory. In NO event shall GAF be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to, interior or exterior damages and/or mold growth. The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: GAF shall have no obligation under this guarantee unless and until all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the guarantee charge has been paid to GAF.

This guarantee must have a raised seal to be valid.

GAF
1 CAMPUS DRIVE
PARSIPPANY, NJ 07054

By: _____ 01/16/2018
Authorized Signature Date

COMT5587A

Guarantee Services
1 Campus Drive
Parsippany, NJ 07054

GAF
Quality You Can Trust...From
North America's Largest Roofing Manufacturer!™

ASPHALTIC NOTICE OF AWARD CONFIRMATION

Status: Project Approved **Status as of:** 01/16/18

Type of Guarantee: RUBEROID DIAMOND PLEDGE 20 **GAF File No:** 2017-00009162

1. BUILDING NAME, ADDRESS, PHONE:
KILLINGLY MEMORIAL SCHOOL
339 MAIN STREET DANIELSON COURT
DANIELSON, CT 06239

2. ROOFING CONTRACTOR'S NAME, ADDRESS, PHONE:
HARTFORD RESTORATION
11 VILLAGE ST
EAST HARTFORD, CT, 06108
Contact: TONY RAFALA Phone: 860-289-4713
Fax: Email: arafala@aol.com

3. BUILDING OWNER'S NAME, ADDRESS, PHONE:
TOWN OF KILLINGLY
172 MAIN STREET
KILLINGLY, CT 06239
Phone: 860-779-5355

4. SPECIFIER'S NAME, ADDRESS, PHONE:
SILVER PETRUCILLI
3190 WHITNEY AVE
HAMDEN, CT 06518
Contact: Phone: 2032309007
Fax: Email: KLINSLEY@SILVERPETRUCELLI.COM

Building Description - Usage, Height, etc.:

Usage: SCHOOL
Height: 30' **Length:** 400' **Width:** 65'
# of Buildings: 4 **Roof Access:** LADDER

Project Details:

Start Date: 08/03/17 **Compl. Date:** 09/25/17 **Specification #:** I0220MG
AIS Project #: G-20875 **Total Squares:** 560.00 **Roof Slope:** 1/2
Project Type: Complete Tearoff **Test Cuts Completed:** No **Moisture Scan Completed:** No
Deck Type: LWT. INSUL. CONCRETE **Steel: Indicate Gauge**
Thickness: **Multiple Deck:** Yes
Vapor Barrier: Yes **Barrier Type and Attachment:** GAFGLASS

Insulation:

Insulation Supplied by GAF: Yes **Insulation Adhesive:**
Layer 1: Product Type: ENERGYGUARD™ ISO **Thickness:** 4" **Insulation Size:** **Attachment:** Mopped
Layer 2: Product Type: ENERGYGUARD™ **Thickness:** TAPER **Insulation Size:** **Attachment:** Mopped
Layer 3: Product Type: ENERGYGUARD™ **Thickness:** 1/2" **Insulation Size:** **Attachment:** Mopped
Layer 4: Product Type:

Roof Assembly:

GAF Interply: Number of Ply's: 1 **Product:** RUBEROID® 20 **Attachment:** HOT-MOPPED
Membrane Cap Sheet: RUBEROID® MOP GRANULE **Attachment:** MOPPED
Asphalt: TRUMBULL ASPHALT - 009 **Type:** III **Code:** 009 **WT (LBS):** 0

Base Flashing:

Base Flashing Spec Number: 2W20M
1st Ply: RUBEROID® 20 SMOOTH **Lin. Ft:** 1550
2nd Ply: RUBEROID® MOP GRANULE
3rd Ply: **Combustible:** COMBUSTABLE

GAF GUARANTEED CONTRACTOR:

Please verify the information above is correct. Changes made after the guarantee has been issued are subject to a fee. Remember, only material manufactured or marketed by GAF are eligible for guarantee.

