November Facilities Committee Meeting

Thursday, November 2, 2017 9:00 AM
Central Office Annex Conference Room, 24 School Road, Weston, CT 06883-1623

I. **10 Year Facilities Study Update**

II. **WIS Knee Wall Study Update**

III. **Discussion of Path Behind WIS Leading to Parade Ground Ct.**

IV. **Middle School Pool Locker Room Update**

V. **Video Streaming Update**

VI. **Approval of October Minutes**

VII. **Other Business**

Weston Public Schools, Facilities feasibility study and master plan.

BOE Facility Committee presentation on 11-2-2017

Facilities Study Overview

Effectively a three part process

I. School Facilities Conditions Analysis

- Narrative and matrix by multi disciplines.
- Floor plans coded in color by educational uses.
- Summary sheets with matrices.

II. Facility Program & Utilization

- Utilization methodologies.
- Enrollment Projections.
- School Educational Program.

III. Conceptual Facilities Design & Master Plan

- Four schools, 3 options at WMS, one for each.
- Central Office, Annex Building & Bus Garage.
- Site Campus Mater Plan with design 2 options.

Facilities – Summary

Weston Public Schools facilities consists of seven occupied buildings, and several equipment or unoccupied structures. The total net useable or occupied area is 586,357 square feet.

The four school net square foot areas do not include Town spaces, such as the Senior Center (10,600 s.f. +/-), Pool & Lockers (9,600 s.f. +/-)

The Annex building net square foot area used by BOE/WPS is from the total 12,588 square feet. (Town total is 7,556 square feet.)

Schools	School Net Sq Ft
Hurlbutt Elementary School	83,873
Intermediate School	110,452
Middle School	155,622
High School	223,539
Totals	**573,486**

Building	Building Net Sq Ft
Central Administration	3,735
Annex	5,032
Maintenance & Buses	4,104
Totals	**12,871**
Gross Totals	**586,357**

Assessment of Facilities – Summary of Schools

Schools	School Net Sq Ft	Grades served	Staff Population	2017-18 Student Population
Hurlbutt Elementary School	83,873	Pre-K to 2nd	81	429
Intermediate School	110,452	3rd to 5th	78	507
Middle School	155,622	6th to 8th	80	584
High School	223,539	9th to 12th	111	809
Totals	**573,486**	**PreK to 12th**	**350**	**2,329**

Facility Conditions Assessment & Needs

Assessment of Facilities - Physical Conditions and Educational Needs

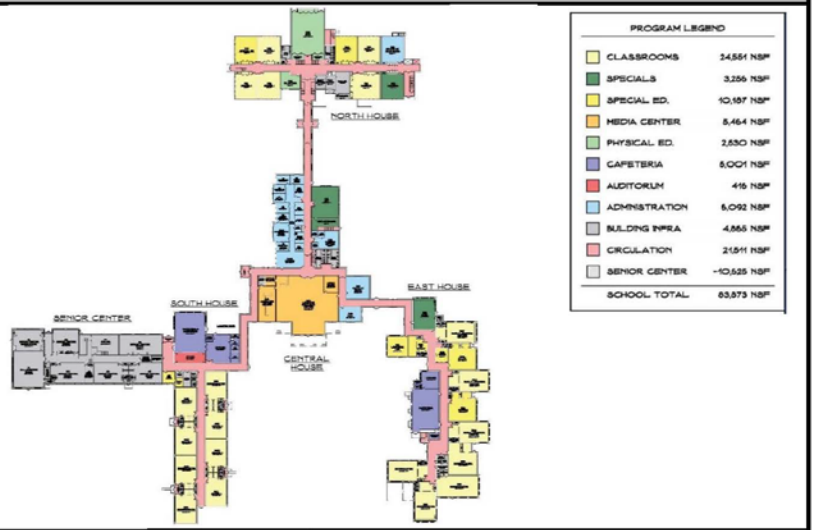
- Aka: Capital Needs / Capital Budgets, short/long term projects
- Draft of facility assessment has been reviewed with WPS Staff, revisions followed, pending approval.
- The facility conditions are prioritized (from 1 to 4), annualized, and presented by design disciplines, i.e., Architectural, Engineering, etc. in narrative and summary matrix format.
- Each condition identified is assigned an *itemized estimated construction cost*. These cost are conceptual in nature, for master planning, and general identification of building needs – order of magnitude. (These are not stand alone projects or costs.)
- Programming meetings at each school and with Superintendent/Administration to identify and prioritized the educational needs. Meeting minutes and design options prepared.

Hurlbutt Elementary School

9 School Road Weston CT

Student Population:	429
Staff Total:	81
School Type:	Elementary-Primary
Grades:	Pre K-2
Original Construction:	1950
Significant Alterations:	1997
Total Area (net)	83,873 NSF

Floor Plan



Building Information	
Construction Type	2B
No. of Floors	2
Foundation	partial

Classroom Counts	
Standard Classroom	27
Special Ed. Classroom	16
Portable Classroom	0

Existing Condition		
Ext. Envelope	brick	
Roof	age:	1997+/-
	type:	Ballast, asphalt and EPDM
Security	staffed security desk, lockable doors, vestibule	
Heating	varies per house - dual and steam: 10+/- years	
Sprinklered	no	n/a
AC	partial	

Priority Projects	
Add Air Conditioning & Ventilation	$3,397,500
Air conditioning,ventilation, ceilings & electrical to support	
Restroom upgrades	$1,250,000
Includes cost for all singles and North gang restrooms	
Emergency Lighting	$110,000
Install code approved emergency lighting system	

Capital Needs Prioritization -	$ 10,233,300	
Discipline	Total	Priority 1&2
Site	$621,000	$407,000
Architectural	$4,295,800	$1,478,000
Plumbing & FP	$626,000	$48,500
Mechanical	$3,410,000	$2,422,000
Electrical	$1,280,500	$130,500
Total:	**$10,233,300**	**$4,486,000**

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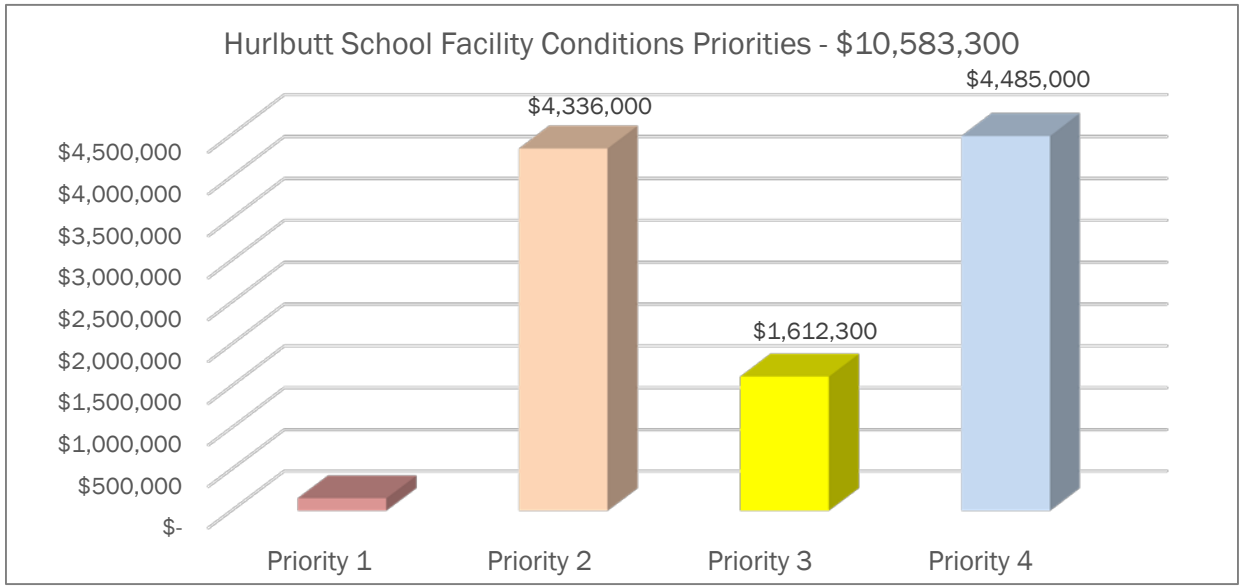
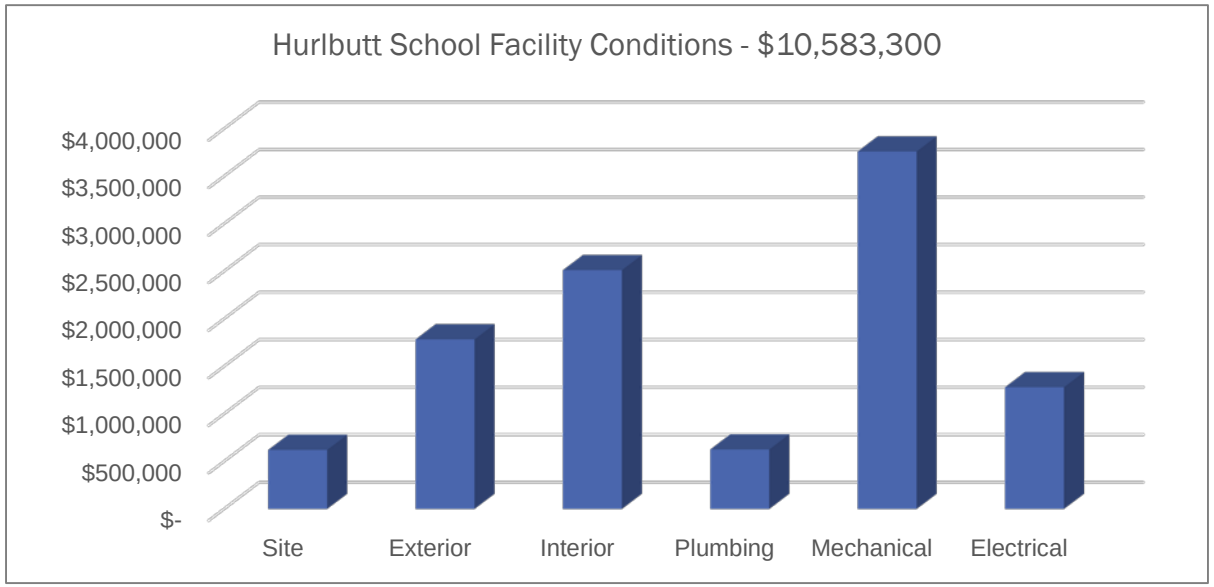
Architects / Engineers / Interior Designers

WESTON SCHOOLS - FACILITIES FEASIBILITY STUDY

HURLBUTT ELEMENTARY SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENC	RANKING	CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
1	Urgent priority - These items should be corrected as soon as possible and most likely encompass code, health and life safety issues.					
2	High priority - These items should be corrected within a reasonable amount of time after the highest priorities referenced above. These may be associated with high priority maintenance issues or accessibility issues for the physically challenged. Maintenance items have a remaining useful life from 1-3 years.					
3	Moderate priority – These items may be associated with aesthetic or general maintenance issues. Remaining useful life of 3-5 years.					
4	Low priority – These items include maintenance and aesthetic issues that are not in current need of replacement, but should continue to be monitored on a regular basis. These items typically have a remaining useful life of 5-10 years or greater.					





Weston Intermediate School

95 School Road Weston CT

Student Population:	507
Staff Total:	78
School Type:	Elementary-Secondary
Grades:	Grade 3-5
Original Construction:	2005
Significant Alterations:	n/a
Total Area (net)	110,452 NSF

Floor Plan

Building Information	
Construction Type	2B
No. of Floors	2
Foundation	none

Classroom Counts	
Standard Classroom	27
Special Ed. Classroom	13
Portable Classroom	0

Existing Condition		
Ext. Envelope	brick and metal panel	
Roof	age:	2005
	type:	Ballast
Security	staffed security desk, lockable doors, vestibule	
Heating	dual flame - 20 year life expectancy remaining	
Sprinklered	yes	
AC	yes	

5-year Priority Projects	
Gymnasium knee wall	$264,000
Repair and reconstruct	
Add exterior doors at Gymnsaium	$25,000
Demo wall and ad double door	
New Flooring at Cafetorium	$81,180
Remove, prepare slab and replace	

Capital Needs Prioritization -	$ 1,379,342	
Discipline	Total	Priority 1&2
Site	$33,000	$0
Architectural	$499,030	$387,430
Plumbing & FP	$20,500	$500
Mechanical	$51,600	$35,900
Electrical	$775,212	$110,000
Total:	$1,379,342	$533,830

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WESTON SCHOOLS - FACILITIES FEASIBILITY STUDY

WESTON INTERMEDIATE SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING	CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
1	Urgent priority - These items should be corrected as soon as possible and most likely encompass code, health and life safety issues.					
2	High priority - These items should be corrected within a reasonable amount of time after the highest priorities referenced above. These may be associated with high priority maintenance issues or accessibility issues for the physically challenged. Maintenance items have a remaining useful life from 1-3 years.					
3	Moderate priority – These items may be associated with aesthetic or general maintenance issues. Remaining useful life of 3-5 years.					
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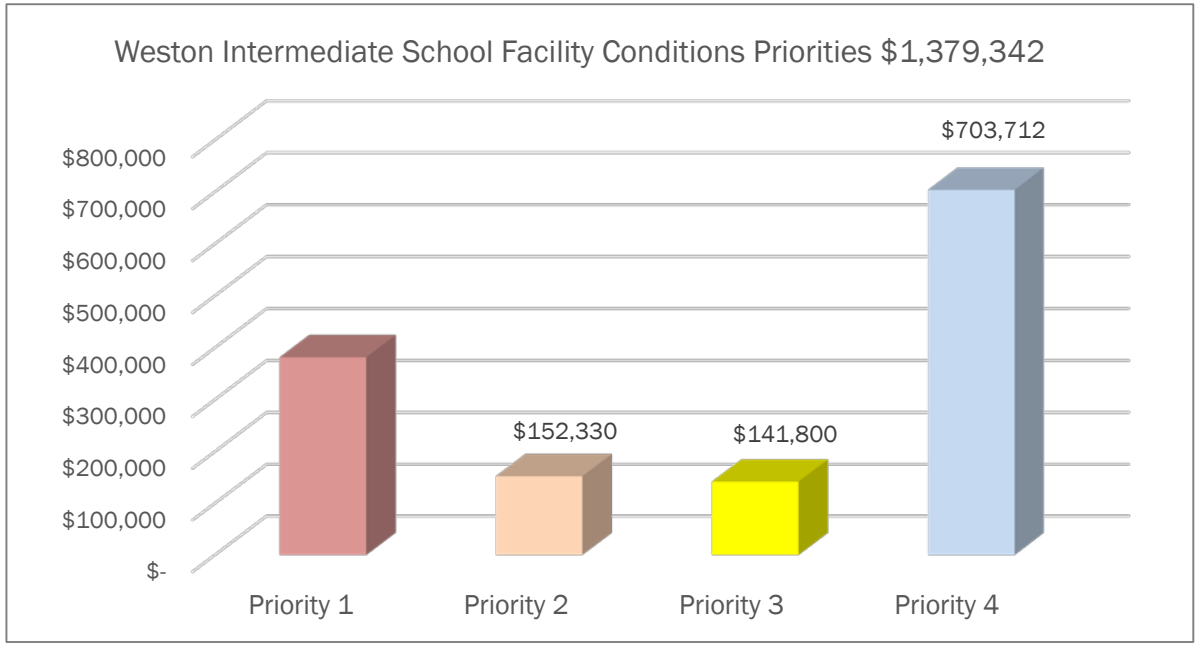

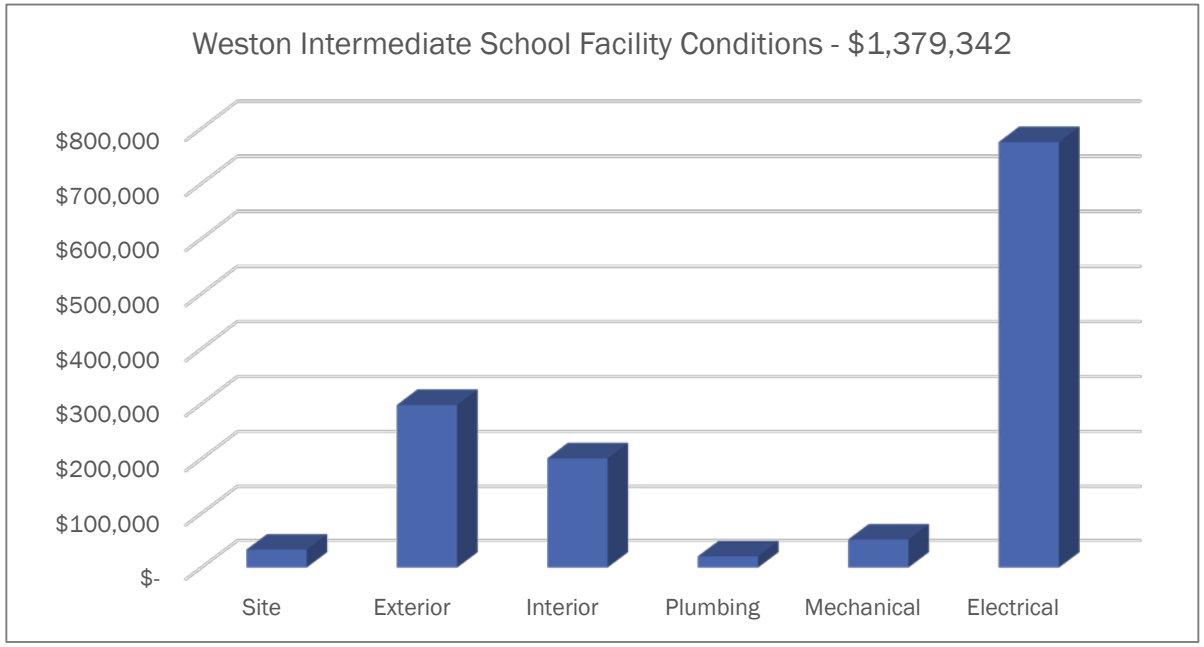

Weston Middle School

135 School Road Weston CT

Student Population:	584
Staff Total:	80
School Type:	Middle
Grades:	6-8
Original Construction:	1960
Significant Alterations:	1970 & 2000
Total Area (net)	155,622

Floor Plan

PROGRAM LEGEND

CLASSROOMS	54,317 NSF
SPECIALS	13,784 NSF
SPECIAL ED.	8,940 NSF
MEDIA CENTER	10,343 NSF
PHYSICAL ED.	30,988 NSF
CAFETERIA	6,573 NSF
AUDITORIUM	0 NSF
ADMINISTRATION	4,917 NSF
BUILDING INFRA	7,036 NSF
CIRCULATION	38,522 NSF
SCHOOL TOTAL	155,622 NSF

Building Information	
Construction Type	2B
No. of Floors	2
Foundation	partial

Classroom Counts	
Standard Classroom	33
Special Ed. Classroom	10
Portable Classroom	0

Existing Condition		
Ext. Envelope	brick	
Roof	age:	2000+/-
	type:	Ballast and EPDM
Security	security desk, lockable doors, vestibule	
Heating	dual fuel - boilers: nearing end of useful life	
Sprinklered	no	n/a
AC	partial	

Priority Projects	
Add Air Conditioning & Ventilation	$3,680,000
Add throughout the building (NIC electrical)	
Replace ceilings	$2,100,000
Replace all old sagging dropped ceilings	
Emergency lighting	$50,000
Install a code approved emergency lighting system	

Capital Needs Prioritization - $ 17,298,474

Discipline	Total	Priority 1&2
Site	*$660,000*	$0
Architectural	*$9,096,064*	$2,392,500
Plumbing & FP	*$788,110*	$0
Mechanical	*$5,476,000*	$266,000
Electrical	*$1,278,300*	$88,300
Total:	**$17,298,474**	**$2,746,800**

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WESTON SCHOOL FACILITIES FEASIBILITY STUDY

WESTON MIDDLE SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING	CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
1	Urgent priority - These items should be corrected as soon as possible and most likely encompass code, health and life safety issues.					
2	High priority - These items should be corrected within a reasonable amount of time after the highest priorities referenced above. These may be associated with high priority maintenance issues or accessibility issues for the physically challenged. Maintenance items have a remaining useful life from 1-3 years.					
3	Moderate priority – These items may be associated with aesthetic or general maintenance issues. Remaining useful life of 3-5 years.					
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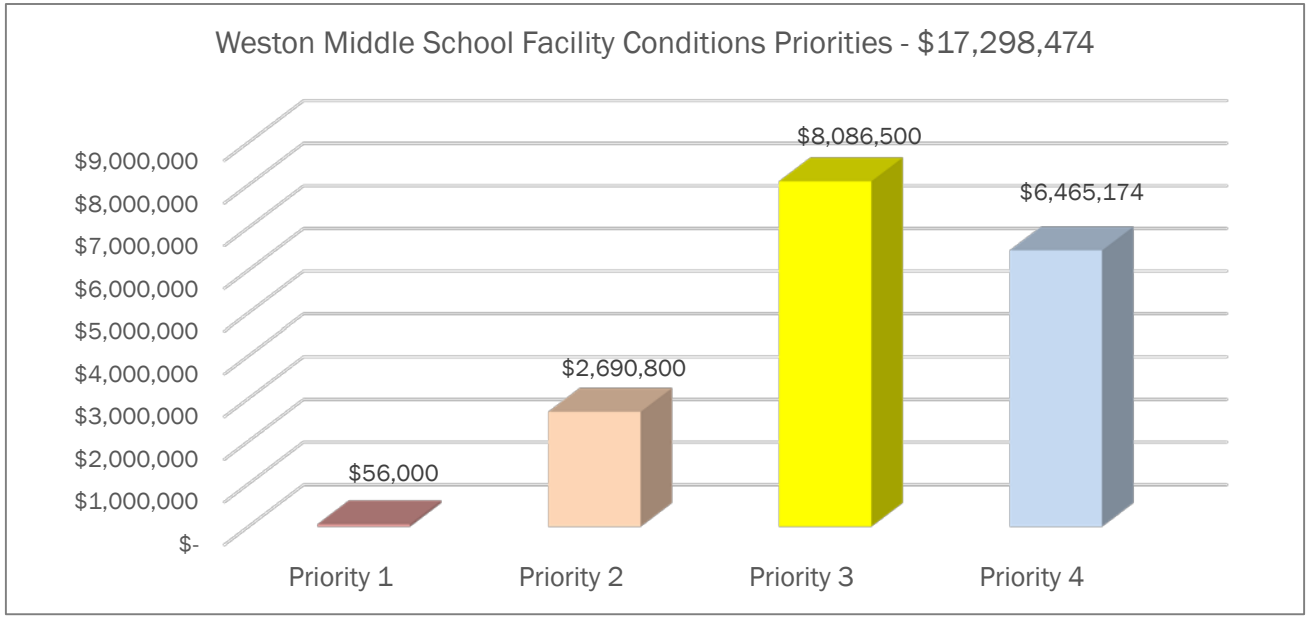
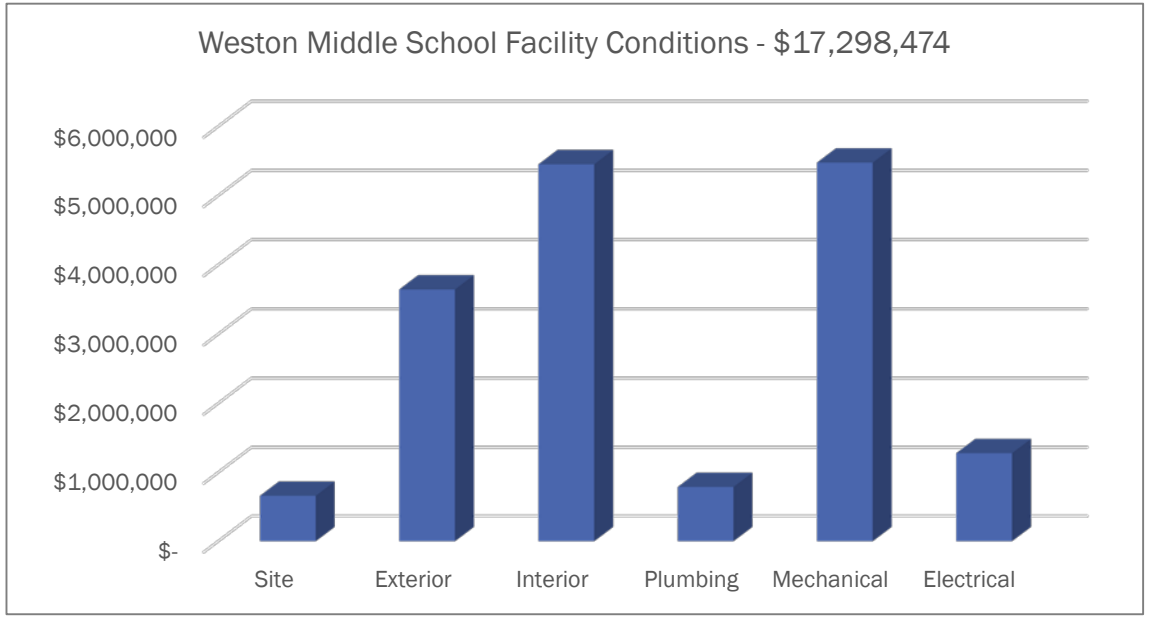


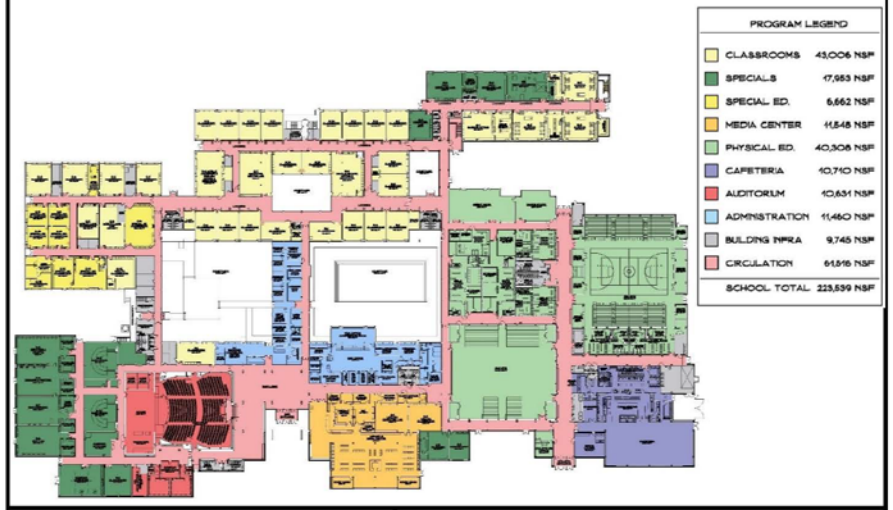


Weston High School

115 School Road Weston CT

Student Population:	809
Staff Total:	111
School Type:	High
Grades:	9 - 12
Original Construction:	1968
Significant Alterations:	2005
Total Area (net)	223,539

Floor Plan



Building Information	
Construction Type	2B
No. of Floors	2
Foundation	partial

Classroom Counts	
Standard Classroom	33
Special Ed. Classroom	8
Portable Classroom	0

Existing Condition		
Ext. Envelope	brick/metal panels	
Roof	age:	2000/2005
	type:	Ballast and EPDM
Security	security desk, lockable doors, no entry vestibule	
Heating	dual fuel - boilers: 25 years reamining	
Sprinklered	no	n/a
AC	partial	

Priority Projects	
Improve Emergency Lighting	$71,000
replace /add to twin head & battery ballast distribution	
Restroom upgrades	$300,000
Includes cost for 6 restroom reconfigurations	
Improve courtyard patios	$160,700
Alter drainage, tree roots and repave	

Capital Needs Prioritization -	$ 9,474,628	
Discipline	Total	Priority 1&2
Site	*$233,100*	$160,700
Architectural	*$6,223,028*	$384,500
Plumbing & FP	*$70,000*	$50,000
Mechanical	*$1,632,000*	$485,000
Electrical	*$1,316,500*	$114,000
Total:	***$9,474,628***	**$1,194,200**

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WESTON SCHOOLS FACILITIES FEASIBILITY STUDY

WESTON HIGH SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING	CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
1	Urgent priority - These items should be corrected as soon as possible and most likely encompass code, health and life safety issues.					
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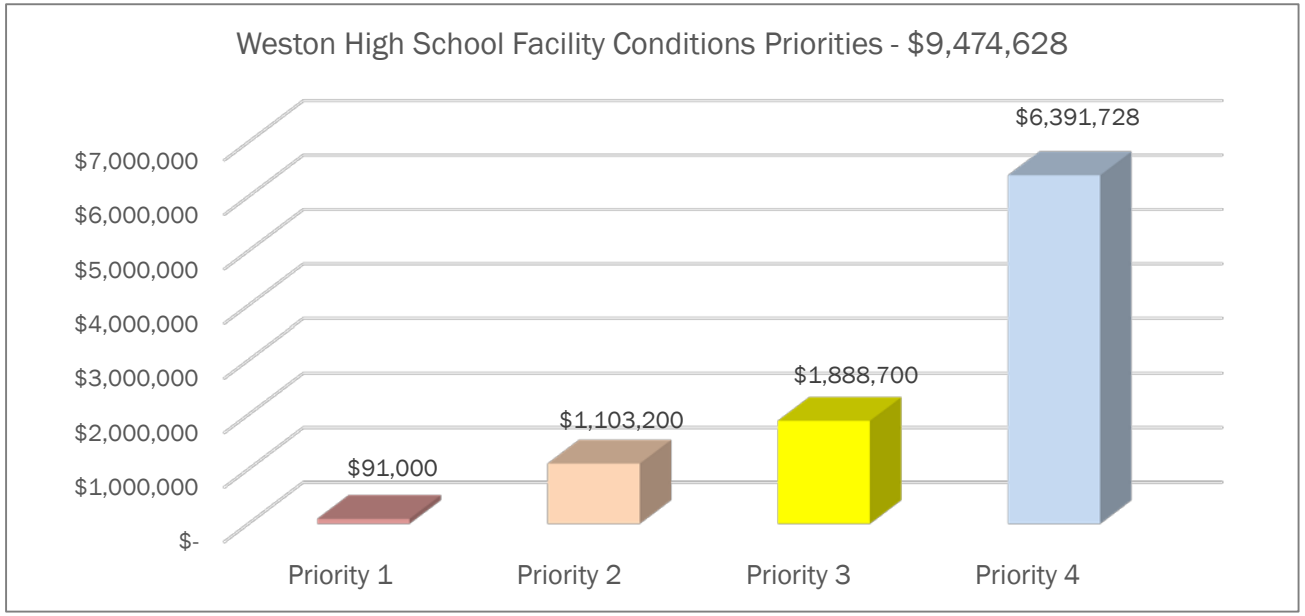
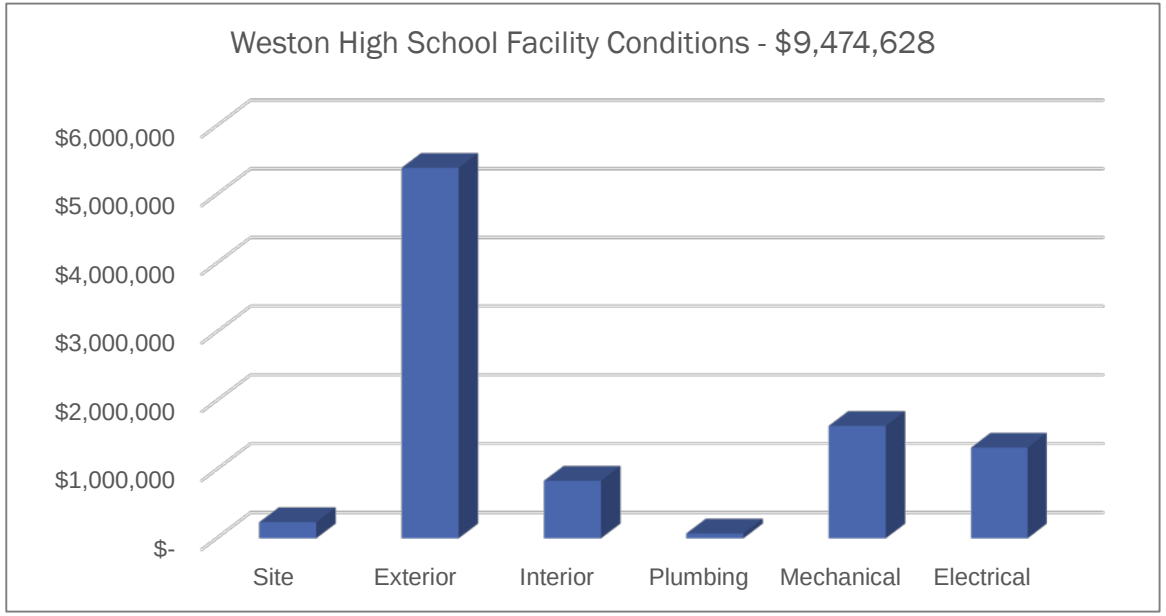




Facility Conditions Assessment - Summary

Schools	Facility Conditions Assessment
Hurlbutt Elementary School	$10,583,300
Intermediate School	$1,379,342
Middle School	$17,298,474
High School	$9,474,628
Totals	**$38,735,744**

The 10-year Facility Condition Assessment may lead to standalone projects (aka Capital Needs) or combined with specific educational initiatives resulting in conceptual designs. The Facility Conditions Assessment is an ideal tool for Master Planning and as a "guiding document".

(*See Appendix brief, 4-18-17 for a more detailed description of the Facility Conditions Assessment, Capital Needs, and the school construction process.)*

CT DOE – School Construction Grant Management System – summary >$1 M

Facility Name	Project Status	Grades	Architect Name	GA Auth. Date	Site Accquisition Costs	Total Costs	Total Area(in Sqft)	Reimb. %
Weston High School	Estimated Grant Calc	9,10,11,12	Kaestle/Boos	6/30/2011	-	$1,410,105	227,561	21.43
Weston Middle School	Unresolved Issues	6,7,8	Unknow n	6/30/2001	-	$6,357,337	166,900	21.43
Weston Intermediate School	Audited	3,4,5	Unknown	6/30/2001	$608,754	$28,138,288	118,935	21.43
Weston High School	Audit Issues	9,10,11,12	Unknown	6/30/2001	-	$42,123,566	232,561	21.43
Central Administration	Audited		Friar Assoc.	6/26/1997	-	$1,048,114	4,000	10.72
Hurlbutt Elementary School	Audit Issues	1,2,3,G	Friar Assoc.	6/12/1996	-	$4,896,583	104,911	21.43
Weston Middle School	Audit Issues	4,5,6,7,8	Friar Assoc.	6/12/1996	-	$1,195,188	169,777	21.43
Weston High School	Audit Issues		DeCarlo & Doll	3/15/1989	-	$2,552,216	0	41.19
Weston Middle School	Audit Issues		DeCarlo & Doll	3/15/1989	-	$2,764,903	0	41.19

Utilization, Enrollment Projections, & Programming

Facility utilization

Classroom utilization

Enrollment Projections

Programming

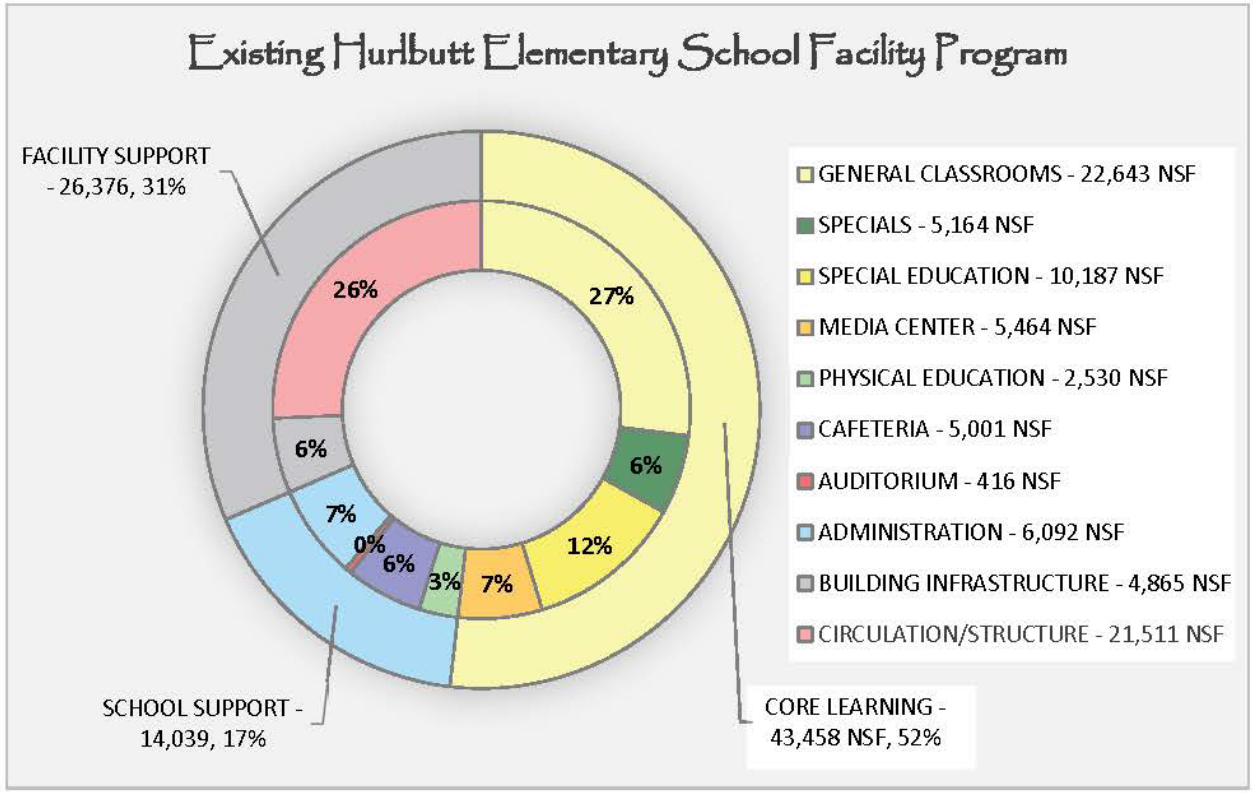
“Building on the foundation” of the Facility Condition Assessment the utilization of the physical space is presented.

The Enrollment Projections delve into the analytical analysis of Town growth and the school age population over time.

Functional utilization based on the educational space classifications revels the second methodology.

Spatial Programming is then the dynamic process with the educators confirming the space needs and “finishing” the model needed for conceptual design.

Overview Utilization, Enrollment Projections

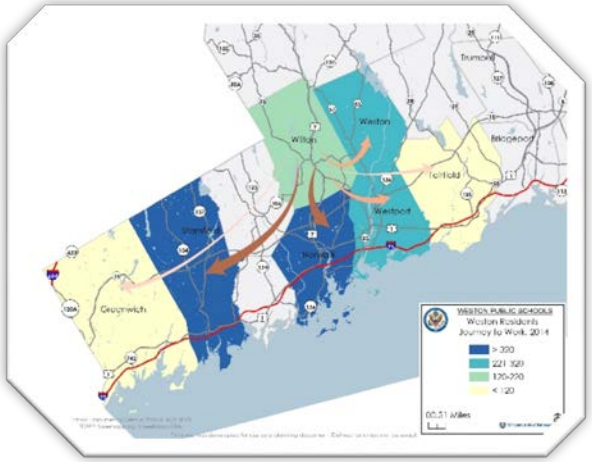


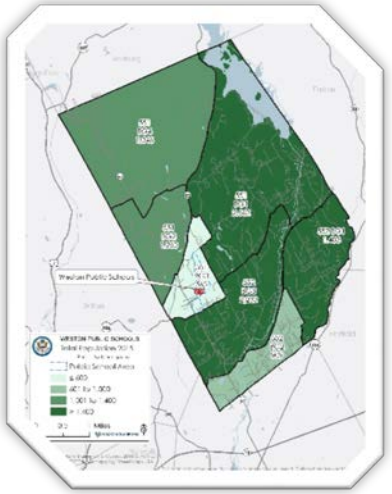
Each of the four schools is analyzed by the square foot area for “core learning” spaces, educational support spaces, and the facility support spaces.

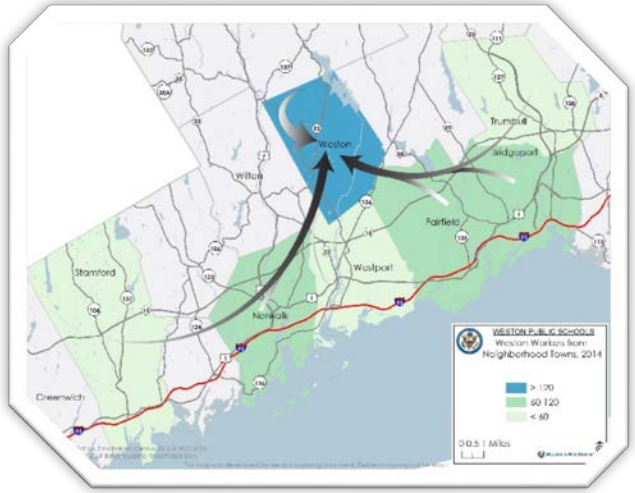
The comparison of these three ratios across all four schools reveals that the core learning and school support percentages are an effective utilization of the school space.

The study focusses on two uutilization methods – “facility / ratios & classroom / functional”.

Weston Public Schools
Enrollment Projections





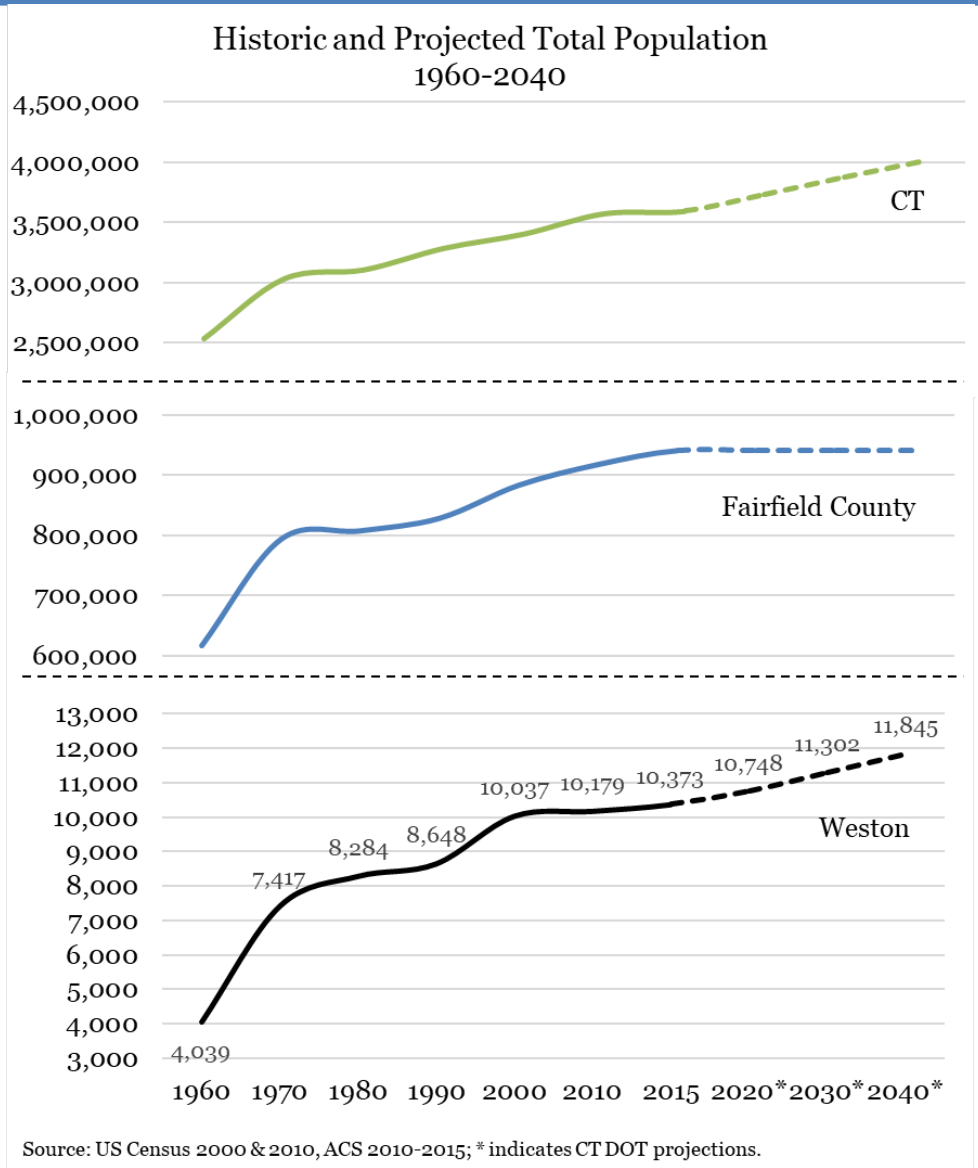


November 2, 2017

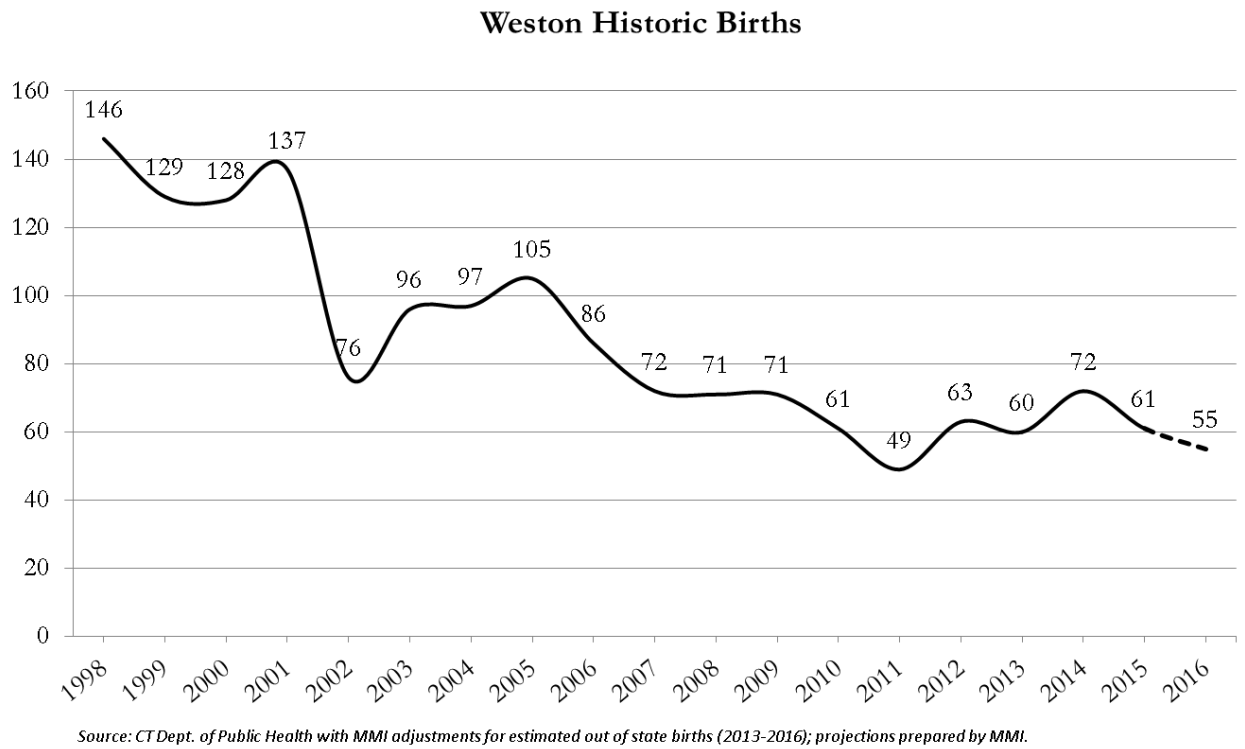
MILONE & MACBROOM

Total Population Change

- Total population increased 1.4% from 2000 to 2010, and is estimated to have increased another 2% during 2010-2015
- CT DOT projects steady growth through 2040

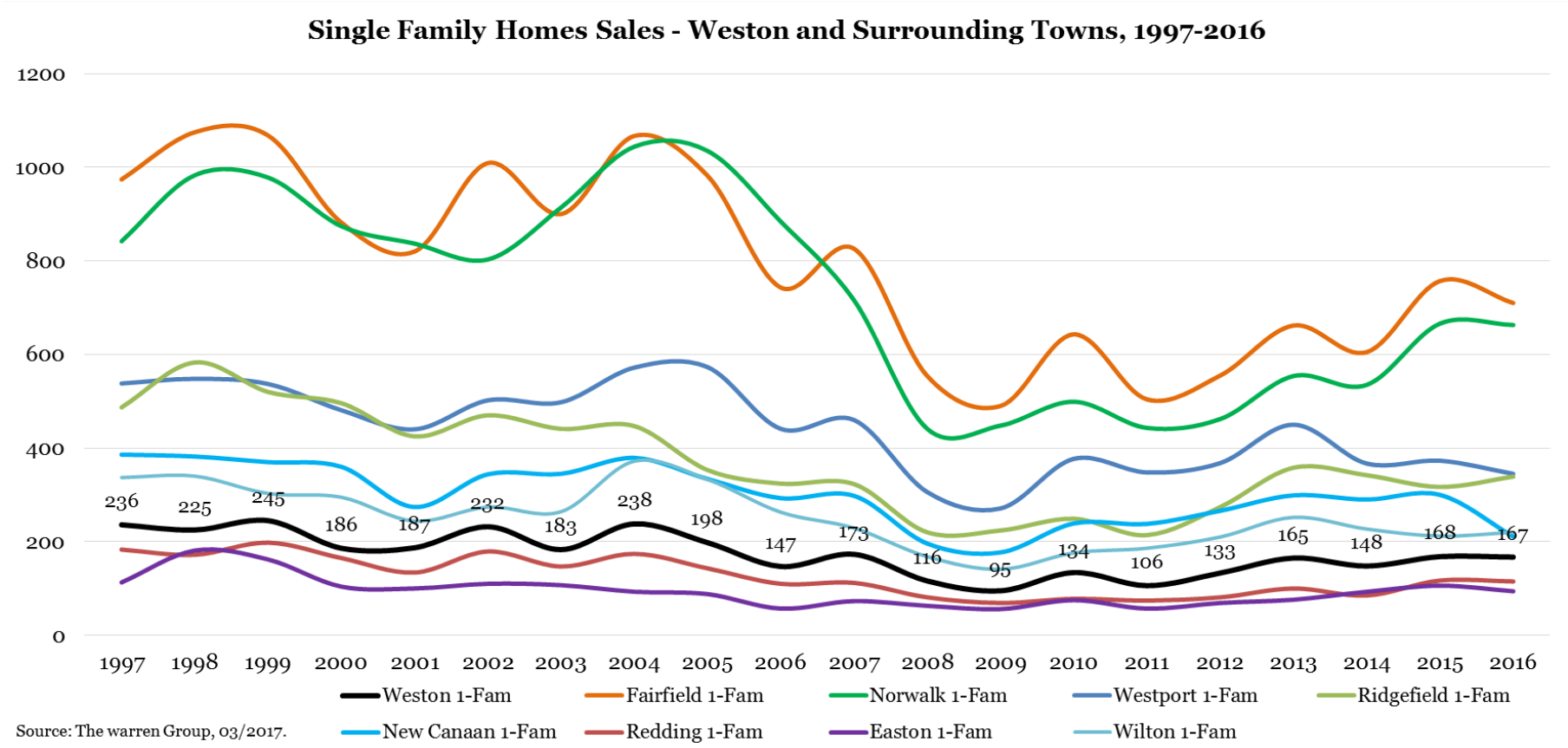


Births



- The small size of the community and low absolute number of births exaggerates small year-to-year changes
- Annual births declined 28% from 2008 to 2016 (based on most recent estimates)
- Moderate increases in births in 2012 and 2014 are tied to 2017-18 and 2019-20's entering kindergarten classes

Housing Sales



- Pace of housing market activity since the Great Recession has remained fairly stagnant since 2013
- 2016 saw total sales of 167 homes (up 76% from 2009 low)

Housing Permits (New Construction)

Source: CT DECD and The Warren Group, 2017

- Permits for new housing construction have seen limited and slow recovery since Great Recession-era dropoff
- Existing inventory inhibiting new development
- Currently 23 open home permits (in all stages of development) not yet online

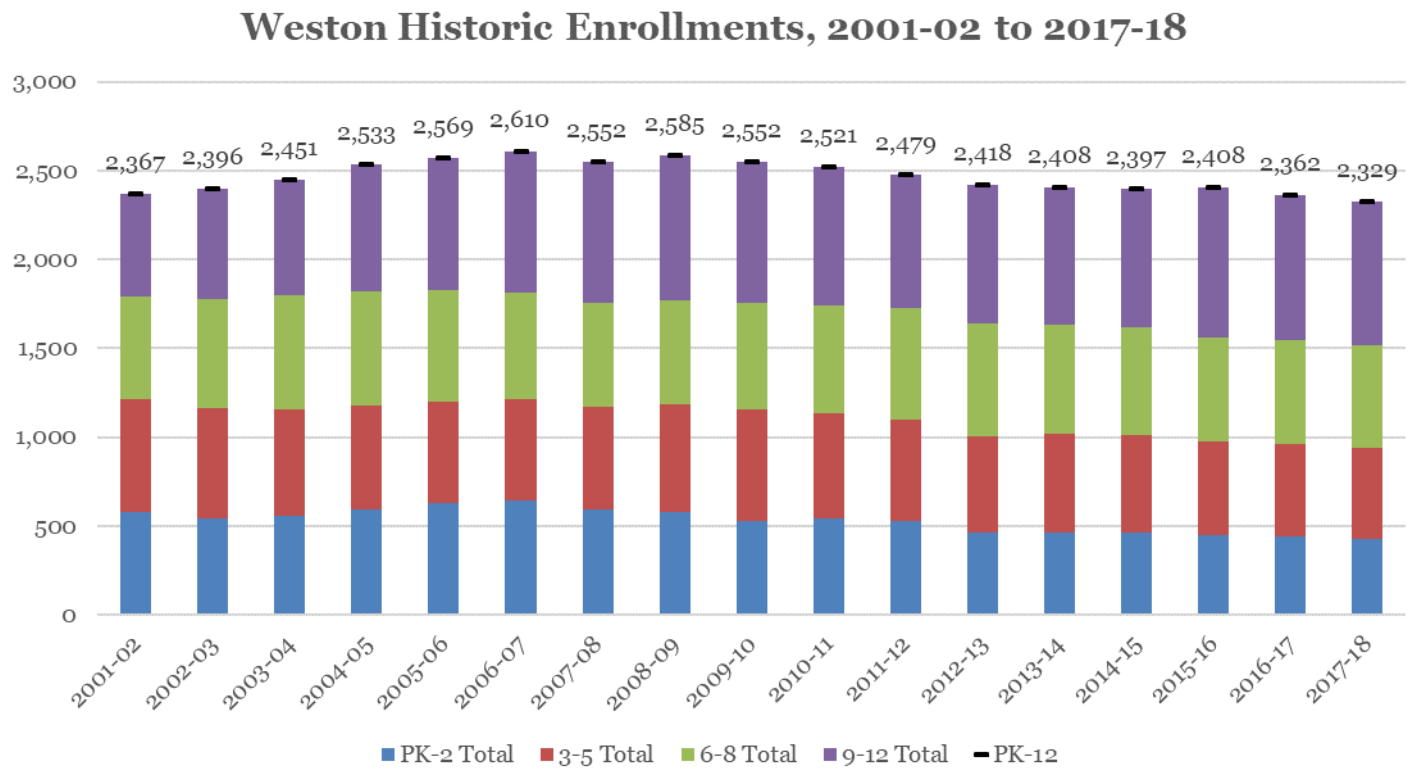
Recent Housing Development

- Current and future development information provided by Weston's Land Use Director
- P&Z has not approved any subdivisions of a substantial scale since 2004; current subdivision and homebuilding activity is on the scale of 2-3 lot projects
  - Current teardown/new build activity fairly limited
- Known potential future projects would yield <10 units and may not come to market for some time
- Conversations and proposed language on cluster housing options have not yielded changes to zoning regulations to date
- Younger families make up a large share of homebuyers, both to older starter homes and new builds

Housing Summary

- Stable real estate market driven by high quality of local schools
- Almost exclusively owner-occupied housing stock with low rental vacancy rates, creating a stable long-term residential base
- Largely built-out community with limited opportunities for significant expansion of housing stock under current zoning
- Increasing number of owner-occupants over age 65 a leading indicator of future housing turnover

Historic Enrollment



- Examining historic enrollment at the unit of each grade level illustrates changing dynamics that sum to the total system-wide change in enrollment

Historic Enrollment

Weston Public School Enrollment History
Kindergarten through 12th Grade

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12
2001-02	1996	204	158	210	193	201	226	212	217	181	176	176	135	129	138
2002-03	1997	204	159	170	194	193	201	223	221	209	187	173	175	137	133
2003-04	1998	205	187	163	181	194	195	208	218	215	210	180	167	173	131
2004-05	1999	239	184	204	176	184	201	197	211	226	206	206	169	167	171
2005-06	2000	236	182	194	213	174	191	206	199	201	232	212	201	163	163
2006-07	2001	206	210	194	200	210	174	186	208	191	201	225	207	197	167
2007-08	2002	217	146	220	191	196	213	170	188	203	192	197	219	197	185
2008-09	2003	216	166	159	220	202	194	211	183	190	210	196	206	214	198
2009-10	2004	168	158	171	160	214	203	209	217	181	202	208	191	193	206
2010-11	2005	178	159	166	178	170	216	207	211	215	181	195	205	186	192
2011-12	2006	175	162	156	177	180	173	217	211	207	211	170	193	203	189
2012-13	2007	167	115	157	163	180	186	179	221	208	207	210	173	188	205
2013-14	2008	143	136	135	175	174	183	194	190	214	214	214	209	170	180
2014-15	2009	146	140	150	146	185	177	186	203	188	212	201	207	206	167
2015-16	2010	131	124	141	157	161	186	184	190	209	186	218	208	206	213
2016-17	2011	121	128	143	145	163	173	185	187	194	205	189	213	206	206
2017-18	2012	63	113	142	147	153	174	180	196	190	198	210	184	209	206

State Dept. of Ed. Public School Information System (2001-02 to 2011-12), Weston Public Schools (2012-13 to 2017-18).

- As existing mid-size cohorts matriculate to high school level, moderate declines are likely at upper grade levels
- Current cohorts at grades K-5 are much smaller than historic levels and will continue to impact the system for the next 8-12 years

Historic Enrollment

Kindergarten through 12th Grade Persistency Ratios by School Year 2002-03 to 2017-18														
Year	Birth-K	K-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	Migration Estimate (2-7 to 3-8)
2002-03	1.3947	1.0759	0.9238	1.0000	1.0000	0.9867	1.0425	0.9631	1.0331	0.9830	0.9943	1.0148	1.0310	0.33%
2003-04	1.2808	1.0252	1.0647	1.0000	1.0104	1.0348	0.9776	0.9729	1.0048	0.9626	0.9653	0.9886	0.9562	-0.08%
2004-05	1.4264	1.0909	1.0798	1.0166	1.0361	1.0103	1.0144	1.0367	0.9581	0.9810	0.9389	1.0000	0.9884	1.16%
2005-06	1.4219	1.0543	1.0441	0.9886	1.0380	1.0249	1.0102	0.9526	1.0265	1.0291	0.9757	0.9645	0.9760	0.67%
2006-07	1.5328	1.0659	1.0309	0.9859	1.0000	0.9738	1.0097	0.9598	1.0000	0.9698	0.9764	0.9801	1.0245	-1.18%
2007-08	1.9211	1.0476	0.9845	0.9800	1.0143	0.9770	1.0108	0.9760	1.0052	0.9801	0.9733	0.9517	0.9391	-0.60%
2008-09	1.7292	1.0890	1.0000	1.0576	0.9898	0.9906	1.0765	1.0106	1.0345	1.0208	1.0457	0.9772	1.0051	2.50%
2009-10	1.6289	1.0301	1.0063	0.9727	1.0050	1.0773	1.0284	0.9891	1.0632	0.9905	0.9745	0.9369	0.9626	2.17%
2010-11	1.5143	1.0506	1.0409	1.0625	1.0093	1.0197	1.0096	0.9908	1.0000	0.9653	0.9856	0.9738	0.9948	1.35%
2011-12	1.8837	0.9811	1.0663	1.0112	1.0176	1.0046	1.0193	0.9810	0.9814	0.9392	0.9897	0.9902	1.0161	0.17%
2012-13	1.5972	0.9691	1.0449	1.0169	1.0333	1.0347	1.0184	0.9858	1.0000	0.9953	1.0176	0.9741	1.0099	1.37%
2013-14	1.9155	1.1739	1.1146	1.0675	1.0167	1.0430	1.0615	0.9683	1.0288	1.0338	0.9952	0.9827	0.9574	2.81%
2014-15	1.9718	1.1029	1.0815	1.0571	1.0172	1.0164	1.0464	0.9895	0.9907	0.9393	0.9673	0.9856	0.9824	1.86%
2015-16	2.0328	1.0071	1.0467	1.1027	1.0054	1.0395	1.0215	1.0296	0.9894	1.0283	1.0348	0.9952	1.0340	2.86%
2016-17	2.6122	1.1532	1.0284	1.0382	1.0745	0.9946	1.0163	1.0211	0.9809	1.0161	0.9771	0.9904	1.0000	1.84%
2017-18	1.7937	1.1094	1.0280	1.0552	1.0675	1.0405	1.0595	1.0160	1.0206	1.0244	0.9735	0.9812	1.0000	4.20%
Long Term Avg.	1.7286	1.0641	1.0366	1.0258	1.0209	1.0168	1.0264	0.9902	1.0073	0.9912	0.9866	0.9804	0.9923	
5-Year Avg.	2.0652	1.1093	1.0598	1.0641	1.0363	1.0268	1.0410	1.0049	1.0021	1.0084	0.9896	0.9870	0.9948	
3-Year Avg.	2.1462	1.0899	1.0344	1.0654	1.0491	1.0249	1.0324	1.0222	0.9970	1.0229	0.9951	0.9889	1.0113	

- Persistency ratios indicate year-to-year gains or losses in the size of cohorts as they progress through the system
- Substantial increases in cohort size through elementary and intermediate school years

Projections Primer

- Developed Enrollment Projections from a hybrid methodology utilizes a regression equation for Kindergarten and cohort survival method for 1st – 12th grade.
- Regression-based estimate based on historic births, home sales, and K data.
  - Adjustment to standard methodology
  - Assumes linear relationships between kindergarten enrollment and two variables (home sales and births) based on multiple regression analysis of all available years of data
- The cohort survival methodology relies on observed data from the recent past in order to project the near future
- Persistency Ratios account for the various external factors affecting enrollments: housing characteristics, residential development, economic conditions, student transfers in and out of system, and student mobility
- Changes in population, housing stock and tenure, and economic conditions help explain persistency ratios

10-Yr Projections By Grade

Medium Regression K (Derived from Medium Regression Births), 3-Year Weighted Average Persistency

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
2017-18	2012	63	113	142	147	153	174	180	196	190	198	210	184	209	206	27
2018-19	2013	60	119	125	146	155	162	178	187	200	190	202	207	182	210	45
2019-20	2014	72	130	132	129	154	164	166	185	191	200	194	199	204	183	45
2020-21	2015	61	121	144	136	136	163	168	172	189	191	204	191	196	205	45
2021-22	2016	55	117	134	149	144	144	167	175	175	189	195	201	188	197	45
2022-23	2017	62	125	130	138	158	153	148	173	179	175	193	192	198	189	45
2023-24	2018	60	125	138	134	146	167	157	154	176	179	179	190	189	199	45
2024-25	2019	62	128	138	142	142	155	171	163	157	176	183	176	187	190	45
2025-26	2020	62	129	142	142	150	150	159	178	166	157	180	180	174	188	45
2026-27	2021	64	131	143	146	150	159	154	165	182	166	161	177	178	175	45
2027-28	2022	65	132	145	147	154	159	163	160	168	182	170	159	175	179	45

- Hurlbutt projected to increase slightly & remain stable at ~440 to 470 students throughout projection horizon.
- WIS to experience continued decline through 2025-26 (to ~460 students), then small rebound in last few years.
- WMS to experience decline out to 2025-26 then stabilizing at ~ 500 students.
- WHS to experience a sustained decline as successive smaller cohorts currently in the system matriculate eventually bottoming out at less than 7oo students.

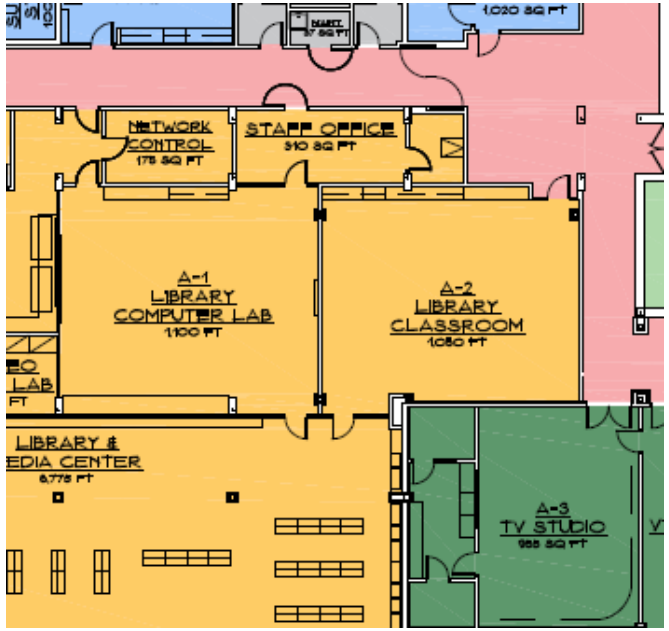
School Year	PK-12 Total	K-12 Total	PK-2 Total	3-5 Total	6-8 Total	9-12 Total
2017-18	2,329	2,302	429	507	584	809
2018-19	2,308	2,263	435	495	577	801
2019-20	2,276	2,231	436	484	576	780
2020-21	2,261	2,216	446	467	552	796
2021-22	2,220	2,175	445	455	539	781
2022-23	2,196	2,151	438	459	527	772
2023-24	2,178	2,133	442	470	509	757
2024-25	2,153	2,108	453	468	496	736
2025-26	2,140	2,095	458	459	501	722
2026-27	2,132	2,087	465	463	513	691
2027-28	2,138	2,093	469	476	510	683
5 Year Change						
	-5.7%	-6.6%	2.1%	-9.5%	-9.8%	-4.6%
10 Year Change						
	-8.2%	-9.1%	9.3%	-6.1%	-12.7%	-15.6%

Capacity

- Student capacity is not set in stone—building and system capacity is dependent on programmatic priorities, educational offerings and deployment model
- Functional capacity:
  - Capacity based on current deployment plus full-sized/non-core special rooms that would be suitable for instruction if needed
  - Flexibility in repurposing space is limited by desire to retain current programs that support the district's educational objectives and priorities

Functional Capacity

- Based on SPA building evaluations and focus group meetings with building administration and educators, floorplans describing current use of space were developed and rooms categorized
- Existing grade-level instructional rooms translated into seat capacity per contractual class size limits
- Potentially repurposed non-core specialists (e.g. media center specialist rooms, resource rooms) that are adequately sized for classroom instruction are included in functional capacity for middle and high school
- Adjusting deployment model to yield higher operating capacities would impact Weston's ability to deploy it's educational mission



Model for Utilization Analysis

Building	Current Capacity (95%)	2016-17 Enrollment	Utilization	Max. Capacity
Hurlbutt	487	441	90.6%	513
Intermediate	616	526	85.4%	648
Middle	603	595	98.7%	634
High	855	835	97.7%	900
System Total	**2561**	**2397**	**93.6%**	**2695**

Utilization (Functional Capacity)

- Under the assumptions of the medium projection scenario and the functional capacity methodology, building utilization will:
  - Likely increase to within 4% of its elastic limit at Hurlbutt
  - Decline in the next three years at WIS before leveling at around 75-77%
  - Decline steadily through the early 2020s towards ~85% at WMS
  - Decline from 2018-19 through the projection horizon at WHS, ending below 80% utilization

Projected Future Utilization (Medium Scenario)

Current Capacity (95% with flex rooms included)

Building	Hurlbutt	Intermediate	Middle	High
Seats	487	616	603	855
2017-18	88.1%	82.3%	96.8%	94.6%
2018-19	89.3%	80.4%	95.7%	93.7%
2019-20	89.5%	78.6%	95.5%	91.2%
2020-21	91.6%	75.8%	91.5%	93.1%
2021-22	91.4%	73.9%	89.4%	91.3%
2022-23	89.9%	74.5%	87.4%	90.3%
2023-24	90.8%	76.3%	84.4%	88.5%
2024-25	93.0%	76.0%	82.3%	86.1%
2025-26	94.0%	74.5%	83.1%	84.4%
2026-27	95.5%	75.2%	85.1%	80.8%
2027-28	96.3%	77.3%	84.6%	79.9%

Utilization (Functional Capacity)

Projected Future Utilization (Medium Scenario)

Current Capacity (95% with flex rooms included)

Building	Hurlbutt (487 seats)		Intermediate (616 Seats)		Middle (603 Seats)		High (855 Seats)	
	Utilization	*Seat +/-*	*Utilization*	*Seat +/-*	*Utilization*	*Seat +/-*	*Utilization*	*Seat +/-*
2017-18	88.1%	+58	82.3%	+109	96.8%	+19	94.6%	+46
2018-19	89.3%	+52	80.4%	+121	95.7%	+26	93.7%	+54
2019-20	89.5%	+51	78.6%	+132	95.5%	+27	91.2%	+75
2020-21	91.6%	+41	75.8%	+149	91.5%	+51	93.1%	+59
2021-22	91.4%	+42	73.9%	+161	89.4%	+64	91.3%	+74
2022-23	89.9%	+49	74.5%	+157	87.4%	+76	90.3%	+83
2023-24	90.8%	+45	76.3%	+146	84.4%	+94	88.5%	+98
2024-25	93.0%	+34	76.0%	+148	82.3%	+107	86.1%	+119
2025-26	94.0%	+29	74.5%	+157	83.1%	+102	84.4%	+133
2026-27	95.5%	+22	75.2%	+153	85.1%	+90	80.8%	+164
2027-28	96.3%	+18	77.3%	+140	84.6%	+93	79.9%	+172

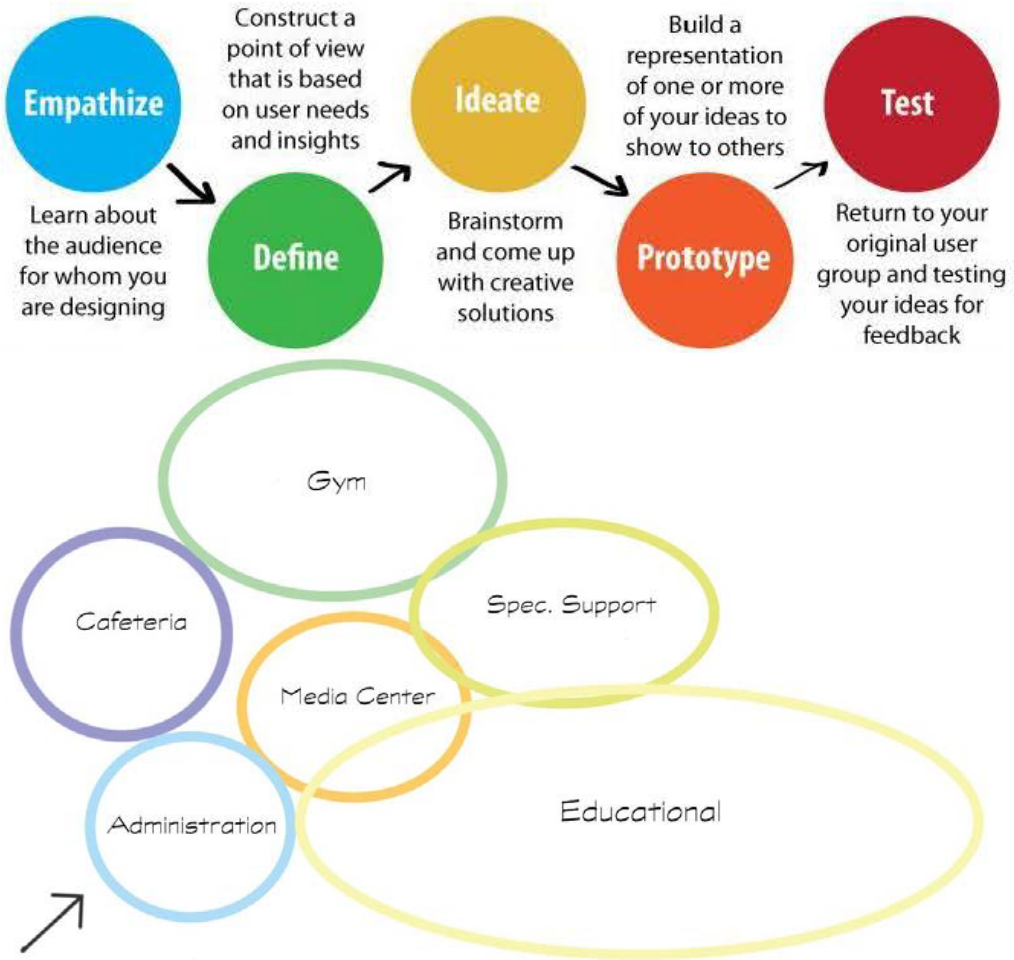
Assessment to Programming

Programming with the educators and staff is a dynamic process, translating the art and science of teaching into future school facility improvements.

The process is one of collaboration and dialog focused on the educational needs, this first translates into diagrams and then as sketches of the floor plans the “test”.

The floor plan options then become the “negotiating tool” that all parties weigh in on.

Project costs at this stage are “decision making” in their magnitude. (*not ready for construction*) The cost help to organize and priorities the programing in the master plan.



Assessment & Programming - Recommendations in Order

1. Weston Middle School

First, based on listed total improvements to date, total Facility needs projected, and educational programing needs. Leading with STEAM(M) focus, the WMS conceptual design options.

2. Weston High School

Second, improvements to approximately one third of the classrooms, limited wall changes, updating technology and classrooms.

3. Hurlbutt Elementary School

Third, improvements to aging infrastructure, fresh air and air conditioning combined with focused repurposing of educational spaces.

4. Weston Intermediate School

Fourth, limited improvements, which may be suitable for summer projects.

School Design Options

"Built from:"

- Conditions Assessment
- Utilization & Projections
- Facility Programming.

Combine relevant assessment cost and estimate total project Costs

Create an order of priority from Physical Conditions Assessment & Program Needs

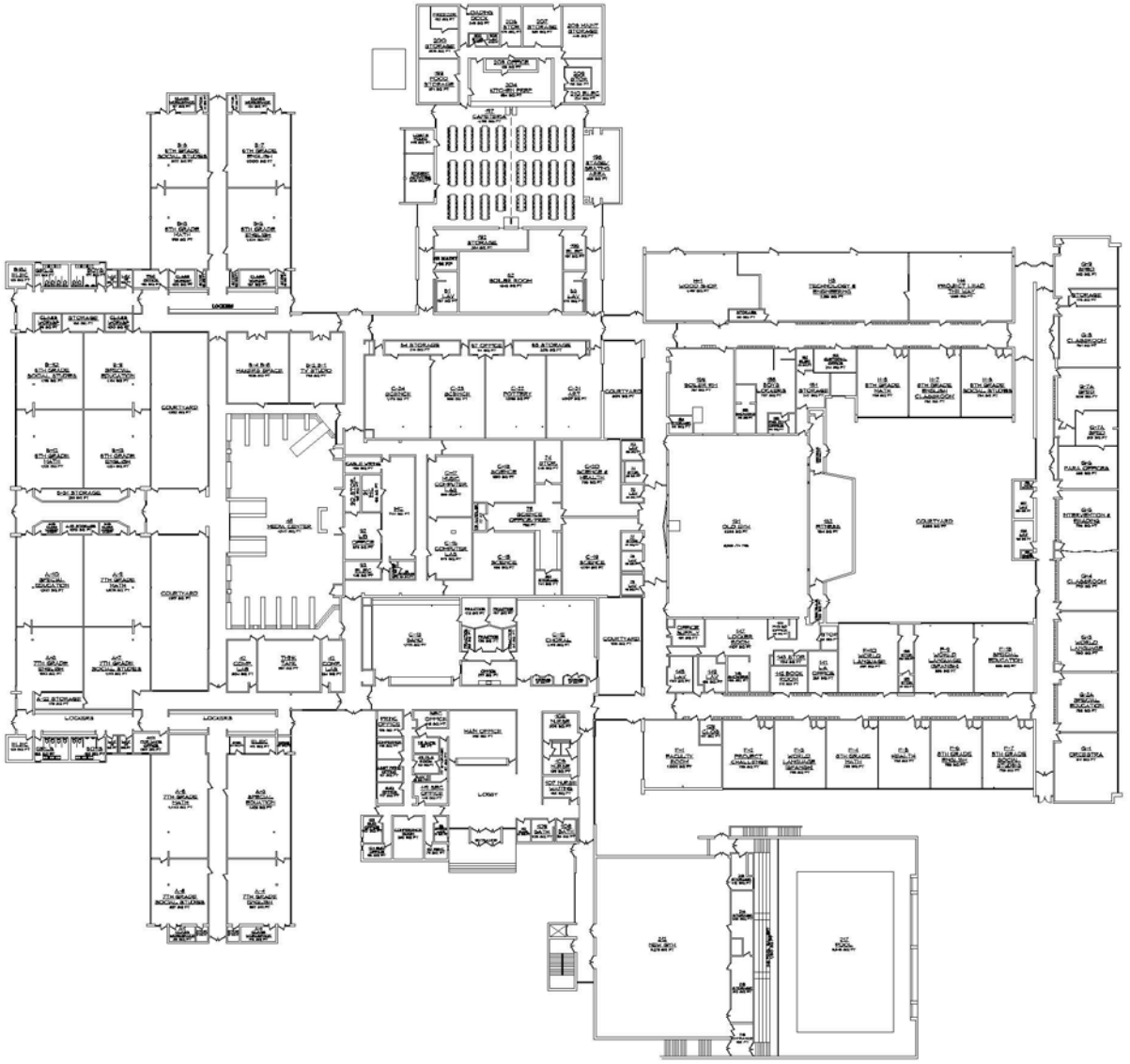
1. Middle School
2. High school ("other half")
3. Hurlbutt E. S.
4. Weston Intermediate School

Middle School Design Option 1 - Existing

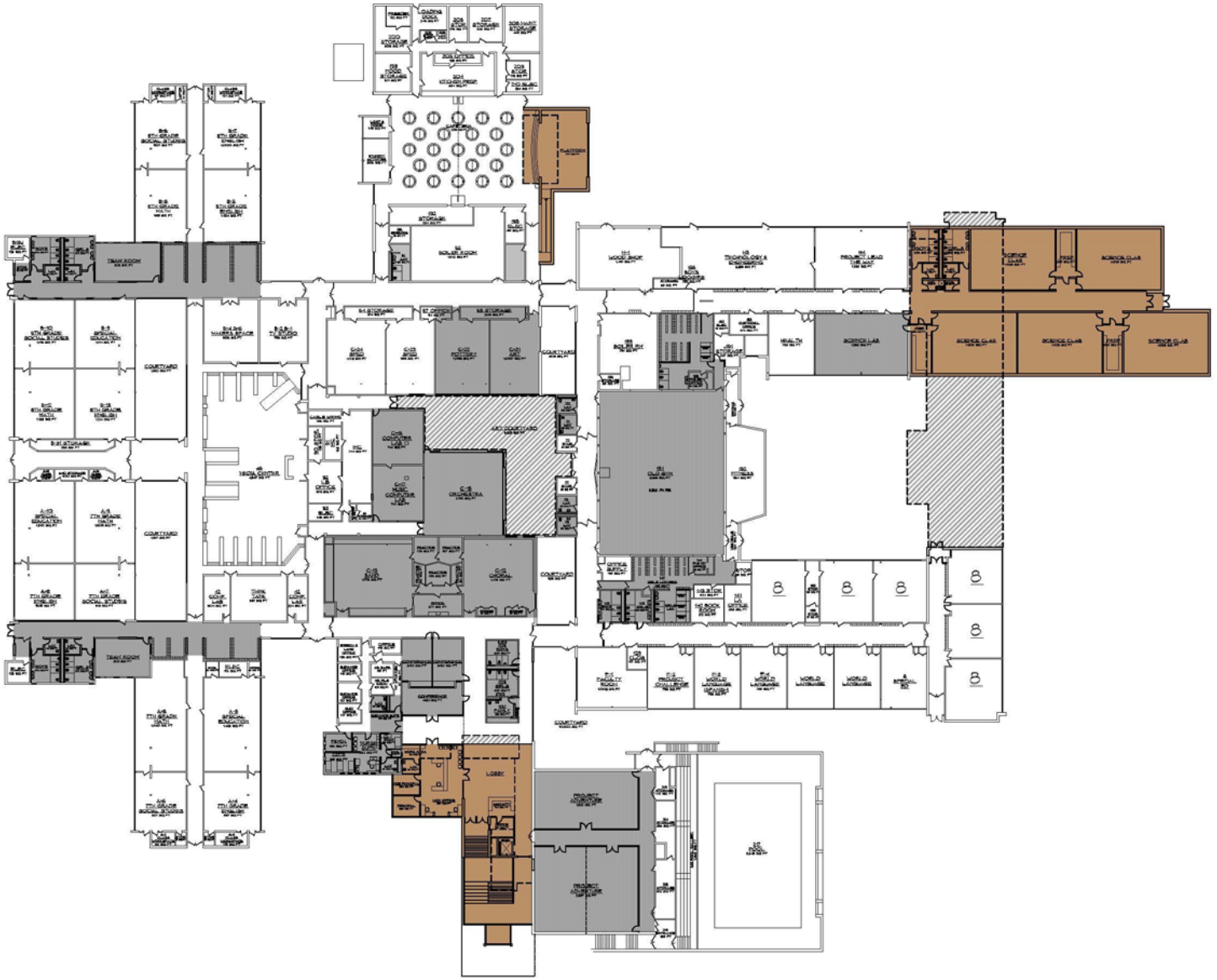
Priorities:

1. Infrastructure: HVAC, electrical, plumbing
2. Science – New clabs with prep
3. Improve Art & Music
4. Improve Gyms & Locker Rooms
5. Administration & Entry

Middle School Design Option 1 - Existing



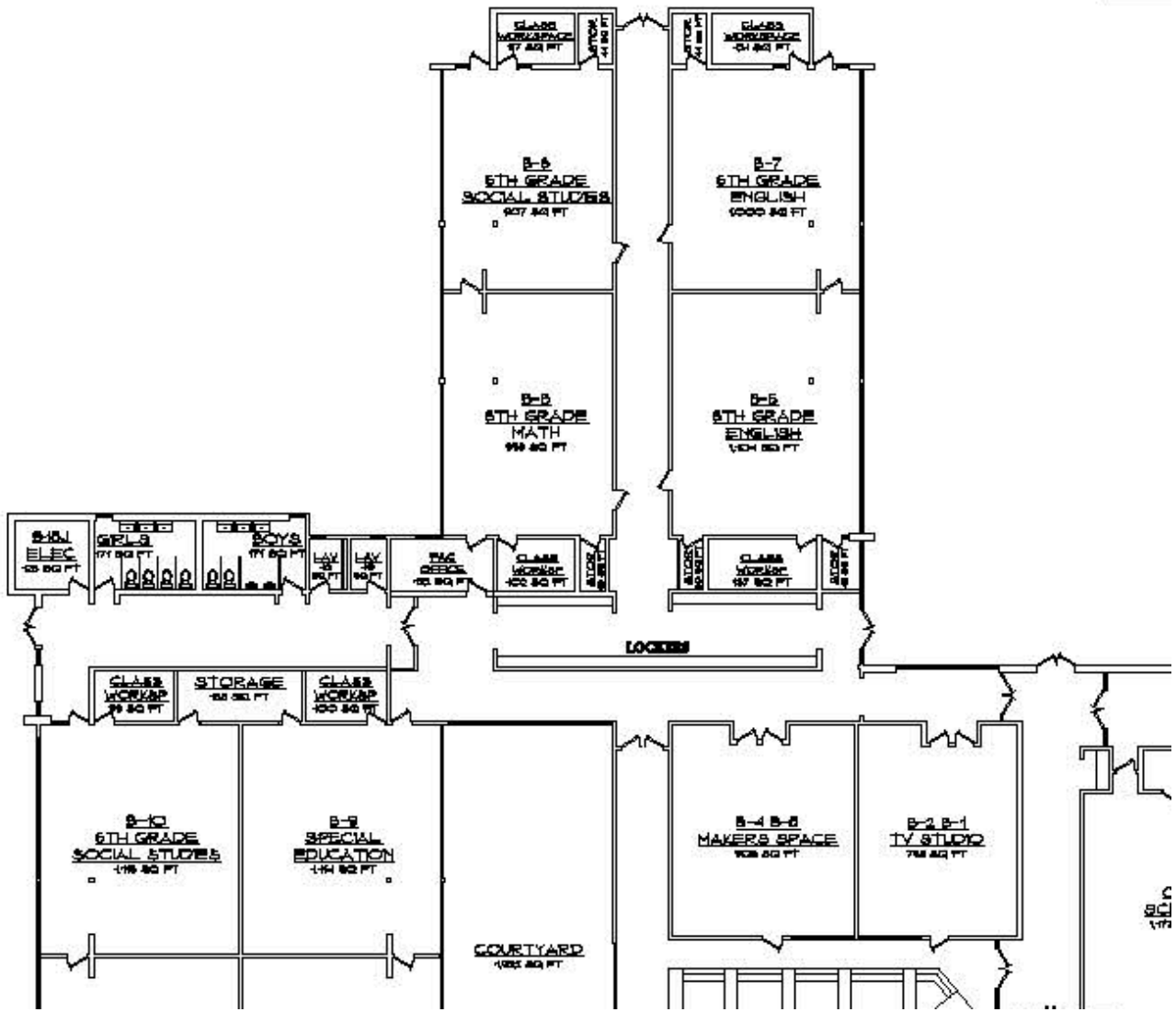
Middle School Design Option 1 - Proposed



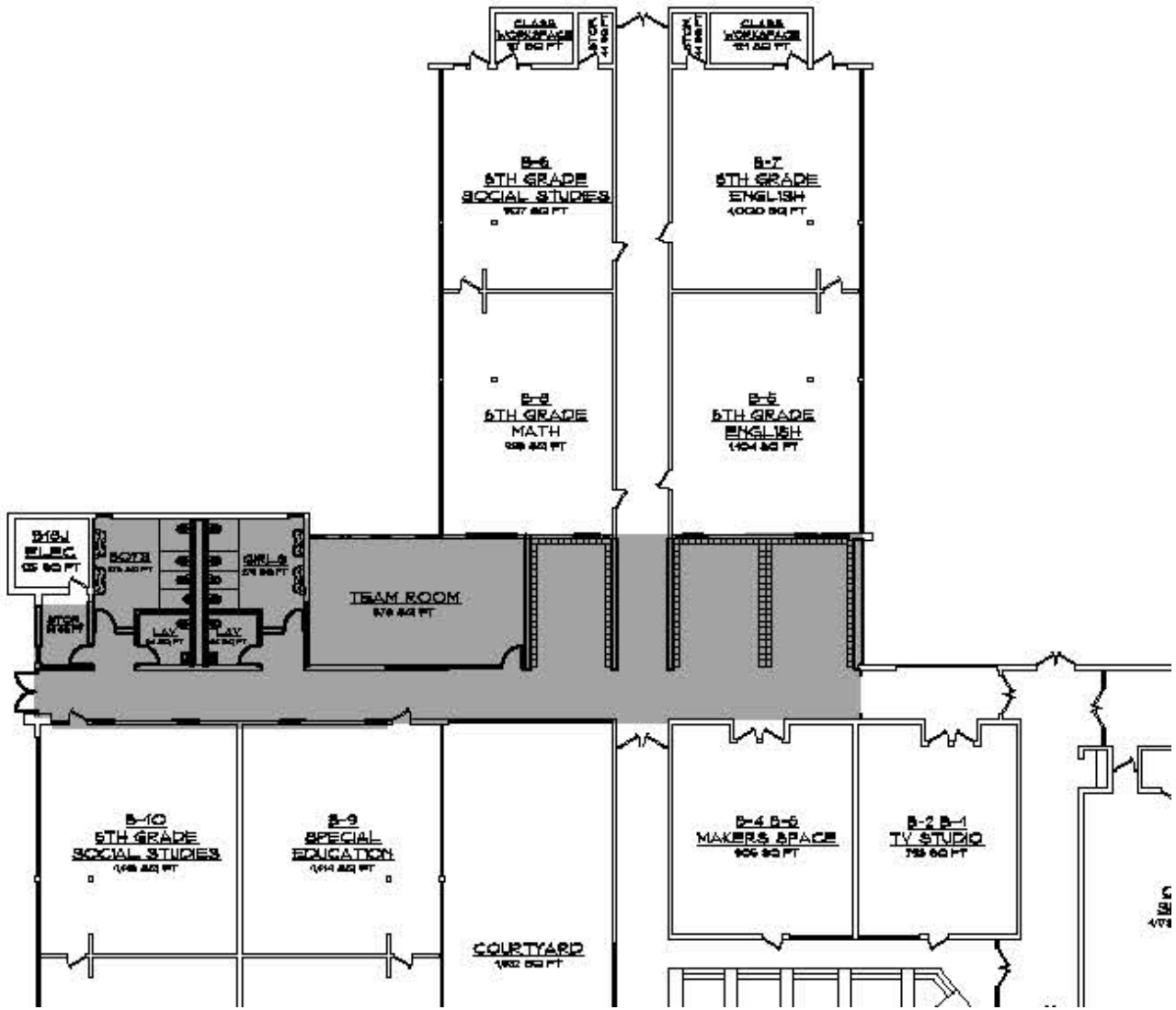
DESIGN LEGEND

- RENOVATIONS
- NEW CONSTRUCTION
- DEMOLITION

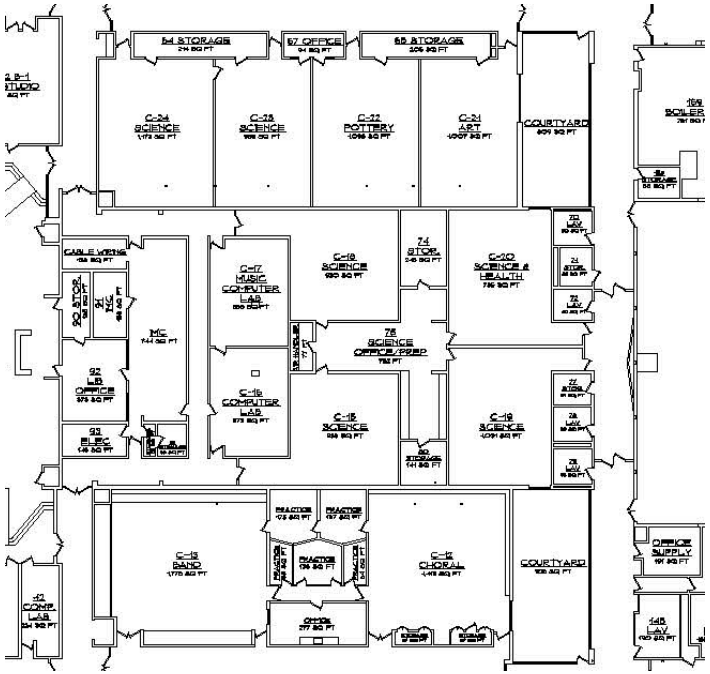
Middle School Design Option 1 - Lockers



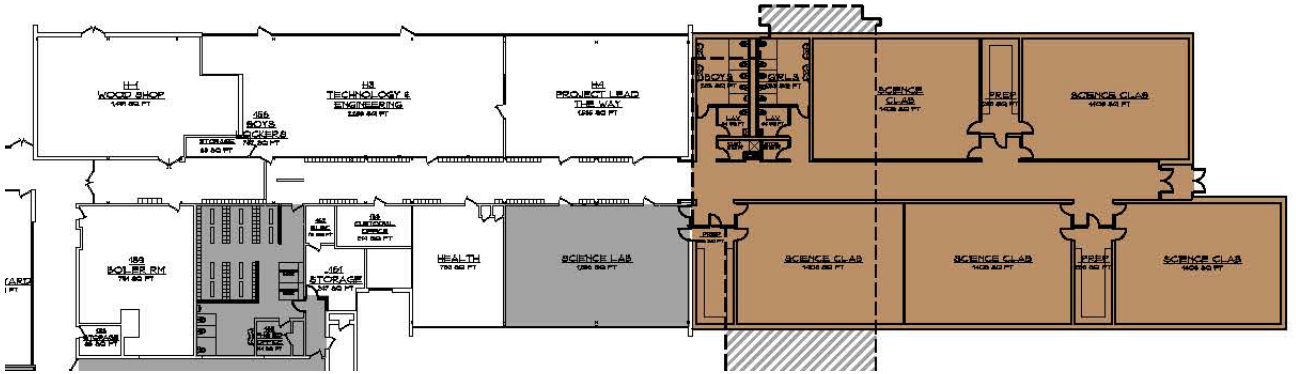
Middle School Design Option 1 - Lockers



Middle School Design Option 1 - Science

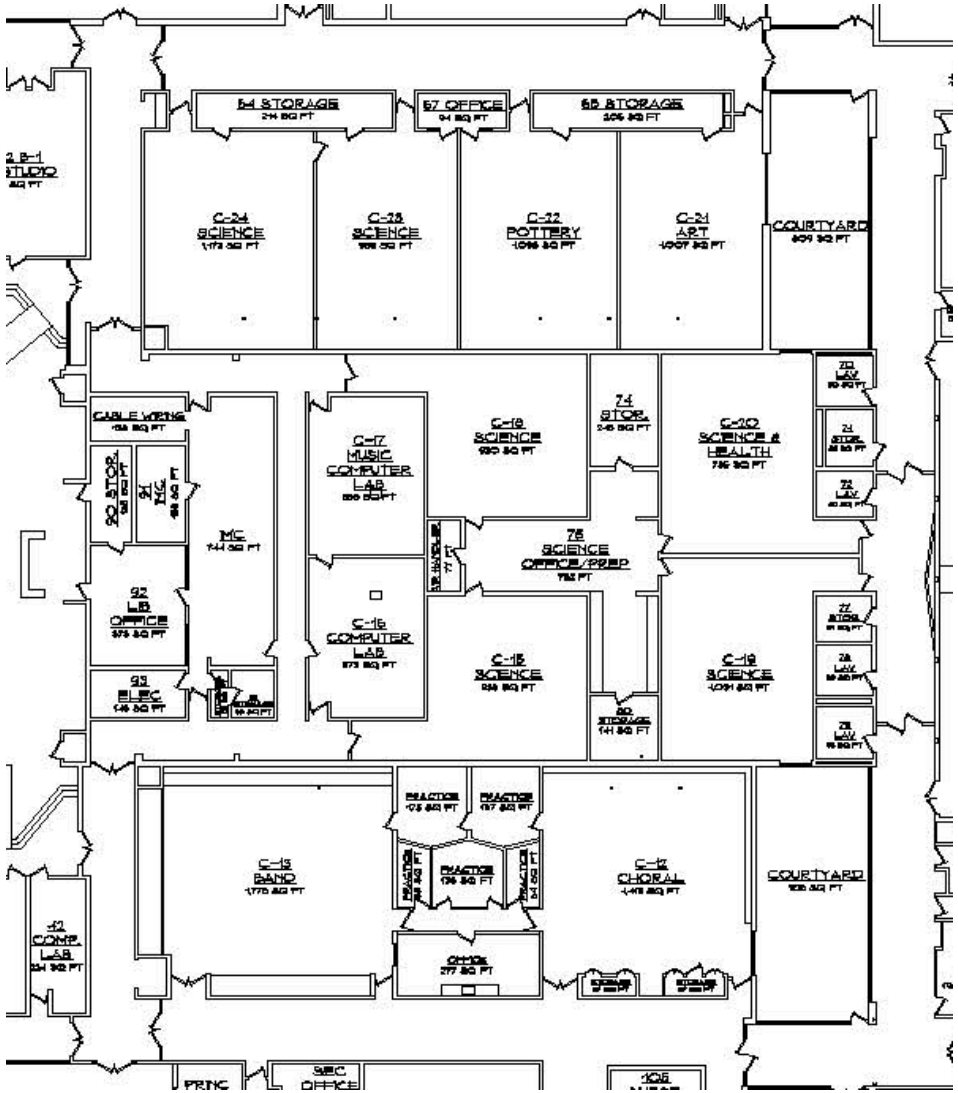


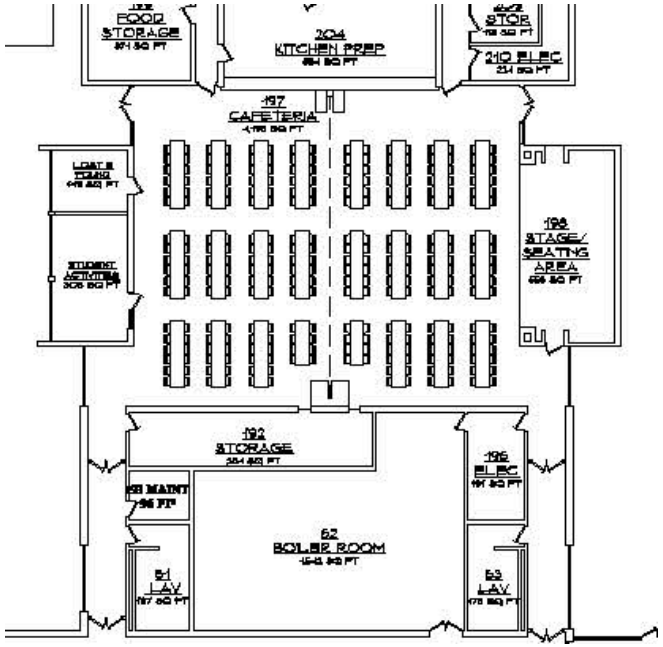
EXISITNG SCIENCE



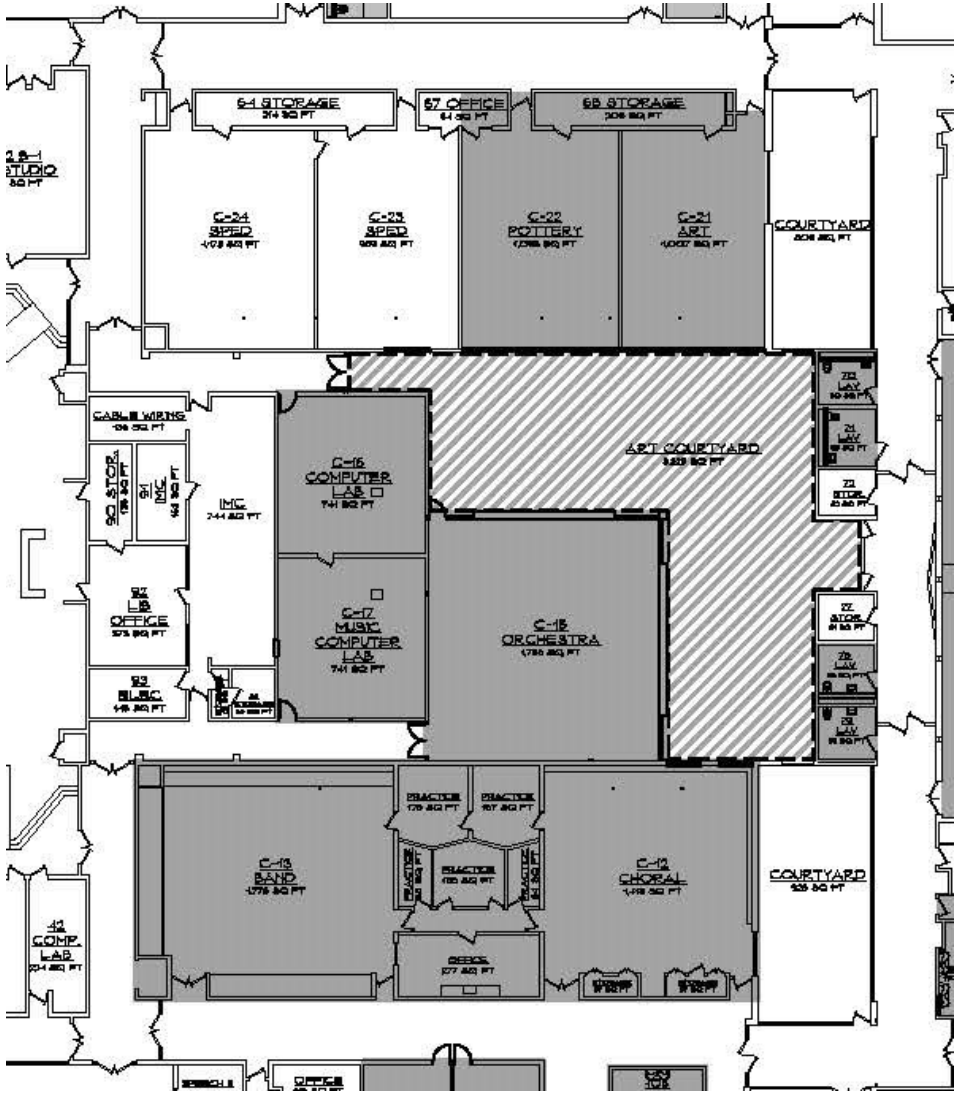
PROPOSED SCIENCE

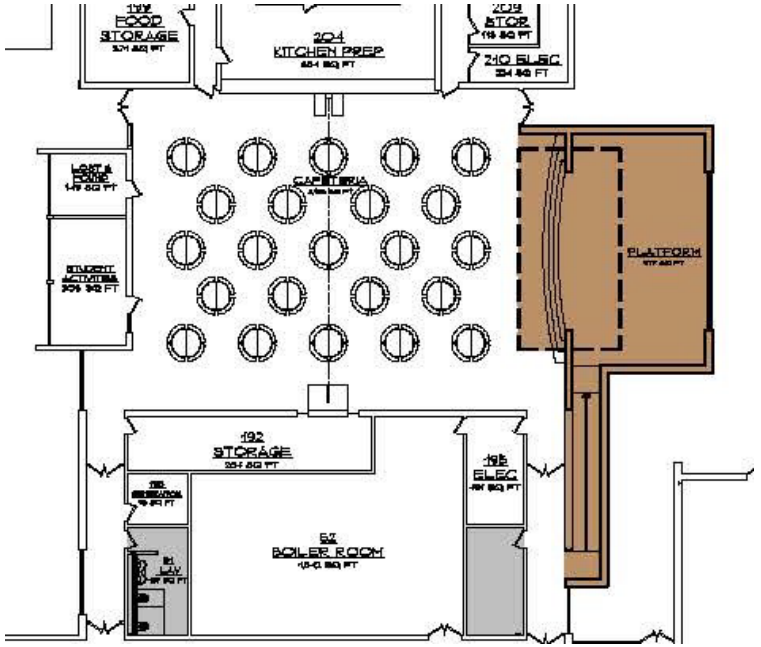
Middle School Design Option 1 – Art & Music



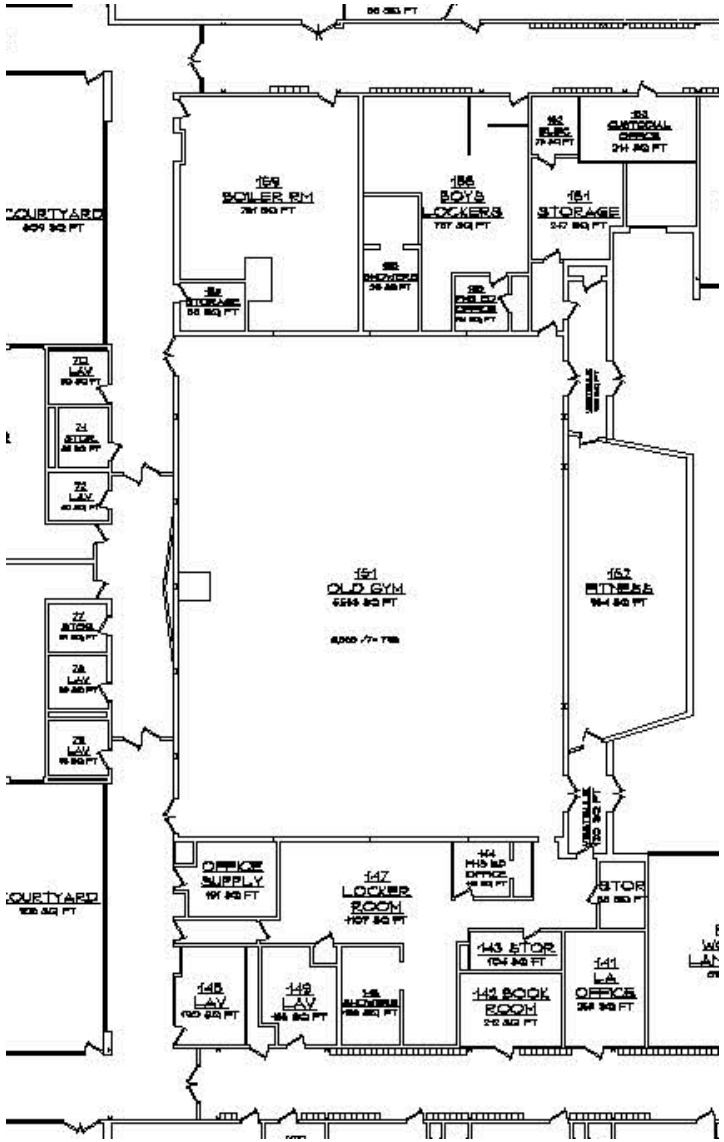


Middle School Design Option 1 – Art & Music





Middle School Design Option 1 – Old Gym & Lockers



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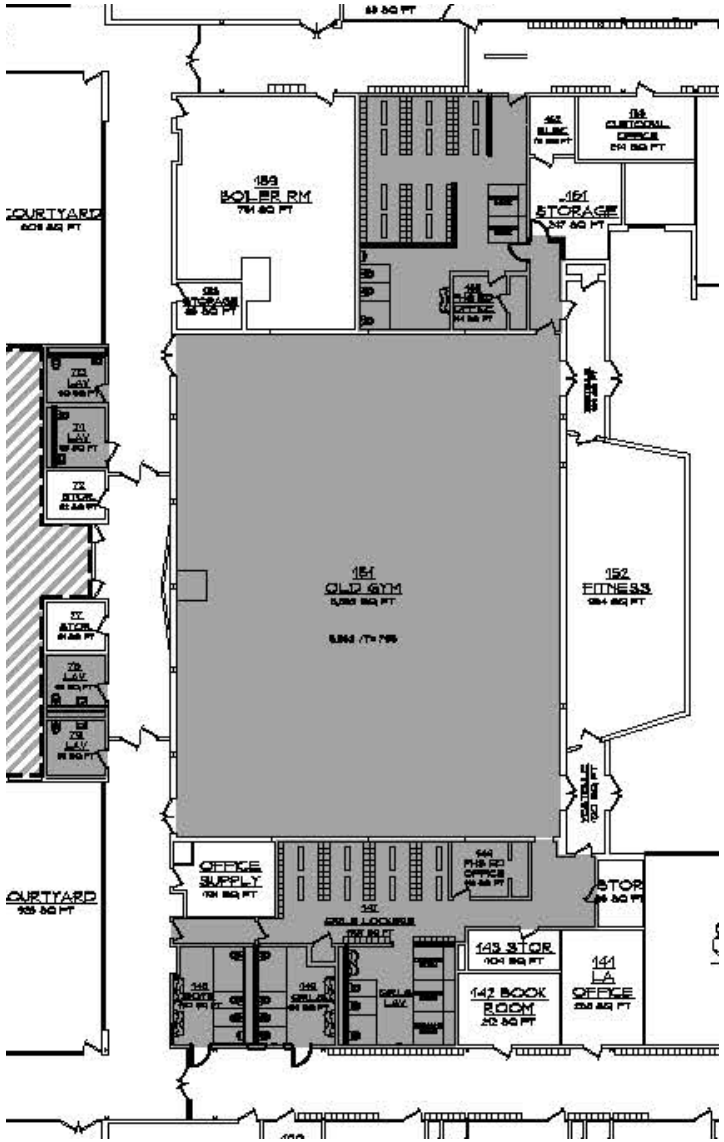
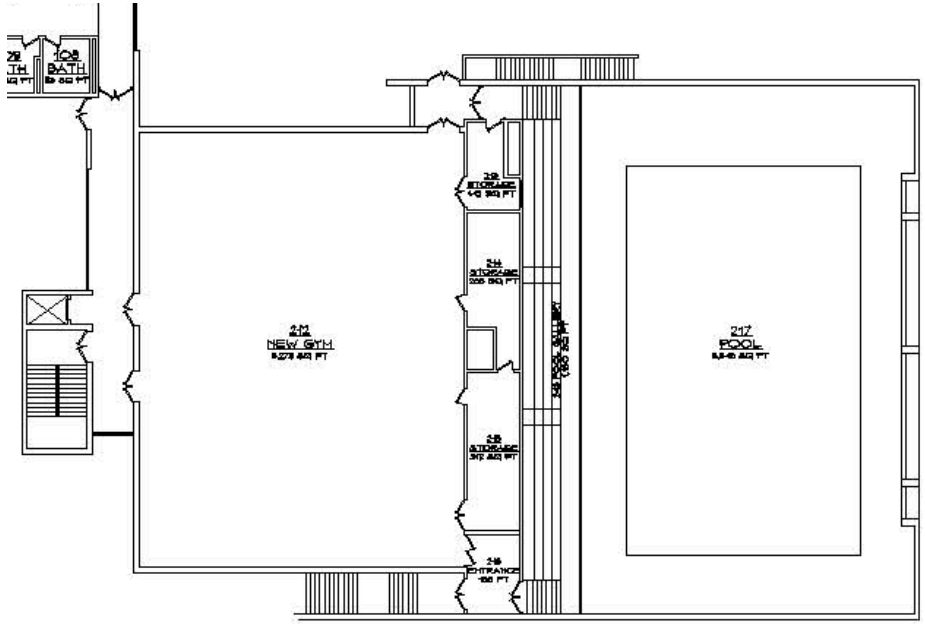
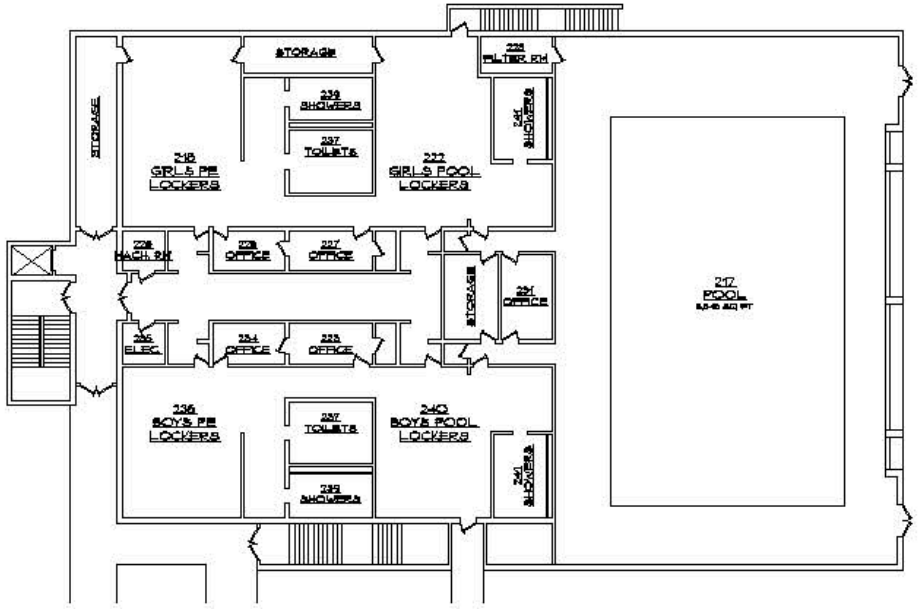


Middle School Design Option 1- New Gym & Lockers

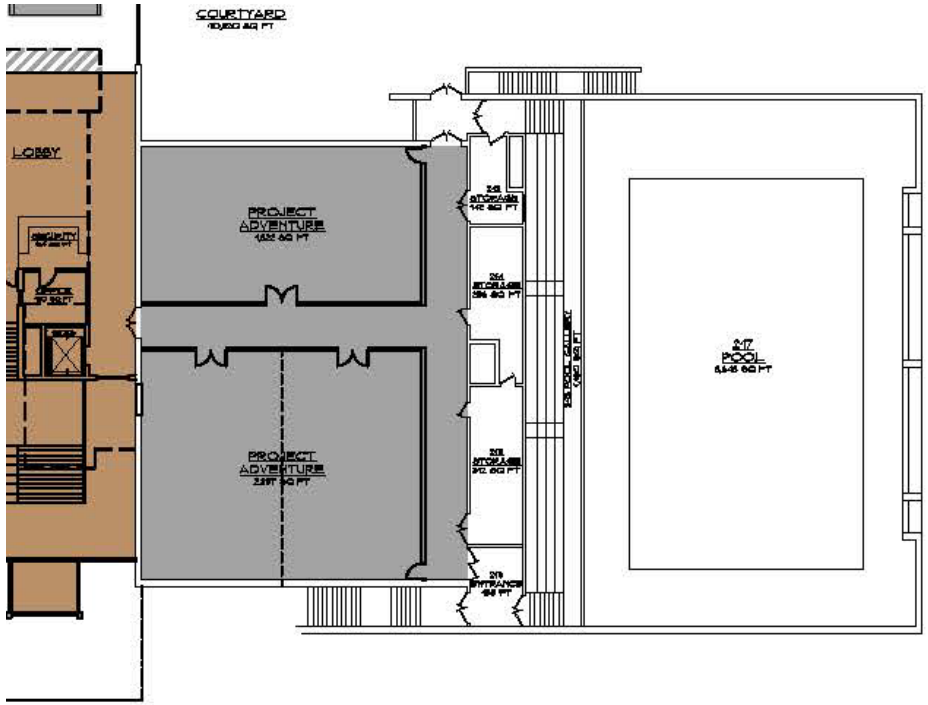


EXISITNG NEW GYM

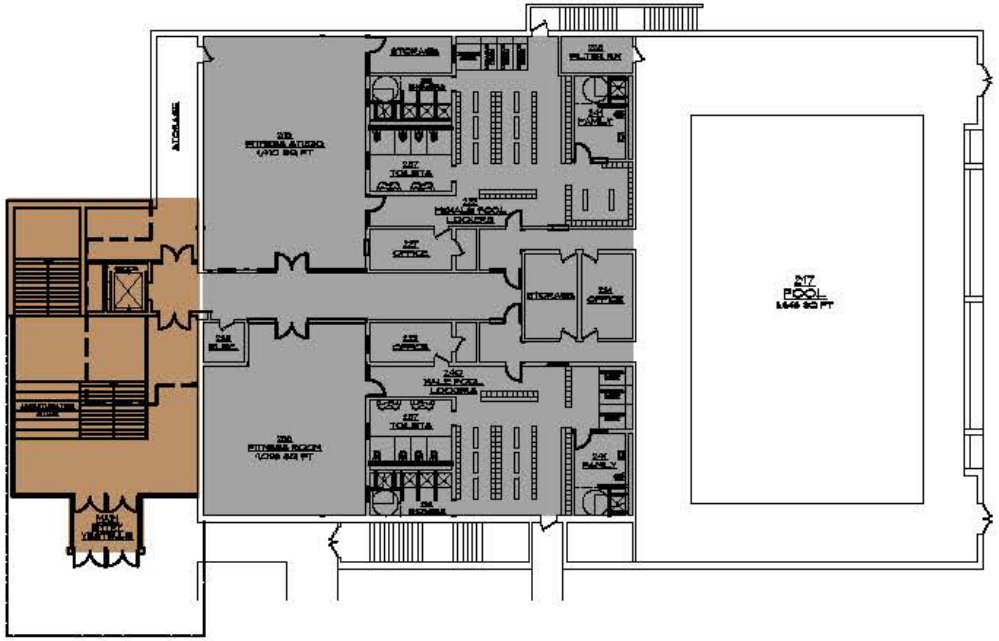


EXISITNG POOL & LOCKER ROOMS

Middle School Design Option 1- New Gym & Lockers

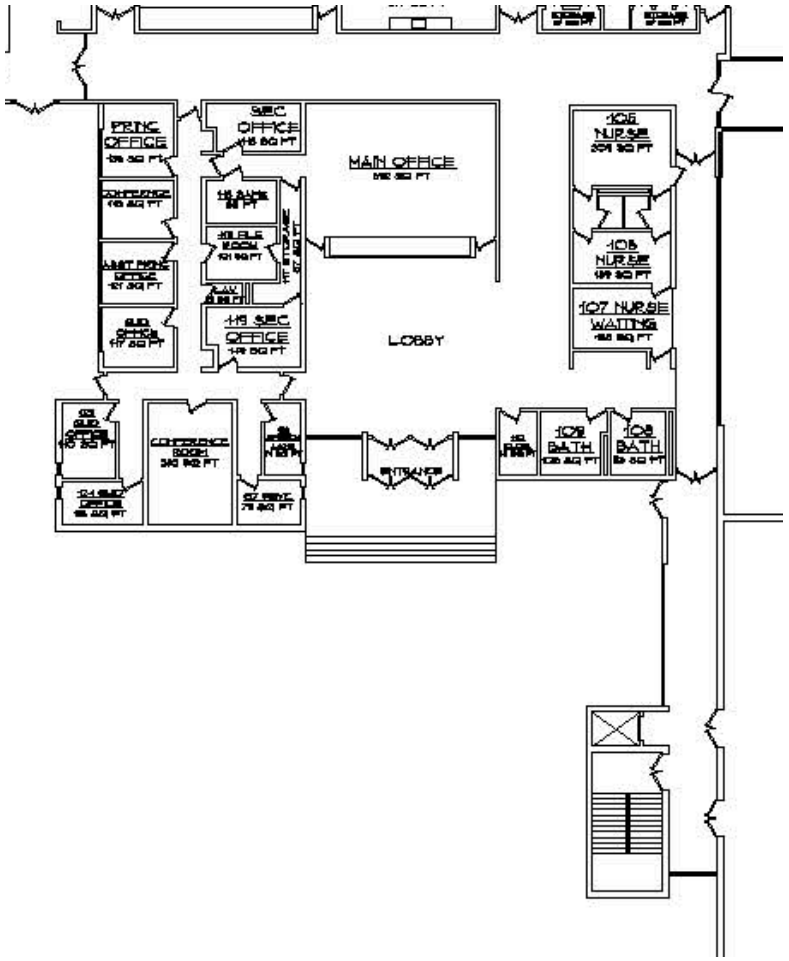


PROPOSED NEW GYM

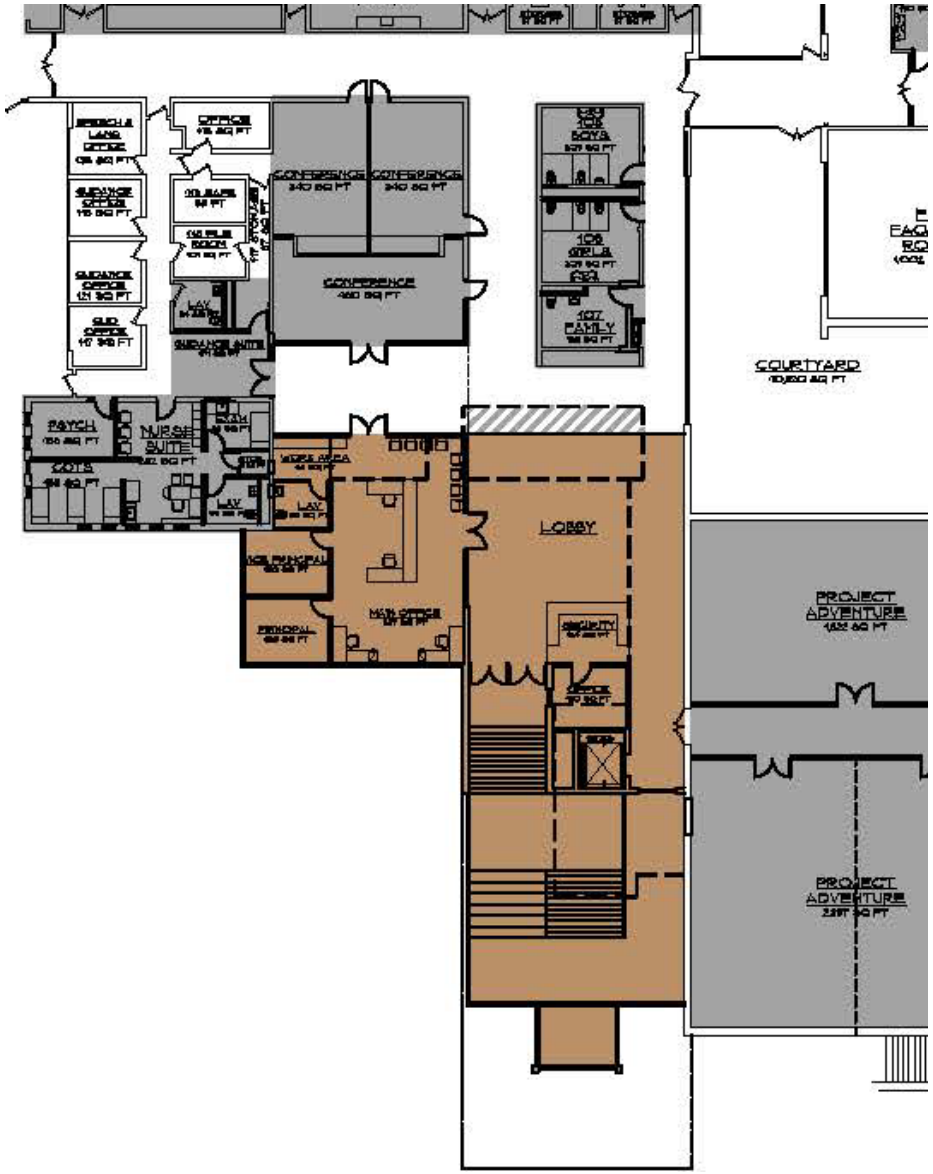


PROPSED POOL & LOCKER ROOMS

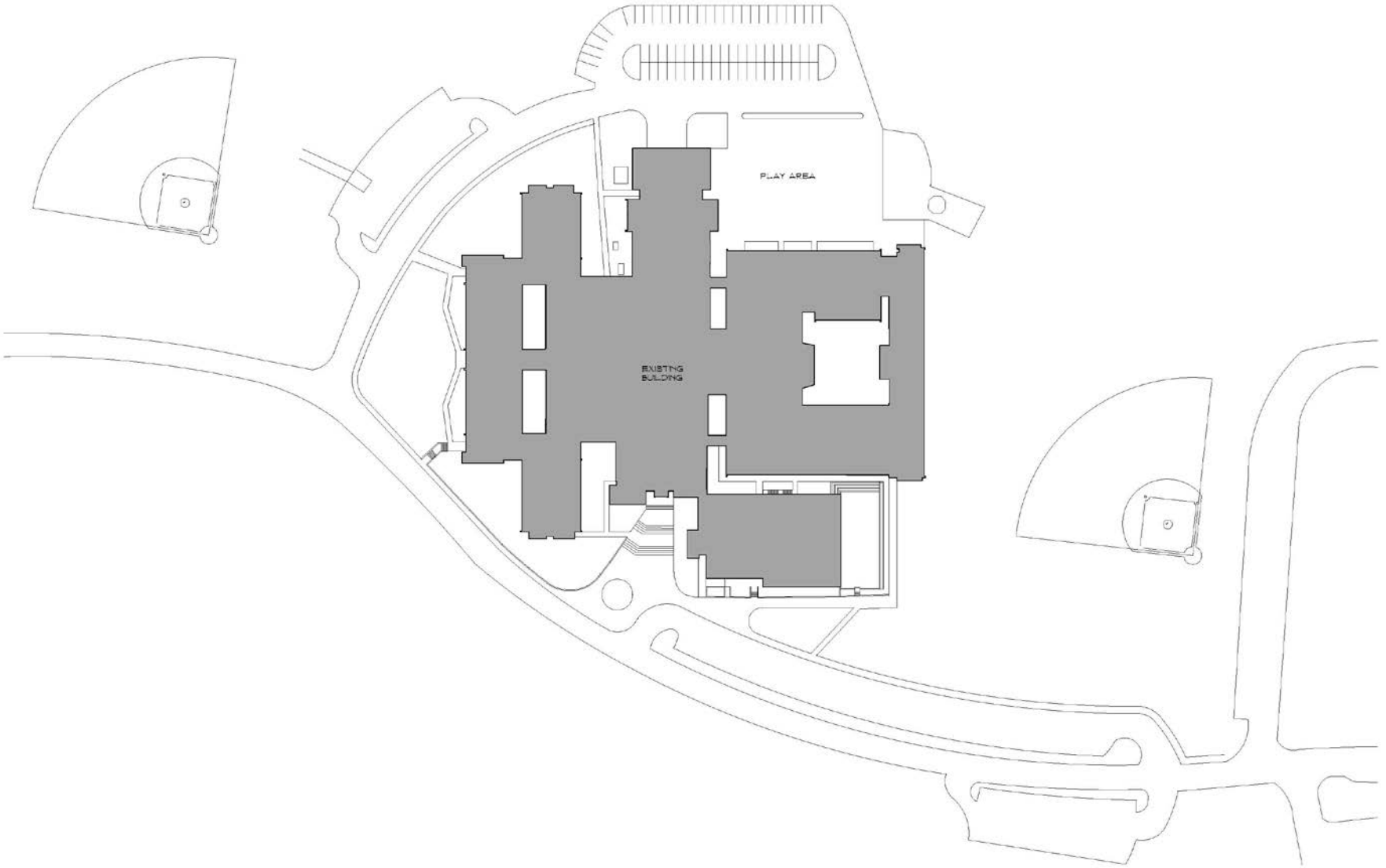
Middle School Design Option 1- Admin & Entry



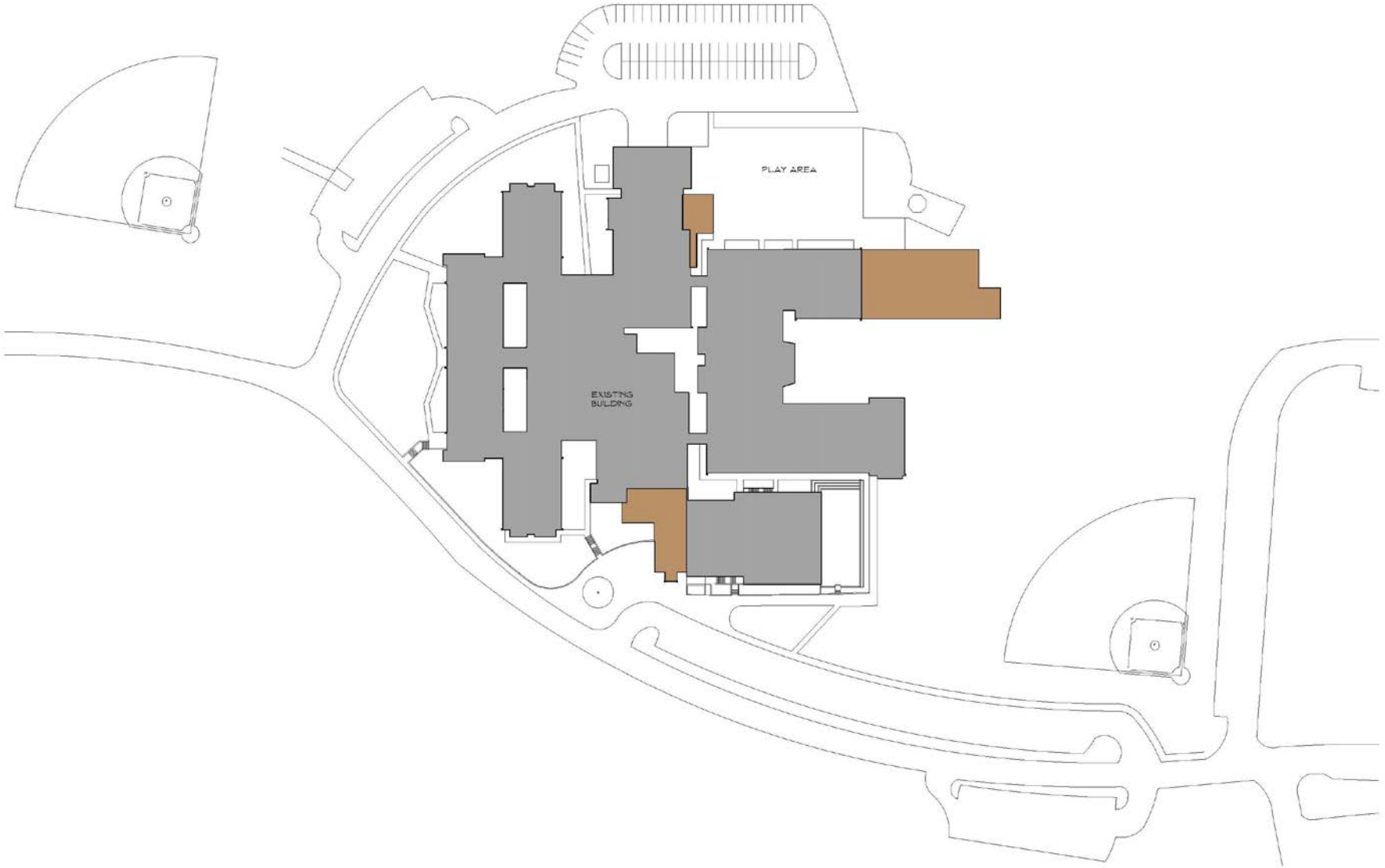
Middle School Design Option 1- Admin & Entry



Middle School Design Option 1 - Existing



Middle School Design Option 1 - Proposed



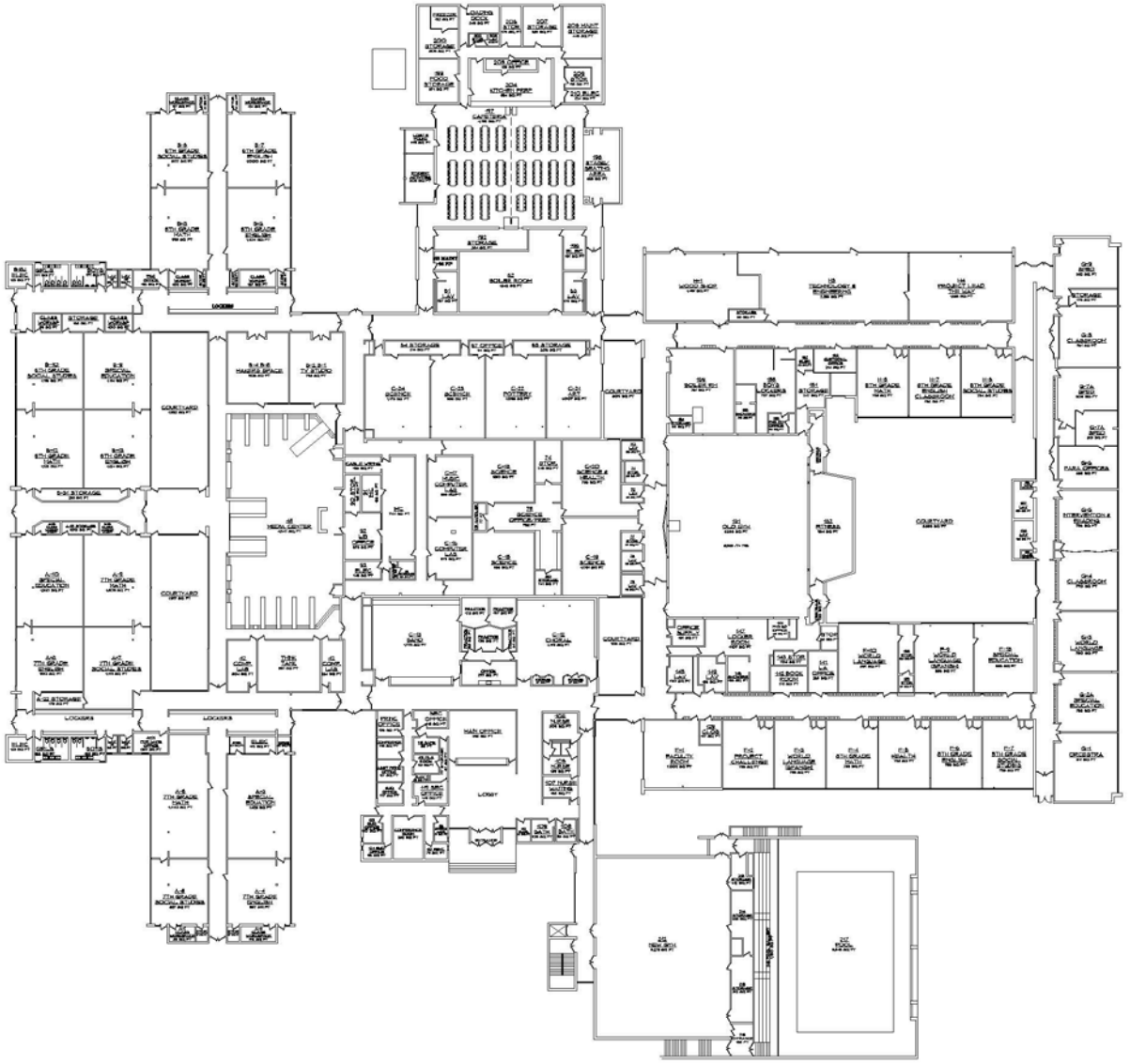
Middle School Design Option 1- Estimate

- DEMOLITION - COST RANGE
  - $20 per sq ft – Interior demo
  - $40 per sq ft – Typical building demo
  - $50 per sq ft – Courtyard demo
- RENOVATION - COST RANGE
  - $150 per sq ft – Gym renovation - finishes
  - $300 per sq ft – Typical renovations
  - $350 per sq ft – Moderate renovations
  - $400 per sq ft – Extensive renovations
- NEW CONSTRUCTION - COST RANGE
  - $300 per sq ft – Premanufactured construction
  - $500 per sq ft – New Construction

WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
WESTON MIDDLE SCHOOL - DESIGN OPTION 1 ESTIMATE

Design Option Projects	Area	Cost Per Sq ft.	Subtotal	Totals
BULDING INFRASTRUCTURE (Facility Conditions)				
HVAC			$ 4,284,000	
Electrical - to support HVAC, improve emergency power, new lighting throughout			$ 935,625	
Ceilings & devices throughout	102,380	$ 15	$ 1,535,700	
Restroom Renovations throughout			$ 525,000	$ 7,280,325
STUDENT LOCKERS & A-WING				
Hallway reconfigurations, restrooms & lockers	6,916	$ 400	$ 2,766,400	$ 2,766,400
SCIENCE				
Science demolition	3,325	$ 50	$ 166,250	
G-wing demolition	7,534	$ 40	$ 301,360	
Science Addition	11,119	$ 500	$ 5,559,500	$ 6,027,110
ART, MUSIC & CAFETERIA				
Music Renovations	6,651	$ 300	$ 1,995,300	
Art Renovations	2,633	$ 300	$ 789,900	
Cafeteria - stage demolition	644	$ 20	$ 12,880	
Stage Addition	1,773	$ 500	$ 886,500	
Computer Lab expansion/ Eliminate hall	1,589	$ 300	$ 476,700	$ 4,161,280
GYMS & LOCKER ROOMS				
Old Gym Renovation (finishes & equipment)	5,563	$ 150	$ 834,450	
Locker Room Reconfiguration	2,224	$ 300	$ 667,200	
New Gym Reconfiguration	5,250	$ 300	$ 1,575,000	
Pool Locker Rooms reno and conversion	7,683	$ 350	$ 2,689,050	$ 5,765,700
ENTRY & ADMINISTRATION				
Entry & stair demolition	1,504	$ 40	$ 60,160	
New Entry (Stair & Elevator) & Office Addition	7,091	$ 500	$ 3,545,500	
Office Renovations/reconfigurations	2,415	$ 300	$ 724,500	$ 4,330,160
OPTION 1 TOTAL				**$ 30,330,975**
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 17,298,474	
Remaining portions, not addressed above				$ 7,129,674
				$ 37,460,649

Middle School Design Option 2 - Existing

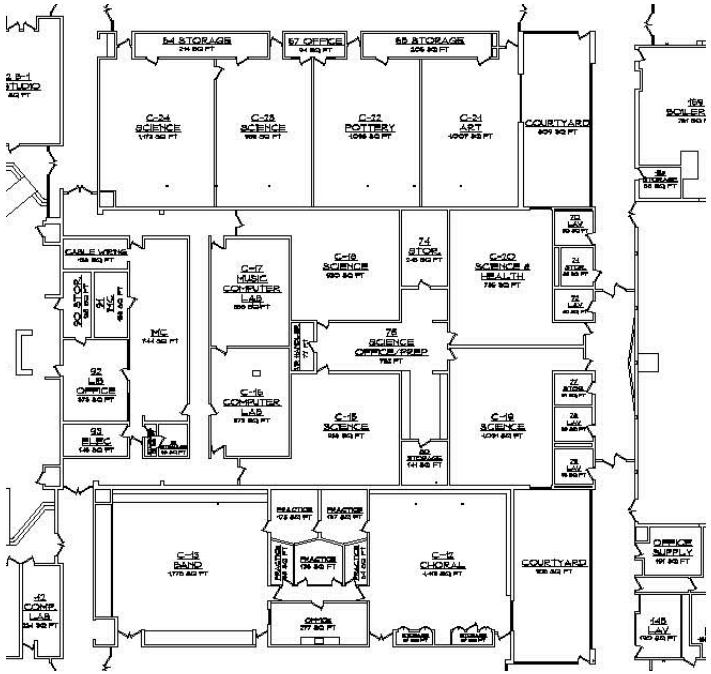


Middle School Design Option 2 - Proposed

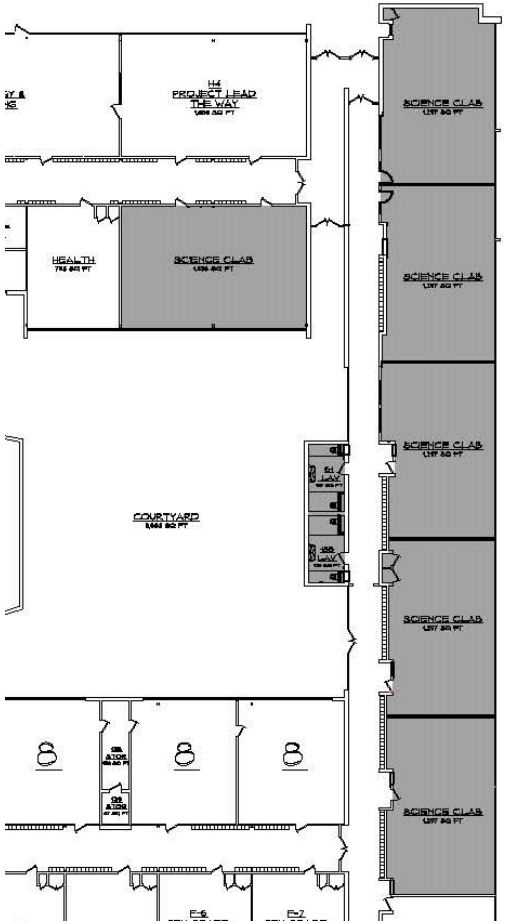
DESIGN LEGEND

- RENOVATIONS
- NEW CONSTRUCTION
- DEMOLITION

Middle School Design Option 2 - Science

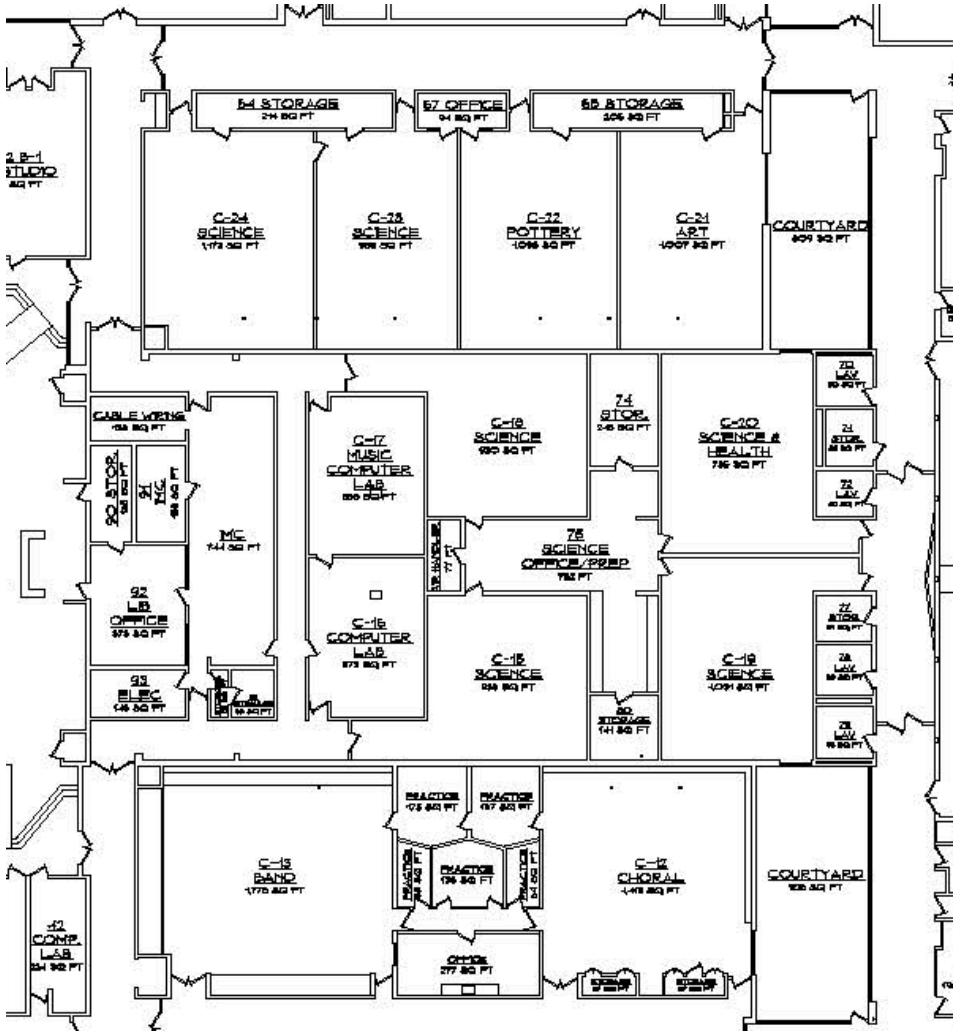


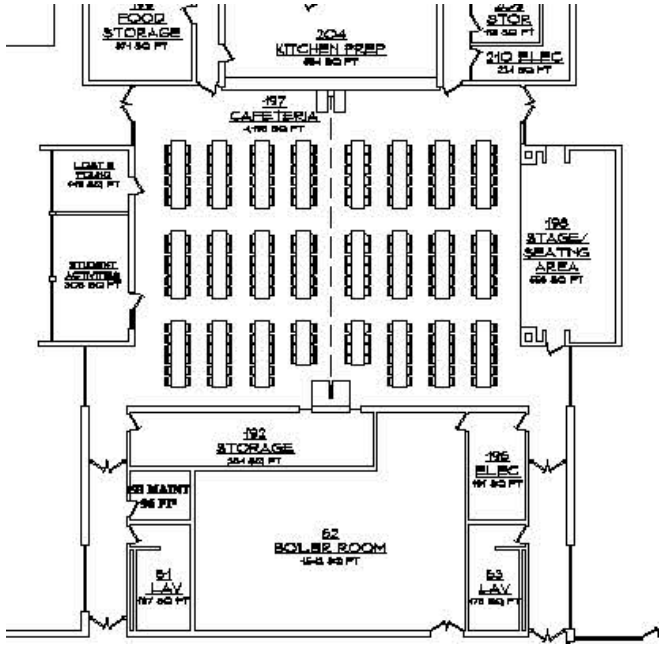
EXISITNG SCIENCE



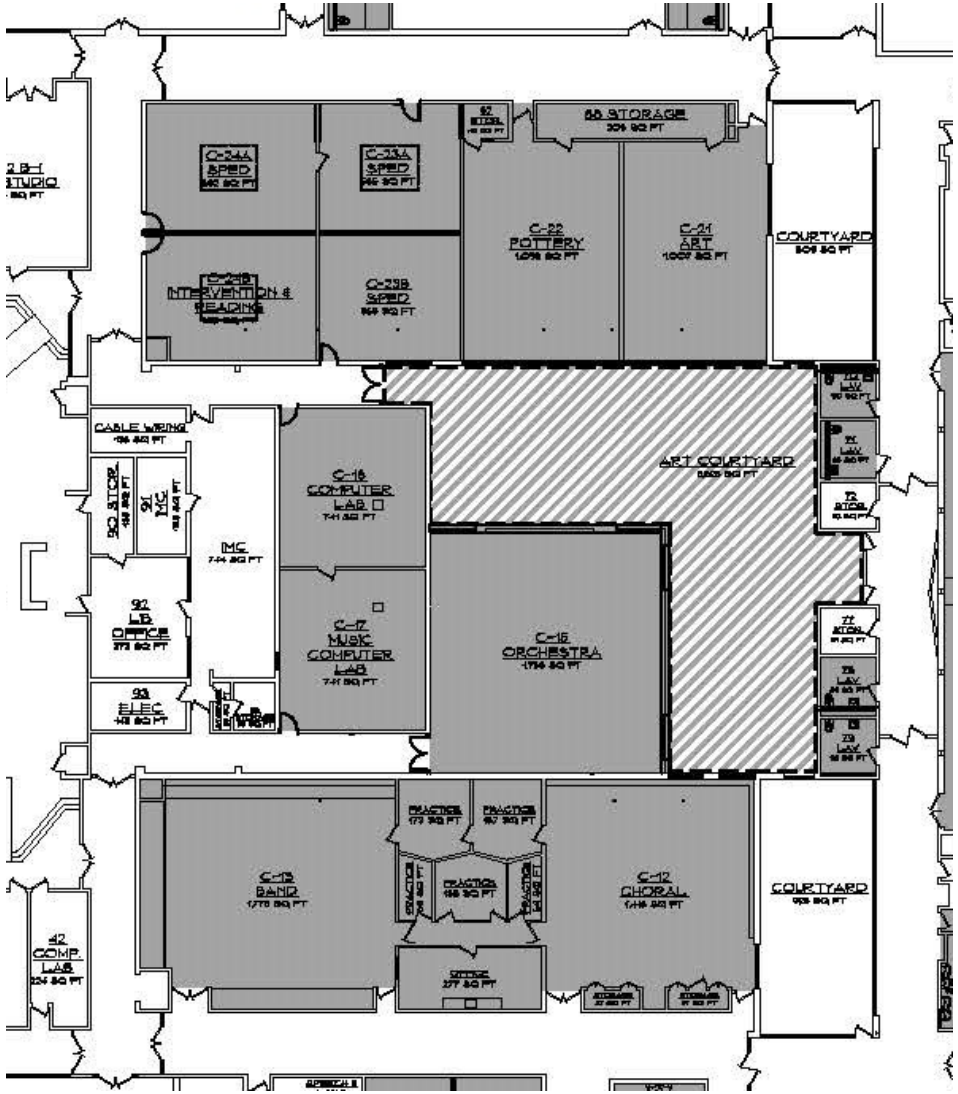
PROPOSED SCIENCE

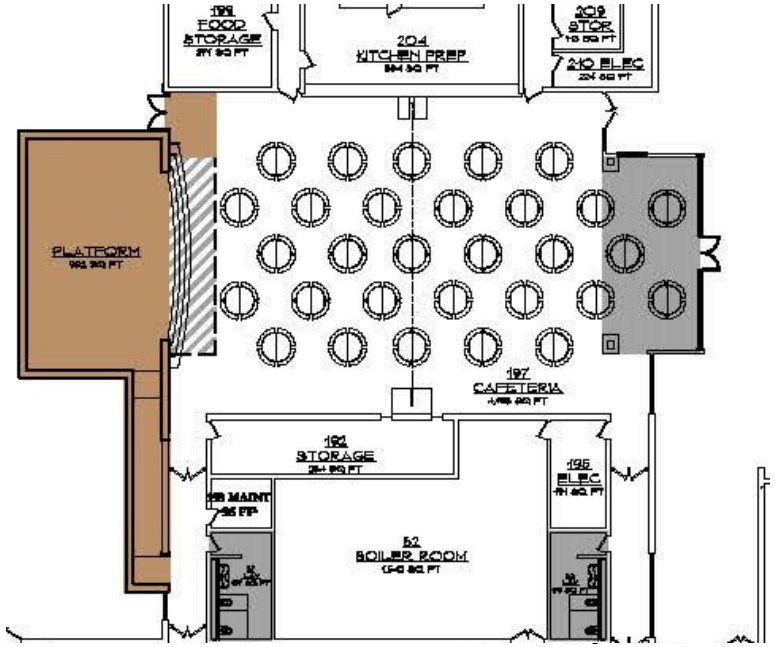
Middle School Design Option 2 – Art & Music



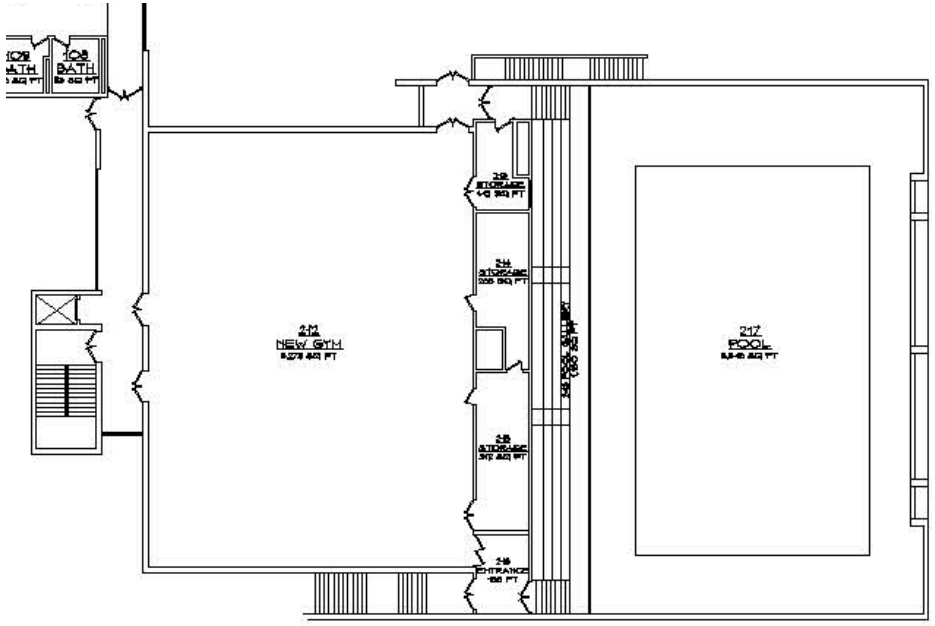


Middle School Design Option 2 – Art & Music

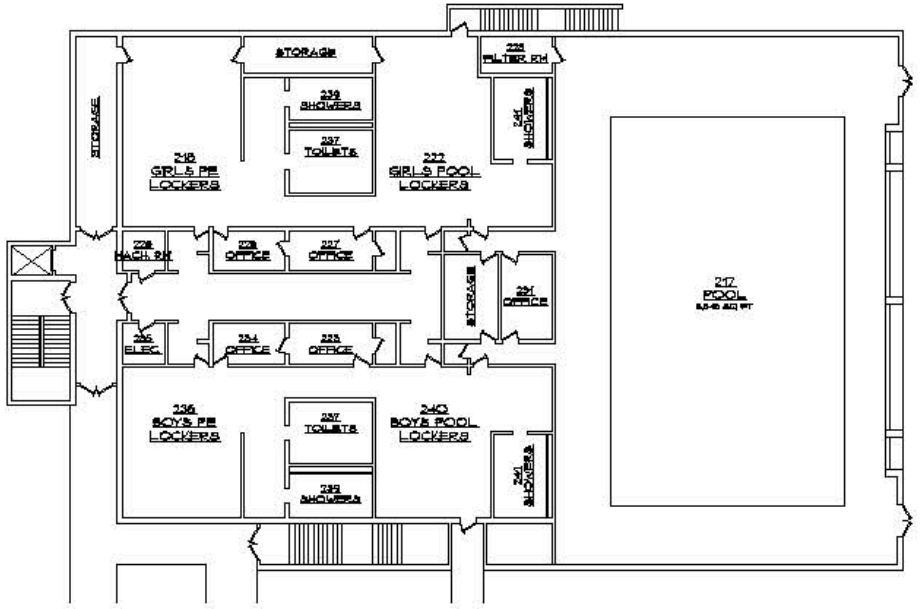




Middle School Design Option 2 - New Gym & Lockers

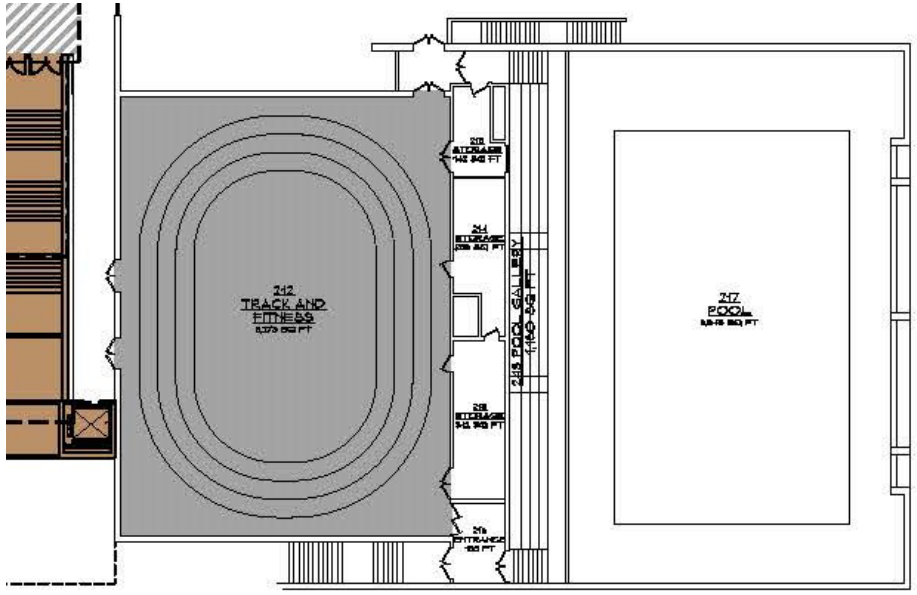


EXISITNG NEW GYM

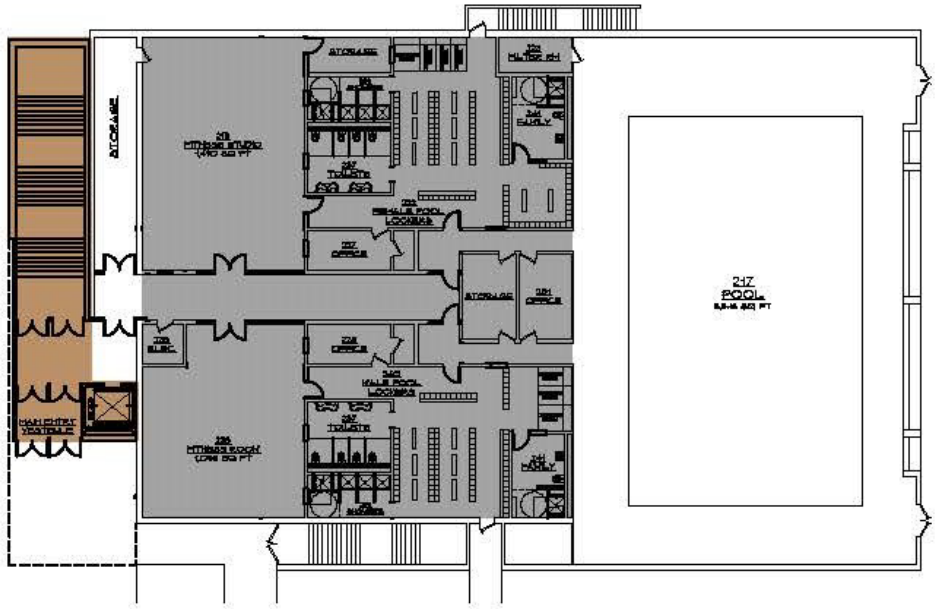


EXISITNG POOL & LOCKER ROOMS

Middle School Design Option 2 - New Gym & Lockers

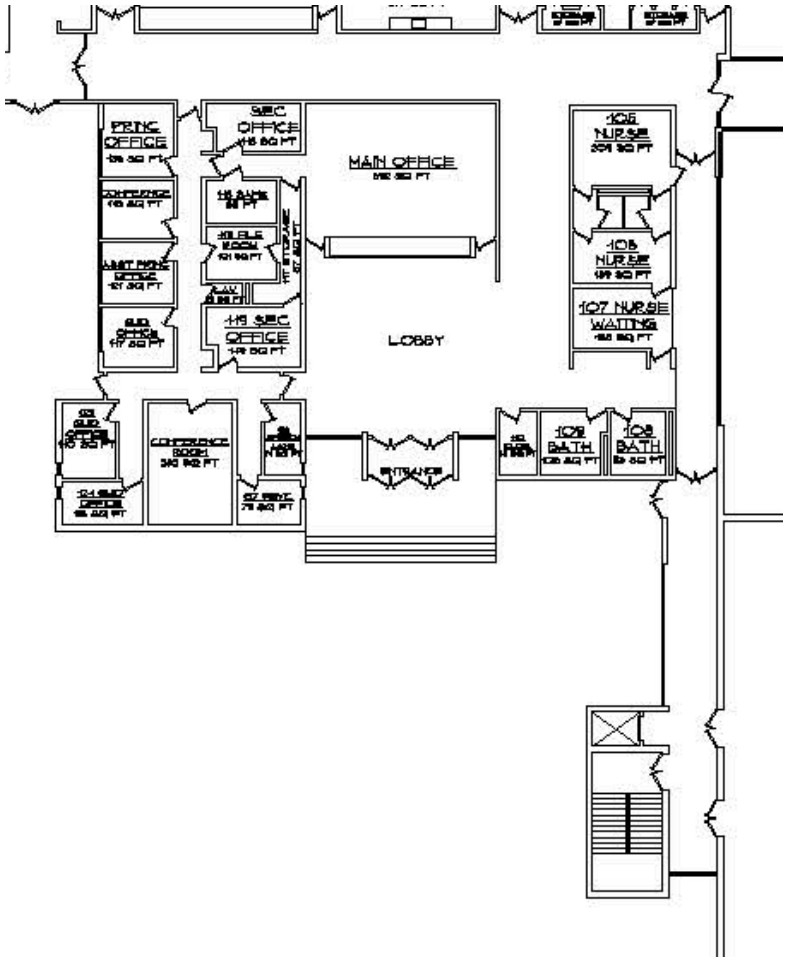


PROPOSED NEW GYM

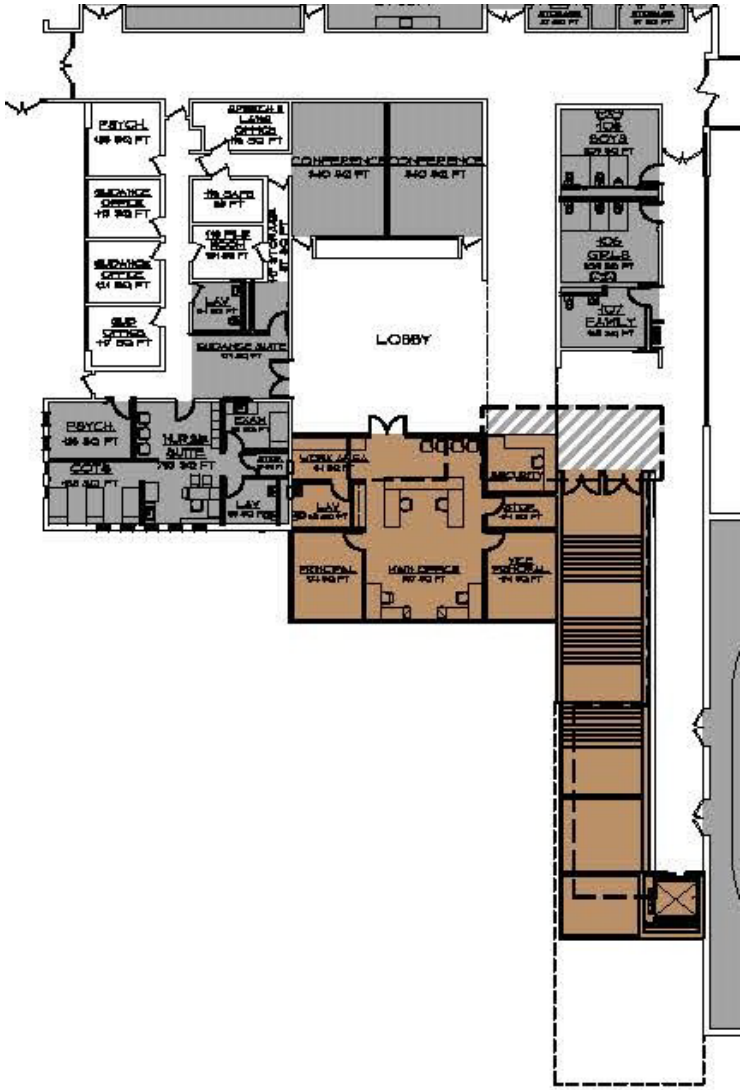


PROPSED POOL & LOCKER ROOMS

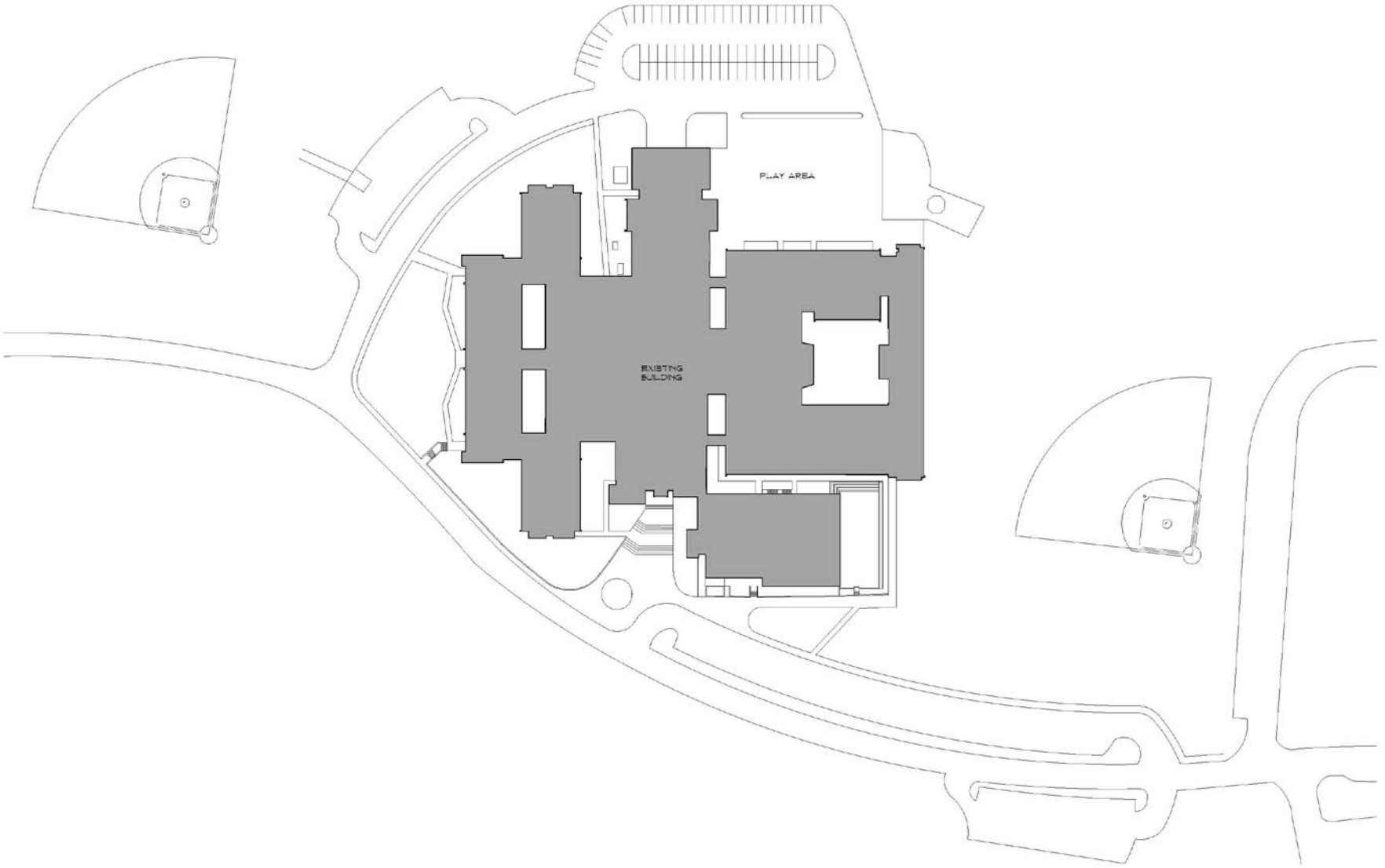
Middle School Design Option 2- Admin & Entry



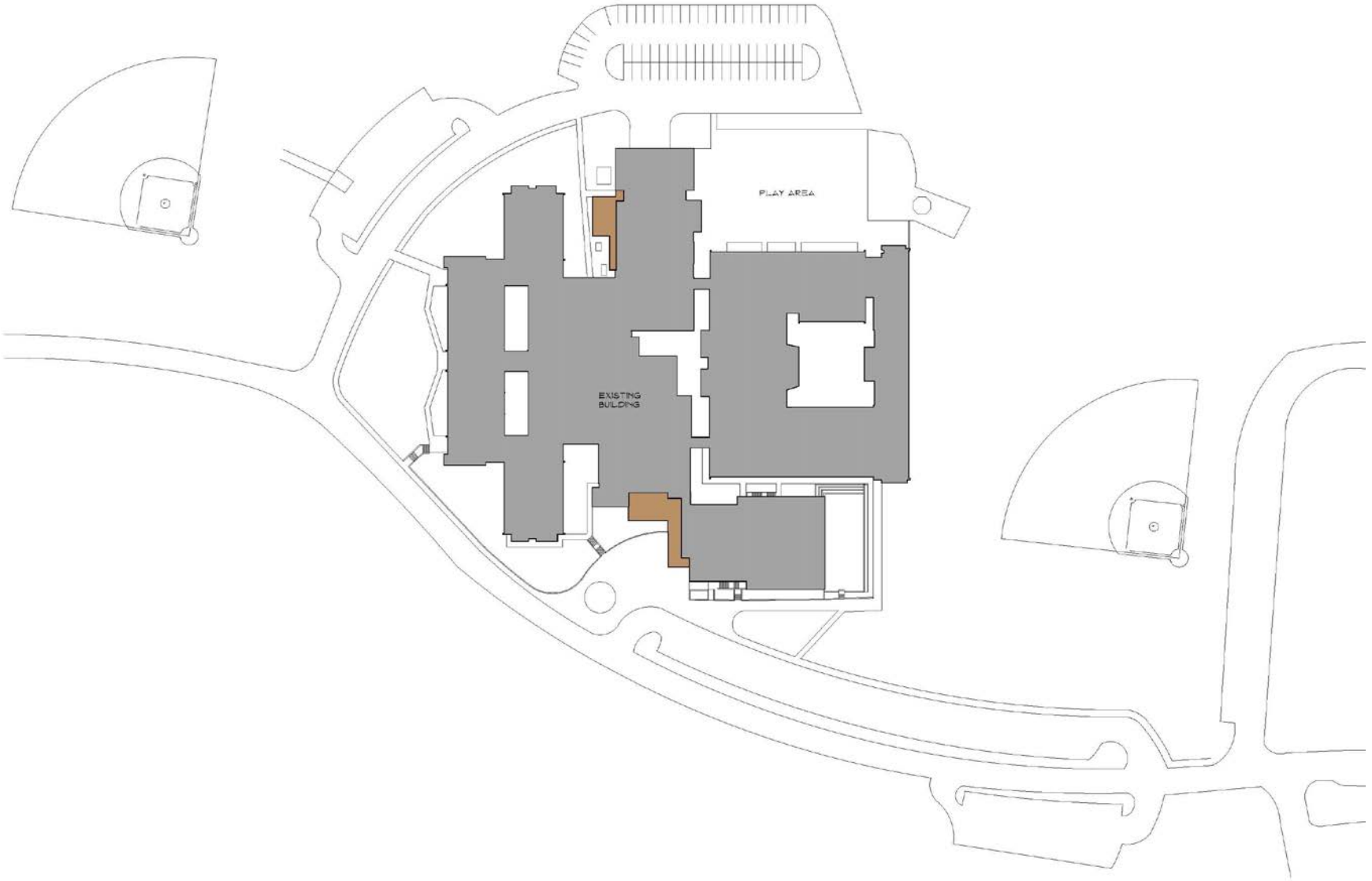
Middle School Design Option 2- Admin & Entry



Middle School Design Option 2 - Existing



Middle School Design Option 2 - Proposed



Middle School Design Option 2 - Estimate

- DEMOLITION - COST RANGE
  - $20 per sq ft – Interior demo
  - $40 per sq ft – Typical building demo
  - $50 per sq ft – Courtyard demo

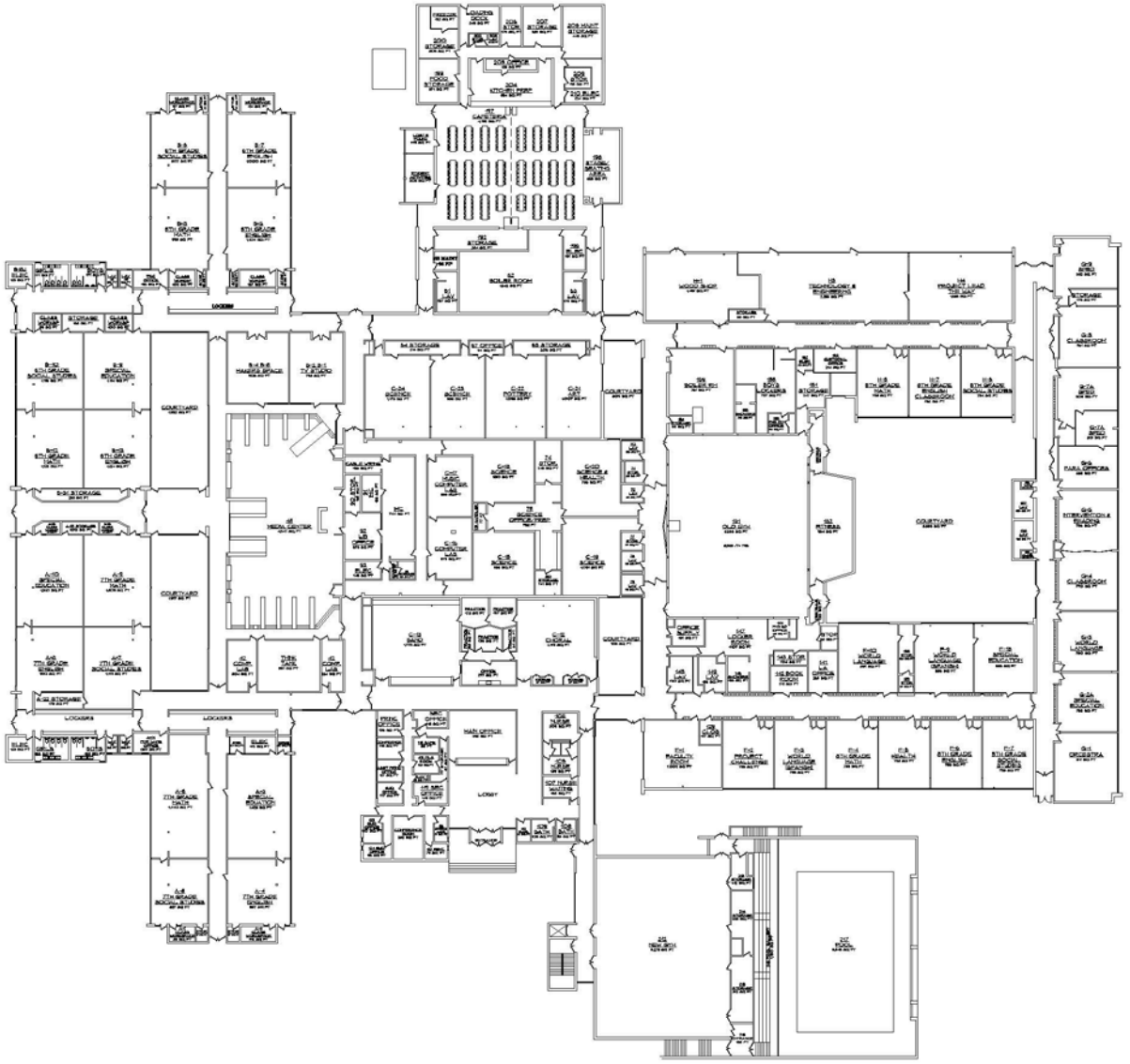
- RENOVATION - COST RANGE
  - $150 per sq ft – Gym renovation - finishes
  - $300 per sq ft – Typical renovations
  - $350 per sq ft – Moderate renovations
  - $400 per sq ft – Extensive renovations

- NEW CONSTRUCTION - COST RANGE
  - $300 per sq ft – Premanufactured construction
  - $500 per sq ft – New Construction

WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
WESTON MIDDLE SCHOOL - DESIGN OPTION 2 ESTIMATE

Design Option Projects	Area	Cost Per Sq ft	Subtotal	Totals
BULDING INFRASTRUCTURE (Facility Conditions)				
HVAC			$ 4,165,000	
Electrical - to support HVAC, improve emergency power, new lighting throughout			$ 935,625	
Ceilings & devices throughout	96,909	$ 15	$ 1,453,635	
Restroom Renovations throughout			$ 875,000	$ 7,429,260
STUDENT LOCKERS & A-WING				
Hallway reconfigurations, restrooms & lockers	6,916	$ 400	$ 2,766,400	$ 2,766,400
SCIENCE				
Science demolition	3,325	$ 50	$ 166,250	
G-wing Science Clab Conversion	8,026	$ 400	$ 3,210,400	
C-wing (science) Special Education Conversion	2,552	$ 300	$ 765,600	$ 3,376,650
ART & MUSIC				
Music Renovations	6,651	$ 300	$ 1,995,300	
Art Renovations	2,633	$ 300	$ 789,900	
Cafeteria - stage demolition	644	$ 20	$ 12,880	
Cafeteria - Northwest demolition	539	$ 20	$ 10,780	
Stage Addition	1,773	$ 500	$ 886,500	
Computer Lab expansion/ Eliminate hall	1,589	$ 300	$ 476,700	$ 4,172,060
GYMS & LOCKER ROOMS				
Old Gym Renovation (finishes & equipment)	5,563	$ 150	$ 834,450	
Locker Room Reconfiguration	2,224	$ 300	$ 667,200	
New Gym Reconfiguration	5,250	$ 300	$ 1,575,000	
Pool Locker Rooms	7,683	$ 350	$ 2,689,050	$ 5,765,700
ENTRY & ADMINISTRATION				
Existing entry & stair demolition	1,504	$ 40	$ 60,160	
New Entry (Stair & Elevator) & Office Addition	3,874	$ 500	$ 1,937,000	
Office Renovations/reconfigurations	2,415	$ 300	$ 724,500	$ 2,721,660
OPTION 2 TOTAL				**$ 26,231,730**
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 17,298,474	
Remaining portions, not addressed above				$ 7,248,674
				$ 33,480,404

Middle School Design Option 3 - Existing

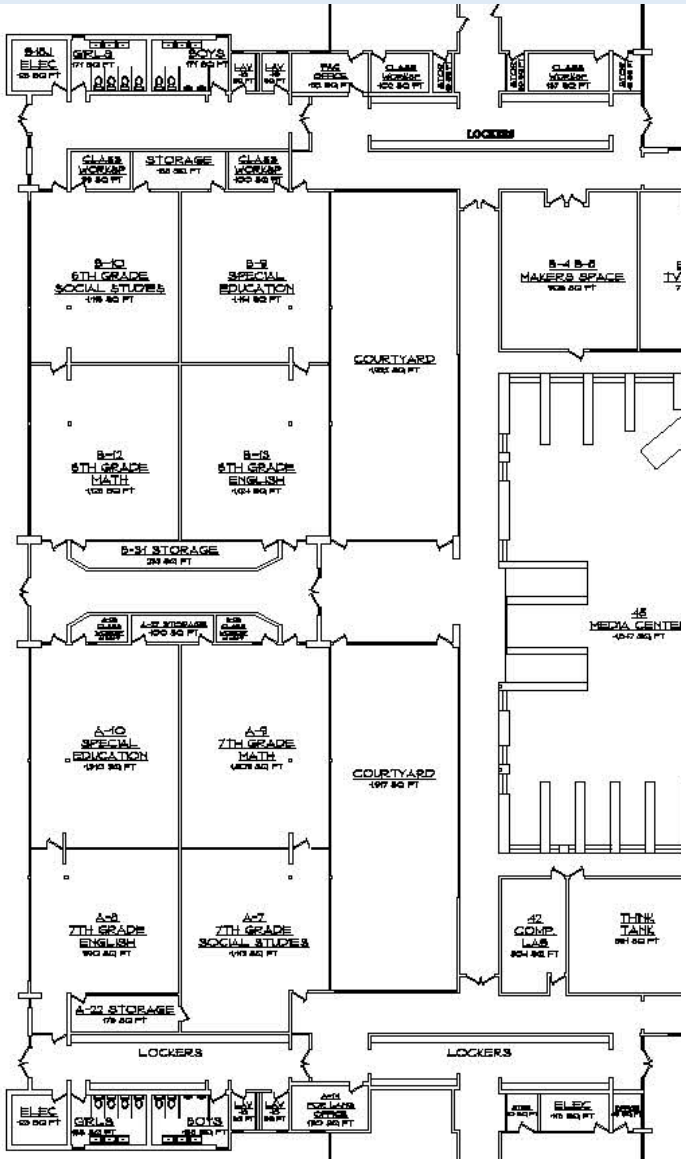


Middle School Design Option 3 - Proposed

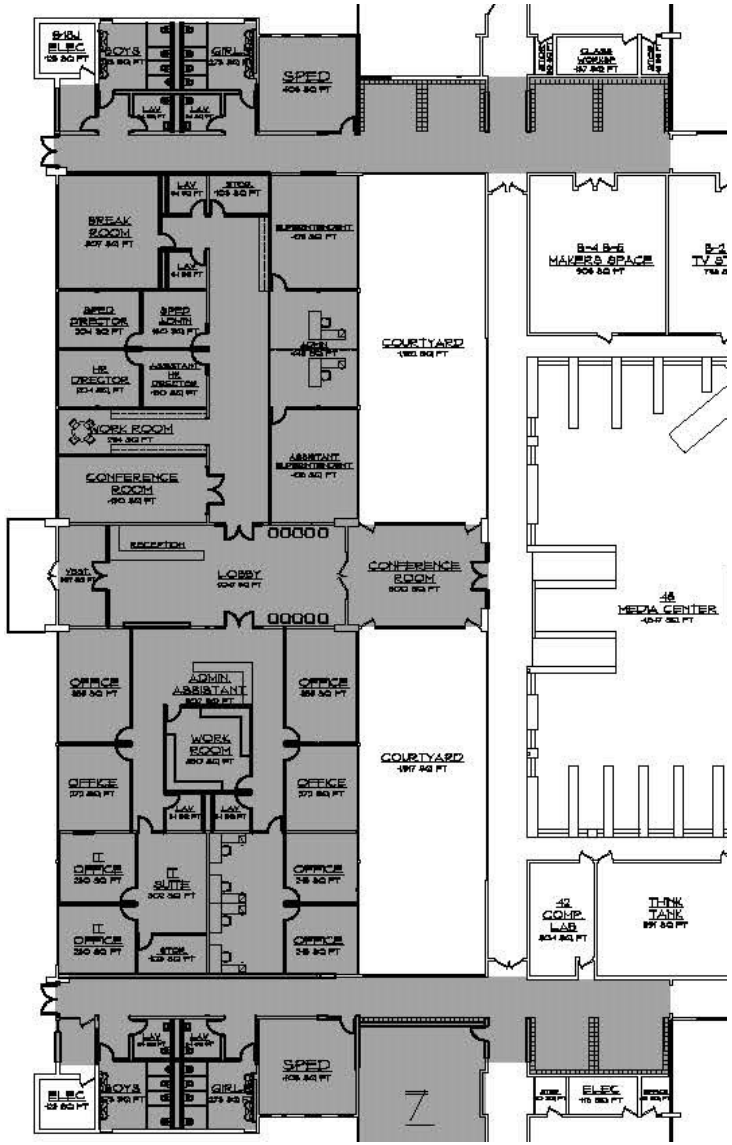
DESIGN LEGEND

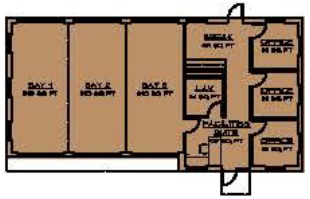
- RENOVATIONS
- NEW CONSTRUCTION
- DEMOLITION

Middle School Design Option 3 – Central Office

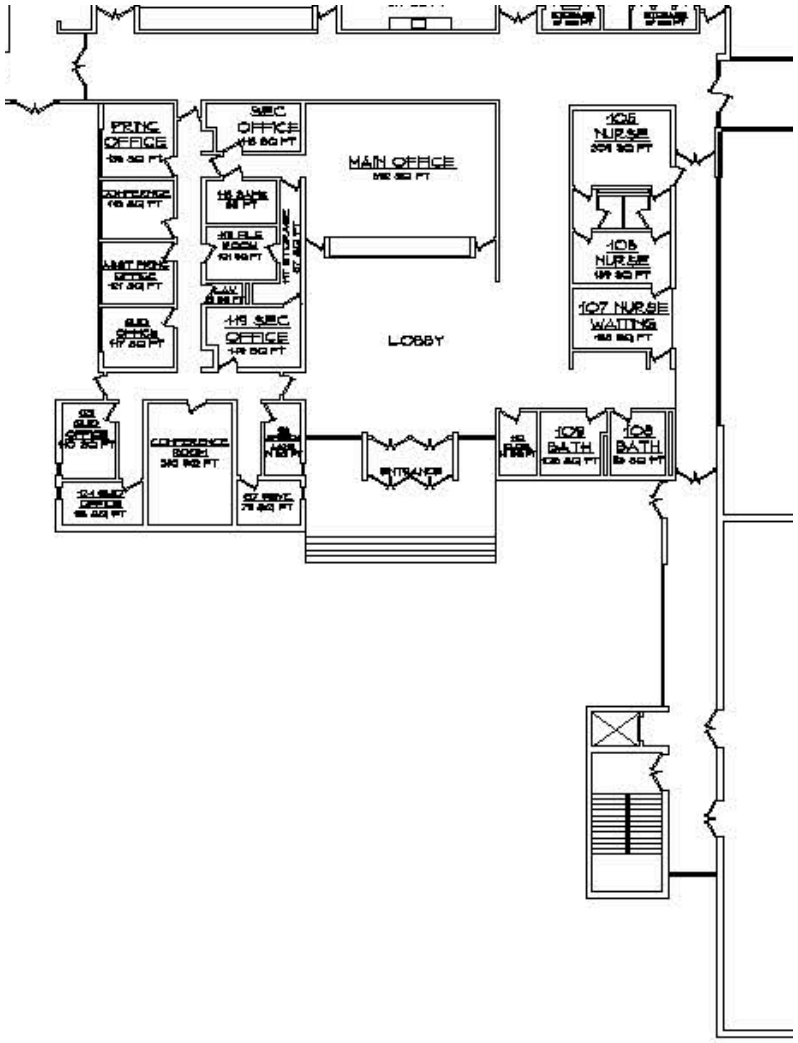


Middle School Design Option 3 – Central Office

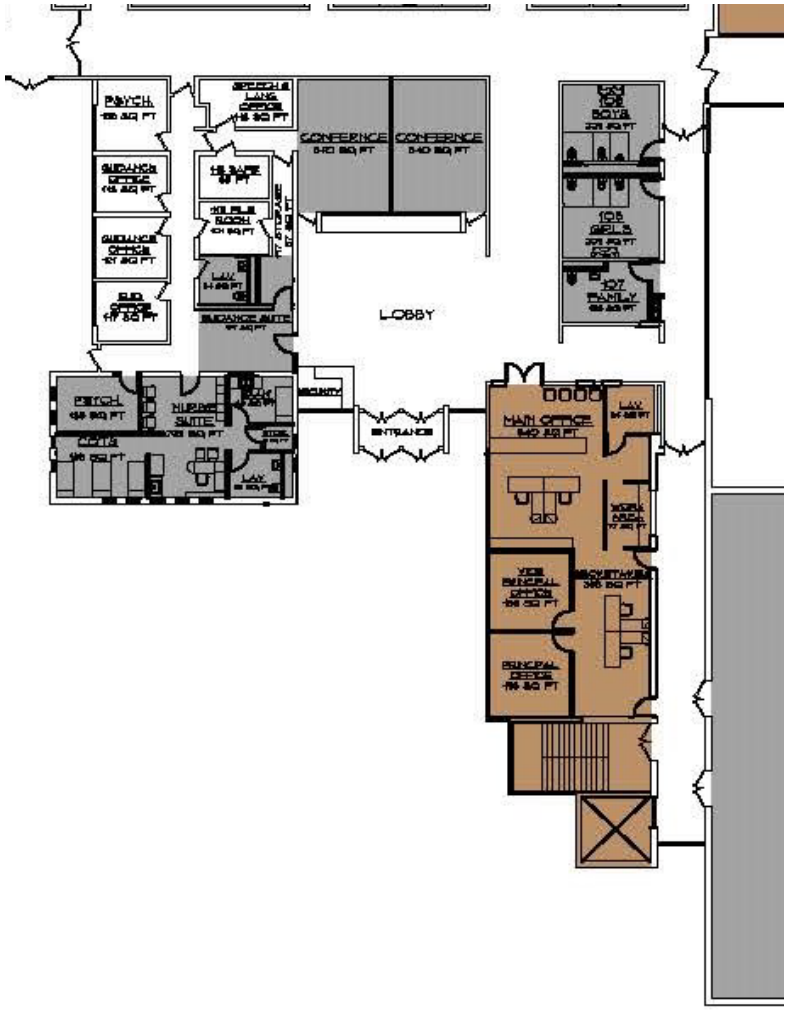




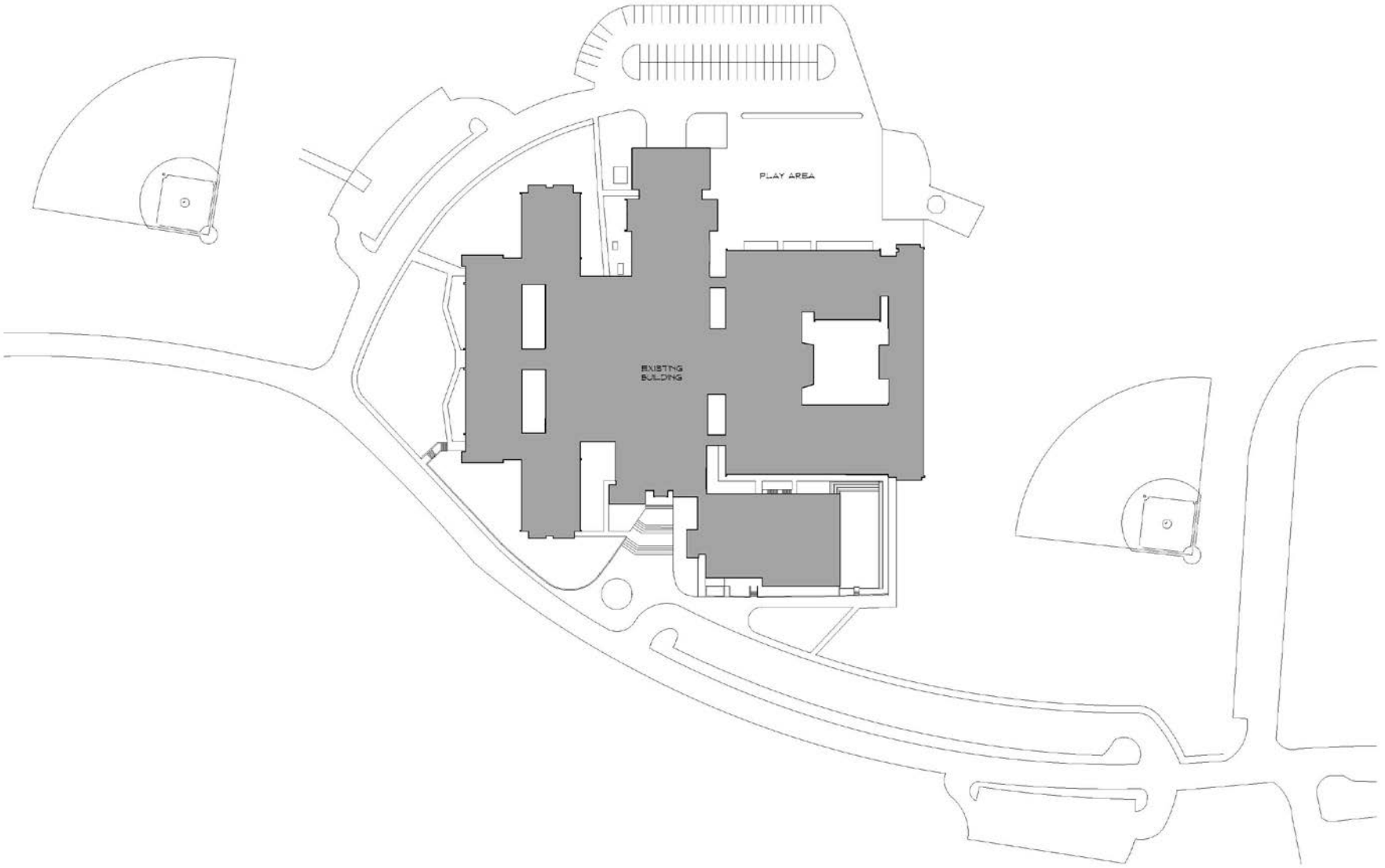
Middle School Design Option 3 - Admin & Entry



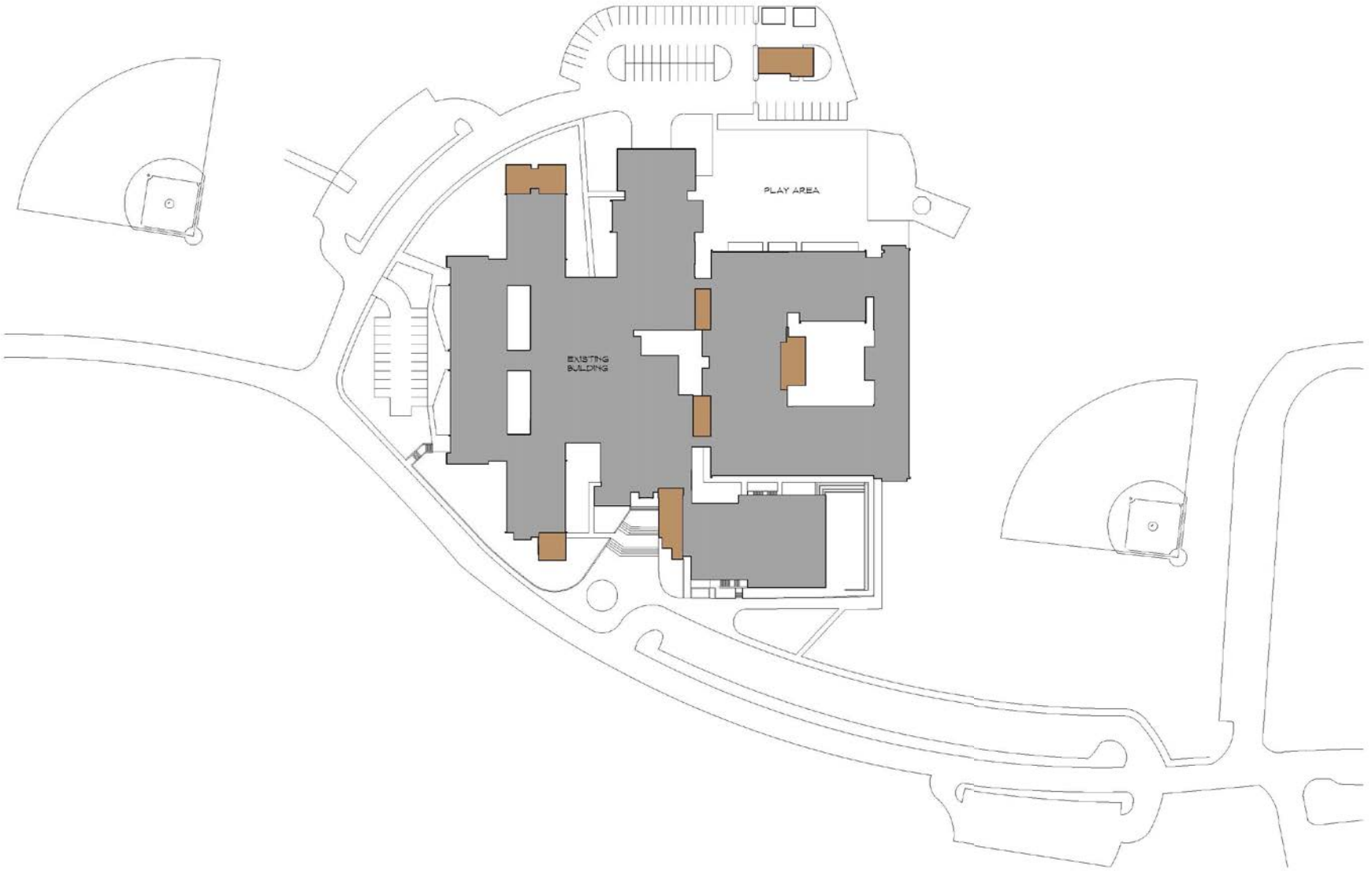
Middle School Design Option 3 - Admin & Entry



Middle School Design Option 3 - Existing



Middle School Design Option 3 - Existing



Middle School Design Option 3 - Estimate

- DEMOLITION - COST RANGE
  - $20 per sq ft – Interior demo
  - $40 per sq ft – Typical building demo
  - $50 per sq ft – Courtyard demo
- RENOVATION - COST RANGE
  - $150 per sq ft – Gym renovation - finishes
  - $300 per sq ft – Typical renovations
  - $350 per sq ft – Moderate renovations
  - $400 per sq ft – Extensive renovations
- NEW CONSTRUCTION - COST RANGE
  - $300 per sq ft – Premanufactured construction
  - $500 per sq ft – New Construction

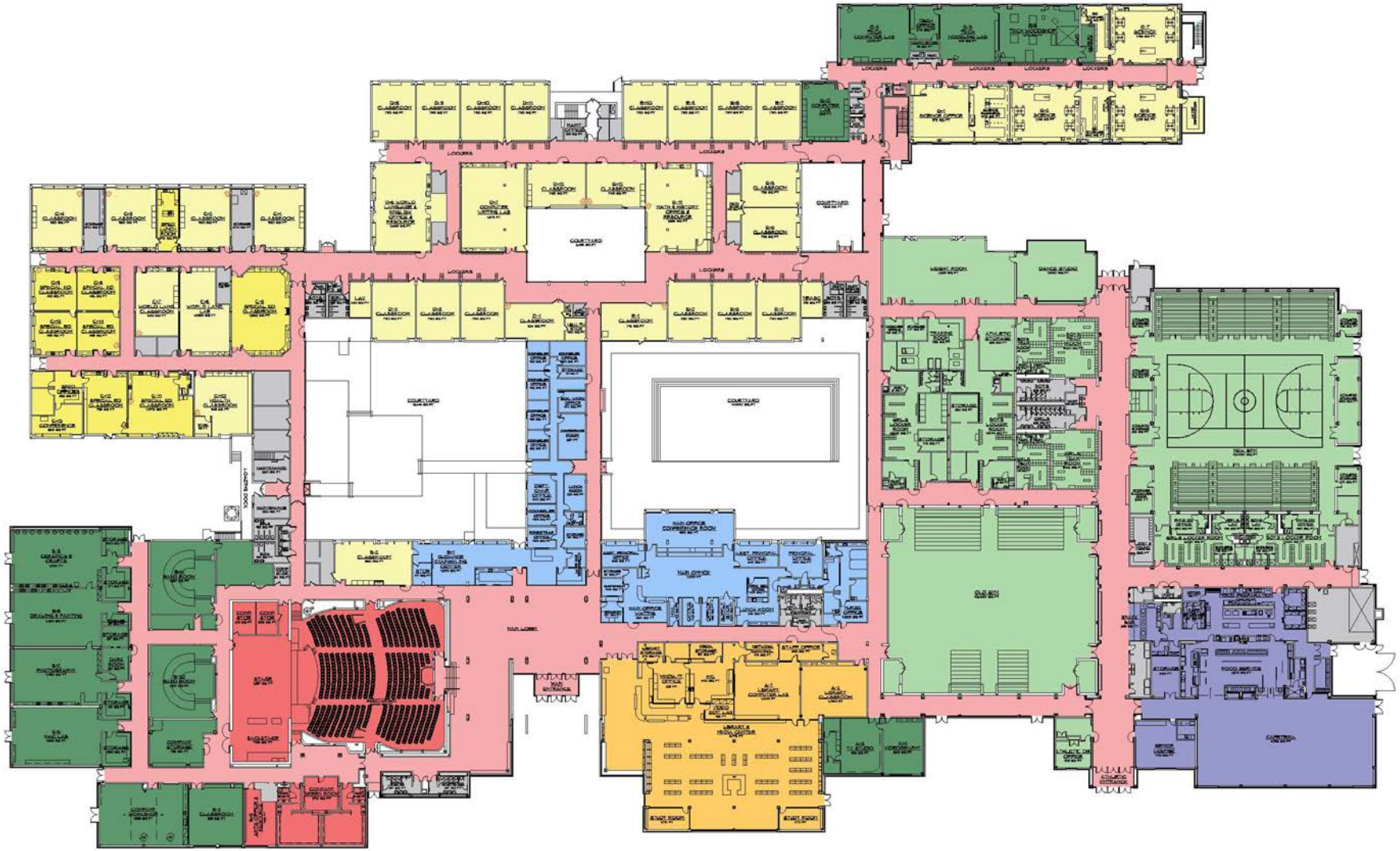
WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
WESTON MIDDLE SCHOOL - DESIGN OPTION 3 ESTIMATE

Design Option Projects	Area	Cost Per Sq ft	Subtotal	Totals
BULDING INFRASTRUCTURE (Facility Conditions)				
HVAC			$ 3,847,000	
Electrical - to support HVAC, improve emergency power, new lighting throughout			$ 810,875	
Ceilings & devices throughout	83,977	$ 15	$ 1,259,655	
Restroom Renovations throughout			$ 875,000	$ 6,792,530
STUDENT LOCKERS & A-WING				
Hallway reconfigurations, restrooms & lockers	6,916	$ 400	$ 2,766,400	$ 2,766,400
SCIENCE				
Science demolition	3,325	$ 50	$ 166,250	
G-wing Science Clab Conversion	7,097	$ 400	$ 2,838,800	
C-wing (science) Special Ed Conversion	2,552	$ 300	$ 765,600	$ 3,005,050
ART & MUSIC				
Art & Music Renovations	9,284	$ 300	$ 2,785,200	
Cafeteria - stage demolition	644	$ 20	$ 12,880	
New windows and door at old stage	340	$ 125	$ 42,500	
Gym Stage demolition	1,035	$ 40	$ 41,400	
Stage Addition	1,562	$ 500	$ 781,000	
Computer Lab expansion/ Eliminate hall	1,589	$ 300	$ 476,700	$ 4,139,680
GYMS & LOCKER ROOMS				
Old Gym Renovation (finishes & equipment)	5,563	$ 150	$ 834,450	
Gym and Pool Locker Room Reconfiguration	9,907	$ 350	$ 3,467,450	
New Gym Renovation (finishes & equipment)	5,250	$ 150	$ 787,500	$ 5,089,400
ADMINISTRATION & POOL ENTRY				
Entry & stair demolition	1,504	$ 40	$ 60,160	
Main Office, Stair, Elevator Addition	2,170	$ 500	$ 1,085,000	
Office Renovations/reconfigurations	2415	300	$ 724,500	$ 1,869,660
BOE RELOCATION TO A-WING				
A-Wing BOE office reconfiguration	11,035	$ 400	$ 4,414,000	
Classroom ends demolition	463	$ 40	$ 18,520	
Classroom additions & courtyard infill	4,841	$ 500	$ 2,420,500	
Classroom renovation	1,889	$ 300	$ 566,700	
New facility building at rear	2,136	$ 300	$ 640,800	$ 8,060,520
OPTION 3 TOTAL				**$ 31,723,240**
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 17,298,474	
Remaining portions, not addressed above				$ 7,566,674
				$ 39,289,914

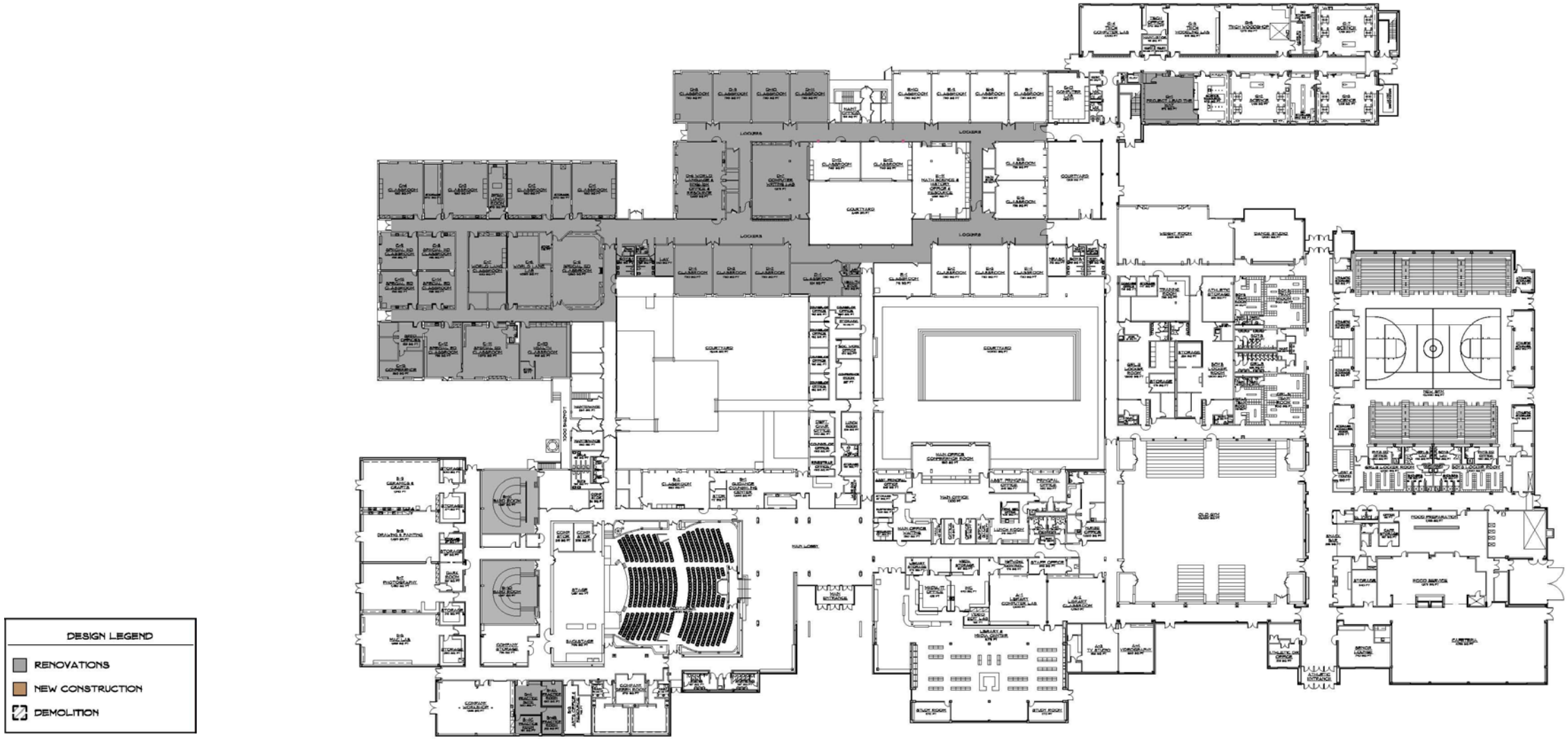
High School Design Option - Existing

Priorities:

1. Renovate remaining portion of building
2. Expand Project Lead the Way Space
3. Improve Music and create practice rooms



High School Design Option - Proposed



High School Design Option - Estimate

- RENOVATION - COST RANGE
  - $150 per sq ft – Gym renovation - finishes
  - $300 per sq ft – Typical renovations
  - $350 per sq ft – Moderate renovations
  - $400 per sq ft – Extensive renovations

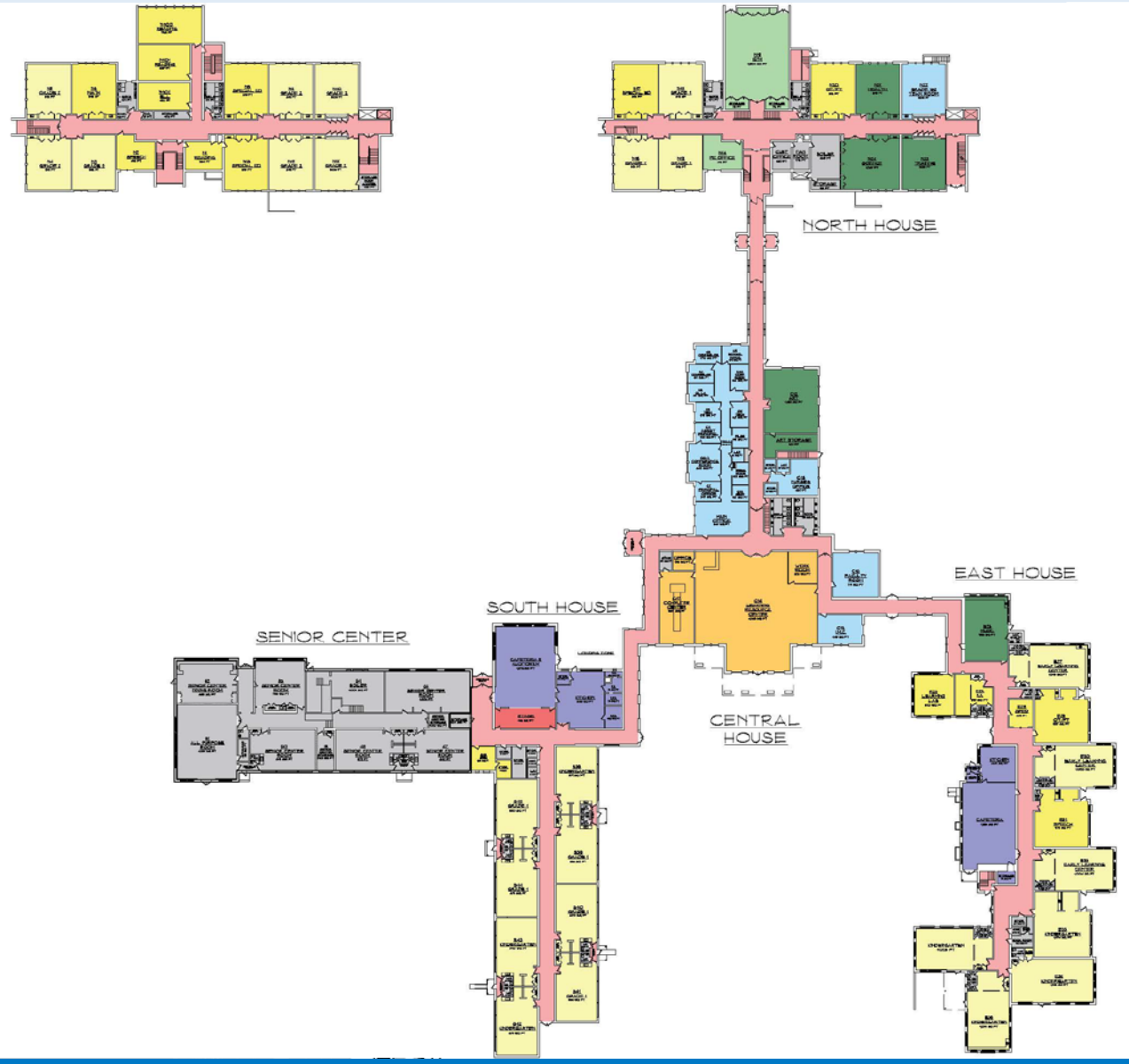
WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
WESTON HIGH SCHOOL - DESIGN OPTION 1 ESTIMATE

Design Option Projects	Area	Cost Per Sq ft.	Subtotal	Totals
C & D WING RENOVATIONS				
Renovate classrooms, hallways & restrooms: Air conditioning, new finishes, new windows, technology and equipment	35,150	$ 300	$ 10,545,000	$ 10,545,000
PROJECT LEAD THE WAY				
Science Office G-1 Conversion to Project Lead the Way Space	975	$ 300	$ 292,500	$ 292,500
MUSIC				
Classroom B-4 conversion to Practice Rooms	935	$ 300	$ 280,500	
Music Rooms Renovations	2,714	$ 300	$ 814,200	$ 1,094,700
OPTION 1 TOTAL				**$ 11,932,200**
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 9,474,628	
Remaining portions, not addressed above				$ 6,909,328
				$ 18,841,528

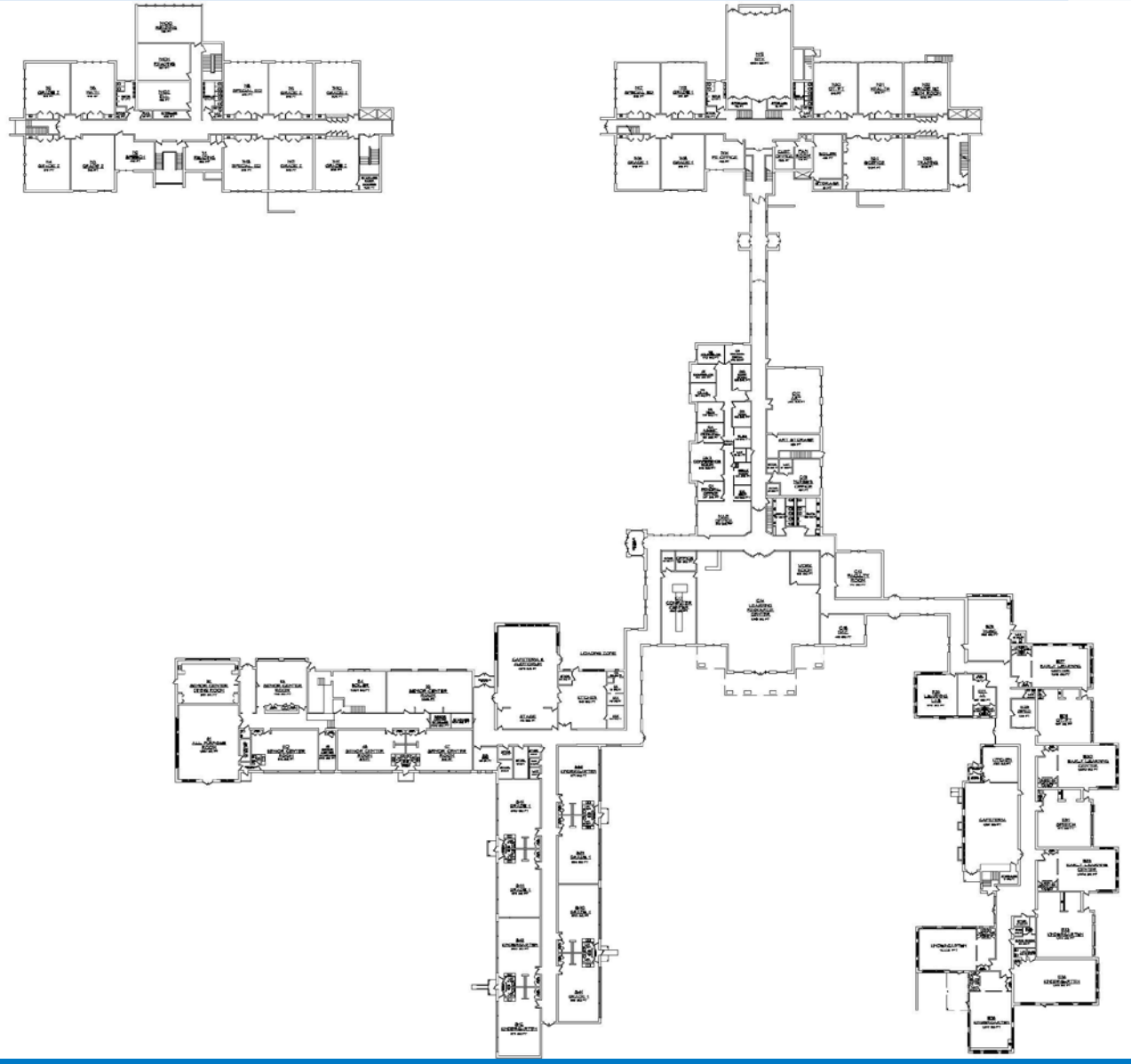
Hurlbutt Elementary School Option - Existing

Priorities:

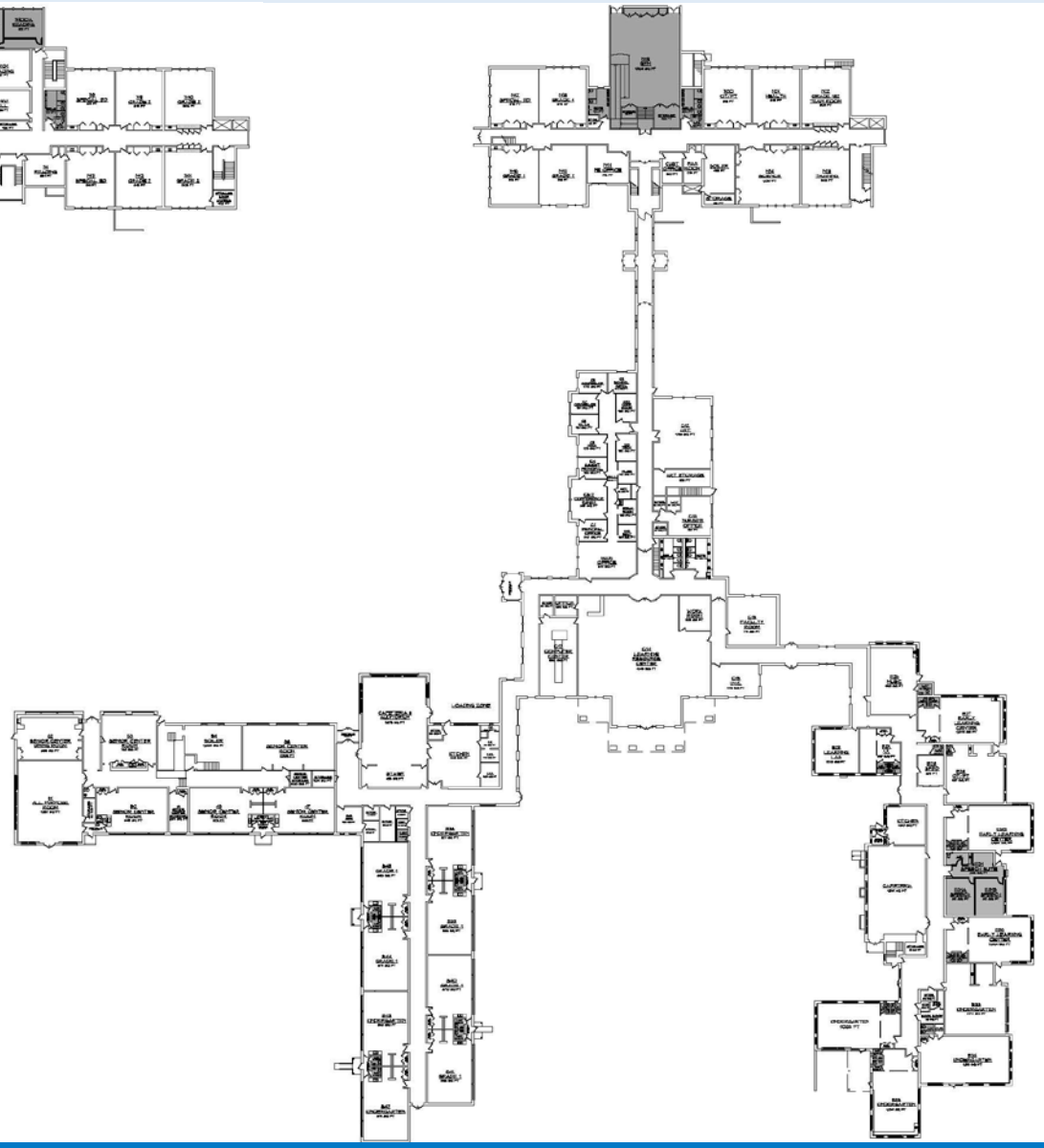
1. Gymnasium – HVAC, flooring, access
2. Special Education – smaller rooms
3. Restroom renovations