Territory Manager: Matthew Hamilton/Nick Vetrano

We require the following information before issuance of your guarantee:

Guarantee Services
1 Campus Drive
Parsippany, NJ 07054

Quality You Can Trust...From
North America's Largest Roofing Manfacturer!™

ASPHALTIC NOTICE OF AWARD CONFIRMATION

Status: Project Approved **Status as of:** 01/16/18

Type of Guarantee: RUBEROID DIAMOND PLEDGE 20 **GAF File No:** 2017-00009162

*** ROOF PLAN**

Statement of Account:

- Payment History -

Payment Type	Payment Date	Payment/Check #	Amount
GUARANTEE	11/29/17	CC2017-00009162	$500.00

Comp. Quote: SP-1
Comp. Per Sq.: $0.00
Minimum Amt: $500.00

Project Balance: $0.00

Killingly, CT

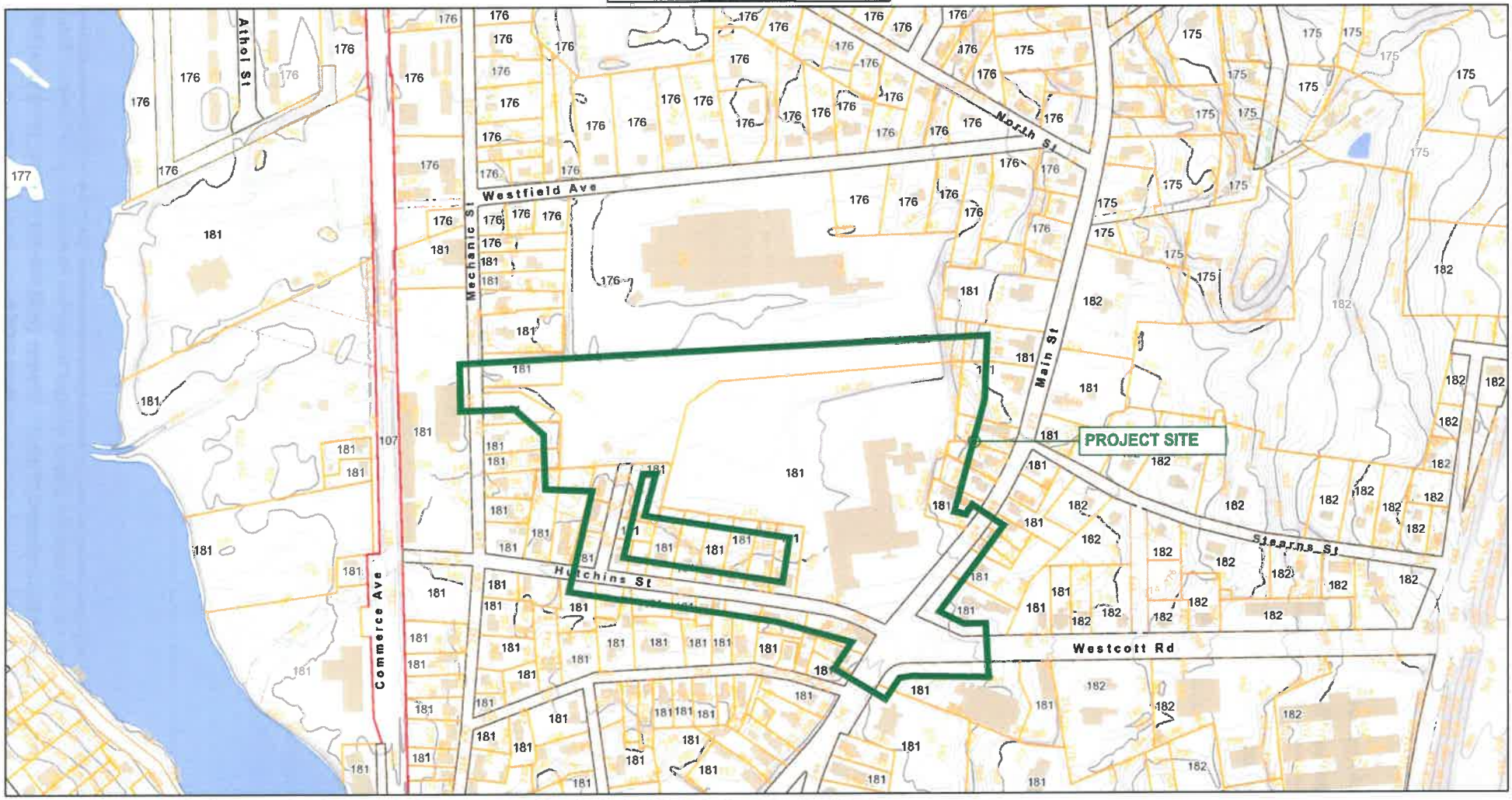
1 inch = 280 Feet

0 280 561 842

August 26, 2021

CAI Technologies

www.cai-tech.com



Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2018.

Information on the Property Records for the Municipality of Killingly was last updated on 9/15/2021.

Parcel Information

Location:	339 MAIN ST	Property Use:	Public Use	Primary Use:	Town Hall
Unique ID:	6957	Map Block Lot:	181-142	Acres:	10.50
490 Acres:	0.00	Zone:	BRHD	Volume / Page:	0153/0183
Developers Map / Lot:		Census:	9045-2000		

Value Information

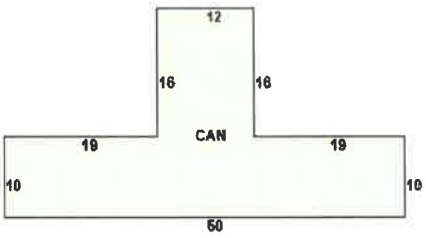
	Appraised Value	Assessed Value
Land	840,000	588,000
Buildings	3,606,000	2,524,200
Detached Outbuildings	0	0
Total	4,446,000	3,112,200

Owner's Information

Owner's Data

KILLINGLY TOWN OF-032