Hurlbutt Elementary School Option - Existing



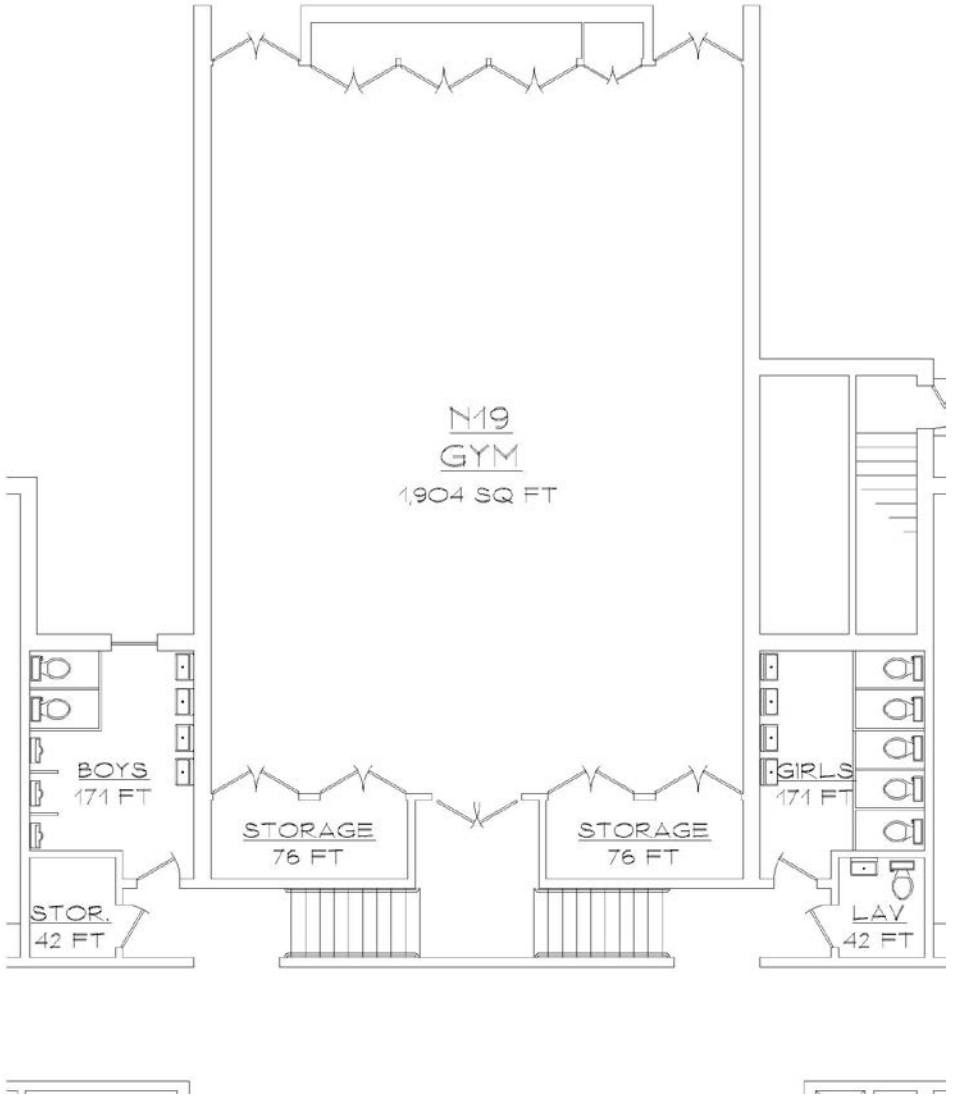
Hurlbutt Elementary School Option - Proposed



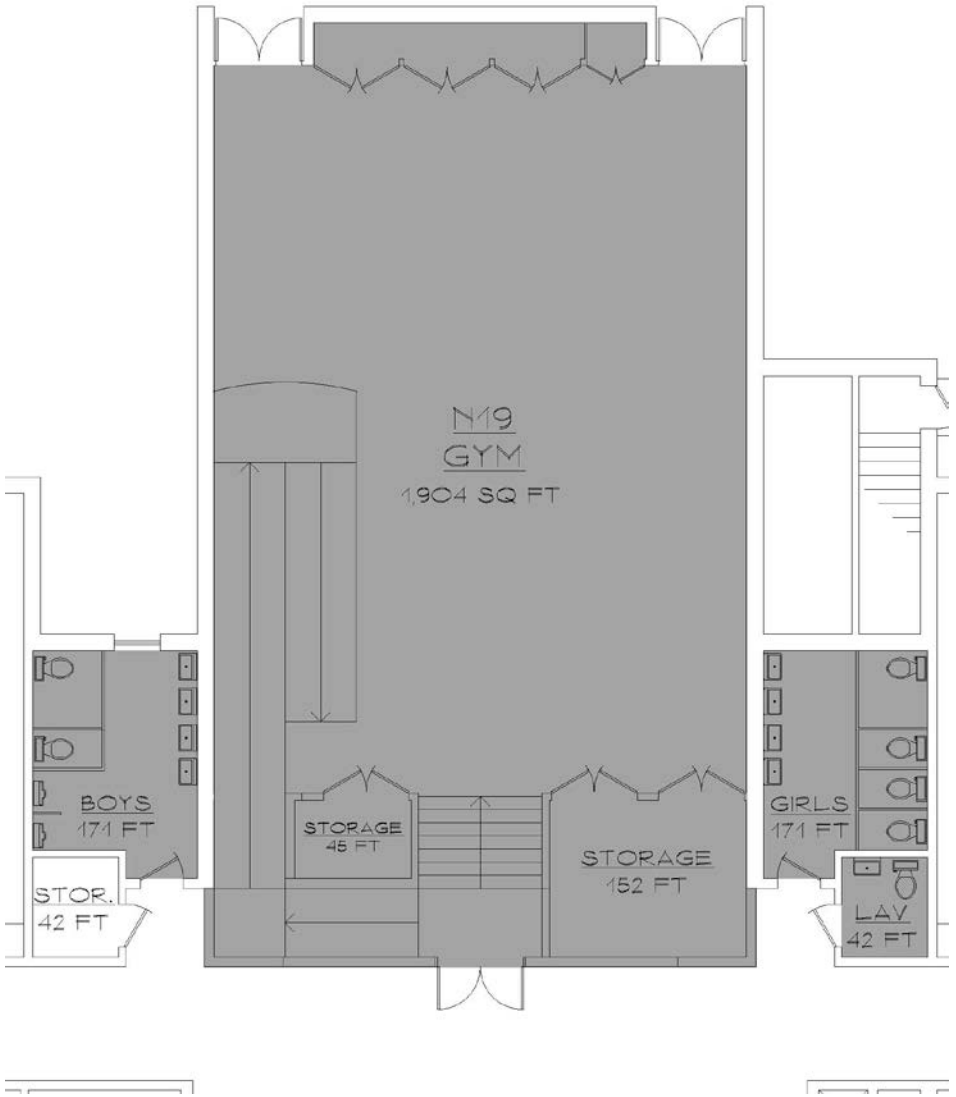
DESIGN LEGEND

- RENOVATIONS
- NEW CONSTRUCTION
- DEMOLITION

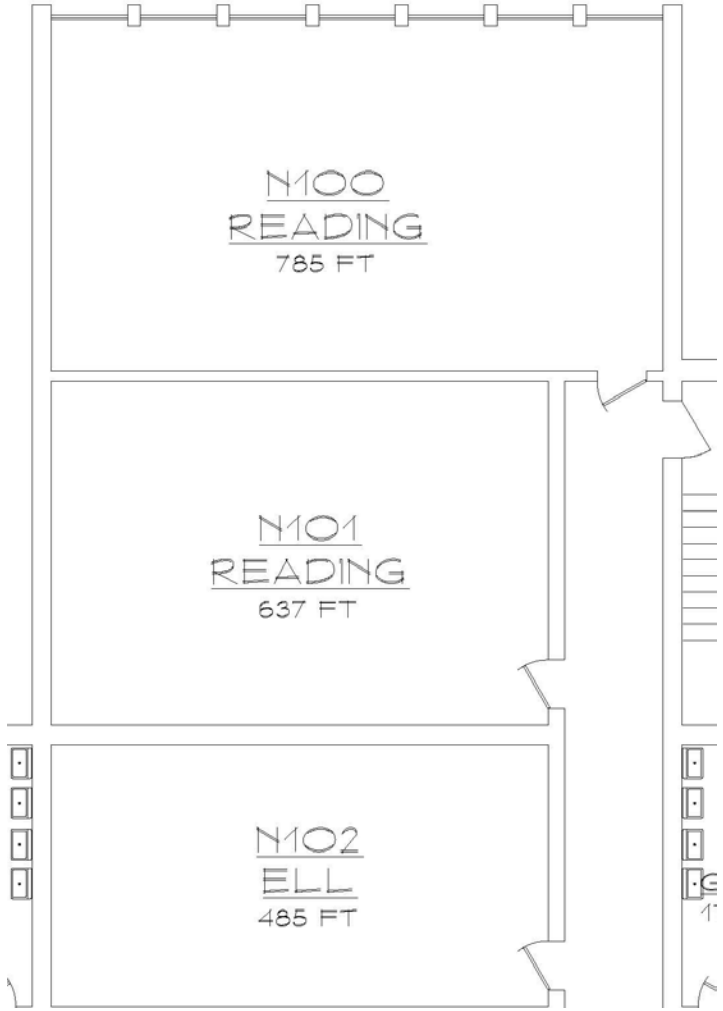
Hurlbutt Elementary School Option – Exg Gym

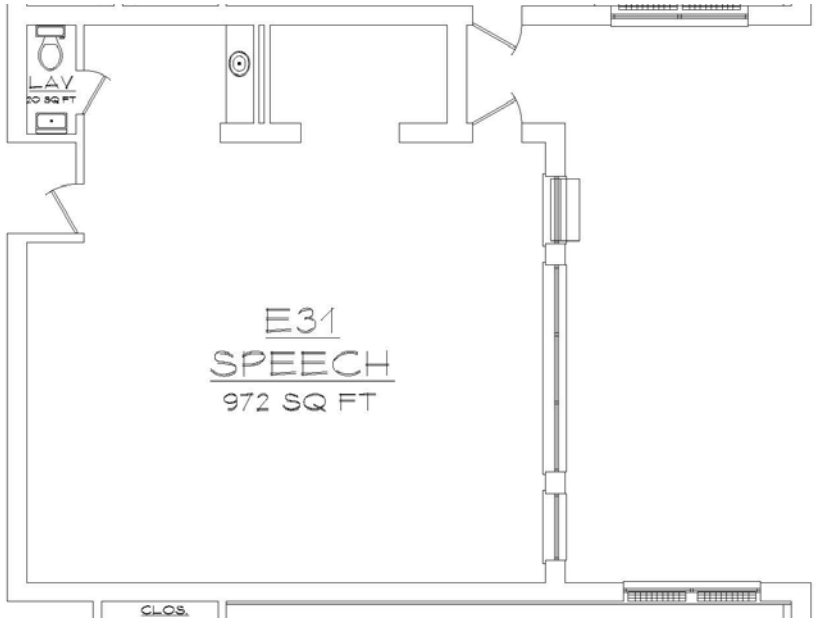


Hurlbutt Elementary School Option - Gym

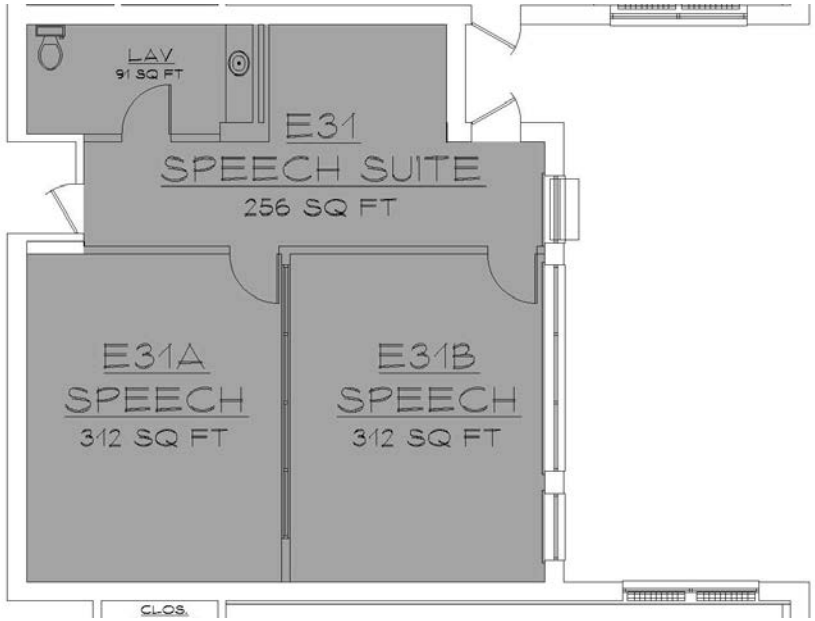


Hurlbutt Elementary School Option – Exg Special Ed





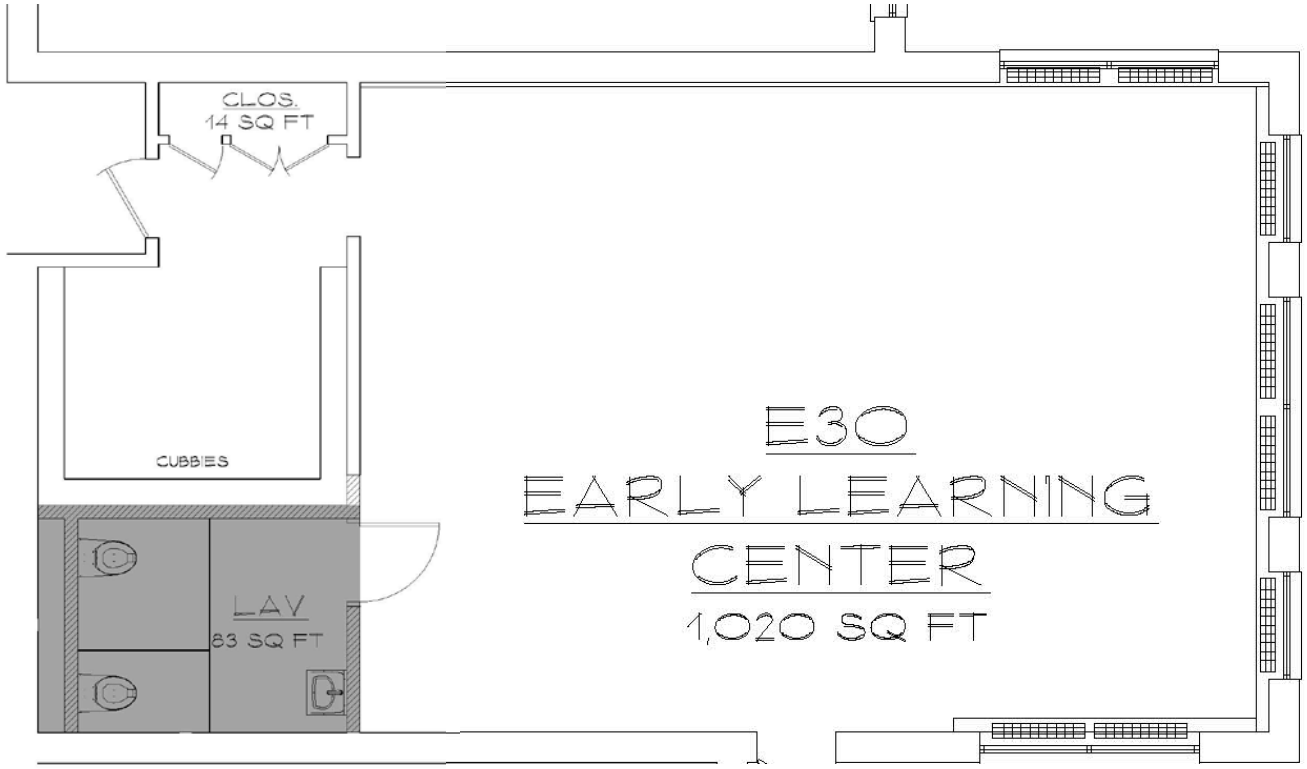
Hurlbutt Elementary School Option – Special Ed



Hurlbutt Elementary School Option – Exg Lavs

Hurlbutt School Option 1 – Lavatories

Hurlbutt School Option 2 – Lavatories



Hurlbutt Design Option - Estimates

- RENOVATION - COST RANGE
  - $150 per sq ft – Gym renovation - finishes
  - $300 per sq ft – Typical renovations
  - $350 per sq ft – Moderate renovations
  - $400 per sq ft – Extensive renovations

WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
HURLBUTT ELEMENTARY SCHOOL - DESIGN OPTIONS 1 ESTIMATE

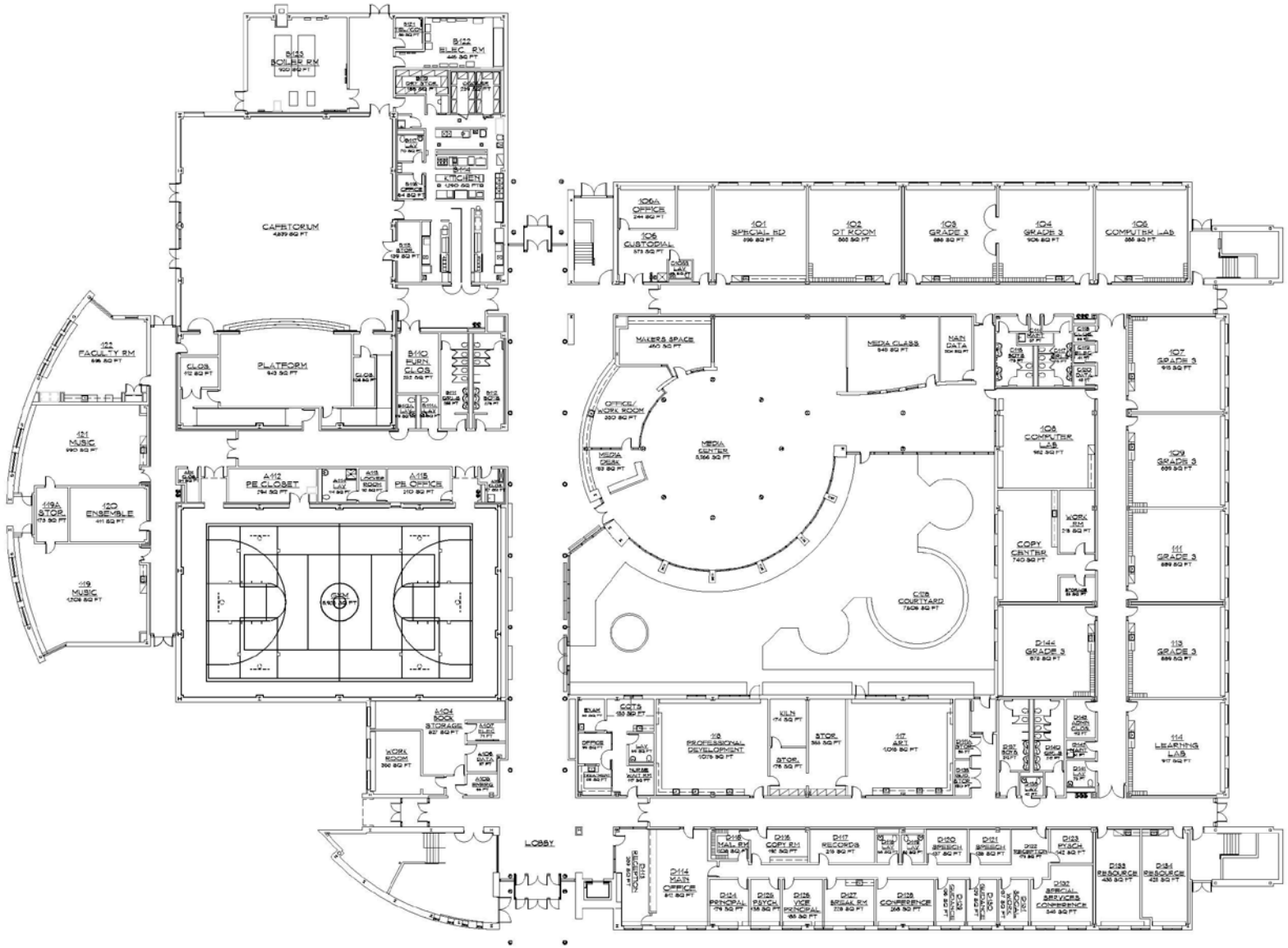
Design Option Projects	Area	Cost Per Sq ft	Subtotal	Totals
BULDING INFRASTRUCTURE (Facility Conditions)				
Install didicated outdoor air units/improve ventilation to support the new air conditioning			$ 1,248,000	
Electrical upgrade to support HVAC & improve emergency power			$ 610,000	$ 1,858,000
GYMNASIUM IMPROVEMENTS				
Improve HVAC & dehumidification, new floor, finishes, equipment & raise floor and add ramp	2,436	$ 350	$ 852,600	$ 852,600
SPEECH & READING CLASSROOMS MODIFICATION				
Convert 2 classrooms into 4	1,800	$ 300	$ 540,000	$ 540,000
RESTROOM RENOVATIONS				
North House Restrooms			$ 550,000	
Option 1: Reconfigure single restrooms in East and South Houses and renovate North House restrooms	12	$ 25,000	$ 300,000	$ 850,000
OPTION 1 TOTAL				**$ 4,100,600**
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 10,233,300	
Remaining portions, not addressed above*				$ 5,800,600
*Cost of adding air conditioning is also removed				**$ 9,901,200**
Option 2: Reconfigure single restrooms in East and South Houses and renovate North House restrooms	12	$ 50,000	$ 600,000	$ 1,150,000
OPTION 2 TOTAL				**$ 4,400,600**
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 10,233,300	
Remaining portions, not addressed above*				$ 5,800,600
*Cost of adding air conditioning is also removed				**$ 10,201,200**

Weston Intermediate School Design Option - Existing

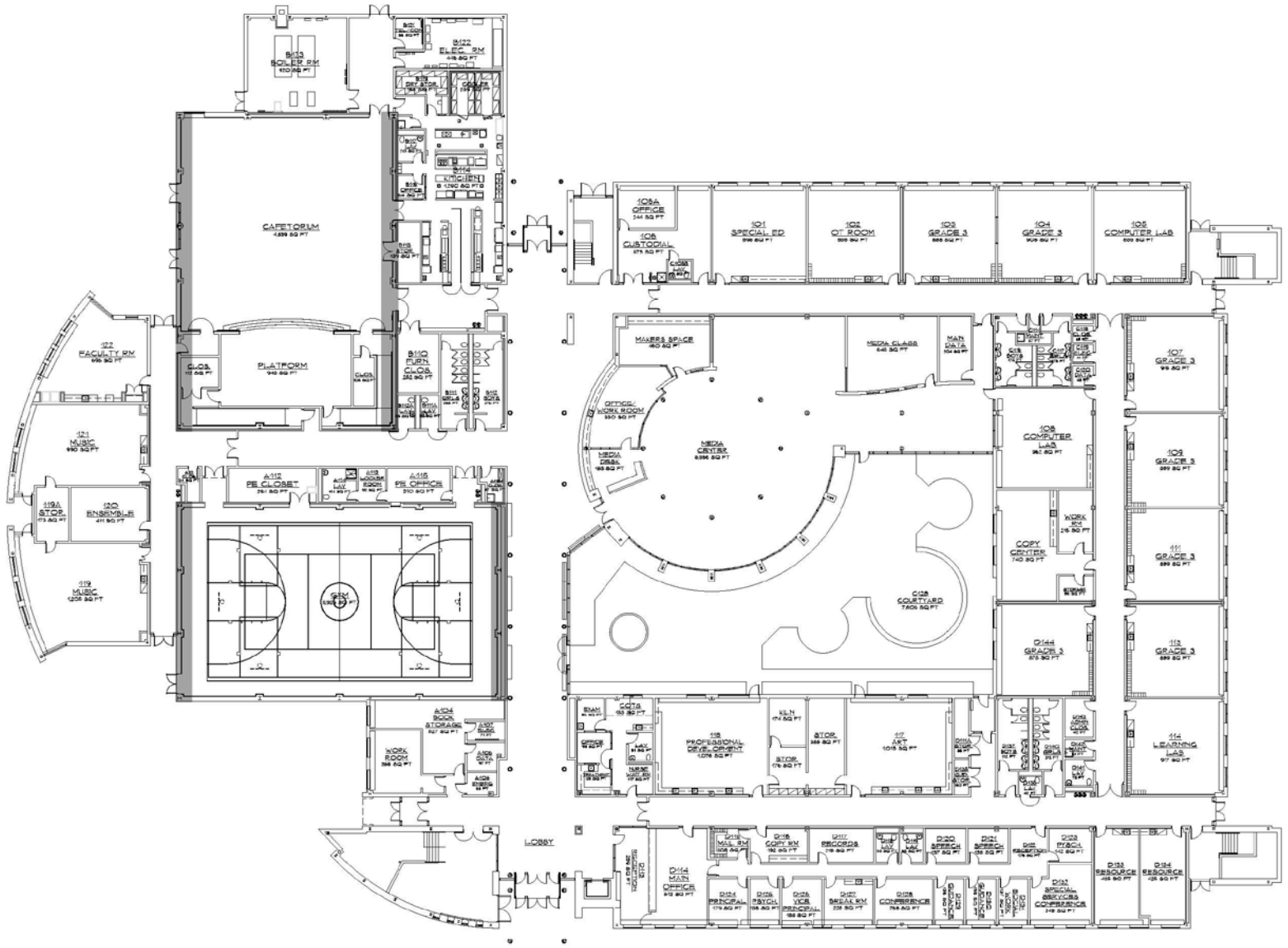
Priorities:

1. Gym & Café wall repair
2. Gym egress
3. Interior classroom door removal

Weston Intermediate School Design Option - Existing



Weston Intermediate School Design Option - Proposed



Weston Intermediate School Design Option - Estimate

WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
WESTON INTERMEDIATE SCHOOL - DESIGN OPTION 1 ESTIMATE

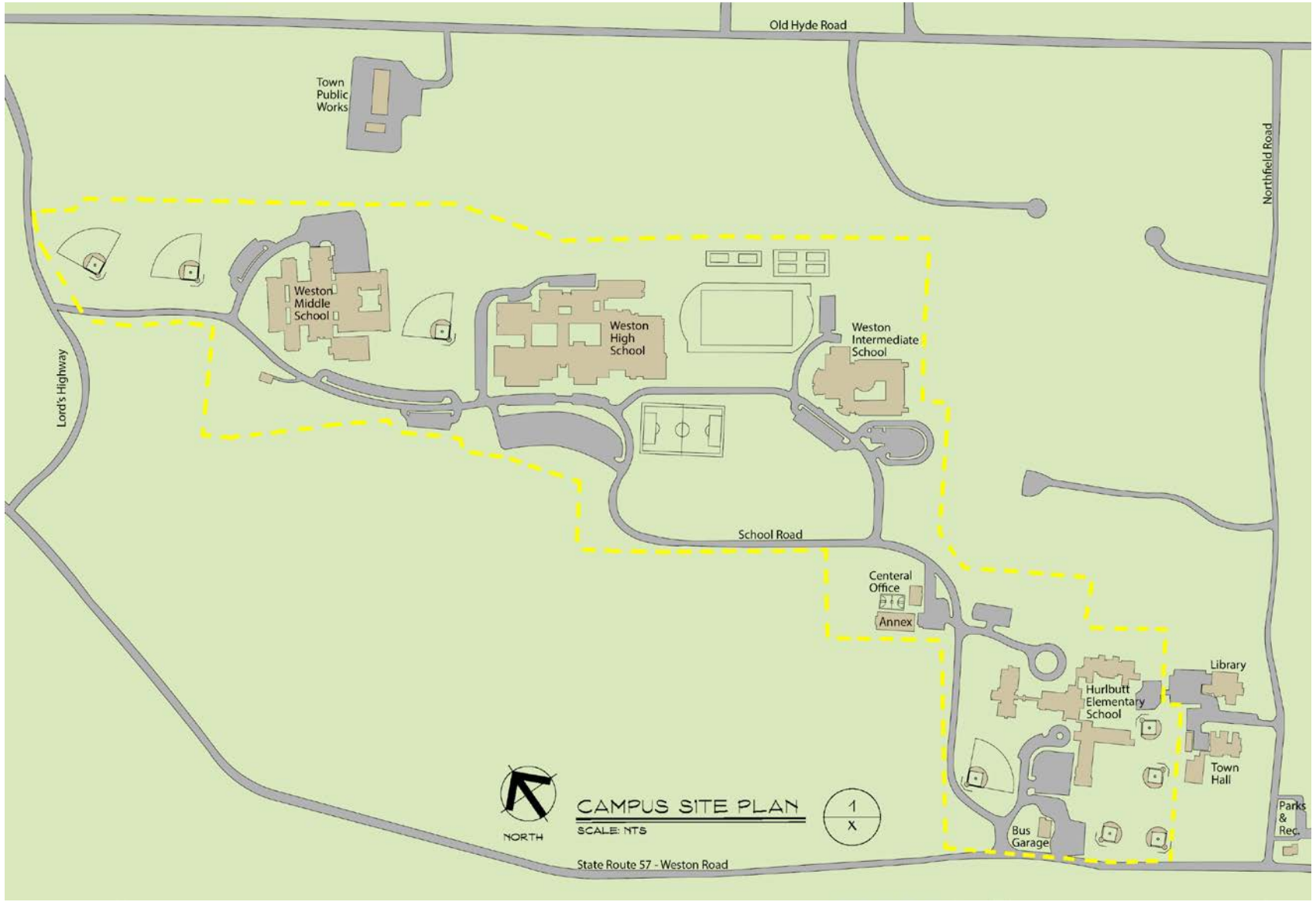
Design Option Projects	Length	Cost Per Linear FT	Subtotal	Totals
GYM & CAFÉ WALL REMEDIATION				
Gym wall and gutter rebuild	130	$ 800	$ 104,000	
Café wall and gutter rebuild	200	$ 800	$ 160,000	
Additional project costs			$ 92,400	$ 356,400
REMOVE SHARED CLASS DOORS				
Remove double doors in 3 locations & infill wall (acousitcal insulation & sheetrock, paint)			$ 20,000	$ 20,000
NEW EXTERIOR GYM DOOR				
Add new double door to exterior			$ 25,000	$ 25,000
OPTION 1 TOTAL				**$ 401,400**
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 1,379,342	
Remaining portions, not addressed above				$ 1,070,342
				$ 1,471,742

Site / Campus Master Planning

In ten years what change is envisioned for the 164 acre site?

The main entry to the school campus is a congested traffic pattern and is effectively seen as a bus depot.

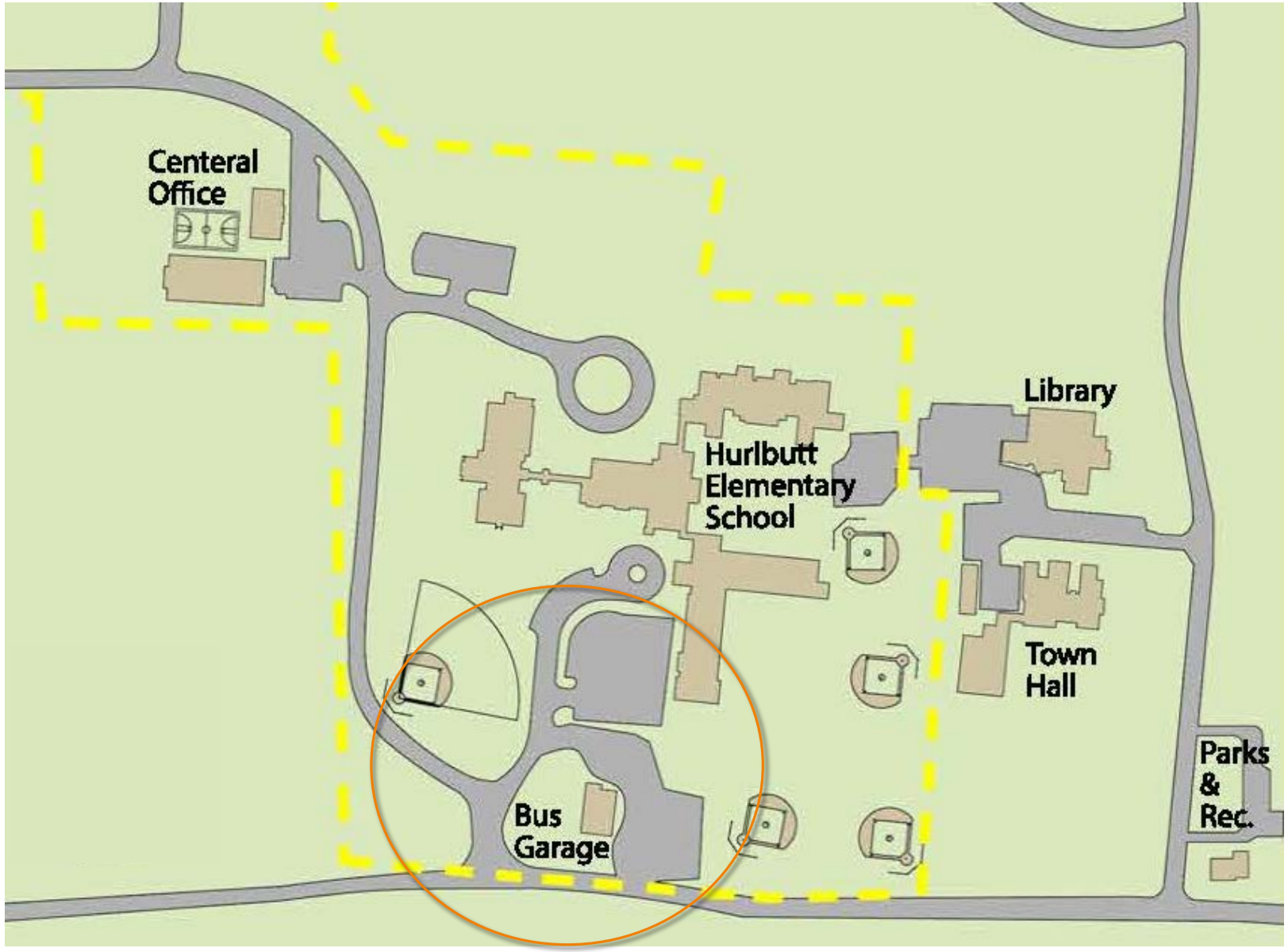
- The original garage has “evolved” into the maintenance facility and bus parking / staging lot for 31 + vehicles.
- The intersection of Weston Rd (RT 57) and School Road is a poor/lowest rated intersection, particularly in the AM.
- The on site school traffic contributes to this problem – “Y” intersection, and the adjacent open curb cut.
- This study is based on the School needs and identifies specific design options for the WPS on the school campus. We generally identify design/programming options for the Town offices in the Annex building.
- While a traffic/bus study is needed, the following master plans recommend a primary change to the site / campus plan.



The 7 buildings, 4 schools and 11 athletic fields, 6 tennis courts, 1 track, 5 playground areas, 1 shot put training area, and 2 long jump training areas are all located on a 164-acre school campus.

This Master Plan proposes a dramatic change to the entry/central office and then a slow steady improvement to the facilities over the next 10 years.

(Approximate property lines are shown as dashed yellow lines.)

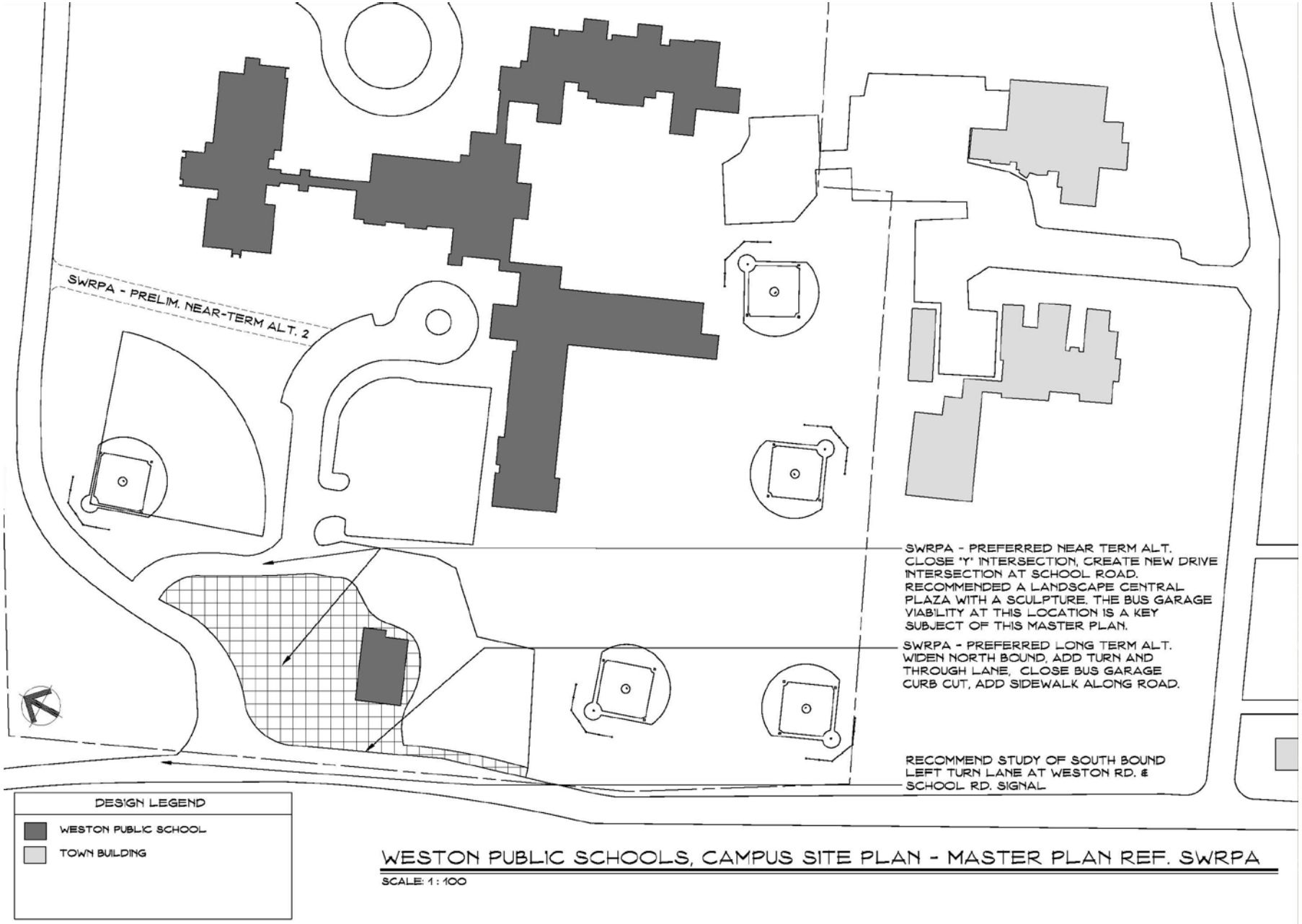


The main entry to the campus is a congested intersection. The 2012 SWRPA study indicates it is at the lowest level of service in the morning and proposed short and long term changes.

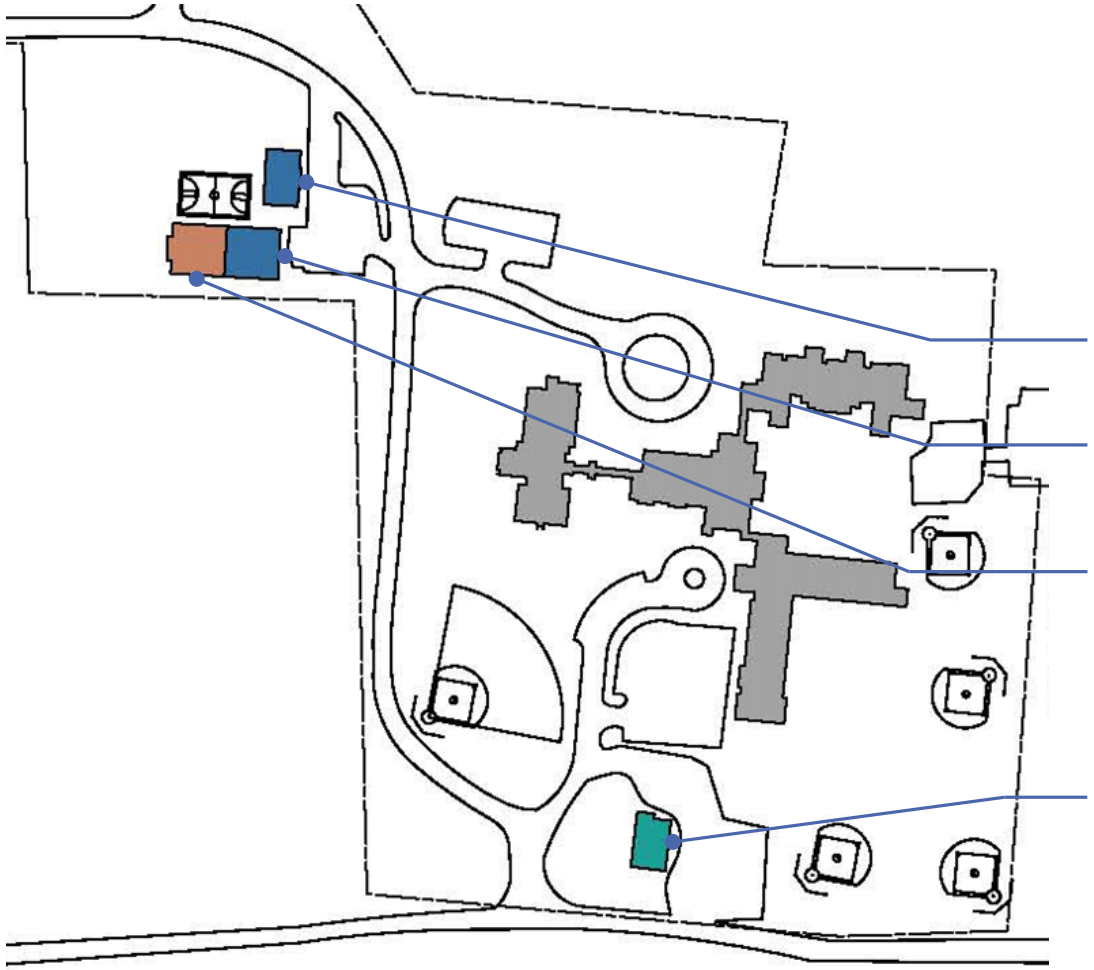
The main entry "includes" 31 buses or school transportation vehicles. The original "Bus Garage" is currently mostly a WPS maintenance facility.

Relocating the "bus garage" and busses would improve the traffic and have a positive visual impact. What are the options for the relocation of both functions on campus or else where in Town?

Master Plan, reference SWRPA

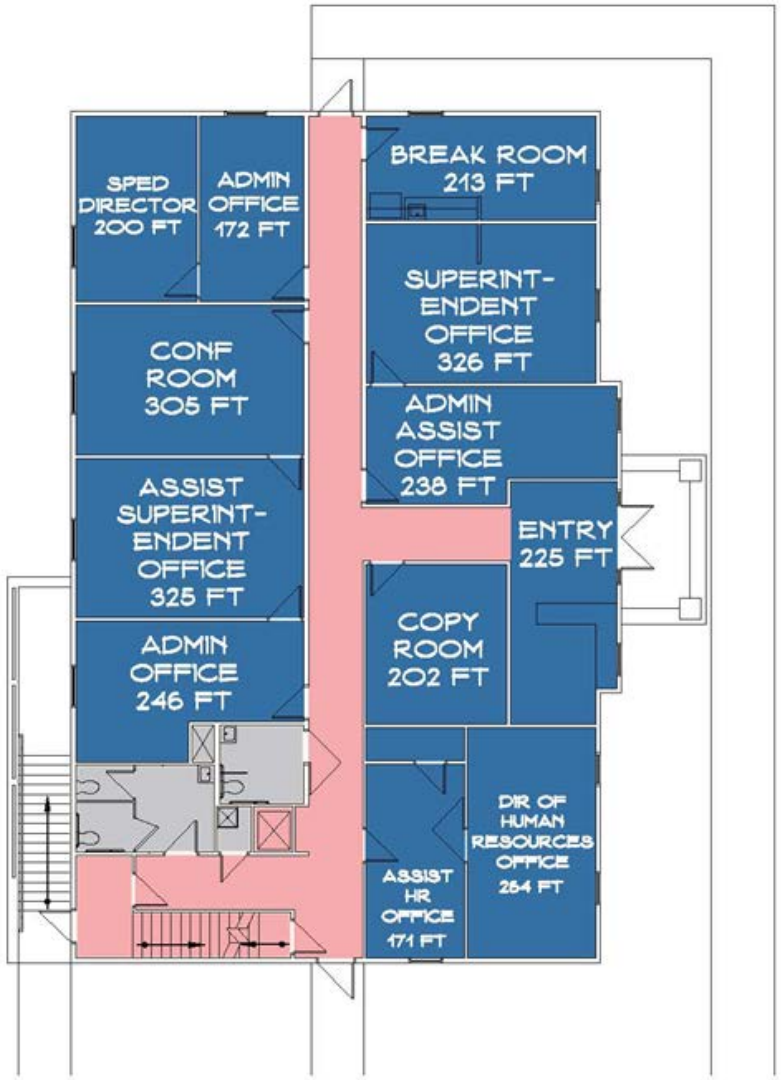


Site / Campus programming summary



Facilities Programming Summary Chart	
Building	**Building Net Sq Ft**
Central Administration	3,735
Annex - WPS	*5,030*
Annex - Town Et al.	*7,554*
Annex Total	12,584
Maintenance & Buses	4,104
Totals	20,423

WPS Central Office -Program



Weston Central Office Facility Program

Existing

Space Division	Quantity	Square footage	Subtotal
BOARD OF EDUCATION OFFICES			
Reception	1	225	225
Admin Office	1	238	238
Superintendent Office	1	326	326
Break Room	1	213	213
Admin Office (SPED)	1	172	172
SPED Director Office	1	200	200
Conference Room	1	305	305
Assistant Superintendent	1	325	325
Admin Office	1	246	246
Assistant HR Office	1	171	171
Director of HR Office	1	262	262
Copy Room	1	202	202
TOTAL			**2,885**
BUILDING INFRASTRUCTURE			
Lav	1	107	107
Lav	1	59	59
TOTAL			**166**
CIRCULATION + STRUCTURE			
TOTAL		**684**	**684**
TOTAL			**3,735**

WPS and Annex - Program

Weston Annex Facility Program

Existing

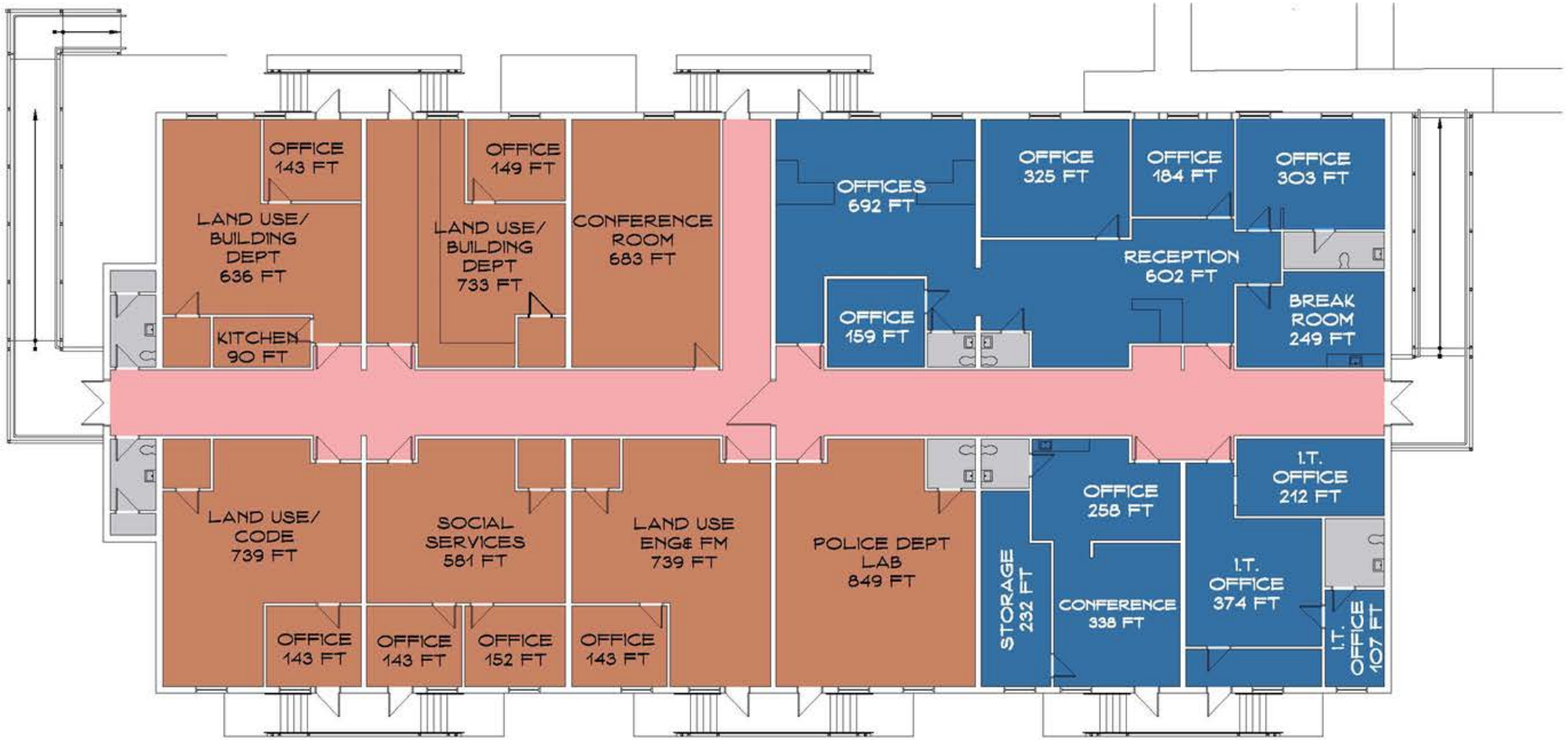
Space Division	Quantity	Square footage	Subtotal
BOARD OF EDUCATION OFFICES			
Reception	1	602	602
Break Room	1	249	249
Office A	1	303	303
Office B	1	184	184
Office C	1	325	325
Open Offices	1	692	692
Office D	1	159	159
IT Office A	1	374	374
IT Office B	1	212	212
IT Office C	1	107	107
IT Storage	1	232	232
Office	1	258	258
Conference	1	338	338
TOTAL			**4,035**
TOWN OFFICES			
Land Use - Eng & FM	1	739	739
Land Use - Eng & FM Office	1	143	143
Land Use - Storage	1	44	44
Conference Room (shared)	1	683	683
Land Use Building Department	1	733	733
Land Use Building Office	1	149	149
Land Use Building Storage	1	44	44

Weston Annex Facility Program

Existing

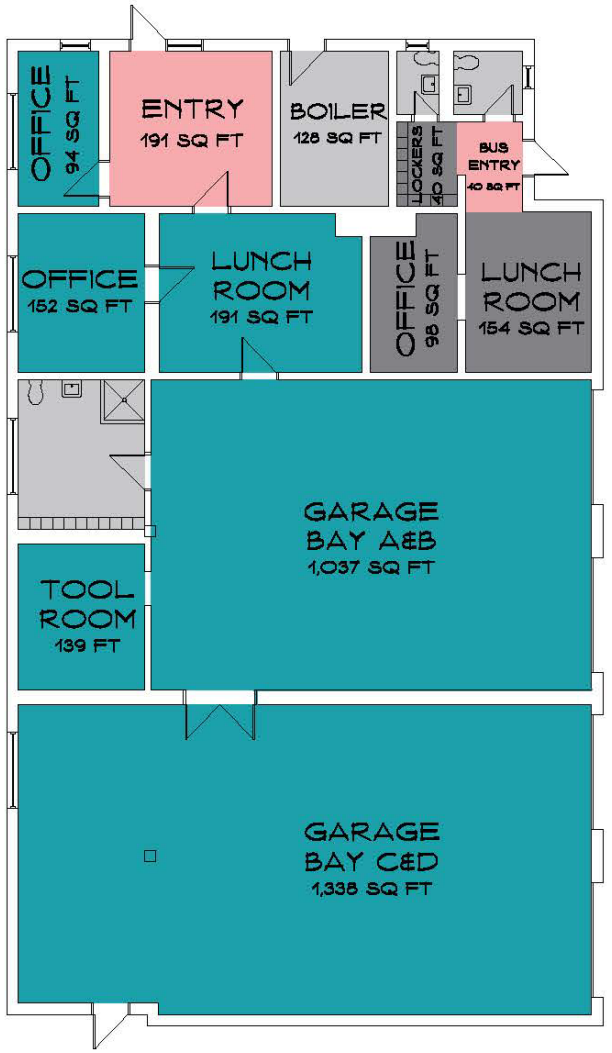
Space Division	Quantity	Square footage	Subtotal
Social Services	1	692	692
Social Services Office A	1	152	152
Social Services Office B	1	143	143
Social Services Storage	1	44	44
Land Use Building Department	1	374	374
Land Use Building Office	1	212	212
Kitchen	1	90	90
Storage	1	44	44
Land Use Code Department	1	739	739
Land Use Code Office	1	143	143
Land Use Code Storage	1	44	44
Police Lab	1	849	849
TOTAL			**6,061**
BUILDING INFRASTRUCTURE			
Lav	2	82	164
Lav	2	30	60
Lav	2	44	88
Lav	1	75	75
Lav	1	69	69
TOTAL			**456**
CIRCULATION + STRUCTURE			
TOTAL		**2,032**	**2,032**
TOTAL			**12,584**

Annex – program floor plan



WPS Garage - Program

Weston Bus Garage Facility Program Existing			
Space Division	**Quantity**	**Square footage**	**Subtotal**
WESTON PUBLIC SCHOOLS FACILITY DEPARTMENT			
Office	1	94	94
Office	1	152	152
Lunch Room	1	191	191
Tool Room	1	139	139
Garage Bay A&B	1	1037	1037
Garage Bay C&D	1	1338	1338
TOTAL			**2,951**
WESTON PUBLIC SCHOOLS BUS DEPARTMENT			
Lockers	1	94	94
Office	1	152	152
Lunch Room	1	191	191
TOTAL			**437**
BUILDING INFRASTRUCTURE			
Lav with lockers	1	143	143
Lav	1	33	33
Lav	1	20	20
TOTAL			**196**
CIRCULATION + STRUCTURE			
TOTAL		**957**	**957**
TOTAL			**4,104**



Master Plan - Site Design Options

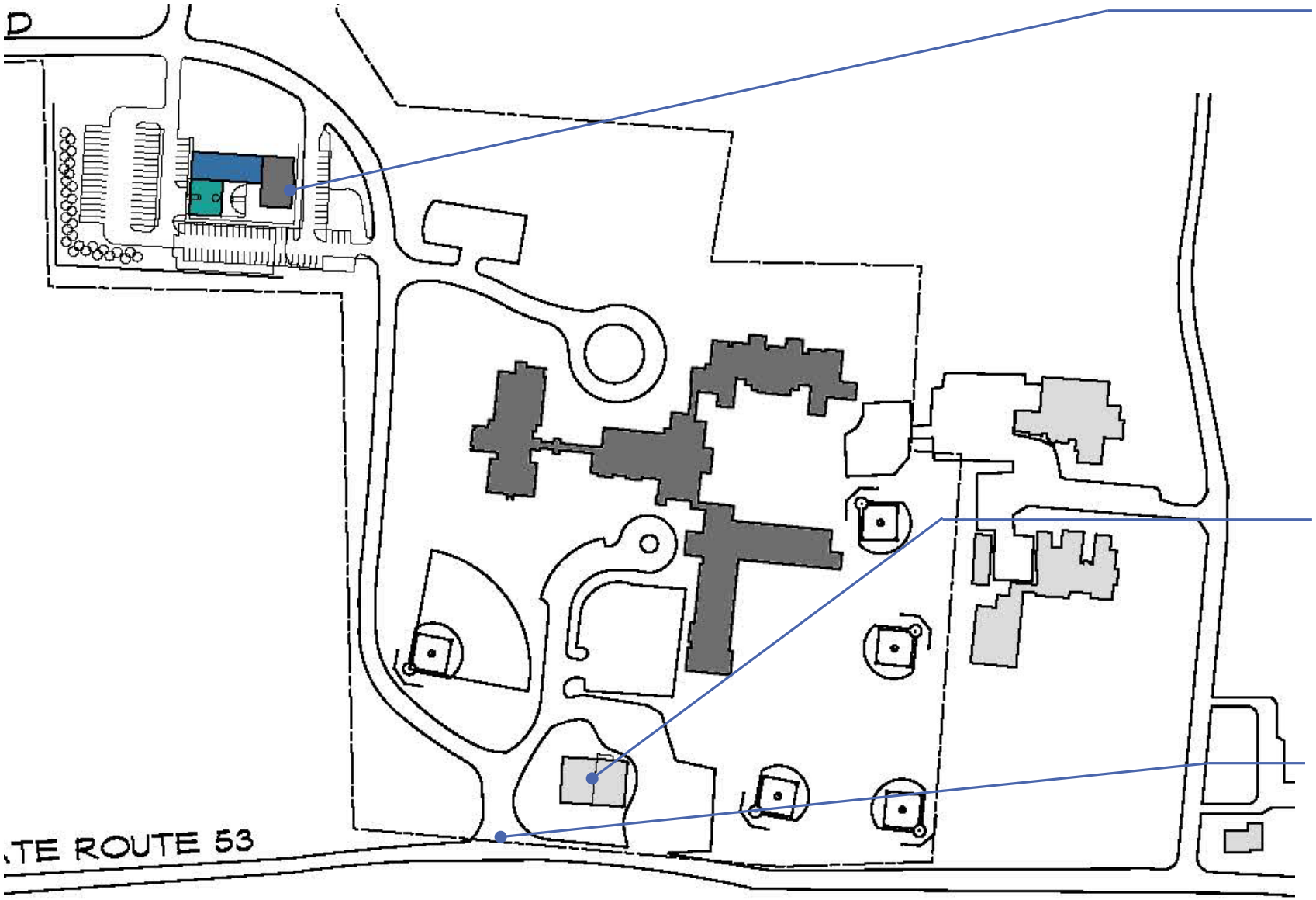
Option One: Move buses & transportation office, as well as WPS (bus garage) workshops to the Central Office site with an addition. Move Town offices to entry site into new building or an addition to the bus garage. Demolish the Annex office building.

Option Two: Move buses & transportation office to Central Office site. Move Central Office and WPS annex staff to Middle school, with additions. Move Town office from Annex into Central office with an addition.

Option Three (not included herein): Move buses off of the campus to a location to be determined.

A traffic study with bus routes and logistics may yield a "optimum" centroid of the school district for BOE and Town consideration.

Weston's Plan of Conservation & Development (2010), Crafting a Strategic Plan for Weston's future (2015), and SWRPA / CT DOT (2012) all recommend further study or potential changes here.



Central Office addition for the WPS offices in the Annex and the WPS maintenance shops. Relocate transportation service office and all buses / vehicles to central office site. Demolish Annex, basketball court, and recreation (soccer) field. Build fence and landscape screen / barrier for all parking.

Relocate all Town offices from Annex building to "bus garage" Construct a new building (A) or renovate with addition (B).

Re-build intersection and re-design internal drives, close curb cut, improve traffic patterns.

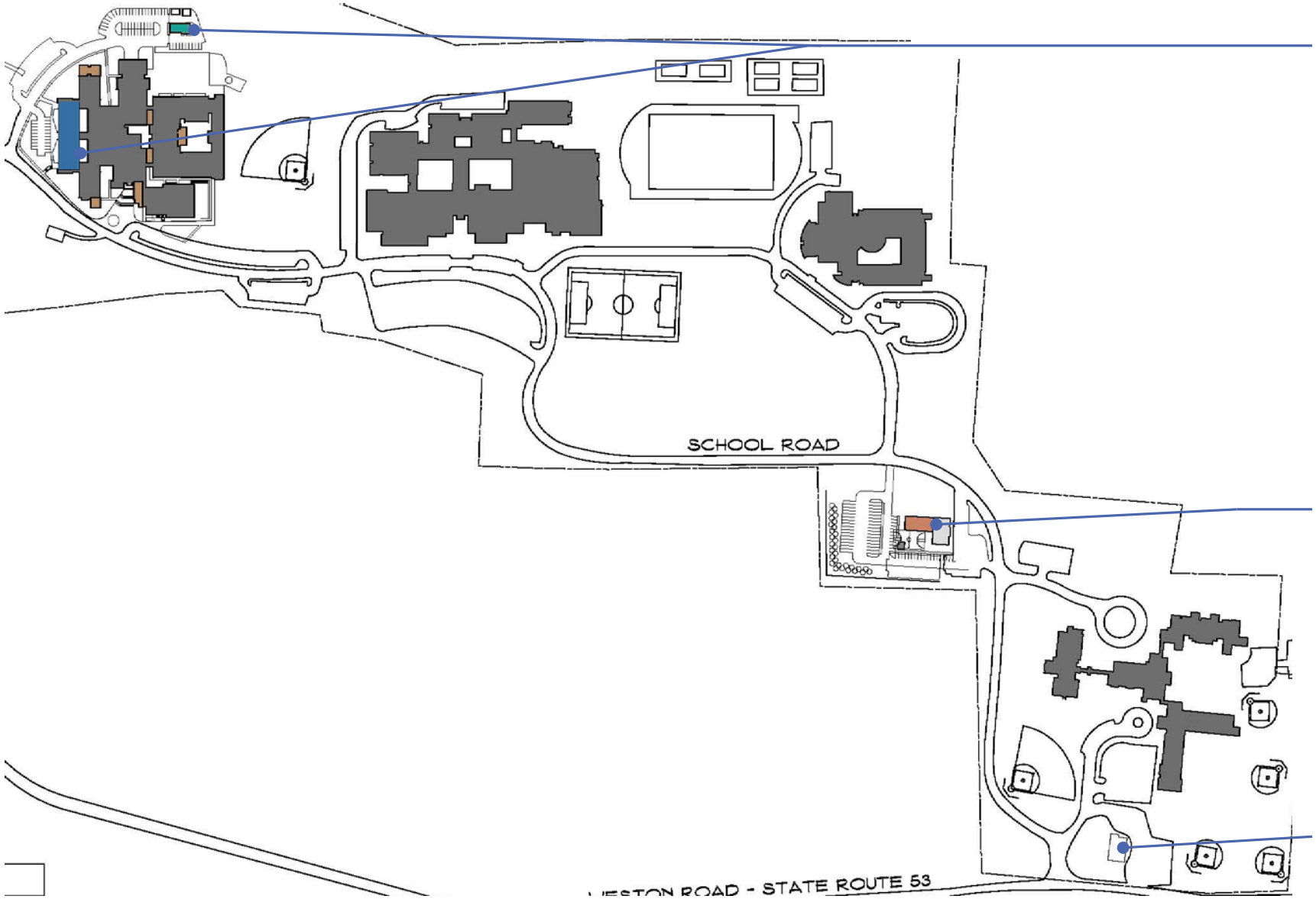
Master Plan – Site Design Options One (A & B)

Master Plan Option 1 (A & B) - Estimate

WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
MASTER PLAN OPTION 1A

Design Option Projects	Area	Cost Per Sq ft.	Subtotal	Totals
CENTRAL OFFICE ADDITION				
Addition & Site work	4,900	$ 500	$ 2,450,000	
Existing facility alterations	1,500	$ 300	$ 450,000	$ 2,900,000
FACILITY & BUS GARAGE ADDITION				
Premanufactured building	3,400	$ 300	$ 1,020,000	$ 1,020,000
SITE WORK & ANNEX DEMO				
Paving, drainage, screenning				$ 750,000
TOWN TO BUS GARAGE SITE				
Bus Garage Demo	4,104	$ 40	$ 164,160	
New town building	6,000	$ 500	$ 3,000,000	$ 3,164,160
OPTION 1A TOTAL				**$ 7,834,160**

TOWN TO BUS GARAGE SITE				
Bus Garage Renovations	4,104	$ 350	$ 1,436,400	
New town addition	2,000	$ 500	$ 1,000,000	$ 2,436,400
OPTION 1B TOTAL				**$ 7,106,400**



Move all of WPS central office to the WMS. Build new visitor parking. Build freestanding pre-engineered building for maintenance shops in north west parking. Fence and separate traffic from "paved play". (See Educational Design Option for school.

Move all Town offices from annex in "central office with addition. Move buses here (or off campus.)

Demolish bus and maintenance building, rebuild intersections.

Master Plan – Site Design Options Two

Master Plan Option 2 - Estimate

WESTON SCHOOLS FACILITIES FEASIBILITY STUDY MASTER PLAN OPTION 2 (From Middle School Option 3)				
Design Option Projects	**Area**	**Cost Per Sq ft**	**Subtotal**	**Totals**
CENTRAL OFFICE RENOVATIONS				
Reconfigure A-Wing	11,035	$ 400	$ 4,414,000	$ 4,414,000
FACILITY & BUS GARAGE ADDITION				
Premanufactured building	2,136	$ 300	$ 640,800	$ 640,800
SITE WORK & ANNEX DEMO				
Paving, drainage, screenning				$ 750,000
TOWN TO CENTRAL OFFICE				
Renovate exisitng building	1,500	$ 300	$ 450,000	
Additon	2,500	$ 500	$ 1,250,000	$ 1,700,000
NEW BUS BUILDING				
Premanufactured building	500	$ 300	$ 150,000	$ 150,000
OPTION 2 TOTAL				**$ 7,654,800**

Next Steps

Complete volume of study for review

Feedback and process

Recommendations

BOE Facilities Committee review

- Complete volume for review and comments.
- How does this committee wish to proceed?
- Ultimately arriving at recommended design option, through an interactive process.

Board of Education review

- Scheduled for BOE meeting on the 20th. Planning to provide additional volumes for each Board Member and the four Principals.

Thank you


HURLBUTT


WESTON INTERMEDIATE SCHOOL


WESTON HIGH SCHOOL
A Blue Ribbon
School of Excellence

WESTON SCHOOLS

FACILITIES FEASIBILITY STUDY

HURLBUTT ELEMENTARY SCHOOL

WESTON INTERMEDIATE SCHOOL

WESTON MIDDLE SCHOOL

WESTON HIGH SCHOOL

CENTRAL OFFICE

THE ANNEX

SILVER/PETRUCELLI + ASSOCIATES
Architects & Engineers

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Tel: 203 230 9007 Fax: 203 230 8247
www.silverpetrucelli.com

DRAFT 11.03.17

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SECTION I - INTRODUCTION

Acknowledgements

We want to thank the Town of Weston, for the opportunity to serve the Weston Public Schools with the preparation of this study. We would also like to thank the members of the Board of Education (BOE), administrators, teachers, and staff for their enthusiasm, helpfulness, and input as well as parents and concerned citizens who participated indirectly.

Executive Summary

This report is the result of a study commissioned by the Weston Board of Education, to determine and assess the current conditions of all the occupied school facilities and specifically the four schools - Hurlbutt Elementary School, Weston Intermediate School, Weston Middle School, and Weston High School. The existing school facilities, and the site, including general traffic flow and parking needs were assessed with the understanding that the facilities would be evaluated for potential alterations and renovations. Furthermore, master planning options for the Central Office, the Annex and the Bus Garage are also explored. The goal is to evaluate the schools and the school "campus" to determine and recommend the best approach for the future, understanding there is a slow decline in school enrollment. This report utilizes the Milone and MacBroom Comprehensive School Enrollment Analysis & Projections, throughout and a complete copy is included in the appendix.

The Weston Public School is and should remain one of the highest rated school by any matrix over the next ten-years. The recommendation herein is to proceed with focused improvements to all four schools to support the vision of being the highest rated school. The pedagogy existing today is beginning to "age in place" and cannot remain stagnant or remain status quo. Routine maintenance of the school environment will result in a steady decline of the educational environment. The study clearly acknowledges the ongoing trend and gradual rise of the Town population and a slow decline in the school population over the next ten-year period. Weston is aware of this trend. The essence of this study lies in the attraction to one of Connecticut's top rated public-school district. (If not the top rated) If Weston is going to continue to hold onto the value of "the best school district" in Connecticut, then this study should identify the educational needs related to the school facility and thus recommend the strategy needed to achieve this goal.

The issues addressed in this report include Facility Condition Assessment of the current physical plant deficiencies at each school. The conditions include a broad range from building and fire code conformance, including accessibility and the Americans with Disabilities Act guidelines for barrier-free buildings (Title II ADA), health and life safety issues, mechanical, electrical, and plumbing system conditions, civil, structural, technology, environmental hazards and on-going and long-term maintenance issues. These concerns are addressed and included in this report within the facility conditions analysis. The Conditions are assigned a priority ranking and specific conceptual cost. The Facility Condition Assessment is the first

Master Plan tool, and is used for capital needs as well as the conceptual designs.

In addition to the physical condition assessment, a program of the educational space needs has been identified and then used for the conceptual design of the future schools. The Board of Education would like to understand the options available to address the needs identified in the RFP combined with the facility conditions analysis provided. Various options will be explored to determine the best course of action for the district. The educational program is the second key tool used in the master plan.

The utilization is the third key component of the study. WPS is utilizing the four schools exceptional well. The balance of core educational space to support space is the hallmark of the highest preforming schools, and this is especially true at the WPS. Continuing to improve the optimal educational utilization is critical for the next ten years.

The first recommendation is the Middle School, proceeding next to the High School and then Hurlbutt with limited improvements to the Intermediate School. Each of the design options are envisioned as improvements that can be moved forward through the traditional project delivery method of design, bid, and build. The school campus and administration are also the subject of several specific design options.

This report was prepared by the architectural and engineering firm of Silver/Petrucelli + Associates, Inc., (S/P+A) of Hamden Connecticut, a firm specializing in municipal and school programming, planning and design, feasibility analyses and building condition investigations including building envelope surveys, as well as window and roof repair and replacement.

Milone & MacBroom (MMI) of Cheshire were retained separately by BOE/WPS and based on our numerous collaborations together, the results are well integrated and considered included throughout this study.

Process

The Connecticut State Department of Education (CSDE) standard is generally referenced for this study as defined in CGA Statue Sec. 10-220. Duties of boards of education. "(a) *Each local or regional board of education shall maintain good public elementary and secondary schools… shall make a continuing study of the need for school facilities and of a long-term school building program and from time to time make recommendations based on such study to the town;*" This study will fulfill this duty, once finalized, and approved by the Weston Board of Education. The ultimate results of this study and the professional services are to arrive at a Master Plan that can be utilized over the next 5-year and then 10-year timeline.

S/P+A gathered the information in this report via meetings and interviews with school administrators, the principals, staff, and teachers at each of the schools as well as the school facilities / maintenance team for the school district, members from Central Office. Once "vetted" and organized, members of the community will be attend meetings and voice their concerns and responses to the Board of Education.

Architects, mechanical, electrical, plumbing and fire suppression engineers conducted extensive on-site facility evaluations and investigations. Town and State records were reviewed and if appropriate are referenced and included in the Appendix.

This data was organized and appears in sections of this report in the form of meeting minutes, building condition narratives, floor plans, and spreadsheets detailing the specific code, repair or maintenance issues or deficiencies, with suggested recommendations including corrective actions, prioritization and associated cost estimates. Next the options for the new school configurations are determined to create the programs for each option. Several focus groups were held with staff to determine the educational needs for each school. A school program depicted in spreadsheets and diagrams were developed. Finally, these components help to dictate the conceptual design solutions and the projected project costs. The report includes design options and a conceptual design approach to each of the four schools, as well as the school campus.

Report Findings

This report clearly identifies current and future needs which will assist the district in determining how to continue with the current school's configuration or to make the changes to the school structure. While the enrollment appears to be slowly declining, no grade reconfigurations are recommended. The four-school model is working exceptionally well for the district and the enrollment decline does not demonstrate clear evidence of a significant or concentrated amount of excess space. Therefore, consolidating a school is not recommended, nor is there a clear demarcation of a wing or section in any other four schools that can be closed, or separated. Consolidating the four-school model into three would be a "catastrophic" educational disruption, by negating the refined space utilization in place and now projected for the future. The four-school model also corresponds to a four-stage educational plan which began with the introduction of the Intermediate School. Weston should continue improving their schools' physical and programmatic needs to support this four-school educational model.

Overall, many physical needs arose out of the facility conditions analysis. Most of the school buildings need some physical improvements and upgrades. Most notably Weston Middle School and Hurlbutt Elementary School have not seen many "major" improvements in their lifetime. (see Appendix – State Grant Summary, 2 pages) Additionally, although the High School has received major renovations and additions, approximately 35,000 square feet remain unimproved. By contrast Weston Intermediate school is in an exceptional state, only being 12 years old. (The "knee wall(s)" failure notwithstanding.)

The Middle School has the greatest need based on the Facility Condition Assessment as well as the educational program developed. The building infrastructure needs significant improvements including HVAC. Additionally, the science rooms are antiquated and in need of replacement. Lockers throughout the school including gymnasiums are in disrepair. The music and art programs need renovation. All toilet rooms are out-of-date and not handicap accessible. The office space is lacking and the main entrance is problematic. Finally, the pool

locker rooms remain somewhat dormant and should be included in the 10-year plan. Three conceptual design options and budgets are presented for the BOE's consideration and evaluation.

The Weston High School and Hurlbutt Elementary School both have some significant needs to be addressed in the 10-year master plan. The High School saw major improvements beginning in 2001, however not all spaces were improved. The unimproved educational spaces are now recommended to be renovated and a conceptual design was created to meet the recommendation. Hurlbutt has not be the subject of a major project since the central school section was constructed to link the three houses together. The potential subdivision of some spaces to refine the educational use is proposed along with continuing the air-conditioning and introducing a new fresh air system, as well as accessibility to the gymnasium. A focused and specific conceptual design and budget for both school are prepared.

The Weston Intermediate School is still effectively a new school. The wall failure at the gym has "migrated" out of the study and is now the subject of (a) separate contract(s) with the Town and Town Building Committee. The conceptual design options and facility condition assessment are very limited and specific to a condition such as pair of egress doors, a door between classroom, etc. The Intermediate school is therefore the fourth school priority.

Finally, on the WPS campus, the main entry, Bus Garage, Annex Building, and Central Administration offices are identified as the potential significant improvements needed in the 10-year Master Plan. Coincidentally the main entry has been the subject of past studies unrelated the schools and these have included in the Appendix. While complex and interrelated to a State highway and the Town, the BOE can address the first impression and traffic problem at the main entry drives as well as the core function of school district administration by proceeding with the one of the master plan design options. Moving the busses, consolidating all the school administrative staff, and demolishing the Annex are possible and recommended. The focused traffic study now needed should include the bus parking and routing as well as the on-campus parking and traffic options. Once the BOE has determined their recommendation the Town and then State can be involved. If applicable the Town may identify bus parking sites off the school campus, this study is does not.

Report Overview and Purpose

Weston Board of Education retained Silver/Petrucelli + Associates, Inc. Architects, and Engineers to conduct a facilities conditions analysis for Hurlbutt Elementary School, Weston Intermediate School, Weston Middle School, and Weston High School as well as the Central office, Annex, and Bus Garage.

This report analyzes the current facilities and grounds with regard to code compliance, accessibility (ADA), on-going and future maintenance needs, and recommendations or modifications for educational programmatic needs due to the projected enrollment decline. This report includes this review and makes projections for maintenance and educational space needs 10+ years in the future, including overall master planning options for these schools.

The code compliance effort has been undertaken to determine the relative compliance of the facility and grounds and their architectural, mechanical, plumbing or electrical systems with the current building and life safety codes. The State of Connecticut's Building, Fire, and Health Codes as well as Federal OSHA and Americans with Disabilities Act (ADA) requirements are incorporated in the review of the facility. The Connecticut Fire Safety Code is the only retroactive and "immediately" enforceable code. The balance of the code conditions noted are "prescriptive" and apply to future projects with local and state authorities having jurisdiction. Should any of the code conformance or renovation work disturb existing hazardous materials or systems, the required abatement work would need to be performed.

The existing schools were also evaluated for their "renovation" potential, developing recommendations regarding the conditions of the exterior weatherproofing envelope systems, interior finishes, mechanical, plumbing and electrical systems, including site systems and traffic patterns. These recommendations are to address the need to replace aging or obsolete building systems and extending the life of the structural components that are expected to be useful for years to come. The finishes are to be evaluated not only for their usefulness and appearance, but also for their potential to be upgraded to create a new aesthetic image that will serve to benefit the children, educators, parents, community and potential new students and families.

Items in the Facility Condition Assessment that re not included within the design options presented are then added into the 5-year and 10-year master plan to create a comprehensive study.

Report Services

The following services were provided to complete the facilities analysis and on-going and long-term maintenance needs and capital and master planning:

1. The project was initiated with a kick-off meeting with a meeting with the Architects and members of the Weston Public Schools, to outline the goals and requirements during this project.

2. Subsequent meetings and interviews were held with the Superintendent, Principals of each school and Central Office.

3. The architects and engineers reviewed the existing drawing archives of the school and then field verified existing conditions and documentation of site features and building floor plans.

4. The architects reviewed any prior reports, and/or items noted at the schools by WPS or the fire marshal and/or building official.

5. Code conformance field surveys were conducted of the existing facility and grounds by architects and engineers regarding architectural, site, mechanical, electrical, and plumbing systems.

6. Facilities condition assessments were prepared after field surveys were conducted of the existing facility and grounds by architects and engineers regarding architectural, site, structural, mechanical, electrical, and plumbing systems. These assessments are in order by priority, ranked one to four.

7. Developed Space programs of existing and future educational needs and organized for utilization with the conceptual design options.

8. Site analysis in graphic and written format.

9. Existing floor plan analysis in graphic and written format.

10. Proposed conceptual site plan design options, where applicable.

11. Proposed conceptual floor plan design options, where applicable.

12. Preparation of progress presentations and draft reports for review by the Committee.

13. Met with the WPS staff and BOE facilities committee to review the draft report to provide additional feedback and comments.

14. Preparation of the BOE draft report including revising the report including feedback and comments for final review.

15. Final editing and preparation of the final report for distribution to the BOE & Towns.

16. Attended BOE and Town meetings to present the report and answer questions posed by the community.

Interviews and Data Collection

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

Since the study is also expected to look out into the future, it is important to gather information regarding future educational programs and technology, directions in teaching and curriculum, and how technology or other teaching tools are anticipated to affect the educational programs and thus the schools and their spaces for the future.

Each of the existing floor plans were reviewed and discussed with the schools' Principals. SPA met and walked through each room on the plan. The floor plans were then updated to show the current use of each room. The Principals then discussed some of the pros and cons with of the building layout. The program was then analyzed. These meeting were critical in understanding the current building layouts, the current programs in place today and the requirements needed to modernize and expand the current buildings and their program.

Subsequently, the potential exists to create focus groups at each school to further discuss any building

and programmatic comments with each staff. Finally, an open community focus group can be held to include feedback from parents.

Codes Governing School Construction

The following is a list of the current building codes which are applicable for the State of Connecticut, and these codes were used as the basis for the code review for this study. Please note that not all of these codes have been thoroughly reviewed for this space study, but major codes with significant cost and life safety implications were reviewed.

State and Federal Codes Governing School Construction
Current Building Codes
State of Connecticut
Effective October 1, 2016

2016 State of Connecticut Building Code
2012 International Building Code (IBC)
2012 International Fire Code
2014 National Electrical Code
2012 International Mechanical Code
2012 International Plumbing Code
2012 International Energy Conservation Code
2009 ICC/ANSI A117.1 Handicapped Accessibility Code
2010 Americans with Disabilities Act (ADA)
- Title I Employment
- Title II Government Facilities
- Title III Public Accommodations

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

The school buildings were surveyed to determine compliance with current fire safety, building and health codes and regulations. Most areas of the buildings were investigated and mechanical, plumbing and electrical violations range from inaccessible (not ADA compliant) plumbing fixtures to inadequate combustion air provisions. The violations observed are documented in the attached spreadsheets.

This report is preliminary in nature and not a Construction Document, but represents a reasonable accounting of most significant code challenges at the schools. However, the definitive determination of code compliance lies in a set of construction documents ready for permitting with the local authorities, primarily the Building Official, Fire Marshal, 504/ADA Coordinator, and Regional Health Director.

Potential Code Modifications

The following code modifications are customarily granted by local and state building and fire officials. These modifications to the code provide reasonable life safety for a school's occupants while reducing the financial burden of a project. They are usually prepared by the Architect and presented to the local building, fire or health officials for their review and recommendation. Their positive or negative endorsement is then forwarded to the State Building and Fire Officials for their review and for final approval or rejection.

Code	Description
Fire – 11-3.6.1	Waive closer hardware requirement for classroom doors.
IBC – 114.4	Elevator exemptions for key operation of elevators.
IBC – 1019.1.2	Penetrations in a stair for video security.
IPC – 2902.1	Minimum number of required plumbing fixtures, non-simultaneous Use of assembly space with classroom.

Area Calculations

This report includes a tabulation of GROSS building areas (measured from outside face of exterior walls) for existing construction and new additions. These numbers were generated from the approved schematic design plans and the overall building plans included in the pages following this tabulation summary.

The report also includes the tabulation of the total NET building area (measured from inside face of exterior wall), which is used by the State of Connecticut Office of School Construction Grants (SCG) to determine reimbursement calculations.

See the Appendix – DAS, OSCG&R Building Areas for a more detailed and in-depth description of these two area calculations.

Grant Regulatory Requirements

The State 2017-2018 reimbursement percentage for School Construction in the Town of Weston is 21.43% and is 11.43% for new school construction. The applicability of the school grant process is a subject for the BOE and Town to consider. This process is reference in this study, however it is not specifically used in the recommendations and could be added or considered at any time.

The State Space Standards Worksheet is submitted with the grant applications for all New, Extensions, Alterations, and Renovation projects. The worksheet is used for "computing the maximum facility total square footage eligible for reimbursement for any State School Grant application." The worksheet uses the highest projected 8-year enrollment from a "current" demographic study or Enrollment Projection report provided by the School District. On the worksheet, the Allowable Square Footage per Pupil is stated based on the total projected school enrollment in the school. The allowable square footage for each grade level is then added for a total sum and then divided by the number of grades. This average is then multiplied by the highest enrollment projection. This total is the allowable or maximum square footage eligible for reimbursement. (Note, there is an increase in the allowable area of a school facility constructed pre-1950 for this area.)

If the proposed school area is calculated to be less than the allowable maximum Space Standard then there is no grant reduction. If the district elects to exceed the allowable Space Standards then the eligible cost will be reduced by the percentage that the allowable maximum area is exceeded. Any reduction in the eligible cost must be certified in writing by the Superintendent of Schools. There may be an option for special legislation and or to appeal the allowable Space Standards based on special circumstance, both of which are best determined in conjunction with the State School Facilities staff.

The State Space Standards are not utilized in this study. See Utilization for a more detailed description.

High Performance Building Checklist

On January 1, 2009, in the State of Connecticut, new legislation amended General Statute Section 16a-38k which requires new school building projects costing $5 million or more and receiving $2 million in state reimbursement or $2 million in renovation, to be designed in compliance with or exceed the High-Performance Standards and Guidelines which were issued by the CT Department of Administrative Services and the Office of School Construction Grants & Review (OSCG&R). These guidelines are structured **similar** to the Leadership in Energy and Environmental Design – LEED© – rating system, as established by the United States Green Building Council. The LEED process may be considered at any time; however it is most affective when determined to be of value at the onset of a project. While opinions and experience vary in schools, the LEED rating system, when utilized, is an excellent tool for incorporating energy efficient design AND construction in the building process.

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

Other measures that contribute points to the rating system, in addition to energy efficiency, are the use of renewable energy, water conservation, environmentally sensitive site design, redevelopment of brownfields, and storm water management.

While these conceptual projects are not scheduled to be designed around a LEED standard, and if the project is large enough and seeks State funding, it will be designed using the "High Performance Building Standard" which meets the State of Connecticut's equivalent standard thus maintaining eligibility for State reimbursement.

Renovate as New Requirements

Silver Petrucelli and Associates is often requested to design the entire project to meet the "Renovate as New" or "Renovations" to modernize the school to meet the State Department of Education definition and requirement under State Statute 10-282.

- This concept was developed by the State to encourage Towns to renovate/update their aging, but well built, existing school structures in their entirety, rather than needlessly demolishing them and rebuilding new facilities at a higher cost and greater reimbursement rate from the State.

- A professional opinion on the renovated school MUST state to 'last' 20 years from construction, which includes all systems (HVAC, electrical, plumbing), structure, equipment, finishes, etc.

- Most of these repairs, replacements and updates are reimbursed by the State at the town's reimbursement rate.

The first step in the evaluation of "Renovate as New" is this "feasibility" study prepared by S/P+A. During the course of this study and presumably continuing throughout the schematic design phase, the architectural team met with facilities and administrators that represented the four schools. Additionally, the architects and mechanical, electrical and plumbing/fire protection engineers scoured the four existing school buildings to determine the condition of the existing systems. These meetings and field surveys were important to determine the existing and future needs of the school. Many of the space needs and system upgrades that are recommended in this report, have been determined to be essential to meet the needs of the student population and the aging school. Moving forward a significant amount of deliberation and study should be devoted by staff and the BOE to formulate recommendations with both the architects and engineers to make recommendations.

Further information on the 'Renovate As New' process is below from the Connecticut General Statutes: (the most current should be accessed from the State web-site.)

GUIDELINES FOR DETERMINING ELIGIBILITY OF SCHOOL CONSTRUCTION PROJECTS FOR STATUS AS RENOVATIONS AS DEFINED IN C.G.S. 10-282

1. The applicant must submit a written application for such status.

2. The applicant must have gone through a formal process of evaluating the proposed project. Professional estimates must be available to document that significant cost savings will result.

3. The entire facility must be brought into 100 percent compliance with all applicable codes (including handicapped accessibility) when this renovation project is complete.

Partial renovations of an entire facility or complete renovations of a wing of a facility does not qualify.

4. The renovation must incorporate education technology capability throughout the facility, as recommended in the *Guidelines for Technology Infrastructure in Connecticut Schools*.

5. It must be determined by a structural engineer that the structural integrity of the original building has not been compromised and is adequate to provide for continued occupancy for a period of time comparable to that of a new facility.

6. A detailed report on all existing building systems must be provided, including HVAC and electrical systems, water, roofing, lighting, plumbing, energy monitoring, communications and security systems. Professional opinions must be provided that all systems will have a useful life of at least 20 years following the construction project.

7. All new and replacement windows must be energy efficient.

8. The site of the existing facility must be central to the area served and adequate to provide the educational programs offered.

9. Any other analysis deemed necessary by the Department to properly evaluate the request must be provided.

DRAFT 11.03.17

Section II - Facility Conditions Analysis

The facility conditions analysis is the visual inspection of the physical building and its grounds. This analysis reviews code compliance[i], accessibility (ADA)[ii], health and life safety issues, mechanical, electrical systems, plumbing systems, civil, technology, environmental hazards, and on-going and future maintenance needs. This comprehensive review evaluates the needs of each building.

A team of architects, mechanical, electrical, plumbing and fire suppression engineers conducted these extensive on-site facility evaluations and investigations. Each evaluation was conducted with a member from Weston School Facility department present. Facility condition assessments were prepared after the field surveys were conducted. The existing facility and grounds were surveyed by architects and engineers regarding site, exterior envelope, interior building, mechanical, electrical, fire protection and plumbing systems.

These field surveys generate this section and include narratives, spreadsheets and floor plans for each school. The building narratives for each school describe the conditions reviewed and call out the items that should be addressed. The spreadsheets detail each condition and are organized by category; site, exterior, interior, plumbing, fire protection, mechanical and electrical. The first column contains a tag number, then the assessment, then a possible code reference may be listed when applicable. Next these issues are ranked on a scale from 1 to 4 with 1 being the most urgent.

LEDGEND PRIORITY - RANK

1	Urgent priority - These items should be corrected as soon as possible and most likely encompass code, health and life safety issues.
2	High priority - These items should be corrected within a reasonable amount of time after the highest priorities referenced above. These may be associated with high priority maintenance issues or accessibility issues for the physically challenged. Maintenance items have a remaining useful life from 1-3 years.
3	Moderate priority – These items may be associated with aesthetic or general maintenance issues. Remaining useful life of 3-5 years.
4	Low priority – These items include maintenance and aesthetic issues that are not in current need of replacement, but should continue to be monitored on a regular basis. These items typically have a remaining useful life of 5-10 years or greater.

WESTON HIGH SCHOOL - FACILITY CONDITIONS ANALYSIS							
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING				
TOTAL ESTIMATED COSTS						$	9,474,628

Next a corrective action or suggestive recommendations to the specific code, repair, maintenance, or deficiencies are provided to address these issues. Associated cost estimates are also prepared for the applicable items. The remarks column may list any additional information such as how cost was derived or additional options.

Following the spreadsheets, there are floor plans with the associated itemized tag number located. This allows a better understanding of where and how often the actual incidence occurs.

The facility conditions analysis provides the design team with a vital understanding of these buildings and it provides the client with a better understanding of their buildings issues. It also helps to prioritize their needs and understanding of the potential costs that can be incurred moving forward. This type of analysis is truly the first step in this process.

[i] Code compliance is important on number of levels, first any violation from the Authorities having jurisdiction – Building, Fire marshal, and Health. Second existing conditions, the Connecticut Fire Safety code. Third, for future projects and master planning.

[ii] The American with Disability Act (ADA) is federal law and not a code. While the Connecticut codes include provisions for accessibility in new construction, renovation are less well defined, and existing conditions are even harder to classify as a project.

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Hurlbutt Elementary School

Figure 1: Entrance at Center House

Hurlbutt Elementary School was originally constructed in 1950. Today, this portion is known as the East House. Next came South House which was a separate building constructed not long after by 1952. Apparently, originally Hurlbutt Elementary School was a 3-story building that burned down in 1962. North House likely was built in the 1960s after that. This building is the only two story portion of the school. In the mid-1990s the core building was constructed with its connecting corridors so all the buildings became one, creating the Hurlbutt that we see today. The building now is approximately 94,498 net square (Including the Senior Center). Hurlbutt Elementary School is home to Prekindergarten (Early learning Center) through 2nd grade with 458 currently enrolled students and 81 staff members.

Site

Hurlbutt Elementary School is located at 9 School Road on the 117-acre school campus site. It is located right off of route 157 approximately across the street from Weston Village and adjacent to the school bus storage center. The school parcel is also adjacent to the public Library, the Government Center, Police Department, Weston EMS and Northfield Congregational Church.

Figure 2: Hurlbutt Site from google maps

The school main entrance is located at the west and served by a parking lot with a dedicated vehicle drop off. An area for visitor parking is located close to the entry. This parking lot also serves the Senior Center and is used as a service drop off area to the South House

kitchen. Buses use the loop to the northeast. There is also a parking area close to the street for faculty. An additional parking area is located to the south and accessed through the Government Center/Library. This area is for faculty parking and is gated off during school hours. Four playgrounds are dispersed throughout the Hurlbutt area of the property two at east house, one at south house and one at north house. Two hardscape play areas are located at North House, outside of the gymnasium and at the courtyard side of south house. All but North House are in good condition. The North House playscape and hardscape are both in need of replacement. The existing chain-link fence along School road is not in great condition and a taller more secure barrier would be beneficial to provide a safer secure play area. The main courtyard consists of an open grass zone with various seating areas, trees, the South House courtyard and a small garden. Five baseball fields define the remainder of the site.

Both concrete and bituminous pathways allow for pedestrian connections from all of the houses around the site. The entire front parking lot has significant cracks throughout the asphalt and should be completely repaved. The teacher parking lot near North House is currently not paved nor does it have any connecting sidewalks to the existing sidewalks and does not meet handicap accessibility. The pathways are in good condition. The surrounding fields appear to be compacted and should be addressed as spring arrives.

Figure 3: Typical parking lot cracks at front

Architecture

Overall, Hurlbutt Elementary School is in good condition. The building has been very well maintained and updated throughout its lifetime. The school is somewhat sprawling and organized into houses, south, east, north and central. The majority of the plan consists of double loaded corridors with some single at connection points. One enters the Center House where the administration spaces, nurse, art, restrooms and the Media Center are located. The Media Center is central and faces the open

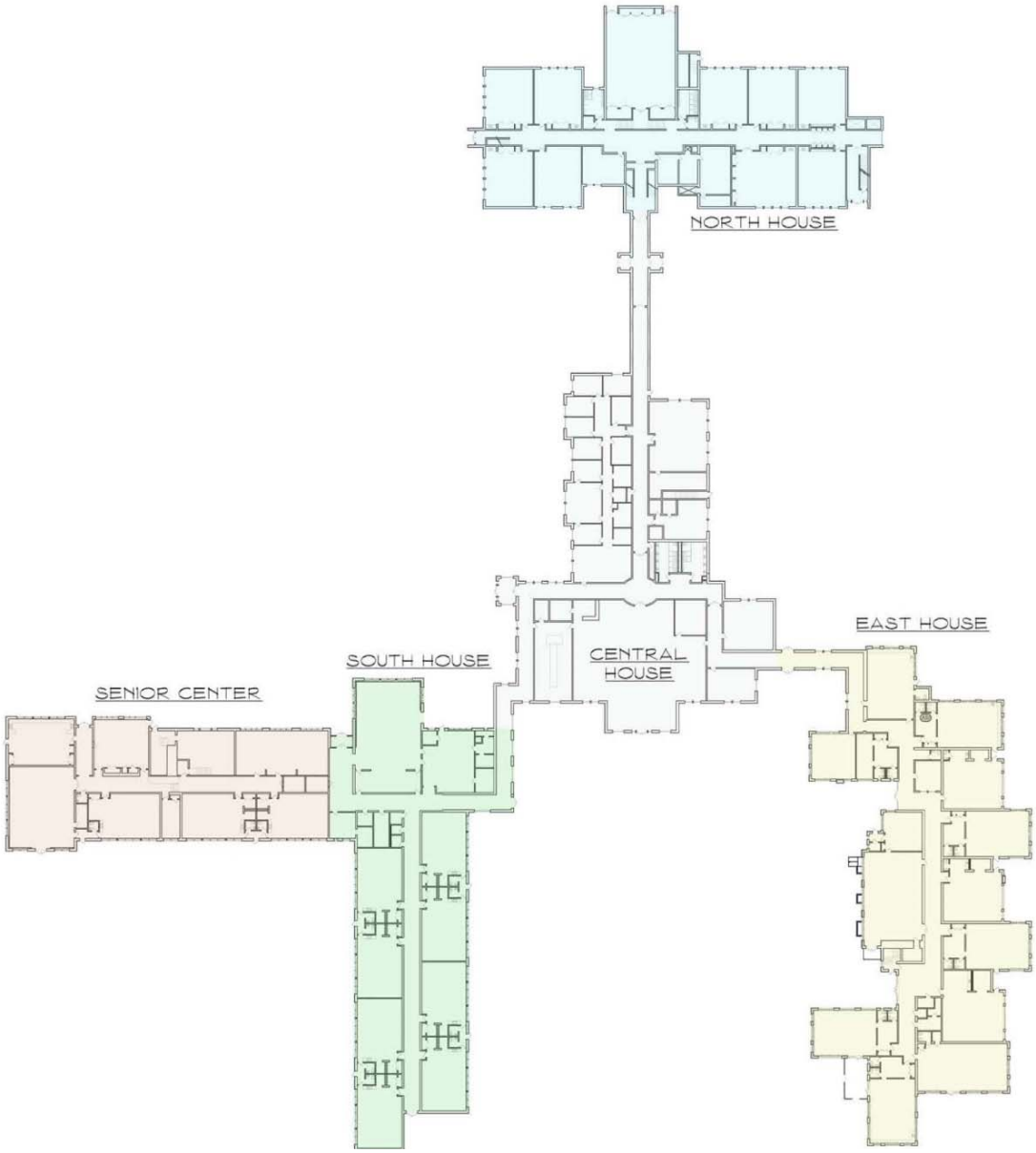


Figure 4: Hurlbutt Floor Plan depicting Houses

courtyard between East House to the East and South House to the West. North is remotely connected to Center House by a long corridor. North House is a simple plan with a double loaded corridor. A small gymnasium is located on a half a level below the main level only accessed by two stairways with a lift. The remainder of the floor plan consists of typical classrooms. Four stairways and an elevator allow for vertical circulation between the two floors. East house consists of larger rooms organized in irregular layouts, jogging the building in and out. These classrooms contain individual restrooms and

storage alcoves. A cafeteria and small kitchen face the courtyard. Next, South house is organized in a L-shaped plan. The most remote leg of the plan furthest west is sectioned off from the school and is home to the towns senior center. The remainder of the plan consist of 8 classrooms and a cafeteria with a stage and the school's main kitchen. The classrooms are a standard size and there are 2 individual toilet rooms located off of a shared vestibule between every two classrooms. Each house has its own boiler/mechanical/electrical rooms. This building although sprawling appears to be well organized and functions well for the school community.

Interior

Figure 4: Center House hallway

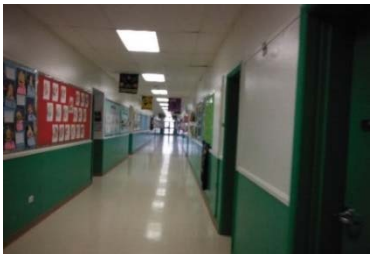


Figure 5: East House hallway

Figure 6: South House hallway

Figure 7: North House hallway

The interior of the building is well maintained based on the existing conditions and existing systems. A visual inspection of the walls, floor and ceiling were reviewed during the building walkthrough. The interior walls are a variety of concrete masonry units or block (CMU), plaster and sheetrock. Each House has its 'own interior identity. Paint color begins to designate each house making it easy for children to find their way around the school. Center House consists of painted white 8x8 concrete block. East House appears to consist mostly of plaster. The lower portion of interior walls are painted yellow. However, the cafeteria is painted with blue accents. South House too is plaster but with green accent paint. North House consists mostly of standard concrete block interior walls. It was noted in the basement along the stair the paint is significantly peeling and water infiltration is present. There were also some cracks noted in the CMU of the gymnasium. A few areas throughout the entire facility could use some touch up paint but most appear to be in reasonable condition. Ceramic tile at the toilet rooms are in fairly good condition.

The majority of the ceilings are acoustical ceiling tiles. Some are 2x2 and some are 2x4. They all appear to be in fair condition. However South House cafeteria has a spline ceiling and some tiles are missing leaving glue dabs exposed.

The majority of the flooring throughout the facility consist of 12x12 VCT tiles. Most appear to be in good condition with some areas of cracking. Most notably the tiles in the South House cafeteria are bubbling and therefore appear to have problems adhering to the slab. The kitchen in East House has 9x9 tiles which usually indicate asbestos containing materials. The quarry tile in the South House kitchen appear to be in good shape. The rubber baseboards are in fair condition with some areas beginning to wear. The sheet flooring in the North House gymnasium looks fair although it was indicated that its beginning to bubble. Overall the interior walls, floor and ceiling are in good condition.

Figure 8: Crack at east wall of gym

The facility consists of a variety of doors, frames and hardware due to the different ages of all the portions of the school. Most doors are wood with a variety of glazing opening within the leaf. Some are painted while others are not. Some of the painted doors could use a fresh coat of paint. Most hardware has been upgraded, specifically door levers in order to meet code. However, there are still some doors still have knobs that require grasping and twisting. These should be altered as the others have. Most frames are hollow metal frames. Overall they are in good condition with a general need of repainting frames, specifically in East and South Houses. In North House some frames have begun to pull away from the CMU and should be caulked.

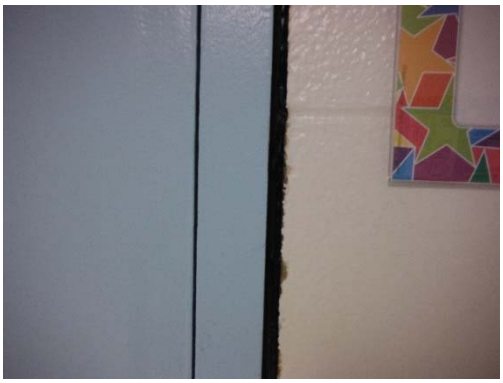


Figure 9: Door frame at North House

Figure 10: Casework in North House

Most casework and built-in shelving throughout the school is dated. Most notably the dated casework is in the East House as they appear to be original. South House has been updated however the plumbing interferes with the knee space clearance. The Center House has newer plastic laminate casework and those appear to be in good condition. The casework in North House is not quite as dated but some are in tough shape and they do not have a knee space at the sinks and drinking fountains. Most casework throughout does not meet the required height or have the required knee spaces. Most of the sinks within the casework are also not accessible.

Many ADA accessibility issues were noted at this facility. This is a common occurrence given the age of the building and its renovations. These items should be included in the long term capital plan. All of the required grab bars do not exist in any of the handicap areas. Most of the single toilet rooms do not have the required clearances. The toilet rooms within classrooms are noncompliant due to lacking the required room dimensions along with lacking the required grab bars. As previously mentioned in addition to the toilet rooms other ADA noncompliance items with the casework, sinks and door hardware. Some doors also do not have the required push pull clearances.

Figure 11: Casework at East House

The interior building analysis is a visual surveillance of the physical materials and architectural components of the school. As with most schools of this age ADA issues typically exist and material improvements are needed. Given all of these circumstances overall the interior is in good condition.

Exterior

Figure 12: North House masonry conditions

As previously discussed all of the houses were built at a different time and therefore have a different construction and a varying age or need. One consistent component to the exterior is the material, all are brick. The brick walls of the school are generally in good condition, with areas of settling and spalling. The original building is constructed with brick "veneer" and concrete masonry unit interior or plaster interior. The energy efficiency of the original construction is very low, and typical in the 1950s ("pre energy crisis"), and not one that is easily corrected. The 1997 addition, Center House has a CMU interior and likely includes insulation and air space which improves the energy efficiency. Overall, the mortar is in fair condition with limited areas in need of repointing. Certain areas are in need of more attention. For instance, the base of some of the facades and areas around gutters have mildew and some spalling is present. Most notably this occurs at North House. These areas should be cleaned, repointed and sealed to prevent any further damage. Other areas such as the chimneys may need additional repointing. Some of the exposed foundation walls parging is flaking and may need to be repaired. The through wall base flashing on the east side of North House is deteriorating. This type of repair is rather costly, but this could be allowing water to enter the cavity. It may be the culprit of the water infiltration in the basement elevator machine room below. North House seems to have masonry in most need. Center, East and South have limited areas in need of maintenance. Overall the masonry appears to be in good condition.

Figure 13: Through wall flashing condition at North House

Figure 14: Window at lower level of North House

When evaluating the energy efficiency of a building, it is known that nearly 25–40% of all heat energy is lost through windows. The windows were replaced when the addition was constructed with double-glazed aluminum frame windows. They appear to be in good condition. Caulk is beginning to fail and in need of replacement. Many door frames, mullions and thresholds are beginning to show signs of rust. The ballast roof is in great shape. The EPDM roof also appears in good shape. The wood fascia throughout are in fair condition with some areas in need of more attention. They should be scraped, primed and painted to continue their lifespan.

Plumbing

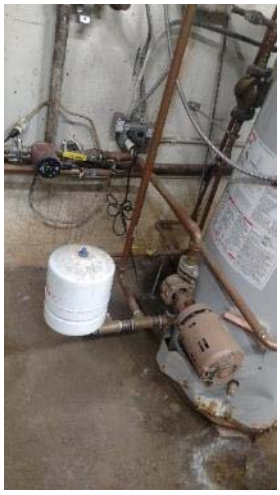
Overall, the plumbing systems for the school are in good condition.

The Domestic cold water is provided by water supply wells that supply water to multiple buildings on the property. A 1" water meter on a 2" water line was observed in the lower level of North House. The location of the water service for the other buildings was not observed.

Domestic hot water is produced by separate water heater plants for each building. Some of the hot water piping was not insulated at the time of the visit. This pipe should be insulated to provide maximum efficiency of the water heating system.

The Central House hot water is provided by an oil-fired water heater having an input rating of 199,000 BTUH and a storage volume of 86 gallons each. The system is approximately 20 years old. The system is at the end of its average life expectancy of approximately 15-20 years. The water heating system for Central House should be replaced.

The boiler room in the basement of East House contains 2 domestic hot water heaters. One of the water heaters is a gas-fired water heater having an input rating of 199,900 BTUH and a storage volume of 76 gallons. The system is approximately 14 years old. The system should have an average life expectancy of approximately 15-20 years and remaining life expectancy it about 1-6 years. The boiler room of East House also contained a Bosch tankless water heater that was not plugged in and is assumed to be out of service. This water heater is connected to a 119-gallon storage tank. On the main level of East House, in the kitchen area, is an abandoned water heater that says "LEAKING – OFF LINE" on the outside of it. The gas water heater should be replaced within the next 5 years. The tankless water heater should be checked for serviceability and put back into working order or should be removed. The abandoned water heater in the kitchen area should be removed.



The hot water plant for the Senior Center and the South House is located in the lower level of the Senior Center in the boiler room. There is a gas-fired Bosch tankless water heater rated at 199,000 BTUH and a gas-fired water heater having an input rating of 85,000 BTUH and a storage volume of 100 gallons. The tankless water heater is approximately 7 years old and damaged. The system should have an average life expectancy of approximately 15-20 years and remaining life expectancy it about 8-13 years, however tank needs to be replaced or repaired. The tank style water heater appeared to be taken out of service and is now being used just as a storage tank. The piping in this plant should be tracked and confirm what is being fed by each water heater. The tankless water heater was set to provide water at 140 degrees and no mixing valve was observed. Water delivered at 140 degrees can cause scalding. There were also 3 separate recirculation pumps that were inline on the same piping. All the pumps were running, so the reason for so many pumps should be investigated.

Hot water for the North House is provided by water heaters located in the Boiler Room in the lower level. There is a gas-fired Bosch tankless water heater rated at 199,000 BTUH. The tankless water heater is approximately 7 years old. The system should have an average life expectancy of approximately 15-20 years and remaining life expectancy it about 8-13 years. An older electric Ariston

water heater was not plugged in and is assumed to be used as a buffer tank.

To maximize service life for all the water heaters, they should be regularly serviced per the manufacturer's maintenance recommendations including, but not limited to, draining and flushing, testing relief valve, and inspecting/replacing anode. Refer to manufacturer's O&M literature.

Plumbing fixtures appear good condition. The urinals have manual flushometers. The water closets are a combination of floor mounted tank type and wall mounted with manual flushometers, as well as some floor mount tank type water closets scattered throughout the building. The lavatories are a combination of wall hung and drop-in style with metered faucets. Classroom sinks are stainless steel with single lever faucets or wrist blade handles depending on the location. Some of the classroom sinks have integral bubblers. Some classrooms have an older style epoxy coated cast iron sink. The sinks in the art classrooms have solids interceptors on their drainage piping. The interceptors should be checked periodically and cleared of any solids that have been collected in them. Electric water coolers are provided throughout the building. They are various styles from older style white china drinking fountains to newer stainless steel water coolers with an integral bottle filler.

While the overall condition of the fixtures is good, some of the issues noted during the visit are noted below. One of the water closets appears to have had the vacuum breaker portion of the flush valve cut (See photo to right). The manufacturer should be consulted to figure out the location of the "critical line" (typically at least 6" long) for the particular flush valve. If the flush valve has been cut shorter than this, it can create a backflow condition that would allow for contamination of the water supply. Any lavatory or sink that is designed as and ADA accessible fixture needs to have insulation on the piping in the knee space (See photo below). The piping may also need to be reconfigured on additional fixtures. to provide the proper clearances (See photo below). A janitor's sink was observed with hoses connected to the faucet from a chemical feed system without a vacuum breaker to prevent back siphoning in the event of a drop in building water pressure. The condition could result in contamination the domestic water system creating a safety hazard. Recommend installing a vacuum breaker as soon as possible (See photo below).

The sanitary for the school is handled by means of a septic tank. None of the fixtures in the kitchens appeared to be connected to an automatic grease recovery unit or grease interceptor. The local health department should be contacted to see if this is a requirement for their district. There is a sump pump located in the basement of the East House. The check valve for the discharge of the pump is not installed correctly. This should be repaired in order to prevent and leaks. There was also another sump pump located in the basement of the North House, but it was inaccessible due to boxes stored in the area. No other sanitary or storm piping issues were observed during the visit. If there are any areas with known issues, it is recommended that the pipes in that area get scoped with a camera to see if the root of the issue can be determined.

Fire Protection

The building is not fully sprinklered. There are currently limited area sprinklers fed from the existing domestic water main. There is a backflow preventer, isolation valve and flow switch on the supply located in the basement of the North House that comes off of the domestic water piping system. The areas sprinklered of this system is only the basement of the North House. Overall, the limited area sprinkler system for the school appears to be in fair condition.

If the building is to be fully sprinklered, a new fire main would have to be run from the site fire piping that is connected to the fire water storage tank and fire pump. It would more than likely be more cost effective to provide a new storage tank and pump due to the length of the run required to connect to the existing.

Mechanical

General

The facility consists of the Central Area, which houses the Administrative Offices, Learning Resource Center, Art Room and Nurse's Office; three academic wings (North, East and South); and Senior Center, which is connected to the South Wing. The facility is served by multiple Boiler Plants. The Central Area and each academic wing is served by its own Steam or Hot Water Boiler System, Underground Fuel Oil Storage Tank and Gas Service.

Each Boiler Room is served by a dedicated Underground Fuel Oil Storage Tank (UST). The history of the USTs is as follows.

The 6000 gallon USTs serving the North and East Wings were each replaced in 2015 and should not require replacement again for at least 18 years.

The 4000 gallon UST serving the Central Area was installed in 1998, was last tested in 2009, and is due for replacement in 2018.

The 6000 gallon UST serving the South Wing was installed in 1988, was last tested in 2009, and is due for replacement in 2018.

All USTs would have been registered with the State at the time of installation and the Town's registration paperwork should be reviewed for date of installation and warranty and to determine the requirements for tank testing, inspection and replacement.

Chimney height for two of the four Boiler Rooms appears to be inadequate. Chimney height for the Central Area and North Wing Boiler Rooms appears to be code compliant but may be inadequate to prevent introduction of flue gasses into the building. The Central Area chimney is below the height of the outside air intakes, making it likely that flue gasses will be drawn into the air intakes under certain wind conditions. The North Wing chimney does not appear to be high enough to prevent introduction of flue gasses under all conditions, especially if new rooftop equipment or air intakes are provided as part of future HVAC upgrades. Consideration should be given to increasing the height of the two chimneys. All chimneys should be cleaned and inspected by a company specializing in chimney installation and maintenance.

The condition of the facility's Boiler Rooms is noted under the individual building area descriptions below. The conditions are based on a visual inspection of the exterior of Boilers and components. Since Boiler life can be affected by poor water quality and inconsistent maintenance, it is recommended that the boiler water and feedwater be periodically tested and the boilers be regularly inspected and maintained to maximize service life.

The older Steam Piping and Perimeter Radiation installed as part of the original 1950 construction has likely reached the end its service life expectancy. Facility Steam and Hot Water Heating Piping and Perimeter Radiation should be inspected/tested for internal condition and replaced as required. Piping and Perimeter Radiation would likely be replaced as part of a major building renovation.

Corridors of the three academic wings lack proper ventilation as required by the Building Code. Corridors ventilation should be provided as part of any future HVAC improvements.

Except for the Central Area renovated in 2000, Automatic Temperature Control is provided by a pneumatic control system. Controls Compressors are located in the Boiler rooms. The compressors appear to be in good condition, but the pneumatic controls are obsolete and unable to optimize building efficiency. It is recommended that the pneumatic controls be replaced with electric/electronic controls and that the systems be integrated into the existing Alerton Building Management System (BMS) currently serving the Central Area.

Central House

Heating for the Central Area is provided by two Smith model 19-W-6 Boilers with Power-Flame dual fuel burners capable of firing #2 Fuel Oil or Natural Gas. The Boilers are believed to have been installed as part of the 1997 renovation and appear to have been well maintained, likely having a minimum of 10 years useful life remaining. Hot Water Pumps appear to be in serviceable condition but are showing some surface rust. Boiler Room floor was dry at the time of our visit however, there are signs of previous leakage including the noted rusting of the pumps. Two combustion air openings have been provided which meet the requirements of the Mechanical Code.

Chilled Water for the Air Conditioning of the Central Wing is provided by a 50 Ton Chiller located in the basement Mechanical Room with an Air-Cooled Condenser located outside on grade. The system supplies Chilled Water to Air Handling Units located in the attic mechanical space. The Chiller is designed for use with R-22 refrigerant which is being phased out and is no longer manufactured for use in the U.S. due to its atmospheric ozone depletion potential. The R-22 refrigerant will continue to be available for several years but will continue to rise in cost as existing stores are depleted. There are replacement refrigerants that may be compatible with the existing chiller but given its age, consideration should be given to eventual replacement with a high efficiency unit designed for use with an environmentally safe refrigerant.

The Mechanical Room housing the Chiller is furnished with a refrigerant leak detection system. The system should be tested for proper operation and repaired or replaced as required. No provisions were observed for emergency ventilation of the mechanical room. An emergency ventilation system is required by the Mechanical Code to ventilate the space in the event of a refrigerant leak.

The HVAC for the Central Area is provided by several Air Handling Units located in the attic mechanical space which are supplied with Hot and Chilled Water from a four pipe hydronic system. The units are arranged to provide the necessary zoning for the various occupancies and exterior exposures. The Air Handling Units were installed as part of the 2000 renovations and are in serviceable condition with 15 years or more of useful life remaining. Beyond normal preventative maintenance and filter replacement, additional maintenance such as replacement of fan motor, drive, bearings and controls components may be required to extend the useful life of the units.

It was reported by the staff that the new Conference Room has poor temperature control. Possible system modifications will be explored to improve space comfort.

It is recommended that the duct systems be cleaned and the HVAC equipment and controls be recommissioned to ensure proper sequencing of the controls and operating efficiency.

East House

The East Wing is served by two Smith model 28HE-S-08 Steam Boilers with Power-Flame dual fuel burners capable of firing #2 Fuel Oil or Natural Gas. The Boiler Room is neat and well organized and the Boilers, Boiler Fed Unit and related piping and equipment in the Boiler Room appear to be well maintained and in good condition, likely having a remaining useful life of 10 years or more. Combustion air is provided by a louver which is ducted down to within 12 inches of the floor. A second louver appears to have been closed off and the provisions for combustion air do not appear to be compliant with the code.

Steam is supplied to the East Wing perimeter radiation and other terminal heating equipment by a two-pipe steam distribution system. Condensate is return to the Boiler Room via a gravity condensate return system. Steam Traps should be serviced regularly to ensure proper system operation and efficiency.

Ventilation of the Classrooms is through operable windows which do not appear to provide the necessary 4 percent of floor area for natural ventilation as required by the Mechanical Code. There is no central air distribution system. At least two classrooms have been provided with window type Air Conditioners.

The East Wing Kitchen is served by a Grease Exhaust Hood equipped with a chemical extinguishing system. The Hood and extinguishing system appear to be in good condition however, cooking that generates grease laden vapors is no longer conducted at the facility and the high quantity of air exhausted by the system is now excessive, contributing to greater energy use.

South House

Heating for the West Wing and Senior Center is provided by two Smith model 28HE-S-08 Steam Boilers with Power-Flame dual fuel burners capable of firing #2 Fuel Oil or Natural Gas. The Boiler Room is neat and well organized and the Boilers appear to be well maintained, in good condition, likely having a remaining useful life of 10 years or more. Boiler Room piping and equipment appears to be in mostly good condition except for the Boiler Feed Unit which is badly corroded from leakage and appears to be at the end of its useful life. The leak appears to have been repaired and the life of the unit may be extended by performing maintenance including cleaning and painting.

Steam is supplied to West Wing perimeter radiation and other terminal heating equipment by a two-pipe steam distribution system. Condensate is return to the Boiler Room via a gravity condensate return system. Steam Traps should be serviced regularly to ensure proper system operation and efficiency.

Ventilation of the Classrooms is provided by operable windows and a central exhaust system. The

operable windows do not appear to provide the necessary 4 percent of floor area for natural ventilation as required by the Mechanical Code. There is no central air distribution or air conditioning system serving the South Wing.

There is no Toilet Exhaust in two South Wing Toilet Rooms that were checked. Recommend that all Toilet Rooms be provided with proper ventilation for compliance with the Mechanical Code.

The South Wing Kitchen is served by a Grease Exhaust Hood equipped with a chemical extinguishing system. The Hood and extinguishing system appear to be in good condition however, cooking that generates grease laden vapors is no longer conducted at the facility and the high quantity of air exhausted by the system is now excessive, contributing to greater energy use.

North House

Heating for the North Wing is provided by two Smith model 28HE-W-05 Water Boilers with Power-Flame dual fuel burners capable of firing #2 Fuel Oil or Natural Gas. The Boiler Room appears to have been renovated within the last 10 years. The Boilers, Hot Water Pumps and related piping and equipment in the Boiler Room appear to be well maintained and in good condition, likely having a remaining useful life of 15 to 20 years. Combustion air is provided by a door louver which appears to be adequately sized for the input of the boilers but is slightly damaged.

The Gymnasium of the North Wing is served by two Air Handling Units located in the lower level Mechanical Room. It appears that the units are arranged such that one unit provides heating and the other provides DX cooling/dehumidification. The Air Handling Units appear to have exceeded their useful life and the unit providing cooling/dehumidification is not currently operable. The mechanical room is not large enough for proper service access and it is recommended that replacement equipment be installed on the roof, or possibly on grade adjacent to the Gym. New HVAC equipment should be equipped with Energy Recovery and Demand Control Ventilation.

Heating and Ventilation the original Classrooms of the North Wing is provided by Unit Ventilators which appear to be at the end of their useful lives. Unit Ventilators generally do not meet the State's requirements for classroom noise levels so replacement equipment will likely be rooftop HVAC equipment.

A building addition to the North Wing has added four classrooms which are provided with heating and ventilation by an Air Handling Unit located in a basement Mechanical Room. The unit appears to be in serviceable condition with approximately 5 to 10 years of useful life remaining. It is recommended that the unit interior and ductwork be cleaned and the pneumatic controls be replaced with new DDC controls.

A 5 Ton Packaged Rooftop Air Conditioning Unit serves a portion of the North Wing. The unit appears to be approximately 25 years old and at the end of its useful life. Recommend planning for replacement of the unit.

Five classrooms have been provided with Ductless Split System Air Conditioning. The equipment is relatively new and appears to be in good condition but will become obsolete with the installation of central Air Conditioning equipment.

Electrical

Interior Lighting

The Central House existing luminaires are mostly made up of recessed 2'x2' and 2'x4' parabolic fluorescent fixtures with some incandescent track lights in the corridor outside of the Art room. The media center has pendant mounted direct/indirect fluorescent "bowl" fixtures and direct/indirect linear fluorescent fixtures in the center of the room. With recessed 2'x2' parabolic fluorescent fixtures on both sides. The Computer Lab had rows of pendant mounted indirect linear fluorescent fixtures. The lower level mechanical/electrical rooms have pendant mounted industrial fluorescent fixtures with wire guards while the corridor and stairwells leading to these rooms have surface and pendant mounted "wraparound" fluorescent fixtures. The lights in this building are controlled by wall switches at the door(s), except the individual offices which had ceiling mounted occupancy sensors in conjunction with a wall switch. The East House existing luminaires are made up of recessed lensed fluorescent fixtures and surfaced mounted "wraparound" fluorescent fixtures. The lower level Boiler room and Storage/Electrical room have surface and pendant mounted industrial fluorescent fixtures with wire guards. All lighting in this building is controlled by wall mounted switches door(s), no occupancy sensors were observed. The South House existing luminaires are mostly made up of recessed lensed fluorescent fixtures, except in the Kitchen & Cafeteria where they are surface

mounted fluorescent fixtures. The Senior Center wing existing luminaires are recessed lensed and parabolic fluorescent fixtures. The lights are controlled by both ceiling mounted occupancy sensor(s) and wall mounted switch(s). The North House existing luminaires are a mix of surface mounted lensed 2'x4' fluorescent fixtures, recessed 2'x4' parabolic fluorescent fixtures and surface mounted "wraparound" fluorescent fixtures except the Gym. The Gymnasium fixtures are surface mounted linear fluorescent high bay fixtures with wire guards. All lighting in this building is controlled by wall mounted switches door(s), no occupancy sensors were observed.

The light fixtures in the Core Building are the newest and are in good condition along with the parabolic fixtures in the other buildings. Some of the surface mounted "wraparound" fixtures are in good condition, while a large number are at or beyond their useful life. Most of the surface mounted and recessed lensed fluorescent fixtures are also at or beyond their useful life. These fixtures should be replaced with new efficient LED fixtures. Additional energy savings could be had by installing occupancy sensors all classrooms that do not have them to turn lights off automatically when the rooms are not in use. Also, any classroom that has new LED fixtures installed should have a day light sensor installed for additional control of the fixtures along the windows.

Exterior Lighting

The existing luminaires throughout the exterior consist of new building mounted post top LED fixtures, wall mounted full cutoff LED sconce fixtures, surface mounted canopy light fixtures and pole mounted post top and "shoe box" LED fixtures. The pole mounted "shoe box" fixtures are installed only in the parking area of the senior center on new matching square poles. The building mounted and pole mounted post top LED fixtures are mounted to the existing pole and building mounted arms. The fixtures are all in good condition and should not need to be replaced or upgraded. The lights were not on at the time of the walk through since it was late morning early afternoon, so their operation could not be verified. Without a photometric report with all the existing normal & emergency exterior fixtures, we cannot determine if the code required light levels are met. Also, it does not appear that all exterior egress doors have an emergency fixture and/or second normal fixture, so that failure of a fixture will not leave the area without light.

Exit signs & Emergency Lighting

There are existing emergency lights throughout the buildings, we are not sure the design meets the code and should be reviewed with the AHJ. There are old central DC battery systems in multiple buildings with "dead light" incandescent fixtures which we were told are no longer operational. These systems should be removed to avoid confusion on whether these lights or this system is not working. There are self-contained twin head emergency light fixtures in some of the utility areas, these fixtures appear to be in good operating condition. We were not able to test all fixtures at the time of our walk through. The school's electrical distribution is backed up by a diesel generator which is also used to provide emergency lighting throughout. The current code does not allow a single transfer switch to serve both emergency and standby loads from the same switch. The standby loads (ie: HVAC equipment, kitchen refrigeration, misc. power, etc.) should be moved to a second transfer switch. Another concern is the requirement for failure of a single fixture, lamp and/or source will not leave an area in darkness. The current generator distribution is designed where a single point of failure could leave an area, and/or a building without any lighting. Also, it does not appear the generator has the same load capacity as the normal service, providing the potential for the generator to overload on startup and not start and then have no emergency lighting in any of the buildings. This should be reviewed with the AHJ.

There are existing exit signs located throughout the facility, there are signs with thermoplastic housings and LED lamps. These signs appear to be in good condition and most were operating properly in the public spaces. There are also many non-illuminated exit signs, mostly located in classrooms with exterior egress doors. These signs do not meet the current code, and we recommend they be replaced with new illuminated LED signs.

Power

The existing electrical service originates from a pad mounted utility transformer located to the east side of the Central House. From the utility transformer, the secondary feeder runs underground to a 1200 amp, 480Y/277V – 3 phase service rated switch. The service switch intern feeds a generator transfer switch, we could not determine the size of the transfer switch but assume it is 1200 amps. The transfer switch feeds a distribution panel "MDP-1", this panel feeds the four houses (Central, North, East & South/Senior Center) via a 150 KVA transformer located in each house. Also in this room is a 265 KW diesel generator and day tank that feeds the standby side of the transfer switch.

Panel "MDP-1" feeds a 150 KVA transformer, which intern feeds panel "MDP-2". This is the 208Y/120V – 3 phase distribution for the Central house. There are two additional panels in this room along with some mechanical controls.

The other three houses are fed from a 200 amp 3 pole circuit breaker in panel "MDP-1" to heavy duty disconnect switch and 150 KVA transformer. The transformer then feeds the 208V distribution for that house. The distribution equipment throughout the houses is approximately 20 years old and in good condition. There are some local panels that are original to when the houses were first built and are at or near the end of their useful life and should be replaced. These panels are no longer manufactured and are difficult to get spare parts and new breakers for.

The existing power receptacles throughout the school are a mix of surface and recessed mounted duplex receptacles with metal cover plates. The majority of the receptacles appear to be in good operating condition. In all the Kindergarten and Pre-K classrooms, we recommend installing new tamperproof receptacles.

Voice / Data

The existing data outlets are located throughout in the classrooms and the Administration Offices. There is a network cabinet (Multicom-2000) in the main office with the Franklin Time System master clock, CD & DVD player. There are wall mounted phones in all the classrooms, along with a wall mounted clocks and speakers. There are speakers in all the hallways and utility rooms. Some of the classrooms in the East House have older wall mounted speakers that should be upgraded to a newer ceiling mounted speaker. There are desk phones in the Offices of Central House.

Fire Alarm

The existing fire alarm system is an addressable Edwards (EST3) system, with the control panel located in the main office. There are additional power panels and transponders located in the other houses. There are manual pull stations at the egress doors along with audio/visual devices throughout the complex. There appears to be a voice evacuation system, we could not determine if it is throughout the entire school or only in the assembly spaces. The devices throughout appear to be in good operating condition.

There is an existing security lock down system throughout the school, with emergency push button stations at the major entry/exit locations and blue strobe lights located both in the interior and exterior of the building. The classroom egress doors do not have push button stations.

There is an existing "area of rescue" system located in the main office that is serving the center back stair in the North House. There is no code required illuminated sign aimed at the door into the stairwell, we recommend a new illuminated sign be installed.

WESTON SCHOOLS - FACILITIES FEASIBILITY STUDY

HURLBUTT ELEMENTARY SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
			4	3	2	1	n/a			
SITE CONDITIONS										
S1	Front bituminous parking area is approaching the end of its life. Cracks cover the area and the bituminous curbs are starting to fail.	Civil		3				Reclaim and repave.	$ 192,000	
S2	Front concrete sidewalk has cracking	Civil		3				Replace portion of sidewalk	$ 12,000	
S3	Timber guard rail is beginning to heave and fall over	Civil			2			Repair portion	$ 15,000	
S4	Handrails at stair do not have the proper extensions	ADA		3				Weld on the extensions	$ 2,000	
S5	Concrete sidewalk at South house has area of significant cracking				2			Reclaim and replace the effected area	$ 8,000	
S6	Hillside erosion near South house hardscape/basketball area			3				Continue timber retaining wall	$ 8,000	
S7	Proximity of North House playscape to School Rd is problematic - chain-link fence is dated & too low				2			Add a more appropriate physical barrier to the North House playground at school road	$ 15,000	
S8	North House playground play equipment should be replaced				2			Provide new age appropriate playscape equipment	$ 180,000	
S9	North House bituminous pavement is at the end of its lifecycle.				2			Reclaim and repave	$ 54,000	
S10	Teacher parking is not paved & no accessible path to the building				2			Add base, bituminous pavement and ADA concrete walks to building	$ 135,000	
SITE SUBTOTAL										**$ 621,000**

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HURLBUTT ELEMENTARY SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
EXTERIOR CONDITIONS										
A1	Brick is spalling or motor is in need of repointing or mildew is growing over brick	General		3				Patch, repair, or replace brick and repoint and wash as necessary.	$ 72,000	
A2	Doors and/or hardware are in need of replacement. Some exterior classroom doors still have knobs that require twisting.	4.13.9 (ADA) 404.2.6 (ANSI 117.1)		3				Replace door and hardware	$ 14,000	
A3	Door thresholds or concrete pads have a greater than 1/2" transition to grade	ANSI 117 (ADA)		3				Provide ramp or re-grade asphalt/concrete to allow for 1/2" maximum vertical transition.	$ 9,600	
A4	The paint on the fascia of East and South House is peeling and chipping				2			Scrape, prime and paint as required to maintain lifespan	$ 30,000	
A5	Window sill and window caulk is beginning to crack				2			The lifespan of caulk is 5-10 years and these should be caulked to maintain the lifespan	$ 45,000	
A6	North House lower level south facing windows are peeling			3				Scrape, prime and paint	$ 6,000	
A7	Base through wall flashing at North House is deteriorating				2			Remove lower three courses of brick and flashing. Reinstall copper flashing and brick.	$ 32,300	This could be part of the cause of leaks in basement
A8	Foundation parge coating is peeling			3				Wash and provide a parge coat to foundation wall	$ 10,000	
A9	Roofs will be nearing the end of its useful life (based on warranty)		4					The roofs are due for replacement in approximately 2020+/-	$ 1,565,000	Estimate includes asphalt and EPDM to match existing
EXTERIOR SUBTOTAL										**$ 1,783,900**

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HURLBUTT ELEMENTARY SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
INTERIOR CONDITIONS										
A10	All door push and/or pull maneuvering clearances do not meet code.	413.6 (ADA) 1101.2 (IBC) ANSI 117.1		3				Where obstruction is not furniture related, modify door swing and/or location to comply. Where the previous is not easily achieved, supply push button door operator where required.	$ 19,000	
A11	The required clearance, depth, approach & corridor width doesn't meet code			3				Reconfigure space if possible otherwise, supply push button door operator where required.	$ 20,000	
A12	Due to the size, restrooms do not meet current code accessibility requirements.	(B)1108.0 (ANSI A117.1) 603-606			2			Reconfigure the room to enlarge and provide the minimum dimensional requirements.	$ 750,000	
A13	The current code required toilet grab bars are not installed	(B)1108.0 (ANSI A117.1) 603-606			2			Install code required grab bars	$ 3,000	
A14	Existing students restrooms do not meet current code accessibility requirements. No handicap stall exists.	(B)1108.0 (ANSI A117.1) 603-606			2			Provide at least one accessible toilet stall and ambulatory stall, lavatory sink, and urinal in the Boy's and Girl's restroom. Provide required grab bars. Provide new accessible doors and frames and latching hardware as required by doors adjacent to egress corridor.	$ 500,000	This applies to the North House gang toilet rooms.
A15	Existing sinks do not meet accessibility requirements			3				Provide at least one accessible sink	$ 45,000	
A16	Existing drinking fountains do not comply with current code accessibility requirements	(B)1108.6 (ANSI A117.1) 602		3				Remove existing drinking fountains and install new Handicapped drinking fountains.	$ 5,000	
A17	The required knee spaces do not exist at most cabinetry or is located at the wrong height			3				Since the cabinetry is not accessible and is very dated or not included in some rooms it may be time to replace them all together	$ 253,500	

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HURLBUTT ELEMENTARY SCHOOL - FACILITY CONDITIONS ANALYSIS										
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
A18	Some door hardware is not accessible and does not meet current code. Knob handles require grasping and twisting.	4.13.9 (ADA) 404.2.6 (ANSI 117.1)			2			Remove door locksets and install new accessible lever handle locksets where designated.	$ 12,500	Mostly noted at South House restrooms and classroom access to vestibules.
A19	There is no second means of egress				2			Install a second door, preferably to the exterior	$ 6,000	
A20	There is no accessibility to stage				2			Provide a lift or ramp	$ 20,000	
A21	9X9 tile			3				Remove and replace	$ 3,600	These tiles/glue may contain asbestos
A22	Spline ceiling			3				Remove and replace	$ 17,600	
A23	Paint can use some touch up at door frames and some walls most notably at East and South			3				Paint as needed - specifically at door frames	$ 30,000	
A24	Cracking door caulk at North House			3				Caulk at door surrounds to concrete block	$ 6,000	allowance
A25	The corridor exceeds the minimum dead-end distance allowable in a nonsprinklered building				2			Install corridor doors with swing in direction of egress at the max length of 20'-0" from the exit. A more costly option would be to reconfigure and drive a corridor through classroom.	$ 16,000	
A26	Gym Floor bubbles				2			Remove floor, investigate slab and replace floor with rubber sports floor & use waterproof adhesive	$ 43,200	
A27	Leak in North House basement -standing water in elevator machine room floor and along shared wall with stair					1		Investigate further	$ 20,000	allowance
A28	Elevator		4					Continue to evaluate and inspect the elevator	$ 3,000	
A29	Gym accessibility		4					Lift is acceptable but not the best option, may want to retrofit the space and install a ramp	$ 32,000	
A30	Air Conditioning is desired			3				Remove and replace ceilings as dictated by the mechanical design- coordinate lighting and devices at additional costs	$ 706,500	Excludes Center House
INTERIOR SUBTOTAL										$ 2,511,900

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HURLBUTT ELEMENTARY SCHOOL - FACILITY CONDITIONS ANALYSIS										
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
PLUMBING/FIRE PROTECTION										
P1	Periodically inspect, test and replace plumbing valves, pressure regulators, backflow preventers, thermostatic mixing valves, pumps, etc.	General		3				Replace faulty equipment as required.	$ 10,000	Cost over next 10 years.
P2	Barrier Free lavatories and sinks do not have insulated supplies and drains.	ADA			2			Insulate supplies and drains with ADA insulation kit.	$ 10,000	
P3	A Janitors Sink was observed with hoses connected to faucet without a visible means to prevent backflow.	IPC Section 608			2			Install vacuum breaker.	$ 500	Cost for each sink
P4	Water heater for Central House has reached the end of its useful life.	General			2			Replace water heater	$ 30,000	
P5	Some of the hot water piping is missing insulation	General		3				Install insulation on piping missing insulation	$ 10,000	
P6	Some water heaters are no longer in use	General		3				Remove water heaters not being used and associated piping and accessories	$ 2,500	
P7	Storage tank for water heater in Senior Center/South House is damaged	General			2			Replace storage tank	$ 5,000	
P8	Vacuum breaker for water closet appears to be too short	General			2			Repair/replace flush valve	$ 2,500	
P9	Check valve for sump pump in basement of East House is not properly installed	General			2			Repair/replace check valve	$ 500	
FP1	Building is not currently fully protected with a sprinkler system	NFPA 25	4					Provide sprinkler system for entire building	$ 430,000	Based on $5/sf at approximately 86,000 sf
FP2	Limited sprinkler area is currently fed off of domestic water system	General	4					Provide new fire pump and approx. 30,000 gallon storage tank to provide water for fully sprinklered building that is separated form domestic water	$ 125,000	
PLUMBING/FP SUBTOTAL										$ 626,000

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HURLBUTT ELEMENTARY SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
MECHANICAL SYSTEMS										
M1	Central Area Conf Room poor temperature control	General		3				Install dedicated Fan Coil Unit	$ 10,000	Tier 1
M2	Central Area Boiler Room has 10+ years of useful life remaining		4					Replace Boilers at end of Useful Life	$ 90,000	Present day cost - Tier 1
M3	Central Area Chiller is approaching end of useful life. Refrigerant is being phased out.			3				Replace Chiller and Chilled Water Pumps	$ 110,000	Tier 1
M4	Chiller Room does not appear to have emergency ventilation					1		Install emergency ventilation system	$ 20,000	Tier 1
M5	Central Area Ductwork and Air Handling Units require cleaning.				2			Perform interior cleaning	$ 20,000	Tier 1
M6	East Wing Combustion Air is not per code.				2			Add upper louver	$ 3,000	Tier 1
M7	East Wing Classrooms are not well ventilated,				2			Install Central Air Handling Equipment	$ 410,000	Tier 1
M8	East Wing Air Conditioning		4					Install Air Conditioning Equipment	$ 150,000	Cost added to Central Air Handling Equipment. Tier 2
M9	East Wing corridors lack ventilation				2			Install corridor ventilation system	$ 45,000	Tier 1
M10	East Wing Finned Tube Radiation is likely at the end of its useful life				2			Inspect and replace FTR as required	$ 110,000	Cost for full replacement Tier 1
M11	East Wing Steam and Condensate Return piping is likely at the end of its useful life				2			Inspect and replace piping as required	$ 76,000	Cost for full replacement Tier 1
M12	East Wing Kitchen Exhaust Fans is oversized for current use and at the end of its useful life			3				Replace Fan	$ 4,000	Tier 1
M13	East Wing Boiler Room has 10+ years of useful life remaining		4					Replace Boilers at end of Useful Life	$ 240,000	Present day cost - Tier 1
M14	North Wing Gym AHUs in poor condition				2			Replace AHUs	$ 48,000	Tier 1

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HURLBUTT ELEMENTARY SCHOOL - FACILITY CONDITIONS ANALYSIS										
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
M15	North Wing Unit Ventilators appear to be near the end of their useful lives				2			Replace Unit Ventilators or add Central Air	$ 400,000	Tier 1
M16	North Wing Air Conditioning		4					Install Air Conditioning Equipment	$ 210,000	Cost added to Central Air Handling Equipment. Tier 2
M17	North Wing 5 Ton Packaged Rooftop Unit is at the end of its useful life				2			Replace Rooftop Unit	$ 15,000	Tier 1
M18	North Wing lacks corridor ventilation				2			Install corridor ventilation system	$ 50,000	Tier 1
M19	North Wing Finned Tube Radiation and Unit Heaters are likely at the end of its useful life				2			Inspect and replace equipment as required	$ 40,000	Cost for full replacement Tier 1
M20	North Wing Hot Water Piping is Likely at the end of its useful life				2			Inspect and replace piping as required	$ 70,000	Cost for full replacement Tier 1
M21	North Wing Boiler Room has 10+ years of useful life remaining		4					Replace Boilers at end of Useful Life	$ 70,000	Present day cost - Tier 1
M22	South Wing Classrooms are not well ventilated,				2			Install Central Air Handling Equipment	$ 225,000	Tier 1
M23	South Wing Air Conditioning		4					Install Air Conditioning Equipment	$ 90,000	Cost added to Central Air Handling Equipment Tier 2
M24	There is no corridor ventilation for the South Wing				2			Install corridor ventilation system	$ 40,000	Tier 1
M25	South Wing Toilets lack exhaust				2			Install Toilet Exhaust System	$ 10,000	Tier 1
M26	South Wing Finned Tube Radiation and Unit Heaters are likely at the end of its useful life				2			Inspect and replace equipment as required	$ 80,000	Cost for full replacement Tier 1
M27	South Wing South Wing Steam Piping is Likely at the end of its useful life				2			Inspect and replace piping as required	$ 30,000	Cost for full replacement Tier 1
M28	South Wing Kitchen Exhaust Fans is oversized for current use and at the end of its useful life			3				Replace Fan	$ 4,000	Tier 1
M29	Senior Center Boiler Feed Unit appears to be in poor condition				2			Replace unit	$ 5,000	Tier 1

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HURLBUTT ELEMENTARY SCHOOL - FACILITY CONDITIONS ANALYSIS											
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
M30	Senior Center rooms are not well ventilated				2			Install Central Air Handling Equipment	$ 250,000	Tier 1
M31	Add Senior Center Air Conditioning		4					Install Air Conditioning Equipment	$ 90,000	Cost added to Central Air Handling Equipment. Tier 2
M32	There is no corridor ventilation for the Senior Center				2			Install corridor ventilation system	$ 15,000	Tier 1
M33	Senior Center Finned Tube Radiation is likely at the end of its useful life				2			Inspect and replace FTR as required	$ 75,000	Cost for full replacement Tier 1
M34	Senior Steam and Condensate Return piping is likely at the end of its useful life				2			Inspect and replace piping as required	$ 35,000	Cost for full replacement Tier 1
M35	Senior Center/South Wing Boiler Room has 10+ years of useful life remaining		4					Replace Boilers at end of Useful Life	$ 240,000	Present day cost - Tier 1
M36	Chimney Height for the Central Area and North Wing do not appear adequate to prevent introduction of flue gasses			3				Inspect chimney interiors reline and extend as required.	$ 30,000	Tier 1
M37	Existing Pneumatic Automatic Temperature Controls are obsolete				2			Replace pneumatic Automatic Temperature Controls with DDC and update existing Building Management System	$ 350,000	Include in Tier 3
M38	Tier 1 HVAC upgrades				2			One for one replacement of Equipment at end of useful life.		Total Tier 1 Cost: $2,870,000
M39	Tier 2 HVAC upgrades		4					Add Air Conditioning Equipment to spaces not curently conditioned.		Total Tier 2 Cost: $540,000
M40	Tier 3 HVAC upgrades		4					Includes consolidation of the Heating Plants and new High Performance HVAC Systems		Total Tier 3 Cost: **$8,040,000**
MECHANICAL SUBTOTAL								Tier 1 + Tier 2 Cost		**$ 3,410,000**

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HURLBUTT ELEMENTARY SCHOOL - FACILITY CONDITIONS ANALYSIS										
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
ELECTRICAL SYSTEMS										
E1	Classrooms with exterior egress doors do not have illuminated exit signs or emergency lights to meet the current code				2			Install new illuminated exit signs with emergency battery at both doors within the room, one of the exit signs shall be provided with two integral emergency lights w/battery power to operate both lights and exit sign for 90 minutes	$ 12,500	allowance
E2	Handicap accessible individual toilet rooms require call for aid system to meet the current code				2			Install new "call for aid" system in each newly configured individual accessible toilet room	$ 7,500	allowance
E3	Currently the emergency lighting is provided by the generator feeding the entire electrical distribution, this does not appear to meet the current code and should be reviewed further with the AHJ					1		Install code approved emergency lighting system throughout the school, there are a few options to achieve this (install a second ATS dedicated to the emergency system and associated equipment, stand alone twin head battery units throughout or battery ballasts in existing fixtures)	$110,000	The $63K is for a twin head battery system and the $110K is to modify the generator distribution, the third option would fall somewhere in between
E4	Existing fluorescent and incandescent fixtures throughout the school, appear to be fully operational but not that efficient		4					Replace all existing fluorescent and incandescent fixtures with new energy efficient LED fixtures.	$ 650,000	allowance
E5	Existing North House stairwell is missing an illuminated "area of rescue" sign to meet the current code				2			Install new illuminated "area of rescue" sign outside of 2nd floor door leading into North House back stairwell	$ 500	allowance
E6	Tier 1 HVAC upgrades		4					One for one replacement of existing equipment that is not working properly		allowance of $15,000
E7	Tier 2 HVAC upgrades		4					Install air conditioning throughout the school, requiring electric service upgrade. Replace existing 1200 amp 480V service with new 2000 amp 480V service	$500,000	allowance
E8	Tier 3 HVAC upgrades		4					Same as tier 2, but with mechanical central plant modifications.		allowance of $600,000
ELECTRICAL SUBTOTAL										**$ 1,280,500**

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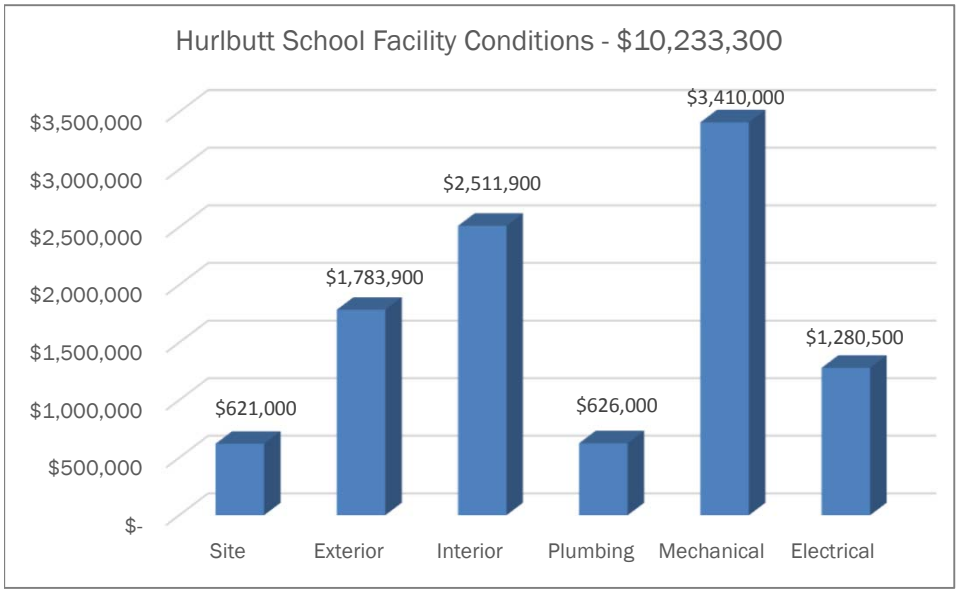
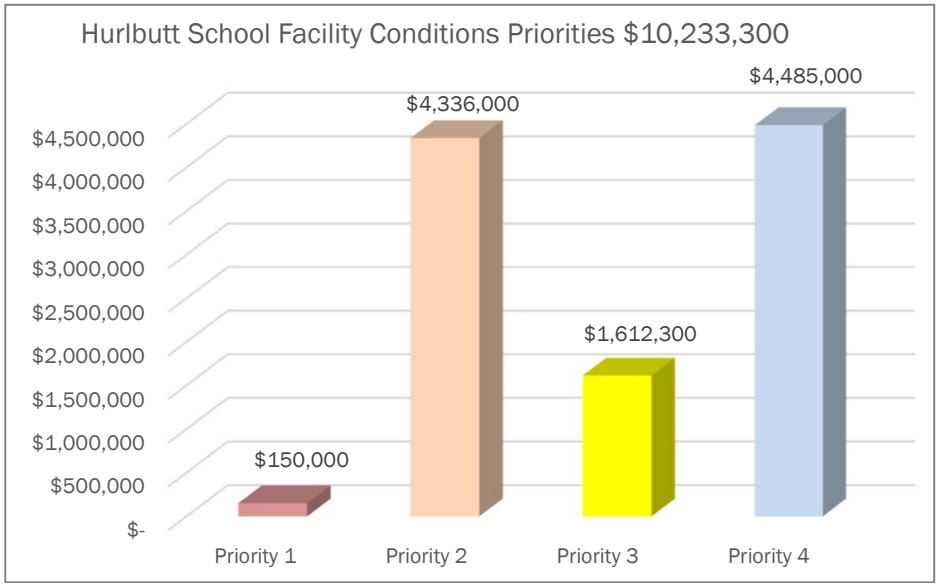
HURLBUTT ELEMENTARY SCHOOL - FACILITY CONDITIONS ANALYSIS									
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
TOTAL ESTIMATED COSTS										$ 10,233,300

LEDGEND PRIORITY - RANK

1	Urgent priority - These items should be corrected as soon as possible and most likely encompass code, health and life safety issues.
2	High priority - These items should be corrected within a reasonable amount of time after the highest priorities referenced above. These may be associated with high priority maintenance issues or accessibility issues for the physically challenged. Maintenance items have a remaining useful life from 1-3 years.
3	Moderate priority – These items may be associated with aesthetic or general maintenance issues. Remaining useful life of 3-5 years.
4	Low priority – These items include maintenance and aesthetic issues that are not in current need of replacement, but should continue to be monitored on a regular basis. These items typically have a remaining useful life of 5-10 years or greater.





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LEGEND

SITE	S01
ARCHITECTURE	A01
FIRE PROTECTION	F01
PLUMBING	P01
MECHANICAL	M01
ELECTRICAL	E01

REFER TO THE ATTACHED MATRIX FOR ITEMIZED INFORMATION REGARDING THE ASSESSMENT CORRECTION PRIORITY AND COST.

NORTH

SITE PLAN

SCALE: NTS

1
HES1

Weston Schools
Facilities Feasibility Study

HURLBUTT ELEMENTARY SCHOOL

SITE CONDITIONS ANALYSIS

SILVER/PETRUCELLI + ASSOCIATES
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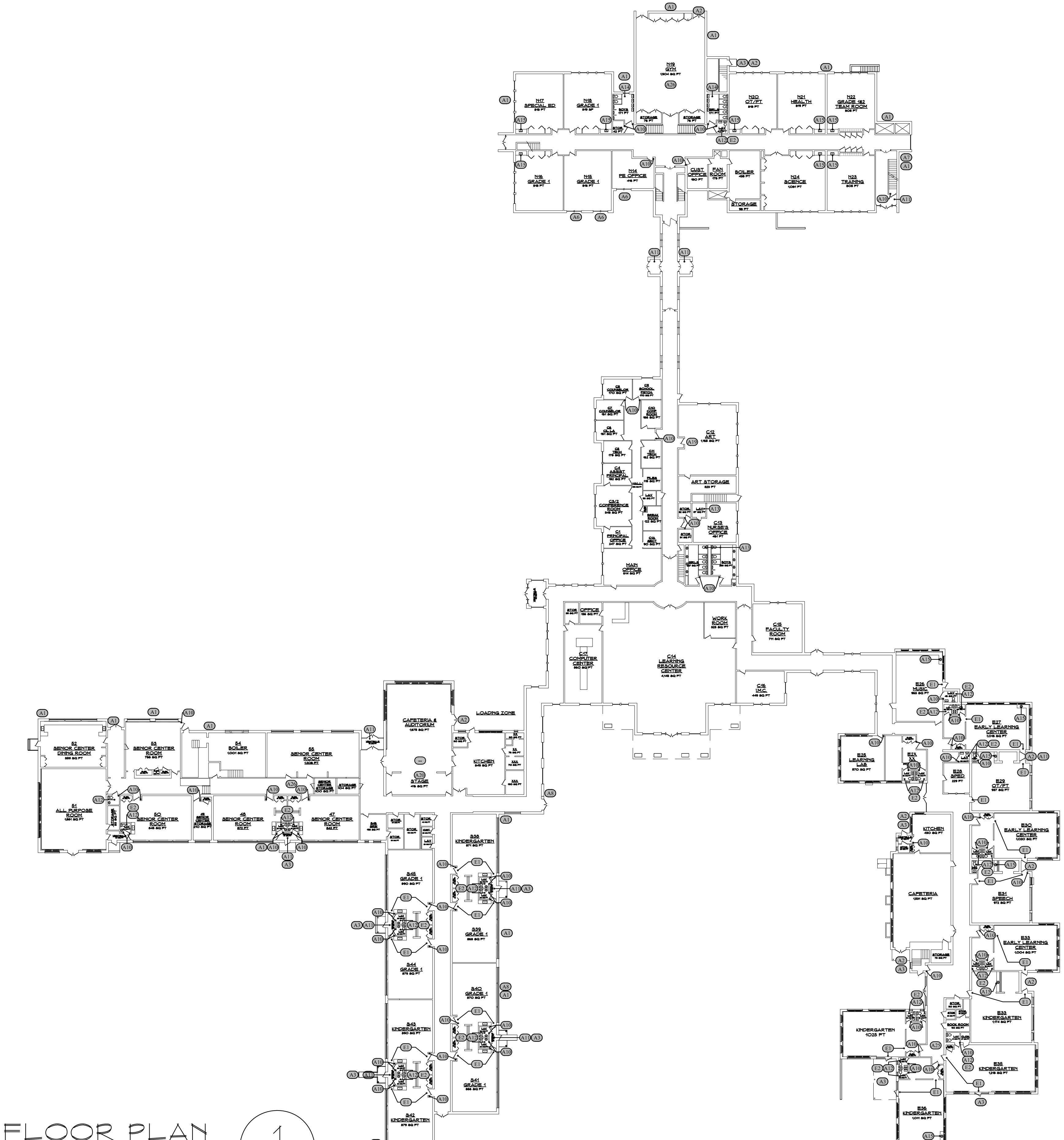

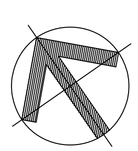
NORTH

OVERALL MAIN FLOOR PLAN

SCALE: NTS

1
HES2

LEGEND

SITE	S01
ARCHITECTURE	A01
FIRE PROTECTION	F01
PLUMBING	P01
MECHANICAL	M01
ELECTRICAL	E01

REFER TO THE ATTACHED MATRIX FOR ITEMIZED INFORMATION REGARDING THE ASSESSMENT CORRECTION, PRIORITY AND COST.

Weston Schools
Facilities Feasibility Study

HURLBUTT ELEMENTARY SCHOOL

FACILITY CONDITIONS ANALYSIS

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LEGEND

SITE	S01
ARCHITECTURE	A01
FIRE PROTECTION	F01
PLUMBING	P01
MECHANICAL	M01
ELECTRICAL	E01

REFER TO THE ATTACHED MATRIX FOR ITEMIZED INFORMATION REGARDING THE ASSESSMENT CORRECTION PRIORITY AND COST.

Weston Schools
Facilities Feasibility Study

HURLBUTT ELEMENTARY SCHOOL
FACILITY CONDITIONS ANALYSIS -CENTER

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NORTH

HURLBUTT NORTH HOUSE
SECOND FLOOR PLAN

1
HES4

SCALE: 1/32"=1'-0"

NORTH

HURLBUTT NORTH HOUSE
MAIN FLOOR PLAN

2
HES4

SCALE: 1/32"=1'-0"

NORTH

HURLBUTT NORTH HOUSE
BASEMENT FLOOR PLAN

SCALE: 1/32"=1'-0"

3
HES4

LEGEND

SITE	S01
ARCHITECTURE	A01
FIRE PROTECTION	F01
PLUMBING	P01
MECHANICAL	M01
ELECTRICAL	E01

REFER TO THE ATTACHED MATRIX FOR ITEMIZED INFORMATION REGARDING THE ASSESSMENT CORRECTION PRIORITY AND COST.

Weston Schools
Facilities Feasibility Study

HURLBUTT ELEMENTARY SCHOOL

FACILITY CONDITIONS ANALYSIS - NORTH

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NORTH

HURLBUTT EAST HOUSE
MAIN FLOOR PLAN

SCALE: 1/32"=1'-0"

1 / HES5

NORTH

HURLBUTT EAST HOUSE
BASEMENT FLOOR PLAN

SCALE: 1/32"=1'-0"

2 / HES5

LEGEND

SITE	S01
ARCHITECTURE	A01
FIRE PROTECTION	F01
PLUMBING	P01
MECHANICAL	M01
ELECTRICAL	E01

REFER TO THE ATTACHED MATRIX FOR ITEMIZED INFORMATION REGARDING THE ASSESSMENT CORRECTION PRIORITY AND COST.

Weston Schools
Facilities Feasibility Study

HURLBUTT ELEMENTARY SCHOOL
FACILITY CONDITIONS ANALYSIS - EAST

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NORTH

HURLBUTT SOUTH HOUSE
MAIN FLOOR PLAN

SCALE: 1/32"=1'-0"

1
HES6

LEGEND

SITE	S01
ARCHITECTURE	A01
FIRE PROTECTION	F01
PLUMBING	P01
MECHANICAL	M01
ELECTRICAL	E01

REFER TO THE ATTACHED MATRIX FOR ITEMIZED INFORMATION REGARDING THE ASSESSMENT CORRECTION PRIORITY AND COST.

Weston Schools
Facilities Feasibility Study

HURLBUTT ELEMENTARY SCHOOL

FACILITY CONDITIONS ANALYSIS - SOUTH

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DRAFT 11.03.17

Weston Intermediate School

Figure 1: Main entrance

Weston Intermediate School was originally constructed in 2005, making it the newest building on Weston school campus. The fourth and fifth graders were located in the middle school for years while 3rd grade was at Hurlbutt. Portables were brought to the Middle School to help create space for the overcrowded school until this new building was built. This two story building is approximately 110,450 net square feet. Weston Intermediate School is home to 3rd through 5th grade serving 521 currently enrolled students and 78 staff members.

Site

Weston Intermediate School is located at 95 School Road on the 117-acre school campus site. It is located to the right after Central Office and the Annex building. The school parcel is tucked in between the football fields and the edge of the property.

Figure 2: Weston Intermediate School Site from google maps

The school main entrance is located at the west and served by two parking lots with separate dedicated vehicle drop off and bus drop off. A service area and small parking lot are located at the rear of the building. The playground and hardscape are located at the back behind the gym and cafetorium. A small grass play area is also located in the back. The courtyard consists of concrete walkways with some planting areas and seat walls. It appears to be well maintained with some areas of concrete in need of cleaning. No dedicated fields exist at this school but has close proximity to the nearby high school fields. The rear of the school has a service area and small parking lot, a playground, hardscape and grass play area. The grass area is rather small but suitable. The PTA recently installed a sprinkler system to help maintain the area. Overall the site is in great condition.

Architecture

Overall, Weston Intermediate School is in great condition. The building has been very well maintained throughout its lifetime. The school floor plan is laid out in a simple courtyard configuration. It consists of classrooms off of double loaded corridors with a courtyard centrally located. When entering the building at the front, a large double height main corridor welcomes visitors. Administration spaces located to the south adjacent to the entry have a visual surveillance over the main parking lot and arrival. To the north off of the main corridor the public functions are group together. The Gym and

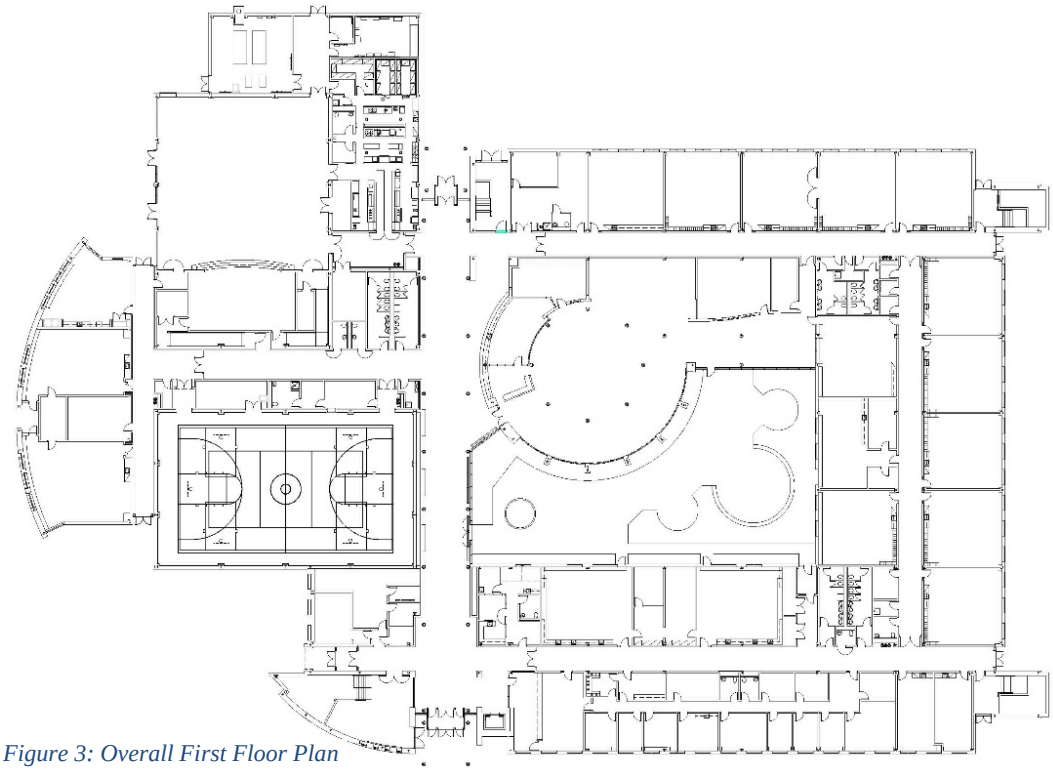


Figure 3: Overall First Floor Plan

Cafetorium are located across the hall from one another. The kitchen and boiler room are located at the rear. A cluster of music classrooms and a faculty room are located at the end of the corridor. On the opposite side of the main corridor the courtyard and Media Center sit. The round Media Center projects into the courtyard. The remainder of the floor plan consists of general classrooms, special education classrooms and computer labs. The Art room and nurse suite is located across the courtyard from the Media Center. Four stairways and an elevator allow for vertical circulation between the two floors. The second floor consists of additional classrooms, mostly for fourth and fifth grade. There are also additional special education classrooms, Spanish rooms and a Science room. This building is impeccably laid out and appears to be well organized and functional for the school community.

Interior

Figure 4: Cafetorium CMU wall

Figure 5: VCT cracking near stair

The interior of the building is well maintained based on the existing conditions and existing systems. A visual inspection of the walls, floor and ceiling were reviewed during the building walkthrough. The interior walls consist of concrete masonry units (CMU) or block and sheetrock. Everything are in good condition. Block walls define the major spaces such as Cafetorium and Gymnasium along with the corridors. Some of the block walls, mainly lower portions, at the corridors and in the Cafetorium are in need of cleaning. It could be beneficial to add a baseboard to the block walls in the corridor. The sheetrock walls in the administration suite have a wall paper covering. In some areas it is peeling. Additionally, a few areas throughout the entire facility could use some touch up paint, but most appear to be in reasonable condition. Ceramic tile at the toilet rooms are in good condition. The majority of the ceilings are 2x2 acoustical ceiling tiles. They generally appear to be in good condition although some tiles have significant stains. The majority of the flooring throughout the facility consist of 12x12 VCT tiles. Most appear to be in good condition with some areas of cracking. The sheet flooring in the Cafetorium appears to have had issues as some areas have been patched and replaced. Large seams or gaps were noted. It should be sealed so that water does not get underneath and cause any further damage. The rubber baseboards are in good condition. Overall the interior walls, floor and ceiling are in good condition.

Figure 6: Window caulk cracking

The facility consists of a similar doors, frames and hardware. Most doors are wood doors, some with a glazing opening within the leaf. Hardware are hand levers and panic devices that meet today's code requirements. Frames are painted. Overall the interior doors are in good condition. It is recommended to continue painting frames as required. The interior of the windows are in good condition although caulk is beginning to crack in some locations. Typically caulk should be replaced every 10-15 years.

Casework throughout the school is in good condition. Most of the casework is plastic laminate. Most of the sinks within the casework are accessible. However, many are blocked with storage.

There were not many ADA accessibility issues noted at this facility due to its newer age. One item worth noting is that the handicap toilets does not have the required vertical grab bars installed. More importantly an egress code item was noted, the capacity of the gymnasium is not compliant with the egress capacity. With only 2 double doors, the allowable occupant load would not be able to egress as dictated by the International Building Code or the Connecticut Supplement. Another double door should be added at the exterior.

The interior building analysis is visual surveillance of the physical materials and architectural components of the school along with various code and ADA requirements. Overall the interior is in great condition.

Exterior

Figure 7: Precast sill

The exterior consists of brick and metal panels. The brick walls of the school are generally in good condition, with areas of settling and spalling. The original building is constructed with brick "veneer" with an airspace, insulation and either concrete masonry back up or metal stud with sheetrock back up. Overall, the mortar is in great condition. Limited areas will need more attention in the years to come such as the parapet. It is slowly beginning to wear. Mildew is forming on the precast sills, most notably on the lower level. These should be washed and sealed to maintain their lifespan. Also small amounts of mildew are building up in various areas on portions of the low wall. It was also noted the parapet wall at the gym is bowing and the metal cap is loose. *This will have further evaluation to determine the cause and remedy*. The base of the building in areas where it meets the concrete sidewalk have areas of caulk deteriorating. These areas should be caulked. It was also noted that control joints are showing early signs of cracking. Overall the masonry appears to be in good condition.

Figure 8: Deteriorating caulk at building base and sidewalk

When evaluating the energy efficiency of a building, it is known that nearly 25–40% of all heat energy is lost through windows. The windows are only 12 years old and in good condition. Continue to watch the window caulk as the life span is typically 5 -10 years. A minor amount of cracking was observed. It was also noted that some of the exterior doors, most notably the ones off the Cafetorium are extremely heavy. These doors should be checked and adjusted. The ballast roof is in great shape. The EPDM roof also in good shape. Overall the exterior is in good condition.

Plumbing

Overall, the plumbing systems for the school are in good condition.

The Domestic cold water is provided by water supply wells that supply water to multiple buildings on the property. The location of the water service for the building was not observed.

Domestic hot water is produced by a dual fuel-fired water heater having an input rating of 600,000 BTUH and a storage volume of 250 gallons. The system is approximately 10 years old. The system should have an average life expectancy of approximately 20-25 years and remaining life expectancy it about 10-15 years. To maximize service life, the Water Heater should be regularly serviced per the manufacturer's maintenance recommendations including, but not limited to, draining and flushing, testing relief valve, and inspecting/replacing anode. Refer to manufacturer's O&M literature. There is no recirculation pump for the hot water system. At the time of the visit there was an issue with the aquastat and it was disassembled and being repaired. This was causing an issue with controlling the water temperature and the outlet temperature from the master mixing valve was showing 140°F. This needs to be resolved due to the fact that people can get scalded with water temperatures that high to the fixtures.

Water temperature was designed to be maintained by the use of heat trace cable on the hot water piping. At the time of the site visit, the controllers for the heat trace system were off and we were told that they had been off for years. No one was able to tell us the reason they were off. They just knew that they had always been off since they worked there and that there are issues with having to wait an extended period of time to get hot water at the further area of the building. At an additional visit to the building with a manufacturer's representative for the company that manufacturers the heat trace system, the units were powered up and the controllers were reprogrammed.

Plumbing fixtures for the building appear to be good condition. The urinals were originally installed with sensor flush valves. The valves are being replaced with manual flush valves to allow for operation when the power is out. The water closets are wall mounted and were originally installed with sensor flush valves. The valves are being replaced with manual flush valves to allow for operation when the power is out. The lavatories are a combination of wall hung single and multiple station wash basins originally installed with sensor faucets. The valves are being replaced with manual metered faucets to allow for operation when the power is out. Classroom sinks are stainless steel with single lever faucets or wrist blade handles depending on the location. The sinks in the art classrooms have solids interceptors on their drainage piping. The interceptors should be checked periodically and cleared of any solids that have been collected in them. Electric water coolers are provided throughout the building.

While the overall condition of the fixtures is good, some of the issues noted during the visit are noted below. Some of the chrome trim on the flush valves is severely corroded and should be replaced. The reason for the corrosion is unknown and difficult to determine since it only seems to be effecting certain trim pieces and only on certain valves (See photo below left). A janitor's sink was observed with

hoses connected to the faucet from a chemical feed system without a vacuum breaker to prevent back siphoning in the event of a drop in building water pressure (See photo below right). The condition could result in contamination the domestic water system creating a safety hazard. Recommend installing a vacuum breaker as soon as possible.

All of the fixtures in the kitchen are connected to a grease interceptor. No sanitary or storm piping issues were observed during the visit. If there are any areas with known issues, it is recommended that the pipes in that area get scoped with a camera to see if the root of the issue can be determined.

Fire Protection

The facility is fully sprinklered. The sprinkler piping and components appear to be in good condition. There are isolation valves and flow switches on the supply. This feeds 4 alarm valve risers that provide multi-zoned sprinkler coverage for the building. This main is fed from a pump house on the campus that serves multiple buildings. It is not known if the stage platform is wood-framed, as there was no visible way to access the area below the stage. Due to this, it is unknown if sprinkler protection has been provided under the stage or if it is required due to the type of construction materials used. The stage has not been provided with standpipes and the stage is less than 1000 square feet so no fire protection standpipes are required. Overall, the sprinkler system for the school appears to be in good condition.

Mechanical

The HVAC systems, installed during original 2004 construction, are in generally good condition. At approximately 13 years old, most of the HVAC Equipment is at midlife with 10 to 15 years of useful life remaining. The Boilers and pumps likely have a remaining useful life of 20 years or more.

Heat for the school is provided by two Smith Model 28A Hot Water Boilers, each with a heating capacity of approximately 3200 MBH. The Boilers are equipped with Power-Flame Dual Fuel Burners which were firing on natural gas at the time of our visit. The Boilers appear to be in good condition and well maintained. The Boiler Room is neat and well organized. The equipment, piping and insulation all appear to be in good condition with no visible signs of leakage.

Since Boiler life can be affected by poor water quality and inconsistent maintenance, it is recommended that the boiler water be periodically tested. Regular preventive maintenance should be performed to maximize the service life of Boilers and related equipment.

Combustion air is provided by a fan located in the Boiler Room which appears to be adequate and in good condition.

Draft Inducer is located at the top of the Chimney. Chimney height does not appear adequate to prevent flue gases from being introduced to the building through the rooftop air intakes under certain wind conditions. If odors of burning fuel are present within the building, the chimney height may be increased to address the situation. The Chimney and Draft Inducer should be cleaned and inspected as part of normal preventative maintenance.

The School is fully Air Conditioned. Chilled Water is produced by two roof mounted Air Cooled Chillers with a combined cooling capacity of 325 Tons. The Chillers appear to be in good condition. Each Chiller is served by dedicated Chilled Water Pumps, located in Penthouse Pump Rooms which distribute Chilled Water to the Rooftop Air Handling Equipment.

Chillers should be serviced annually by an HVAC Service Company in accordance with the manufacturers' Operation & Maintenance requirements.

The Pumps appear to be in good condition, operating quietly, with no evidence of leakage. Pump life can be maximized by continued service, including periodic inspection, with repacking, lubrication, and replacement of bearings and motors as required.

The School is served by seven Rooftop Air Handling Units. The units appear to be in good condition however, there is some visible rust occurring, especially on the roof curbs. The Air Handling Units should receive continued preventative maintenance including regular lubrication, filter and fan belt replacement, and motor and bearing replacement as required. Condensate pans and drains should be cleaned and valves and dampers, including actuators, should be periodically checked for proper operation. Touch-up painting should be done as required.

A gas fired Dri-Steem Humidifier is located on the roof and supplies steam for humidification to the adjacent rooftop Air Handling Unit. The unit is in good condition with 10 or more years of useful life remaining.

Toilet and general exhaust is provided by Rooftop Exhaust Fans. The fans appear to be running and in good condition. The fans should be regularly inspected for proper motor and damper operation. Belts, actuators and motors should be replaced as needed.

The Kitchen is furnished with a Grease Hood and roof mounted Grease Exhaust Fan. The hood is equipped with a chemical extinguishing system. The grease hood baffles, ductwork and fan should continue to be cleaned regularly.

The Grease Exhaust Fan appears to be in serviceable condition but the grease trough has come loose from the fan. Recommend reattaching the grease trough to the fan to prevent the cooking grease from damaging the roof.

The Underground Fuel Storage Tank (UST) was installed in 2004 and is scheduled for removal in 2034.
The Tank Inventory and Leak Detection System should be periodically checked for proper operation.

Facility piping and ductwork will have a useful remaining life exceeding 20 years. Future consideration may be given to inspection and cleaning of the ductwork interior to ensure good indoor air quality. Flushing and cleaning of piping, coils and strainers will help maintain good fluid flow and heat transfer.

Automatic Temperature Controls for the facility are electric/electronic controls which are part of a Direct Digital Control (DDC) Building Automation System by Alerton.

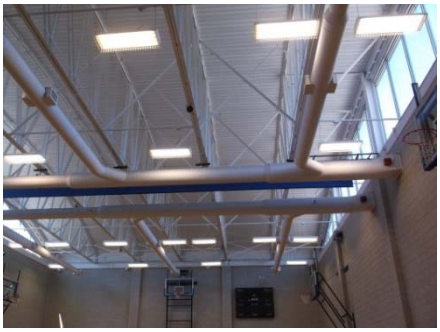
If the facility was not commissioned, or has not been recommissioned since the original construction, there is likely to be a significant improvement in operating efficiency by recommissioning/retro-commissioning of the HVAC systems. Since the school requires large volumes of outside air and air economizer (100% outside air for free cooling), verifying proper function of Automatic Temperature Controls and especially Outside Air Dampers and Economizer Controls, could yield energy savings resulting in a good return on investment.

Energy-Star reports a median energy savings of 15% annually when recommissioning/retro-commissioning is performed.

Electrical

Interior Lighting

The existing luminaires are mostly made up of recessed 2'x4' parabolic fluorescent fixtures in the Offices and small Corridors/Passageways. The Classrooms have rows of pendant mounted indirect fluorescent fixtures. The main Corridors have fluorescent strip lights above multiple ceiling clouds except at the front entrance main corridor. There the fixtures are indirect metal halide sconces along one side of the corridor. The Cafeteria has pendant mounted round decorative fluorescent fixtures with pendant mounted indirect linear fluorescent wall wash fixtures and compact fluorescent/HID pendant mounted wall wash fixtures. The Stage has pendant mounted fluorescent wraparound fixtures for general lighting with rows of incandescent border lights and incandescent spot lights for the theatrical lighting. Also, there are two ramped corridors leading to the stage with recessed fluorescent step lights mounted approximately 18"-24" above the floor. These do not appear to provide the minimum required light levels and should have additional lights added to these areas or the existing fixtures replaced with higher output LED fixtures. The Kitchen and Serving area has recessed 2'x4' & 2'x2' lensed fluorescent fixtures. The Gymnasium has pendant mounted 2'x4' industrial high bay fixtures with lenses and wire guards. The Media Center/Library has metal halide indirect sconces in the center where the ceiling is raised. The rest of the room is illuminated with LED down light fixtures. The Media Class and Work room/TV studio off the Media Center also have down light fixtures LED & fluorescent. The Courtyard outside of the Media Center has three bollard fixtures and some in ground accent lights. The Computer Lab off the south end of the Media Center has rows of pendant fluorescent indirect light fixtures. The utility spaces are typically illuminated by pendant mounted fluorescent wraparound fixtures. The main stair at the front entrance has a recessed "red" accent up-light in the floor of the intermediate landing on a timer. This fixture along with a second similar fixture outside in the ground near the front entrance provides a colored accent of the building at night. All fixtures appear to be in good working condition.



Exterior Lighting

The existing luminaires throughout the exterior consist of recessed down light fixtures in the canopies. Building mounted white adjustable fluorescent fixtures with black louvers and a white shroud. The shroud is meant to provide the fixture with a full cutoff design to meet the code. The problem is the fixture can be adjusted where the fixture is no longer full cutoff. We propose these fixtures be replaced with new LED full cutoff fixtures; this will save energy and meet the code. The parking lot lighting is provided by pole mounted (approximately 20' high) LED low profile full cutoff fixtures. The pole mounted fixtures are all in good condition and should not need to be replaced or upgraded. The lights were not on at the time of the walk through since it was late morning early afternoon, so their operation could not be verified. Without a photometric report with all the existing normal & emergency exterior fixtures, we cannot determine if the code required light levels are met. Also, we were not able to determine what fixtures are on the generator and which are not, to be able to determine if there are possible areas to could be without light upon loss of a single fixture or lamp. That would be a code violation and should be fixed immediately.

Exit signs & Emergency Lighting

The existing emergency lighting is provided by general building light fixtures wired to the generator distribution system and a few battery powered (normally off) fixtures. The current code does not allow a single transfer switch to serve both emergency and standby loads from the same switch. The standby loads (ie: HVAC equipment, kitchen refrigeration, misc. power, etc.) should be moved to a second transfer switch. We were not able to determine the extent of lighting on the generator to determine if proper light levels are provided during an emergency condition to meet the current code. This should be reviewed further, to determine if any area requires more emergency fixtures, in addition to providing a "pure" emergency system. There are three remote mounted "dead light" single head emergency fixtures in the Courtyard at the two egress doors and one near the Media Center (south-east corner). These fixtures are each fed from a battery inverter above the ceiling in the room adjacent to the fixture. We were not able to determine which exterior light fixtures are wired from the generator. This should be confirmed, because this is a possible code violation. The loss of a single lamp/fixture or source cannot leave an area without lighting. Thus, if there is only one exterior fixture serving an area and the lamp or circuit fails, the area will be without lighting. This would require a second exterior fixture be added in the same area wired on a different circuit (normal or emergency) than is currently feeding the existing fixture.

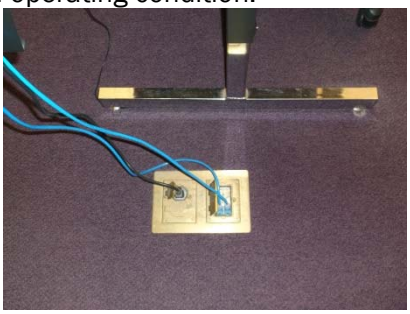
There are existing exit signs located throughout the facility, these signs are white thermoplastic housings with LED lamps. These signs appear to be in good condition and were all operating properly. There are also "area of rescue" signs on the second floor outside of the four stairwells and at intermediate locations in the corridors leading to the stairwells. There are no low mounted exit signs in the two assembly spaces (Gym & Café.), required under the current code. We recommend added low signs to all doors in the two rooms. We were not able to confirm if the Music Room (1205 sq. ft.) has code required exit signs and emergency lights. This should be confirmed and if found to be missing, add an exit sign at each door and emergency lights. The exit signs are all in good condition and were all working at the time of the walk through.

Power

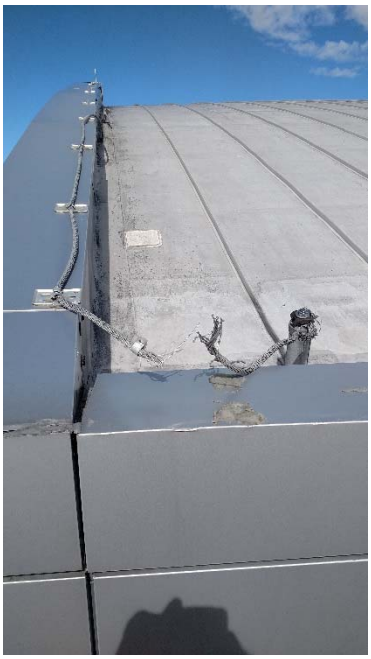
The existing electrical service originates from a pad mounted utility transformer located to the north-east side of the building. From the utility transformer, the secondary feeder runs underground to a 2500 amp, 480Y/277V – 3 phase service rated switch in the Main Electric Room. The service switch intern feeds a distribution section via bus splice section. The distribution section of the switchboard feeds panels in the Main Electric Room and throughout the building. There are seven other "normal" panels in the room (both 480/277V & 208/120V) along with three transformers. There is an automatic transfer switch fed from a 125 KW diesel generator outside next to the pad mounted utility transformer. The transfer switch feeds a 480/277V panel, step down transformer and a 208/120V panel. The two generator panels serve some interior lighting, exterior lighting, paging system, security system, fire alarm system, kitchen refrigeration, misc. power and some HVAC equipment (heating). Also in the Main Electric Room is a Unison theater lighting control panel and an ETC emergency transfer switch also for the theater lighting. There are building supplies stored in this room, and although it appears working clearances are maintained in front of all electrical equipment, I believe there is a code violation. This room only has one door in or out of the room, which would require double the working clearances in front of the equipment or an unobstructed path to the door. With the supplies in the room, neither option is met.

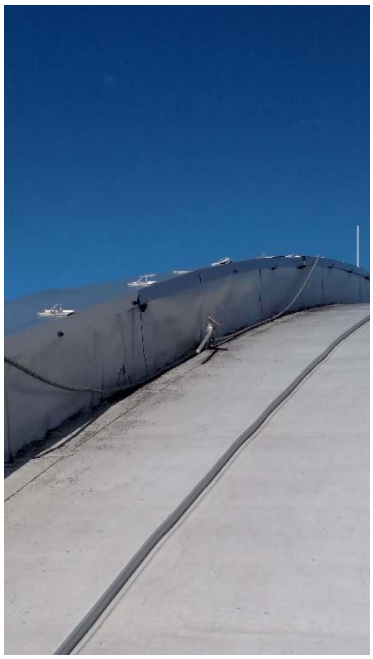
The existing power receptacles throughout the school are recessed mounted duplex and quad receptacles with metal cover plates. The main Computer Lab off the Media Center has flush floor mounted quad receptacles (1 duplex receptacle for power & 1 for data) with brass cover plates. There are also flush floor mounted quad receptacles on the stage in the Cafeteria. The second Computer Lab has two plug strips mounted under desks that appear to be fed from an extension cord to a quad receptacle. This needs to be reviewed to determine if an extension cord can be used to permanently

feed the plug strip by code. The receptacles all appear to be in good operating condition.

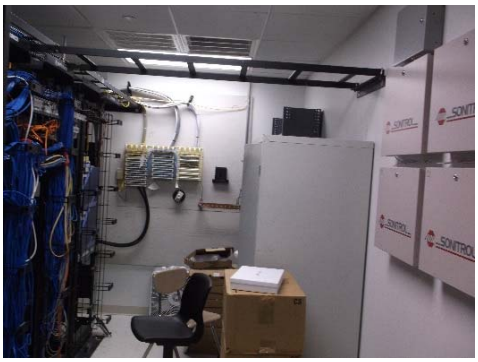


There is a lightning protection system installed on the roof of the building, with air terminals and cables. There is damage to both the air terminals and the cable along the south side of the Gymnasium roof. There are cables that are broken apart, air terminals damaged or pull off the roof and a section of cables and terminals just sitting coiled up on the roof.





Voice / Data



The existing telephone system demark is in the Tel/Com. Room in front of the main electric room. There are tables and other items stored in the room, so we were not able to determine the condition of any the equipment. The main Data Closet is in the south-east corner of the Media Center, which has a network rack for data, punch down blocks for phones and security panels. There is a second Data Closet on the first floor across from the main stair at the front entrance. This room has the master clock headend equipment, a Rauland sound cabinet with a Bogen CD player & cassette deck. There are two hand held controllers to adjust the master clock system. There are two additional Data closets on the second

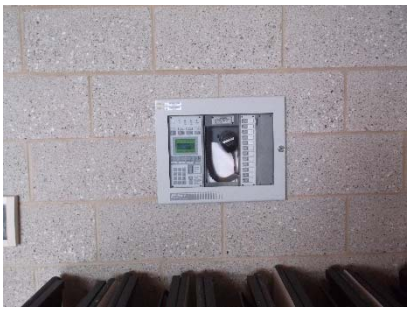
floor. The existing data outlets throughout the school are recessed mounted. There are desk mounted phones in all the classrooms, along with a wall mounted clocks and recessed ceiling speakers. There are a few rooms with wall mounted phones like the Gymnasium. There are speakers in all the hallways and utility rooms. There are desk phones in all the Offices. All equipment appears to be operating properly.

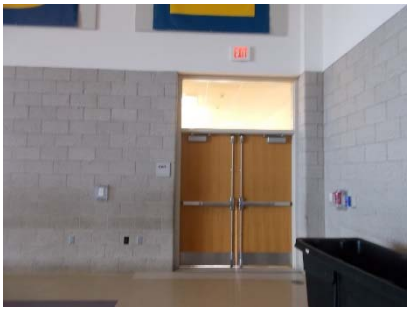
Fire Alarm

The existing fire alarm system is an addressable Edwards (EST3) system, with the control panel located in the corridor behind the Main Office and the batteries are on the wall in the room behind the control panel. There is a remote panel in the Cafeteria with voice capability and a second remote panel in the main lobby across from the elevator outside the Main Office. There are additional power panels located throughout the school. There are manual pull stations with "stopper" covers at the egress doors along with audio/visual devices throughout the complex. There are visual devices in all the Classrooms. There are carbon monoxide detectors in the mechanical room where there is fuel burning equipment. There are smoke detectors throughout the school, in the corridors, classrooms, stairs, etc. The system appears to have voice capabilities throughout the school and not just in the assembly spaces. The devices throughout appear to be in good operating condition.

There is an existing security lock down system throughout the school, with emergency push button stations at the major entry/exit locations in addition to the Main Office, Security Desk and Cafeteria.

There is an existing "area of rescue" system located outside of the Main Office across from the Security desk that is serving the four stairs. There is code required illuminated signs at the entrance to the door of each stairwell on the second floor. In addition, there are additional signs in the corridors leading to the stairs.





WESTON SCHOOLS - FACILITIES FEASIBILITY STUDY

WESTON INTERMEDIATE SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
			4	3	2	1	n/a			
SITE CONDITIONS										
S1	Front pavers are beginning to sink			3				If it drops beyond a 1/2" it will not be considered accessible and will result in a tripping hazard	$ 5,000	
S2	Front concrete sidewalk has a small amount of cracks		4					Seal Cracks as needed	$ 3,000	
S3	Bituminous pathway has cracks		4					Seal cracks as needed	$ 3,000	
S4	Bituminous pathway was driven on and the adjacent lawn is torn up		4					If this is typical, think about widening the pathway to avoid lawn damage	$ 16,000	
S5	Courtyard Concrete seating wall & paths are discoloring with mildew		4					Power wash and seal to maintain longevity	$ 6,000	
SITE SUBTOTAL										**$ 33,000**
EXTERIOR CONDITIONS										
A1	Cafetorium doors are extremely heavy and difficult to open					1		Adjust doors	$ 1,000	
A2	Precast window sills, most notably at lower level are dirty and discoloring with mildew			3				Clean and seal	$ 15,000	
A3	Areas at base of masonry and parapet are dirty with mildew and vegetation			3				Clean and seal	$ 8,000	
A4	Caulk where building meets sidewalk caulk is deteriorating			3				Recaulk as required	$ 2,000	
A5	Caulk and mortar around precast parapet cap and masonry have mildew			3				Recaulk as required	$ 3,000	
A6	Control joint caulk is showing early signs of wear and cracking			3				Recaulk as required	$ 5,000	
A7	Knee wall at gymnasium					1		Rebuild parapet, portion of roof and add external gutters - at $800 per linear foot	$ 264,000	
EXTERIOR SUBTOTAL										**$ 298,000**

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WESTON INTERMEDIATE SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
INTERIOR CONDITIONS										
A8	Block walls dirty			3				Clean and seal	$ 6,000	
A9	Sheet flooring in Cafetorium is torn and has large gaps				2			Determine if slab has moisture or movement issues. Replace floor.	$ 81,180	
A10	Ceiling tiles are stained			3				Replace the ceiling tiles throughout the building	$ 3,600	
A11	Penetration firestopping is not at all penetrations of boiler room					1		Fire putty around penetrations as needed	$ 1,500	
A12	Furniture and equipment is located in gymnasium vestibule blocking egress clearance requirements					1		Move furniture	$ -	
A13	Gym egress is undersized and inadequate. It does not meet code requirements.					1		Add double doors to exterior	$ 25,000	
A14	VCT is cracked in various areas				2			Replace the floor tiles throughout the building	$ 8,000	
A15	Window caulk is beginning to wear			3				Recaulk as required	$ 36,000	
A16	Equipment is blocking knee space						n/a	Remove	$ -	
A17	Vertical grab bars are not installed at all handicap toilets				2			Add grab bars at all handicap toilets	$ 6,750	
A18	Elevator		4					Continue to evaluate and inspect the elevator	$ 3,000	
A19	Classrooms with doors inbetween are often too noisy			3				Add acoustical seals around doors	$ 20,000	
A20	Wallpaper in administration is getting damaged due to chairs		4					Add chair rail at main office and confernce room	$ 10,000	
INTERIOR SUBTOTAL										**$ 201,030**

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WESTON INTERMEDIATE SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
PLUMBING/FIRE PROTECTION										
P1	Periodically inspect, test and replace plumbing valves, pressure regulators, backflow preventers, thermostatic mixing valves, pumps etc..	General		3				Replace faulty equipment as required.	$ 10,000	Cost over next 10 years.
P2	A Janitors Sink was observed with hoses connected to faucet without a visible means to prevent backflow.	IPC Section 608			2			Install vacuum breaker.	$ 500	Cost for each sink
FP1	The Sprinkler/Standpipe System requires periodic inspection, testing and maintenance in accordance with NFPA 25.	NFPA 25		3				Include annual cost of $1000 in budget.	$ 10,000	Cost for inspection, testing and maintenance over next 10 years.
PLUMBING/FP SUBTOTAL										**$ 20,500**
MECHANICAL SYSTEMS										
M1	Boilers and related equipment should have continued preventive maintenance	General			2			Provide regular Boiler service, water testing.	$ 1,500	Annual Cost
M2	Chimney and Draft Inducer require regular service				2			Clean and Inspect chimney annually. Inspect and test Draft Inducer.	$ 1,300	Annual Cost
M3	Combustion Air is provided by Fan in Boiler Room				2			Check for proper operation regularly. Replace drive belts, damper actuators and motors as required.	$ 100	Annual Cost
M4	Two Chillers should receive continued preventative maintenance			3				Perform Chiller service including testing of compressors, fans, controls and refrigerant charge, and cleaning heat exchangers.	$ 2,400	Total annual cost for 2 Chillers
M5	Hot Water and Chilled Water Pump life may be extended by regular service			3				Inspect and service pumps annually. Provide repairs as required.	$ 1,600	Total annual Cost for 8 Pumps
M6	Air Handling Units require regular service			3				Replace filters and fan belts, lubricate bearings and damper linkages, check damper and valve operation, clean coils, condensate pans and drains.	$ 3,500	Total annual Cost for 7 AHUs
M7	Air Handling Unit Curbs have multiple rust spots			3				Clean and touchup paint as required.	$ 2,000	Total cost
M8	Steam Humidifier should receive regular service			3				Provide annual service of steam generator and distribution unit.	$ 500	Annual Cost

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WESTON INTERMEDIATE SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
M9	Roof Exhaust Fans require continued maintenance			3				Provide regular inspection for proper operation. Replace drive belts, damper actuators and motors as required.	$ 1,400	Annual Cost
M10	Kitchen Grease Exhaust System requires regular cleaning and maintenance				2			Regular cleaning and maintenance to consist of cleaning of hood, baffles, ductwork and fan. Inspect and test extinguishing system. Replace grease trough.	$ 3,000	Annual Cost
M11	Underground Fuel Storage Tank Inventory/Leak Detection System should be serviced regularly			3				Check operation of system console and sensors. Perform repairs as required. Service should be performed by factory authorized installer.	$ 300	Annual Cost
M12	Hot and Chilled Water Piping and components should be serviced			3				Flush piping and coils, clean strainers. Document conditions to plan future maintenance frequency.	$ 4,000	Estimated Cost
M13	Recommissioning of facility HVAC systems				2			Perform functional testing of all equipment and Automatic Temperature Controls to ensure operation per original design.	$ 30,000	Likely Cost Range: $20k to $40k depending on level of detail.
MECHANICAL SUBTOTAL								**Total not including cost of recommissioning.**		**$ 51,600**
ELECTRICAL SYSTEMS										
E1	Currently the generator is being used for emergency lighting for both interior and exterior fixtures, this does not appear to meet the current code requirement & should be reviewed further with the AHJ					1		Install code approved emergency lighting system throughout the school, there are a few options to achieve this (install a second ATS dedicated to the emergency system and associated equipment, stand alone twin head battery units throughout or battery ballasts in existing fixtures)	$90,000	$58K is for a twin head battery system and the $90K is to modify the generator distribution, the third option would fall somewhere in between
E2	It does not appear to be sufficient emergency lighting in the Courtyard for egress to meet the current code				2			Install new LED fixtures to provide current code required light levels for egress	$5,000.00	
E3	Light levels are low and do not appear to meet egress requirements for the accessible access to the Stage/Platform				2			Replace existing fixtures with new higher output LED fixtures or add new LED fixtures in addition to the existing fixtures	$5,000.00	
E4	Existing fluorescent, HID & incandescent fixtures throughout the school, appear fully operational but not very efficient		4					Replace all existing fluorescent, HID and incandescent fixtures with new energy efficient LED fixtures.	$662,712.00	allowance
E5	A portion of the existing lightning protection system is damaged & partially removed			3				Replace damaged wire and reinstall existing lightning rods and cable after wall/parapet has been repaired.	$2,500.00	

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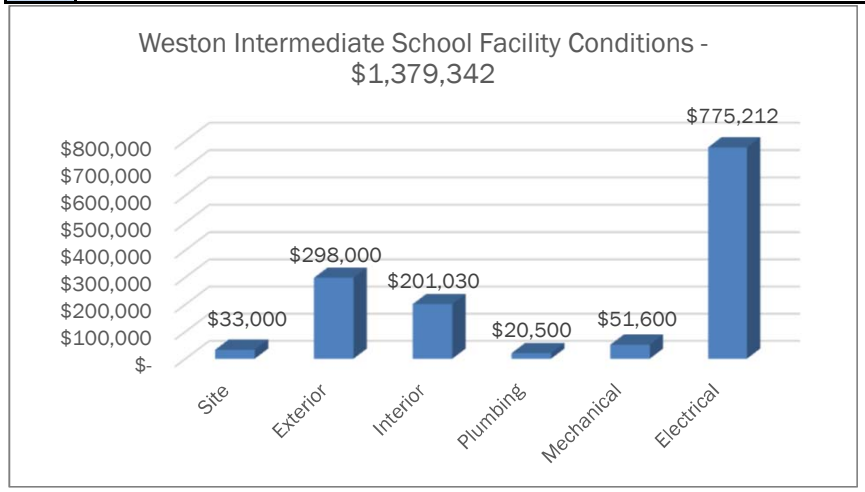
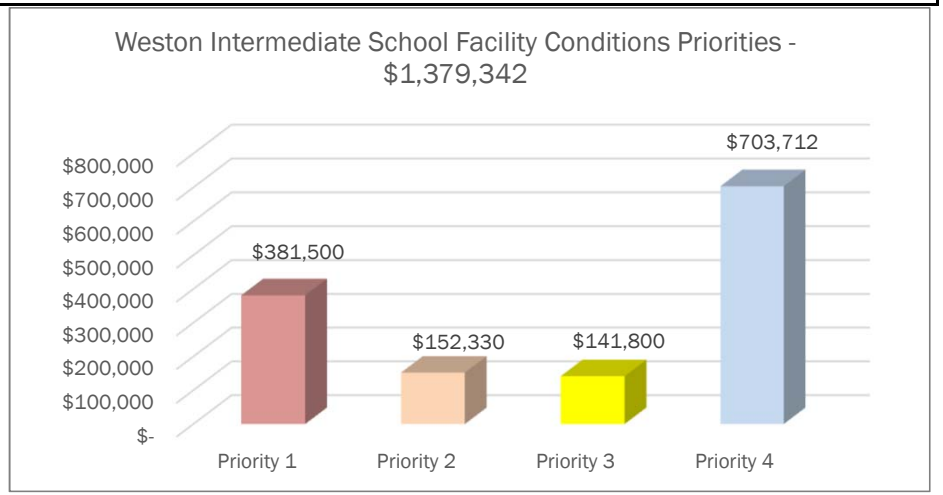
WESTON INTERMEDIATE SCHOOL - FACILITY CONDITIONS ANALYSIS										
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
E6	There are no "low" mounted exit signs in the two assembly spaces (Gym. & Café.) to meet the current code				2			Install new self-illuminating exit sign on the kick plate of each pair of egress doors out of these rooms, plus 2 additional in the Gym.	$3,500.00	
E7	Possible missing exit signs and emergency lights in Music Room				2			Add two exit signs, one at each door (not door to Storage) and emergency lights.	$1,500.00	
E8	Exterior Egress doors that may only have one light fixture serving the area may not meet the current code				2			Add a second light fixture (new LED), wired to the opposite service (normal or emergency) than is currently serving the existing fixtures in this area.	$5,000.00	
ELECTRICAL SUBTOTAL										$ 775,212
TOTAL ESTIMATED COSTS										$ 1,379,342

LEDGEND PRIORITY - RANK

1	Urgent priority - These items should be corrected as soon as possible and most likely encompass code, health and life safety issues.
2	High priority - These items should be corrected within a reasonable amount of time after the highest priorities referenced above. These may be associated with high priority maintenance issues or accessibility issues for the physically challenged. Maintenance items have a remaining useful life from 1-3 years.
3	Moderate priority – These items may be associated with aesthetic or general maintenance issues. Remaining useful life of 3-5 years.
4	Low priority – These items include maintenance and aesthetic issues that are not in current need of replacement, but should continue to be monitored on a regular basis. These items typically have a remaining useful life of 5-10 years or greater.





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LEGEND

SITE	S01
ARCHITECTURE	A01
FIRE PROTECTION	F01
PLUMBING	P01
MECHANICAL	M01
ELECTRICAL	E01

REFER TO THE ATTACHED MATRIX FOR ITEMIZED INFORMATION REGARDING THE ASSESSMENT, CORRECTION, PRIORITY AND COST.

NORTH

WESTON INTERMEDIATE SITE

SCALE: NTS

Weston Schools
Facilities Feasibility Study

WESTON INTERMEDIATE SCHOOL
SITE CONDITIONS ANALYSIS

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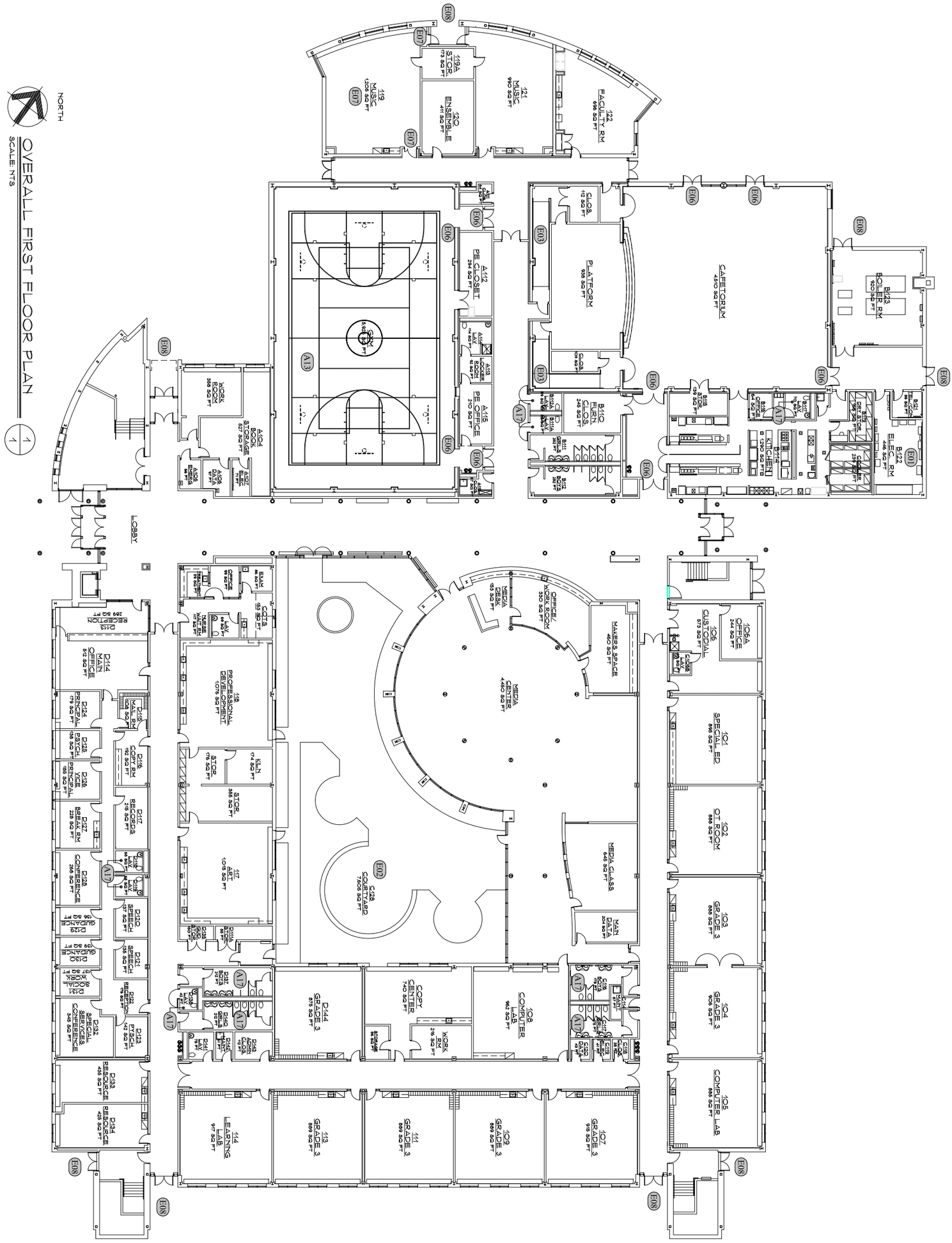

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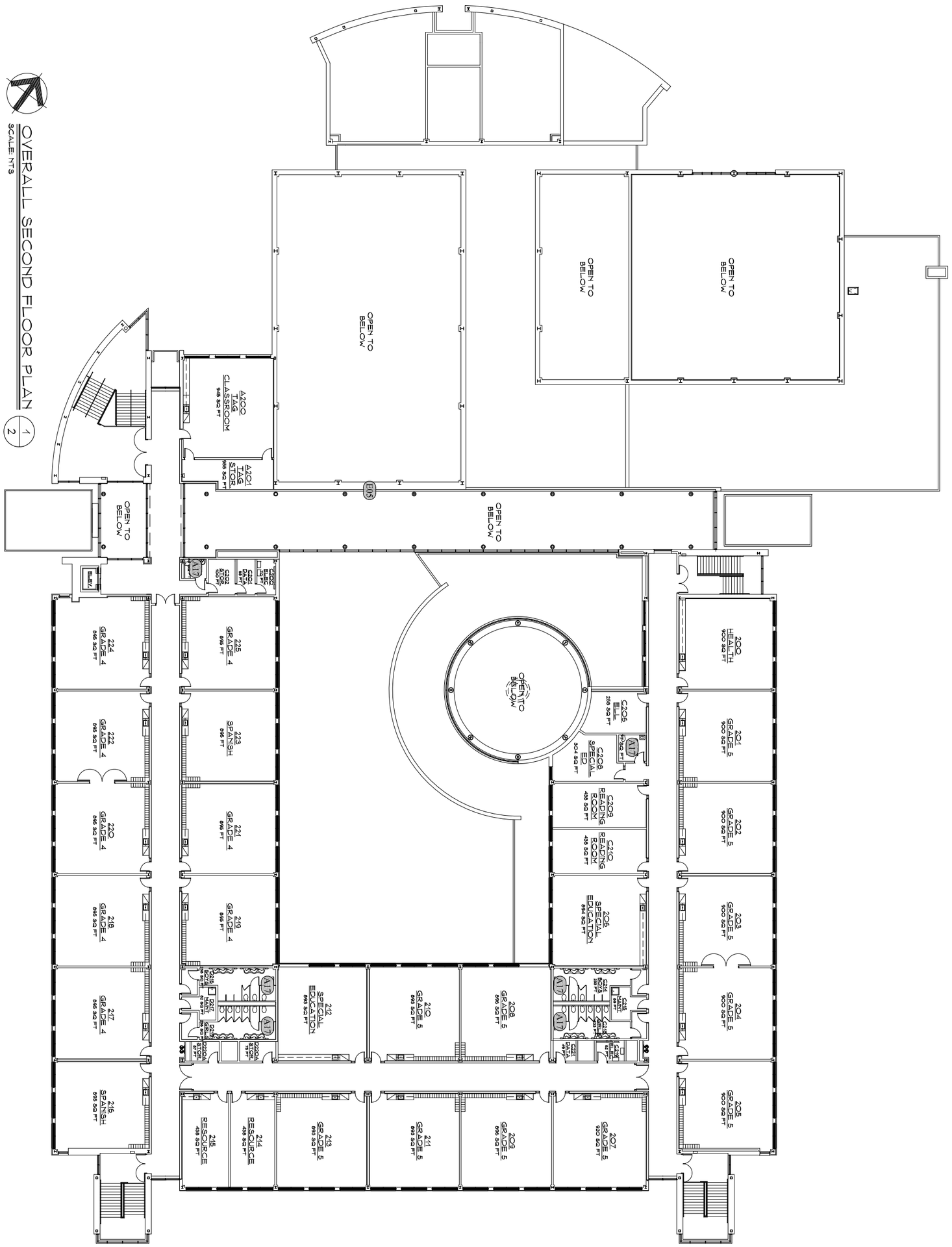
WESTON INTERMEDIATE SCHOOL

FACILITY CONDITIONS ANALYSIS - FIRST

Weston Schools
Facilities Feasibility Study



LEGEND

SITE	S01
ARCHITECTURE	A01
FIRE PROTECTION	F01
PLUMBING	P01
MECHANICAL	M01
ELECTRICAL	E01

REFER TO THE MATRIX FOR ITEMIZED INFORMATION REGARDING THE ASSESSMENT, CORRECTION, PRIORITY AND COST.

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WESTON INTERMEDIATE SCHOOL

FACILITY CONDITIONS ANALYSIS - SECOND

Weston Schools
Facilities Feasibility Study

DRAFT 11.03.17

Weston Middle School

Figure 1: View of Middle School main entrance

Weston Middle School was originally constructed in 1960. This one-story building has received various additions over the course of its lifetime. The most recent addition was built around 1995. Today, it is approximately 155,622 net square feet including the lower level with the pool and locker rooms. The school portion of the building totals at 145,977 net square feet. Weston Middle School is home to 6th through 8th grade serving 586 currently enrolled students and approximately 80 staff members.

Site

Weston Intermediate School is located at 135 School Road on the 117-acre school campus site. It is located to the north of School road near the edge of the campus. It is bordered by numerous baseball/softball fields. The school main entrance is located at the west elevated off the road with a large staircase that is both tall and wide. There is no accessible route to the main entrance. Parking is also somewhat remote from the front door. In the front a linear lot allows for one-way flow through the parking lot. Across the street there is an additional small lot. To the north and rear of the building there are additional parking lots for staff. The rear also has a loading area at the back of the kitchen

Figure 2: Google Site Image

along with an area for storing school/town vehicles, equipment and building materials. A hardscape with painted play areas are separated from the parking lot. Adjacent there is also a swing set, a climbing structure and a GaGa Ball Pit. At the south there is an area for grass play and a ball field. The layout of this building causes some challenges, but overall it is functional for the school community.

Architecture

Overall, Weston Middle School is in fair condition. This building has been well maintained throughout its lifetime. The school floor plan is laid out with 2 corridors running the long length of the building. Numerous perpendicular corridors then break up the plan. Five courtyards also break up the plan and allow daylight into many interior spaces. The norther portion of the building also has 2 wings added on consisting of four classrooms each. Many spaces between the Media Center and the Old Gym do not have much access to daylight as they are all interior bound. Science labs, computer labs and some Art rooms occupy this area. Visitors enter the building at the front into a lobby with an original wood ceiling. The security booth is to the right and the main office is straight ahead. All of the administration offices are located to the left. The floor plan is organized with 6th grade classrooms to the northeast, 7th grade to the northwest and eighth grade to the south. All shared classrooms and spaces are spread out throughout the middle or core of the building.

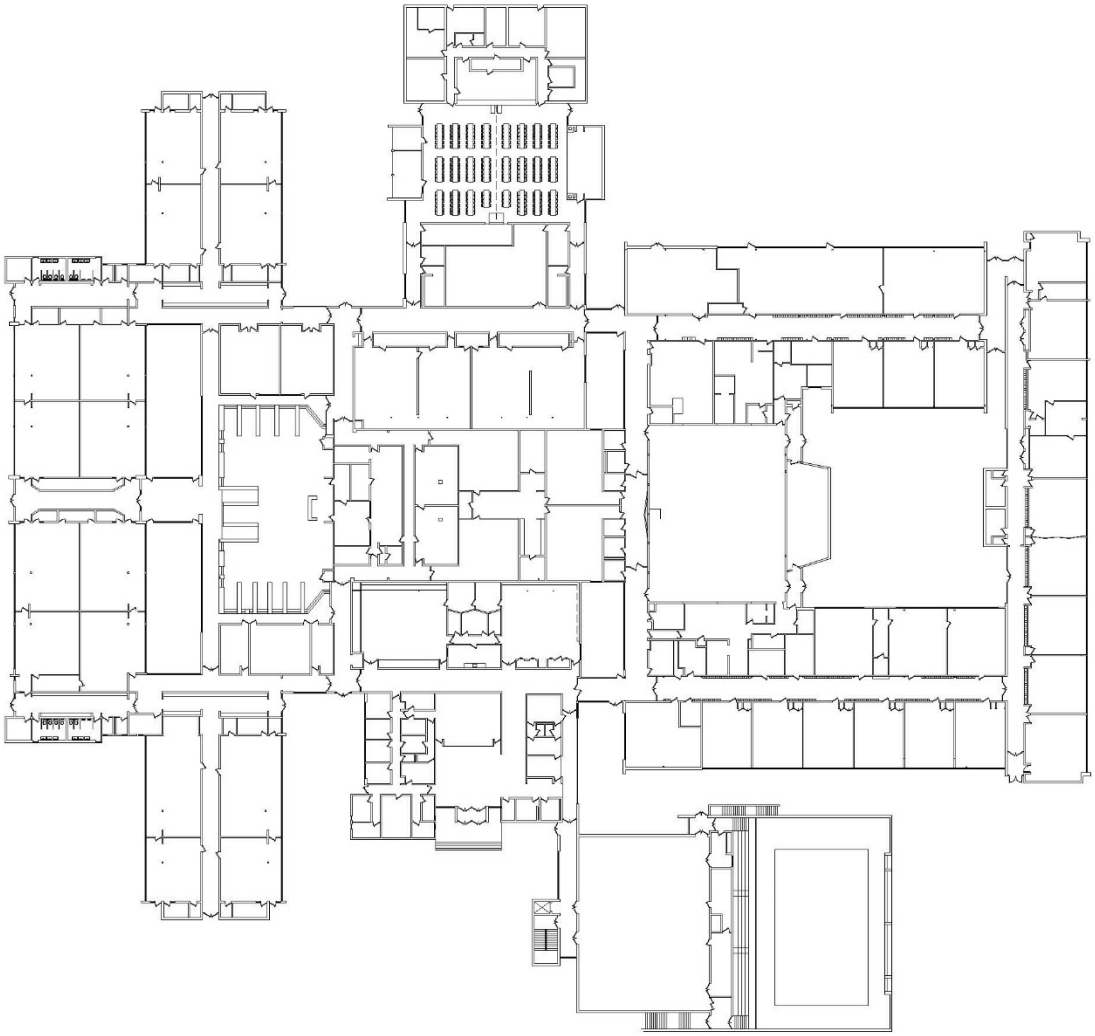


Figure 3: Overall Main floor plan

Interior

Figure 5: Below window wall missing brick course

Figure 4: Locker base and baseboard

Figure 6: Typical sagging ceiling

The interior of the building is maintained based on the existing conditions and existing systems. A visual inspection of the walls, floor and ceiling were reviewed during the building walkthrough. The interior walls consist mostly of concrete masonry units (CMU) or block. There are also some areas with sheetrock and paneled walls in between some of the classrooms. Most walls appear to be in fair condition. However, some of the block walls throughout the school have significant vertical cracks. Specifically, with the 8x8 CMU. This most notably occurs in the New Gym where numerous cracks are evident. Metal plates have been added to help remedy this issue. It is recommended to provide further evaluation by a structural engineer.

Secondly, during the window renovations the removal of brick (likely due to PCBs) had taken place. The interior brick under the sills had never been infilled leaving the wall cavity open and unfinished. This is an aesthetically unpleasing look and it negatively impacts the thermal qualities of these walls. This should be infilled with brick or block. Additionally, rubber baseboard throughout the school is in need of replacement, specifically noted at the built out base of the lockers. Theses bases are also too large for the lockers and could result in a tripping hazard.

The majority of the ceilings throughout the school are 2x2 or 2x4 dropped acoustical ceilings. There are also some areas with old spline ceilings. The remainder of the building is exposed structure and deck. This occurs in areas such as the gymnasiums, the Media Center, the newly painted decks in the technology rooms, and the original wood at the main entrance and admin spaces. Some corridors are exposed with low ductwork. Most of the acoustical tiles are old and sagging and they should be replaced. Spline ceilings should also be replaced. Some of the exposed ceilings could use a fresh coat of paint and the wood ceilings should be refinished to maintain their lifespan.

Flooring throughout the school is in good to fair condition. Ceramic tile in restrooms are in good condition. Most of the VCT flooring is good with limited areas of cracking or seams spreading. Areas of the cafeteria expansion joint are mangled and warped. It should be replaced as it could cause a tripping hazard. Overall the interior walls, floor and ceiling are in fair condition.

The facility consists of a variety doors, frames and hardware. Most doors are hollow metal set within hollow metal frames. Many doors contain a glazing opening within the leaf. Many are painted and some are in need of new paint. Door hardware appears to meet code. Most doors have hand levers and panic devices. Frames appear to be in good condition although some have begun to rust, most notably at the pool. Windows were recently replaced and are only a few years old. The interior of the windows appears to be in good condition. Overall the interior doors and windows are in good condition. It is recommended to continue painting doors and frames as needed.

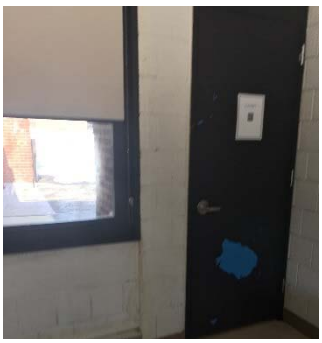


Figure 7:Door peeling paint

Most casework and built-in shelving appear to be original to the school. Most are dated and nearing the end of their useful life. Some built-in bookcases in classrooms don't even have shelves. Most casework does not have knee spaces. The ones with sinks do not have the required knee space and therefore are not considered accessible. Science and Art classrooms have casework that is very dated, peeling and inefficient. These specific areas need more efficient and usable casework. There are some newer areas with blue plastic laminate casework that does appear to be in good condition. Additionally, lockers throughout the school are in disrepair. Student lockers in corridors are mangled and do not lock properly. Locker rooms are also not in the greatest condition. Lockers and the bases in the corridors should be replaced throughout the school.

Figure 8: Science casework

Many ADA accessibility and code issues were noted at this facility. This is a common occurrence given the age of the building and its renovations. These items should be included in the long term capital plan. Numerous doors do not have the required push and pull clearances. Vestibules do not meet the minimum depth. Courtyards do not appear to meet the required egress as dictated by the code. All of the required grab bars do not exist in any of the handicap restrooms. Many of the single toilet rooms do not have the required clearances and are too small. The urinals are floor mounted which is not to code. As previously mentioned, in addition to these toilet rooms other ADA noncompliance items there is also the noncompliant casework and sinks.

Exterior

Figure 9: Efflorescence and C10 door

The brick walls of the school are generally in good condition, with some areas of settling and spalling. The original building is constructed with brick "veneer" and concrete masonry unit (CMU) interior or brick interior. The energy efficiency of the original construction is very low, and typical in the 1960s ("pre energy crisis"), and not one that is easily corrected. Overall, the mortar appears to be in fair condition with limited areas in need of repointing. Certain areas are in need of more attention. For instance, the area outside of door C10 had some efflorescence at the base of the wall which is a sign of water infiltration. Additionally, some of the parging at the foundation wall is beginning to wear. Some areas of black paint are peeling and should be fixed and repainted. Overall the masonry appears to be in good condition.

When evaluating the energy efficiency of a building, it is known that nearly 25–40% of all heat energy is lost through windows. The windows were replaced in 2010 with double-glazed aluminum frame windows. They appear to be in good condition. Exterior doors were also replaced. However, some of the hardware and frames were not. Some door are lacking thresholds, weather-stripping and frames are beginning to show signs of rust. Door C10 did not latch after being opened. Although there was a lot of snow during the assessment, the EPDM roof appears to be in good shape. The roof was believed to be replaced around 2000. The roof is approaching the end of its warranty period and may likely need to be replaced in a few years.

Plumbing

Overall, the plumbing systems for the school are in good condition.

The Domestic cold water is provided by water supply wells that supply water to multiple buildings on the property. The location of the water service for the building was not observed.

Domestic hot water is produced by three gas-fired water heaters. The first water heater, located in one of the boiler rooms, has an input rating of 450,000 BTUH and a storage volume of 80 gallons. The system is approximately 1-year-old. The system should have an average life expectancy of approximately 20-25 years and remaining life expectancy it about 19-24 years. The second water heater, located in the other boiler room, has an input rating of 76,000 BTUH and a storage volume of 75 gallons. The system is approximately 1-year-old. The system should have an average life expectancy of approximately 20-25 years and remaining life expectancy it about 19-24 years. The third water heater is a tankless water heater located in the office area of the kitchen. This water heater has an input rating of 199,000 BTUH and it appears that the old water heater is being used as a storage tank. The system is approximately 8 years old. The system should have an average life expectancy of approximately 15-20 years and remaining life expectancy it about 7-12 years.