MEMORIAL SCHOOL
172 MAIN ST
KILLINGLY, CT 06239

Building 1



Category:	School	Use:	Edu Garage	GLA:	69,722
Stories:	2.00	Construction:	Fire Resistant	Year Built:	1952
Heating:	Hot Water	Fuel:		Cooling Percent:	0
Siding:	Brick	Roof Material:		Beds/Units:	0

Special Features

Attached Components

Type:	Year Built:	Area:
Canopy	1952	692
Lump Sum	1952	1

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
Chain Fence	1972	0.00	0.00	746
Paving	1972	0.00	0.00	91,100
Underground Tank	1972	0.00	0.00	10,000

Building Permits

Permit Number	Permit Type	Date Opened	Reason
26845	T:COMMERCIAL WINDOW	05/31/2019	REPL WINDOWS TO NEW INSULATED WINDOWS
26814	T:COMMERCIAL DEMOLITION	05/21/2019	REMOVAL OF 10,000 GAL OIL TANK
26552	T:COMMERCIAL BUILDING	01/15/2019	ADA UPGRADES
26206	T:COMMERCIAL RENOVATIONS	08/02/2018	DEMO - FRAMING SOFLITS, DRYWALL, ACOUSTICAL CEILINGS, NEW LIGHT FIXTURES
25467	T:COMMERCIAL ROOF	08/10/2017	NVC ROOR REPR
24898	T:COMMERCIAL PLUMBING	10/27/2016	INSTALL 2 GAS FIRED WATER HEATERS & NEW GAS LINE
23171	T:COMMERCIAL ELECTRICAL	09/16/2014	NVC INSTALL ACCESS CONTROL & VIDEO SYSTEM
16887	T:COMMERCIAL ELECTRICAL	11/15/2004	NVC ELEC UPGRADES
15957	T:COMMERCIAL ROOF	06/30/2003	REROOF PORT CLA
15406	T:COMMERCIAL ELECTRICAL	08/01/2002	FIRE ALARM
15294	T:BUILDING	06/04/2002	SEE PERMIT
15178	T:COMMERICAL ADDITION	04/08/2002	MODULAR CLASSRM
12099	T:COMMERCIAL ELECTRICAL	02/01/1996	NVC ELEC
11964	T:COMMERCIAL BOILER REPLACEMENT	09/01/1995	HEATING