To maximize service life, the Water Heater should be regularly serviced per the manufacturer's maintenance recommendations including, but not limited to, draining and flushing, testing relief valve, and inspecting/replacing anode. Refer to manufacturer's O&M literature.

Plumbing fixtures for the building appear to be good condition. The urinals are a combination of wall mount and floor mount, both with manual flush valves. The building has some water closets that are wall mounted and some that are floor mounted, both with manual flush valves. The lavatories are a combination of wall hung lavatories with single or double controls metered faucets. The sinks in the art classrooms have solids interceptors on their drainage piping. The interceptors should be checked periodically and cleared of any solids that have been collected in them. Various styles of electric water coolers are provided throughout the building. The science sink drains are piped correctly with acid waste piping. It is unknown where the neutralization tank is that this piping is running into.

While the overall condition of the fixtures is good, one of the issues noted during the visit was that one of the floor drains in the locker room appeared clogged as there was standing water near the drain.

All of the fixtures in the kitchen are connected to a grease interceptor. No sanitary or storm piping issues were observed during the visit. If there are any areas with known issues, it is recommended that the pipes in that area get scoped with a camera to see if the root of the issue can be determined.

Fire Protection

The facility is not sprinklered.

Mechanical

The School was originally constructed in 1960 and a major addition was added in 1970. Most of the HVAC systems are original however, some systems have been replaced, and Air Conditioning has been added to various spaces during capital improvement projects from 2000 to 2004.

Heat for the facility is provided by two separate Hot Water Boiler Plants. The 1970 addition is served by the two original HB Smith 450 Mills Boilers which have been retrofit with Power-Flame dual fuel burners. The Boilers appear to be well maintained and in serviceable condition but at nearly 50 years old they are approaching the end of their useful life expectancy, are inefficient by current standards, and will become costlier to maintain. Hot Water Pumps and Fuel Oil Transfer Pump Set are at, or near, the end of their useful lives. Recommend planning for eventual replacement of Boilers, Pumps and related accessories and controls.

Combustion air is provided by an Air Handling Unit located in the Boiler Room. The unit appears to be at the end of its useful life.

A Smith Model 28 Boiler has been installed for pool heating.

The 1960 Boiler Plant was renovated around 2010 at which time two Smith Model 28-HE-18 Dual Fuel Boilers were installed along with new Hot Water Pumps, Boiler Room Piping, Hydronic Accessories, and Fuel Oil Transfer Pump Set and piping. The Boilers and equipment appear to be in good condition with 20 to 30 years of useful life remaining. The equipment, piping and insulation all appear to be in good condition with no visible signs of leakage. Combustion air is provided by two roof mounted gravity vents ducted into the Boiler Room which appear to be adequate.

Since Boiler life can be affected by poor water quality and inconsistent maintenance, it is recommended that the boiler water be periodically tested. Regular preventive maintenance should be performed to maximize the service life of Boilers and related equipment.

Pump life can be maximized by continued service, including periodic inspection, with repacking, lubrication, and replacement of bearings and motors as required.

The Boiler Chimneys appear to be adequate to prevent reintroduction of flue gasses into the building however, a vent serving a Water Heater in the 1970 Boiler Room may be problematic, especially given its proximity to outside air intakes. The Water Heater Vent may be extended if necessary. Chimneys should be cleaned and inspected occasionally as part of normal preventative maintenance.

The facility is served by a 15,000-gallon fiberglass Underground Fuel Storage Tank (UST), installed in 1990. The tank was last inspected in 2009 and is scheduled for removal in 2020. The Tank Inventory and Leak Detection System should be periodically tested for proper operation.

Heating, Ventilation and Air Conditioning for the facility is provided by a combination of Air Handling Units, Packaged Rooftop Air Conditioning Units, Fan Coil Units and Unit Ventilators.

The 1970 portions of the school including Classrooms, Library, and Administrative Offices are served by original Air Handling Units located in the mechanical penthouse, installed in 1970. The units are at the end of their useful lives and should be budgeted for replacement. Perimeter Classrooms are served by Unit Ventilators and Fan Coil Units. The Unit Ventilators are original and at the end of useful life. The Fan Coil Units are supplied with Chilled Water and provide Air Conditioning to spaces served by Unit Ventilators. The Fan Coil Units appear to have 5 to 10 years of useful life remaining.

The Air Handling Units serving the two Gymnasiums were installed at the time of construction (1960 and 1970) and are at the end of their useful lives and should be budgeted for replacement.

Unit Ventilators and Fan Coil Units do not meet current standards for classroom acoustics and should be replaced with ducted Air Handling Equipment at time of replacement.

The Packaged Rooftop Air Conditioning Units, and Fan Coil Units installed in 2000 thru 2004 have approximately 10 to 15 years of useful life remaining.

Until the time of replacement, the existing Air Handling Equipment should receive continued preventative maintenance including regular lubrication, filter and fan belt replacement, and motor and bearing replacement as required. Condensate pans and drains should be cleaned and valves and dampers, including actuators, should be periodically checked for proper operation. DX Cooling Equipment should be checked for proper refrigerant charge, and compressor and condenser fan operation. Touch-up painting should be done as required.

A new Pool Dehumidification System has been installed but final commissioning has not yet been completed. The system consists of a Dectron Dry-O-Tron unit located on grade and ducted into the Natatorium. Once online, the existing system serving the Natatorium will be abandoned and the new system will provide temperature and humidity control of the space.

The school is served by approximately 50 Roof Exhaust Fans which provide Toilet and General Building Exhaust. The fans are believed to have been installed as part of the 2004 project and are in good condition with 10 to 15 years of useful life remaining. The fans should be regularly inspected for proper motor and damper operation. Belts, actuators and motors should be replaced as needed.

The Kitchen is furnished with a Grease Hood and roof mounted Grease Exhaust Fan. The hood is equipped with a chemical extinguishing system. The Grease Exhaust Fan appears to be in serviceable condition. The grease hood baffles, ductwork and fan should continue to be cleaned regularly. A second Kitchen Hood removes heat produced by the Convection Oven.

A 120 Ton Trane Chiller is installed in the 1970 Boiler room with roof mounted Remote Condensing Unit.

The Chiller supplies chilled Water to various Air Handling Units and Fan Coil Units serving the 1970 portion of the facility. The Chiller and Condensing Unit were manufactured in 2003, installed in 2004, and appear to be in serviceable condition with 10 to 15 years of useful life remaining. Chillers should be serviced annually by an HVAC Service Company in accordance with the manufacturer's Operation & Maintenance requirements.

Perimeter Classrooms and miscellaneous spaces are served by Hot Water Fined Tube Radiation installed at the time of original construction. The enclosures are showing signs of age and the heating elements are likely providing diminished heating capacity having exceeded their useful life expectancy. Recommend planning for replacement as part of any major HVAC improvements.

Facility piping and ductwork interior should be inspected to determine condition and actual remaining service life. If the ductwork is found to be contaminated with dust and debris, it should be cleaned to ensure good indoor air quality. Flushing and cleaning of piping, coils and strainers will help maintain good fluid flow and heat transfer.

Several areas are provided with Air Conditioning by Ductless Split Systems including the Technology areas of the "F" Wing, the Choral Room (G Wing) and the Ensemble Room (F Wing). The Units appear to be in good condition with 10 or more years of useful life remaining.

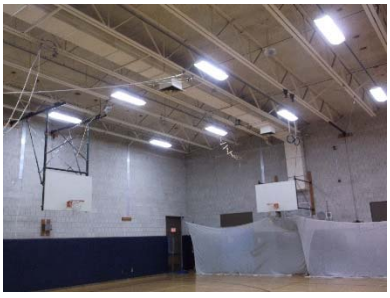
Corridors generally lack proper ventilation as required by the Building Code. Corridors ventilation should be provided as part of any future HVAC improvements.

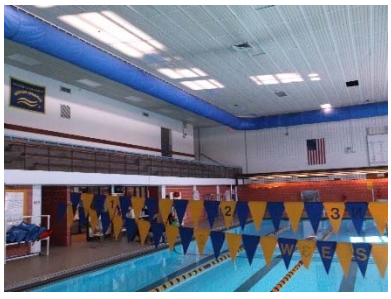
Automatic Temperature Control is provided by a combination of DDC and pneumatic controls. Controls Compressors are located in the Boiler rooms. The compressors appear to be in good condition but the pneumatic controls are obsolete and unable to provide the control necessary for optimal building efficiency. It is recommended that any HVAC improvements include installation of Direct Digital Controls DDC with the eventual replacement of the entire pneumatic control system. New controls will be integrated into the existing Alerton Facilities Management System.

Electrical

Interior Lighting

The existing luminaires are mostly made up of recessed 2'x4' parabolic fluorescent fixtures, recessed lensed 2'x4' fluorescent fixtures and some down light fixtures. In the Main Office and Lobby there are surface mounted fluorescent wraparound fixtures on a wood ceiling. The Classrooms are a mix of recessed lensed 2'x4' fluorescent fixtures and surface mounted fluorescent wraparound fixtures, except the new Tech. Ed. Rooms have pendant mounted LED wraparound fixtures. The Corridors have both recessed lensed 2'x4' fluorescent fixtures and recessed 2'x4' parabolic fixtures. The Cafeteria has recessed 2'x4' parabolic fixtures and the Stage has pendant mounted incandescent "RLM" fixtures with screw-in fluorescent lamps installed. There are no theatrical lights installed on the Stage. The Kitchen and Serving area has surface mounted wraparound fixtures and recessed down light fixtures. The Gymnasium has pendant mounted industrial high bay 3-lamp fluorescent fixtures with lenses and wire guards. The Media Center/Library has surface mounted LED wraparound fixtures mounted to the bottom of the steel trusses. There are also a few small down light fixtures. The Science classrooms have recessed lensed 2'x4' fluorescent fixtures. The Courtyards that have light fixtures in them have a mix of wall mounted fluorescent "jelly jar" fixtures and wall mounted LED flood light fixtures. The Computer Labs have recessed 2'x4' parabolic light fixtures. The Pool has recessed lensed 2'x4' fluorescent fixtures along the two long sides of the room and a wall mounted 2-lamp wood valance fixture along the two short sides of the room. The Locker rooms for the pool and new Gymnasium have recessed 1'x4' & 2'x'4 lensed fluorescent fixtures along with wall mounted fluorescent wraparound fixtures in the Bath rooms. The utility spaces are typically illuminated by pendant mounted fluorescent wraparound or industrial fluorescent fixtures with wire guards. Most fixtures were working, but many the fluorescent fixture are near the end of their useful life and should be replaced with new efficient LED fixtures.



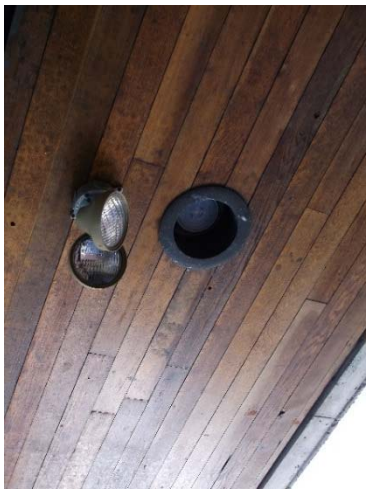


Exterior Lighting

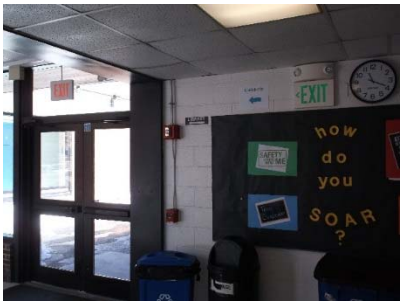
The existing luminaires throughout the exterior consist of recessed down light fixtures in the canopies. Building mounted "full cutoff" LED sconce type fixtures, round surface mounted fixtures (fluorescent or LED) and building mounted LED flood lights. The parking lot lighting is provided by pole mounted (approximately 20' high) LED low profile full cutoff fixtures. There are also pole mounted fixtures, both low profile full cutoff and flood light type along the access driveway around the back of the school. The pole mounted fixtures are all in good condition and should not need to be replaced or upgraded. The lights were not on at the time of the walk through since it was late morning early afternoon, so their operation could not be verified. It appears that all the exterior egress doors have both normal and emergency light fixtures installed at them, but without more information we cannot determine if the minimum light levels required are meeting the current code to allow for proper egress away from the building.

Exit signs & Emergency Lighting

The existing emergency lighting is provided by self-contained battery powered normally off fixtures (twin heads, squares & recessed round fixtures). There are also normal building fixtures on the generator distribution that appear to be used for emergency lighting. The current code does not allow a single transfer switch to serve both emergency and standby loads from the same switch. The standby loads (ie: HVAC equipment, kitchen refrigeration, misc. power, etc.) should be moved to a second transfer switch. We were not able to determine the extent of lighting on the generator to determine if proper light levels are provided during an emergency condition to meet the current code. This should be reviewed further, to determine if any area requires more emergency fixtures, in addition to providing a "pure" emergency system. There are remote mounted normally off single & twin head emergency fixtures in the Courtyard, these do not appear to be able to provide the required emergency light levels to properly exit the courtyard. Additional emergency light fixtures should be installed to meet the current code requirements. We were not able to determine if there are enough normal or emergency fixtures to properly illuminate all the egress paths from the building to meet the current code.



There are existing exit signs located throughout the facility, these signs are white thermoplastic housings with LED lamps and possibly some fluorescent lamps as well. These signs appear to be in good condition and were all operating properly. The stair at the new Gymnasium and Pool is missing an "area of rescue" sign at both levels. This is the only exit from the Gym. if the corridor is not accessible. There are no low mounted exit signs in the three assembly spaces (new Gym., old Gym. & Café.), required under the current code. We recommend added low signs to all doors in the three rooms. There are at least a dozen Classrooms that require exits from the space, it does not appear that these rooms have the required illuminated exit signs and emergency lights installed. Each room over 1K square feet should be confirmed that there is an illuminated sign at the two doors and emergency lighting, if they do not exist add as required to meet the code. The exit signs in the two gymnasiums do not all have protective wire guards installed, we recommend adding these to protect the signs. The exit signs are all in good condition and were all working at the time of the walk through.



Power

The existing electrical service originates from a pad mounted utility transformer located to the north-east side of the building. From the utility transformer, the secondary feeder runs underground to a 2500 amp, 480Y/277V – 3 phase service rated switch in the Boiler Room. The service switch intern feeds two distribution sections. The distribution sections of the switchboard feed panels throughout the building in local electrical closets and directly in rooms. There are two motor control centers in this room also, one "normal" and one "emergency" (both 480/277V). There is an Emergency Electric room adjacent to the Boiler room with an automatic transfer switch fed from a 275 KW diesel generator outside next to the pad mounted utility transformer. The transfer switch feeds a 480/277V panel, 150KVA step down transformer and a 208/120V panel. The two generator panels serve some interior lighting, exterior lighting, paging system, security system,

fire alarm system, kitchen refrigeration, misc. power and some HVAC equipment (heating). The main electrical equipment is older and nearing the end of its useful life and will need to be replaced in the near future, also the location of the equipment does not meet current code. This room only has one door in or out of the room, which would require double the working clearances in front of the equipment or an unobstructed path to the door which it does not have. When the equipment is going to be replaced, careful planning and coordination will be required to locate the new equipment and be code compliant.

The existing power receptacles throughout the school are mostly recessed mounted duplex and quad receptacles with metal cover plates. There is some surface mounted raceway (wire mold) with surface mounted devices and some surface mounted conduit to surface mounted devices. The new Tech. Ed. Rooms have ceiling mounted cord reels with a duplex receptacle in a single gang box. There are also ceiling mounted cord reels with pre-ended duplex/quad receptacles mounted to them. The receptacles for the most part appear to be in good operating condition, there are a few locations that spotted that the devices should be replaced or remounted to the back box.

Voice / Data

The existing telephone system demark is in the Boiler Room to the south of the switchgear. There is old telephone punch down blocks adjacent to the demark. The main Data Closet is in the north-west corner of the Media Center, which has a network rack for data, punch down blocks for phones and security panels. There is a second Data rack in the Custodial Office across from the Tech. Ed. rooms. The Simplex master clock headend equipment, and Telcor sound cabinet with amplifier & cassette deck are in the south-east corner of the Main Office. The existing data outlets throughout the school are recessed mounted. There are desk mounted phones in all the classrooms, along with a wall mounted clocks and recessed ceiling speakers. There are a few rooms with wall mounted phones like the Gymnasium. There are speakers in all the hallways and utility rooms. There are desk phones in all the Offices. All equipment appears to be operating properly. There are wireless access point devices installed throughout the school.

Fire Alarm

The existing fire alarm system is an addressable Edwards (EST3) system, with the control panel located in the Main Office on the south wall. There is a remote alarm panel along with multiple power supply panels (NAC panels) throughout and emergency phones in the Gymnasiums. There are manual pull stations at all egress doors and in the Gymnasium. The pull stations in the Gym. have "stopper" covers. There are audio/visual devices throughout the building including all the Classrooms, the Pool, the Locker Rooms, the Gymnasiums and the Cafeteria. There are carbon monoxide detectors in the mechanical rooms where there is fuel burning equipment. There are smoke detectors throughout the school, in the corridors, classrooms, stairs, etc. There is a beam detector transponder and receiver wall mounted on the east and west walls of the Pool. The system appears to have voice capabilities throughout the school and not just in the assembly spaces. The devices throughout appear to be in good operating condition.

There is an existing security lock down system throughout the school, with emergency push button stations at the major entry/exit locations in addition to the Main Office, Security Desk and Cafeteria.

There is <u>not</u> "area of rescue" system for the stair at the new Gymnasium & Pool. This is code requirement, both landings of the stairwell should have a two-way communication system installed. The systems headend unit should be located either in the Main Office or the Security desk. In addition to the communication system, illuminated signs should be installed at each stair door.

WESTON SCHOOL FACILITIES FEASIBILITY STUDY

WESTON MIDDLE SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
			4	3	2	1	n/a			
SITE CONDITIONS										
S1	Parking is approaching the end of its life cycle. Numerous cracks cover the area & some bituminous curbs are starting to fail.			3				Reclaim and repave.	$ 510,000	
S2	Large stairways limit handicap access to the main office.			3				Provide an accessible ramp.	$ 150,000	Allowance
SITE SUBTOTAL										**$ 660,000**
EXTERIOR CONDITIONS										
A1	Brick is spalling or motor is in need of repointing or signs of efferoescence	General		3				Patch, repair, or replace brick and repoint and wash as necessary.	$ 15,000	
A2	Door thresholds or concrete pads have a greater than 1/2" transition to grade	ANSI 117 (ADA)		3				Provide ramp or re-grade asphalt/concrete to allow for 1/2" maximum vertical transition.	$ 6,000	
A3	The black paint is peeling off the brick			3				Scrape, prime and paint as required to maintain lifespan	$ 25,000	
A4	Foundation parge coating is peeling			3				Wash and provide a parge coat to foundation wall	$ 11,000	
A5	Roofs will be nearing the end of its useful life (based on warranty)		4					The roof is due for replacement in approximately 2020+/-	$ 3,587,064	Estimate includes EPDM to match exisitng
EXTERIOR SUBTOTAL										**$ 3,644,064**

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WESTON MIDDLE SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
INTERIOR CONDITIONS										
A6	The required clearance depth or approach or corridor width does not meet code requirements	413.6 (ADA) 1101.2 (IBC) ANSI 117.1		3				Reconfigure space if possible otherwise, supply push button door operator where required.	$ 20,000	
A7	All door push and/or pull maneuvering clearances do not meet code.	413.6 (ADA) 1101.2 (IBC) ANSI 117.1		3				Where obstruction is not furniture related, modify door swing and/or location to comply. Where the previous is not easily achieved, supply push button door operator where required.	$ 19,000	
A8	Toilet rooms do not have a handicap stall	(B)1108.0 (ANSI A117.1) 603-606			2			Reconfigure to provide one	$ 1,625,000	Based on 13 larger restrooms - including locker rooms
A9	Due to the size, restrooms do not meet accessibility requirements.	(B)1108.0 (ANSI A117.1) 603-606			2			Reconfigure the room to enlarge and provide the minimum dimensional requirements.	$ 350,000	Based on 14 small single restrooms
A10	The required toilet grab bars are not installed	(B)1108.0 (ANSI A117.1) 603-606			2			Install code required grab bars	$ 5,250	
A11	Existing sinks do not meet accessibility requirements			3				Provide at least one accessible sink	N/A	
A12	Some of the existing drinking fountains do not comply with accessibility requirements located in corridors.	(B)1108.6 (ANSI A117.1) 602		3				Remove existing drinking fountains and install new Handicapped drinking fountains.	$ 7,500	
A13	The required knee spaces do not exist at most cabinetry or is located at the wrong height			3				Since the cabinetry is not accessible and is very dated or not included in some rooms it may be time to replace them all together	$ 628,000	
A14	There is no second means of egress				2			Install a second door, preferably to the exterior	$ 16,000	
A15	There is no accessibility to stage or fitness				2			Provide a lift or ramp	$ 50,000	covers 2 lifts

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WESTON MIDDLE SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
A16	A limited amount of 9X9 tile was noted			3				Remove and replace	$ 4,000	There is a possibility that these tiles/glue contain asbestos
A17	Ceilings are old and dated, many are sagging and nearing the end of their lifecycle			3				Remove and replace.	$ 2,100,000	This should include new ceiling mounted devices. See E3 for new lighting cost
A18	Lockers are nearing the end of their life span				2			Remove lockers and replace with new	$ 346,250	Corridors and Locker rooms
A19	Doors and frames can use some touch up paint			3				Paint as needed - specifically at door frames	$ 35,000	
A20	The courtyards do not have 2 means of egress as depicted by the code			3				Reconfigure and provide 2 means of egress	$ 46,000	allowance
A21	Showers at pool locker rooms are in need of renovations			3				Reconfigure	$ 200,000	allowance
INTERIOR SUBTOTAL										**$ 5,452,000**
PLUMBING/FIRE PROTECTION										
P1	Periodically inspect, test & replace valves, pressure regulators, backflow preventers, thermostatic mixing valves, pumps, etc.	General		3				Replace faulty equipment as required.	$ 10,000	Cost over next 10 years.
FP1	Building is not currently fully protected with a sprinkler system	NFPA 25	4					Provide sprinkler system for entire building	$ 778,110	Based on $5/sf at approximately 155,622 sf
PLUMBING/FP SUBTOTAL										**$ 788,110**

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WESTON MIDDLE SCHOOL - FACILITY CONDITIONS ANALYSIS										
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
MECHANICAL SYSTEMS										
M1	1970 Boiler Room Equipment is at end of useful life expectancy	General		3				Replace Boilers, Pumps and related piping and equipment.	$ 520,000	Tier 1
M2	AHU Serving 1960 Classrooms is at end of useful life	General		3				Replace Air Handling Unit	$ 300,000	Tier 1
M3	Add Air Conditioning to 1960 Classrooms		4					Install Air Conditioning Equipment	$ 140,000	Cost added to Central Air Handling Equipment. Tier 1
M4	AHUs Serving 1970 Classrooms are at end of useful life	General		3				Replace Air Handling Units	$ 1,250,000	Air Conditioning provided by Existing AHUs & Chiller Tier 1
M5	Unit Ventilators have exceed their life expectancy	General		3				Replace Unit Ventilators with Ducted Roof Mounted Air Handling Equipment	$ 1,120,000	Tier 1
M6	Add Air Conditioning to Item M5 above		4					Install Air Conditioning Equipment	$ 300,000	Cost added to Central Air Handling Equipment. Tier 2
M7	The Air Handling Systems serving Gymnasiums are at end of useful life	General		3				Replace Air Handling Systems	$ 330,000	Tier 1
M8	Add Air Conditioning to Gymnasiums		4					Install Air Conditioning Equipment	$ 150,000	Cost added to Central Air Handling Equipment Tier 2
M9	The Air Handling System serving Cafeteria is at end of useful life	General		3				Replace Air Handling System	$ 130,000	Tier 1
M10	Add Air Conditioning to Cafeteria		4					Install Air Conditioning Equipment	$ 60,000	Cost added to Central Air Handling Equipment Tier 2
M11	Corridors lack proper ventilation	IMC Chap 4		3				Install Corridor Ventilation Systems	$ 50,000	Tier 1
M10	Finned Tube Perimeter Radiation is likely near end of useful life		4					Replace Finned Tube Radiation	$ 260,000	Tier 1
M12	Boilers and Pumps routine maintenance				2			Perform Boiler cleaning, burner service, and pump inspection and maintenance per manufacturer's recommendations.	$ 30,000	Cost over 10 years Tier 1

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WESTON MIDDLE SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
M13	Air Handling Equipment routine maintenance				2			Replace filters, clean drain plans, test actuators and linkages, lubricate bearings, replace belts, etc.	$ 40,000	Cost over 10 years Tier 1
M14	Exhaust Fans should be inspected and maintained.				2			Replace belts, Check motors and dampers for proper operation.	$ 10,000	Cost over 10 years Tier 1
M15	Chilled Water System routine maintenance				2			Check operation of Compressors, Condenser Fans, Pumps. Clean strainers, check refrigerant charge and controls.	$ 6,000	Cost over 10 years Tier 1
M16	Underground Fuel Oil Tank is scheduled for replacement in 2020.				2			Replace tank, piping, fuel oil transfer set, and inventory control system.	$ 180,000	Tier 1
M17	Pneumatc Controls are obsolete			3				Install new DDC Controls and interface with Facilities Management System.	$ 600,000	Include in Tier 1
M18	Tier 1 HVAC upgrades				2			One for one replacement of Equipment at end of useful life.		Total Tier 1 Cost: $4,966,000
M19	Tier 2 HVAC upgrades		4					Add Air Conditioning Equipment to spaces not curently conditioned.		Total Tier 2 Cost: $510,000
M20	Tier 3 HVAC upgrades		4					Includes consolidation of the Heating Plants and new High Performance HVAC Systems and related Structural Modifications		Total Tier 3 Cost: **$12,000,000**
MECHANICAL SUBTOTAL								Tier 1 + Tier 2 Cost		$ 5,476,000
ELECTRICAL SYSTEMS										
E1	Currently the emergency lighting is provided by stand alone battery units (normally off). There appear to be areas that don't have sufficient emeregency lighting to meet the current code.					1		Install a code approved emergency lighting system throughout the school, there are a few options to achieve this (new AC inverter system, stand alone battery devices, battery ballast in general light fixtures or generator via emergency transfer switch.	$ 50,000	$50K is for a replacing or adding to 60% of the schools exisiting twin head battery distribution, itwill cost approx. $100K to modify the existing generator distribution, the third option would fall somewhere in between

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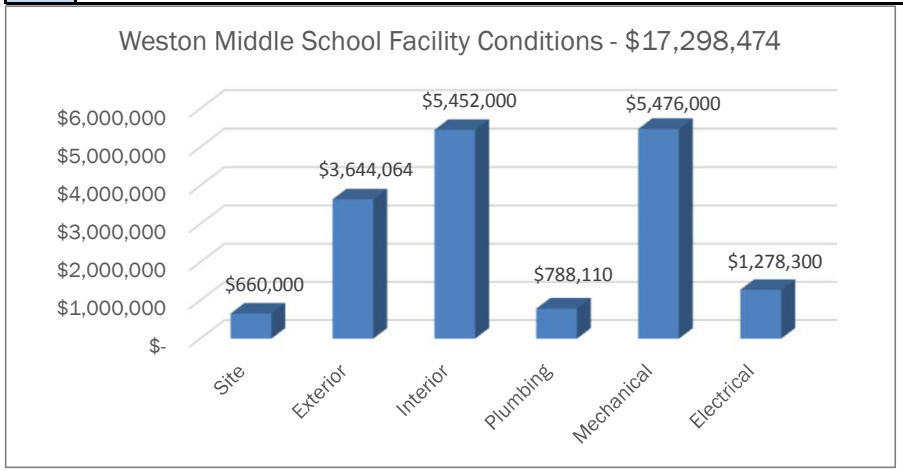
WESTON MIDDLE SCHOOL - FACILITY CONDITIONS ANALYSIS										
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
E2	It does not appear to be sufficient normal and emergency lighting in the Courtyards to meet the current code for egress				2			Install new LED sconce fixture with emergency battery ballast	$ 7,500	approximately $500 per fixture
E3	Existing fluorescent & incandescent fixtures throughout the school, appear fully operational but not very efficient		4					Replace all existing fluorescent and incandescent fixtures with new energy efficient LED fixtures. Existing LED fixtures shall remain	$ 840,000	allowance excludes the Pool, Tech. Ed. and the Media Center (which already have LED fixtures or are schedule to have new LED fixtures installed)
E4	Handicap accessible individual toilets rooms require call for aid system (not installed) per the current code				2			Install new "call for aid" system in each newly configured individual accessible toilet room	$ 4,800	allowance of $400 per location
E5	There are no "low" mounted exit signs in the three assembly spaces (2-Gym's. & Café.) to meet the current code				2			Install new self-illumiating exit sign on the kick plate of each pair of egress doors out of these rooms, plus 2 additional in the Gym.	$ 5,000	
E6	There is no two-way communication system or illuminated signage for the "area of rescue" at the stair across from the new Gym.					1		Install new illuminated "area of rescue" signage and two-way communication system at each level of the stairwell across from the new Gym.	$ 6,000	
E7	Possible missing exit signs and emergency lights in rooms over a thousand square feet				2			Add two exit signs, one at each door and emergency lights per room.	$ 15,000	approximately $1500 per room
E8	Tier 1 HVAC upgrades		4					One for one replacement of existing equipment that is not working properly		allowance of $20,000

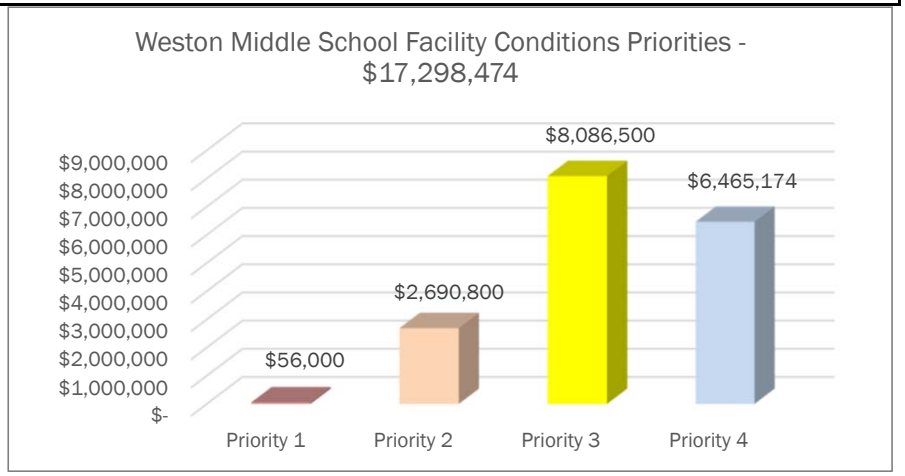
WESTON MIDDLE SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING	CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
E9	Tier 2 HVAC upgrades		4	Install air conditioning in the school to areas it doesn't exist currently, requiring electric service upgrade. Replace existing 2500 amp 480V service with new 3000 amp 480V service	$ 350,000	allowance
E10	Tier 3 HVAC upgrades		4	Same as tier 2, except replace existing air conditioning equipment with new throughout.		allowance of $425,000
ELECTRICAL SUBTOTAL						**$ 1,278,300**
TOTAL ESTIMATED COSTS						**$ 17,298,474**

LEDGEND PRIORITY - RANK

1	Urgent priority - These items should be corrected as soon as possible and most likely encompass code, health and life safety issues.
2	High priority - These items should be corrected within a reasonable amount of time after the highest priorities referenced above. These may be associated with high priority maintenance issues or accessibility issues for the physically challenged. Maintenance items have a remaining useful life from 1-3 years.
3	Moderate priority – These items may be associated with aesthetic or general maintenance issues. Remaining useful life of 3-5 years.
4	Low priority – These items include maintenance and aesthetic issues that are not in current need of replacement, but should continue to be monitored on a regular basis. These items typically have a remaining useful life of 5-10 years or greater.





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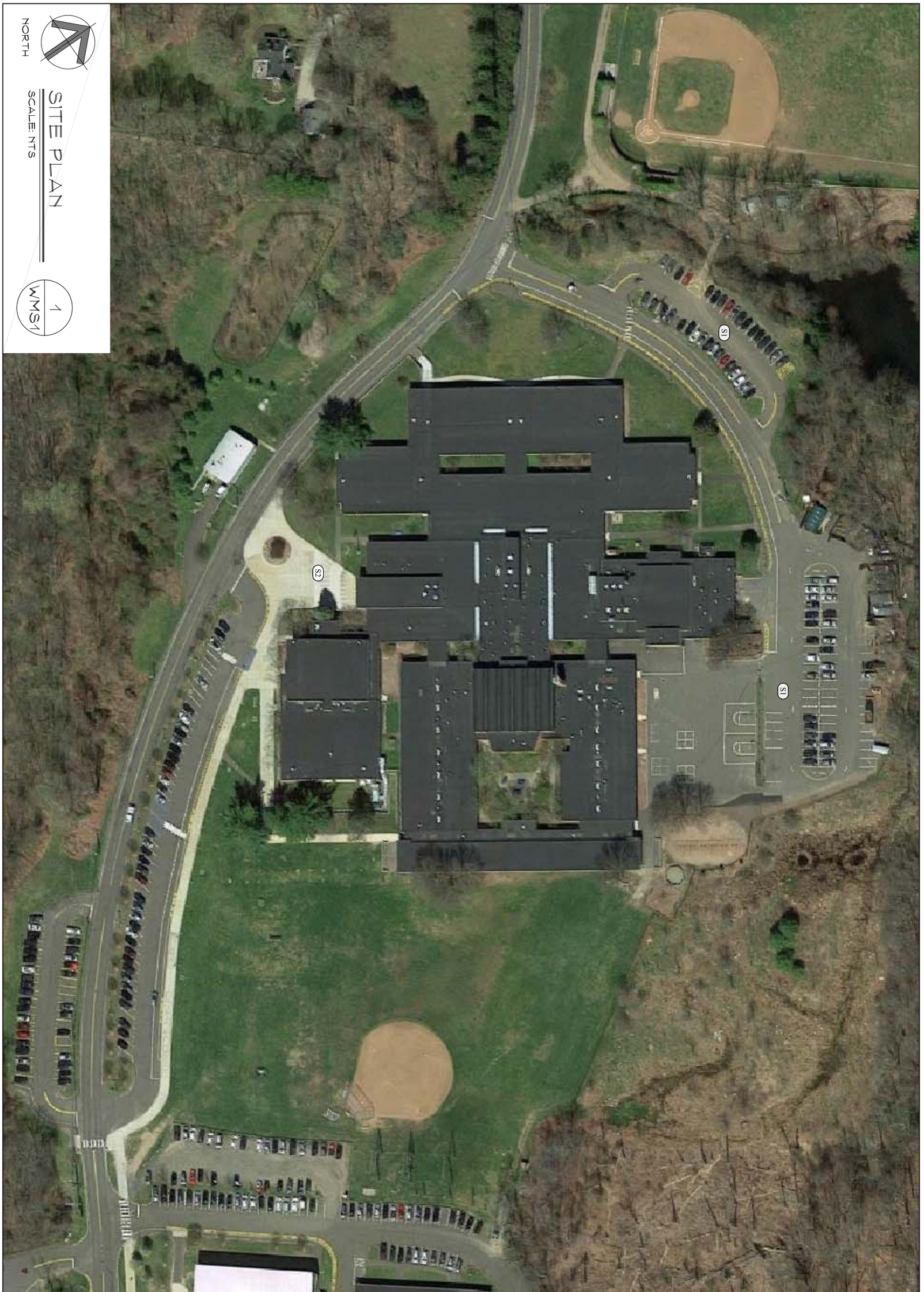

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WESTON MIDDLE SCHOOL

SITE CONDITIONS ANALYSIS

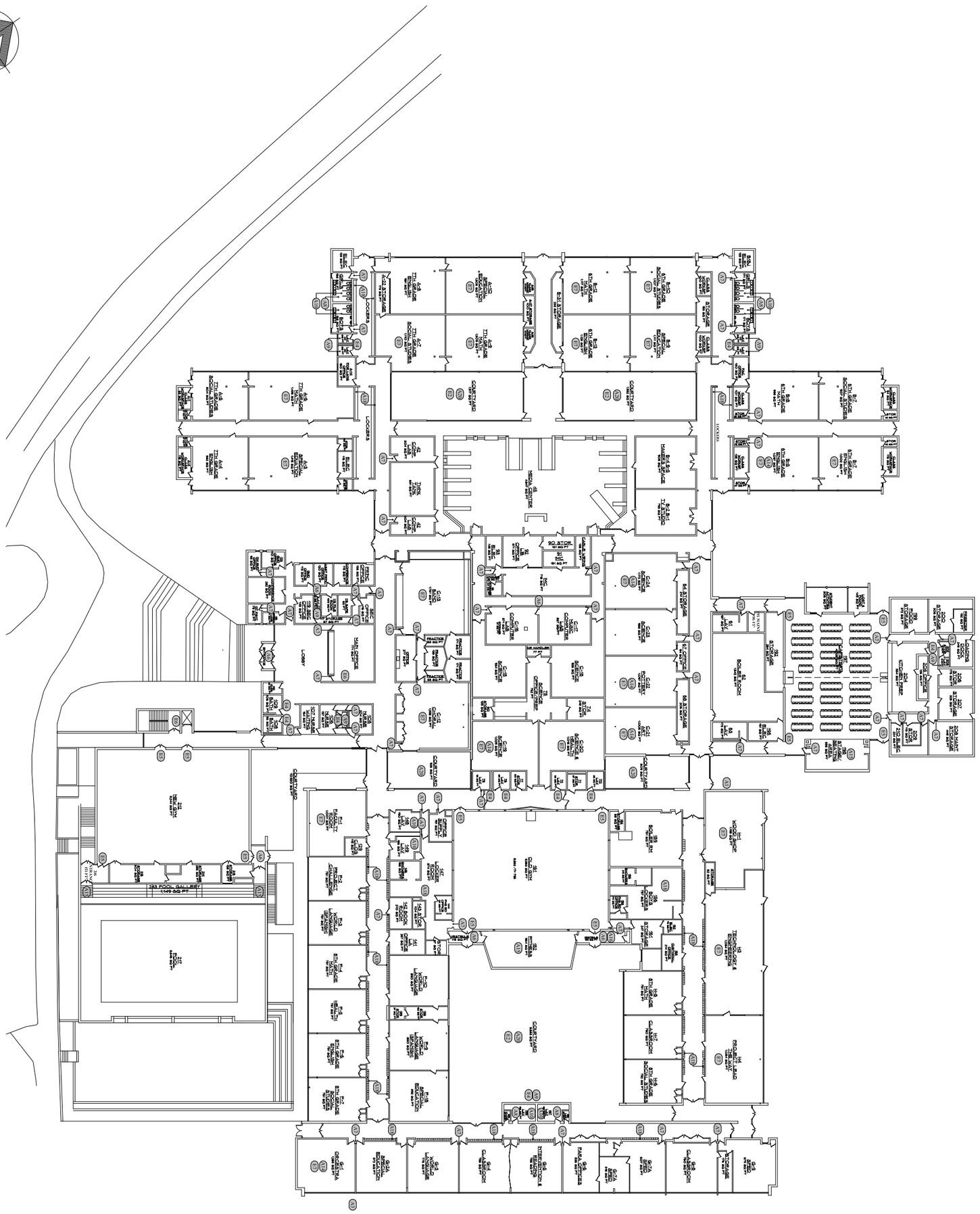
Weston Schools
Facilities Feasibility Study

NORTH

OVERALL FLOOR PLAN

SCALE: NTS

1
WMS2



LEGEND

SITE	(S01)
ARCHITECTURE	(A01)
FIRE PROTECTION	(F01)
PLUMBING	(P01)
MECHANICAL	(M01)
ELECTRICAL	(E01)

REFER TO THE MATRIX FOR ITEMIZED INFORMATION REGARDING THE ASSESSMENT, CORRECTION, PRIORITY AND COST.

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WESTON MIDDLE SCHOOL

FACILITY CONDITIONS ANALYSIS

Weston Schools
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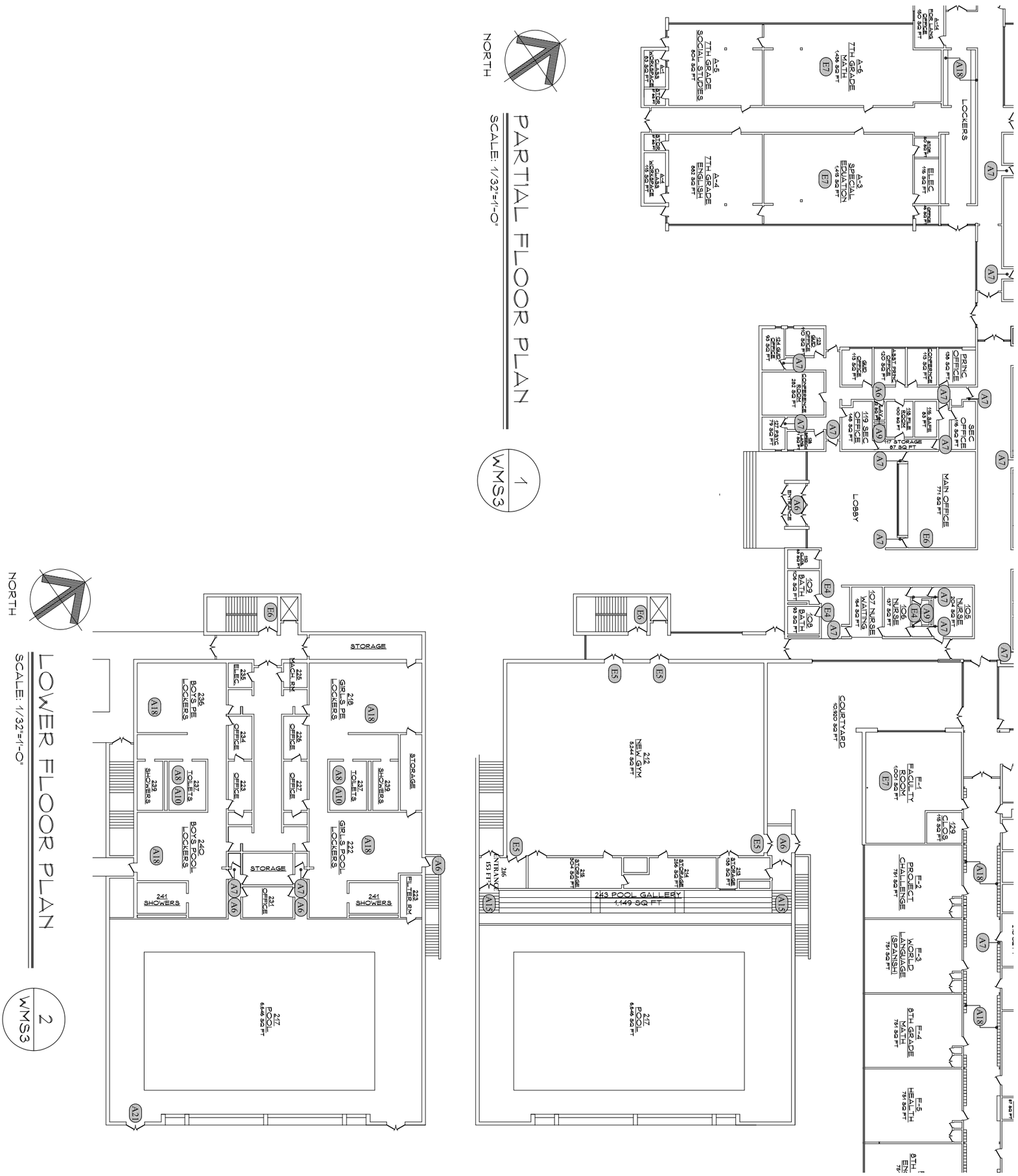

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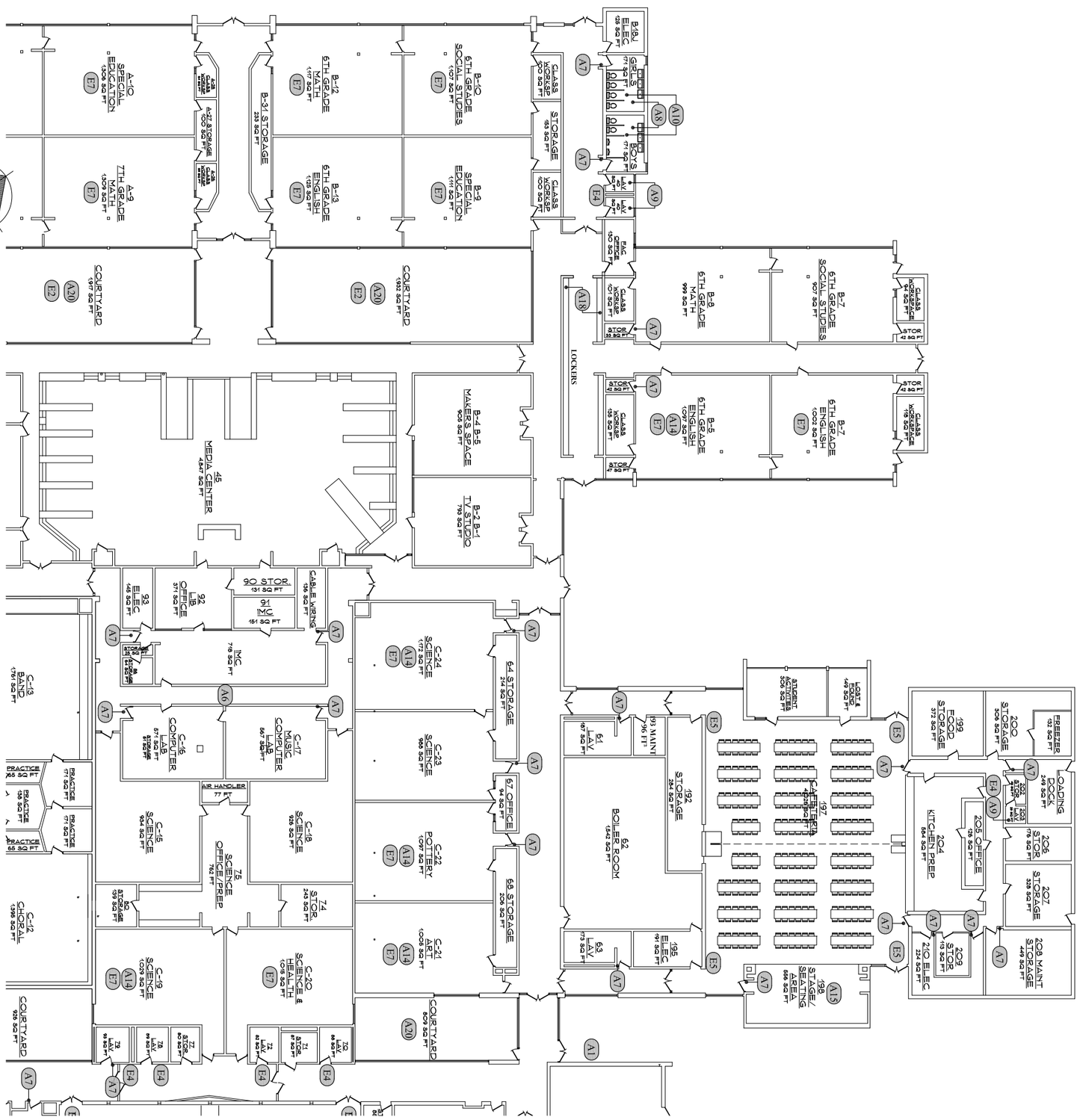

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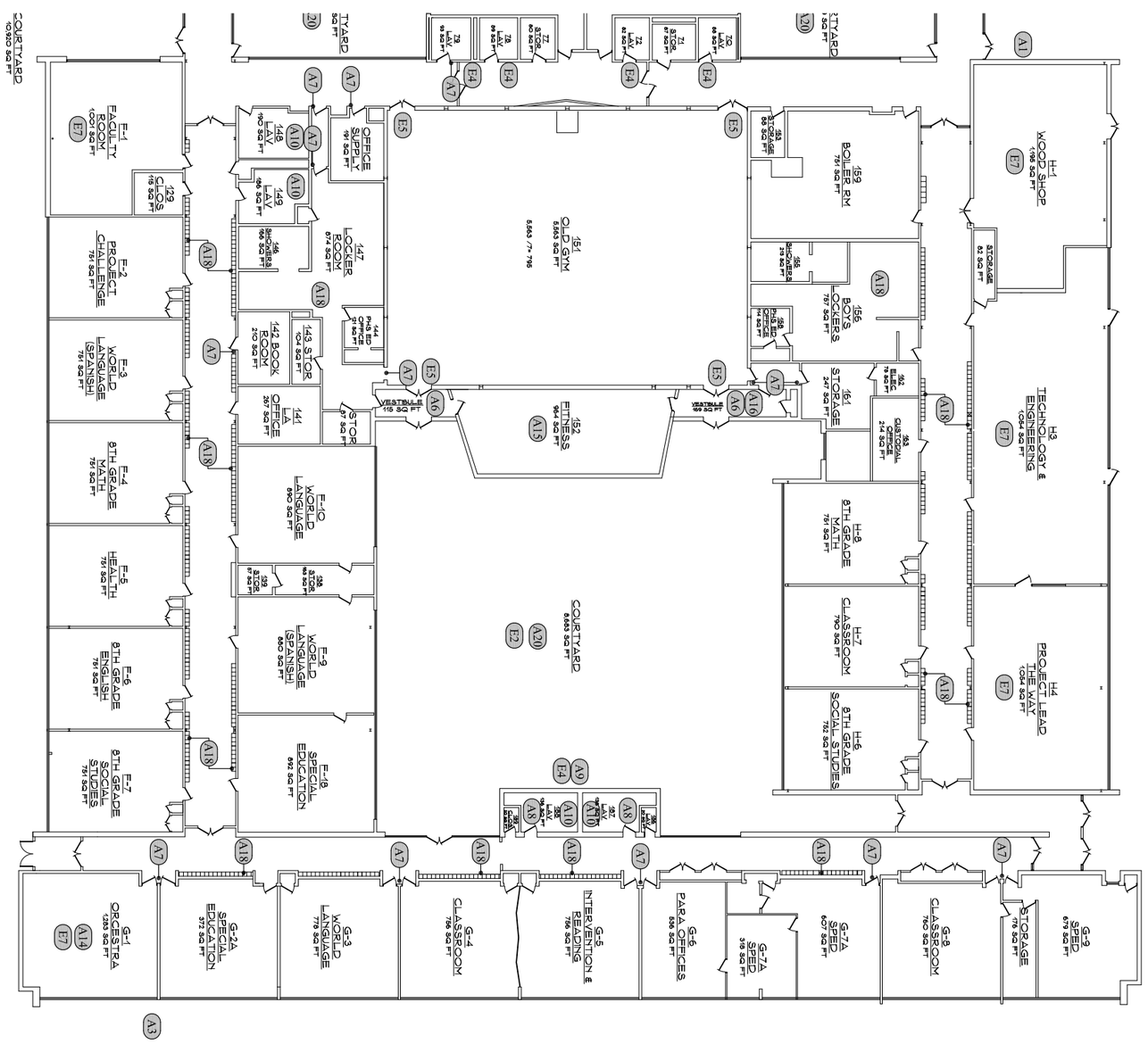

NORTH

PARTIAL FLOOR PLAN

SCALE: 1/32"=1'-0"

1
WMS5

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DRAFT 11.03.17

Weston High School

Figure 1: View of High School main entrance

Weston High School was originally constructed in 1968. This one story building has received additions over the course of its lifetime, most notably in 2005. This project added on to the entire front of the building with classrooms, Media and cafeteria. Four art classrooms were added at the north and a new gym, locker rooms and the kitchen were added to the south. Additionally, a 2 story science wing addition was added at the southeast. Today, the building is approximately 223,539 net square feet. Weston High School is home to 9th through 12th grade serving 814 currently enrolled students and 111 staff members.

Site

Weston High School is located at 115 School Road on the 117-acre school campus site. It is centrally located on School road between Weston Intermediate school to the south and Weston Middle School to the north. Between the High school and the intermediate school, the track and football field sit with concession stands and bleachers. Additionally, 6 tennis courts boarder the field and wetlands to the east. A soccer field is located to the west across the road. The school main entrance is centrally located to the west, served by a ramp and set of stairs. Parking is located in front of the school with additional lots at the north. The loading dock is also located to the north. The original was located at the rear of the building.

Figure 2: Google Site Image

Limited site issues were noted during the walkthrough. Various cracks are located through the asphalt parking lot and driveways however there was not any significant spider or alligator cracks. However, the asphalt area in the courtyard is severely cracked and uneven likely due to root growth. Brick pavers in the courtyards have moved and settled and are also in need of repair. These items can be a tripping hazard. Additionally, the threshold at the stage design garage door is cracked. The doors outside of the art rooms also have a bituminous path that appears to have had a drain added. This area then slopes up to the original portion of the sidewalk. Some doors also have greater than a ½" transition.

Architecture

Overall, Weston High School is in fairly good condition. The building has been well maintained throughout its lifetime. The school floor plan is laid out with a series of corridors running the long length of the building and numerous perpendicular corridors then break up the plan. Two large courtyards and two smaller ones break up the plan and allow daylight into many interior spaces. When entering the building under the waffle slab structure a large lobby with clearstory windows welcomes visitors. The security booth is to the right and the main office is just beyond across the corridor. The lobby expands to the north where the original auditorium sits within B-wing. Tables and chairs allow for students to congregate and even have lunch in this area. The classrooms that surround the auditorium are for music, drama and art classes. The exterior bound classrooms were all added in the 2005 project. The two music classrooms are original and in need of some improvements both aesthetically and acoustically. The loading dock is located in the alcove between this wing and the one beyond. The standard classrooms are organized into wings, C, D, E and G. A wing consists of administrative offices and the Media center and associated rooms to the front. The expansive athletic complex including numerous locker rooms, weight and fitness room, offices and 2 gyms occupy the southern portion of the building. The cafeteria and kitchen are located to the southwest in the front.

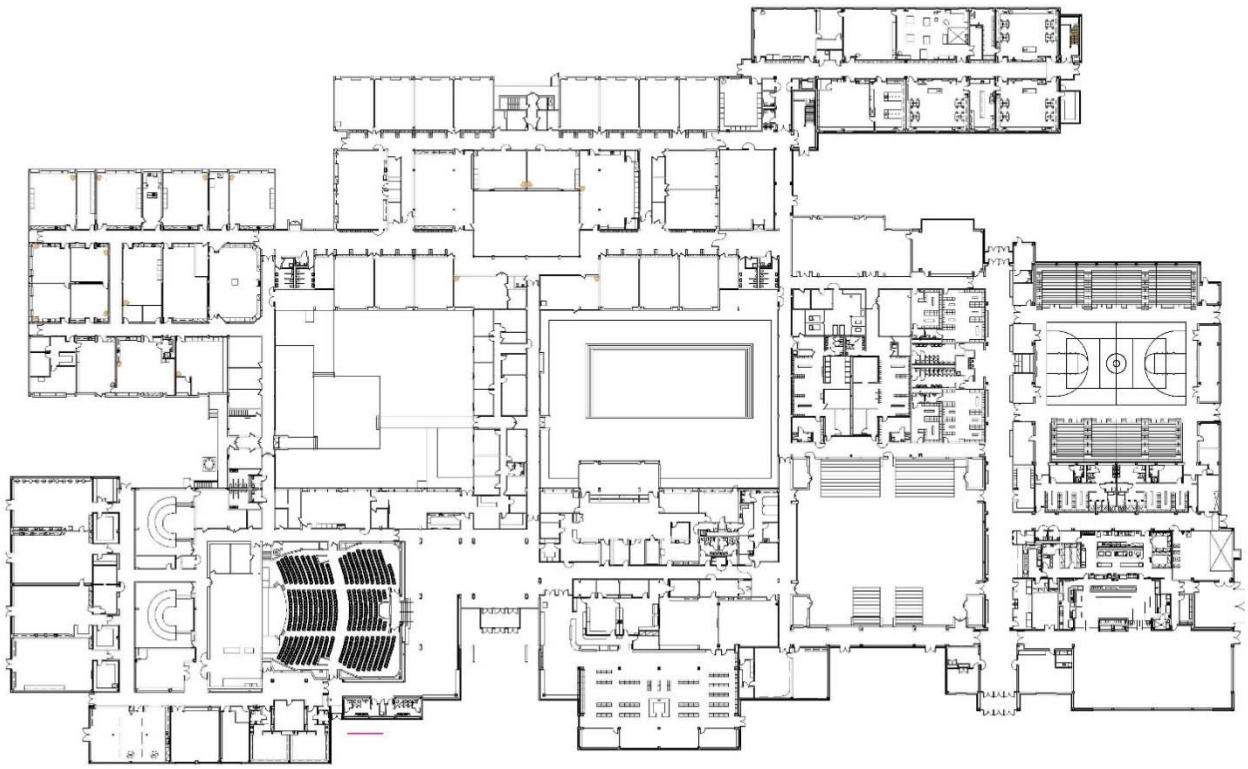


Figure 3: Overall Main floor plan

Interior

The interior of the building is maintained based on the existing conditions and existing systems. A visual inspection of the walls, floor and ceiling were reviewed during the building walkthrough. The interior walls consist mostly of concrete masonry units (CMU) along with sheetrock, most notably in the new additions. Ceramic tile in restrooms are in good condition. Most walls are in good condition. However, limited areas of sheetrock have some wear and tear. Additionally, rubber baseboard in the older portions of the school is in need of replacement. The majority of dropped ceilings are 2x2 acoustical ceilings. Many areas are exposed revealing the waffle slab structure. Some ceilings areas have various stains but overall ceilings are in good shape. Flooring throughout consists of a variety. Slate covers the lobbies and standard VCT covers much of the building. Most of the VCT flooring is good with limited areas of cracking or seams spreading. It appears that some areas did not receive a floor expansion joint and therefore these areas are cracking at the VCT. The older portions of the building have 9x9 floor tile which may likely contain some asbestos and should be remediated and replaced. Carpet in administration and media are in good condition. The tile in bathrooms, locker rooms, kitchen and cafeteria are in good shape too. The wood floors at the gyms are in good shape. Overall the interior walls, floor and ceiling are in good condition.

Figure 4: Cracked VCT where expansion joint is needed

The facility consists of a variety doors, frames and hardware. Most doors are wood doors within painted hollow metal frames. However, many doors in the older portions are painted hollow metal doors. Many doors have a glazing opening within the leaf. Door hardware appears to meet code. Most doors have hand levers and panic devices. Overall the interior doors are in good condition. The interior of the windows appears to be in good condition however some caulk and mortar at sills is beginning to wear.

Figure 5: Original classroom doors without required push pull clearance

Most casework and built-in shelving throughout is plastic laminate and updated in 2005. However, some casework in the original classrooms is dated or lacking and should be replaced or added. It also doesn't appear that an ADA accessibly lab station exists in all the science clabs. Many of the sink knee spaces throughout the school is blocked with furniture or supplies and should be moved. Overall the casework is in good condition.

Many ADA accessibility and code issues were noted at this facility. This is a common occurrence given the age of the building and its renovations. These items should be included in the long term capital plan. Many of the doors within the original structure do not have the required push and pull clearances. All of the courtyards do not appear to meet the required egress as dictated by the code. All of the required grab bars do not exist in any of the handicap restrooms as they are all missing the vertical grab bar. Some gang toilet rooms are missing a handicap stall all together. As previously mentioned, in addition to these toilet rooms other ADA noncompliance items there is also the noncompliant casework.

Exterior

Figure 7: Window head condition

Figure 6: Window sill condition

The brick walls of the school are generally in good condition, with limited areas of settling and spalling. The original building is constructed with brick "veneer" and concrete masonry unit interior. The energy efficiency of the original construction is very low, and typical in the 1960s ("pre energy crisis"), and not one that is easily corrected. Some of the larger volumes contain a precast concrete panel instead of the brick. The original deep overhangs consist of the same panels. The additions were constructed with brick "veneer" and a metal stud backup with sheetrock. Overall, the mortar is in good condition with limited areas in need of repointing. Some of the brick low to the driveway in B wing are damaged around the unit ventilator louver. The original concrete panels are dirty and should be power washed and sealed. The overhangs, once painted are wearing away the finish with flaking paint. Some of the window sills on the newer portions of the building also have staining of the concrete. A few sills seemed to have moved slightly out of plumb and have loose mortar joints. Overall the masonry appears to be in good condition.

When evaluating the energy efficiency of a building, it is known that nearly 25–40% of all heat energy is lost through windows. The new additions have received new double-glazed aluminum frame windows. They appear to be in good condition. However, many of the old windows are still in place today. These older steel windows with a single pane of glass are not efficient at all. Many go all the way to the floor. There are also clearstory windows throughout the school too. Many of these windows are deteriorating and should be replaced with new energy efficient systems. The exterior doors seemed to have all be replaced. A few utility doors may still be existing from the original construction and should be replaced. There are a variety of roofs at this school. Ballast roofs are on the additions and a variety of EPDM roofs are on the existing building. The ballast roof appears to be in good shape. The roof was believed to be replaced in 2000 so it is approaching the end of its warranty period.

Figure 8: Original Window condition

Plumbing

Overall, the plumbing systems for the school are in good condition.

The Domestic cold water is provided by water supply wells that supply water to multiple buildings on the property. The location of the water service for the building was not observed.

Domestic hot water is produced by two gas-fired water heaters. The first water heater, located in one of the boiler rooms, has an input rating of 199,000 BTUH and feeds two large storage tanks with unknown volumes. The water heater was manufactured in 1985 and is 32 years old. The system should have an average life expectancy of approximately 20-25 years, so this system has reached the end of its useful life. The second water heater, located in the other boiler room, has an input rating of 1,010,000 BTUH and a storage volume of 750 gallons. The system is approximately 12 years old. The system should have an average life expectancy of approximately 20-25 years and remaining life expectancy it about 10 years, however, there is some severe corrosion on some of the piping and this should be repaired/replaced.

To maximize service life, the Water Heater should be regularly serviced per the manufacturer's maintenance recommendations including, but not limited to, draining and flushing, testing relief valve, and inspecting/replacing anode. Refer to manufacturer's O&M literature.

Plumbing fixtures for the building appear to be good condition. The urinals are wall mount with manual flush valves. The building has water closets that are wall mounted with manual flush valves. The lavatories are a combination of wall hung lavatories, counter top mounted and wall hung wash stations with single control metered faucets, single lever faucets and sensor faucets (on single station wash stations only). The sinks in the art classrooms have solids interceptors on their drainage piping. The interceptors should be checked periodically and cleared of any solids that have been collected in them. Various styles of electric water coolers are provided throughout the building. The faucets for the science classrooms have integral vacuum breakers. The science sink drains are piped correctly with acid waste piping. The neutralization tank is that this piping is running into is located below the greenhouse.

While the overall condition of the fixtures is good, there are a few issues noted during the visit. The drain for the sink in the darkroom has severe corrosion and should be replaced or repaired (See photo below left). Some of the emergency showers that are installed are not accessible or in working order due to items being stored in the area that should be clear for the shower or in one case, the handle for the emergency shower has been removed (See photos below center and right).

All of the fixtures in the kitchen are connected to a grease interceptor. No sanitary or storm piping issues were observed during the visit. If there are any areas with known issues, it is recommended that the pipes in that area get scoped with a camera to see if the root of the issue can be determined.

Fire Protection

The facility is fully sprinklered. The sprinkler piping and components appear to be in good condition. There is a check valve and flow switch on the supply. This feeds 5 alarm valve risers that provide multi-zoned sprinkler coverage for the building. This main is fed from a pump house on the campus that serves multiple buildings. It is not known if the stage platform is wood-framed, as there was no visible way to access the area below the stage. Due to this, it is unknown if sprinkler protection has been provided under the stage or if it is required due to the type of construction materials used. The stage has been provided with standpipes. Overall, the sprinkler system for the school appears to be in good condition.

Mechanical

Heat for the facility is provided by two separate Hot Water Boiler Plants. The 1968 portion is served by two Smith Model 28HE-W-18 Boilers installed in 2011. The boilers are fitted with Power-Flame dual fuel burners. The Boilers appear to be well maintained and in good condition with likely 25 to 30 years of useful life remaining. The Hot Water Pumps, system valves and accessories appear to date back to the original 1968 construction. The pumps should be considered near the end of useful life but appear to be serviceable and may remain in service with continued Maintenance. Recommend planning for eventual replacement. Provision for combustion air appears adequate.

Water was observed on the floor of the Boiler Room which is reported by maintenance staff to be seepage through the walls rather than leakage from equipment. No equipment leakage was observed.

The 2005 addition is served by three Weil-McLain model 1488 Hot Water Boilers equipped with Power Flame Dual Fuel Burners. The Boilers appear to be well maintained and in good condition with likely 20 to 25 years of useful life remaining. Provision for combustion air appears adequate.

Since Boiler life can be affected by poor water quality and inconsistent maintenance, it is recommended that the boiler water be periodically tested. Regular preventive maintenance should be performed to maximize the service life of Boilers and related equipment.

Pump life can be maximized by continued service, including periodic inspection, with repacking, lubrication, and replacement of bearings and motors as required.

The facility is served by two fiberglass Underground Fuel Storage Tanks (USTs). The UST serving the original 1968 portion is 10,000 gallons, installed in 1990, last inspected in 2009 and is scheduled for removal in 2020. The UST serving the 2005 additions is 15,000 gallons, installed in 2004, last inspected in 2009 and is scheduled for removal in 2035. The Tank Inventory and Leak Detection Systems should be periodically tested for proper operation.
HVAC for the facility is provided by a combination of Packaged Rooftop Air Conditioning Units, Air Handling Units, Unit Ventilators and Split System Air Conditioning. Most of the systems were installed as part of the 2005 Additions and Renovations.

Areas of the 2005 Additions and Renovations are mostly served by Packaged Rooftop Air Conditioning Units, except for original perimeter classrooms, served by the original Classroom Unit Ventilators.

Packaged Rooftop Air Conditioning Units installed as part of the 2005 project serve interior spaces and the 2005 Additions. The units appear to be in good condition with 10 to 15 years of useful life likely remaining.

The Auditorium is served by an Air Handling Unit located in the Mezzanine Mechanical Room with a pair of roof mounted Condensing Units. The Unit was installed as part of the 2005 renovations and appears to be in good condition with 10 to 15 years of useful life remaining.

Auditorium Control Booths are provided with Air Conditioning by Ductless Split Systems. The units appear to be in good condition with 10 to 15 years of useful life remaining.

An original 1968 Air Handling Unit serves a portion of C-Wing. The unit is at the end of its useful life and should be budgeted for replacement. The unit is currently running with an exposed drive and no belt guard which is a hazard to personnel.

The Old Gymnasium is served by four original Air Handling Units installed in 1968. The units have exceeded their useful life expectancy and should be budgeted for replacement.

The New Gymnasium is served by a roof mounted Air Handling Unit installed at the time of construction in 2005. A 60 Ton Chiller was added to serve the Gym Air Handling Unit in 2015. The Air Handling Unit is in good condition with 15 to 20 years of useful life remaining. The chiller likely has 25 or more years of useful life remaining.

E-Wing Classrooms were provided with Air Conditioning in 2014. E-Wing Classrooms are served by Variable Refrigerant Flow (VRF) Systems with roof mounted Condensing Units and Fan Coil Units installed in the Classrooms. The system is in good condition with a remaining life expectancy of approximately 20 years.

The Weight Room and Dance Studio are served by a Packaged Rooftop Unit serving other spaces of the Athletic Department. The Weight Room and Dance Studio are at the end of the duct run, the suppy duct appears to be small for the space and ventilation of the spaces is not adequate. Recommend installing a unit dedicated to the Weight Room and Dance Studio.

Classrooms B-6 thru B-9 of the 2005 B-Wing addition are served by a Packaged Rooftop Air Conditioning Unit. The Classrooms have large north facing windows and there have been complaints of poor heating in those spaces. Recommend further investigation and possible installation of supplemental heating.

The original Classroom Unit Ventilators serving the 1968 Classrooms have been well maintained but should be considered at the end of useful life. Recommend replacing Unit Ventilators with ducted roof mounted equipment.

The original Finned Tube Radiation, Unit Heaters and Convectors installed in 1968 are near end of useful life. The enclosures are aged with some damage and the heating elements are likely providing diminished heating capacity having exceeded their useful life expectancy. Recommend planning for replacement as part of any major HVAC improvements.

Some of the School's corridors are lacking ventilation. Recommend adding Rooftop Units to provide ventilation as required.

Air Handling Equipment should receive continued preventative maintenance including regular lubrication, filter and fan belt replacement, and motor and bearing replacement as required. Condensate pans and drains should be cleaned and valves and dampers, including actuators, should be periodically checked for proper operation. DX Cooling Equipment should be checked for proper refrigerant charge, and compressor and condenser fan operation. Touch-up painting should be done as required.

Consideration may be given to inspection and cleaning of the ductwork interior to ensure good indoor air quality. Flushing and cleaning of piping, coils and strainers will help maintain good fluid flow and heat transfer.

Automatic Temperature Controls for the facility are a combination of original pneumatic controls, and electric/electronic controls which are part of a Direct Digital Control (DDC) Building Automation System by Alerton as part of the 2005 Additions and Renovations. The pneumatic controls are now obsolete and it is recommended that the facility eventually be upgraded to all DDC Controls.

If the facility was not commissioned, or has not been recommissioned since the original construction, there is likely to be a significant improvement in operating efficiency by recommissioning/retro-commissioning of the HVAC systems. Since the school requires large volumes of outside air and air economizer (100% outside air for free cooling), verifying proper function of HVAC Equipment, Automatic Temperature Controls and especially Outside Air Dampers and Economizer Controls, could yield energy savings resulting in a good return on investment.

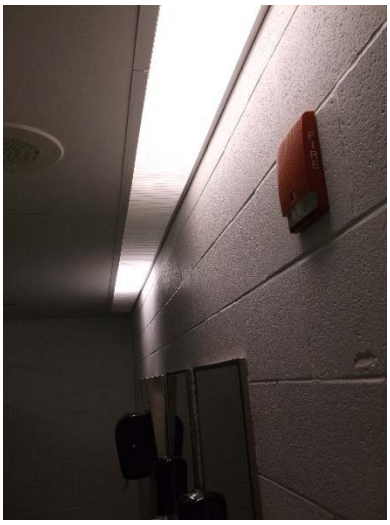
Energy-Star reports a median energy savings of 15% annually when recommissioning/retro-commissioning is performed.

Electrical

Interior Lighting

The existing luminaires are a mix of recessed, surface and pendant mounted fixtures, mostly fluorescent with some LED and metal Halide lamps. In the Main Office, Guidance and Lobby there are recessed 2'x2' & 2'x4' parabolic fixtures, recessed 2'x'2 & 2'x4' center basket fixtures, surface mounted cylinder fixtures, recessed down lights, surface mounted track light fixtures and recessed down lights with decorative drop concentric metal rings. The Classrooms are a mix of recessed 2'x4' 18 cell parabolic fluorescent fixtures, surface mounted lensed 2'x2 fixtures, pendant mounted round direct/indirect fluorescent tube fixtures and some pendant mounted lensed LED 2'x2' fixtures. The Corridors have both recessed 2'x4' center basket fixtures and recessed 2'x4' 18 cell parabolic fixtures. The Cafeteria has pendant mounted decorative spherical metal halide fixtures and linear fluorescent wall wash fixtures and recessed 2'x2' center basket fixtures. The Auditorium has recessed down lights as the main "house light" fixtures with 4' industrial fluorescent fixtures with wire guards on the stage. There are also theatrical lights installed on the Stage, three rows on motorized rails along with fixed mounted lights on pipes at the sides of the auditorium. The Kitchen and Serving area has recessed mounted lensed 2'x4' fixtures and pendant mounted

direct/indirect light fixtures. The Corridor running along the Gymnasiums and the Cafeteria has recessed linear wall wash pointed up along the length of the sky light. Both Gymnasiums have pendant mounted industrial high bay 3/4-lamp fluorescent fixtures with wire guards. The Media Center/Library has pendant mounted decorative spherical metal halide fixtures and linear fluorescent wall wash fixtures and recessed down light fixtures. The Science classrooms have recessed 2'x4' 18 cell parabolic fixtures. The main Courtyard has three frosted sphere fixtures mounted on 8' poles along with a few lights up under the canopies the other courtyards do not have lighting in them. The Computer Labs have pendant mounted round direct/indirect tube fixtures installed. The Locker rooms for both Gymnasiums have recessed 1'x4' & 2'x'4 lensed fluorescent fixtures along with recessed fluorescent cove light fixtures in the bath rooms and wall mounted "jelly jar" fixtures in the showers. The utility spaces are typically illuminated by pendant mounted fluorescent wraparound or industrial fluorescent fixtures with wire guards. Most fixtures were working at the time of the walk through, but some of the fluorescent fixtures are near the end of their useful life and should be replaced with new efficient LED fixtures.



Exterior Lighting

The existing luminaires throughout the exterior consist of surface mounted square metal halide/LED light fixtures and surface mounted round cylinder fixtures in the canopies. Building mounted "full cutoff" compact fluorescent/LED sconce type fixtures, two sizes, small and large. There are also ground mounted small LED flood lights aimed at the exterior of the building in some areas. The courtyards have frosted spherical fixtures on an 8ft. pole with some incandescent sockets. The parking lot lighting is provided by pole mounted

(approximately 20' high) LED low profile full cutoff fixtures. There are also bollard fixtures around the building, illuminating walkways. The pole mounted fixtures are all in good condition and should not need to be replaced or upgraded. The lights were not on at the time of the walk through since it was late morning early afternoon, so their operation could not be verified. It appears that all the exterior egress doors have both normal and emergency light fixtures installed at them, but without more information we cannot determine if the minimum light levels required are meeting the current code to allow for proper egress away from the building.






Exit signs & Emergency Lighting

The existing emergency lighting is provided by self-contained battery powered normally off fixtures (twin heads, squares & recessed round fixtures) in addition to emergency battery ballasts in some of the general lighting fixtures. There are also normal building fixtures on the generator distribution; these are areas used for as part of the emergency shelter. This meets the requirements for a standby distribution system. If the school wishes to use the generators for emergency lighting, at second transfer switch will need to be added to each generator, and only code approved emergency systems can be wired to this system. We were not able to determine the extent of the existing battery emergency lighting system, to determine if it meets the current code required light levels. This should be reviewed further, to determine if any area requires more emergency fixtures or replacement of units not operating. There are remote mounted normally off single & twin head emergency fixtures and exit signs in the Main Courtyard, some of these fixtures appear to be broken and are hanging by their wires. We could not determine if all the exit signs are working and it do not appear that the emergency light fixtures will provide the current code required light levels to properly exit the courtyard. Additional emergency light fixtures

should be installed to meet the current code requirements. The two smaller courtyards did not have emergency lights or exits signs in them, these should be added in order for the area to meet code and continued to be used by students and staff. We were not able to determine if there are enough normal or emergency fixtures to properly illuminate all the egress paths from the building to meet the current code.

There are existing exit signs located throughout the facility, these signs are white thermoplastic housings with LED lamps and possibly some fluorescent lamps as well. These signs appear to be in good condition and were all operating properly, except for some of the signs in the Auditorium. The two stairs at the new Science addition are missing "area of rescue" signage. There are no low mounted exit signs in three assembly spaces (new Gym., old Gym. & Café.), required under the current code. We recommend added low signs to all doors in the three rooms. There are low exit signs in the Auditorium. There are approximately 20+ Classrooms that require two exits from the space, it does not appear that these rooms have the required illuminated exit signs and emergency lights installed. Each room over 1K square feet should be confirmed that there is an illuminated sign at the two doors and emergency lighting, if they do not exist add as required to meet the code. The exit signs all appeared to be in good condition and working at the time of the walk through.

Power

The existing electrical service originates from a pad mounted utility transformer located to the south side of the building. From the utility transformer, the secondary feeder runs underground to a 3000 amp, 480Y/277V – 3 phase service rated switch in the Main Electric Room. The service switch intern feeds two distribution sections. The distribution sections of the switchboard feed panels throughout the building in local electrical closets and directly in rooms, in addition to back feeding the old 2000 amp, 480Y/277V – 3phase switchboard in the old main electric room on the north side of the building.

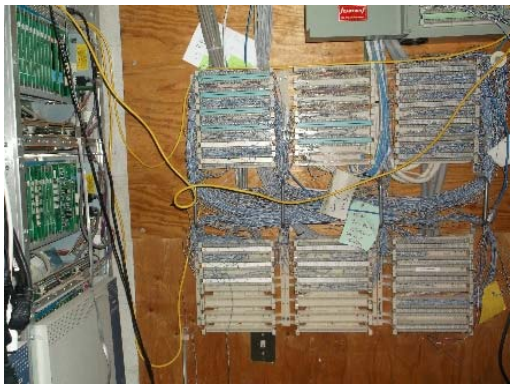
There are two generators, the newest is a 500 KW diesel generator by Caterpillar with base mounted fuel tank located outside of the south side main electric room. The generator has a single output breaker (800 amps) feeding a single automatic transfer switch in the main electric room (south side). The second generator is older and located inside the building near the loading dock on the north side of the building in a room adjacent to the old main electric room. The generator is a 85 KW natural gas unit by Onan with a single output breaker that serves two automatic transfer switches in the room with the generator. The newer transfer switch feeds a 480V disconnect switch and then a 30 KVA step down transformer and then a 208V disconnect switch. The older transfer switch also feeds a step-down transformer then a disconnect switch. The two generator panels serve some interior lighting, exterior lighting, paging system, security system, fire alarm system, kitchen refrigeration, misc. power and some HVAC equipment (heating). The main electrical equipment and panels from the old distribution (north side of building) are nearing the end of its useful life and will need to be replaced in the future, also the location of the existing 2000-amp switchboard does not meet current code. This room only has one door in or out of the room, which would require double the working clearances in front of the equipment or an unobstructed path to the door which it does not have. When the equipment is going to be replaced, careful planning and coordination will be required to locate the new equipment and be code compliant.

The existing power receptacles throughout the school are mostly recessed mounted duplex and quad receptacles with metal cover plates. There are some surface mounted devices that are fed by either surface mounted conduit or surface mounted raceway (wiremold). The Tech. Woodshop Room has ceiling mounted cord reels with a single receptacle on the end of the retractable cord. The Science Rooms and some other Classrooms have surface mounted dual channel raceway for both power and communication devices. The receptacles for the most part appear to be in good operating condition, there are a few locations that spotted that the devices should be replaced or remounted to the back box.

There is a lightning protection system installed on the roof of the building, with air terminals and cables. There is damage to both the air terminals and the cable along the south-east side of the North addition roof. There are cables that are broken apart, air terminals damaged or pull off the roof and a section of cables and terminals just sitting coiled up on the roof.

Voice / Data

The existing telephone system demark is in the Data Room located near the loading dock on the north side of the building. There is an open rack, an enclosed cabinet and multiple telephone punch down blocks in the room. There are two other Data closets, one adjacent to the main electric room on the south side of the building and another in the Main Office area. The Rauland master clock headend equipment, and amplifier & cassette deck along with Sonitrol security panels are in the Data closet by the Main Office. The existing data outlets throughout the school are recessed mounted. There are desk mounted phones in all the classrooms, along with a wall mounted clocks and recessed ceiling speakers. There are a few rooms with wall mounted phones like the Gymnasium. There are speakers in all the hallways and utility rooms. There are desk phones in all the Offices. All equipment appears to be operating properly. There are wireless access point devices installed throughout the school.



Fire Alarm

The existing fire alarm system is an addressable Edwards (EST3) system, with the control panel located in a room at the lower level Storage area by the elevator near the stair at the east side of the building. There is a remote alarm panel at the front entrance security desk along with multiple power supply panels (NAC panels) throughout. There are three locations with remote alarm panels with emergency phones, both Gymnasiums and the Cafeteria. There are manual pull stations at all egress doors and in the Gymnasium. The pull stations in the Gym. have "stopper" covers. There are audio/visual devices throughout the building including all the Classrooms, the Locker Rooms, the Gymnasiums and the Cafeteria. There are carbon monoxide detectors in the mechanical rooms where there is fuel burning equipment. There are smoke detectors throughout the school, in the corridors, classrooms, stairs, etc. The devices throughout appear to be in good operating condition.

There is an existing security lock down system throughout the school, with emergency push button stations at the Main Office and Security Desk.

There is "area of rescue" system for the two stairs in the Science wing. In addition to the existing communication system, illuminated signs are required and need to be installed at each stair door.

WESTON SCHOOLS FACILITIES FEASIBILITY STUDY

WESTON HIGH SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
			4	3	2	1	n/a			
SITE CONDITIONS										
S1	Both courtyards brick patio is heaving - bricks are missing or failing apart	General			2			Remove, modify drainage, provide new base and new patio	$ 118,500	Based on 3450 square feet of brick pavers
S2	Asphalt in courtyard is severely cracked due to tree roots	General			2			Cut down tree and provide new paved area with brick pavers to match other area	$ 42,200	Based on 1,400 sq ft of asphalt removal
S3	Original loading area has remnants and layers of old concrete and asphalt	General		3				Remove old unused concrete area and reorganize, clean up area	$ 15,000	Based on 500 sq ft
S4	Courtyard hill eroding	General		3				Add low retaining wall at these areas	$ 12,000	
S5	Asphalt curbs are mangled and broken	General		3				Replace with concrete curbs	$ 15,400	
S6	Asphalt parking cracks	General		3				Seal cracks	$ 30,000	Allowance
SITE SUBTOTAL										**$ 233,100**
EXTERIOR CONDITIONS										
A1	Existing Windows are old, dated and inefficient				2			Replace with more energy efficient systems	$ -	Understood that this is an ongoing project.
A2	Existing doors are old, dated and inefficient				2			Replace with more energy efficient systems	$ -	Understood that this is an ongoing project.
A3	Brick is spalling or motor is in need of repointing or signs of efflorescence	General		3				Patch, repair, or replace brick and repoint and wash as necessary.	$ 30,000	
A4	Louvers are mangled			3				Remove and replace	$ 10,000	Assumes 10 locations
A5	Door thresholds are missing or not adequate			3				Provide new and properly install	$ 7,800	Assumes 12 locations

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WESTON HIGH SCHOOL - FACILITY CONDITIONS ANALYSIS										
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
A6	Door thresholds or concrete pads have a greater than 1/2" transition to grade	ANSI 117 (ADA)		3				Provide ramp or re-grade asphalt/concrete to allow for 1/2" maximum vertical transition.	$ 19,200	
A7	Caulk or control joint at wall is missing or deteriorating				2			Provide caulk at these areas	$ 15,000	
A8	Many sills have mildew			3				Wash and seal	$ 9,000	
A9	Existing concrete panels have a lot of mildew			3				Wash and seal	$ 27,000	
A10	Overhang paint peeling			3				Scrape, prime and paint as required to maintain lifespan	$ 60,000	
A11	Riser at loading area is rusting			3				Scrape prime and paint	$ 8,000	
A12	Bug screen at cow tongue roof drain missing			3				Provide and install new screen	$ 500	
A13	Sill mortar is missing or deteriorating				2			Remove and provide new	$ 5,000	
A14	Some exterior frames are in need of paint			3				Scrape, prime and paint	$ 20,000	
A15	Roofs will be nearing the end of its useful life (based on warranty)		4					The roof is due for replacement in approximately 2025+/-	$ 5,176,728	
EXTERIOR SUBTOTAL										$ 5,388,228

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WESTON HIGH SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
INTERIOR CONDITIONS										
A16	The required clearance depth or approach or corridor width does not meet code requirements	413.6 (ADA) 1101.2 (IBC) ANSI 117.1		3				Reconfigure space if possible otherwise, supply push button door operator where required.	$ 34,000	Removal of locker wing walls and flipping the door swing could also work
A17	All door push and/or pull maneuvering clearances do not meet code.	413.6 (ADA) 1101.2 (IBC) ANSI 117.1		3				Where obstruction is not furniture related, modify door swing and/or location to comply. Where the previous is not easily achieved, supply push button door operator where required.	$ -	
A18	Toilet rooms do not have a handicap stall	(B)1108.0 (ANSI A117.1) 603-606			2			Reconfigure to provide one	$ 300,000	Occurs in 6 locations
A19	The required toilet grab bars are not installed	(B)1108.0 (ANSI A117.1) 603-606			2			Install code required grab bars	$ 16,000	
A20	Music rooms do not have accessibility throughout the space			3				Provide ramp or lift to lower portion of tiered floor	$ 50,000	
A21	Music rooms do not have adequate acoustical wall and ceiling treatments				2			Apply acoustical treatments to wall and ceiling. Add carpet to one room.	$ 23,500	
A22	Music rooms do not have any practice rooms			3				Convert hallway into practice rooms. This hall is not needed by code	$ 120,000	600 sq ft
A23	There is no accessible ramp from seating area up to stage			3				Provide ramp or lift to each stage	$ 50,000	
A24	Floors in original building have 9x9 tiles			3				These tiles likely contain asbestos- remove, remediate and replace with VCT	$ 128,000	
A25	Some spaces do not have ceilings		4					Add dropped ceilings to conceal ductwork	$ -	Understood that this is an ongoing project.
A26	Floor expansion joints are not installed causing VCT cracking			3				Install expansion	$ 5,000	

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WESTON HIGH SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
A27	Nurse suite has no window		4					Demo wall and install window	$ 15,000	
A28	A few bluestone tiles are cracked			3				Replace	$ 3,000	
A29	VCT floor is damaged or missing			3				Repair and replace	$ 1,500	
A30	Rubber baseboard in older portion is nearing the end of its life			3				Replace with new rubber base	$ 12,800	
A31	Benches in locker room are damaged			3				Repair wood bench tops	$ 3,000	
A32	Old gym could use a fresh coat of paint at walls and ceiling			3				Scrape, prime and paint	$ 48,000	
A33	Wood countertop is not permitted in kitchen				2			remove and replace with SSTL	$ 3,000	
A34	Joints at cafeteria sills are cracking				2			Repair	$ 2,000	
A35	Leaks entering in the mechanical area at lower level					1		Further investigation is required to determine the source of the water infiltration	$ 20,000	Allowance
INTERIOR SUBTOTAL										$ 834,800
PLUMBING/FIRE PROTECTION										
P1	Periodically inspect, test and replace plumbing valves, pressure regulators, backflow preventers, thermostatic mixing valves, pumps, etc.	General		3				Replace faulty equipment as required.	$ 10,000	Cost over next 10 years.
P2	Water heater has reached the end of its useful life.	General			2			Replace water heater	$ 50,000	
FP1	The Sprinkler/Standpipe System requires periodic inspection, testing and maintenance in accordance with NFPA 25.	NFPA 25		3				Include annual cost of $1000 in budget.	$ 10,000	Cost for inspection, testing and maintenance over next 10 years.
PLUMBING/FIRE PROTECTION SUBTOTAL										$ 70,000

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WESTON HIGH SCHOOL - FACILITY CONDITIONS ANALYSIS										
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
MECHANICAL SYSTEMS										
M1	Pumps in 1968 Boiler Room at near end of useful life	General			2			Replace pumps.	$ 20,000	
M2	Air Handling Unit serving portion of C-Wing has exceeded life expectancy	General		3				Replace Air Handling Unit	$ 35,000	
M3	Air Handling Units serving Old Gym have exceeded life expectancy	General		3				Replace Air Handling Units	$ 275,000	
M4	HVAC serving the Weight Room and Dance Studio is insufficient	General		3				Install Packaged Rooftop Air Conditioing Unit dedicated to spaces.	$ 90,000	
M5	Classrooms B-6 thru B-9 are not well heated.	General		3				Add supplemental heat	$ 30,000	
M6	Original Classroom Unit Ventilators serving 1968 portion of School are at end of useful life	General		3				Replace Unit Ventilators with Packaged Rooftop Units.	$ 330,000	
M7	Original Finned Tube Radiation serving 1968 portion of School at end of useful life	General			2			Replace Finned Tube as part of any major renovation.	$ 100,000	
M8	Some corridors not ventilated per Code	IMC Chap 4		3				Install Rooftop Equipment for Corridor Ventilation	$ 150,000	
M9	Pneumatic Automatic Temperature Controls are obsolete	General		3				Provide DDC Controls as part of other HVAC improvement projects.	$ 160,000	
M10	Pumps require regular inspection and maintenance	General			2			Inspect and service pumps annually. Provide repairs as required.	$ 30,000	Cost over 10 years
M11	Roof Exhaust Fans require continued maintenance.	General		3				Provide regular inspection for proper operation. Replace drive belts, damper actuators and motors as required.	$ 20,000	Cost over 10 years
M12	Kitchen Grease Exhaust System requires regular cleaning and maintenance	NFPA 96			2			Regular cleaning and maintenance to consist of cleaning of hood, baffles, ductwork and fan. Inspect and test extinguishing system. Replace grease trough.	$ 30,000	Cost over 10 years
M13	10,000 Underground Fuel Storage Tank is due for replacement in 2030	General			2			Replace UST, piping and accessories.	$ 180,000	

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WESTON HIGH SCHOOL - FACILITY CONDITIONS ANALYSIS										
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
M14	Underground Fuel Storage Tank Inventory/Leak Detection Systems should be serviced regularly	General		3				Check operation of system console and sensors. Perform repairs as required. Service should be performed by factory authorized installer.	$ 6,000	Cost over 10 years
M15	Boilers and related equipment should have continued preventive maintenance	General			2			Provide regular Boiler service, water testing.	$ 15,000	Cost over 10 years
M16	Air Handling Equipment should have continued preventive maintenance	General			2			Check compressors, controls, refrigerant charge. Replace filters and fan belts, lubricate bearings and damper linkages, check damper and valve operation, clean coils, condensate pans and drains.	$ 50,000	Cost over 10 years
M17	New Gym Chiller requires regular inspection and maintenance	General		3				Clean and inspect Chiller. Check Compressors, Controls, Evaporator Fans, Refrigerant Charge	$ 6,000	Cost over 10 years
M18	VRF Systems require regular inspection and maintenance	General		3				Clean and inspect Chiller. Check Compressors, Controls, Evaporator Fans, Refrigerant Charge	$ 15,000	Cost over 10 years
M19	Hot and Chilled Water Piping and components should be serviced	General		3				Flush piping and coils, clean strainers. Document conditions to plan future maintenance frequency.	$ 5,000	Estimated Cost
M20	Clean duct systems is important to good indoor air quality	General		3				Inspect and clean interior of ductwork	$ 25,000	Estimated Cost
M21	Recommissioning of facility HVAC systems	General			2			Perform functional testing of all equipment and Automatic Temperature Controls to ensure operation per original design.	$ 60,000	Likely Cost Range: $40k to $80k depending on level of detail
MECHANICAL SUBTOTAL								**Total not including cost of recommissioning.**		**$ 1,632,000**

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WESTON HIGH SCHOOL - FACILITY CONDITIONS ANALYSIS

TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
ELECTRICAL SYSTEMS										
E1	Currently the emergency lighting is provided by stand alone battery units (normally off) & Battery Ballasts in the general light fixtures. There are areas that don't appear to have sufficient emergency lighting to meet the current code and should be reviewed further with the AHJ.					1		Install a code approved emergency lighting system throughout the school, there are a few options to achieve this (new AC inverter system, stand alone battery devices, battery ballast in general light fixtures or generator via emergency transfer switch.	$ 71,000	$71K is for a replacing or adding to 60% of the schools exisiting twin head & battery ballast distribution, it will cost approx. $130K to modify the existing generator distribution, the third option would fall somewhere in between
E2	It does not appear to be sufficient normal and emergency lighting in the Courtyards to meet current code for egress				2			Install new LED sconce fixture with emergency battery ballast	$ 7,500	approximately $500 per fixture
E3	Existing fluorescent & incandescent fixtures throughout the school, appear fully operational but not very efficient		4					Replace all existing fluorescent and incandescent fixtures with new energy efficient LED fixtures. Existing LED fixtures shall remain	$ 1,200,000	allowance
E4	A portion of the existing lightning protection system is damaged and partial removed			3				Replace damaged wire and reinstall existing lightning rods and cable after wall/parapet has been repaired.	$ 2,500	
E5	There are no "low" mounted exit signs in three assembly spaces (2-Gym's. & Café.) to meet the current code				2			Install new self-illuminating exit sign on the kick plate of each pair of egress doors out of these rooms, plus 2 additional in the Gym.	$ 4,500	
E6	There is no illuminated signage for the "area of rescue" at the two stairs in the Science wing to meet the current code				2			Install new illuminated "area of rescue" signage and two-way communication system at each level of the stairwell across from the new Gym.	$ 1,000	
E7	Possible missing exit signs and emergency lights in rooms over a thousand square feet				2			Add two exit signs, one at each door and emergency lights per room.	$ 30,000	approximately $1500 per room
ELECTRICAL SUBTOTAL										**$ 1,316,500**

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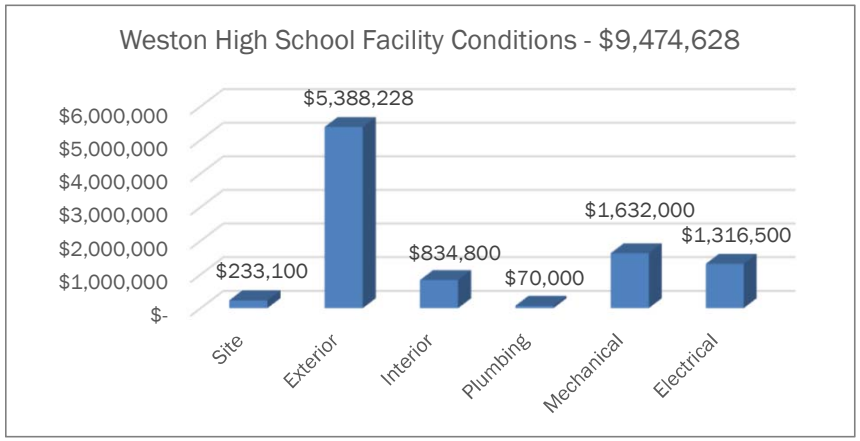
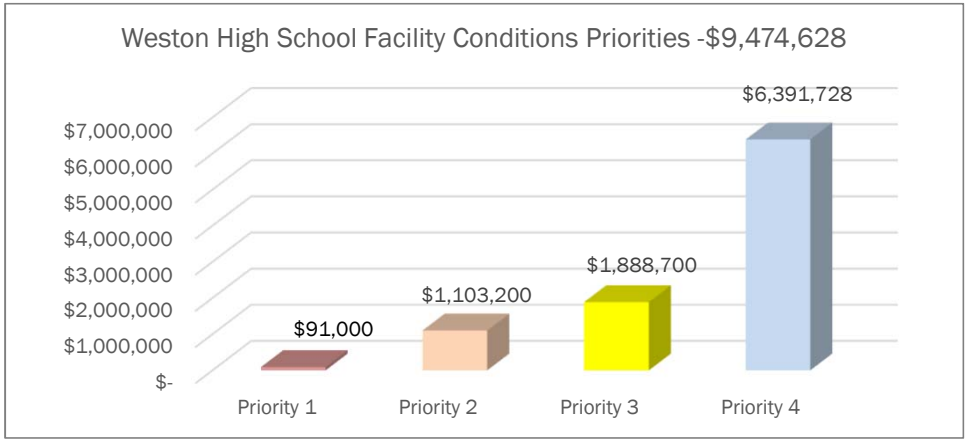
WESTON HIGH SCHOOL - FACILITY CONDITIONS ANALYSIS													
TAG NO.	ASSESSMENT	SYSTEM/ CODE REFERENCE	RANKING					CORRECTIVE ACTION	ITIMIZED ESIMATED COST	REMARKS
TOTAL ESTIMATED COSTS										$ 9,474,628

LEDGEND PRIORITY - RANK

1	Urgent priority - These items should be corrected as soon as possible and most likely encompass code, health and life safety issues.
2	High priority - These items should be corrected within a reasonable amount of time after the highest priorities referenced above. These may be associated with high priority maintenance issues or accessibility issues for the physically challenged. Maintenance items have a remaining useful life from 1-3 years.
3	Moderate priority – These items may be associated with aesthetic or general maintenance issues. Remaining useful life of 3-5 years.
4	Low priority – These items include maintenance and aesthetic issues that are not in current need of replacement, but should continue to be monitored on a regular basis. These items typically have a remaining useful life of 5-10 years or greater.





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NORTH

SITE PLAN

SCALE: NTS

1
WHS1

WESTON HIGH SCHOOL

SITE CONDITIONS ANALYSIS

Weston Schools
Facilities Feasibility Study

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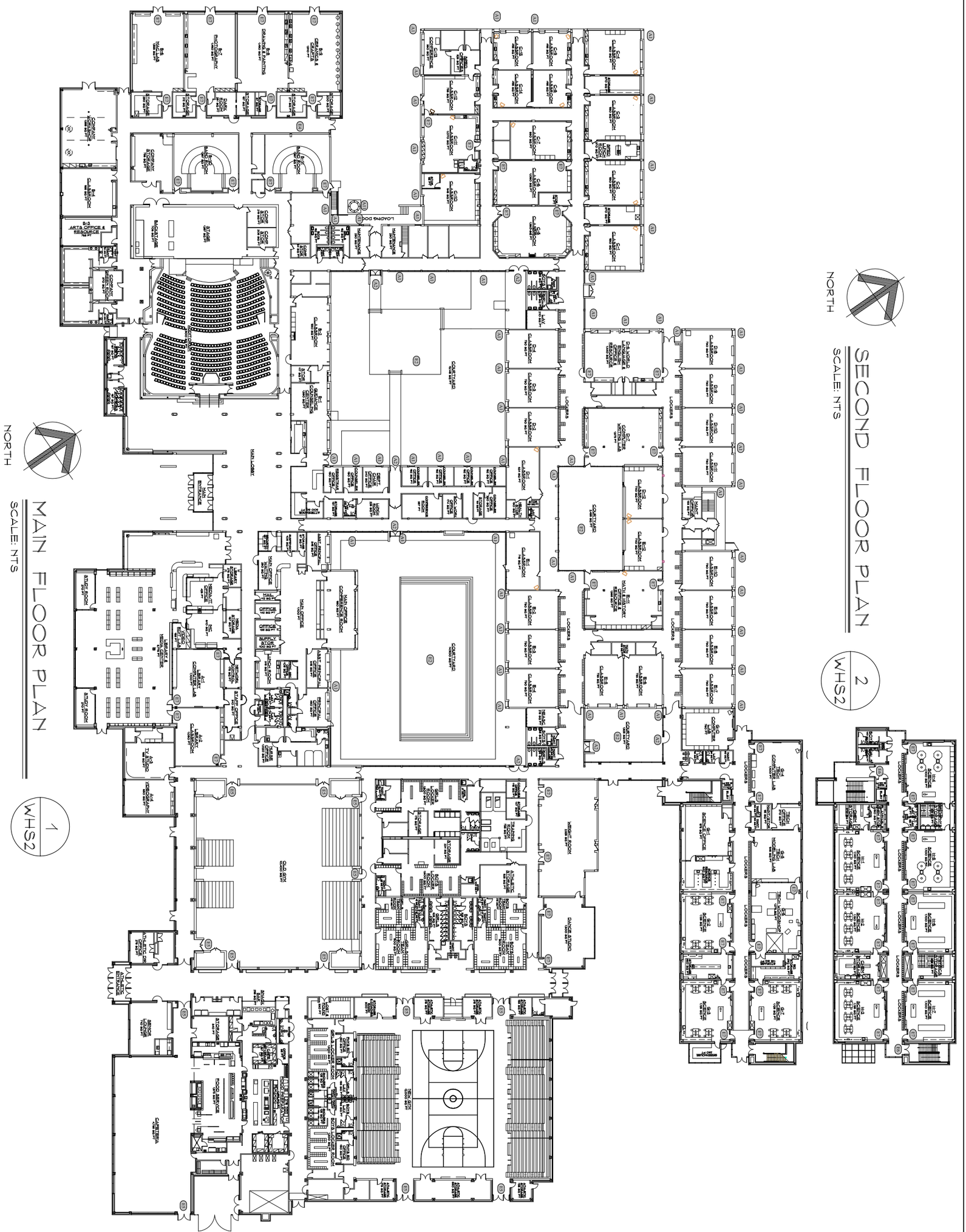

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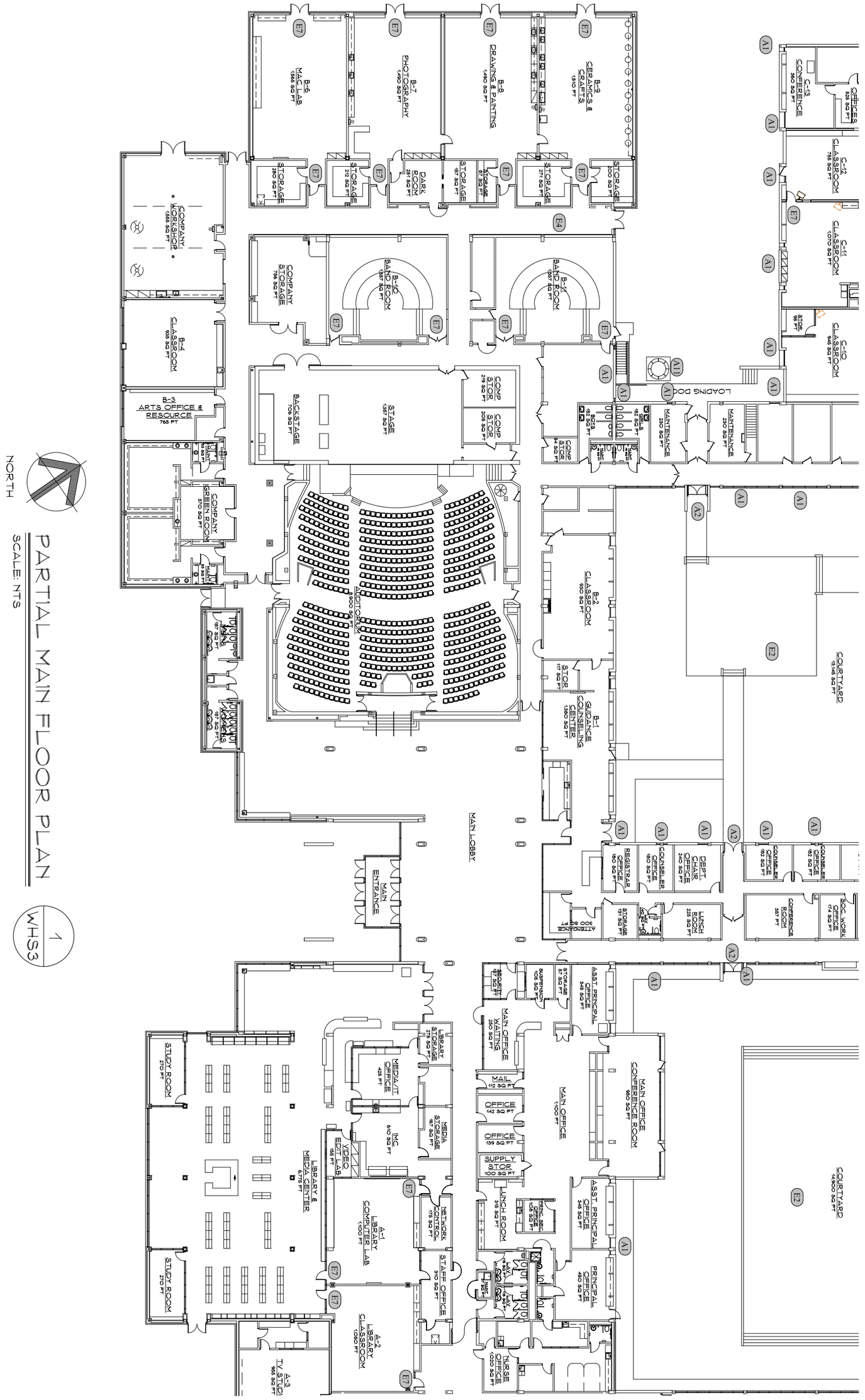
WESTON HIGH SCHOOL

FACILITY CONDITIONS ANALYSIS

Weston Schools
Facilities Feasibility Study



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WESTON HIGH SCHOOL

FACILITY CONDITIONS ANALYSIS

Weston Schools
Facilities Feasibility Study

PARTIAL MAIN FLOOR PLAN

SCALE: NTS

1
WHS4

Weston Schools
Facilities Feasibility Study

WESTON HIGH SCHOOL

FACILITY CONDITIONS ANALYSIS

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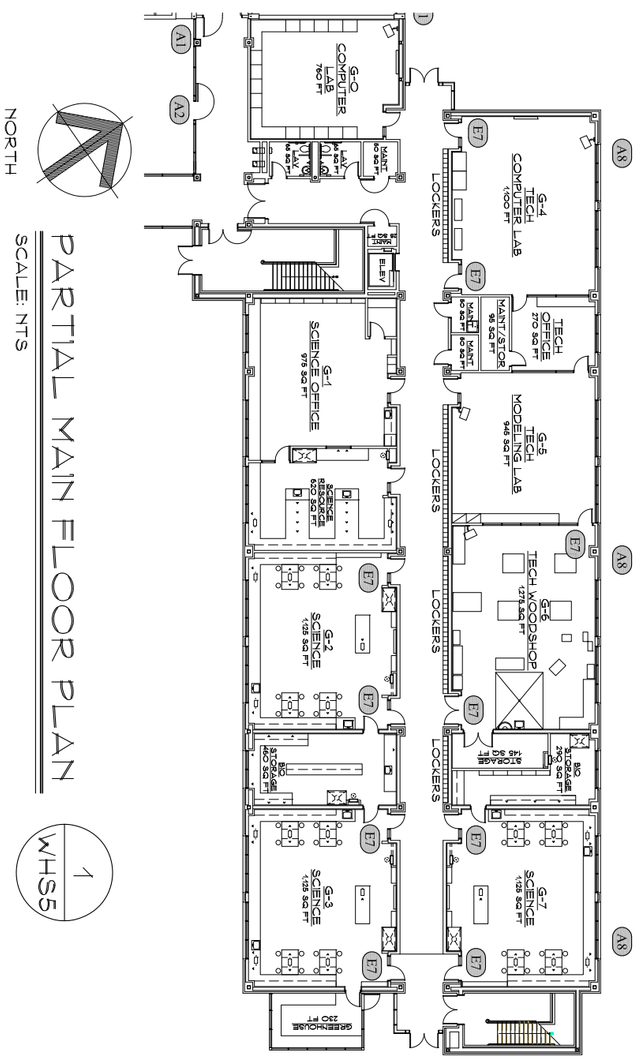
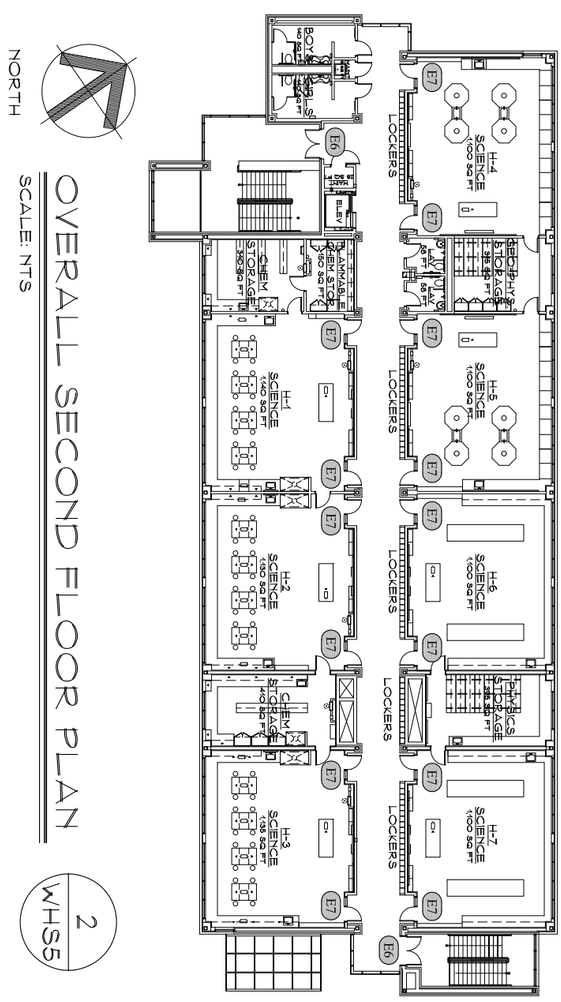


PARTIAL MAIN FLOOR PLAN

SCALE: NTS

1 WHS5



OVERALL SECOND FLOOR PLAN

SCALE: NTS

2 WHS5

SILVER/PETRUCELLI + ASSOCIATES

Architects / Engineers / Interior Designers

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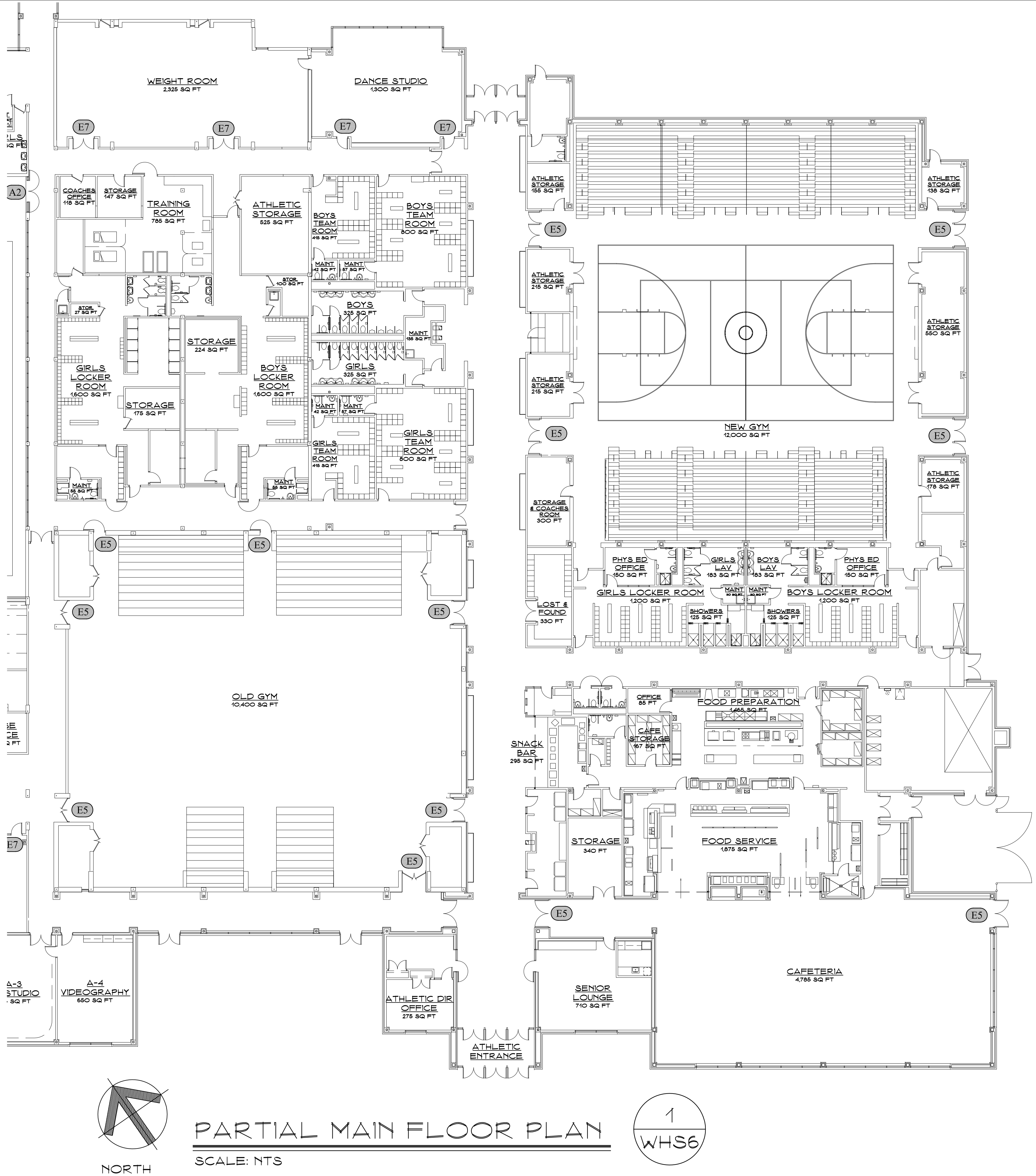

PARTIAL MAIN FLOOR PLAN

SCALE: NTS

1
WHS6

Weston Schools
Facilities Feasibility Study

WESTON HIGH SCHOOL

FACILITY CONDITIONS ANALYSIS

SILVER/PETRUCELLI + ASSOCIATES
Architects / Engineers / Interior Designers
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DRAFT 11.03.2017

SECTION III – FACILITY PROGRAM AND UTILIZATION

School Utilization

How effectively is Weston using the school spaces for education? Silver Petrucelli and Milone and MacBroom acknowledges that there are numerous methodologies available to answer this question, and that each have relevance in specific applications. The most widely used in Connecticut is the square footage per student (aka space standards) created by the State Legislature to control grant funding and to track the conditions of the school facilities. The other methods are the ratio of core educational space to the spaces necessary to support it, the teacher per pupil, and the number of seats available.

The square foot per student method is simple in concept, however the "devil is in the details." Numerous variables are typical in square foot area calculations, such as net area (inside the walls or useable space) verses gross total area, space allowance by age of student, the age of school, the grade section models needed, and the overall building layout and its efficiencies. The State of Connecticut, DAS, Office of School Construction Grants currently use a 20-year-old matrix to set the space standards and thus the level of funding. The State has changed this formula and it effectively decreases the allowable space per student. We believe this will make it more difficult for districts to achieve their desired program goals, based on finite limits. Since this is solely dedicated to the Connecticut School Construction Grants it is only appropriate to compare like grants for significant projects such as Alteration, Renovations, Additions, and New Construction. We do not recommend applying this methodology to the Weston Public Schools now, nor should it be the basis for decision making, especially to determine an effective utilization of your schools.

A variation on the square foot per student is the classroom utilization method. While scheduling can be a factor in this method we recommend that the "General Classrooms" be compared to the "Allowable" total students per classroom. While this homeroom method is a straight line in the approach at the Elementary, Intermediate, and some of the Middle School, it is more subjective at the High School where an assigned reporting room is designated. This method relies on the classification of core classrooms and special education classrooms into their respective hierarchy and then assessing the "correct" range of students per classroom. WPS provided SP+A with the accepted range of students per classroom. The Weston Board of Education class size guidelines are established to create a benchmark that works exceptionally well. The standards are 18 to 20 students in Kindergarten and Grade 1 while it increases to 20 to 24 students in Grades 2 through Grade 12.

While it is often argued that students can be added into a classroom up to the maximum allowable, the ratio of instructional time per student is thus lowered. Too many students in a classroom limits the time the teachers and staff can spend with each student. The ideal number in each classroom is often debated. Research indicates that while too many students or too few students in a classroom are counterproductive. The ideal ratio of students collaboration and teaching support is a conjunction of the number. However, it is impossible

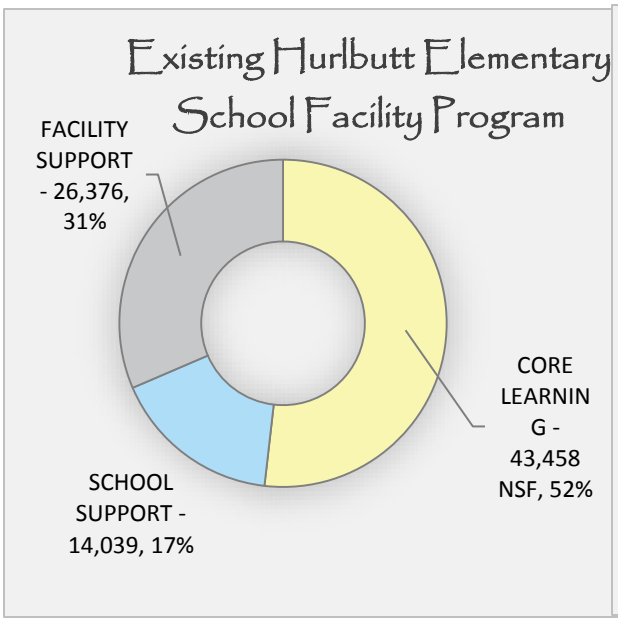
to define in an applicable formula. This method is not favored and, the Weston Public Schools are functioning at optimum levels and this formula is not needed.

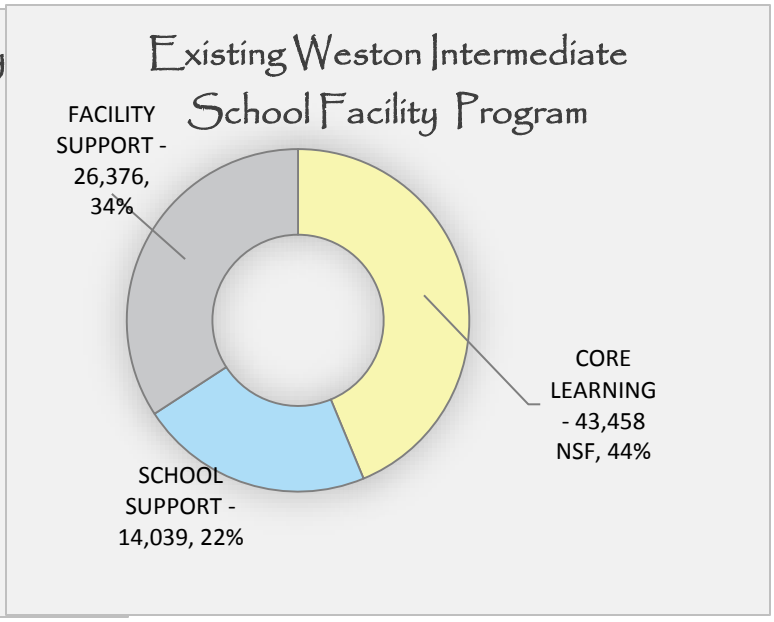
Another key matrix to review is the teacher per student ratio. The Weston Public School system employs 350 full time staff and part time at all 4 schools. Like the number of students in each classroom the ratio of staff to student is not an effective tool for school facilities utilization and is best left to the school administrators.

Silver Petrucelli suggests that an effective gauge to evaluate and answer the utilization question is the ratio of educational space to support spaces. We have broken these ratios into three sets (and subsets for more detailed analysis). First, circulation and building infrastructure, the areas need to make the building functional. Second, are the support spaces, administration, cafeteria, physical education, and auditorium. Third and most important are the core and secondary educational spaces such as the general classrooms, specials, and the Media Center. This method is presented herein and compares the ratio of the useable space to the core education and support space in each school.

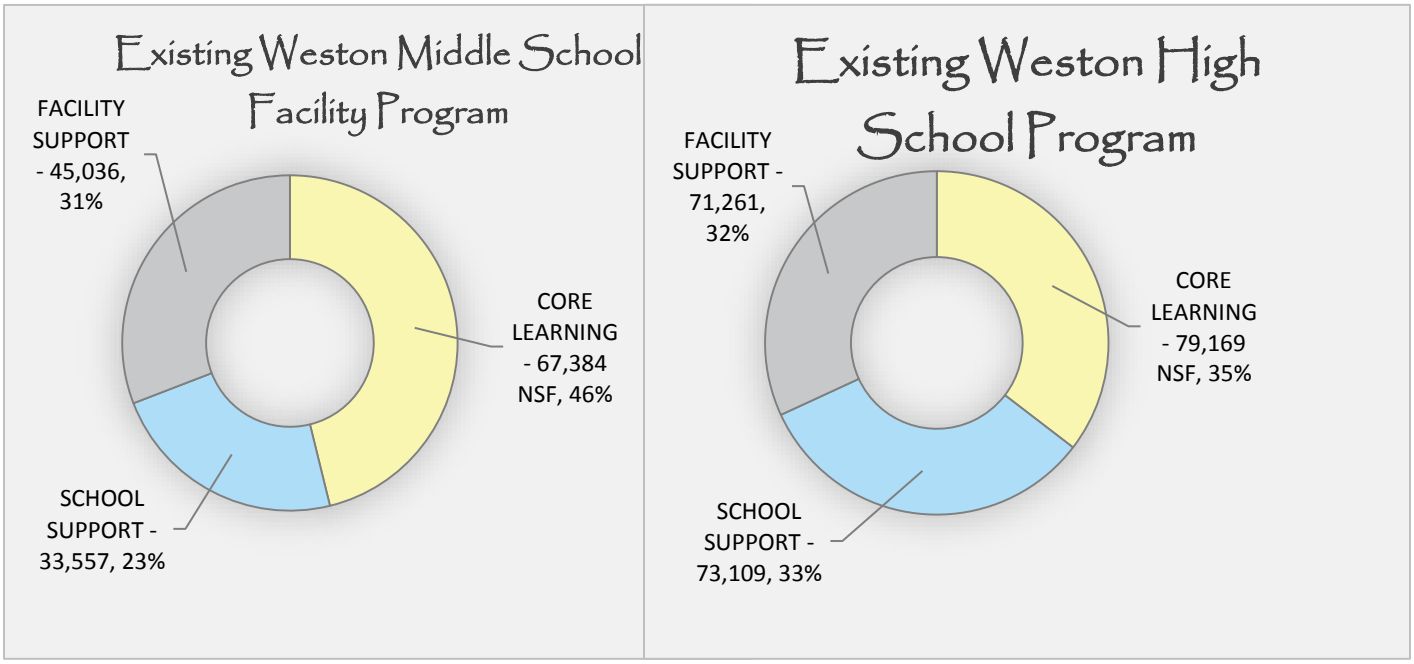
We recommend first comparing the elementary and intermediate schools and then the middle and high schools. The designation of home room at the middle school and high school as well as the additional support required in the upper grade floor plans makes this grouping of the two sets of schools a more effective comparison.

The combined 69% Core Learning and School Support at Hurlbutt Elementary School is remarkable given the extended floor plan with three wings and central administrative/learning center. Compare this to WIS at 66% and the rectilinear compact floor plan. This is most evident when you look at the Campus plan and see the two very different floor plans. We believe this may be attributed to WIS as the only two-story school on the campus, and the floor plan was designed with several single loaded corridors.





The Middle and High School are compared here with a closer correlation between the 69% and 68% ratios of the educational space. The floor plans are much larger in scale and include more school support spaces, such as an auditorium and two gymnasiums, however based on this analysis there is an efficient use of educational space at these two similar schools.



Finally, the Facility Support spaces at each of the four school is – 31%, 34%, 31%, and 32%, which is remarkably consistent and demonstrative of an effective utilization of school space. The educational spaces are fully utilized.

DRAFT 11.03.17

Facility Program

The purpose of the Facility Program section of this report is to evaluate each school's present program and determine their future facility program needs to support the educational requirements. Silver/Petrucelli + Associates will prioritize the future needs and project them over a five- and ten-year schedule. While the Facility Conditions section of the report reviews the physical conditions of the building, the Program section looks at the educational needs first and then the building infrastructure needs of each school facility.

Many different factors play a role in the facility program beginning with the overall educational vision for the future of these schools and continues into the detail of school capacity and projections, classroom utilization, size and adjacencies, and areas of program growth or decline. There is the potential to explore consolidation, reconfigurations, and in some cases, expansion of the school campus. Potential new configurations will be evaluated to see if they are viable options to meet the defined need. Programming will assess how the current facility and its spaces are working to support the curriculum and how well the space is used based on the enrollment projections, class size policies and scheduling. This will help determine the future needs of each of the district's school facilities.

Silver/Petrucelli + Associates takes great pride in the collaborative effort of building the facility program of each given school. This is the first and one of the most important tasks of the architect. This research and decision-making process identifies the scope of work to be designed. This helps to plan the building. A well thought out program will lead to a better-quality design. It is important to identify the scope of the design early in the process. Here, we like to gather and analyze data so the design can start with comprehensive decisions. The program is best when developed in a collective effort between the client, the users, the community and the architect.

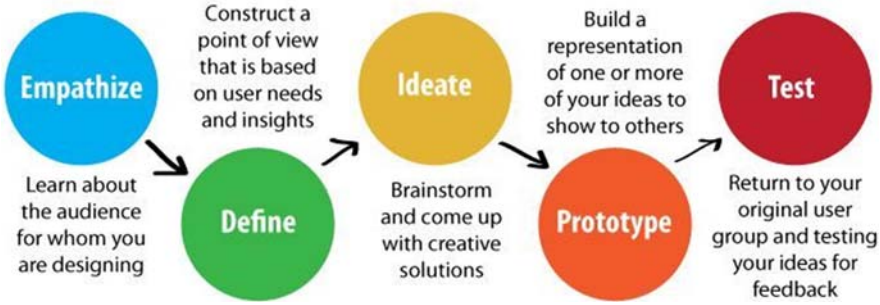


Figure 1 Program & Design Process - http://www.irdg.ie/wp-content/uploads/2014/07/IRDG-DT.png

For planning purposes, the existing buildings were explored and their current program uses evaluated. Classrooms were reviewed and the floor plans were updated to reflect the current usage. Typically, the components that form a school facility are divided into 3 sections: Core Learning Spaces, School Support spaces and Facility Support. These sections are broken into program categories: General Classrooms, Special Education, Specials (Art, Music, TechEd), Media Center, Physical Education, Cafeteria, Auditorium, Administration, Building Infrastructure and Circulation. Each category is represented in a different color and depicted on the floor plans, spreadsheets and charts that follow.

Not only was each school reviewed and evaluated by the design team, but meetings and tours were also held with each of the Principals to review each school's existing program. They described how they use the building and the current programs. The pros and cons were discussed along with their needs and objectives for the future of these schools. The subsequent pages describe and analyze the existing program at Weston's four schools. Following the assessment of the existing program we bring all the analysis, requests, recommendations and enrollment projections together to create the ideal program for the school buildings in greatest need.

Existing Hurlbutt Elementary School Facility Program

Hurlbutt Elementary School currently serves the Pre-K through Grade 2 population of Weston with 429 students and approximately 81 staff members. The school building is 83,873 net square feet with the 10,625 net square feet removed from this total for the Senior Center portion of South House. The Connecticut State Space Standards bases the size a school on the highest 8-year enrollment projections and grade levels. The state, therefore, would determine that this building is appropriately sized at 54,960 net square feet. However, this is a basis for limiting the sizes of schools to receive reimbursement on construction projects. It is only criteria to meet if the goal is to maximize state funding.

Existing Hurlbutt Elementary School Facility Program

Existing Enrollment: 429 Students

Space Division	Quantity	Square footage	Subtotal	Average	Percentage
GENERAL CLASSROOMS					
TOTAL	25	805-1218	22,643	906	27%
SPECIALS					
TOTAL	3	805-1165	5,164	1721	6%
SPECIAL EDUCATION					
TOTAL	16	198-972	10,187	637	12%
MEDIA CENTER					
TOTAL	4	136-4145	5,464	1366	7%
PHYSICAL EDUCATION					
TOTAL	1		2,530	2530	3%
CAFETERIA					
TOTAL	2		5,001		6%
AUDITORIUM					
TOTAL	1		416	416	0%
ADMINISTRATION					
TOTAL	8	115-805	6,092	762	7%
BUILDING INFRASTRUCTURE					
TOTAL			4,865		6%
CIRCULATION + STRUCTURE					
			21,511		26%
TOTAL			83,873		100%

After reviewing the building, understanding it's functions and discussing issues with staff members it is evident that Hurlbutt works well with the space it has. The following description highlights some of the major issues and concerns. For additional information, refer to the Hurlbutt Elementary School Interview Meeting Minutes from February 28, 2017.

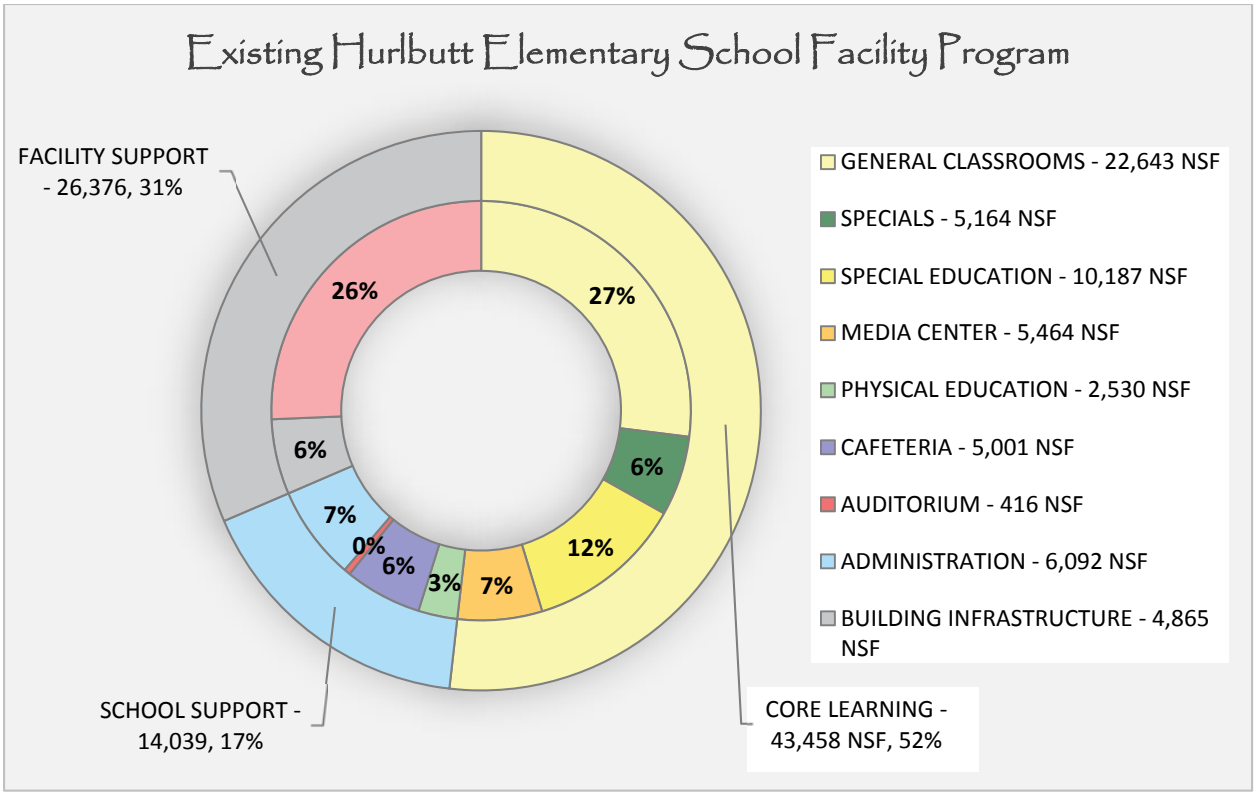
The gymnasium is rather small and mechanical concerns make it very uncomfortable. The lack of fresh air and ventilation create an uncomfortable atmosphere to the point where the floor itself begins to fill up and bubble with moisture. Accessibility is also challenging with the lift and no ramp. The two cafeterias work well with the prime and satellite kitchens, but storage is difficult. Specifically, in South House if an event is occurring there is nowhere to store the tables and chairs. Unfortunately, they are just temporarily put outside in the courtyard. These events do not include the entire school as there is nowhere big enough to gather together. Instead, the bus drop-off is closed and the school community gathers outside.

Standard classrooms at this school consist of a variety of sizes ranging from 805 to 1,218 net square feet. The classrooms in the 800 net square foot range are for grade 1, 2 and some special education services. The larger rooms are for the Early Learning Center and the Kindergarten population. Today the standard classroom size is in the 800-900 net square foot range with Kindergarten and Pre-K usually between 1000 to 1200 net square feet. The Hurlbutt classrooms in all the houses are sufficiently sized. The storage in these classrooms are lacking or inadequate. Teacher storage is in antiquated closets. Classroom storage such as casework and shelving is narrow, low or insufficient. The connected bathrooms to these classrooms are also not code compliant and need upgrades. Other classrooms are used for Special Education. Their sizes have quite a range, 198 net square feet to 972 net square feet. While some classrooms need to be large, others would benefit from being a little smaller such as speech to limit other noise and distractions.

Hurlbutt Elementary School - General Classroom Utilization
Existing Enrollment: 429 Students

Grade Level	Oct. 2017 Enrollement Total	Projected 2022-2023 Enrollement	Maximum Class Size Policy	Current Classroom Quantity	Projected Minimum Classroom Quantity	Projected Students Per Classroom
Pre Kindergarden	27	45	15*	3.00	4.00	11.3
Kindergarden	113	125	20	7.00	6.25	17.9
Grade 1	142	130	20	8.00	6.50	18.6
Grade 2	147	138	24	7.00	5.75	23.0
TOTAL	**429**	**438**		**25**	**24**	

To further investigate the utilization of the school, the general classroom quantities were reviewed. Here we evaluate the quantity of classrooms needed to adequately support the student population per grade level. Each grade level is reviewed in accordance to the districts maximum class size policy or the student to teacher ratio. The Weston Board of Education has established classroom size guidelines. Kindergarten through Grade 1 have a range between 18 to 20 students per class. Grade 2 through Grade 12 have a range between 20 to 24 students per class. Using the maximum class size, we can determine the minimum quantity of general classrooms needed to serve the school. The chart above examines both the current and projected enrollment of each grade and it determines the classroom quantities needed. At Hurlbutt, we can see that they are currently on target. The 5-year projections indicate 1 available classroom. The population increases primarily due to the Prekindergarten and Kindergarten population. The Pre-Kindergarten program does not have dictated maximum class size policies, but 15 is the maximum desired. With a population of 45 being so close to the max, one extra is accounted for. Additionally, reviewing the projections into the 10-year window indicate slight growth at this school. Hurlbutt General Classrooms are right on target where they should be.



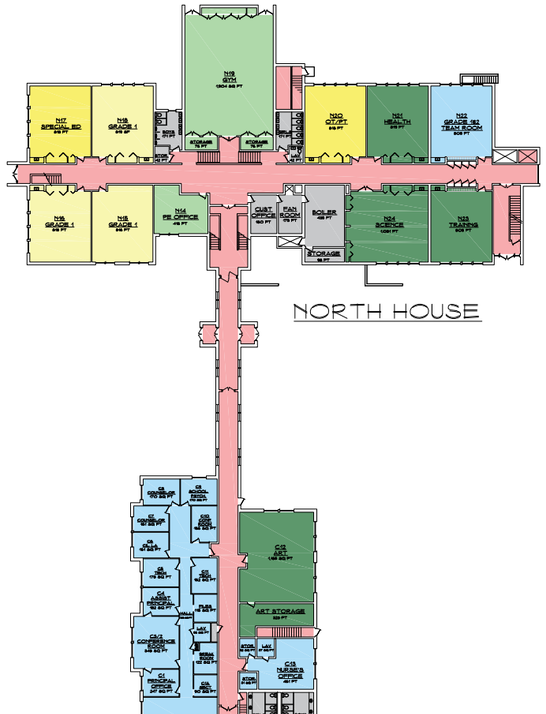
The chart above analyzes the percentage of all the program categories and then analyzes them within their three sections. The core learning section occupies just over half of the building which is fairly standard, but slightly more than typical. The numerous large Special Education classrooms and various Specials that are offered at the elementary level contribute to that total. The larger Media Center also adds to the increase. However, these are elements that make Hurlbutt unique and helps to set it apart from other districts. With Core Learning on the larger side some of the program categories within School Support are smaller than typical such as the Auditorium and Physical Education. The gym is rather small however for the age group that it caters to, but it works. The stage at the South House Cafeteria is also undersized and lacks accessibility. Again, with this age group it may be sufficient. More space at Hurlbutt is used towards Core Learning which is the most important need within any given school. Overall the space supports the programmatic needs of the school with some limited areas in need of enhancements.

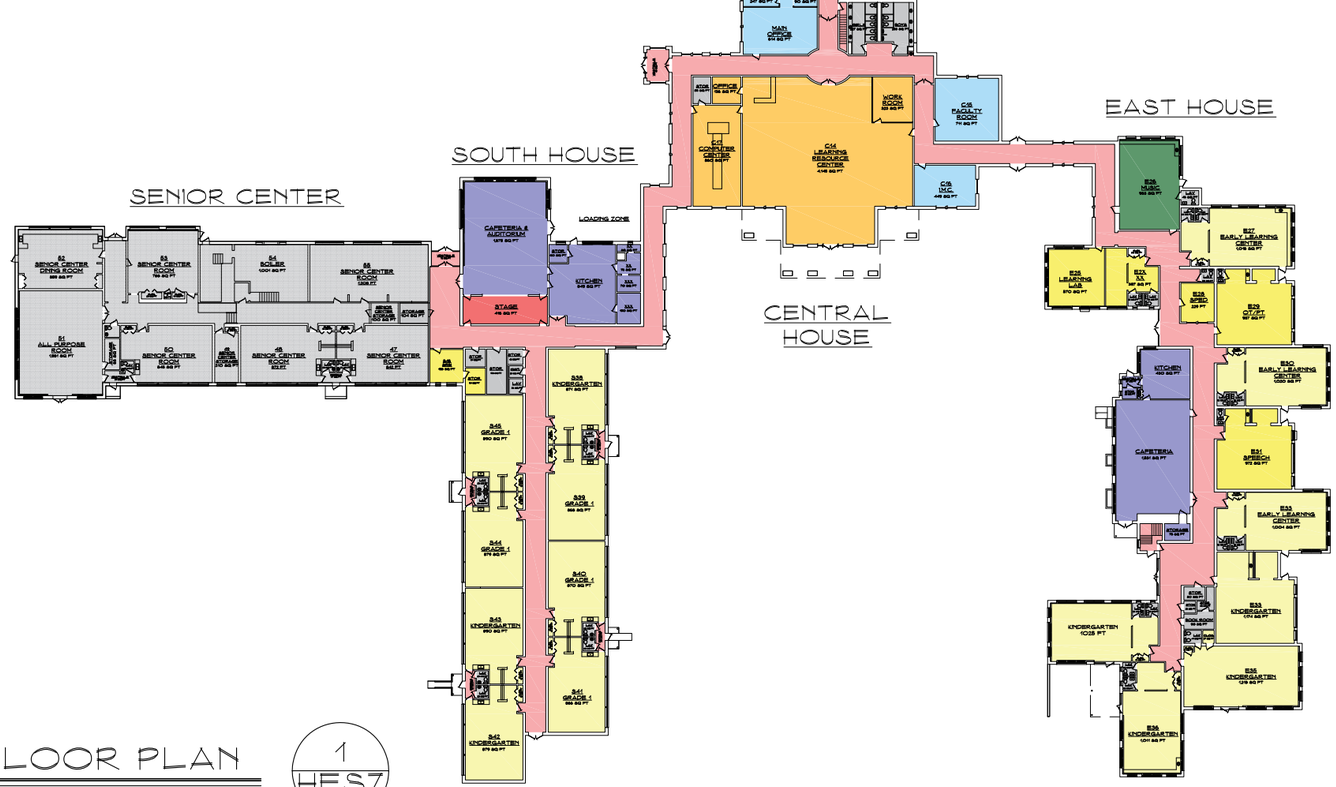
While some upgrades have been made over the decades, the school is still in need of improvements. Some recommendations would be to add air conditioning and to replace dropped ceilings and lighting in the process. Renovation of the gymnasium is desired. Some of the Special Education rooms could also be converted into smaller rooms which would allow for greater flexibility and improved spaces for Speech and Reading. It could also be an opportunity to increase storage, something staff feels the building falls short on. Additional recommendations are to renovate the antiquated undersized bathrooms and replace inefficient dated classroom casework. Overall, Hurlbutt Elementary School is a beautiful and well taken care of school.

SECOND FLOOR PLAN

SCALE: NTS

2
HES7





NORTH

OVERALL MAIN FLOOR PLAN

SCALE: NTS

1
HES7

PROGRAM LEGEND	
CLASSROOMS	22,643 NSF
SPECIALS	5,164 NSF
SPECIAL ED.	10,187 NSF
MEDIA CENTER	5,464 NSF
PHYSICAL ED.	2,530 NSF
CAFETERIA	5,001 NSF
AUDITORIUM	416 NSF
ADMINISTRATION	6,092 NSF
BUILDING INFRA	4,865 NSF
CIRCULATION	21,511 NSF
SENIOR CENTER	-10,625 NSF
SCHOOL TOTAL	83,873 NSF

Weston Schools
Facilities Feasibility Study

HURLBUTT ELEMENTARY SCHOOL
FACILITY PROGRAM ANALYSIS

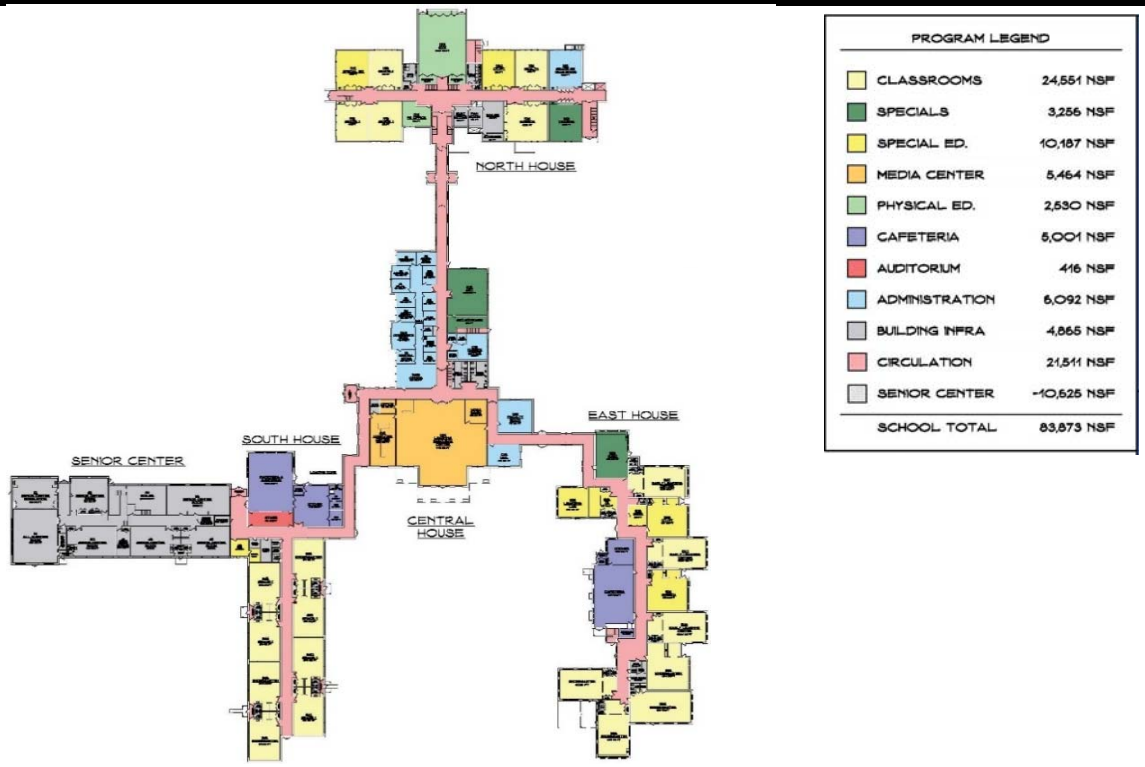
SILVER/PETRUCELLI + ASSOCIATES
Architects / Engineers / Interior Designers
3190 Whitney Avenue, Hamden, CT 06518-2340
Tel. 203 230 9007 Fax. 203 230 8247
silverpetrucelli.com

Hurlbutt Elementary School

9 School Road Weston CT

Student Population:	429
Staff Total:	81
School Type:	Elementary-Primary
Grades:	Pre K-2
Original Construction:	1950
Significant Alterations:	1997
Total Area (net)	83,873 NSF

Floor Plan



Building Information	
Construction Type	2B
No. of Floors	2
Foundation	partial

Classroom Counts	
Standard Classroom	27
Special Ed. Classroom	16
Portable Classroom	0

Existing Condition		
Ext. Envelope	brick	
Roof	age:	1997+/-
	type:	Ballast, asphalt and EPDM
Security	staffed security desk, lockable doors, vestibule	
Heating	varies per house - dual and steam: 10+/- years	
Sprinklered	no	n/a
AC	partial	

Priority Projects	
Add Air Conditioning & Ventilation	$3,397,500
Air conditioning,ventilation, ceilings & electrical to support	
Restroom upgrades	$1,250,000
Includes cost for all singles and North gang restrooms	
Emergency Lighting	$110,000
Install code approved emergency lighting system	

Capital Needs Prioritization - $ 10,233,300

Discipline	Total	Priority 1&2
Site	*$621,000*	$407,000
Architectural	*$4,295,800*	$1,478,000
Plumbing & FP	*$626,000*	$48,500
Mechanical	*$3,410,000*	$2,422,000
Electrical	*$1,280,500*	$130,500
Total:	***$10,233,300***	**$4,486,000**

SILVER/PETRUCELLI+ASSOCIATES
Architects / Engineers / Interior Designers

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Architects / Engineers / Interior Designers
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silverpetrucelli.com

MEMORANDUM OF MEETING

PROJECT: **Weston Schools Facilities Feasibility Study**

CLIENT: Weston Public Schools

MEETING PLACE: Weston Public Schools

DATE AND TIME: February 28, 2017 @ 1:00 pm

ATTENDEES:

Laura Kaddis	Hurlbutt Elementary School Principal
Kim Kus	Hurlbutt Elementary School Assistant Principal
Michelle Miller	Silver Petrucelli + Associates

Purpose: Program Needs

---

1. Air Conditioning/Climate
    - Numerous areas throughout the school get too hot and in September and June these rooms often need to be vacated: North House – northwest upstairs, East house – east side, South house – courtyard side
    - Air conditioning is strongly desired
    - Climates are very unbalanced from one classroom to the next
2. Gym
    - Small yet workable
    - HVAC concerns – damp and humid
    - Lack of ventilation - dirty
    - Floor bubbles and becomes slippery
3. Cafeteria
    - Desire trough sinks for student hand washing
    - Not large enough for full assembly/stage not often used
    - No storage for tables and chairs – move them outside when needed
4. Storage
    - Lacking throughout the school

- Nowhere to store the music risers
- Classroom storage is old and dated – many of the doors are missing

5. Parking
    - Limited parking on a day to day basis since shared with Senior Center
    - School events – lack of parking creates havoc
    - Teachers park remotely
6. Site
    - Due to school location there are a lot of access points
    - Need a barrier at North House playground and School Road
    - East House playground fence is too close
7. Special Education
    - Not all special education rooms need to be in full-sized rooms – work with what's available
    - Breaking up some of the classrooms could be an option but they would need access to restrooms

Any corrections, additions, or comments should be made to Silver / Petrucelli + Associates within 14 days of the date of the meeting.

Distribution:

Existing Weston Intermediate School Facility Program

Weston Intermediate School currently serves the Grade 3 through Grade 5 population of Weston, with 507 students and approximately 78 staff members. The school building is 110,450 net square feet. The Connecticut State Space Standards bases the size a school on the highest 8-year enrollment projections and grade level. The state therefore would determine that this building is appropriately sized at 66,248 net square feet. However, this is a basis for limiting the sizes of schools to receive reimbursement on construction projects. It is only criteria to meet if the goal is to maximize state funding. It is not the best comparison for this school.

Existing Weston Intermediate School Facility Program
Existing Enrollment: 507 Students

Space Division	Quantity	Square footage	Subtotal	Average	Percentage
GENERAL CLASSROOMS					
TOTAL	27	893-945	**23,245**	861	21%
SPECIALS					
TOTAL	5	885-1205	**9,299**	1860	8%
SPECIAL EDUCATION					
TOTAL	13	258-917	**7,662**	589	7%
MEDIA CENTER					
TOTAL	5	136-4145	**8,117**	1623	7%
PHYSICAL EDUCATION					
TOTAL	3		**6,789**	2263	6%
CAFETERIA					
TOTAL			**6,912**		6%
AUDITORIUM					
TOTAL	3		**1,744**	581	2%
ADMINISTRATION					
TOTAL	22	86-1076	**8,926**	406	8%
BUILDING INFRASTRUCTURE					
TOTAL			**7,308**		7%
CIRCULATION + STRUCTURE					
			30,448		28%
TOTAL			**110,450**		100%

After reviewing the building, understanding it's functions and discussing issues with staff members it is evident that Weston Intermediate School works well with the space it has. The description below highlights some of the major issues and concerns. For additional information, refer to the Weston Intermediate School Interview Meeting Minutes from March 7, 2017.

First, the staff is happy with the 12-year-old building. Some minor issues and drawbacks of the building were discussed. The gymnasium is highly used, but lacks exterior egress doors. The hallway gets very congested where the cafeteria, gym and music rooms collide. It causes issues especially if indoor recess coincides with the lunch waves. A few issues where noted with the general classrooms. For instance, entry at the front of the classroom isn't favorable. Classrooms with shared doors are often too loud and can be distracting. Additionally, there are some HVAC concerns with varying conditions from room to room. It was noted that the southeast area of the second floor gets very hot. The additional conference room within the administration suite is missed. Unfortunately, some offices lack natural light. The outdoor recreation area is rather small including the playground and the open grass play area. Overall, the building functions very well for its users.

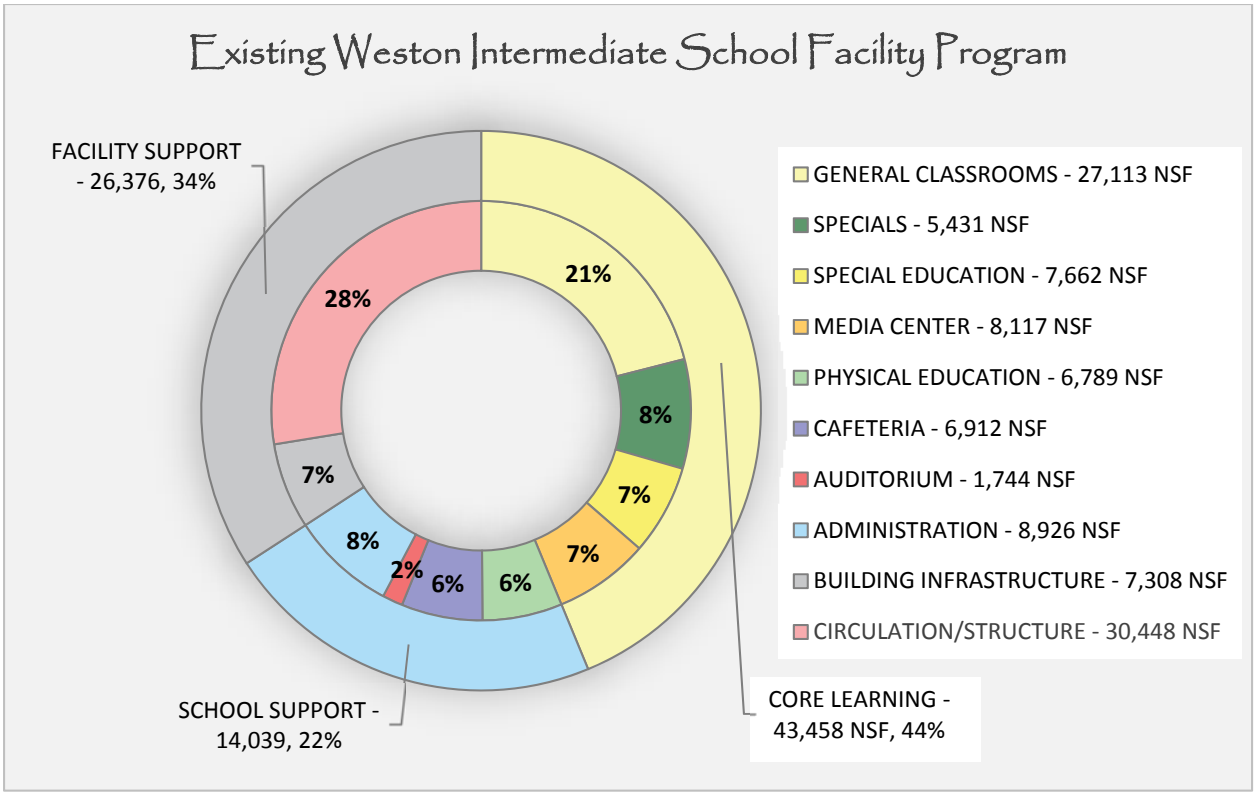
Standard classrooms at this school hover around 900 net square feet. The Intermediate classrooms are all sufficiently sized and comfortable. The storage in these classrooms is also sufficiently designed. Other classrooms are used for some Specials and for Special Education. The special education rooms have a variety of full and half sized classrooms which is ideal.

Weston Intermediate School - General Classroom Utilization

Existing Enrollment: 507 Students

Grade Level	Oct. 2017 Enrollement Total	Projected 2022-2023 Enrollement	Maximum Class Size Policy	Current Classroom Quantity	Projected Minimum Classroom Quantity	Projected Students Per Classroom
Grade 3	153	158	24	7	6.58	22.6
Grade 4	174	153	24	9	6.38	21.9
Grade 5	180	148	24	11	6.17	21.1
TOTAL	**507**	**459**		**27**	**21**	

To further investigate the utilization of the school the general classroom quantities were reviewed. Here we evaluate the quantity of classrooms needed to adequately support the student population per grade level. Each grade level is reviewed in accordance to the districts maximum class size policy or the student to teacher ratio. The Weston Board of Education has established classroom size guidelines. Grade 2 through Grade 12 have a range between 20 to 24 students per class. Using the maximum class size, we can determine the minimum quantity of general classrooms needed to serve the school. The chart above examines both the current and projected enrollment of each grade and it determines the classroom quantities needed. At Weston Intermediate, we can see that they are currently very comfortable. Currently, Grade 3 seems to be at its maximum while Grade 4 is operating closer to the minimum range of 20 students per classroom and Grade 5 doesn't necessarily appear to need all their classrooms. With the projected enrollment dropping to 459 students, if the district chooses to work with the maximum class size policy there will be approximately 6 available classrooms at this school.



The chart above analyzes the percentage of all the program categories and then analyzes them within their three sections. The core learning section occupies just under half of the building which is fairly standard. Again, similar to Hurlbutt, there are numerous special education rooms and a large amount of space dedicated to specials. The Media Center here is also rather large. Again, these are some of the qualities that make this school great. Here School Support has evened out with the addition of a full-sized stage in the Cafetorium and full-sized gymnasium. This school is well balanced in its proportions. The building provides ample space to support the programmatic needs of this school.

Overall, Weston Intermediate School is a beautiful and well taken care of school. The layout and sizes of each space adequately support the educational needs. The school has been well maintained and should continue to support the community for years to come.

PROGRAM LEGEND

CLASSROOMS	23,245 NSF
SPECIALS	9,299 NSF
SPECIAL ED.	7,662 NSF
MEDIA CENTER	8,117 NSF
PHYSICAL ED.	6,789 NSF
CAFETERIA	6,912 NSF
AUDITORIUM	1,744 NSF
ADMINISTRATION	8,926 NSF
BUILDING INFRA	7,308 NSF
CIRCULATION	30,448 NSF
SCHOOL TOTAL	110,450 NSF

NORTH

OVERALL FIRST FLOOR PLAN

SCALE: NTS

1
W1S4

Weston Schools
Facilities Feasibility Study

WESTON INTERMEDIATE SCHOOL
PROGRAM CONDITIONS ANALYSIS - FIRST

SILVER/PETRUCELLI + ASSOCIATES
Architects / Engineers / Interior Designers
3190 Whitney Avenue, Hamden, CT 06518-2340
Tel. 203 230 9007 Fax. 203 230 8247
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PROGRAM LEGEND

CLASSROOMS	23,245 NSF
SPECIALS	9,299 NSF
SPECIAL ED.	7,662 NSF
MEDIA CENTER	8,117 NSF
PHYSICAL ED.	6,789 NSF
CAFETERIA	6,912 NSF
AUDITORIUM	1,744 NSF
ADMINISTRATION	8,926 NSF
BUILDING INFRA	7,308 NSF
CIRCULATION	30,448 NSF
SCHOOL TOTAL	110,450 NSF

NORTH

OVERALL SECOND FLOOR PLAN

SCALE: NTS

1
WIS5

Weston Schools
Facilities Feasibility Study

INTERMEDIATE SCHOOL

WESTON INTERMEDIATE SCHOOL

FACILITY CONDITIONS ANALYSIS - FIRST

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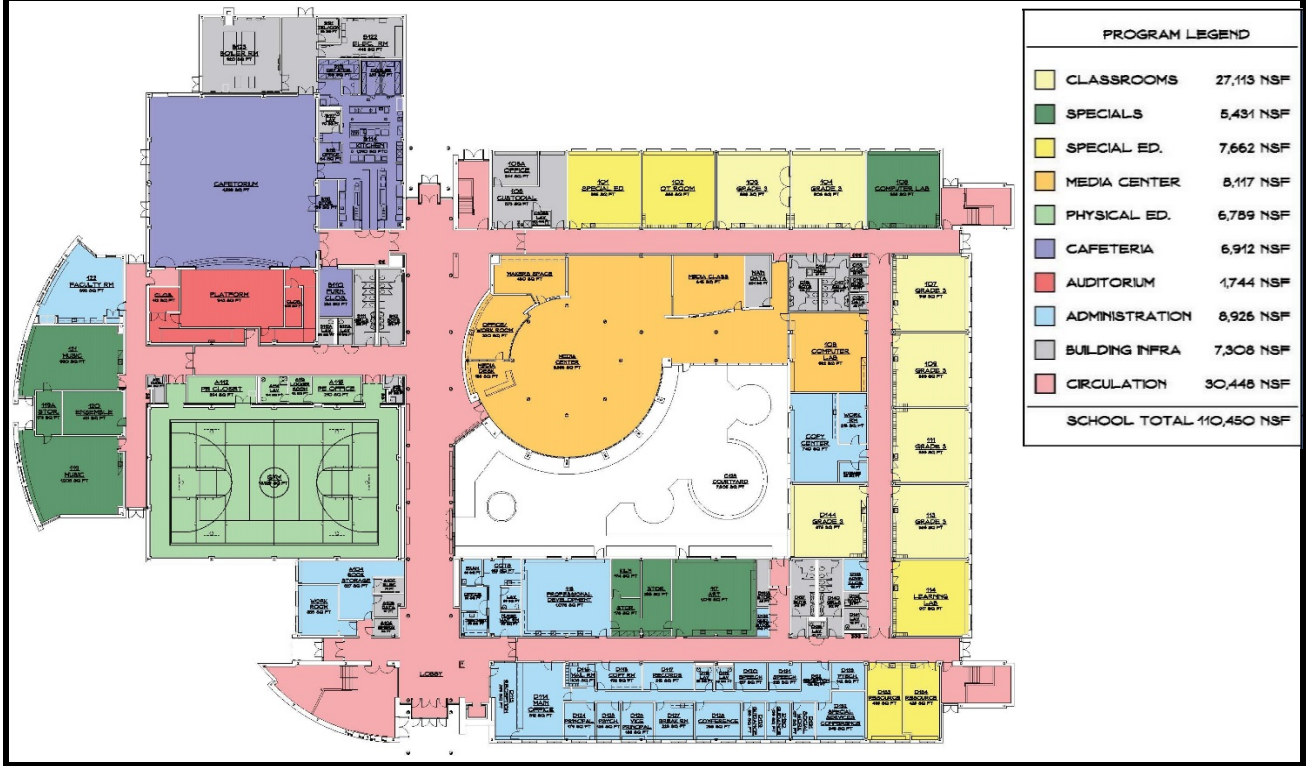
Weston Intermediate School

95 School Road Weston CT

Student Population:	507
Staff Total:	78
School Type:	Elementary-Secondary
Grades:	Grade 3-5
Original Construction:	2005
Significant Alterations:	n/a
Total Area (net)	110,452 NSF

Floor Plan



Building Information	
Construction Type	2B
No. of Floors	2
Foundation	none

Classroom Counts	
Standard Classroom	27
Special Ed. Classroom	13
Portable Classroom	0

Existing Condition		
Ext. Envelope	brick and metal panel	
Roof	age:	2005
	type:	Ballast
Security	staffed security desk, lockable doors, vestibule	
Heating	dual flame - 20 year life expectancy remaining	
Sprinklered	yes	
AC	yes	

5-year Priority Projects	
Gymnasium knee wall	$264,000
Repair and reconstruct	
Add exterior doors at Gymnsaium	$25,000
Demo wall and ad double door	
New Flooring at Cafetorium	$81,180
Remove, prepare slab and replace	

Capital Needs Prioritization - $ 1,379,342

Discipline	Total	Priority 1&2
Site	*$33,000*	$0
Architectural	*$499,030*	$387,430
Plumbing & FP	*$20,500*	$500
Mechanical	*$51,600*	$35,900
Electrical	*$775,212*	$110,000
Total:	***$1,379,342***	**$533,830**

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MEMORANDUM OF MEETING

PROJECT: **Weston Facilities Feasibility Study**

CLIENT: Weston Public Schools

MEETING PLACE: Weston Intermediate School Conference Room

DATE AND TIME: March 7, 2017 @ 11:30 pm

ATTENDEES:

Patricia Falber	WIS Principal
Nicole Wilhelm	WIS Assistant Principal
John Ireland	Silver Petrucelli
Michelle Miller	Silver Petrucelli

Purpose: Program Needs

Overall there are not many issues with the school building, as it is on its 12th year. The building works well and supports the three grade levels. It has good flow and nice natural light. Specific room labels were reviewed as some had changed.

The following issues were noted:

1. Gym
    - There is no direct exterior access/egress
    - Space is highly used – prefer to shut off remainder of building during night and weekend use
    - Congestion is main hallway outside of gym and cafeteria can cause a traffic jam especially during lunch and indoor recess
2. General Classrooms
    - Entry at the front of the room is not favorable
    - HVAC concerns, vary from room to room
    - Southeast portion of 2nd floor gets very hot
    - Sound issues, some classrooms have shared doors between rooms and it doesn't always work well as the transfer of sound can be distracting

- Tennis balls are being added to furniture as the moving of desk and chairs is load to the rooms below
- Windows don't allow for egress and that may be desired with the modern day security needs

3. Administration
    - Some offices lack natural light
    - Conference room between offices has been eliminated and is missed
    - Wall covering or wallpaper is beginning to fail
4. Play area
    - Small area - landlocked
    - Limited grass play
5. Music
    - Rooms are small – band has to rehearse on the stage
    - Stage lighting, sound and curtains have been upgraded
6. Media
    - Recently renovated
    - Added makers space and green room
    - Added an additional PC computer lab (now there are 2)

Any corrections, additions, or comments should be made to Silver / Petrucelli + Associates within 14 days of the date of the meeting.

Distribution: Weston Schools, Silver Petrucelli

Existing Weston Middle School Facility Program

Weston Middle School currently serves the Grade 6 through Grade 8 population of Weston, with 584 students and approximately 80 staff members. The school building is 145,977 net square feet. This calculation removes the lower level with the town pool and associated locker rooms portion. The Connecticut State Space Standards bases the size a school on the highest 8-year enrollment projections and grade level. The state therefore would determine that this building is appropriately sized at 98,112 net square feet. However, this is a basis for limiting the sizes of schools to receive reimbursement on construction projects. It is only criteria to meet if the goal is to maximize state funding. It is not the best comparison for this school.

Existing Weston Middle School Program
Existing Enrollment: 584 Students

Space Division	Quantity	Square footage	Subtotal	Average	Percentage
GENERAL CLASSROOMS					
TOTAL	33	756-1309	34,317	1040	24%
SPECIALS					
TOTAL	16	885-1205	13,784	862	9%
SPECIAL EDUCATION					
TOTAL	13	258-917	8,940	688	6%
MEDIA CENTER					
TOTAL	5	136-4145	10,343	2069	7%
PHYSICAL EDUCATION					
TOTAL	15		19,967	1331	14%
CAFETERIA					
TOTAL			8,673		6%
AUDITORIUM					
TOTAL	3		0	0	0%
ADMINISTRATION					
TOTAL	22	86-1076	4,917	224	3%
BUILDING INFRASTRUCTURE					
TOTAL			7,038		5%
CIRCULATION + STRUCTURE					
			37,998		26%
TOTAL			145,977		100%

After reviewing the building, understanding it's functions and discussing issues with staff members it is evident that Weston Middle School has not seen a lot of updating in its lifetime and needs some programmatic improvements. The description below highlights some of the major issues and concerns. For additional information, refer to the Weston Middle School Interview Meeting Minutes from March 21, 2017.

Many issues and deficiencies were discussed regarding the Middle School. First of all, there is a great need for building infrastructure improvements. A need for air conditioning has been a large concern. Other mechanical issues are poor ventilation, noisy air handler in science rooms and unaesthetically pleasing low ductwork in corridors. Plumbing issues consist of failing sinks and a lack of hot water in bathrooms. Electrical concerns are the lack of emergency lighting and power and the lack of exterior lighting. The intercom and bell system also do not always function properly. Lockers throughout the school are in disrepair. Largely many issues were discussed about the Science labs. They are old dated interior bound spaces with terrible sightlines. They lack technology and are not conductive to learning. The casework is old and dated. This also applies to the art rooms. Many of the classrooms also have cabinetry that is dated and in need of replacement. These spaces need renovations. The old gym is also in need of renovations including retractable basketball hoops. It should also be mentioned that this building lacks and Auditorium or functioning stage or a space large enough for full school assemblies. Additionally, the administration portion of this building is undersized and lacking. Aside from the mentioned needs and concerns, the building functions well for its users.

Standard classrooms at this school vary by wing. The largest are in A and B wing with all over 900 net square feet. The smallest are in G wing and vary in size, most smaller than 800 net square feet. While tolerable, 800 or more is ideal. Classrooms used for Special Education consist of a variety. Science classrooms are not only in poor condition and landlocked without daylight, they are also undersized.

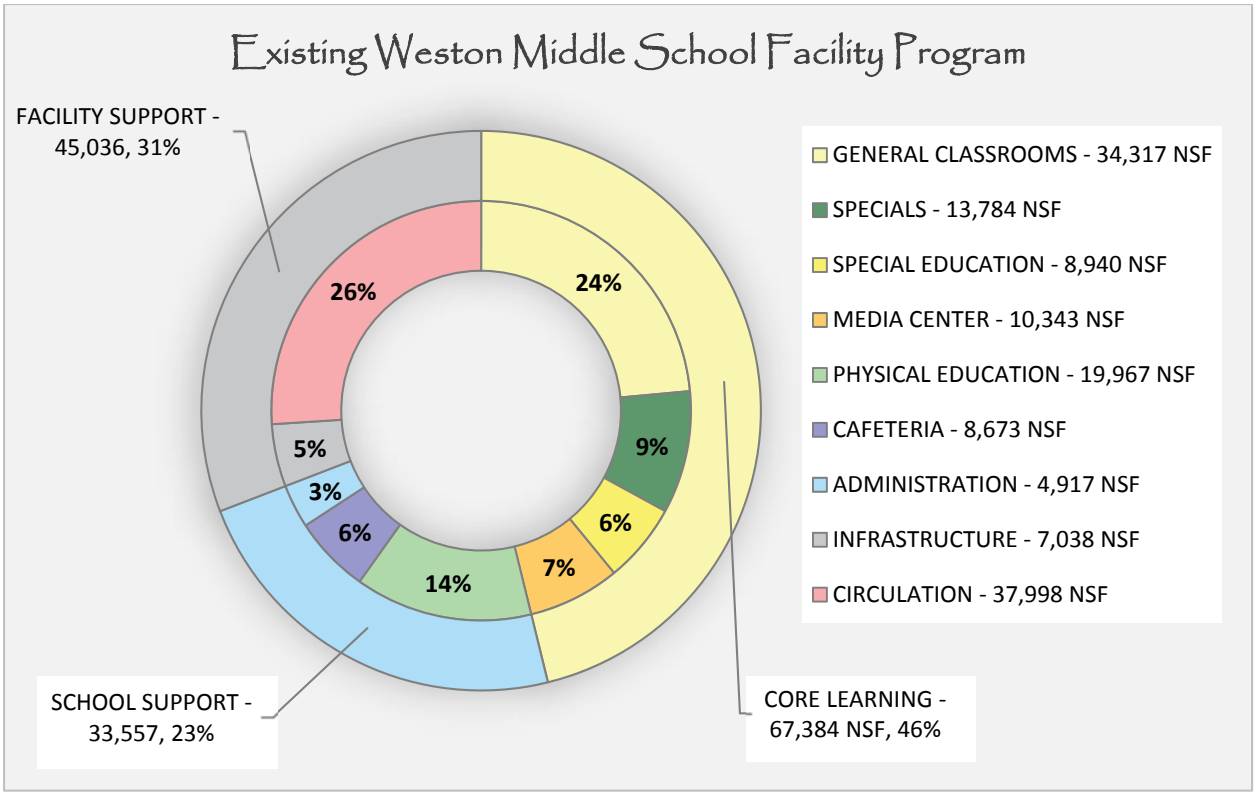
Weston Middle School - General Classroom Utilization

Existing Enrollment: 584 Students

Grade Level	Oct. 2017 Enrollement Total	Projected 2022-2023 Enrollement	Maximum Class Size Policy	Current Classroom Quantity *	Projected Minimum Classroom Quantity	Projected Students Per Classroom
Grade 6	196	173	24	11.00	7.21	21.6
Grade 7	190	179	24	11.00	7.46	22.4
Grade 8	198	175	24	12.00	7.29	21.9
TOTAL	**584**	**527**		**34**	**24**	

*Count includes the science labs, language rooms, health, project challenge

To further investigate the utilization of the school, the general classroom quantities were reviewed. Here we evaluate the quantity of classrooms needed to adequately support the student population per grade level. Each grade level is reviewed in accordance to the districts maximum class size policy or the student to teacher ratio. The Weston Board of Education has established classroom size guidelines. Grade 2 through Grade 12 have a range between 20 to 24 students per class. Using the maximum class size, we can determine the minimum quantity of general classrooms needed to serve the school. The chart above examines both the current and projected enrollment of each grade and it determines the classroom quantities needed. As we transition from the Intermediate School to the Middle School we now have a school where students move from different classrooms geared to specialized instruction throughout the day, so simple math does not apply here. The evaluation of this chart does not reflect the accuracy of the grade organization and the two teams that occupy the general classrooms. Each grade level has 8 classrooms dedicated to their core learning while the remaining classrooms support world language, health, and project challenge classrooms. If we look at the 8 core learning classrooms per grade we can see that the school is on target for today. Looking at the projections, the decrease in students will still require the 8 core classrooms. Weston Middle School general classrooms are on target of where they should be and may have some future flexibility.



The chart above analyzes the percentage of all the program categories and then analyzes them within their three sections. The core learning section occupies just under half of the building which is fairly standard. The percentages of the three sections end up very similar to the Intermediate school. Core Learning category percentages are very comparable and conceivably expected in a middle school. However, there is one category completely missing in this middle school - an auditorium, Cafetorium or stage. The cafeteria was once a Cafetorium and the old gym once had a stage. They were no longer needed; perhaps the adjacent High School Auditorium is sufficient. Another category to point out is physical education. Just like the high school, this drastically increases due to two gymnasiums and a fitness center. Although it is not unheard of for a school to have two gyms it does take away from other elements within School Support section. For instance, the Administration at this school appears to be undersized. The office suite and the guidance office comingle. The nurse's suite is small with no access to natural light. This school is well balanced and has the overall square footage to be able to support the programmatic needs, it just needs some improvements and modifications.

Overall, Weston Middle School is a well taken care of school, but its age and layout create a need for improvement. Most of the layout and sizes of each space adequately support the educational needs however areas such as the science, art and music rooms need improvements. There are a few options to address these issues. The science labs can be renovated like new in their existing locations but that would not change their interior location with a lack of natural light and their size. Perhaps there is another program that would work better in this location and new Science labs can be created within other more appropriately sized existing spaces. Another solution is to demolish them and replace it with a courtyard or Auditorium. A science lab addition could then be built. Air conditioning is a high priority at this school and therefore would also involve the needed ceiling and light replacements. Many of the rest rooms and lockers are in disrepair and need renovations and replacements. There are many improvements to be made that would help advance the middle school to a higher standard to improve the educational experience of its students.

PROGRAM LEGEND

CLASSROOMS	34,317 NSF
SPECIALS	13,784 NSF
SPECIAL ED.	8,940 NSF
MEDIA CENTER	10,343 NSF
PHYSICAL ED.	21,343 NSF
CAFETERIA	8,673 NSF
AUDITORIUM	0 NSF
ADMINISTRATION	4,917 NSF
BUILDING INFRA	7,038 NSF
CIRCULATION	36,622 NSF
TOWN POOL	-9,645 NSF
SCHOOL TOTAL	145,977 NSF

NORTH

MAIN LEVEL FLOOR PLAN

SCALE: NTS

1 WMS6

NORTH

LOWER LEVEL FLOOR PLAN

SCALE: NTS

2 WMS6

WESTON MIDDLE SCHOOL POOL

PROGRAM CONDITIONS ANALYSIS

Weston Schools
Facilities Feasibility Study

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Weston Middle School

135 School Road Weston CT

Student Population:	584
Staff Total:	80
School Type:	Middle
Grades:	6-8
Original Construction:	1960
Significant Alterations:	1970 & 2000
Total Area (net)	155,622

Floor Plan

PROGRAM LEGEND	
CLASSROOMS	34,317 NSF
SPECIALS	13,784 NSF
SPECIAL ED.	8,940 NSF
MEDIA CENTER	10,343 NSF
PHYSICAL ED.	30,988 NSF
CAFETERIA	8,673 NSF
AUDITORIUM	0 NSF
ADMINISTRATION	4,917 NSF
BUILDING INFRA	7,038 NSF
CIRCULATION	36,622 NSF
SCHOOL TOTAL	155,622 NSF

Building Information	
Construction Type	2B
No. of Floors	2
Foundation	partial

Classroom Counts	
Standard Classroom	33
Special Ed. Classroom	10
Portable Classroom	0

Existing Condition		
Ext. Envelope	brick	
Roof	age:	2000+/-
	type:	Ballast and EPDM
Security	security desk, lockable doors, vestibule	
Heating	dual fuel - boilers: nearing end of useful life	
Sprinklered	no	n/a
AC	partial	

Priority Projects	
Add Air Conditioning & Ventilation	$3,680,000
Add throughout the building (NIC electrical)	
Replace ceilings	$2,100,000
Replace all old sagging dropped ceilings	
Emergency lighting	$50,000
Install a code approved emergency lighting system	

Capital Needs Prioritization - $ 17,298,474

Discipline	Total	Priority 1&2
Site	*$660,000*	$0
Architectural	*$9,096,064*	$2,392,500
Plumbing & FP	*$788,110*	$0
Mechanical	*$5,476,000*	$266,000
Electrical	*$1,278,300*	$88,300
Total:	***$17,298,474***	**$2,746,800**

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MEMORANDUM OF MEETING

PROJECT: **Weston Facilities Feasibility Study**

CLIENT: Weston Public Schools

MEETING PLACE: Weston Middle School – Principal Office

DATE AND TIME: March 21, 2017 @ 9:00 pm

ATTENDEES:

Daniel E. Doak	Weston Middle School Principal
Michelle Miller	Silver Petrucelli

Purpose: Program Needs

Mr. Doak reviewed a list compiled with faculty comments on building issues, concerns and needs. A separate memo shared concerns that occurred during the power outage on March 3rd. Additionally, we walked around the building and visited various classrooms and spaces.

The following issues were noted:

1. HVAC concerns
    - Air Conditioning is strongly desired and needed in some spaces. Split systems have been added in some spaces but the need has increased throughout.
    - Rooms can vary greatly in temperature from one to the next
    - Windows contribute to the harsh cold or strong heat
    - Science room ventilation is terrible – intakes odors from truck exhusts
    - Science room Air handler is incredibly noisy and can disrupt the science class
    - Restrooms and locker rooms lack ventilation
    - Cafeteria does not have AC or any fans, it gets hot
    - The way that the ductwork runs in the corridors are unattractive

2. Plumbing Concerns
    - Classroom sinks are failing and are being removed on a case by case basis. Some teachers feel strongly on having a sink within the classroom
    - Bathrooms often have plumbing issues including no supply of hot water

3. Electrical Concerns
    - Lack of Emergency lighting in corridors and nurse
    - Intercom and bell system are not always functioning or do not work correctly
    - Generator back up items should be reevaluated
    - There is a lack of exterior lighting
    - There are lighting concerns in the bathrooms and hallways
4. Lockers
    - Most lockers are mangled and do not lock
    - Base doesn't align with lockers cause tripping conditions, rubber base is failing
    - Lockers are too small
    - Locker rooms also have issues
    - Larger lockers for instrument storage spread throughout are desired
    - Key pad locks are desired
5. Science
    - Science layouts are problematic and not ideal
    - Sightlines are not conducive to teaching and learning
    - Corridor network and alcoves cause distractions
    - Proximity to Music Lab is distracting
    - There is a lack of natural light and the light wells are not favored
    - HVAC concerns noted above
    - Projector location is not ideal
    - Keying issues with prep room/office
6. Gymnasium
    - In the Old Gym the basketball hoops do not retract
    - A sound system is desired
    - Renovations need – old items on the walls
    - Locker rooms need renovations
7. Various Building Concerns or needs
    - Add classroom numbers on windows
    - Ceiling tiles make the hallways unattractive.
    - Circle tables are desired for the cafeteria
    - Need more classroom bookshelves or casework
    - Add and outdoor classroom
    - Add more video screens in common areas
    - Meeting areas are limited, conference room is often too small
    - Main office layout is not desired – front counter does not engage the desks as it used too. Power cords cause a tripping hazard.
    - Exterior door, C10 does not latch properly
    - Many classrooms have old furniture or casework

Any corrections, additions, or comments should be made to Silver / Petrucelli + Associates within 14 days of the date of the meeting.
Distribution: Weston Schools, Silver Petrucelli

Existing Weston High School Facility Program

Weston High School is set up to serve the Grade 9 through Grade 12 population of Weston. The school currently serves 809 students and approximately 111 staff members. The school building is 223,539 net square feet. The Connecticut State Space Standards bases the size a school on the highest 8-year enrollment projections and grade level. The state therefore would determine that this building is appropriately sized at 150,879 net square feet. However, this is a basis for limiting the sizes of schools to receive reimbursement on construction projects. It is only criteria to meet if the goal is to maximize state funding. It is not the best comparison for this school.

Existing Weston High School Facility Program
Existing Enrollment: 809 Students

Space Division	Quantity	Square footage	Subtotal	Average	Percentage
GENERAL CLASSROOMS					
TOTAL	33	624-1675	43,006	1303	19%
SPECIALS					
TOTAL	15	885-1205	17,953	1197	8%
SPECIAL EDUCATION					
TOTAL	8	495-1380	6,662	833	3%
MEDIA CENTER					
TOTAL	7	167-6775	11,548	1650	5%
PHYSICAL EDUCATION					
TOTAL	26		40,308	1550	18%
CAFETERIA					
TOTAL			10,710		5%
AUDITORIUM					
TOTAL	6		10,631	1772	5%
ADMINISTRATION					
TOTAL	32	108-1380	11,460	358	5%
BUILDING INFRASTRUCTURE					
TOTAL			9,745		4%
CIRCULATION + STRUCTURE					
			61,516		28%
TOTAL			223,539		100%

After reviewing the building, understanding it's functions and discussing issues with staff members it is evident that Weston High school has sharp contrast between portions of the building. The front is new, modern and highly functioning while the rear is in original condition, out of date and neglected. The description below highlights some of the major issues and concerns. For additional information, refer to the Weston High School Interview Meeting Minutes from April 4, 2017.

In 2005, Weston High School received a large addition to the front and sides, including a two-story Science wing giving the presence of a brand-new school. Many existing spaces have been renovated. However, the existing classrooms at the rear of the school standout with the original 1960s character. Many of these classrooms need upgrades and modernization. Window and ceiling replacement projects are ongoing in various stages. Some of the goals are to utilize space better and maximize natural daylight. Some classrooms are too large and would serve the students and educators better if they were divided into two classrooms. Other rooms are not used to their full potential and would work well if converted to other programs such as a Black Box Theater. The snack shack is no longer used and would work well as a small student area such as a break out space for group work. There are no practice rooms for the music program and some feel that the small connecting hall is not needed and could potentially be converted to serve this need. There was a suggestion create a community center within the Media Center to remain open to the public after school hours. This would require security improvements along with supporting staff. Overall, the building functions well for its users.

Similar to the Middle School the standard classrooms at this school vary by wing. Most standard classrooms reside in C and D wing. As previously mentioned, some of these rooms are rather large, perhaps too large at over 1,600 square feet. C wing classrooms are fairly standard and comfortable hovering over 900 square feet. Many of the original classrooms in D wing are a slightly under the desired 800 square feet and sized at 730 square feet. More importantly these wings have received little to no upgrades and need new windows, finishes and HVAC improvements. G and H wing are home to the newer Science labs or clabs and they are a bit undersized.

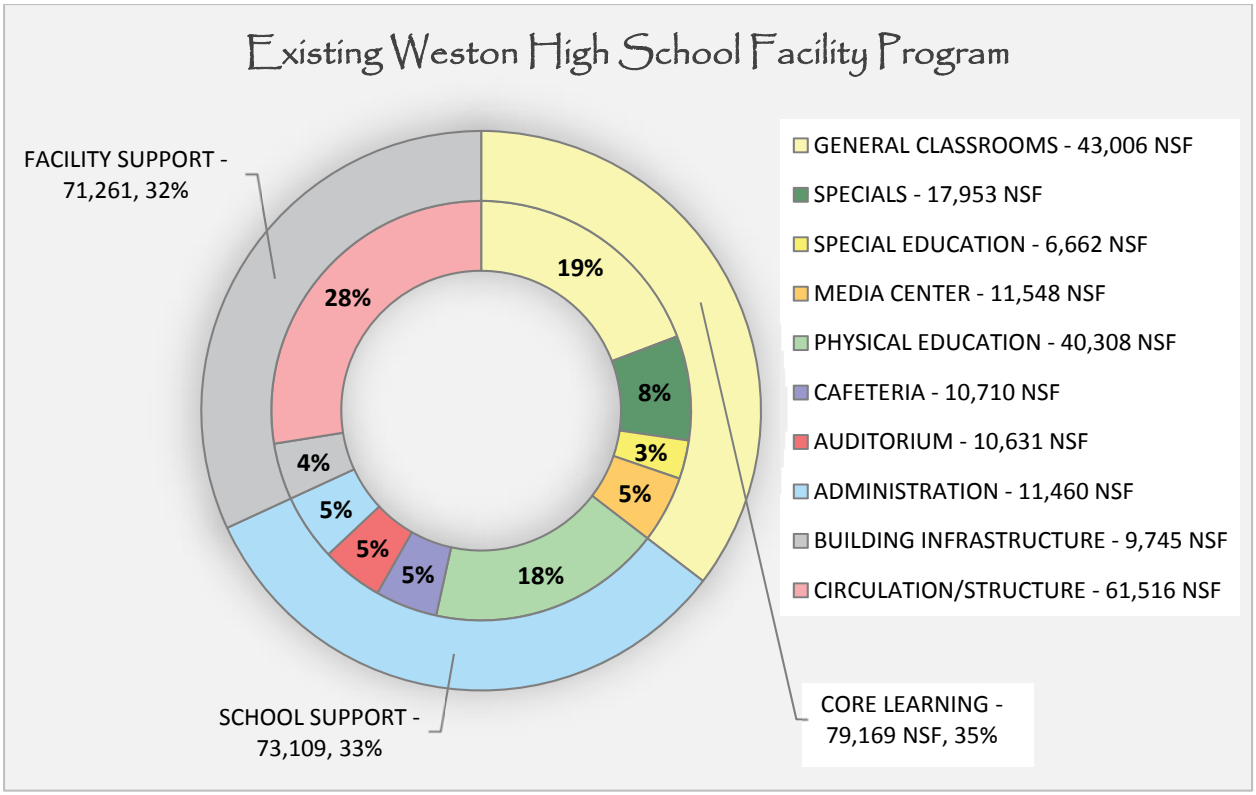
Weston High School - General Classroom Utilization

Existing Enrollment: 809 Students

Grade Level	Oct. 2017 Enrollement Total	Projected 2022-2023 Enrollement	Maximum Class Size Policy	Current Classroom Quantity *	Projected Minimum Classroom Quantity	Projected Students Per Classroom
Grade 9	210	193	24	9.00	8.04	21.4
Grade 10	184	192	24	9.00	8.00	21.3
Grade 11	209	198	24	9.00	8.25	22.0
Grade 12	206	189	24	10.00	7.88	23.6
TOTAL	**809**	**772**		**37**	**35**	

Count includes the science labs, language rooms, health

To further investigate the utilization of the school the general classroom quantities were reviewed. Here we evaluate the quantity of classrooms needed to adequately support the student population per grade level. Each grade level is reviewed in accordance to the districts maximum class size policy or the student to teacher ratio. The Weston Board of Education has established classroom size guidelines. Grade 2 through Grade 12 have a range between 20 to 24 students per class. Using the maximum class size, we can determine the minimum quantity of general classrooms needed to serve the school. The chart above examines both the current and projected enrollment of each grade and it determines the classroom quantities needed. The high school can be reviewed in a similar way to the middle school since extra general classrooms are required to support the secondary learning such as language and health. Looking at the projections each grade requires a minimum of 8 to 9 classrooms to support core learning. With only 2 available classrooms that will be utilized as health or language the reduction in the projected enrollment does not create a significant impact on the classroom count.



The chart above analyzes the percentage of all the program categories and then analyzes them within their three sections. The core learning section occupies just over a third of the building. We can see a decrease in general classrooms and special education compared to the other schools. In the review of the School Support section it has now increased to a third. The shift has occurred due to the larger physical education portion and the addition of the Auditorium. The school works well from a programmatic standpoint however; some spaces could be utilized better. As previously discussed the large rooms could be converted into two classrooms. These underutilized spaces could be converted to new programs and uses to better serve the school education curriculum. The rear of the building could be renovated to provide more modern classrooms. Additionally, converting the Media Center into a Community Center after hours may be something to investigate. This school is well balanced and able to support the programmatic needs.

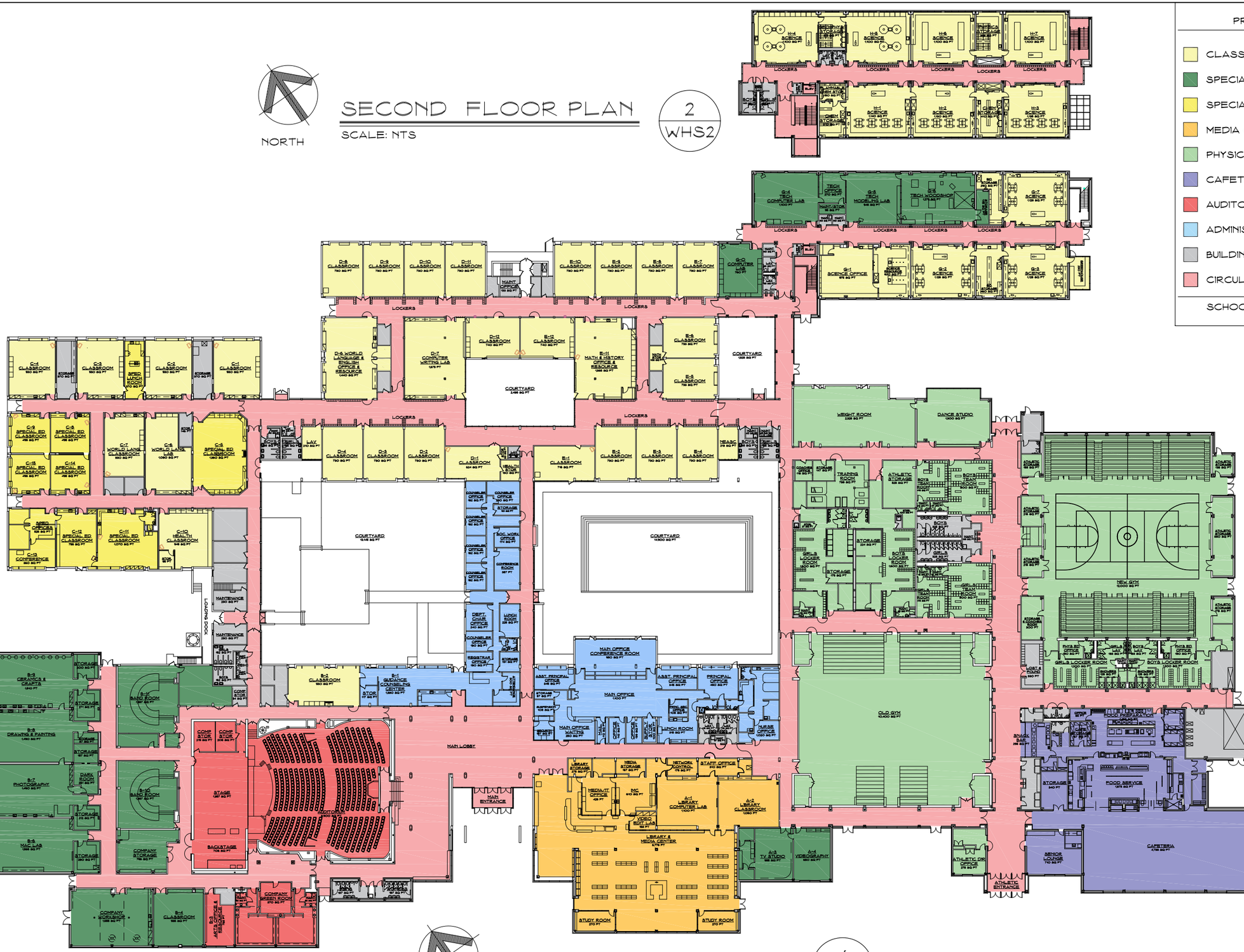
Overall, Weston High School is a well taken care of school. The school offers many diverse programs to its students and most of the layout and sizes of each space adequately support the educational needs. However, there are some opportunities to improve aspects of the program and better utilize the building. With some modifications and improvements to Weston High School, it could function at higher standard and improve the educational experience of its students.

NORTH

SECOND FLOOR PLAN

SCALE: NTS

2
WHS2



NORTH

MAIN FLOOR PLAN

SCALE: NTS

1
WHS2

PROGRAM LEGEND

CLASSROOMS	43,006 NSF
SPECIALS	17,953 NSF
SPECIAL ED.	6,662 NSF
MEDIA CENTER	11,548 NSF
PHYSICAL ED.	40,308 NSF
CAFETERIA	10,710 NSF
AUDITORIUM	10,631 NSF
ADMINISTRATION	11,460 NSF
BUILDING INFRA	9,745 NSF
CIRCULATION	61,516 NSF
SCHOOL TOTAL	223,539 NSF

Weston Schools
Facilities Feasibility Study

WESTON HIGH SCHOOL

FACILITY CONDITIONS ANALYSIS

SILVER/PETRUCELLI + ASSOCIATES

Architects / Engineers / Interior Designers

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Tel. 203 230 9007 Fax. 203 230 8247
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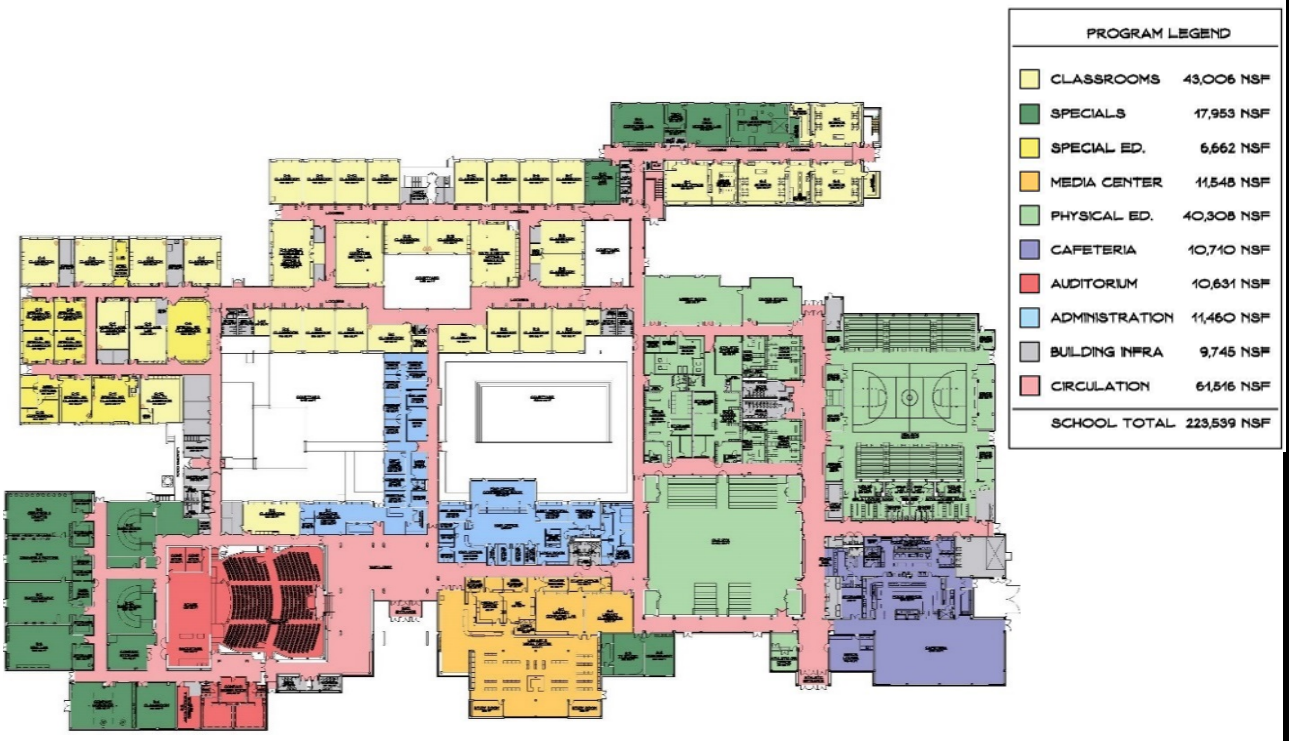
Weston Schools Facilities Feasibility Study

Weston High School

115 School Road Weston CT

Student Population:	809
Staff Total:	111
School Type:	High
Grades:	9 - 12
Original Construction:	1968
Significant Alterations:	2005
Total Area (net)	223,539

Floor Plan



Building Information	
Construction Type	2B
No. of Floors	2
Foundation	partial

Classroom Counts	
Standard Classroom	33
Special Ed. Classroom	8
Portable Classroom	0

Existing Condition		
Ext. Envelope	brick/metal panels	
Roof	age:	2000/2005
	type:	Ballast and EPDM
Security	security desk, lockable doors, no entry vestibule	
Heating	dual fuel - boilers: 25 years reamining	
Sprinklered	no	n/a
AC	partial	

Priority Projects	
Improve Emergency Lighting	$71,000
replace /add to twin head & battery ballast distribution	
Restroom upgrades	$300,000
Includes cost for 6 restroom reconfigurations	
Improve courtyard patios	$160,700
Alter drainage, tree roots and repave	

Capital Needs Prioritization -	$ 9,474,628	
Discipline	Total	Priority 1&2
Site	*$233,100*	$160,700
Architectural	*$6,223,028*	$384,500
Plumbing & FP	*$70,000*	$50,000
Mechanical	*$1,632,000*	$485,000
Electrical	*$1,316,500*	$114,000
Total:	***$9,474,628***	**$1,194,200**

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MEMORANDUM OF MEETING

PROJECT: **Weston Facilities & Feasibility Study**

CLIENT: Weston Public Schools

MEETING PLACE: Weston High School – Principal Office

DATE AND TIME: April 4, 2017 @ 11:00 am

ATTENDEES:

Lisa Deorio	Weston High School Principal
Michelle Miller	Silver Petrucelli

Purpose: Program Needs

Ms. Deorio summarized some facility issues, concerns and needs in her office. Main goals are to maximize space, provide flexible furniture, provide natural light and comfortable spaces that support critical thinking. Additionally, we toured the building and visited various classrooms and spaces.

The following issues were noted:

1. Use of space concerns
    - Many classrooms and various spaces throughout the building are underutilized
    - Some large classrooms exist and could be converted into 2 classrooms. These spaces tend to have high ceilings with clearstory windows making it a little challenging but very possible to convert.
    - The unused snack shop at the gym is not used. It would work well for a small student area for eating, studying or group work.
2. Music Rooms
    - The size of these rooms is a little small but they make it work
    - The acoustics are not very good and could use some improvements
    - No practice rooms exist and are needed. They possibly could be added to the hallway between the rooms.
3. HVAC Concerns
    - Some classrooms do not have any Air conditioning and it is strongly desired.

- Exterior classrooms at the rear center are often very cold
- Guidance Suite gets very cold after 10:00
- Locker rooms do not have great ventilation

4. Lighting Concerns
    - Lights in Media and Cafeteria are out
    - Exterior lighting is in need
5. Furniture
    - A variety of furniture exists throughout the school
    - Some areas have tables and chairs without casters that are difficult to move
    - More flexible furniture is desired
6. Servery
    - Servery area is too small and gets very congested
    - Students are allowed to eat in various areas of the school along with the cafeteria
7. Media Center
    - Desired to create an after school community center to remain open to the public. This would require some security improvements along with additional staff.
8. Security
    - Wings are not able to shut down as designed and should be addressed
    - All cameras are not working
9. Miscellaneous
    - Tech Wood shop is in need of more space and the Modeling lab could use less. It is possible to move the shared wall to accommodate.
    - Arts & Crafts and Clay space is shared among many and it's difficult to accommodate all the various programs. Deeper shelving is desired.
    - Many spaces do not have windows. Offices and classrooms and nurse office should have windows/access to daylight.
    - A black box theater is desired.

Any corrections, additions, or comments should be made to Silver / Petrucelli + Associates within 14 days of the date of the meeting.

Distribution: Weston Schools, Silver Petrucelli

Existing Weston Central Office

Weston Central Office is centrally located in the middle of the school campus complex. The one-story building sits adjacent to the Annex building, basketball court and the town lacrosse and field hockey fields. This building is too small to accommodate all the essential administration employees. About half of the administration team is located here while the remainder is in the Annex building with the town offices.

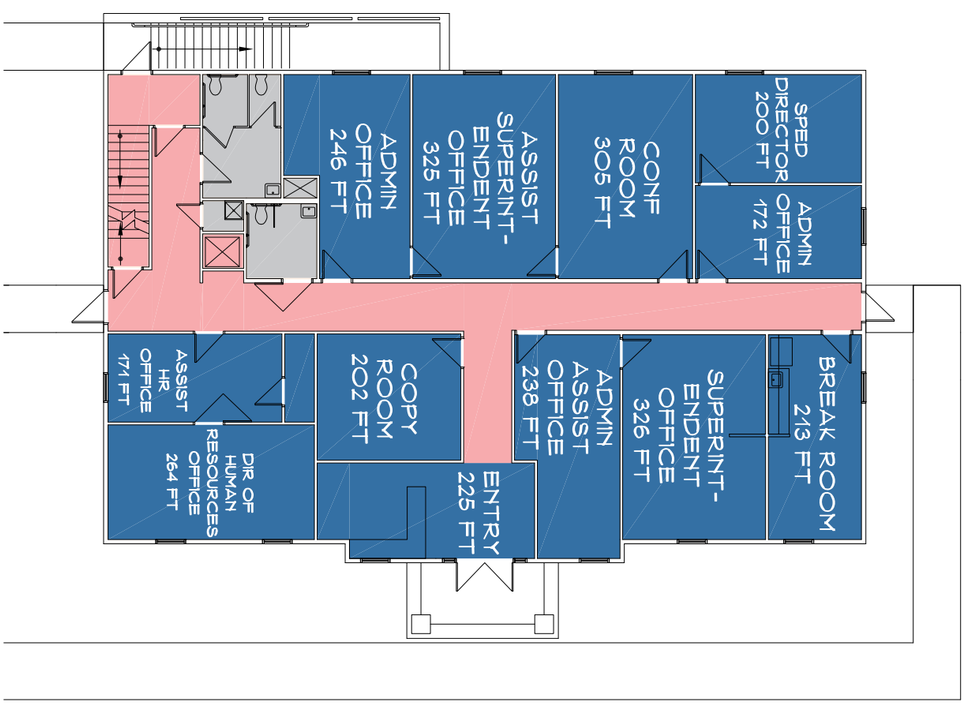
After reviewing the building, understanding it's functions and discussing issues with building users it is apparent that Weston Central Office just is not as big enough. During a previous study, the central office attic and basement was analyzed to determine the feasibility of expanding the building. It would be cost prohibitive to convert the basement due to egress windows, elevator and ceiling height. The attic would require a new HVAC system and new roof and walls to allow for a second floor as well as a second stair and elevator.

Ideally the building would accommodate the entire administration team and employees. The staff makes use with what they have and the proximity of the two buildings makes it work. However, the remainder of administration is in a temporary structure that is over 15 years old, living past its life expectancy. The future vision is to consolidate all of the Board of Education school administration into one building.

Weston Central Office Facility Program
Existing

Space Division	Quantity	Square footage	Subtotal
BOARD OF EDUCATION OFFICES			
Reception	1	225	225
Admin Office	1	238	238
Superintendent Office	1	326	326
Break Room	1	213	213
Admin Office (SPED)	1	172	172
SPED Director Office	1	200	200
Conference Room	1	305	305
Assistant Superintendent	1	325	325
Admin Office	1	246	246
Assistant HR Office	1	171	171
Director of HR Office	1	262	262
Copy Room	1	202	202
TOTAL			**2,885**
BUILDING INFRASTRUCTURE			
Lav	1	107	107
Lav	1	59	59
TOTAL			**166**
CIRCULATION + STRUCTURE			
TOTAL		**684**	**684**
TOTAL			**3,735**

NORTH



MAIN FLOOR PLAN

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

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C01

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Existing Weston Annex Building

Weston Annex Building is centrally located in the middle of the school campus complex. The one-story portable structure sits adjacent to Central Office, the basketball court and the town lacrosse and field hockey fields. This building was once created to serve as temporary classrooms for Kindergarten. Since Central Office is too small to accommodate all the administration staff and Town Hall is also too small to accommodate many of their departments, the Annex has become a mix of town and school offices. The building is well organized with school functions to the front and town to the rear with a large shared conference room in the middle.

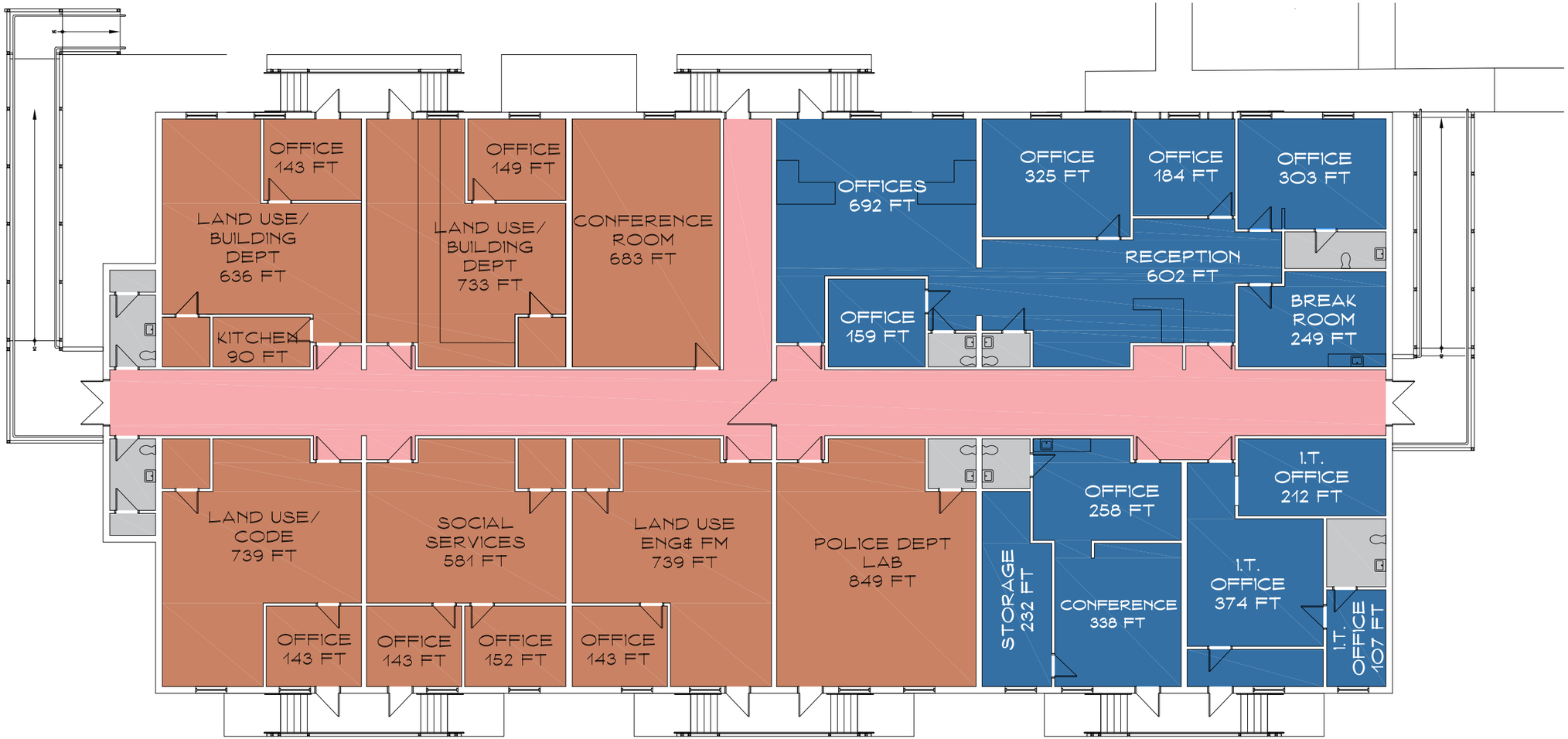
After reviewing the building, understanding it's functions and discussing issues with building users it is evident that it would be more functional for the Board of Education offices to be located together. Again, everyone makes this situation work but in the future, plans should accommodate one building for the Board of Education.

Weston Annex Facility Program Existing			
Space Division	**Quantity**	**Square footage**	**Subtotal**
BOARD OF EDUCATION OFFICES			
Reception	1	602	602
Break Room	1	249	249
Office A	1	303	303
Office B	1	184	184
Office C	1	325	325
Open Offices	1	692	692
Office D	1	159	159
IT Office A	1	374	374
IT Office B	1	212	212
IT Office C	1	107	107
IT Storage	1	232	232
Office	1	258	258
Conference	1	338	338
TOTAL			**4,035**
TOWN OFFICES			
Land Use - Eng & FM	1	739	739
Land Use - Eng & FM Office	1	143	143
Land Use - Storage	1	44	44
Conference Room (shared)	1	683	683
Land Use Building Department	1	733	733
Land Use Building Office	1	149	149
Land Use Building Storage	1	44	44

Weston Annex Facility Program

Existing

Space Division	Quantity	Square footage	Subtotal
Social Services	1	692	692
Social Services Office A	1	152	152
Social Services Office B	1	143	143
Social Services Storage	1	44	44
Land Use Building Department	1	374	374
Land Use Building Office	1	212	212
Kitchen	1	90	90
Storage	1	44	44
Land Use Code Department	1	739	739
Land Use Code Office	1	143	143
Land Use Code Storage	1	44	44
Police Lab	1	849	849
TOTAL			**6,061**
BUILDING INFRASTRUCTURE			
Lav	2	82	164
Lav	2	30	60
Lav	2	44	88
Lav	1	75	75
Lav	1	69	69
TOTAL			**456**
CIRCULATION + STRUCTURE			
TOTAL		**2,032**	**2,032**
TOTAL			**12,584**



NORTH

MAIN FLOOR PLAN

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

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AB1

Weston Schools
Facilities Feasibility Study

ANNEX BUILDING

PROGRAM ANALYSIS

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Existing Weston Bus Garage

The Weston Bus Garage Building is located immediately to the right of the main entrance on the corner of school street and route 57. It is adjacent to Hurlbutt Elementary School. This building is home to the facility department and the small bus garage office is in the remainder of the building. These two departments are separated but share the same boiler. Over 24 buses occupy the parking lot to the south.

After reviewing the building, understanding it's functions and discussing issues with building users it is evident that the building is big enough for facilities but the bus office is a rather small. The building is older and dated with very small undersized bathrooms. It serves it purpose but its location is somewhat problematic. The buses are parked right at the entry and is the first thing to greet the public. The intersection is also problematic. We question if this is the appropriate location for the buses. Options for relocation may be part of the future vision for the Weston campus.

Weston Bus Garage Facility Program Existing			
Space Division	**Quantity**	**Square footage**	**Subtotal**
WESTON PUBLIC SCHOOLS FACILITY DEPARTMENT			
Office	1	94	94
Office	1	152	152
Lunch Room	1	191	191
Tool Room	1	139	139
Garage Bay A&B	1	1037	1037
Garage Bay C&D	1	1338	1338
TOTAL			**2,951**
WESTON PUBLIC SCHOOLS BUS DEPARTMENT			
Lockers	1	94	94
Office	1	152	152
Lunch Room	1	191	191
TOTAL			**437**
BUILDING INFRASTRUCTURE			
Lav with lockers	1	143	143
Lav	1	33	33
Lav	1	20	20
TOTAL			**196**
CIRCULATION + STRUCTURE			
TOTAL		**957**	**957**
TOTAL			**4,104**

NORTH

MAIN FLOOR PLAN

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

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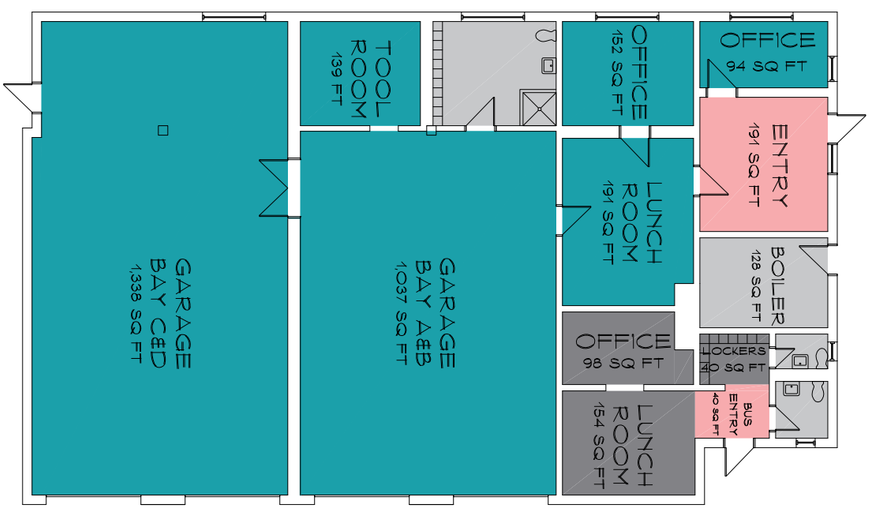

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BUS GARAGE

PROGRAM ANALYSIS

Weston Schools
Facilities Feasibility Study

Projections and Conclusions

The evaluation of each school's current program and discussions with its administration and users determine the future facility program to support the educational needs. Understanding the educational vision and evaluating the facility; how its spaces are working or not working to support the curriculum are quintessential in creating solutions. Understanding how well the space is utilized by looking at enrollment projections, class size policies and scheduling affect decisions in the future.

The review of the Milone & MacBroom Enrollment Study indicates a slow enrollment decline over the next five and ten-year periods. Within five years it is indicated that the Weston student population will decrease by approximately 133 students. While this number seems large, it cannot be analyzed as one number. A more comprehensive review of each individual school and then each specific grade along with their associated curriculum requirements need to be considered.

For instance, this enrollment reduction does not affect the population at Hurlbutt Elementary School. On the contrary this school population may increase by 9 students in the 5-year window and by 40 in the ten-year window. This is largely due to the increase in the Prekindergarten program and the steady rise in the Kindergarten.

At Weston Intermediate School, there is a decline of 48 students. As the program review indicated there are some additional classrooms here. With these projections, it may increase slightly for the 2022-23 school year. However, the following years indicate a small incline of 17 students moving into the 10-year projections. While a surplus of classrooms may exist at this school it is not a substantial quantity that could alter the school or the overall district as a whole.

In the review of the Middle School there is a larger reduction of approximately 57 to 74 students. It does appear that looking at the classroom count there is fluctuation for health, language and project challenge. Also, team teaching has become a big component of the middle school methodology and removing one classroom of any given core subject would disrupt that method. Therefore, it is still a prerequisite to continue with the 8 core classrooms and to continue with teaming as a cornerstone of the middle school educational practice.

Lastly, the High School population may decrease by 37 students and continues to decrease at a faster rate than the other schools through the ten-year projections. Using the 5-year projection as our basis, it too does not create many extra classrooms. Maximum class size policies require 8 to 9 core classrooms per grade.

The preceding General Classrooms Utilization Charts for each school demonstrate how the buildings will continue to be utilized with these projections. Milone and MacBroom has also explored utilization looking at the percentage of capacity. This corroborates that there is not a significant excess space at these schools based on the school curriculum. The projections do not indicate any reason for consolidation and grade reconfiguration as viable options for the future of Weston Public Schools.

Facility Programs are best when created in a collective effort between the client, the users, the community and the architect. This programming implementation is just the commencement of this concept. It is a starting point or a birds eyed view of the school needs. As any of these projects come to fruition a very detailed review will occur. For instance, the specifics of furniture, power requirements, material selection and numerous other requirements of these designs will continue to expand once a project advances into schematic design. In this type of predesign review, the space, adjacencies, quantities, arrangements, flow and general organization are the focus. These types of requirements are captured here and will be implemented into design options.

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Section IV – Conceptual Design Options and Master Plans

To conclude the analysis of the school needs, several design options have been produced to help determine the appropriate solution for the future of Weston's schools. This portion of the study analyzes the information gathered from the Facility Conditions Analysis section, the Milone and MacBroom Comprehensive Enrollment Study projections and the Facility Programming section to provide viable options that address the population, the utilization, the physical facility needs and educational programmatic needs of the schools. Weston is facing a declining enrollment and has some areas in the school buildings that have not seen improvements in many years.

The design phase brings the Facility Conditions and Programming together to help reveal the needs and ultimately solutions. Additionally, many other components influence design such as the client, cost, schedule, program, site, context, community, environment, sustainability, technology, codes and regulations. Moving forward with all the information will create a dialogue for decision making. This allows the exploration of options and the implementation of appropriate solutions to the problem.

The first step in a ten-year master plan is to assign priorities to move forward in a logical sequence. As the facility conditions and the programming are overlaid, prioritizations tend to reveal themselves. School needs have been prioritized into the following order:

1. Weston Middle School
2. Weston High School
3. Hurlbutt Elementary School
4. Weston Intermediate School
5. Campus Master Plan

The Weston School campus is an unprecedented asset and almost collegiate in nature. With this in mind, the review of the campus, including its school administration offices, school support facilities and town offices, is integrated into various campus master plan options. The separation of Central Office and the Annex will be addressed along with the Bus building location. The vision is to create a master plan of improvements that will enhance Weston Public School's title: The highest rated school.

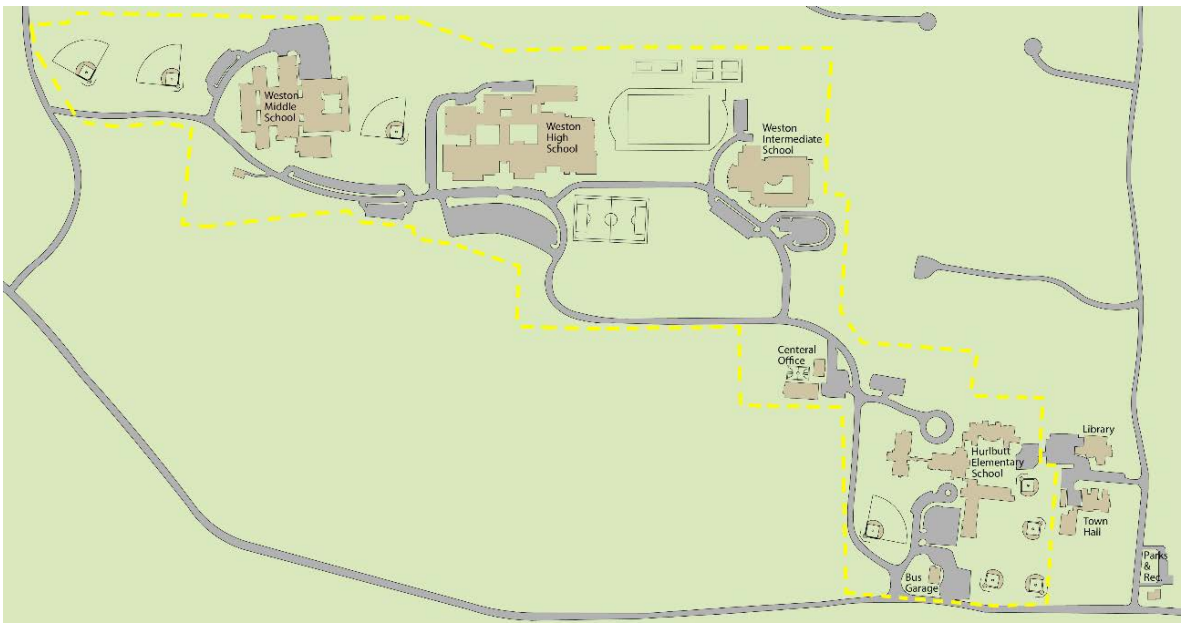

Figure 1: Campus Site Plan, SP+A

School utilization is a key factor in all school studies, MMI and SP+A have joined efforts in determining the utilization of these schools today and in the future. MMI created a Building Deployment and Capacity formula which is based in part on the programming effort of SP+A. After determining how many full-sized general and support classrooms there are at each school the maximum class size policies are applied to each of these classrooms. The next step is scheduling periods as *a* factor applied to the occupancy of these rooms. This creates the maximum capacity of the school. Finally, the current enrollment is divided by the max capacity of 95% to determine the utilization of each school. In the following design options, classroom quantities may have changed and the MMI 5-year projections are used to determine the future utilization rate for each new design configuration.

Weston Middle School Design Options

Weston Middle School strives to support 21st century learning at its finest. Out of all the four schools the middle school has taken priority of the building in need of improvements. While it currently offers the students' academic options and provides a safe atmosphere to flourish in, it can only deliver so much with the current state of the building and its spaces. The Media Center and the Project Lead the Way classrooms shine amongst the rest of the 1960s building. This report has detailed a multitude of infrastructure, physical and programmatic improvements this building requires to provide a modern facility that will support the high standard of education delivered to these students.

The concept of STEAM (Science, Technology, Engineering, Art, Math) education has gained much prominence in this middle school and across America's schools in general. It has become a crucial component of education and continues to gain traction as it's a program that truly prepares the next generation. While the technology and engineering at the middle school provide its students an optimal space to explore, question, discover, and collaborate, the science and art spaces fall short. The biggest struggle this school has is the inadequate Science Labs. Priorities have been defined as the following:

1. Building Infrastructure
2. STEAM – Science Labs
3. STEAM – Art & Music - stage
4. Lockers
5. Classrooms
6. Administration
7. 2nd gym – new type of physical education function/share with town?

The Middle School has greater needs on a larger scale than any of the facilities and therefore multiple options have been brought forward. Many elements remain consistent throughout each option such as renovations to the locker rooms, music rooms, art rooms, lockers and the demolition of the existing interior science labs. Some of the elements of each option can be selected individually and combined in various ways to create the town and schools' most desired plan. The three options suggest a good, better, best selection with Option 1 being the best, achieving all the requests and recommendations.

Option 1

Option 1 delivers the optimal Science clabs. To achieve this, more demolition and new construction will need to take place than the following 2 science options. Demolishing a good portion of G-wing and building 6 new sufficiently sized Science Clabs along with 3 shared prep rooms is the best option to meet the school program. This location with its adjacency to engineering also creates a STEM wing for the school and opens the enclosed courtyard to the field. The removal of the current science labs allows for a courtyard to provide natural light into many of the interior bound classrooms. Additionally,

a new stage is provided in place of the undersized inaccessible stage. The New gym is shown converted into other physical activities such as Project Challenge or various fitness spaces. Another component of this option is the new entry and office. It's the largest of all the options but provides the best entry sequence and office layout. This eliminates the grand exterior stair and bringing everyone inside closer to the parking. It also incorporates security right at the stair and elevator.

Moving forward with this option Weston Middle School would have an 88% utilization rate based on the MMI 5-year projections. Currently the school is operating at a 99% utilization rate. The decrease occurs mostly due to the reduction in enrollment, but is also affected by the elimination of a classroom due to the science lab reconfiguration and demolition of G-wing.

Option 2

Option 2 takes a more modest approach and works at reusing more of the building. Instead of demolishing G-wing, the idea here is to renovate and demolish interior walls to create Science Labs. Working in the existing structure creates some challenges and sacrifices. For instance, the overall size of each lab is smaller than preferred. It is desired to have space for the lab and a classroom (Clab) which cannot be achieved well within this square footage. Additionally, there is no space to incorporate supporting Prep rooms. However, these labs will be more functional and better than what exists today. The stage addition is shown on the opposite side of the cafeteria which is a challenge due to the generator and transformer locations, but is a plausible option to explore. The entry also takes a similar approach to Option 1, just on a smaller scale. The entry will still bring people right into the building from the parking area, but the sequence is not as welcoming and the stair is quite linear. The office space is like the previous option altered to work with this entry.

Moving forward with this option Weston Middle School would have a 93% utilization rate based on the MMI 5-year projections. Currently the school is operating at a 99% utilization rate. The decrease occurs mostly due to the reduction in enrollment, but is also affected by the elimination of classrooms due to the science lab reconfiguration of G-wing and some special Education rooms in C-wing.

Option 3

Option 3 takes a similar approach to Option 2 however this option includes adding a space designated to Central Office in A-wing. This location works well for a variety of reasons. It can easily be separated and secured from the remainder of the school and has a proximity to the Media Center. It can accommodate a separate entry and parking area. The square footage area of A-wing meets the square footage needs of Central Office. Unfortunately, this takes away the larger classrooms and wreaks havoc on the grade 6 and 7 wings which is critical to keep clustered together. The building functions with its grade level wings and necessitates the quantity of classrooms to support team teaching. Therefore, some classroom additions are added to the bookends of the wings to accommodate the minimum of 6 classrooms. Additionally, since so much space is taken away from the school the 2 small courtyards could be converted into special education classrooms. A new entry sequence is not included here, but a modest office addition is.

Moving forward with this option Weston Middle School would have a 101% utilization rate based on the MMI 5-year projections. Currently the school is operating at a 99% utilization rate. The increase occurs because of the educational loss of A-wing to the Central Office relocation and to the science lab reconfiguration of G-wing and some special Education rooms in C-wing. This option begins to push the capacity limits of this building.

Weston High School Design Options

Weston High School has been defined as the second priority. This is largely due to the stark contrast between the renovated and newer classrooms to the old original dated classrooms. C-wing and D-wing are in their original condition, in need of modernization and infrastructure improvements. STEAM takes precedence here at the high school too. Project Lead the Way continues to grow and so does the need for additional space to support the program. Additionally, the music program was disregarded in the last wave of renovations and with that their needs have increased including the need for practice rooms. Working together with administration specific rooms for renovation have been defined.

High School Priorities:

1. Unrenovated Classrooms
2. Expand Project Lead the Way
3. Improve Music/Provide practice rooms

Option 1

This option is straightforward with simple renovations as described. Similar to the proposed middle school options, the science and technology/engineering are located together. The space across from technology has been selected for repurposing into a space to support project lead the way. C-wing and D-wing make up the largest part of this option. These spaces are to be renovated but not modified in their layout. Finishes, technology, infrastructure will all work to make these classrooms match the remainder of the building. Additionally, Music room renovations will take place to the two existing music classrooms. It is recommended to add a platform at the front of the classroom at the same level of entry to accommodate accessibility to the board. Other options would be to fill the floor in as accessibility becomes an issue in these spaces. Additionally, these classrooms have never had any practice rooms. The plan depicts taking B-4 and dividing that into a series of practice rooms off of a shared space. This option will address many of the school needs. Moving forward with this option Weston High School would have a 95% utilization rate based the 5-year projections.

Moving forward with this option Weston High School would have a 95% utilization rate based on the MMI 5-year projections. Currently the school is operating at a 98% utilization rate. The decrease occurs because of the reduced enrollment projections and the loss of 2 classrooms that were converted to the specialized uses, music practice rooms and project lead the way.

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Hurlbutt Elementary School Design Options

Hurlbutt School has been defined as the third priority. Although the school is the oldest, it has been well maintained and its needs are less severe. The gymnasium, is sunken and lacks an appropriate HVAC system to help with its humidity issues. It also accessed by a stair, which does have a lift however options for a ramp are explored. Classrooms are larger at this school and some smaller special education classrooms are needed for speech and reading. Rooms have been selected to be converted into two. Lastly, restrooms throughout most of the school are incredibly dated and in need of renovations.

Hurlbutt Priorities:

1. Gymnasium – HVAC, flooring, access
2. Special Education – smaller rooms
3. Restroom renovations

Option 1 & 2

This option addresses the needs of the gymnasium. It will cover renovating the space including finishes and HVAC improvements. It also shows an option to change the stairs and add a ramp. It shows an option for converting 1 special education room into 2 speech rooms and on the upstairs converting one into 2 reading rooms. It included renovating all lavatories except for the ones in center house. North House restrooms will be renovated and one toilet each will be demolished to accommodate a handicap stall. However, the single toilets in East and South house are problematic and their dimensions are not accommodating to ADA requirements. There are two options provided. Option one expands the restroom into the cubie space so it can accommodate two toilets as originally intended. Option 2 leaves the wall in place but only allows for one toilet in order to gain the required clearances. This also includes cost for adding ventilation into the building to accommodate the new air conditioning.

Moving forward Hurlbutt Elementary School would have a 90% utilization rate based on the MMI 5-year projections. Currently the school is operating at a 91% utilization rate. The decrease occurs because very small reduction of students. Classroom quantities are not expected to change.

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Weston Intermediate School Design Options

Weston Intermediate School is the school in least need due to its young age. The school is in excellent condition and doesn't have too many needs. The ongoing issue with the gymnasium wall is at the top of the list. Additionally, an exterior egress door out of the gym is recommended. Lastly, the double doors between classrooms need to be removed and infilled.

WIS Priorities:

1. Gymnasium and cafetorium wall repair
2. Gymnasium egress doors
3. Removal of shared classroom doors

Option 1

This plan highlights the walls of the gymnasium and cafetorium as this represents the wall/roof/gutter project currently under design. Additionally, a new set of double doors is added to the gym to elevate the egress issue. The final item to note is the removal of the interior doors between classrooms 103 and 104. There are 2 additional locations to be removed on the second floor. These items all would take care of the most pressing issues at this school.

Moving forward Weston Intermediate School would have a 75% utilization rate based on the MMI 5-year projections. Currently the school is operating at an 85% utilization rate. This school takes the largest hit. The reduction correlates solely to the shift in population change.

Campus Master Plan Options

The value of having all four schools and the central office on one site in the heart of town should not be underestimated. Weston's public-school campus is an impressive, highly effective educational setting, and a cohesive educational community. The entry to campus on School Road is problematic, however. The 31 total school vehicles (27 buses and 4 suburban's) are located adjacent to the entry and have access to School Road AND the State Route 53 / Weston Road via an exaggerated curb cut. The "bus garage" is a misnomer, and in fact, houses the WPS maintenance shops or the "school public works department" as well as a small office for the bus contractor. The garage and buses combine to create a negative image when compared to the rest of the school campus and arguably are "not a fitting first impression" for the schools. Traffic congestion at this intersection is a well-documented problem. Reference the 2010 Town Plan and the 2012 SWRPA study. Both studies envision changes and the SWRPA study includes specific short and long-term design recommendations to improve the intersection. All this information coalesced into the creation of two conceptual designs proposing to move the WPS facility shops and the busses onto the campus. S/P+A in this design role did not propose a conceptual design option for moving the "buses" off of the campus onto a non WPS site.

Ideally, WPS central office staff should be located together and not adjacent and comingled in and with the Town Annex. The Annex building is a modular building, and while it may meet the code in most aspects, it will never meet the energy code and at some point, the maintenance of this facility will outweigh the value of the building construction. While this timeframe and back of the napkin cost benefit analysis are arguable, we believe all parties agree the Annex is a temporary building whose lifespan will end soon. Therefore, it is the master plan recommendation to find permanent and planned locations for these School and Town staff and functions.

The same logic and planning for efficiency lead to the recommendation to move the school maintenance staff and shops within proximity to the WPS Central Office. The Town office functions, (and police space) are not specifically designed in this study except to identify the existing space needs/program and suggest two design options for the relocation of these Town functions.

The following conceptual design options and master plan are presented to begin the discussion of the ideal campus for Weston Public Schools.

WPS Campus Master Plan Design Options:

1. Consolidate WPS Central Office, Annex Administration, and Maintenance functions on the central administration site with additions to the current Central Office building. Relocate buses and vehicles to this site with landscape screen / wall. Relocate Town Office to the Bus Garage with a rebuild and addition or demolish and build new. Demolish the current Annex building. Conduct traffic study and improve School Road and Weston Road intersection.

2. Consolidate WPS Central Office, Annex Administration, and Maintenance function in and adjacent the Weston Middle School. Relocate the buses and Town Office to the central administration building and site. Demolish the current Annex building, demolish, or turn over the current Bus Garage to Town. Conduct traffic study and improve School Road and Weston Road intersection.

DESIGN LEGEND

- RENOVATIONS
- NEW CONSTRUCTION
- DEMOLITION

28 NEW ROUND CAFETERIA TABLES

RECONFIGURE HALLWAY, LOCKER ALCOVES & RESTROOMS

RENOVATE ART ROOMS, ADD WINDOWS

DEMOLISH 3,325 SQ FT OF SCIENCE LABS

REMOVE NARROW HALL EXPAND COMPUTER LABS

RECONFIGURE HALLWAY, LOCKER ALCOVES & RESTROOMS

CONVERT MAIN OFFICE & LOBBY INTO CONFERENCE ROOMS

CONVERT TO NURSE SUITE

RENOVATE GYM INTO OTHER PHYSICAL EDUCATION SPACES (POSSIBLY PROJECT ADVENTURE OR FITNESS SPACES)

DEMO 1,504 SQ FT & ADD 7,091 SQ FT OF NEW MAIN ENTRY (STAIR & ELEVATOR), AND OFFICE ADDITION

REMOVE STAGE, ADD NEW LARGER ACCESIBLE STAGE (1,773 ADDITION)

RENOVATE RESTROOMS

11,119 SQ FT STEM WING ADDITION: SCIENCE CLABS, PREP ROOMS, & RESTROOMS

CONVERT 2 CLASSROOMS INTO SCIENCE CLAB.

RENOVATE GYM (FACELIFT), LOCKER ROOMS & RESTROOMS

DEMOLISH 7,534 SQ FT OF G-WING

CONVERT SCIENCE INTO ORCHESTRA & RENOVATE EXISTING MUSIC ROOMS

CONVERT NURSE TO RESTROOMS

RENOVATE POOL LOCKER ROOMS & RESTROOMS CONVERT ADDITIONAL LOCKERS INTO SHARED TOWN RECREATIONAL USE

NORTH

MIDDLE SCHOOL FLOOR PLAN

SCALE: NTS

1 / D1

ENTRY/ POOL LEVEL FLOOR PLAN

SCALE: NTS

2 / D1

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Weston Schools
Facilities Feasibility Study

WESTON MIDDLE SCHOOL
DESIGN OPTION - 1

SILVER/PETRUCELLI + ASSOCIATES

Architects / Engineers / Interior Designers

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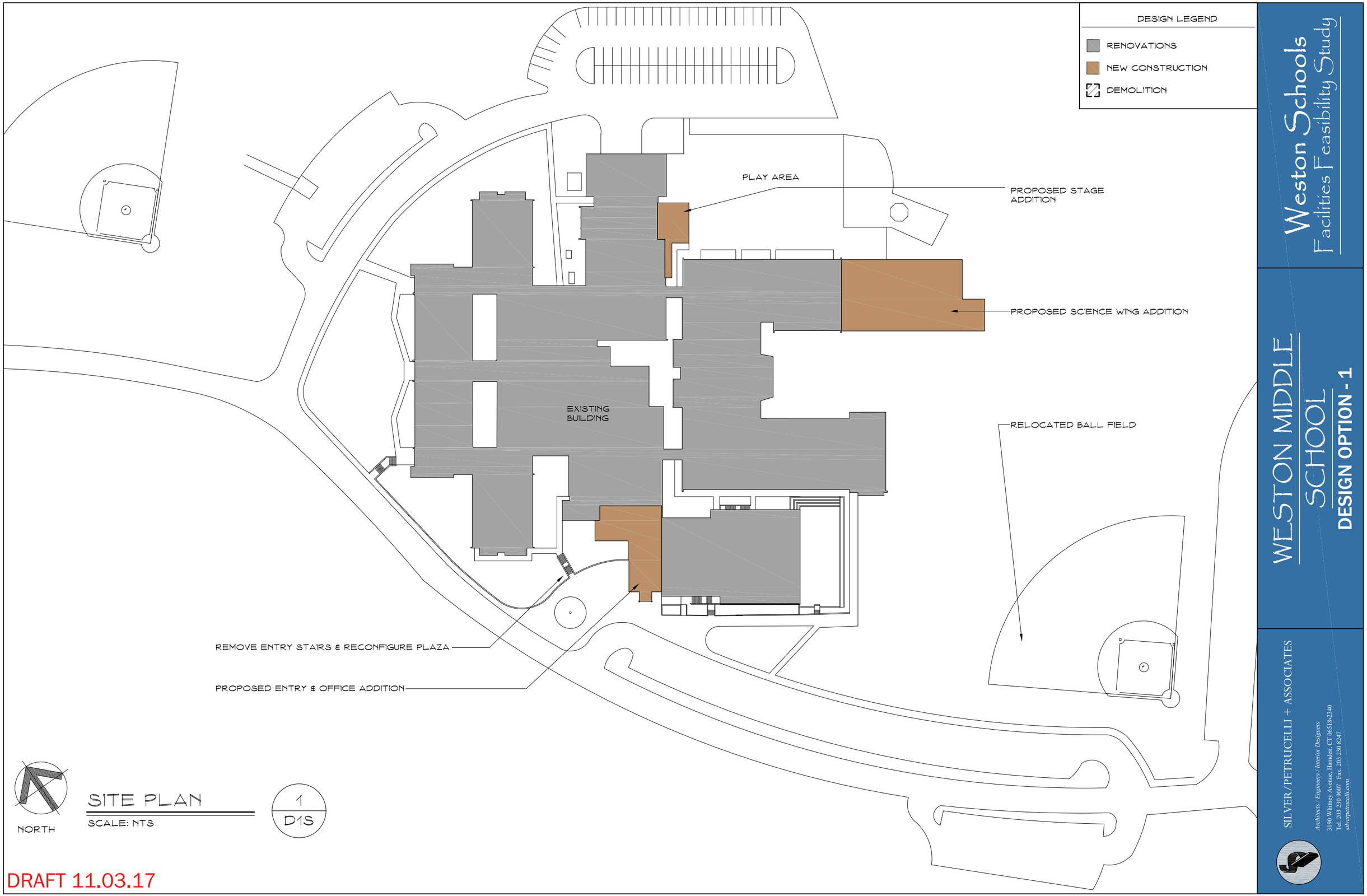

SITE PLAN

SCALE: NTS

1
D1S

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Weston Schools
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WESTON MIDDLE SCHOOL
DESIGN OPTION - 1

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WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
WESTON MIDDLE SCHOOL - DESIGN OPTION 1 ESTIMATE

Design Option Projects	Area	Cost Per Sq ft	Subtotal	Totals
BULDING INFRASTRUCTURE (Facility Conditions)				
HVAC			$ 4,284,000	
Electrical - to support HVAC, improve emergency power, new lighting throughout			$ 935,625	
Ceilings & devices throughout	102,380	$ 15	$ 1,535,700	
Restroom Renovations throughout			$ 525,000	$ 7,280,325
STUDENT LOCKERS & A-WING				
Hallway reconfigurations, restrooms & lockers	6,916	$ 400	$ 2,766,400	$ 2,766,400
SCIENCE				
Science demolition	3,325	$ 50	$ 166,250	
G-wing demolition	7,534	$ 40	$ 301,360	
Science Addition	11,119	$ 500	$ 5,559,500	$ 6,027,110
ART, MUSIC & CAFETERIA				
Music Renovations	6,651	$ 300	$ 1,995,300	
Art Renovations	2,633	$ 300	$ 789,900	
Cafeteria - stage demolition	644	$ 20	$ 12,880	
Stage Addition	1,773	$ 500	$ 886,500	
Computer Lab expansion/ Eliminate hall	1,589	$ 300	$ 476,700	$ 4,161,280
GYMS & LOCKER ROOMS				
Old Gym Renovation (finishes & equipment)	5,563	$ 150	$ 834,450	
Locker Room Reconfiguration	2,224	$ 300	$ 667,200	
New Gym Reconfiguration	5,250	$ 300	$ 1,575,000	
Pool Locker Rooms reno and conversion	7,683	$ 350	$ 2,689,050	$ 5,765,700
ENTRY & ADMINISTRATION				
Entry & stair demolition	1,504	$ 40	$ 60,160	
New Entry (Stair & Elevator) & Office Addition	7,091	$ 500	$ 3,545,500	
Office Renovations/reconfigurations	2,415	$ 300	$ 724,500	$ 4,330,160
OPTION 1 TOTAL				**$ 30,330,975**
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 17,298,474	
Remaining portions, not addressed above				$ 7,129,674
				$ 37,460,649

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DESIGN LEGEND

- RENOVATIONS
- NEW CONSTRUCTION
- DEMOLITION

1,1773 SQ FT PLATFORM ADDITION

RECONFIGURE HALLWAY, LOCKER ALCOVES, RESTROOMS & SPED

CONVERT 2 SCIENCE LABS INTO 4 SPED

DEMOLISH 3,325 SQ FT OF SCIENCE LABS

REMOVE NARROW HALL EXPAND COMPUTER LABS

RECONFIGURE HALLWAY, LOCKER ALCOVES, RESTROOMS & SPED

CONVERT MAIN OFFICE TO CONFERENCE ROOMS

CONVERT TO NURSE SUITE

RENOVATE GYM INTO OTHER PHYSICAL EDUCATION SPACES (POSSIBLY AN OPEN TRACK AND FITNESS SPACE)

DEMO 1,504 SQ FT & ADD 3,874 SQ FT OF NEW MAIN ENTRY (STAIR & ELEVATOR), AND OFFICE ADDITION

30 NEW ROUND CAFETERIA TABLES

REMOVE STAGE, ADD WINDOWS/DOOR TO IMPROVE NATURAL LIGHT

RENOVATE RESTROOMS

RENOVATE & RECONFIGURE G-WING INTO SCIENCE LABS/CLABS

RENOVATE ART ROOMS, ADD WINDOWS

CONVERT 2 CLASSROOMS INTO SCIENCE CLAB.

RENOVATE GYM (FACELIFT), LOCKER ROOMS & RESTROOMS

RENOVATE RESTROOMS

CONVERT SCIENCE INTO ORCHESTRA & RENOVATE EXISTING MUSIC ROOMS

CONVERT NURSE TO RESTROOMS

RENOVATE POOL LOCKER ROOMS & RESTROOMS CONVERT ADDITIONAL LOCKERS INTO SHARED TOWN RECREATIONAL USE

NORTH

MIDDLE SCHOOL FLOOR PLAN

SCALE: NTS

1 / D2

POOL LEVEL FLOOR PLAN

SCALE: NTS

2 / D2

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Facilities Feasibility Study

WESTON MIDDLE SCHOOL
DESIGN OPTION - 2

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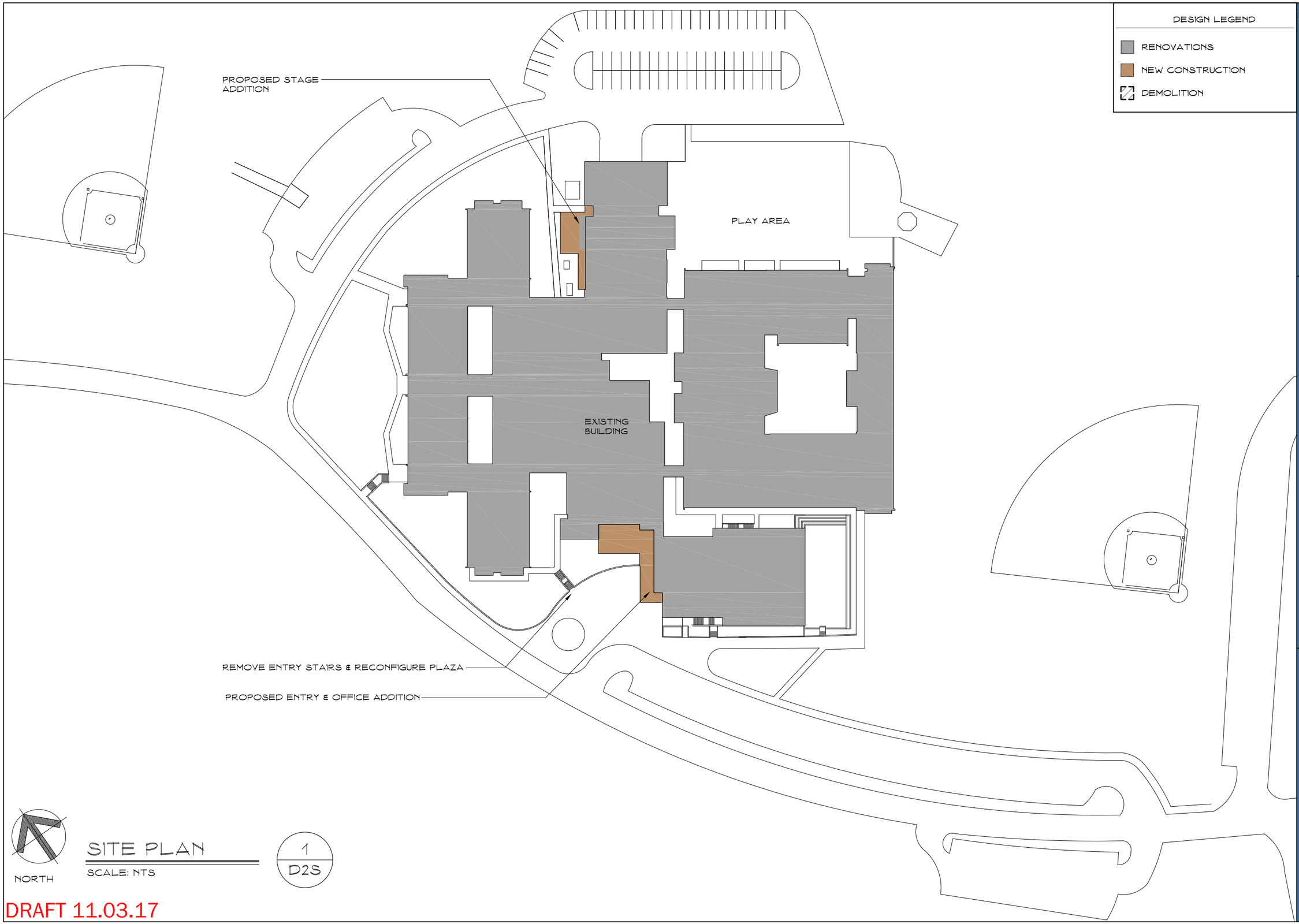

NORTH

SITE PLAN

SCALE: NTS

1
D2S

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Weston Schools
Facilities Feasibility Study

WESTON MIDDLE SCHOOL
DESIGN OPTION - 2

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WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
WESTON MIDDLE SCHOOL - DESIGN OPTION 2 ESTIMATE

Design Option Projects	Area	Cost Per Sq ft	Subtotal	Totals
BULDING INFRASTRUCTURE (Facility Conditions)				
HVAC			$ 4,165,000	
Electrical - to support HVAC, improve emergency power, new lighting throughout			$ 935,625	
Ceilings & devices throughout	96,909	$ 15	$ 1,453,635	
Restroom Renovations throughout			$ 875,000	$ 7,429,260
STUDENT LOCKERS & A-WING				
Hallway reconfigurations, restrooms & lockers	6,916	$ 400	$ 2,766,400	$ 2,766,400
SCIENCE				
Science demolition	3,325	$ 50	$ 166,250	
G-wing Science Clab Conversion	8,026	$ 400	$ 3,210,400	
C-wing (science) Special Education Conversion	2,552	$ 300	$ 765,600	$ 3,376,650
ART & MUSIC				
Music Renovations	6,651	$ 300	$ 1,995,300	
Art Renovations	2,633	$ 300	$ 789,900	
Cafeteria - stage demolition	644	$ 20	$ 12,880	
Cafeteria - Northwest demolition	539	$ 20	$ 10,780	
Stage Addition	1,773	$ 500	$ 886,500	
Computer Lab expansion/ Eliminate hall	1,589	$ 300	$ 476,700	$ 4,172,060
GYMS & LOCKER ROOMS				
Old Gym Renovation (finishes & equipment)	5,563	$ 150	$ 834,450	
Locker Room Reconfiguration	2,224	$ 300	$ 667,200	
New Gym Reconfiguration	5,250	$ 300	$ 1,575,000	
Pool Locker Rooms	7,683	$ 350	$ 2,689,050	$ 5,765,700
ENTRY & ADMINISTRATION				
Existing entry & stair demolition	1,504	$ 40	$ 60,160	
New Entry (Stair & Elevator) & Office Addition	3,874	$ 500	$ 1,937,000	
Office Renovations/reconfigurations	2,415	$ 300	$ 724,500	$ 2,721,660
OPTION 2 TOTAL				**$ 26,231,730**
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 17,298,474	
Remaining portions, not addressed above				$ 7,248,674
				$ 33,480,404

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NORTH

MIDDLE SCHOOL FLOOR PLAN (BOE RELOCATION)

SCALE: NTS

1 / D3

NEW FACILITY BUILDING

SCALE: NTS

3 / D3

POOL LEVEL FLOOR PLAN

SCALE: NTS

2 / D3

DESIGN LEGEND

- RENOVATIONS
- NEW CONSTRUCTION
- DEMOLITION

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Weston Schools
Facilities Feasibility Study

WESTON MIDDLE SCHOOL
DESIGN OPTION - 3

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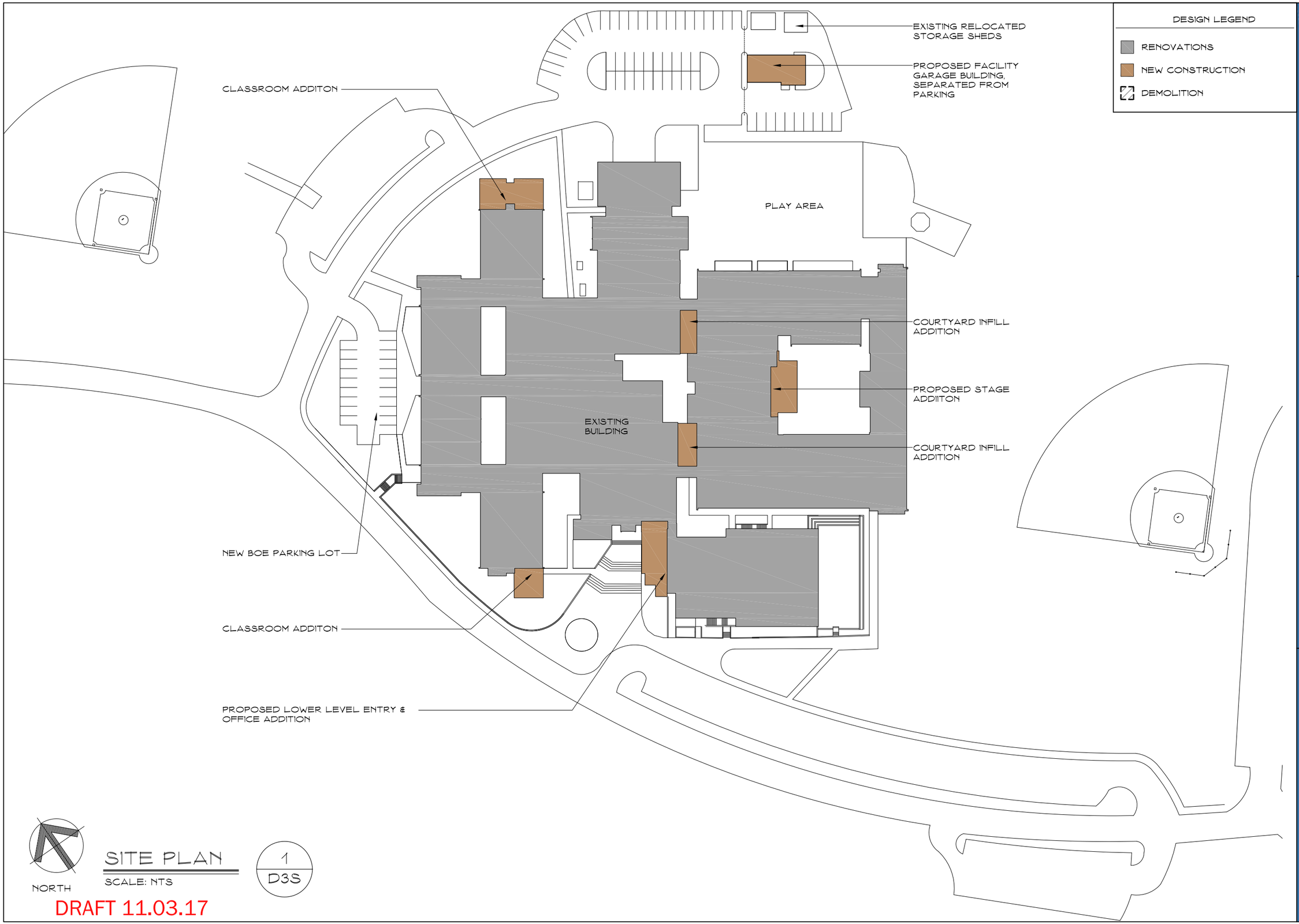

SITE PLAN

SCALE: NTS

1 / D3S

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Weston Schools
Facilities Feasibility Study

WESTON MIDDLE SCHOOL
DESIGN OPTION - 3

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WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
WESTON MIDDLE SCHOOL - DESIGN OPTION 3 ESTIMATE

Design Option Projects	Area	Cost Per Sq ft	Subtotal	Totals
BULDING INFRASTRUCTURE (Facility Conditions)				
HVAC			$ 3,847,000	
Electrical - to support HVAC, improve emergency power, new lighting throughout			$ 810,875	
Ceilings & devices throughout	83,977	$ 15	$ 1,259,655	
Restroom Renovations throughout			$ 875,000	$ 6,792,530
STUDENT LOCKERS & A-WING				
Hallway reconfigurations, restrooms & lockers	6,916	$ 400	$ 2,766,400	$ 2,766,400
SCIENCE				
Science demolition	3,325	$ 50	$ 166,250	
G-wing Science Clab Conversion	7,097	$ 400	$ 2,838,800	
C-wing (science) Special Ed Conversion	2,552	$ 300	$ 765,600	$ 3,005,050
ART & MUSIC				
Art & Music Renovations	9,284	$ 300	$ 2,785,200	
Cafeteria - stage demolition	644	$ 20	$ 12,880	
New windows and door at old stage	340	$ 125	$ 42,500	
Gym Stage demolition	1,035	$ 40	$ 41,400	
Stage Addition	1,562	$ 500	$ 781,000	
Computer Lab expansion/ Eliminate hall	1,589	$ 300	$ 476,700	$ 4,139,680
GYMS & LOCKER ROOMS				
Old Gym Renovation (finishes & equipment)	5,563	$ 150	$ 834,450	
Gym and Pool Locker Room Reconfiguration	9,907	$ 350	$ 3,467,450	
New Gym Renovation (finishes & equipment)	5,250	$ 150	$ 787,500	$ 5,089,400
ADMINISTRATION & POOL ENTRY				
Entry & stair demolition	1,504	$ 40	$ 60,160	
Main Office, Stair, Elevator Addition	2,170	$ 500	$ 1,085,000	
Office Renovations/reconfigurations	2415	300	$ 724,500	$ 1,869,660
BOE RELOCATION TO A-WING				
A-Wing BOE office reconfiguration	11,035	$ 400	$ 4,414,000	
Classroom ends demolition	463	$ 40	$ 18,520	
Classroom additions & courtyard infill	4,841	$ 500	$ 2,420,500	
Classroom renovation	1,889	$ 300	$ 566,700	
New facility building at rear	2,136	$ 300	$ 640,800	$ 8,060,520
OPTION 3 TOTAL				$ 31,723,240
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 17,298,474	
Remaining portions, not addressed above				$ 7,566,674
				$ 39,289,914

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NORTH

SECOND FLOOR PLAN

SCALE: NTS

2
D1

CONVERT SPACE TO ACCOMMODATE PROJECT LEAD THE WAY

RENOVATE ORIGINAL PORTION OF BUILDING

RENOVATE MUSIC ROOMS

CONVERT SPACE TO ACCOMMODATE PRACTICE ROOMS

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NORTH

MAIN FLOOR PLAN

SCALE: NTS

1
D1

DESIGN LEGEND

- RENOVATIONS
- NEW CONSTRUCTION
- DEMOLITION

Weston Schools
Facilities Feasibility Study

WESTON HIGH SCHOOL

DESIGN OPTION - 1

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WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
WESTON HIGH SCHOOL - DESIGN OPTION 1 ESTIMATE

Design Option Projects	Area	Cost Per Sq ft	Subtotal	Totals
C & D WING RENOVATIONS				
Renovate classrooms, hallways & restrooms: Air conditioning, new finishes, new windows, technology and equipment	35,150	$ 300	$ 10,545,000	$ 10,545,000
PROJECT LEAD THE WAY				
Science Office G-1 Conversion to Project Lead the Way Space	975	$ 300	$ 292,500	$ 292,500
MUSIC				
Classroom B-4 conversion to Practice Rooms	935	$ 300	$ 280,500	
Music Rooms Renovations	2,714	$ 300	$ 814,200	$ 1,094,700
OPTION 1 TOTAL				$ 11,932,200
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 9,474,628	
Remaining portions, not addressed above				$ 6,909,328
				$ 18,841,528

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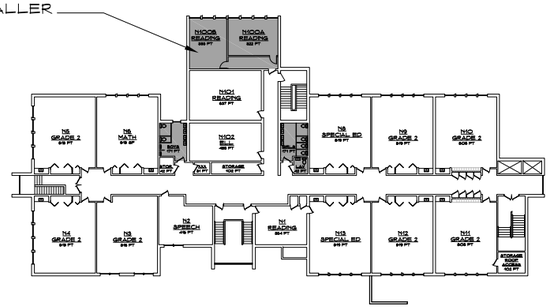
CONVERT INTO 2 SMALLER
READING ROOMS



NORTH

SECOND FLOOR PLAN

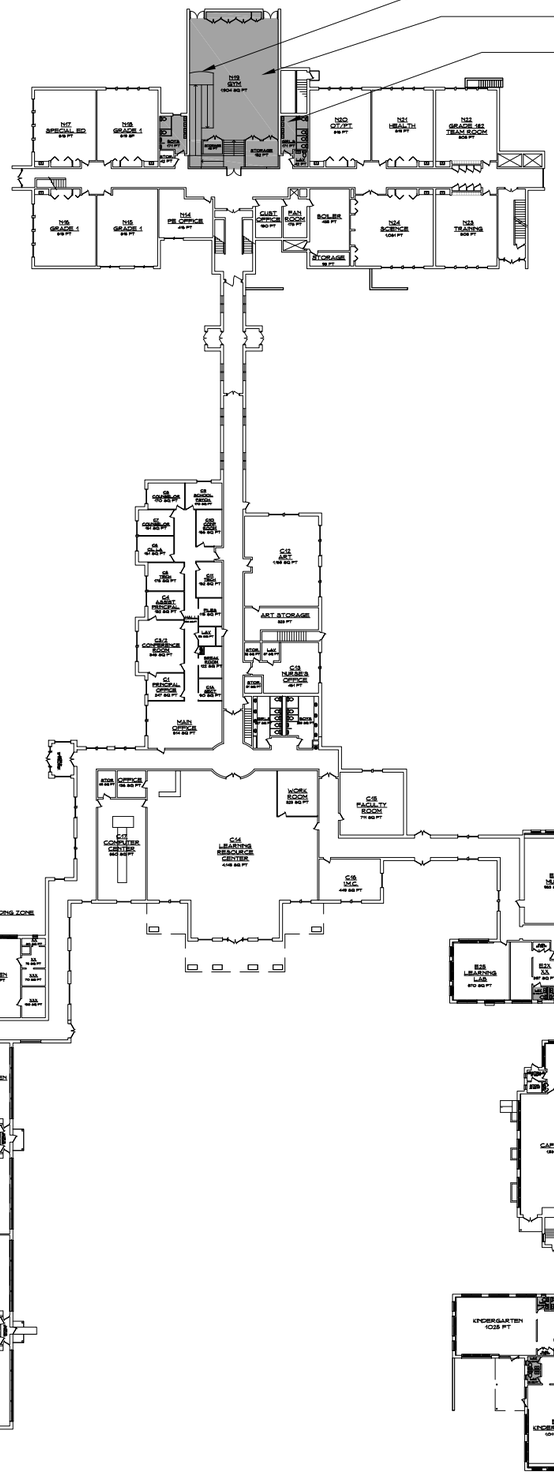
SCALE: NTS

2 / D1

OPTION TO PROVIDE RAMP & REWORK STAIRS

RENOVATE AND IMPROVE HVAC IN GYM

RENOVATE NORTH HOUSE
RESTROOMS - INCORPORATE HANDICAP STALL

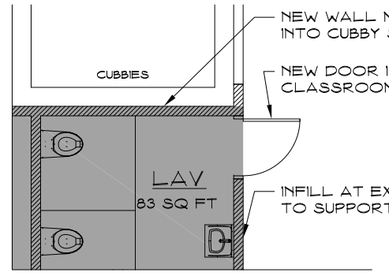


NORTH

MAIN FLOOR PLAN

SCALE: NTS

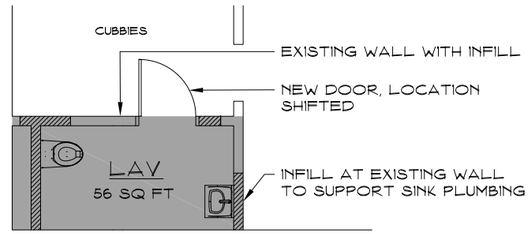
1 / D1



LAV RENOVATION OPTION 1

SCALE: NTS

3 / D1



LAV RENOVATION OPTION 2

SCALE: NTS

4 / D1

CONVERT INTO 2 SMALLER
SPEECH ROOMS

RECONFIGURE & RENOVATE
EAST & SOUTH HOUSE
RESTROOMS, TYPICAL
SEE OPTIONS 1 & 2 ABOVE

DESIGN LEGEND

- RENOVATIONS
- NEW CONSTRUCTION
- DEMOLITION

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Weston Schools
Facilities Feasibility Study

HURLBUTT ELEMENTARY SCHOOL

DESIGN OPTION - 1

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WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
HURLBUTT ELEMENTARY SCHOOL - DESIGN OPTIONS 1 ESTIMATE

Design Option Projects	Area	Cost Per Sq ft	Subtotal	Totals
BULDING INFRASTRUCTURE (Facility Conditions)				
Install didicated outdoor air units/improve ventilation to support the new air conditioning			$ 1,248,000	
Electrical upgrade to support HVAC & improve emergency power			$ 610,000	$ 1,858,000
GYMNASIUM IMPROVEMENTS				
Improve HVAC & dehumidification, new floor, finishes, equipment & raise floor and add ramp	2,436	$ 350	$ 852,600	$ 852,600
SPEECH & READING CLASSROOMS MODIFICATION				
Convert 2 classrooms into 4	1,800	$ 300	$ 540,000	$ 540,000
RESTROOM RENOVATIONS				
North House Restrooms			$ 550,000	
Option 1: Reconfigure single restrooms in East and South Houses and renovate North House restrooms	12	$ 25,000	$ 300,000	$ 850,000
OPTION 1 TOTAL				**$ 4,100,600**
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 10,233,300	
Remaining portions, not addressed above*				$ 5,800,600
*Cost of adding air conditioning is also removed				**$ 9,901,200**

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WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
HURLBUTT ELEMENTARY SCHOOL - DESIGN OPTIONS 2 ESTIMATE

Design Option Projects	Area	Cost Per Sq ft	Subtotal	Totals
BULDING INFRASTRUCTURE (Facility Conditions)				
Install didicated outdoor air units/improve ventilation to support the new air conditioning			$ 1,248,000	
Electrical upgrade to support HVAC & improve emergency power			$ 610,000	$ 1,858,000
GYMNASIUM IMPROVEMENTS				
Improve HVAC & dehumidification, new floor, finishes, equipment & raise floor and add ramp	2,436	$ 350	$ 852,600	$ 852,600
SPEECH & READING CLASSROOMS MODIFICATION				
Convert 2 classrooms into 4	1,800	$ 300	$ 540,000	$ 540,000
RESTROOM RENOVATIONS				
North House Restrooms			$ 550,000	
Option 2: Reconfigure single restrooms in East and South Houses and renovate North House restrooms	12	$ 50,000	$ 600,000	$ 1,150,000
OPTION 2 TOTAL				**$ 4,400,600**
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 10,233,300	
Remaining portions, not addressed above*				$ 5,800,600
*Cost of adding air conditioning is also removed				**$ 10,201,200**

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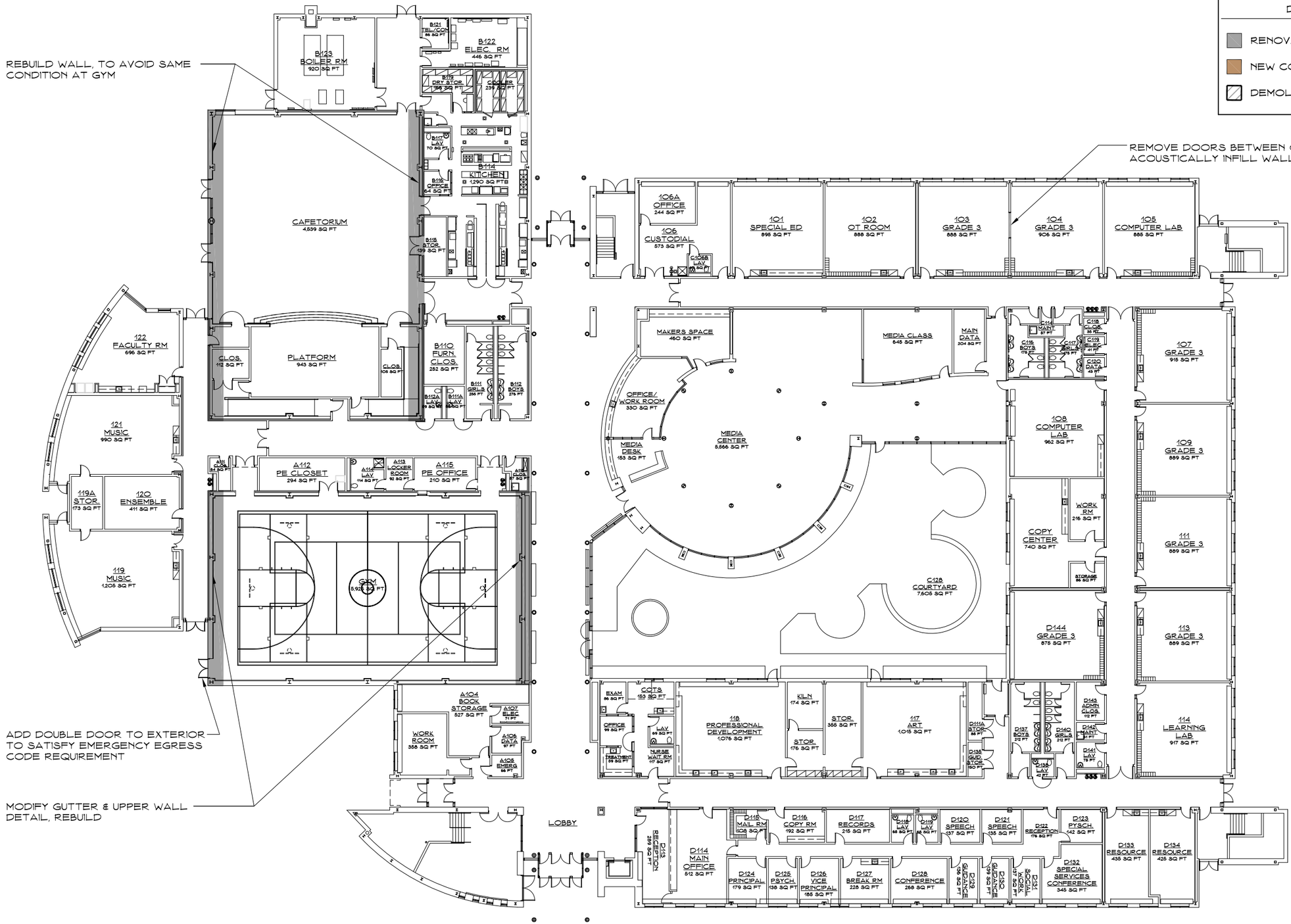

DESIGN LEGEND

- RENOVATIONS
- NEW CONSTRUCTION
- DEMOLITION

SCHOOL FLOOR PLAN

SCALE: NTS

1 / D1

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Weston Schools
Facilities Feasibility Study

WESTON INTERMEDIATE SCHOOL
DESIGN OPTION - 1

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WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
WESTON INTERMEDIATE SCHOOL - DESIGN OPTION 1 ESTIMATE

Design Option Projects	Length	Cost Per Linear FT	Subtotal	Totals
GYM & CAFÉ WALL REMEDIATION				
Gym wall and gutter rebuild	130	$ 800	$ 104,000	
Café wall and gutter rebuild	200	$ 800	$ 160,000	
Additional project costs			$ 92,400	$ 356,400
REMOVE SHARED CLASS DOORS				
Remove double doors in 3 locations & infill wall (acousitcal insulation & sheetrock, paint)			$ 20,000	$ 20,000
NEW EXTERIOR GYM DOOR				
Add new double door to exterior			$ 25,000	$ 25,000
OPTION 1 TOTAL				$ 401,400
FACILITY CONDITIONS				
Items from Facility Conditions Spreadsheets			$ 1,379,342	
Remaining portions, not addressed above				$ 1,070,342
				$ 1,471,742

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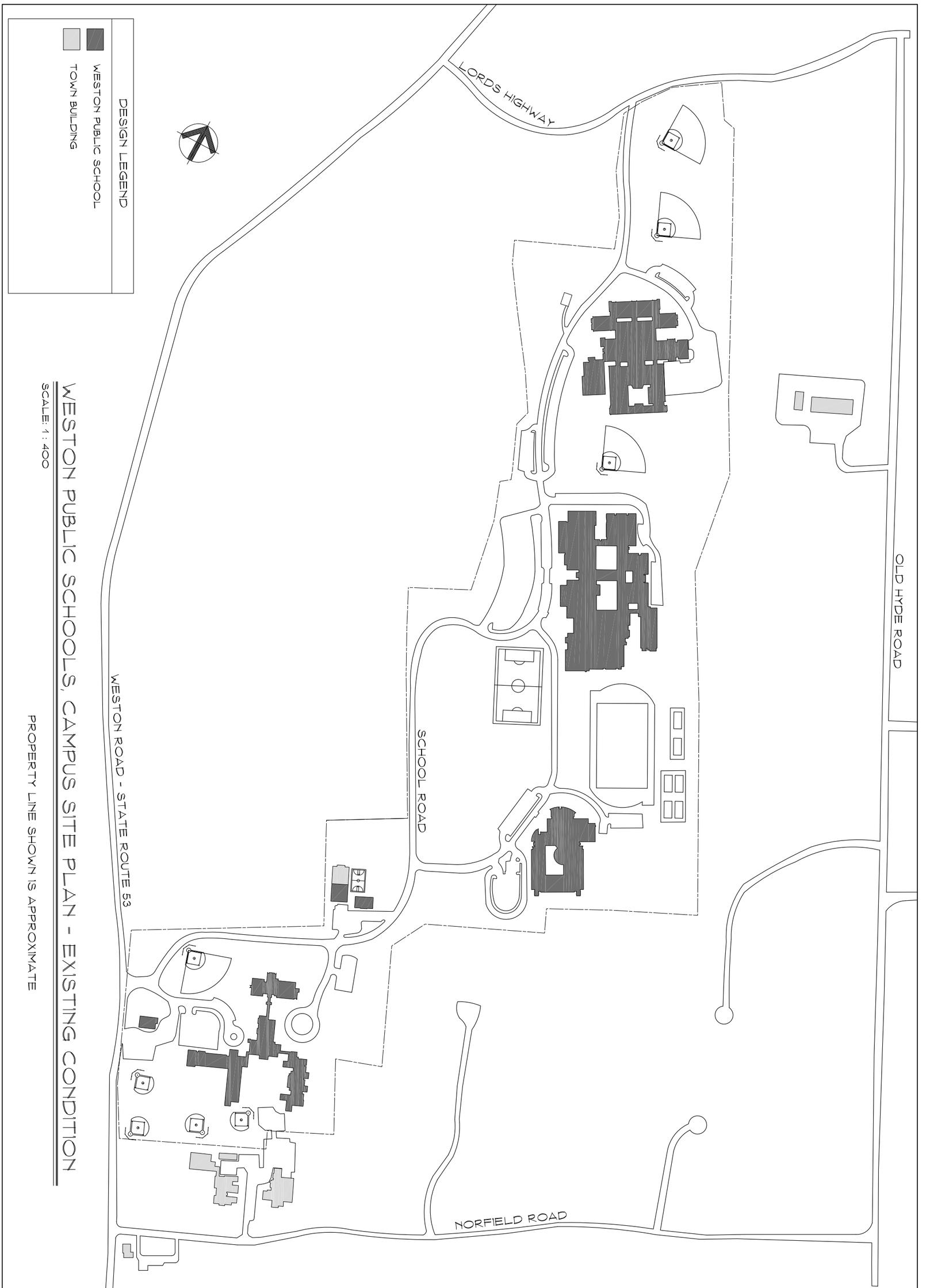

WESTON PUBLIC SCHOOLS, CAMPUS SITE PLAN - EXISTING CONDITION

SCALE: 1 : 400

PROPERTY LINE SHOWN IS APPROXIMATE

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WESTON SITE MASTER PLAN

DESIGN OPTION - EXISTING

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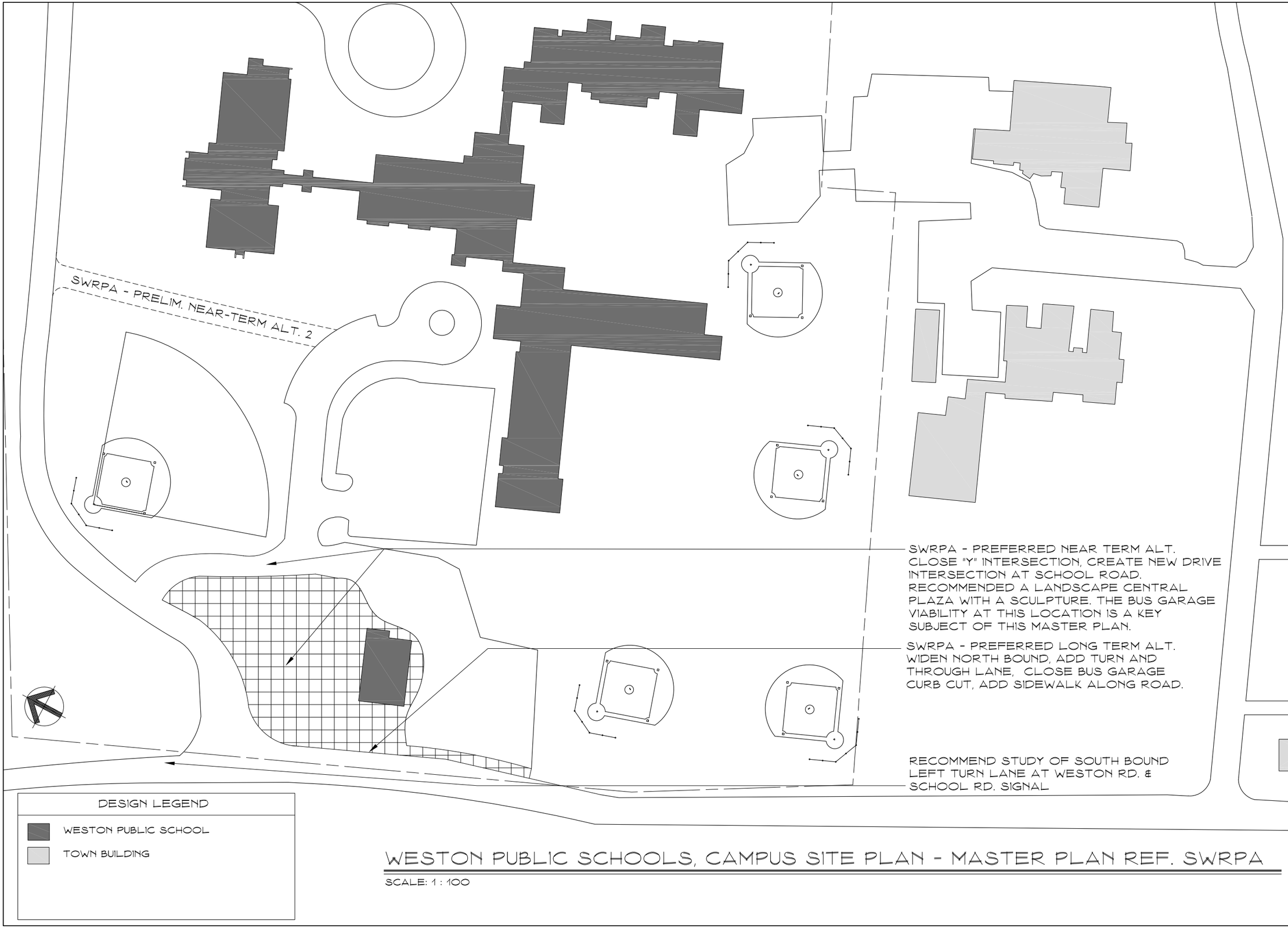
Facilities Feasibility Study



WESTON PUBLIC SCHOOLS, CAMPUS SITE PLAN - MASTER PLAN REF. SWRPA

SCALE: 1 : 100

Weston Schools
Facilities Feasibility Study

WESTON SCHOOLS CAMPUS SITE
MASTER PLAN
MASTER PLAN, REFERENCE SWRPA

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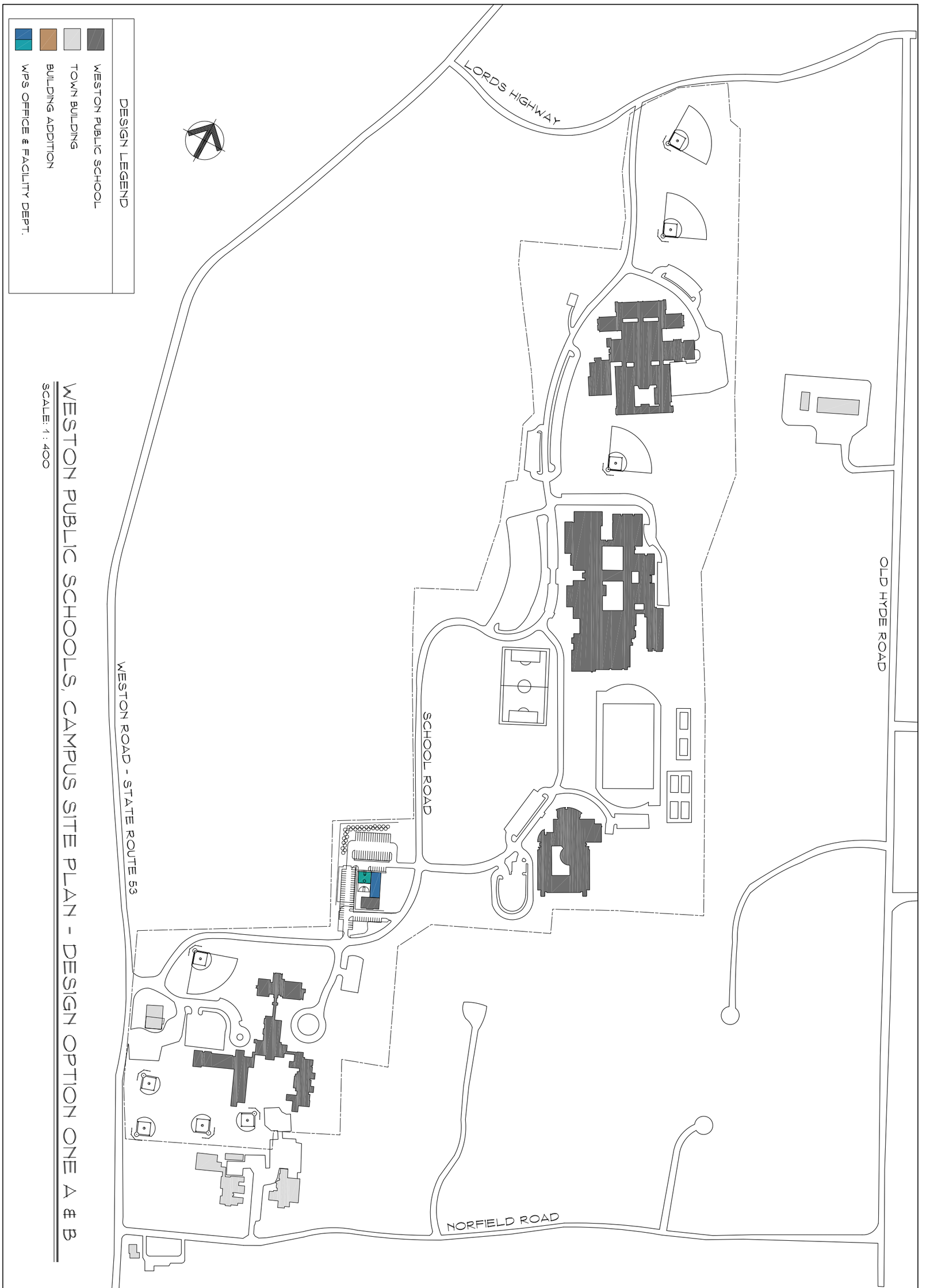

WESTON PUBLIC SCHOOLS, CAMPUS SITE PLAN - DESIGN OPTION ONE A & B

SCALE: 1 : 400

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Architects / Engineers / Interior Designers

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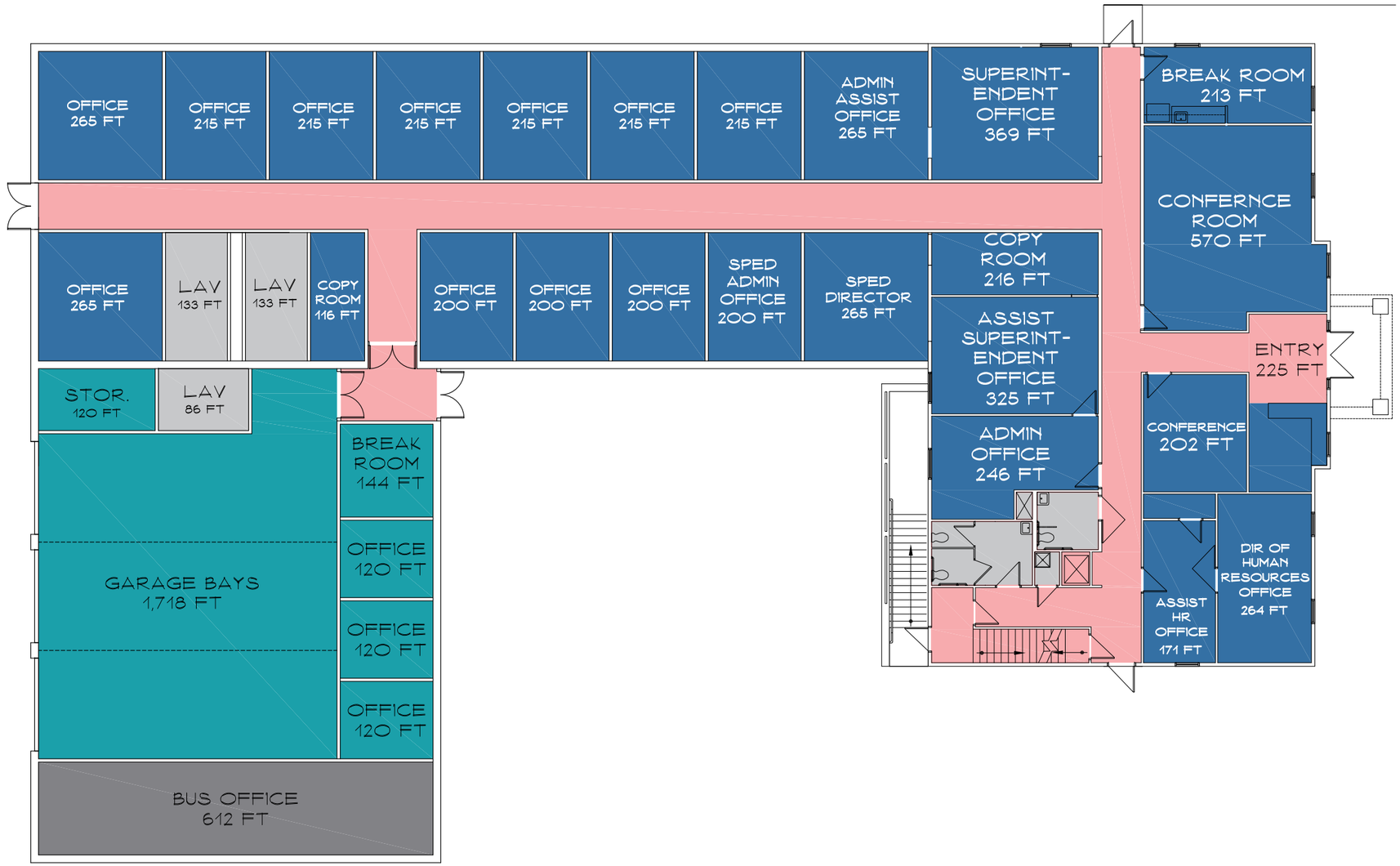
Tel. 203 230 9007 Fax. 203 230 8247
silverpetrucelli.com

WESTON SITE MASTER PLAN

DESIGN OPTION - 1a. & b.

Weston Schools
Facilities Feasibility Study



NORTH

FLOOR PLAN OPTION 1

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

1 / C01

Weston Schools
Facilities Feasibility Study

CENTRAL OFFICE
DESIGN OPTION 1

SILVER/PETRUCELLI + ASSOCIATES
Architects / Engineers / Interior Designers
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WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
MASTER PLAN OPTION 1A

Design Option Projects	Area	Cost Per Sq ft	Subtotal	Totals
CENTRAL OFFICE ADDITION				
Addition & Site work	4,900	$ 500	$ 2,450,000	
Existing facility alterations	1,500	$ 300	$ 450,000	$ 2,900,000
FACILITY & BUS GARAGE ADDITION				
Premanufactured building	3,400	$ 300	$ 1,020,000	$ 1,020,000
SITE WORK & ANNEX DEMO				
Paving, drainage, screenning				$ 750,000
TOWN TO BUS GARAGE SITE				
Bus Garage Demo	4,104	$ 40	$ 164,160	
New town building	6,000	$ 500	$ 3,000,000	$ 3,164,160
OPTION 1A TOTAL				$ 7,834,160

SILVER/PETRUCELLI+ASSOCIATES
Architects / Engineers / Interior Designers

DRAFT 11.03.17

WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
MASTER PLAN OPTION 1B

Design Option Projects	Area	Cost Per Sq ft	Subtotal	Totals
CENTRAL OFFICE ADDITION				
Addition & Site work	4,900	$ 500	$ 2,450,000	
Existing facility alterations	1,500	$ 300	$ 450,000	$ 2,900,000
FACILITY & BUS GARAGE ADDITION				
Premanufactured building	3,400	$ 300	$ 1,020,000	$ 1,020,000
SITE WORK & ANNEX DEMO				
Paving, drainage, screenning				$ 750,000
TOWN TO BUS GARAGE SITE				
Bus Garage Renovations	4,104	$ 350	$ 1,436,400	
New town addition	2,000	$ 500	$ 1,000,000	$ 2,436,400
OPTION 1B TOTAL				$ 7,106,400

SILVER/PETRUCELLI+ASSOCIATES
Architects / Engineers / Interior Designers

DRAFT 11.03.17

DESIGN LEGEND

- WESTON PUBLIC SCHOOL
- TOWN BUILDING
- BUILDING ADDITION
- WPS OFFICES & FACILITY DEPT.

WESTON PUBLIC SCHOOLS, CAMPUS SITE PLAN - DESIGN OPTION TWO

SCALE: 1 : 400

Weston Schools
Facilities Feasibility Study

WESTON SITE
MASTER PLAN
DESIGN OPTION - 2

SILVER/PETRUCELLI + ASSOCIATES
Architects / Engineers / Interior Designers
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silverpetrucelli.com

WESTON SCHOOLS
FACILITIES FEASIBILITY STUDY
MASTER PLAN OPTION 2 (From Middle School Option 3)

Design Option Projects	Area	Cost Per Sq ft	Subtotal	Totals
CENTRAL OFFICE RENOVATIONS				
Reconfigure A-Wing	11,035	$ 400	$ 4,414,000	$ 4,414,000
FACILITY & BUS GARAGE ADDITION				
Premanufactured building	2,136	$ 300	$ 640,800	$ 640,800
SITE WORK & ANNEX DEMO				
Paving, drainage, screenning				$ 750,000
TOWN TO CENTRAL OFFICE				
Renovate exisitng building	1,500	$ 300	$ 450,000	
Additon	2,500	$ 500	$ 1,250,000	$ 1,700,000
NEW BUS BUILDING				
Premanufactured building	500	$ 300	$ 150,000	$ 150,000
OPTION 2 TOTAL				**$ 7,654,800**

SILVER/PETRUCELLI+ASSOCIATES
Architects / Engineers / Interior Designers

DRAFT 11.03.17

Weston Public Schools
April 18, 2017

SP+A Capital Budgets & School Study Process

Silver / Petrucelli + Associates (SP+A) has prepared the School Facilities Feasibility Study. Included in this report are numerous Facilities Condition Analysis matrices. These matrices identify specific conditions in each school and are first presented by each professional discipline; Site, Architectural, Mechanical, Electrical, etc. Each specific facility condition assessment is then prioritized by number from 1 - Urgent priority to 4 – Low priority. The "Corrective Action" envisioned is then briefly described and finally an estimated Cost is assigned. Each condition is annotated on the school floor plan by location using the numbered tag. While this matrix is also preceded by text describing the overall conditions of the facility, it often becomes the singular focus of creating and the beginning of standalone projects. (See Section II – FACILITIES CONDITIONS ASSESSMENT – Four Schools.)

These estimated costs are conceptual in nature and not based on a specific design or a design process. They are our "*opinion of probable construction cost*." These costs are included to allow for the prioritizing needs over a 10-year period. These are very good master planning costs. They are not intended to be standalone project costs. Project costs are greater than construction costs for many reasons. To arrive at a project cost from an estimated construction cost is as much an art as it is a science. The evolution of the design and the inclusion of the soft costs are one very good case in point needed to arrive at a project cost. There are other factors.

The future Utilization phase of the study may then categorize the schools into project types as separate capital projects, as singular projects or they may be included in the Office of School Constructions Grant & Review (OSCG&R) classifications as follows: (*A) Alterations, (E) Extensions, and (RNV) Renovations.* The school project recommendations made in the Conceptual Design Options uses a feasibility process once the Facility Assessment and Demographic phases of the study are complete. The feasibility process considers numerous factors as well as the input of the "steering committee", the BOE and the WPS, and becomes effectively a dynamic "algorithm" creating a clear direction for the creation of a new pedagogy for the Town of Weston. If you proceed directly to implement the standalone Facility Conditions categories with the Urgent Priorities, it will "short change" the overall process. While we understand that Weston may or may not use the State grant process for each and every project, it is important to note the affect that the feasibility process has during the utilization phase of the study. This process affects priorities, schedule, and budgets.

In brief, when a district proceeds with Facility Conditions Assessment Needs as standalone projects, several considerations should be included to refine and then define these projects further, rather than just proceeding with an individual standalone conceptual construction cost. Ultimately, please refine each of these school projects as you see fit. The factors we are raising for your consideration are as follows:

1. Determine if your project is going to be included in the State OSCG&R school construction grant process categorizing the project as non-priority projects such as - Alteration, Code Violation, Energy Conservation, etc. These projects must be publicly bid, typically to a Construction Manager using the State funding process. (While the State is continuously changing their process the *potential* for reimbursement of eligible project costs remain.)

2. Design of the project beginning with schematic design and resulting in the preparation of Construction Documents including the Construction Administration for implementing standalone projects.

3. Project construction delivery cost through WPS or Town bidding process to a General Contractor (GC), Construction Manager (CM), or directly to a Trade contractor.

4. Any and / or all hazardous material remediation, once project scopes are developed and specific hazardous material testing is complete.

5. School Safety Infrastructure Council and Weston Public School Safety Committee's standards and recommendations.

6. Town's recommendations (legal counsel possibly) regarding any accommodations from the ADA. While the CT Building Code "parallels" the ADA, it is not a federal law, nor would a law be "able" to determine a reasonable accommodation for specific projects. Perhaps further confusing this separation, the State building code now requires some accessible improvements to the primary route in existing buildings in some projects.

7. Most important is the WPS/BOE Educational recommendations and district wide vision for each school as it may relate to any project scope. The "Educational Specification" process contemplates a total school project and may serve as the basis for a complete project or standalone school projects.

8. Include an escalation factor and Town finance contingences, including project delivery cost for CM or GC overhead and profit. The phasing of school construction and compressed summer construction schedule contributes directly to project costs, and should be factored into your consideration.

Should the BOE/Town elect to not utilize the State OSCG&R grant process numbers 2 through 8 noted above still apply to each standalone school project.

We trust that this is helpful as a steering document, and sincerely understand the challenges ahead of you to make budget recommendations and see the projects through implementation. We offer these suggestions as refinements to the study to improve your school project success for the district. Please let me know if you need any additional information, attendance at meetings, or discussion of this topic. We appreciate your continued trust in our services.

Weston Comprehensive School Enrollment Analysis & Projections

September 2017

Prepared for:
Weston Public Schools

Prepared by:

Milone & MacBroom®

TABLE OF CONTENTS

Introduction

In spring 2017, Weston Public Schools (WPS) contracted with Milone & MacBroom, Inc. to prepare comprehensive school enrollment projections for the district based on enrollment trends observed in the past 2 decades as well as available data on demographics and housing within the community. The projections in this report are meant to serve as a planning tool for the future to represent the most likely direction of Weston Public Schools' enrollment.

This report examines factors that influence school enrollments, including trends in demographics, births, migration, employment, and housing development and real estate. In discussing these trends, the report provides context for historic patterns in WPS' enrollments and a basis for developing future enrollment projections from the best available evidence and indicators. These projections are the product of the best available data at a given point in time and will provide the greatest degree of accuracy when applied to the near future. Through annual updates, enrollment projections can be fine-tuned to increase accuracy, providing Weston with an ongoing planning tool.

Demographic Overview

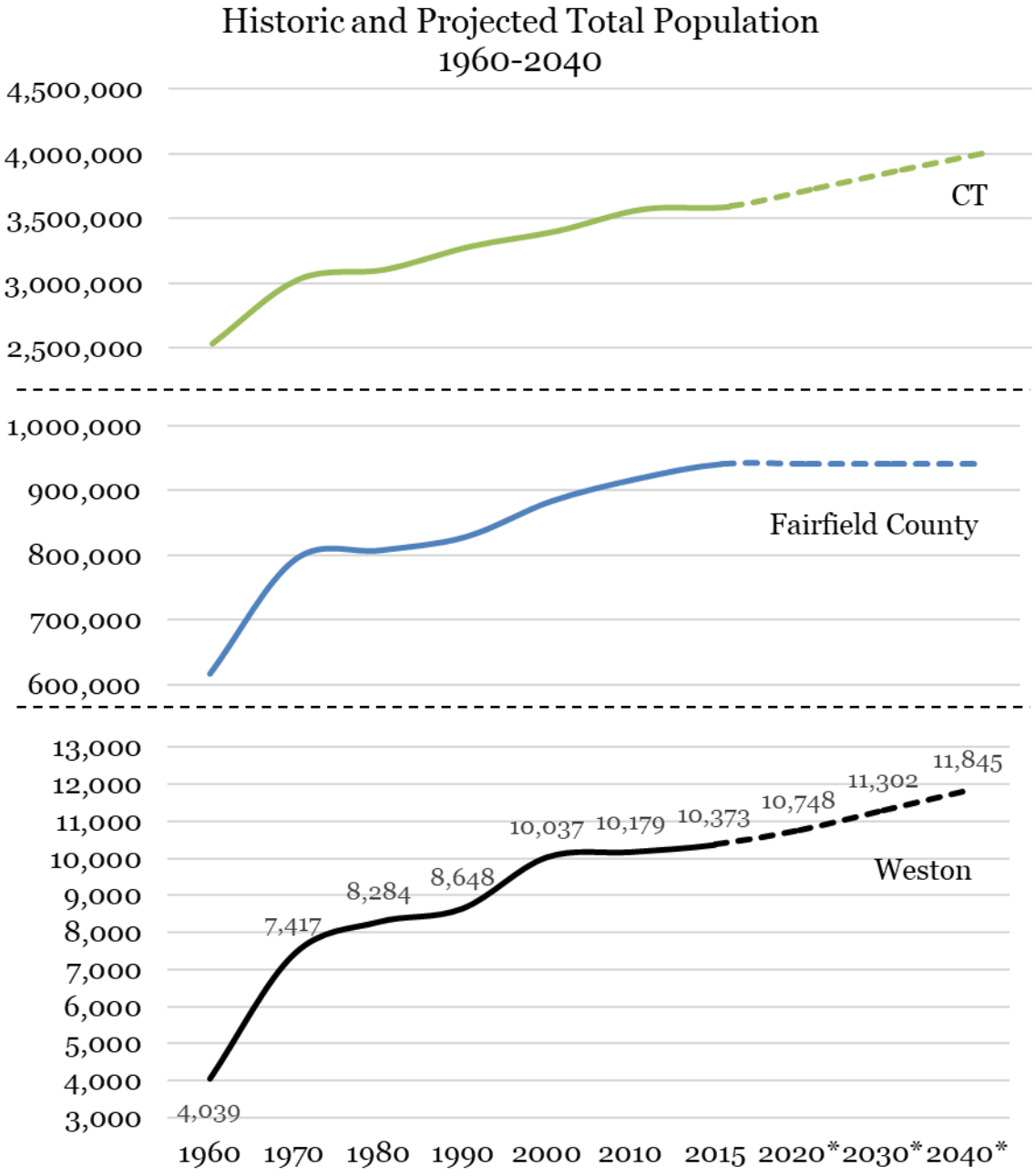
Demographic indicators of Weston's population are an important foundation for this enrollment analysis, yielding critical insights into how recent regional and national-scale demographic trends have played out in Weston. Data from the most recent Decennial Census and American Community Survey (ACS) was collected and reviewed to form the basis of this section.

Weston's population is currently estimated to be 10,373 persons by the 2015 ACS, up slightly from 2010's Census count of 10,179 (see *Historic and Projected Total Population* graph). Historically, Weston experienced strong population growth during the 1960s and 70s and a second boom in the 1990s, but since 2000, growth has been muted, with a total population increase of just 3.3 percent since 2000. Because annual birthrates have declined steadily in Weston since 2000, much of this increase is likely attributable to in-migration and new homebuilding that has occurred since that time. Comparing Weston's growth to the Fairfield County region as a whole, the town was largely excluded from the significant growth that occurred since 2000.

Population projections prepared by the Connecticut Department of Transportation project a steady gain in Weston's population over the next 2 decades and beyond, to a projected total of 11,845 by 2040. However, these projections should be used with caution as methodologies based on trends occurring in the state as a whole may not adequately capture Weston's local conditions.

Weston's changing population since the year 2000 has impacted the distribution of age groups within the community. Like many Connecticut communities, Weston's median age has increased over time. As the *Weston Population Distribution* chart shows, Weston experienced overall declines in the population of young children and adults in the prime child-rearing years between 30 and 44 between 2000 and 2010. By contrast, age cohorts composed of older children and adults over the age of 50 grew in size. Figures for 2015 are less reliable in discerning changes in subpopulations due

to sampling methodology, but this data points toward a continuation of this trend. Accordingly, the town's median age rose from 39.7 years in 2000 to 43.4 in 2010 and 43.8 in 2015.

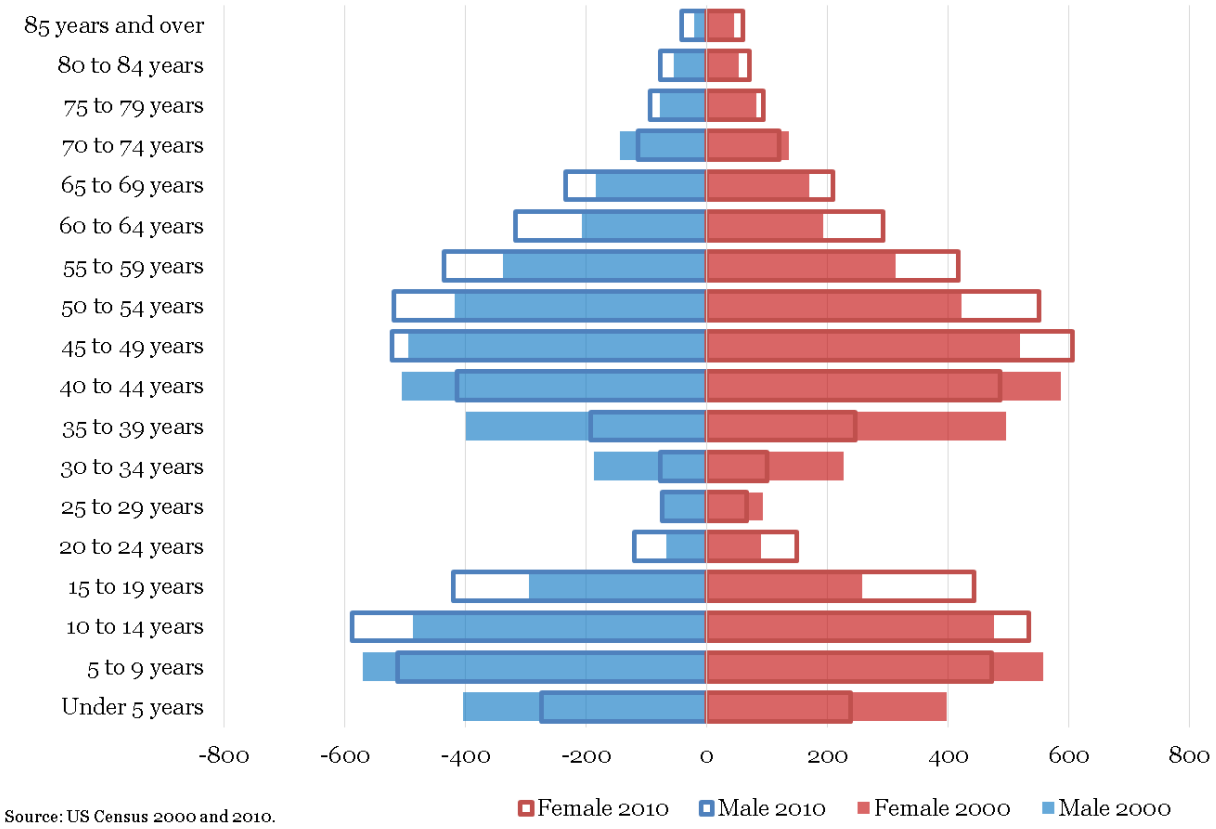


Source: US Census 2000 & 2010, ACS 2010-2015; * indicates CT DOT projections.

These ongoing shifts in population have affected several subgroups with relevance to projecting future enrollments. The population of school-age children (defined as those ages 5 through 17) has increased by 5 percent from 2010 to 2015, faster than the population as a whole. Census Tract-level data indicates that this growth has occurred entirely in the southern half of town (south of Norfield, Steep Hill, and Kellogg Hill Roads), with a slight decrease in this population in the northern end of

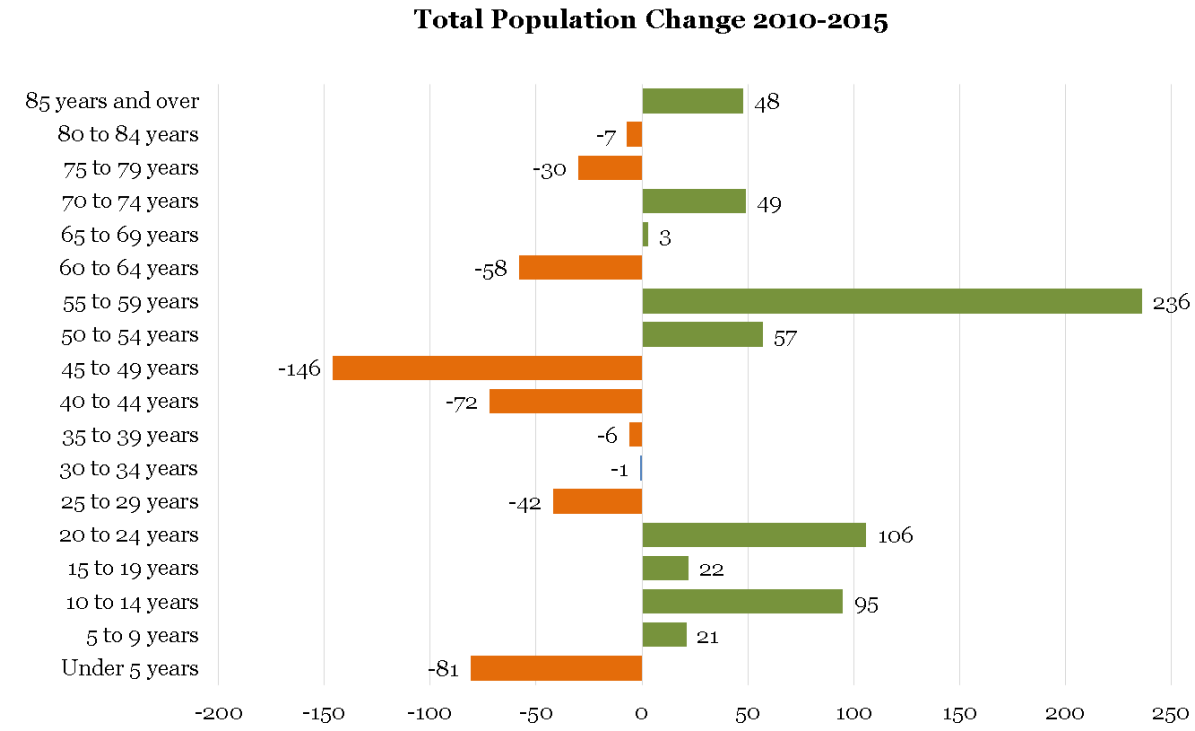
town. This pattern aligns with anecdotal data suggesting that younger families are increasingly prioritizing proximity to services, transportation, and amenities in their home choices.

Weston Population Distribution 2000 and 2010



Source: US Census 2000 and 2010.

Another demographic subgroup of interest is the population of women of child-bearing age, here defined as those between 18 and 44 years of age. The size of this population experienced a sharp decline of 27.6 percent from 2000 to 2010 but remained very stable from 2010 to 2015, indicating that in-migration has kept pace with aging out and out-migration from this cohort.

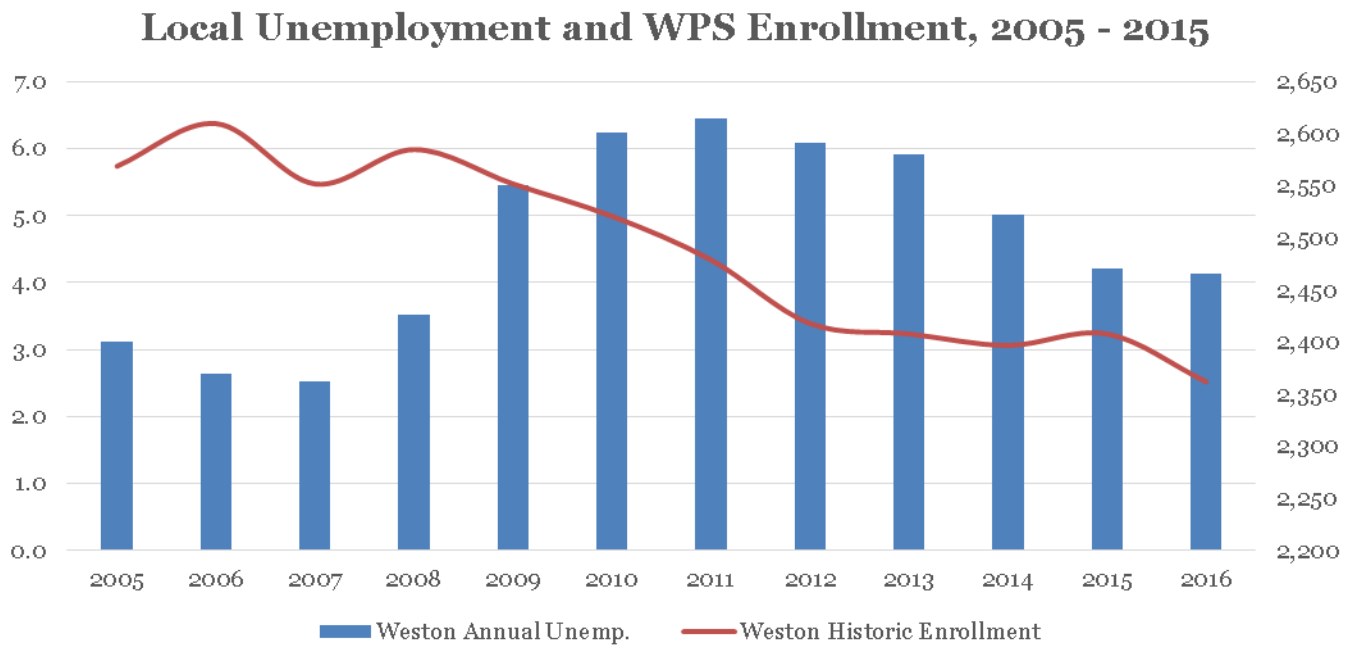


Source: US Census 2010 and ACS 2010-2015.

Employment Trends

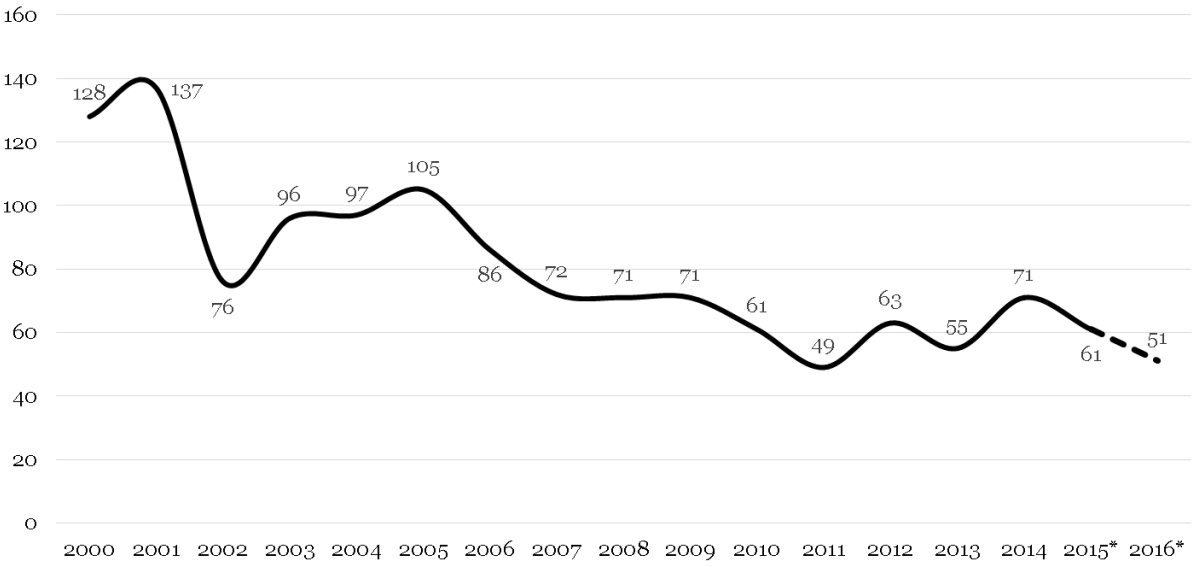
Weston currently is experiencing low rates of unemployment closely aligned with that of its peer communities. Weston's average unemployment rate has tracked 2 percentage points lower than the State of Connecticut's over the past 12 years and as of 2016 stood at 4.1 percent, indicating essentially full employment in the community. Weston's labor market is closely tied to both New York City and shoreline employment centers such as Stamford, Norwalk, and Westport, which together make up a slight majority of Weston's estimated 3,600 daily commuters.

A historical pattern observed in many desirable communities has been a generalized inverse relationship between the unemployment rate and school enrollments. That is, as economic conditions improve and unemployment rates decline, enrollments tend to increase as rates of in-migration and births increase. Conversely, periods of increased unemployment depress these factors, leading to lower enrollments. While this pattern can be observed in Weston prior to and during the Great Recession to about 2011, it no longer appears to hold over the past 5 years as a steady rise in employment has coincided with a continued decline in WPS enrollments. This pattern is shown in the following graph.



Birth Trends and Projections

Following a peak in 2001, births in Weston experienced a precipitous decline that has continued to obtain to the present day without any clear indications of recovery to date. This decline clearly predated the Great Recession, which coincided with declining births in many area communities.



Source: CTDPH (March 2017); * indicates preliminary birth counts

While many Fairfield County communities have observed at least modest recoveries in birthrates since the nadir of the Recession, Weston has yet to see a clear pattern of increasing births in the community. While 2014 saw an increase in local births from the 2010 – 2013 period, preliminary reported figures for 2015 and 2016 indicate that this uptick has not been sustained. The continued trend of low local births is a major force in current and expected future patterns in the District's enrollments.

Projecting future enrollments over a 10-year horizon (through 2026-27) requires that in addition to known births data 5 years of projected births are needed. To generate these birth projections, we start by examining the relationship between births and two sets of economic indicators: local and regional unemployment rates and historic housing sales. Both of these indicators are logically connected to births as the condition of the housing market dictates the accessibility of the community to young families likely to have children while unemployment rates (as an indicator of the overall strength of the labor market) may influence family planning decisions. The relationship between these variables and the number of births in town is examined both for same-year and lagged variations of each indicator.

Using a backwards elimination procedure, the regression equation that best balances predictive accuracy and simplicity was found and used as the basis for birth projections under low, medium, and high economic growth assumptions based on changes in average annual unemployment rates and home sales.

$$Births = (Sales_{Year\text{-}2} * 0.422) + (Weston\ Unemp._{Year\text{-}1} * -28.31) + (CT\ Unemp._{Year\text{-}1} * 19.62)$$

The low, medium, and high scenarios assume a range of unemployment rates and home sales as the local and national economy faces uncertainty in how long the post-2009 economic expansion will be sustained. The chart below shows the range of local and regional employment rates and home sales that form the basis of the high, medium, and low scenarios.

Projection Assumptions by Scenario

	Low Growth	**Med. Growth**	**High Growth**
Annual Births	48 - 62	62 - 64	62 - 83
Weston Unemp.	4.3 - 5.5	3.5 - 3.9	2.8 - 3.8
CT Unemp.	5.6 - 7.0	4.5 - 5.1	4.0 - 5.0
Annual Home Sales	140 - 162	170 - 180	178 - 220

Although sales and unemployment rates are not likely to follow a steady, linear trend as assumed in these projections, the low-, medium-, and high-growth scenarios provide a range of likely projections under a range of economic conditions. By the last year of projected births (2021), our low-growth scenario projects 48 annual births while the high-growth scenario projects 83.

Housing

Weston's housing stock was estimated at 3,674 housing units by the Decennial Census in 2010, up approximately 140 units from the stock that existed in 2000. ACS estimates indicate growth of another 127 units (or 3.5 percent growth in overall housing stock) from 2010 to 2015. However, this estimate appears to overstate the true rate of growth in the town's housing stock as permitting data indicates only 40 units were approved during this time period. The difference between these data points is likely attributable to the ACS's sampling methodology.

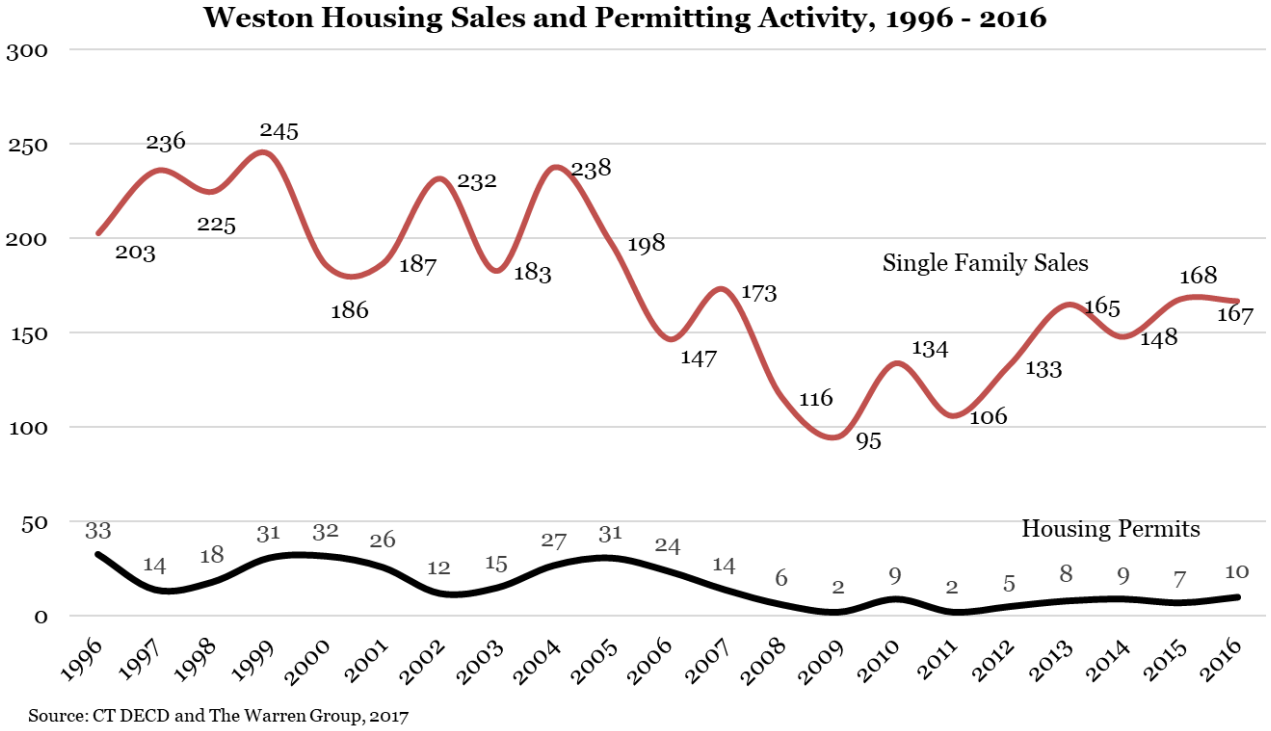
Housing Units and Households, 2000-2015

	Weston				
				Change 2010-2015	
	2000	2010	2015	Number	%
Total Population	10,037	10,179	10,373	194	1.9%
Total Housing Units	3,532	3,674	3,801	127	3.5%
Total Occupied Housing Units	3,312	3,379	3,379	0	0.0%
Owner Over 65 Occupied Housing Units	577	652	730	78	12.0%
Total Households	3,312	3,379	3,379	0	0.0%
Family Households	2,811	2,854	2,874	20	0.7%
With Own Children Under 18	1,649	1,647	1,711	64	3.9%
Married Couple Family	2,597	2,557	2,657	100	3.9%
With Own Children Under 18	1,511	1,482	1,573	91	6.1%
Female Householder, No husband Present	166	222	170	-52	-23.4%
With Own Children Under 18	109	125	105	-20	-16.0%
Non-Family Households	501	525	505	-20	-3.8%
Householder Living Alone	372	421	453	32	7.6%
Householder 65 Years and Over	161	196	219	23	11.7%
Average Household Size	3	3.0	3.1	0.1	3.3%
Average Family Size	3.3	3.3	3.4	0.1	3.0%

Source: U.S Census 2000 and 2010, ACS 2010-2015

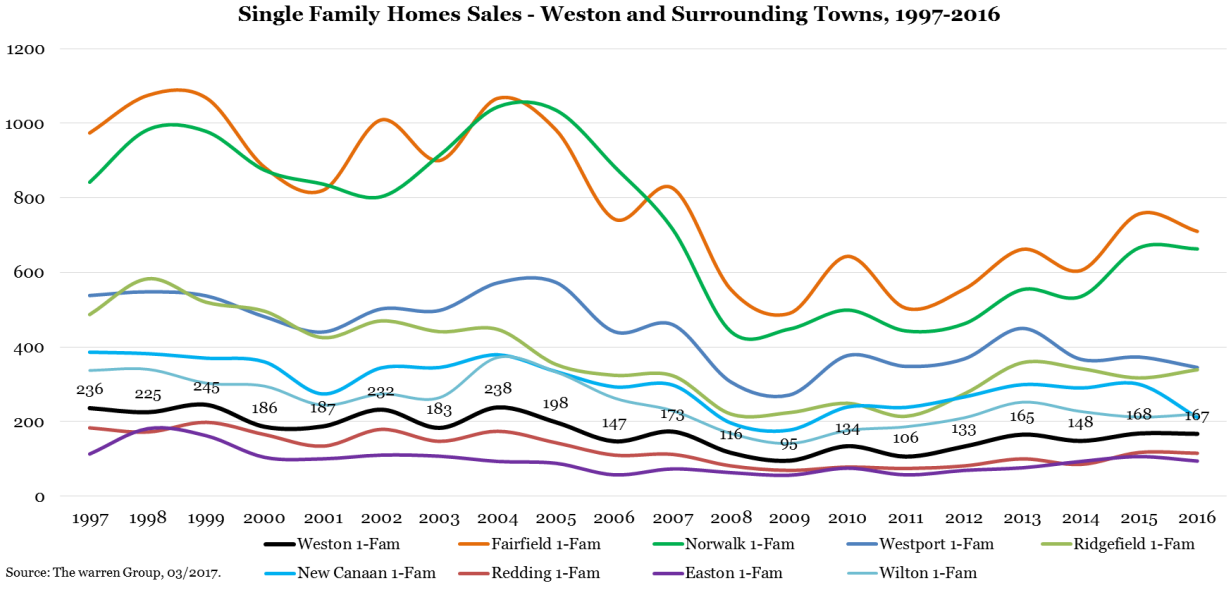
Focusing on the universe of occupied homes in the community, some 730 of 3,379 units are occupied by homeowners age 65 or older. This population has grown from 17.4 percent of households to 21.6 percent since 2000, indicating a growing stock of homes with greater turnover potential over the next 10 years if and when older homeowners elect to downsize to easier-to-maintain homes with closer access to amenities. However, slight growth in the number of family households in town indicates that in-migration of families with children is continuing on net.

Owner-occupants make up the majority of Weston's households, with renters constituting just 6 percent of occupied housing units in town. Rental properties are more common in the southern half of Weston and have very low vacancy rates (less than 5 percent townwide).

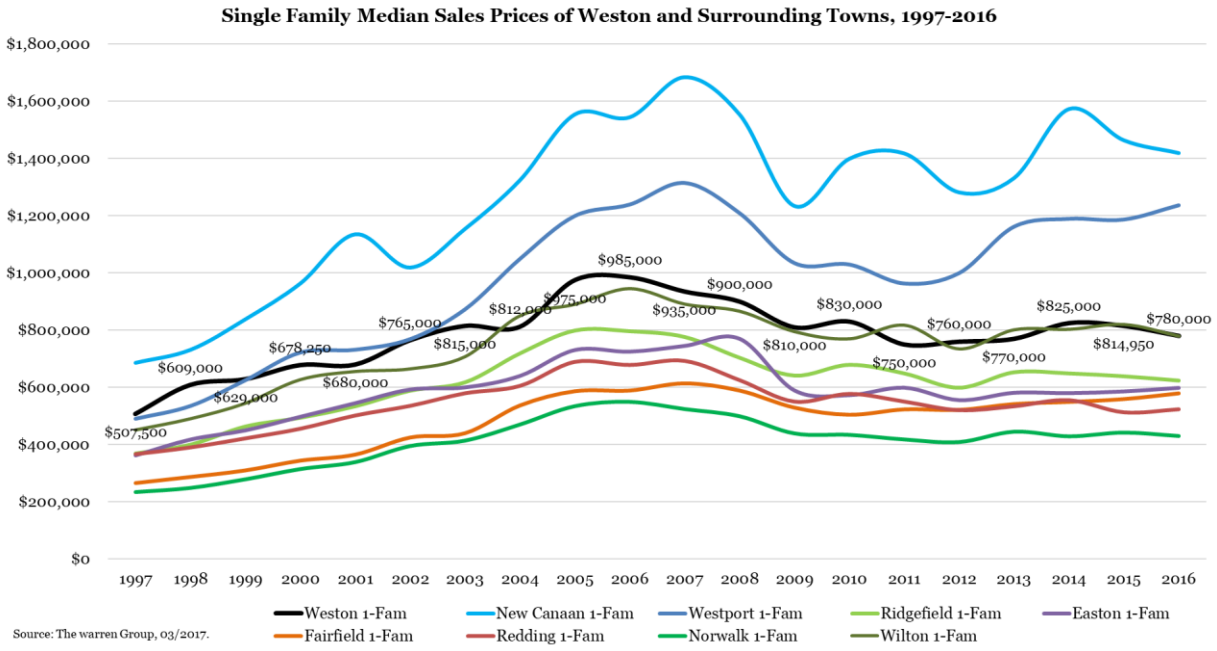


Source: CT DECD and The Warren Group, 2017

Since the downturn that began slightly before the Great Recession, Weston's housing market experienced a strong rebound through the early 2010s but has stabilized in the past several years with single-family sales in the mid 160s annually. Housing sales continue to outpace new permitting activity by a factor of 10 or more as the high levels of existing inventory available on the market continue to inhibit new development. Additionally, approximately 23 permits that have been issued are not yet available for occupancy. Given these conditions, there is no indication that new building activity will soon return to the elevated levels experienced in the late 1990s through the mid 2000s.



Source: The warren Group, 03/2017.



Comparing Weston's housing market to neighboring communities, the median home sold in Weston in 2016 went for $780,000, above the median prices of many of its central Fairfield County neighbors. Prices have historically trended below those of Westport and New Canaan and at a similar level to Wilton. Compared to higher-priced Westport and New Canaan, Weston's home prices have been less volatile, especially in the wake of the housing market crash in the late 2000s.

Additional information on current and future development trends was provided by Weston's Land Use Director, who reported that Weston's Planning and Zoning Commission has not approved any subdivisions of substantial scale since 2004. Most newly approved residential projects are of a small scale (three units or fewer) while potential future projects that are known to the town would yield fewer than 10 units and may not come to market for some time. Additionally, teardown activity is relatively limited, indicating that replacement of older stock with newer units that may be more suitable for families is not currently driving changes in Weston's market. Potential changes to land use regulations could drive up the potential of the town's remaining residential land, but planning efforts and proposed language that would enable cluster housing options have not been met with positive community reception to date.

A planning document from 2015, "Crafting a Strategic Plan for Weston's Future," examined the community's potential for new residential development from the standpoint of overall population change as well as impacts on WPS enrollment trends. The buildout analysis conducted in this planning effort identified potential sites that would yield just 85 new single-family homes under Weston's existing zoning. While this estimate is lower than some prior analyses would suggest, the report notes that building beyond this level would necessitate building on parcels with challenging site conditions. Given the low level of development potential identified here, it is unlikely that new residential development will be a significant driver of enrollment change in Weston.

Enrollment History and Trends

Since 2001-02, Weston experienced steady growth to a peak in 2006-07 followed by fairly steady year-over-year declines from the 2009-10 school year to the present. The following charts and figures show enrollment trends for grades K-12 in WPS broken down by grade groupings. Elementary enrollments were a bellwether of overall enrollment declines, with PK-2 enrollments peaking simultaneously in 2006-07 alongside districtwide enrollments. In the following years, PK-2 enrollment declined until 2012-13; since that time, declines have slowed significantly though 2016-17 enrollments were the lowest on the post-2000 record. Intermediate grade-level enrollments peaked and began declining a few years later in 2009-10 and the following years. Middle school (grades 6-8) experienced a peak in 2003-04 and 2004-05, a decline through the late 2000s and recovery in the early 2010s, and a second peak in 2012-13. Since the second peak, enrollments declined through 2015-16 and held steady in the following year.

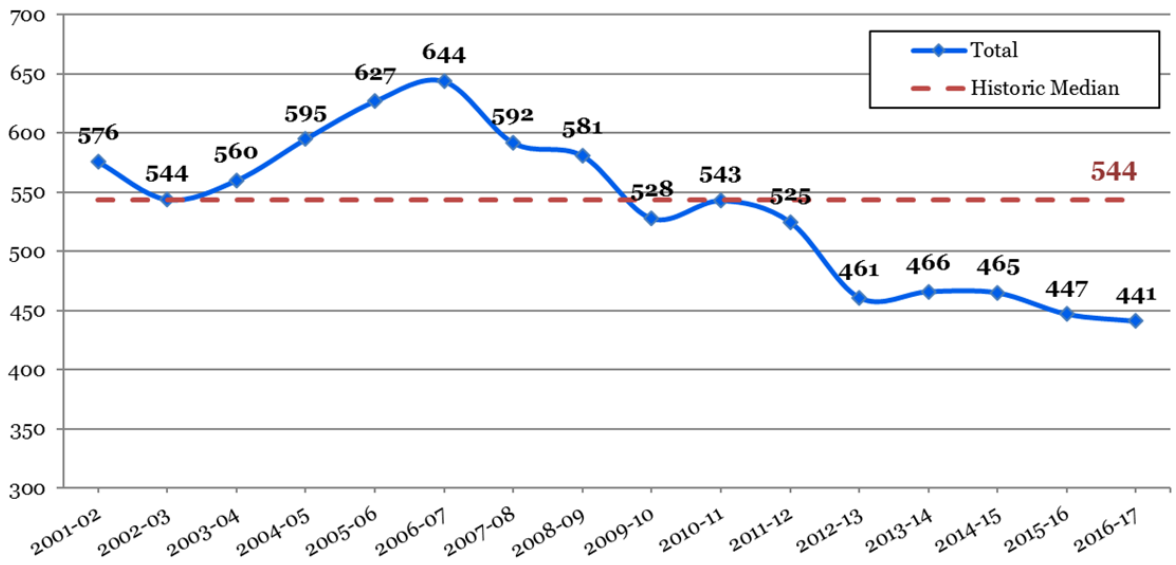
At the high-school grade level, enrollments have not yet begun significant declines as Weston's high school saw peak enrollments in 2015-16. A decline from that peak occurred in 2016-17, but enrollments remain well above the historic median. Examining the individual grade cohorts, 2016-17 saw the largest graduating class on recent record exit the system, to be replaced by the second-smallest rising freshman cohort since 2003-04.

Weston Public School Enrollment History
Kindergarten through 12th Grade

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
2001-02	1996	114	158	210	193	201	226	212	217	181	176	176	135	129	138	15
2002-03	1997	114	159	170	194	193	201	223	221	209	187	173	175	137	133	21
2003-04	1998	146	187	163	181	194	195	208	218	215	210	180	167	173	131	29
2004-05	1999	129	184	204	176	184	201	197	211	226	206	206	169	167	171	31
2005-06	2000	128	182	194	213	174	191	206	199	201	232	212	201	163	163	38
2006-07	2001	137	210	194	200	210	174	186	208	191	201	225	207	197	167	40
2007-08	2002	76	146	220	191	196	213	170	188	203	192	197	219	197	185	35
2008-09	2003	96	166	159	220	202	194	211	183	190	210	196	206	214	198	36
2009-10	2004	97	158	171	160	214	203	209	217	181	202	208	191	193	206	39
2010-11	2005	105	159	166	178	170	216	207	211	215	181	195	205	186	192	40
2011-12	2006	86	162	156	177	180	173	217	211	207	211	170	193	203	189	30
2012-13	2007	72	115	157	163	180	186	179	221	208	207	210	173	188	205	26
2013-14	2008	71	136	135	175	174	183	194	190	214	214	214	209	170	180	20
2014-15	2009	71	140	150	146	185	177	186	203	188	212	201	207	206	167	29
2015-16	2010	61	124	141	157	161	186	184	190	209	186	218	208	206	213	25
2016-17	2011	49	128	143	145	163	173	185	187	194	205	189	213	206	206	25

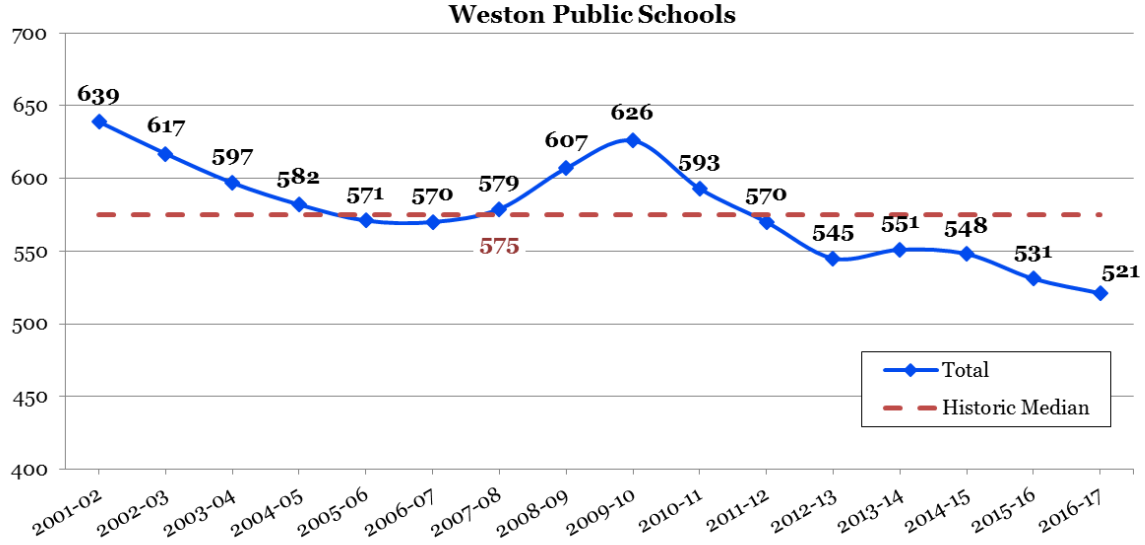
State Department of Education - Public School Information System, Summary Report for 2001-02 to 2011-12; CT CeDar 2012-13 to 2015-16; CT EdSight 2016-17

Elementary (PK-2nd) Enrollments
Weston Public Schools

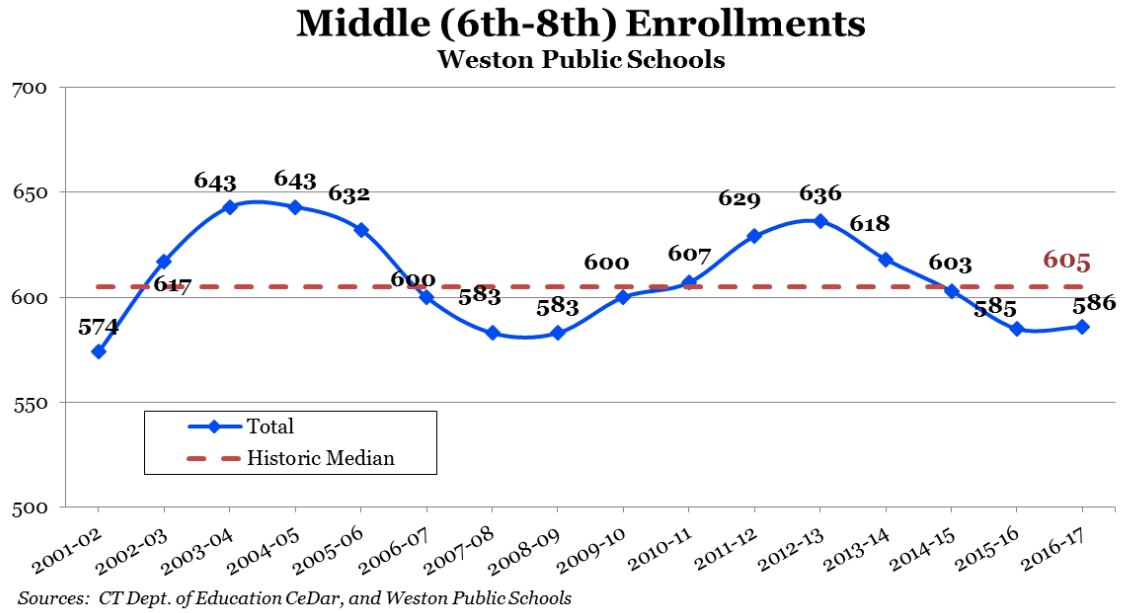


Sources: CT Dept. of Education CeDar, and Weston Public Schools

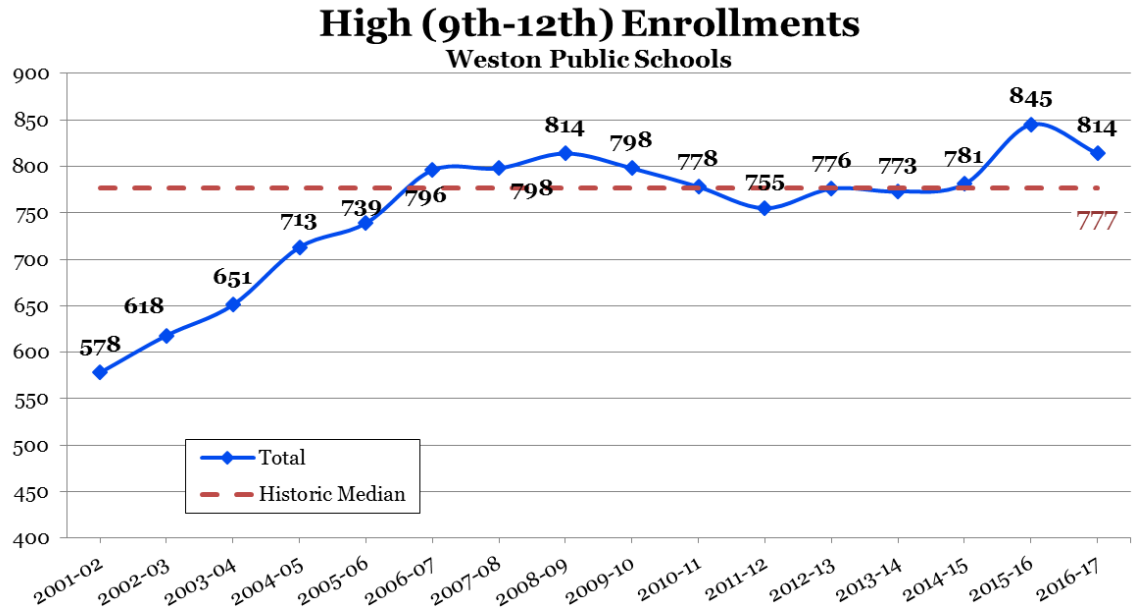
Intermediate (3rd - 5th) Enrollments
Weston Public Schools



Sources: CT Dept. of Education CeDar, and Weston Public Schools



Sources: CT Dept. of Education CeDar, and Weston Public Schools

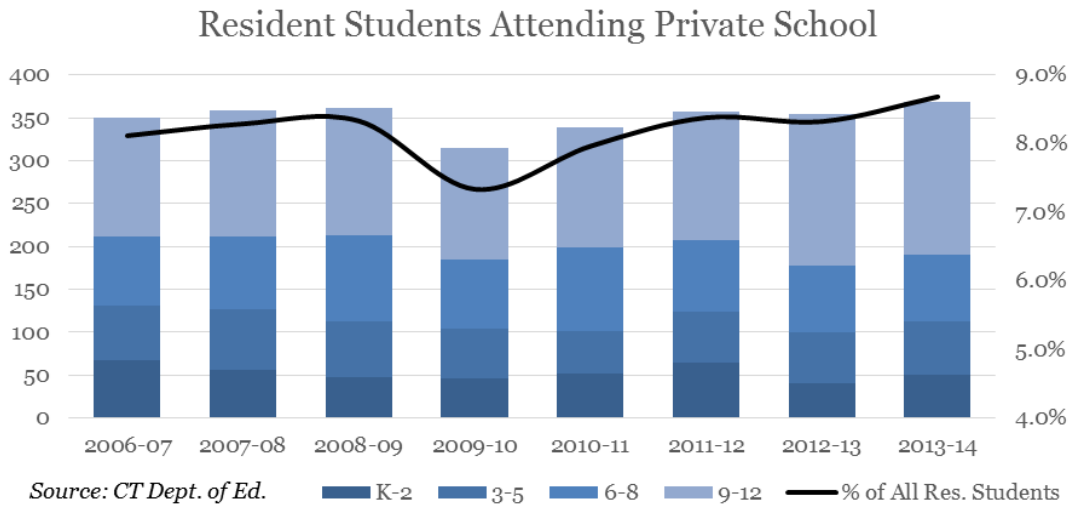


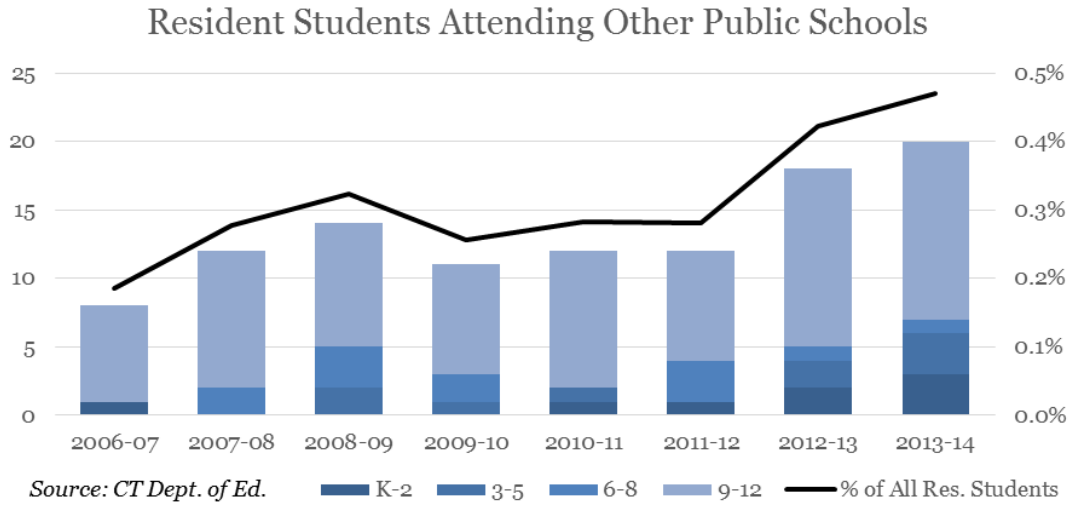
Sources: CT Dept. of Education CeDar, and Weston Public Schools

Private and Other Public Enrollment

Data on Weston resident enrollment in private schools and other (non-WPS) public school systems is limited as the Connecticut Department of Education's most recent available data on out-of-district attendance is current only to 2013-14. Historically, local enrollment in nonpublic schools has accounted for approximately 350 students across all grades, or about 8 percent of all resident students. Private school enrollments declined slightly in 2009-10 but recovered relatively quickly.

By contrast, enrollment in other public programs is very limited, with 20 or fewer residents enrolled annually at public schools outside of Weston.





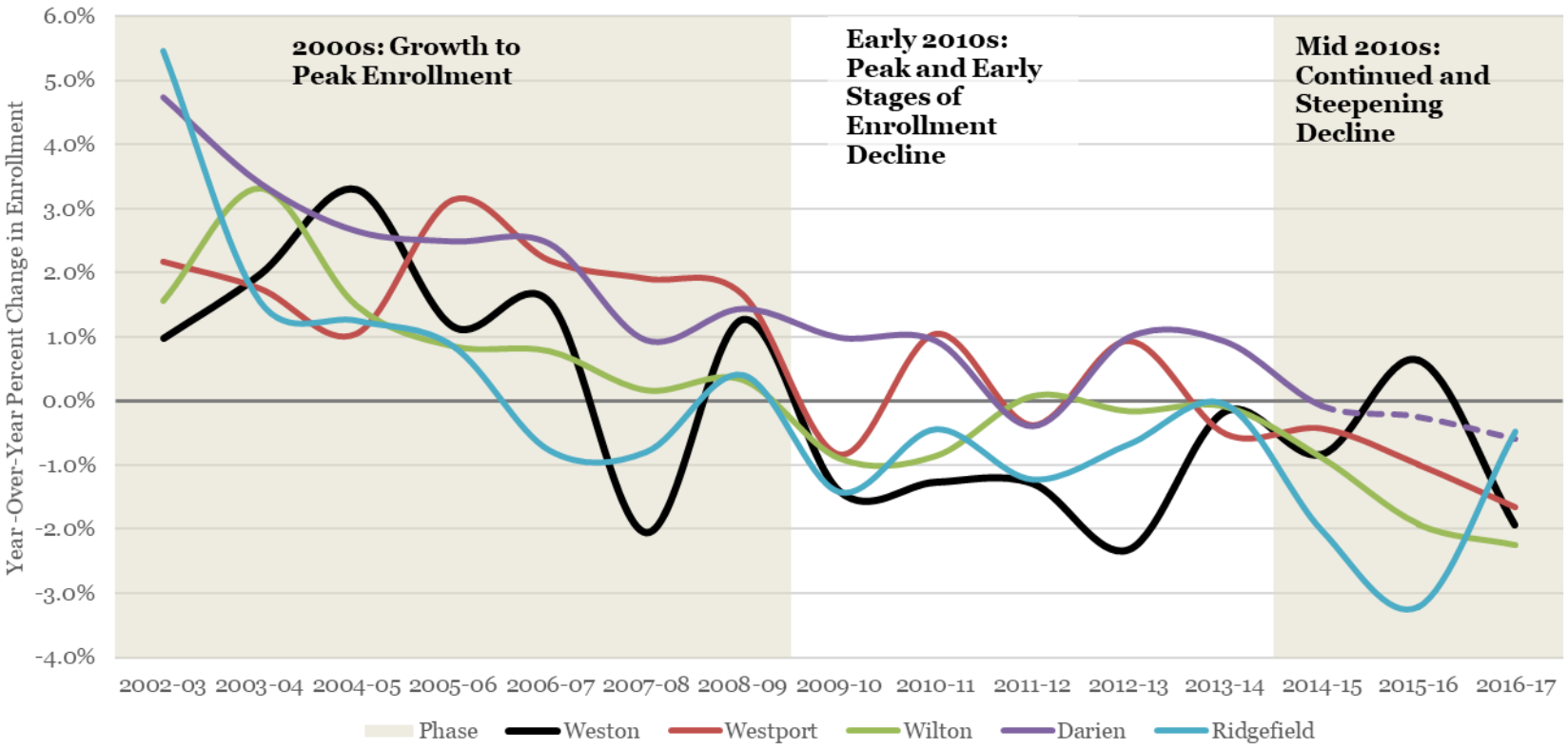
Regional School Enrollment Trends

Weston's patterns of enrollment change mirror many peer districts. For comparison purposes, we examined trends in enrollment changes across similar Lower Fairfield County towns with comparable socioeconomic profiles and educational programs. A similar pattern can be observed across these districts, with a dominant pattern of sustained year-of-year enrollment growth through the early 2000s, districts reaching enrollment peaks and beginning to see limited growth or declines in the first several years of the 2010s, and declines becoming more rapid across most districts in the most recent years of enrollment on record.

Compared to these peer districts, Weston's enrollment peaked early, in 2006-07, and saw larger year-over-year enrollment declines than most during the early 2010s than most. The general alignment of these trends indicates that while the idiosyncrasies of Weston's enrollment change may be driven by

particular local factors the overall pattern is attributable to conditions that prevail across the region and beyond.

Historic K-12 Enrollment Change: Selected DRG A Districts



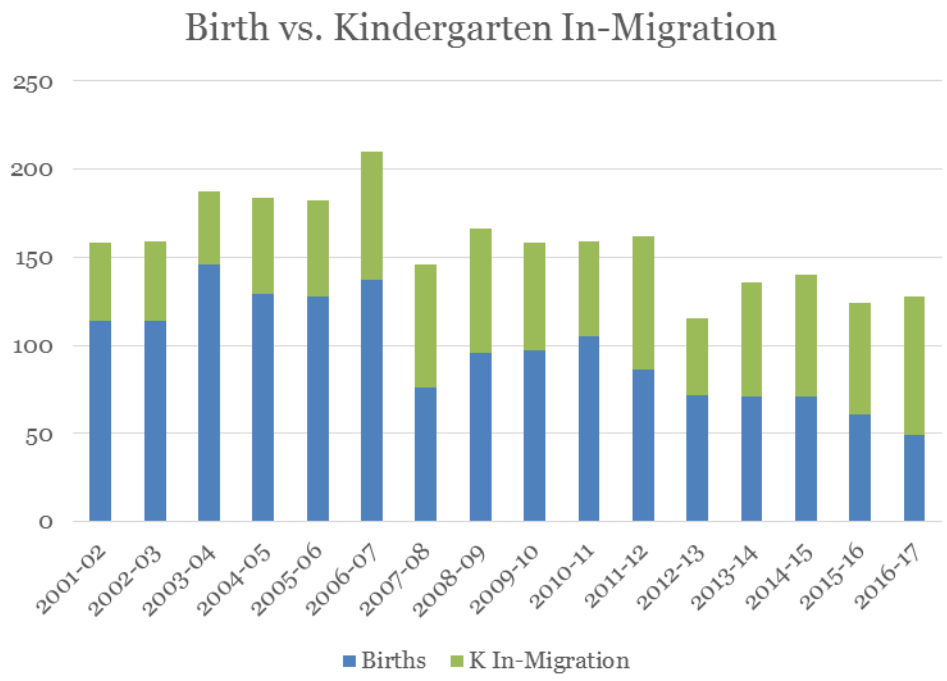
Source: CT DOE CeDar and EdSight databases, MMI district-level projections (medium scenarios)

Kindergarten Enrollment Trends and Migration

Weston's kindergarten enrollments have declined below historic averages in the past several years. From 2001-02 to 2011-12, most years yielded about 160 – 190 kindergarten students in each entering cohort to the system, with a peak of 210 students in 2006-07. After a precipitous decline in 2012-13, which saw just 115 students enter at K, the last 4 years have seen about 125 – 140 K enrollments annually. With fewer students entering the system at the lower grades, declines in the system's overall size are inevitable unless substantial net in-migration occurs at higher grade levels.

Projecting student enrollment requires an estimate of new kindergarten enrollments for each year in the projection horizon. This projection is typically based off births in the community 5 years prior, with adjustments for the rate of net in- or out-migration of families with pre-school-age children. Historically, predicting the size of future kindergarten cohorts has been challenging in Weston due to low local birthrates and high levels of in-migration of these types of families.

This challenge has been magnified in recent years as the birth-K ratio has risen from approximately 1.5 (indicating a 50 percent increase in the size of incoming classes relative to local births, or 1/3 of all kindergarten students being born outside of Weston) to 2.61 (equivalent to a 161 percent increase from the local birth count).



An additional analysis of births and kindergarten enrollments was conducted to better understand the independent effects of births, migration, and other factors in composing each entering kindergarten class. We compared a set of address-matched student enrollment records against two other address-matched databases—local birth records and housing sales—to determine the proportion of K records that could be matched against each.

Over the past 4 years, an average of 34 percent of kindergarten enrollments could be directly matched to a Weston birth record. A closer examination of 2016-17 enrollments showed just 25 percent of kindergarten students matching a birth record, with an additional 59 percent matched to a home sale in the previous 5 years. The remaining 16 percent of students not accounted for under this methodology may be attributable to a variety of factors, including students in rental housing, students who moved within Weston before entering school, students living with extended family, and any discrepancies between these sets of records. Conversely, births that could not be matched to an enrollment record may either indicate out-migration or students attending non-WPS schools.

Under these circumstances, the traditional method of using a single ratio of births to kindergarten enrollments is error prone. Because this method ties estimated migration directly to births, a kindergarten enrollment projection based on it may be misleading as small changes in local births results are magnified. As detailed below, an alternative approach to projecting kindergarten enrollments was used to avoid these pitfalls.

Enrollment Projections

Methodology

The cohort-survival methodology, with some modifications, was used to calculate all projections in this report. This is a standard methodology for projecting populations and student enrollments and relies on the recent past as a predictor of the future. It works well for stable populations, including those that are growing or declining at a steady rate.

Persistency ratios were calculated from historical and current enrollments to determine growth or loss in a grade cohort as it progresses through the school system. Persistency ratios of 1.00 mean that the cohort remains the same as it advances from one grade to the next. A persistency ratio of 1.05 means the cohort increased by 5 percent or a class of 100 gained five additional students the next year. Enrollment data from 2001-02 through 2016-17 was used to develop the grade-to-grade persistency ratios shown in the table on the following page. Birth-K ratios are also shown on this table for information only as an alternative method was used to project kindergarten enrollments.

Persistency ratios account for the various factors affecting enrollments, including housing development and sales, economic conditions, student transfers, and mobility into and out of a school district; however, they function best in a system that has stable trends – whether steadily increasing, decreasing, or remaining flat. As noted above, Weston's birth-K persistency ratio has risen dramatically since the mid 2000s, from 1.28 in 2003-04 to 2.61 in 2016-17. A slight increase in persistency ratios from grade to grade can also be observed although this effect is much less pronounced.

Kindergarten through 12th Grade Persistency Ratios by School Year 2002-03 to 2016-17														
Year	Birth-K	K-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	Migration Estimate (2-7 to 3-8)
2002-03	1.3947	1.0759	0.9238	1.0000	1.0000	0.9867	1.0425	0.9631	1.0331	0.9830	0.9943	1.0148	1.0310	0.33%
2003-04	1.2808	1.0252	1.0647	1.0000	1.0104	1.0348	0.9776	0.9729	1.0048	0.9626	0.9653	0.9886	0.9562	-0.08%
2004-05	1.4264	1.0909	1.0798	1.0166	1.0361	1.0103	1.0144	1.0367	0.9581	0.9810	0.9389	1.0000	0.9884	1.16%
2005-06	1.4219	1.0543	1.0441	0.9886	1.0380	1.0249	1.0102	0.9526	1.0265	1.0291	0.9757	0.9645	0.9760	0.67%
2006-07	1.5328	1.0659	1.0309	0.9859	1.0000	0.9738	1.0097	0.9598	1.0000	0.9698	0.9764	0.9801	1.0245	-1.18%
2007-08	1.9211	1.0476	0.9845	0.9800	1.0143	0.9770	1.0108	0.9760	1.0052	0.9801	0.9733	0.9517	0.9391	-0.60%
2008-09	1.7292	1.0890	1.0000	1.0576	0.9898	0.9906	1.0765	1.0106	1.0345	1.0208	1.0457	0.9772	1.0051	2.50%
2009-10	1.6289	1.0301	1.0063	0.9727	1.0050	1.0773	1.0284	0.9891	1.0632	0.9905	0.9745	0.9369	0.9626	2.17%
2010-11	1.5143	1.0506	1.0409	1.0625	1.0093	1.0197	1.0096	0.9908	1.0000	0.9653	0.9856	0.9738	0.9948	1.35%
2011-12	1.8837	0.9811	1.0663	1.0112	1.0176	1.0046	1.0193	0.9810	0.9814	0.9392	0.9897	0.9902	1.0161	0.17%
2012-13	1.5972	0.9691	1.0449	1.0169	1.0333	1.0347	1.0184	0.9858	1.0000	0.9953	1.0176	0.9741	1.0099	1.37%
2013-14	1.9155	1.1739	1.1146	1.0675	1.0167	1.0430	1.0615	0.9683	1.0288	1.0338	0.9952	0.9827	0.9574	2.81%
2014-15	1.9718	1.1029	1.0815	1.0571	1.0172	1.0164	1.0464	0.9895	0.9907	0.9393	0.9673	0.9856	0.9824	1.86%
2015-16	2.0328	1.0071	1.0467	1.1027	1.0054	1.0395	1.0215	1.0296	0.9894	1.0283	1.0348	0.9952	1.0340	2.86%
2016-17	2.6122	1.1532	1.0284	1.0382	1.0745	0.9946	1.0163	1.0211	0.9809	1.0161	0.9771	0.9904	1.0000	1.84%
Long Term Avg.	1.7242	1.0611	1.0372	1.0238	1.0178	1.0152	1.0242	0.9885	1.0064	0.9889	0.9874	0.9804	0.9918	
5-Year Avg.	2.0259	1.0813	1.0632	1.0565	1.0294	1.0257	1.0328	0.9988	0.9979	1.0026	0.9984	0.9856	0.9967	
3-Year Avg.	2.2056	1.0878	1.0522	1.0660	1.0324	1.0169	1.0281	1.0134	0.9870	0.9946	0.9931	0.9904	1.0054	

An estimate of migration was calculated on the basis of year-to-year changes in cohorts at the most stable grade levels in order to determine the degree to which migration in and out of the school system has affected enrollments and persistency ratios. Migration in each year was estimated as a ratio of 2nd to 7th grade enrollments in the previous year to 3rd to 8th grade enrollments in the following year; these grade levels traditionally have the greatest level of stability—for example, minimal movement in and out of private school generally takes place in these grades. A gain in enrollment during these years indicates in-migration into the district while a loss indicates out-migration whether due to a change in residence, transfer to or from private school, or other circumstances. Migration during this period has been positive in most years of data available, with relatively strong in-migration rates in the last 5 years.

As with all projections, the projections presented below are built on a number of parameters and assumptions that drive the model. Among these assumptions are that full-day kindergarten will remain in place, that no significant changes in deployment of pre-kindergarten programs will be made, that recent private school enrollment trends will remain stable, and that housing and employment assumptions at the districtwide level will prove accurate.

Kindergarten Projection Model

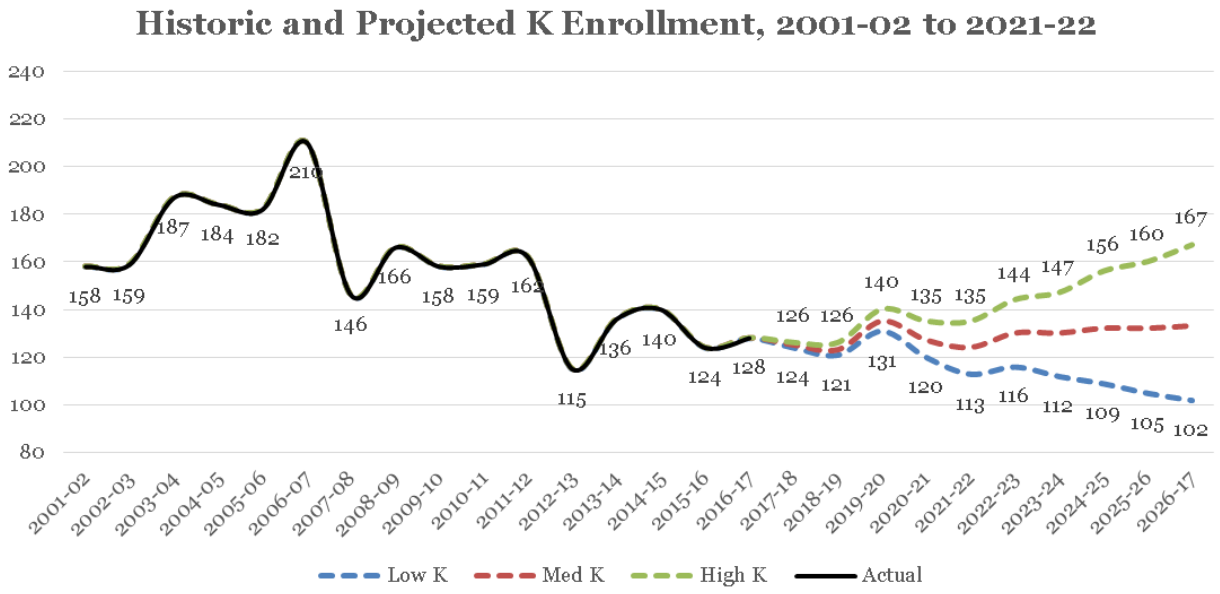
At the kindergarten grade level, a different projection methodology was used to account for the unusual circumstances of very high birth-K persistency ratios. Instead of multiplying births by the birth-K persistency ratio to estimate each future year's kindergarten cohort, a regression-based estimate was developed based on historical births, home sales, and kindergarten enrollment data. This adjustment to the standard methodology incorporates home sales as an additional variable to predict future enrollments and to better differentiate the effects of births and migration on the final total of students matriculating into the system each year.

The regression model selected for use in projecting kindergarten enrollments was based on births 5 years prior and same-year home sales; metrics of the model's fit and significance were very good (R^2 = 0.987, variable $p \approx 0.01$). The final regression equation is as follows:

$$K_{Yr} = (Births_{Yr-5} * 0.779) + (Five\_Yr\_Sales_{Yr} * 0.093)$$

Feeding known and assumed future-year conditions (detailed in the table below) into this model yielded estimated cohort sizes for each of Weston's next 10 incoming kindergarten classes. This data is then fed into the cohort-survival model in order to project the future course of these cohorts of students as they age through the system. As both home sales and births in the latter half of these projections are based on unknown future data, the kindergarten projections will be most accurate in the first half of the projection horizon.

	Scenario Parameters		
	Low	*Medium*	*High*
Annual Births	48 - 62	62 - 64	62 - 83
Annual Home Sales	140 - 162	170 - 180	178 - 220



Projection Scenarios

We prepared low, medium, and high projections based on different sets of assumptions regarding economic conditions, births, and persistency ratios. The high-projection model is predicated on economic growth, declining unemployment, and an upturn in the local housing market as drivers for increased birth estimates and persistency ratios, leading to higher enrollment projections. The low-growth model, by contrast, is predicated on a future economic downturn affecting both migration and fertility over the next several years. The following table shows the anticipated change in births, home sales, and unemployment assumed under our three different growth models from 2017 to 2021, the 5 years in which birth projections are necessary.

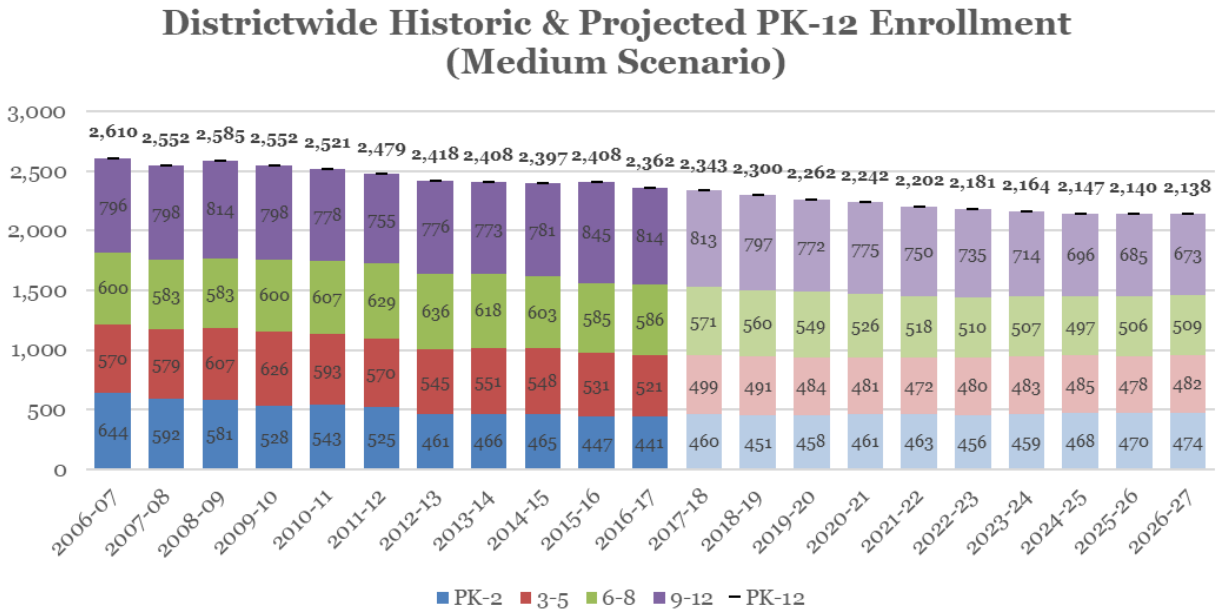
Projection Assumptions by Scenario

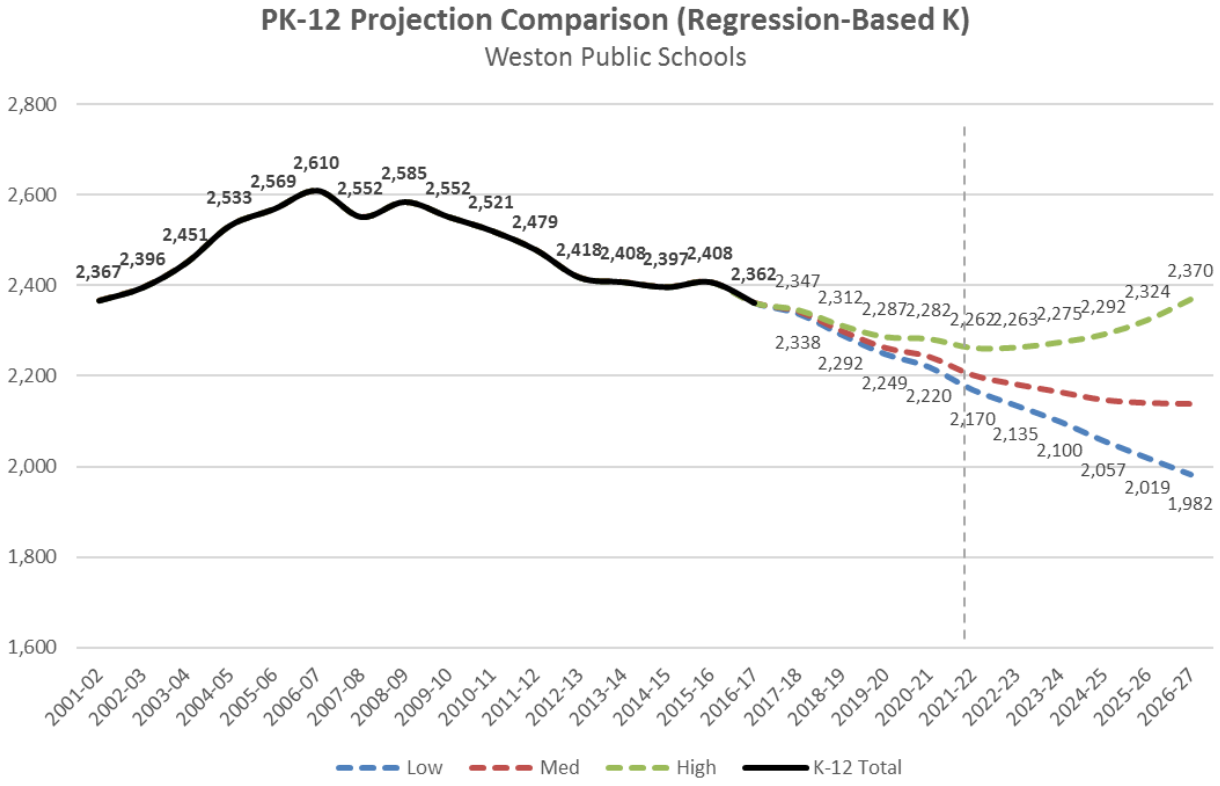
	Low Growth	**Med. Growth**	**High Growth**
Annual Births	48 - 62	62 - 64	62 - 83
Weston Unemp.	4.3 - 5.5	3.5 - 3.9	2.8 - 3.8
CT Unemp.	5.6 - 7.0	4.5 - 5.1	4.0 - 5.0
Annual Home Sales	140 - 162	170 - 180	178 - 220

These projections are also built on the regression-based model of kindergarten enrollments discussed above. These projections are directly incorporated as the projected number of kindergarten enrollments for each year and then progress through the grades according to each scenario's grade-to-grade persistency ratios.

Three sets of projected enrollments provide a range of possible future scenarios for WPS. The low scenario puts forward a pessimistic outlook based on a scenario of economic decline, with both migration and births softening relative to recent trends at the same time, and is therefore unlikely to occur. The medium projection scenario depicts a continuation of the status quo of slow but steady growth in labor and housing markets, yielding limited changes in local conditions. The high projection model is predicated on considerably stronger growth driving a substantial uptick in both births and in-migration. In our judgment, the medium growth scenario presents the most appropriate model for long-term projections over the 10-year planning horizon of this study. However, birth and migration trends should be monitored carefully into the future to ensure that changing conditions that may impact the trajectory of Weston's enrollments are taken into account and adjusted for appropriately.

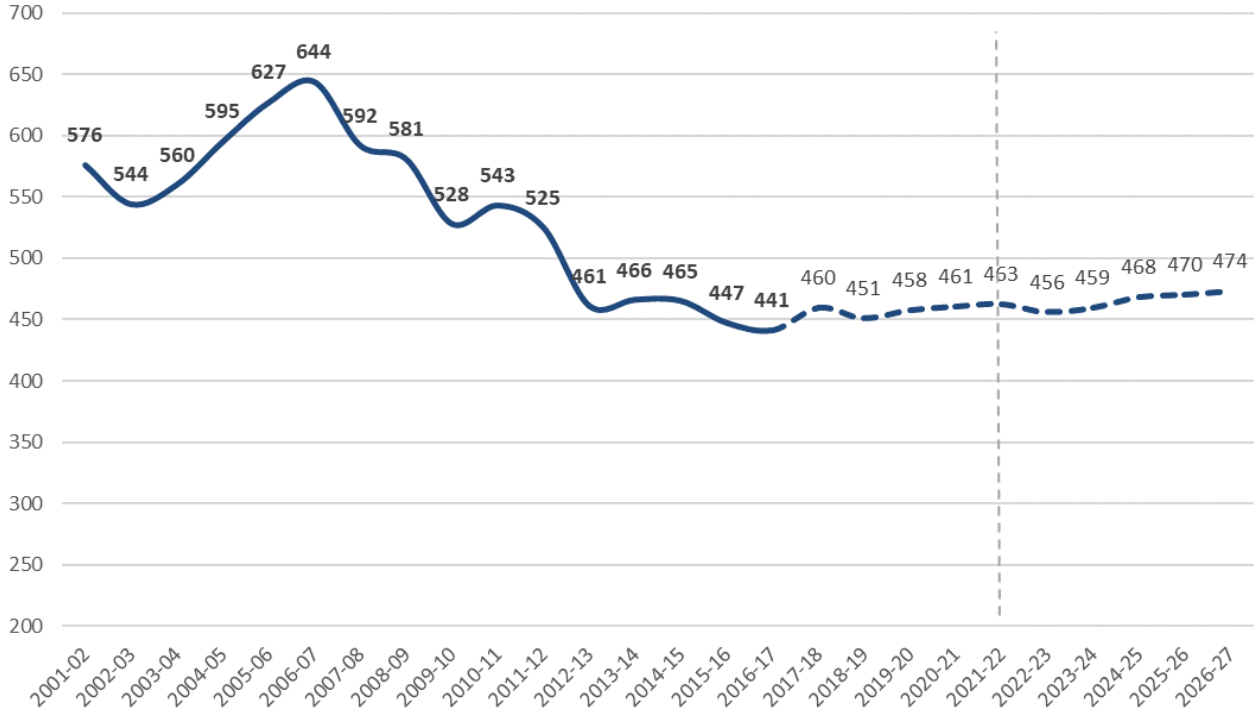
Districtwide Enrollment Projections





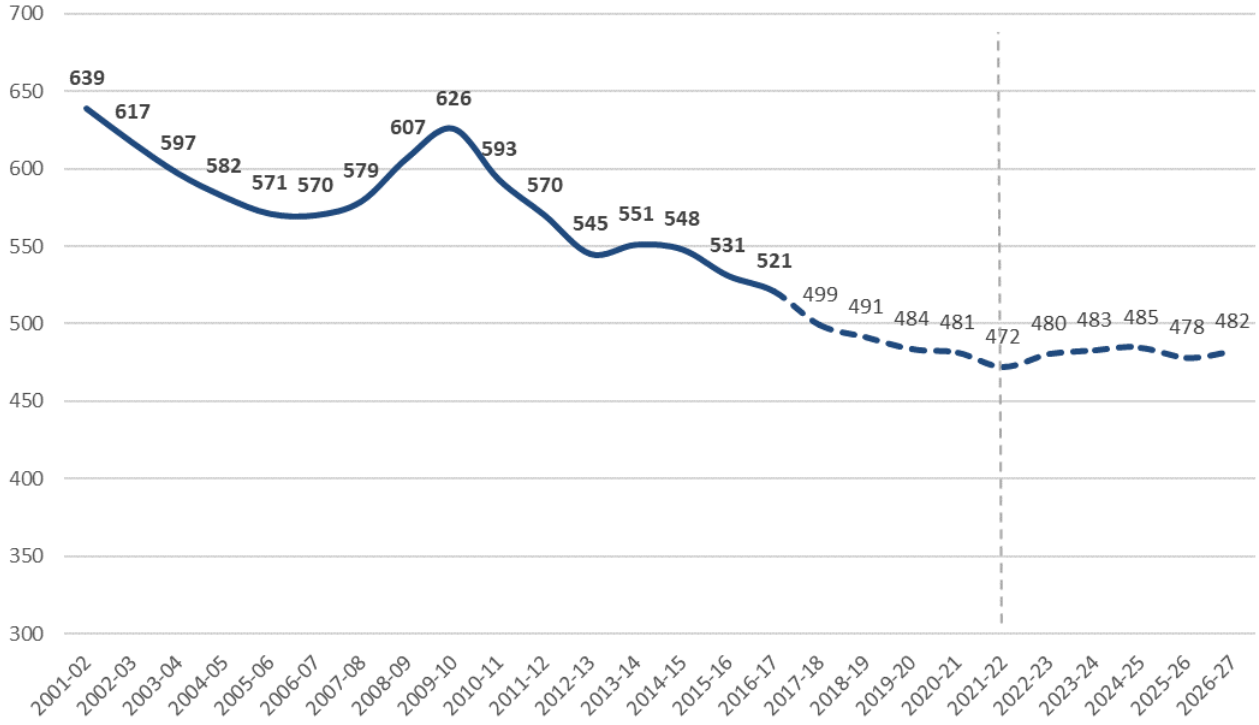
PK-2 Historic & Projected Enrollment (Regression Medium Scenario)

Weston Public Schools



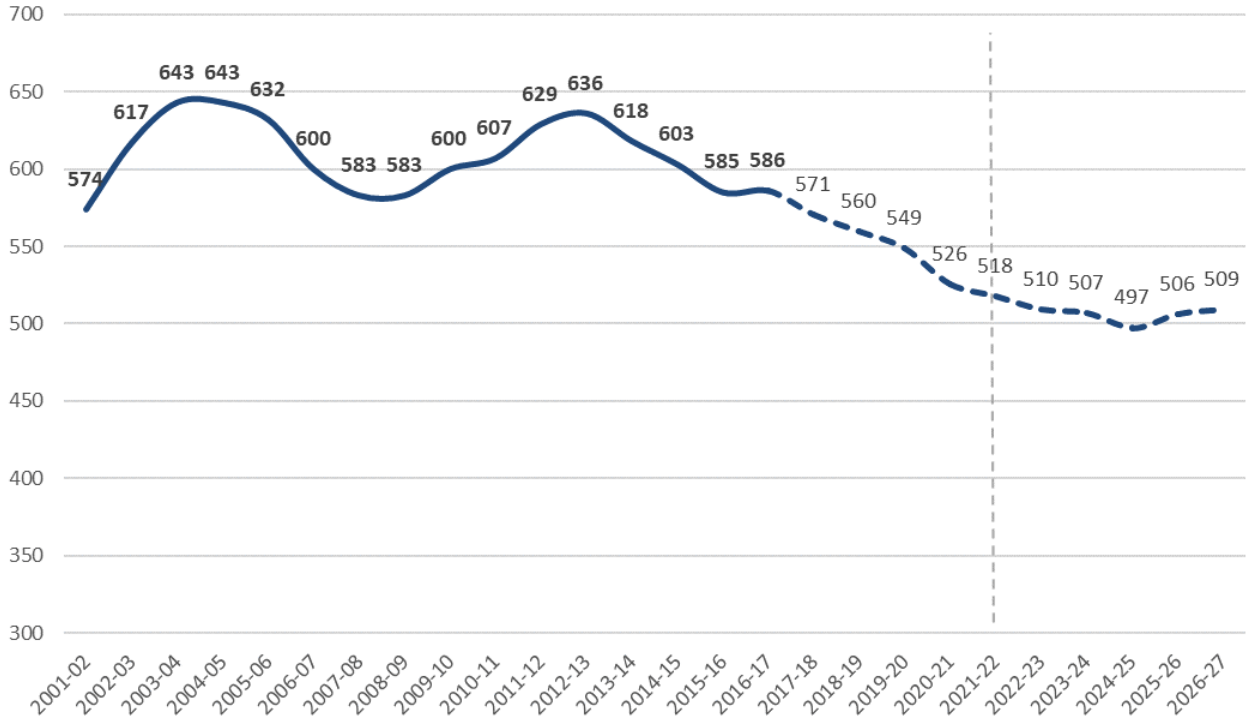
3-5 Historic & Projected Enrollment (Regression Medium Scenario)

Weston Public Schools



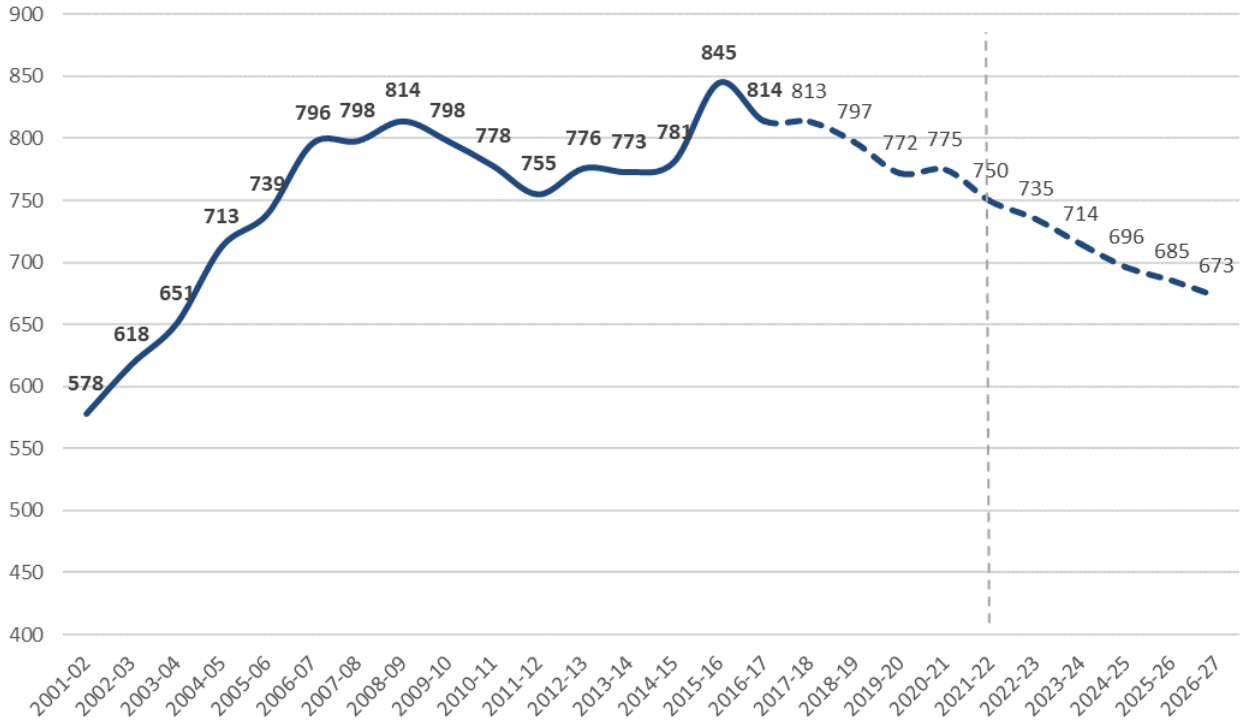
6-8 Historic & Projected Enrollment (Regression Medium Scenario)

Weston Public Schools



9-12 Historic & Projected Enrollment (Regression Medium Scenario)

Weston Public Schools



Low Enrollment Projections

Low Regression K (Derived from Low Regression Births), 3-Year Average Persistency

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
2016-17	2011	49	128	143	145	163	173	185	187	194	205	189	213	206	206	25
2017-18	2012	63	124	139	150	155	168	176	190	189	191	204	188	211	207	45
2018-19	2013	60	121	135	148	160	160	171	181	193	187	190	202	186	212	45
2019-20	2014	72	131	132	143	158	166	162	176	183	190	186	189	201	187	45
2020-21	2015	61	120	142	140	153	163	168	167	178	181	189	185	187	202	45
2021-22	2016	55	113	131	152	149	158	166	173	169	176	180	188	183	188	45
2022-23	2017	62	116	123	139	162	154	160	170	175	167	175	179	186	184	45
2023-24	2018	59	112	126	131	148	167	157	165	173	173	166	174	177	187	45
2024-25	2019	56	109	122	134	139	153	170	161	167	170	172	165	172	178	45
2025-26	2020	51	105	119	130	143	144	155	174	163	165	169	171	163	173	45
2026-27	2021	48	102	114	126	138	148	146	160	177	161	164	168	169	164	45

School Year	PK-12 Total	K-12 Total	PK-2 Total	3-5 Total	6-8 Total	9-12 Total
2016-17	2,362	2,337	441	521	586	814
2017-18	2,338	2,293	459	499	571	810
2018-19	2,292	2,247	449	491	561	791
2019-20	2,249	2,204	451	486	549	763
2020-21	2,220	2,175	447	484	526	763
2021-22	2,170	2,125	440	473	518	739
2022-23	2,135	2,090	423	476	513	724
2023-24	2,100	2,055	414	471	511	704
2024-25	2,057	2,012	410	462	499	687
2025-26	2,019	1,974	398	442	502	677
2026-27	1,982	1,937	387	432	497	666
5 Year Change						
	-8.1%	-9.1%	-0.2%	-9.3%	-11.6%	-9.2%
10 Year Change						
	-16.1%	-17.1%	-12.2%	-17.1%	-15.1%	-18.2%

Medium Enrollment Projections

Medium Regression K (Derived from Medium Regression Births), 3-Year Weighted Average Persistency

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
2016-17	2011	49	128	143	145	163	173	185	187	194	205	189	213	206	206	25
2017-18	2012	63	125	140	149	154	170	175	189	190	191	207	188	211	208	45
2018-19	2013	60	123	137	146	159	161	172	179	193	188	193	205	186	213	45
2019-20	2014	72	135	135	143	156	165	163	176	183	190	189	192	204	188	45
2020-21	2015	61	127	148	141	152	162	167	166	179	180	191	188	190	205	45
2021-22	2016	55	124	139	154	150	158	164	171	170	177	181	190	186	191	45
2022-23	2017	62	130	136	145	164	156	160	168	174	167	178	180	189	188	45
2023-24	2018	60	130	142	142	154	171	158	164	171	172	168	177	179	190	45
2024-25	2019	62	132	142	149	151	161	173	161	167	169	173	167	175	180	45
2025-26	2020	62	132	145	149	158	157	163	177	164	165	170	172	166	177	45
2026-27	2021	64	133	145	151	158	165	159	167	181	162	166	169	171	167	45

School Year	PK-12 Total	K-12 Total	PK-2 Total	3-5 Total	6-8 Total	9-12 Total
2016-17	2,362	2,337	441	521	586	814
2017-18	2,343	2,298	460	499	571	813
2018-19	2,300	2,255	451	491	560	797
2019-20	2,262	2,217	458	484	549	772
2020-21	2,242	2,197	461	481	526	775
2021-22	2,202	2,157	463	472	518	750
2022-23	2,181	2,136	456	480	510	735
2023-24	2,164	2,119	459	483	507	714
2024-25	2,147	2,102	468	485	497	696
2025-26	2,140	2,095	470	478	506	685
2026-27	2,138	2,093	474	482	509	673
5 Year Change						
	-6.8%	-7.7%	4.9%	-9.4%	-11.7%	-7.9%
10 Year Change						
	-9.5%	-10.5%	7.4%	-7.5%	-13.1%	-17.3%

High Enrollment Projections

High Regression K (Derived from High Regression Births), 4-Year Average Persistency

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
2016-17	2011	49	128	143	145	163	173	185	187	194	205	189	213	206	206	25
2017-18	2012	63	126	142	153	155	168	177	192	187	194	206	188	211	205	45
2018-19	2013	60	126	140	152	163	159	172	183	192	187	194	205	186	209	45
2019-20	2014	72	140	140	149	162	167	163	178	184	192	188	193	202	184	45
2020-21	2015	61	135	155	149	159	166	171	169	178	183	192	187	191	201	45
2021-22	2016	55	135	150	166	159	164	170	178	169	178	184	191	184	190	45
2022-23	2017	62	144	150	160	177	164	168	176	178	169	179	183	189	183	45
2023-24	2018	61	147	160	160	171	182	168	174	177	178	169	177	181	188	45
2024-25	2019	70	156	163	171	171	175	186	174	174	176	178	168	175	180	45
2025-26	2020	74	160	173	174	182	175	179	193	174	174	177	177	166	174	45
2026-27	2021	83	167	177	185	186	187	179	186	193	174	174	176	175	165	45

School Year	PK-12 Total	K-12 Total	PK-2 Total	3-5 Total	6-8 Total	9-12 Total
2016-17	2,362	2,337	441	521	586	814
2017-18	2,347	2,302	466	499	573	809
2018-19	2,312	2,267	462	493	563	794
2019-20	2,287	2,242	474	492	553	767
2020-21	2,282	2,237	485	497	530	771
2021-22	2,262	2,217	496	493	524	749
2022-23	2,263	2,218	499	508	523	734
2023-24	2,275	2,230	512	520	528	715
2024-25	2,292	2,247	535	532	524	702
2025-26	2,324	2,279	552	537	540	695
2026-27	2,370	2,325	574	552	553	691
5 Year Change						
	-4.2%	-5.1%	12.4%	-5.4%	-10.5%	-7.9%
10 Year Change						
	0.3%	-0.5%	30.2%	6.0%	-5.7%	-15.2%

All three enrollment scenarios project a decline in total K-12 enrollments through the first 5 years of the projection horizon. Thereafter, the low and medium scenarios chart a path of continued decline through the close of the projection horizon while the high scenario projects a rebound in enrollments, ending slightly above current enrollment levels by 2026-27. The medium scenario, which is recommended as the scenario most likely to reflect future conditions, depicts an overall decline from 2,362 to 2,202 PK-12 students (6.8 percent below current levels) by 2021-22, the last year of known births. Total enrollment is expected to continue to decline through 2026-27, reaching a low of 2,138 PK-12 students (equivalent to a 9.5 percent decline).

In the near term, enrollment declines are projected to occur not at the elementary level, where steep declines occurred in the late 2000s and early 2010s, but instead at the upper grade levels and particularly at the middle school level. Intermediate (grade 3-5) enrollments are projected to drop by 9.4 percent in the first 5 years, to 472 students, under the medium scenario. The middle school grade levels are projected to experience a slightly steeper decline of 11.7 percent over the same time period, to 518 students. Conversely, the elementary grade level is projected to see a small increase, with enrollments up 4.9 percent.

The intermediate and middle grade levels are projected to experience the steepest drops because while incoming kindergarten enrollments reached a nadir and are projected to remain fairly stable shrinking cohorts are continuing to matriculate into these grade levels. Accordingly, the overall size of both the intermediate and middle schools is projected to continue declining as the cohorts currently in these schools are likely to be replaced by smaller entering classes already in the system. At the high school level, declines are not projected to begin until 2018-19 and therefore are less pronounced at the 5-year horizon, at 7.9 percent below current levels.

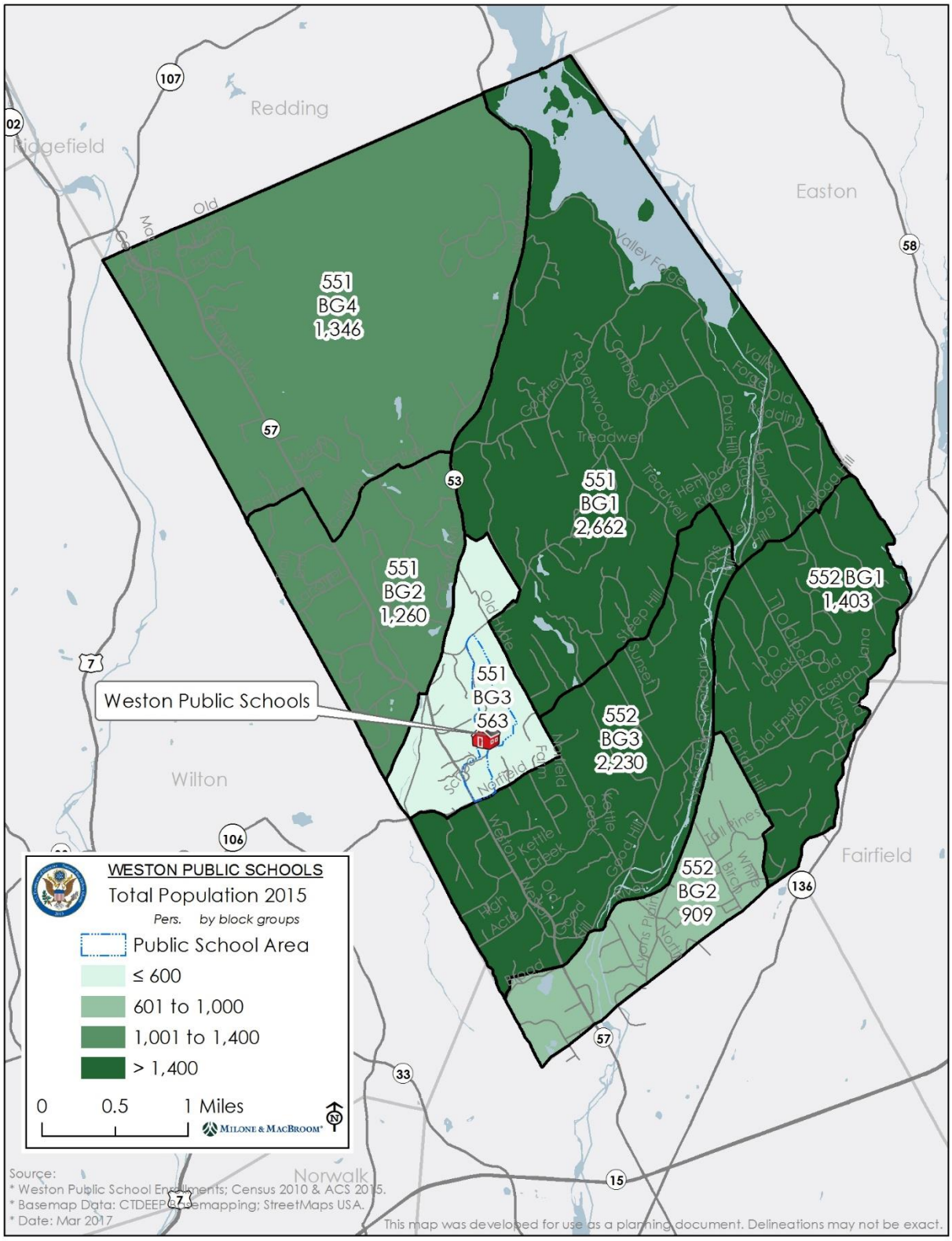
At the 10-year horizon, overall declines are expected to continue, with a net decline of 9.5 percent PK-12. In contrast to the first 5 years of projections, declines are much more concentrated at the high school level as small cohorts continue to move up through the system and entering kindergarten cohorts grow slightly. At the elementary level, slow but sustained growth continues, ending at 474 students by 2026-27. The intermediate grade level also sees a slight rebound in the latter half of the projection horizon, increasing from a low of 472 students to the low 480s for the last several years.

At the middle school level, enrollment is projected to continue to decline until 2024-25, with a slight rebound in the last 2 years. The overall projected decline amounts to a decrease of 13.1 percent in enrollment at this level. Finally, enrollments at Weston High School are projected to continue a path of steady decline through the close of the projection horizon, amounting to a 17.3 percent decrease to 673 students.

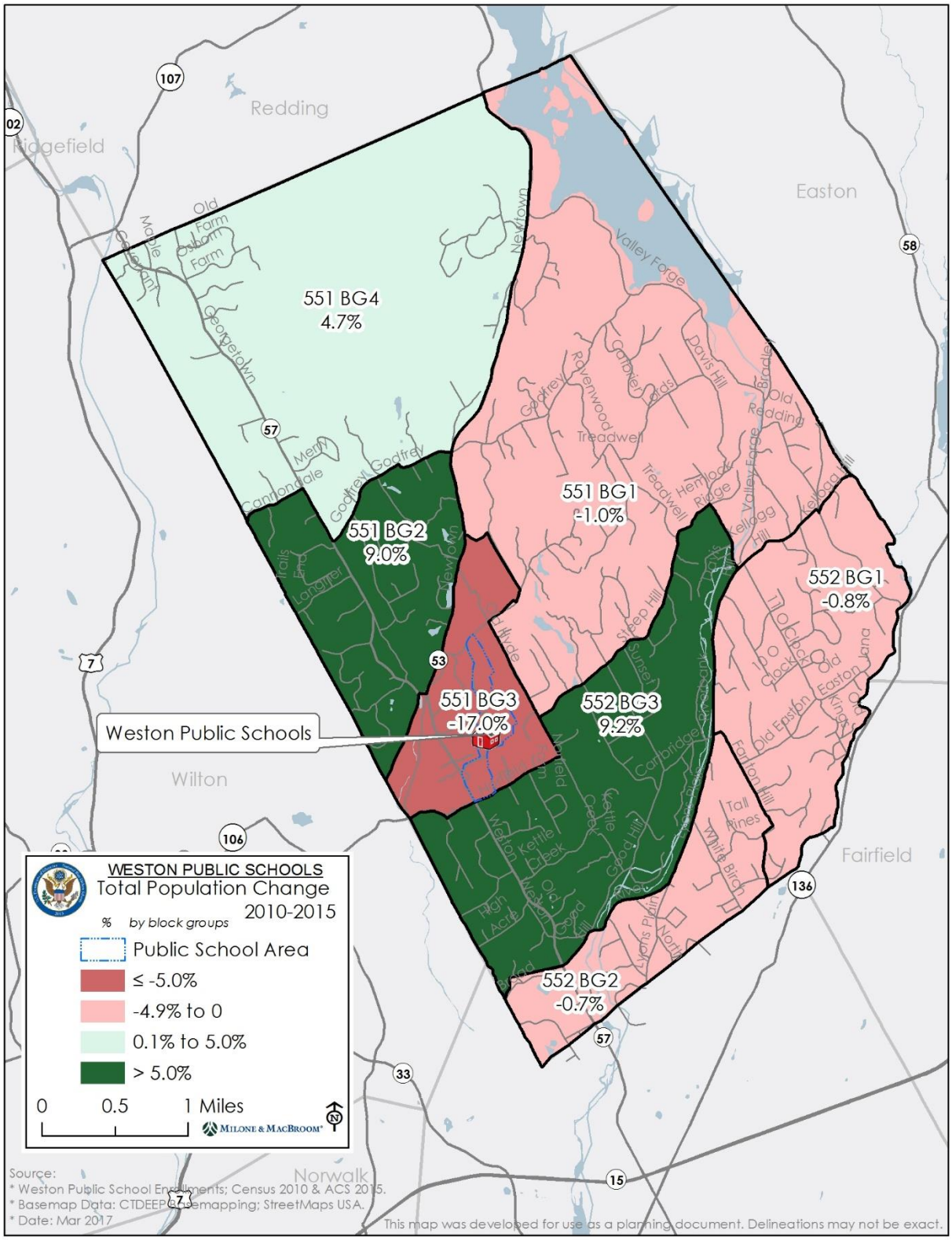
It is important to emphasize that the overall trajectory of the projections depends heavily on the projected kindergarten enrollments based on births and home sales in the community. Changes to the conditions underlying the results of this model may significantly impact the overall direction of projections; therefore, careful attention to both births and the pace of the local housing market is important going forward to ensure that any circumstances that may render these projections inapplicable are noticed and taken into account.

Appendix: Demographic and Statistical Mapping

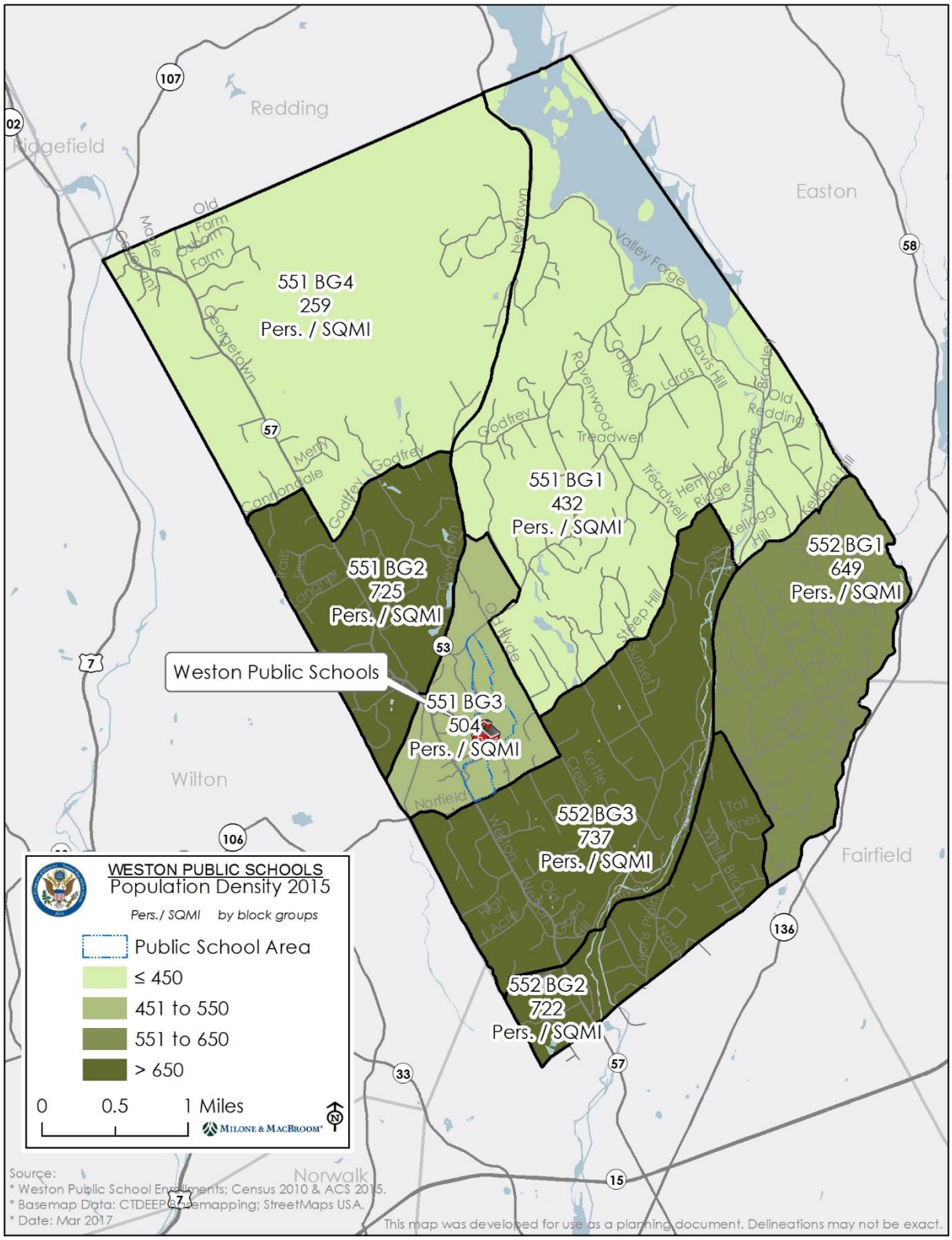
The following maps depict key demographic and housing market indicators that informed our analysis of Weston's enrollment patterns. Unless otherwise noted, the data displayed on these maps is drawn from the US Census Bureau's 2000 and 2010 Decennial Census and/or the 2015 ACS.



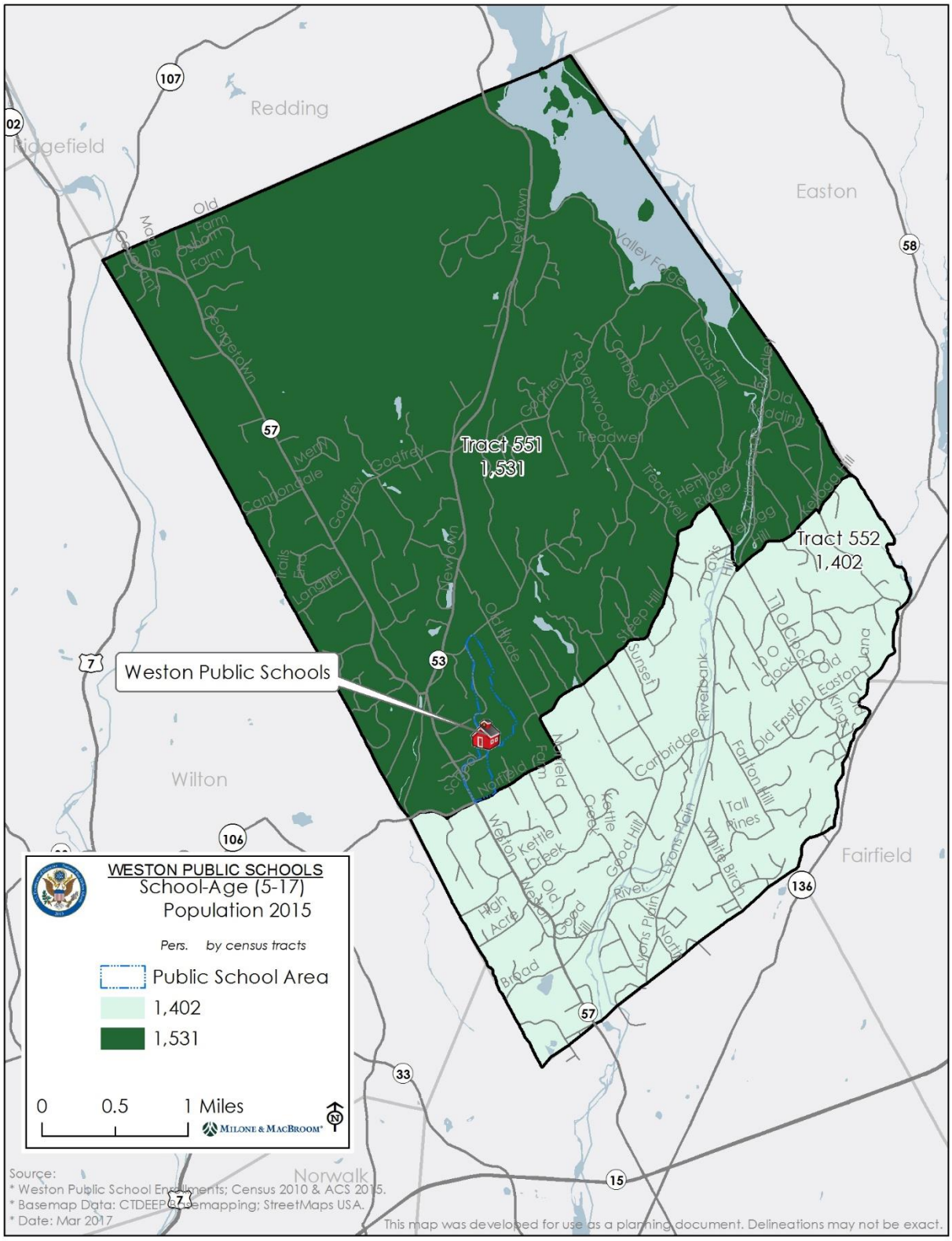
Map 1: Total Population



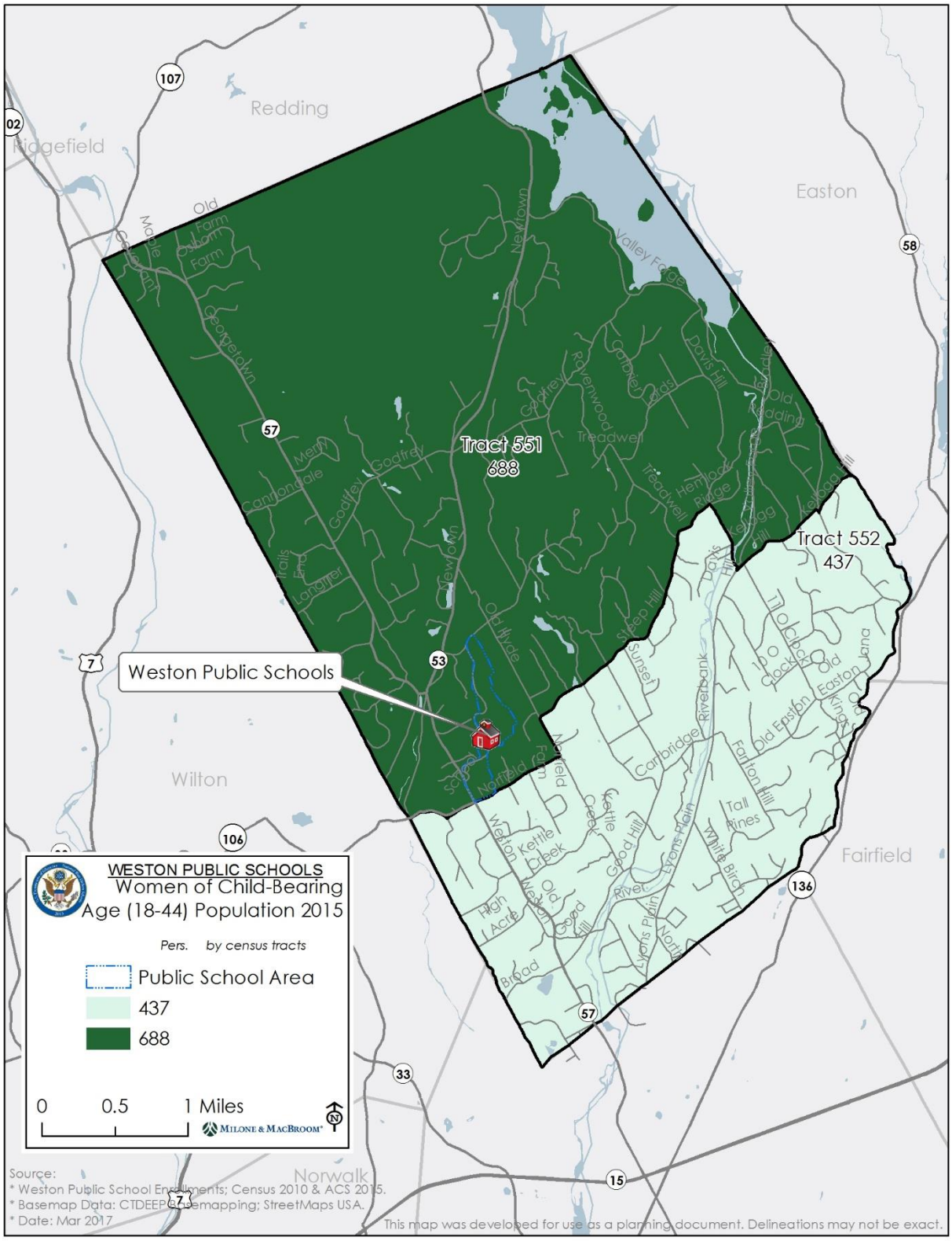
Map 2: Total Population Change, 2010 – 2015



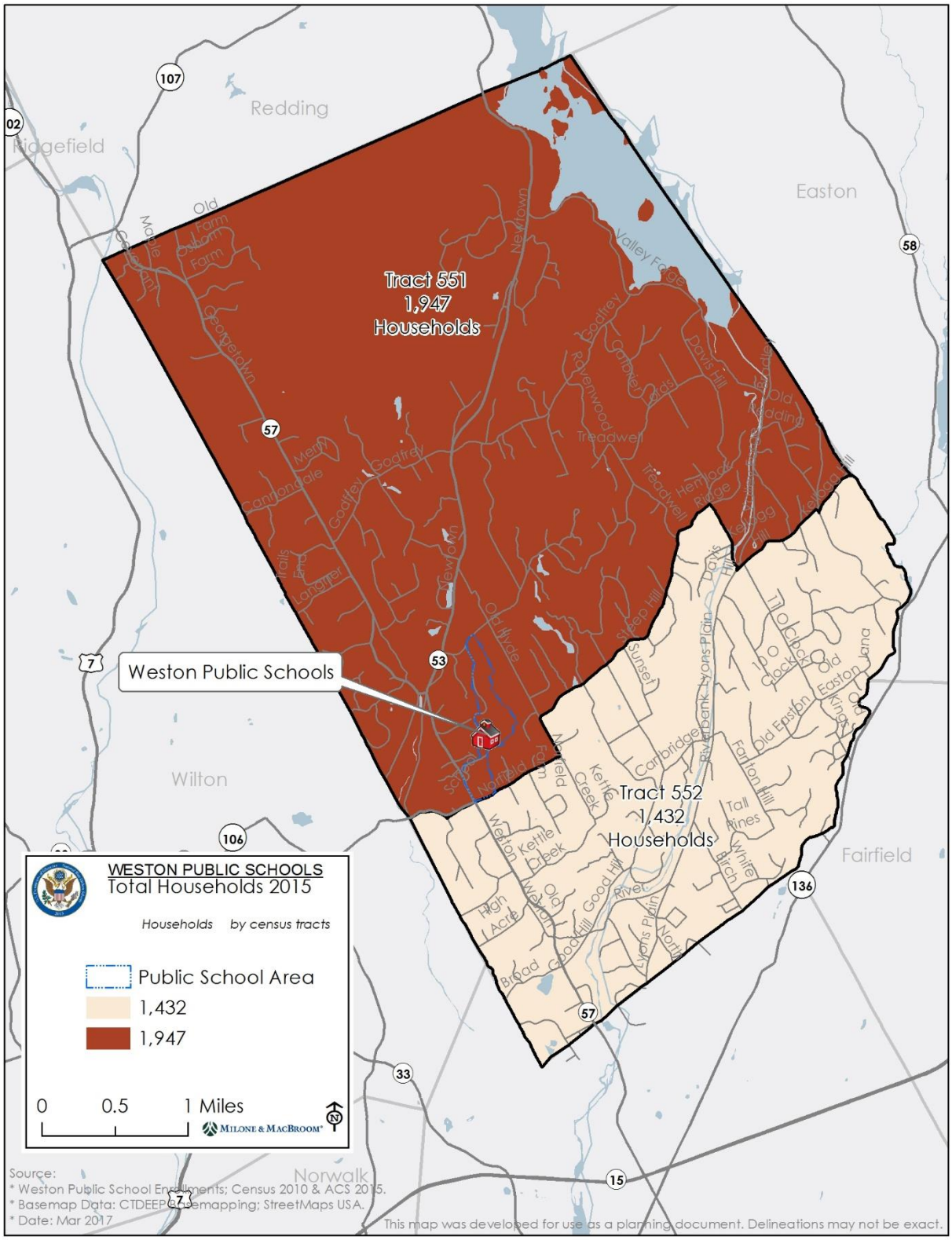
Map 3: Population Density



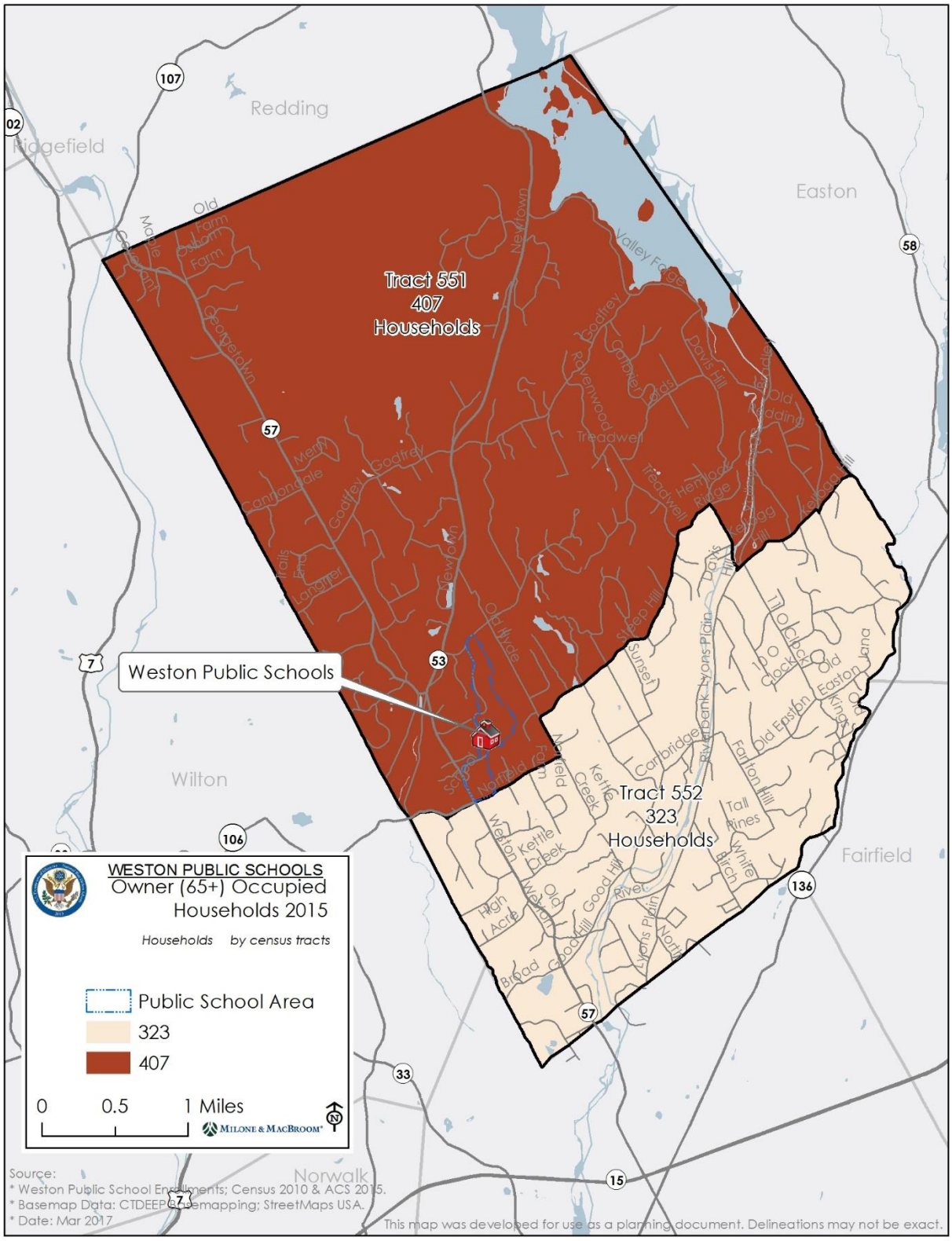
Map 4: School-Age Population



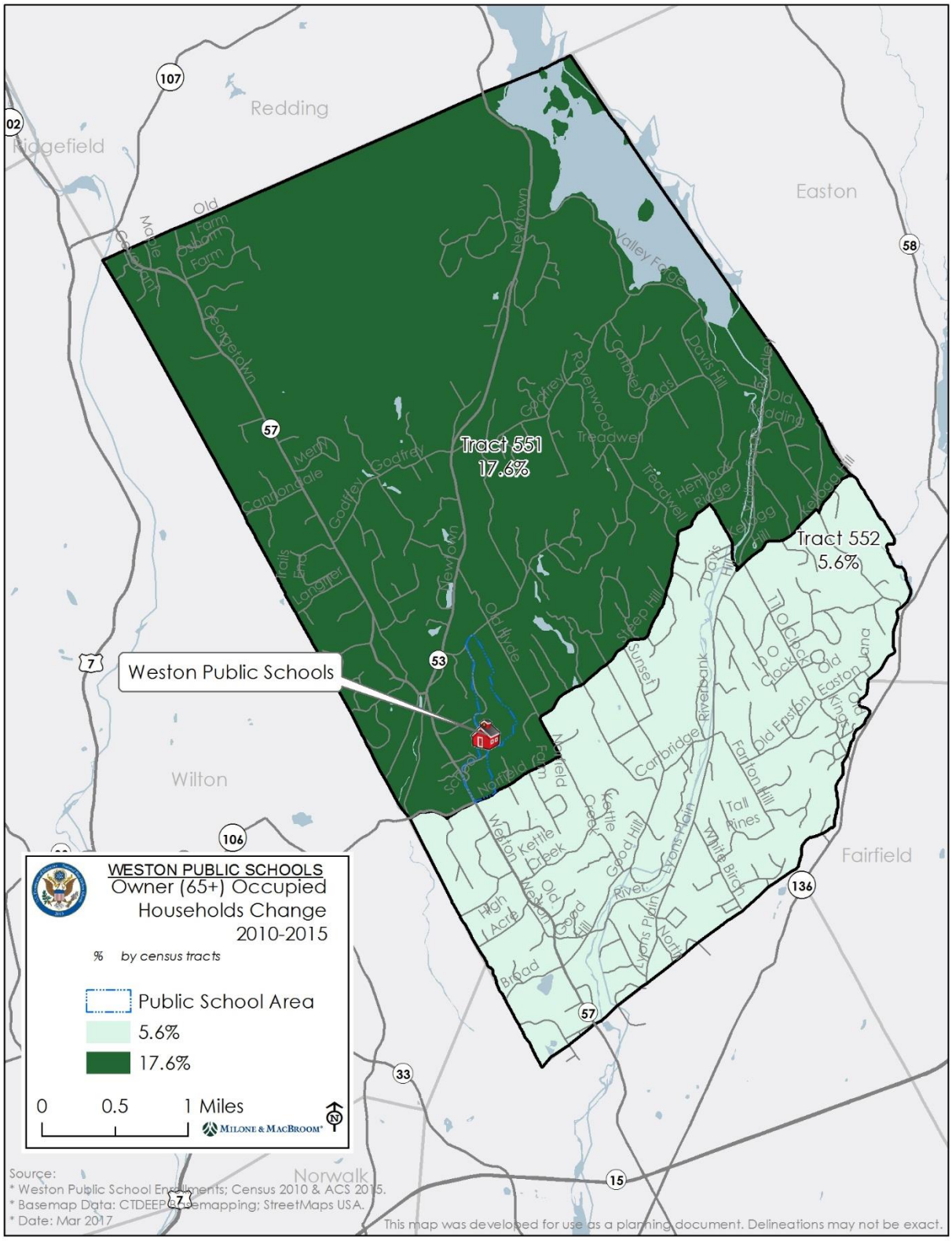
Map 5: Women of Child-Bearing Age (18–44) Population



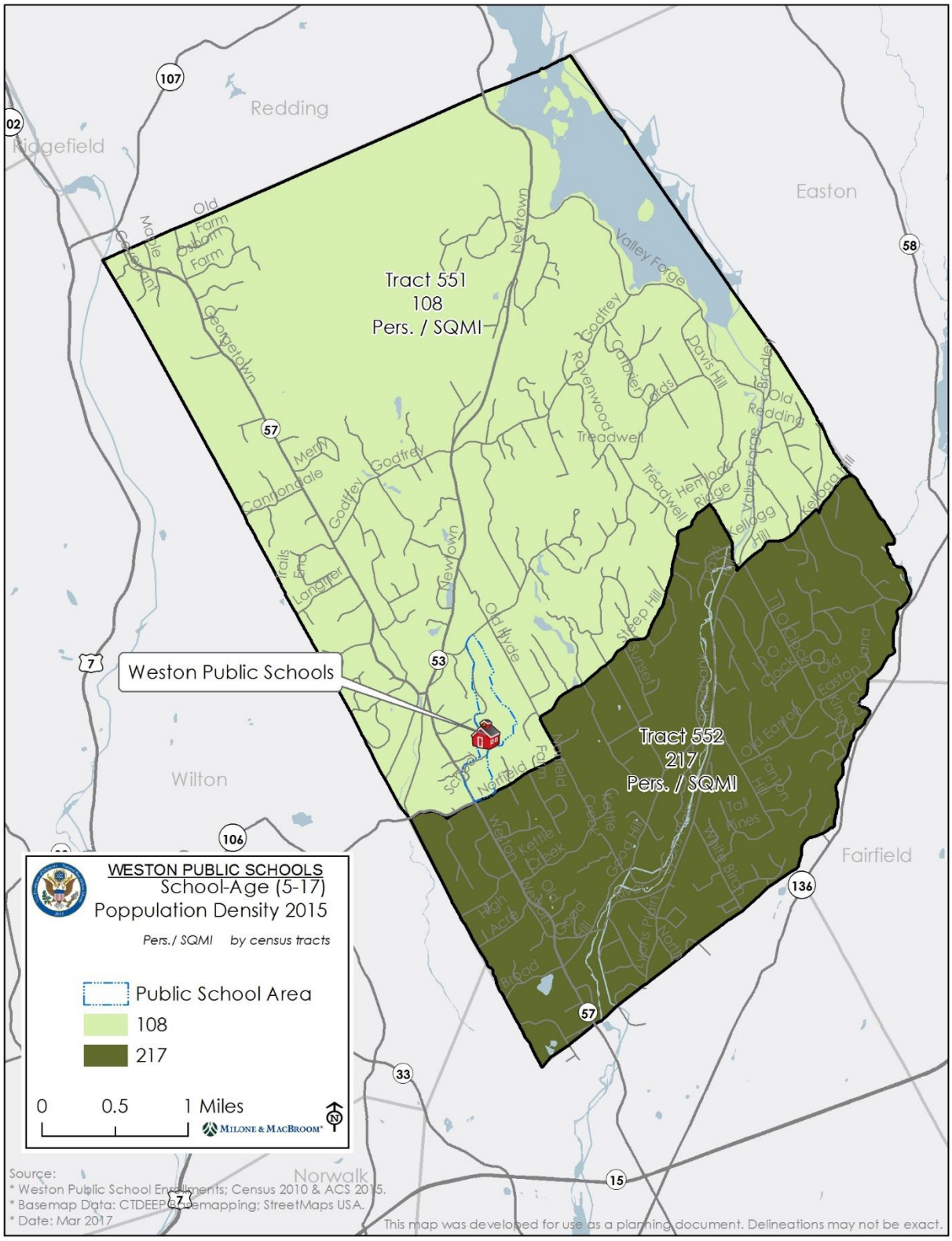
Map 6: Households



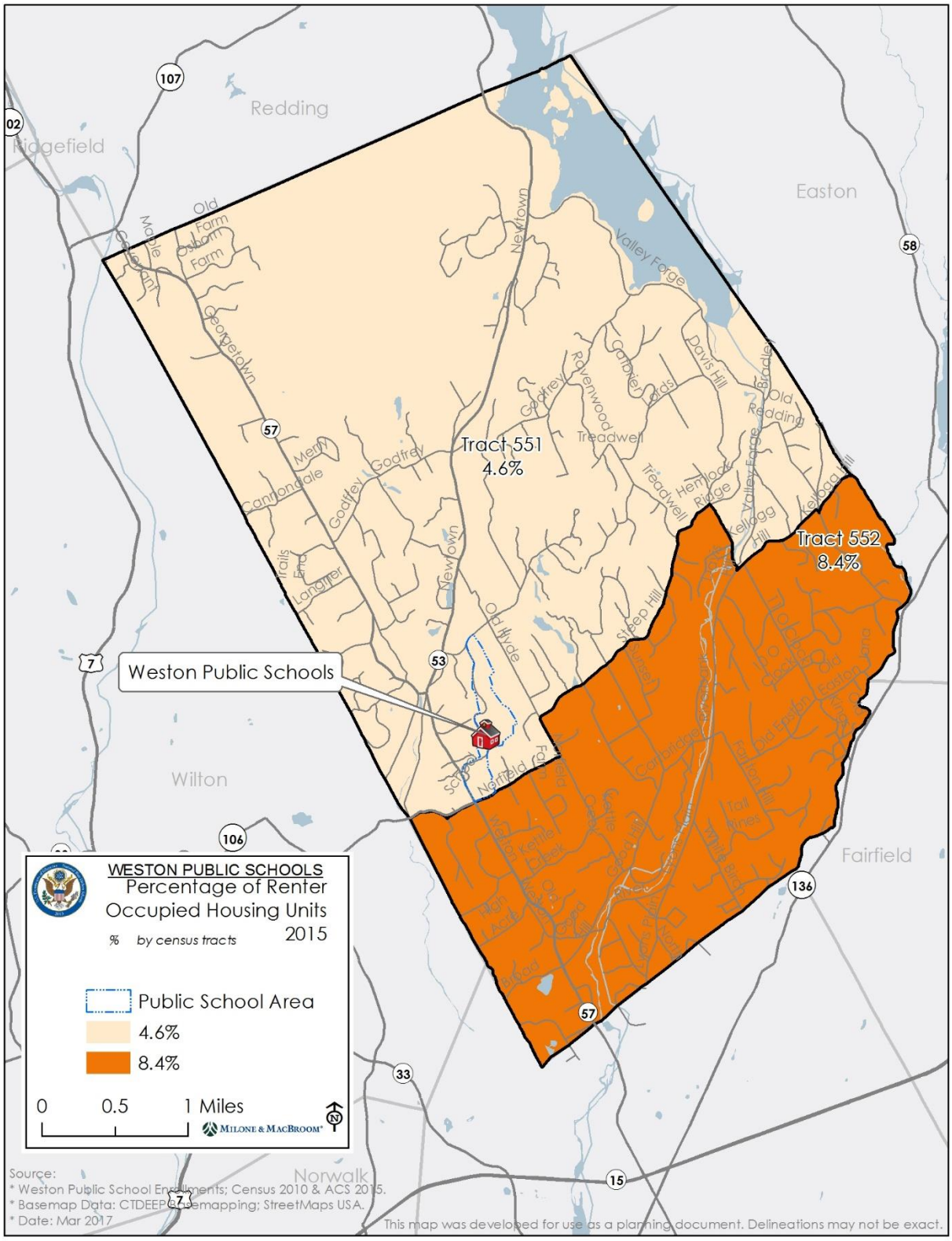
Map 7: Owner-Occupied (Age 65+) Households



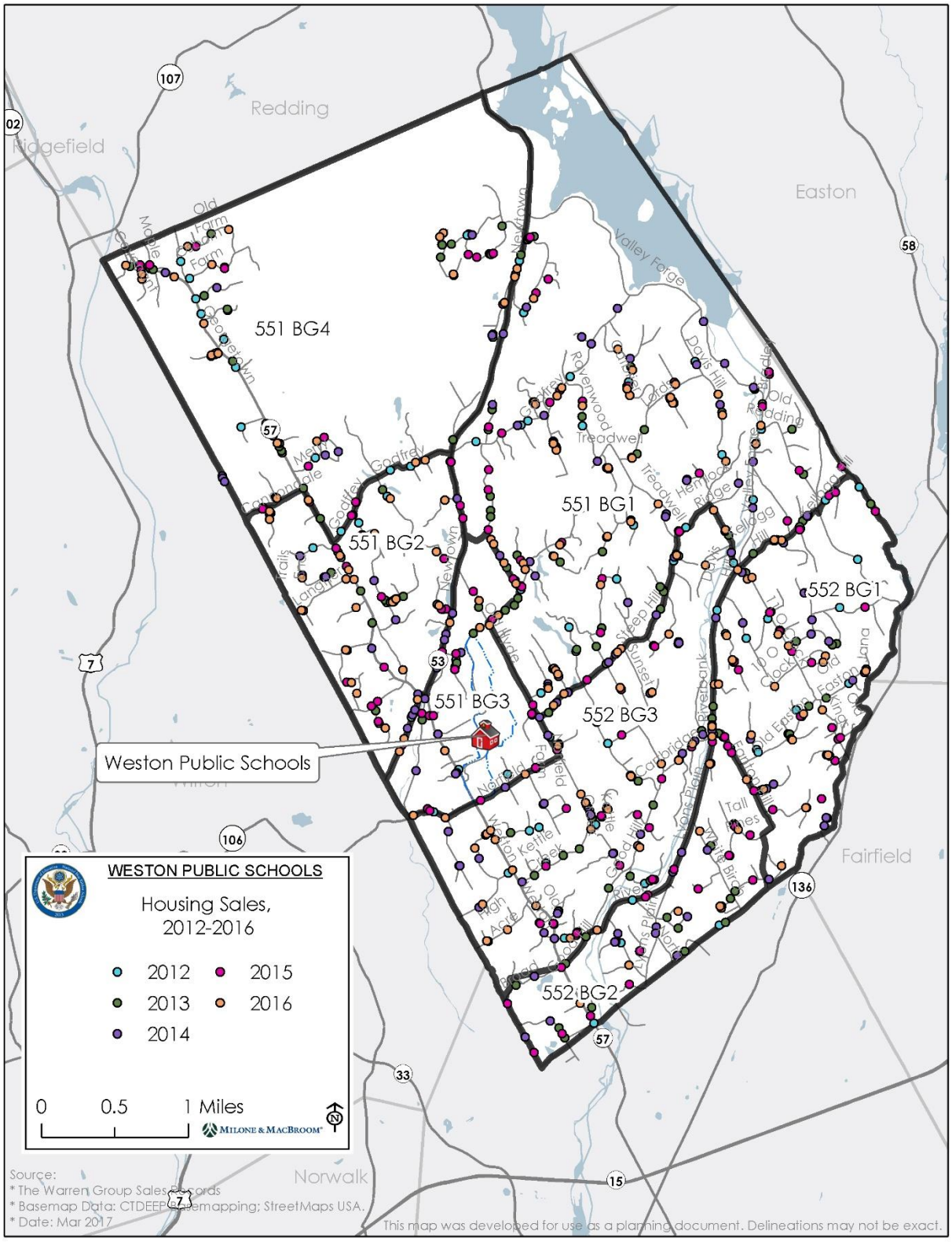
Map 8: Growth in Owner-Occupied (Age 65+) Households



Map 9: School-Age Population Density



Map 10: Rental Housing



Map 11: Home Sales, 2012 - 2016

CRAFTING A STRATEGIC PLAN FOR WESTON'S FUTURE
PHASE I

A collaborative effort by:
Dr. Floyd Lapp, FAICP
Turner Miller Group
Ms. Tracy Kulikowski, Land Use Director
Dr. Chris Spaulding, PhD

Submitted to the Weston Boards of Selectmen and Finance
May 7, 2015

INTRODUCTION AND BACKGROUND

This project was not initiated with any agenda or specific expectations in mind. It is simply a data gathering, information collecting exercise motivated by a request from the Boards of Selectmen and Finance to elucidate the factors affecting the projected decline in student enrollment and stagnant grand list growth. The authors are entirely agnostic with regard to proposed next steps if needed. Any further actions will be driven by the will of the town and its leadership. This planning study was intended to be a part of a larger project that will involve direct input and feedback from members of the community and leadership garnered from public meetings, discussion groups and extensive surveys. Any future guidance will be a result of this collaboration with input from as many stakeholders as feasible. To be clear, the intention of this report is to delineate what "could" be done and not necessarily what "should" be done to promote growth in Weston.

That said, Weston is possibly approaching a major crossroads. Like many geographically similar municipalities (see Appendix A), we are facing an aging population and a commensurate decline in school enrollment. In fact, from 1990 to 2010, Weston experienced a proportional halving of the key child bearing cohort (20-45 year olds) from 51% of the town's population to 19%.

Following the national trends of post-World War II America, the Southwestern region of Connecticut, including Weston, experienced its greatest population growth between 1950-1970 (more than 130,000 persons and a 65% increase). However, since 1970, the region's growth rates have significantly slowed adding only 30,500 persons or 9%, over a much greater time span. In 1950, Weston had a population of just under 2,000 that ballooned to slightly more than 7,500 by 1970 and to slightly more than 10,000 by 2000. However, in the 2000-2010 decade, Weston only increased by 142 persons and the projection for 2020 is even less robust, with projected growth of only 24 persons.

Half of the municipalities in Fairfield County are forecast to have population decreases by 2020 ranging from -0.7 to -9.3%. Similar to Weston's very modest growth of 0.2% projected to 2020 are: Trumbull (0.5%); Redding (1%); Shelton (1.1%); and Brookfield (1.3%). Additionally, our population is aging. Mirroring state trends, there has been a continued erosion of the 20-45 age cohorts within the population with several, not surprising, impacts. An aging population strongly correlates to declining school enrollments. According to Connecticut Economic Research Council (CERC), Weston's school enrollment declined 5.4% over the five year period from 2007-2012. In addition, between 2015 and 2025 there is a projected enrollment decline of more than 500 students.

One trend that merits further analysis is a widening delay in initial student enrollment from first grade to latter elementary grades. Weston has traditionally seen a bump up of 10 to 25 students enrolling from kindergarten to first grade. This is possibly due to students being enrolled in programs that encompass kindergarten and the preference for completing the program. The delay may also be due to economic effects with parents holding off moving to other localities for as long as possible to build up financial reserves to enter our admittedly more expensive housing market. Recently, the trend has anecdotally broadened from first grade to latter grades, resulting

in potential mini bumps in enrollment in later grades.

Equally dramatic, since 2000, the trend that has persisted for the prior 50 years of urban decline (or slow growth) and major suburban development has been turned upside down. For example, in the Southwestern region, 75% of the population growth since 2000 has occurred in the urban centers of Stamford and Norwalk. Most of this growth has resulted from downtown residential multi-family redevelopment projects and economic development with nearby access to transit. By way of comparison, in the 1950-1970 period, Stamford and Norwalk's share of the region's growth was less than 50%.

According to the US Census Bureau, national migratory patterns do not favor New England and Connecticut specifically. Connecticut has seen a steady population outflow. In 2013 Connecticut ranked 45th in the nation for population growth and 44th in the nation for net migration.

A corresponding and possibly bigger concern is the lack of grand list growth (Appendix B). In order to keep mill rate increases manageable, we ideally rely on steady grand list growth. For the past 8 years, Grand List growth has been under 2% (Appendix C).

According to Weston Tax Assessor Ken Whitman, real estate assessments account for 94% of the grand list. Annual growth is predominantly the result of new or ongoing residential building permit work, including new construction, additions and renovations. Additionally, lot splits and subdivisions may also add the grand list. Business personal property is currently a mere 1% of the list. The majority of increases are generated by the electric and gas companies' infrastructure updates. Registered motor vehicles comprise about 5% of the grand list, and growth or shrinkage is a direct result of economic trends affecting the automobile industry. Since most of the vehicles are priced by the DMV, there is little control on the local level. Occasionally, external factors such as zoning changes, added amenities and services can have a causal effect on real estate values.

It should be noted that the State Legislature is currently considering several Bills that would have a significant impact on how property and motor vehicle taxes are determined and collected. Should some of these Bills become law, Weston would be significantly negatively impacted.

THE MILLENNIALS

The millennial age group, those born between 1980 and 2000, will define the near future housing market. According to a recent white paper by Cushman and Wakefield, "Facing the Millennial Wave", the majority of Millennials prefer to live in an urban environment, as demonstrated by the following facts:

- 62% of Millennials choose to live near shopping, restaurants, and offices;
- 2/3 of Millennials are renters;
- Young people aged 16-34 who have driver's licenses fell to 67% in 2011, its lowest level in 50 years. Out of those who drive, 23% drove fewer miles in 2009 vs. 2001.
- Millennials choose quality of life first, and job availability second. They prefer to live in the "cool cities", close to other highly educated people their age with a vibrant cultural scene.

- Millennials are getting married and having children later in life, pushing the average age to bear a first child from 27 to 34.

According to Jim Fagan, a Weston resident and Managing Director of Cushman and Wakefield, we may have lost a half of a generation of the housing market because of the above mentioned facts. However, some feel we may be on the verge of change. Millennials, as they age and have children, may opt for a suburban lifestyle. The big question is whether they will continue to opt for home locations that are close to shopping, restaurants and their work or whether the tide will turn once again towards a more rural environment.

Recent real estate trends in the Southwestern region indicate that the majority of home buyers in our area have at least one member of the household that work in the New York area. According to realtor Michelle Genovesi in the March/April edition of Westport Magazine, "If they can get closer to the city for close to the same price, they will choose a town closer." In the same article, realtor Jillian Klaff "notes that current buyers are not looking for huge homes....buyers are looking for new or nearly new homes....that are as maintenance free as possible....the trend for smaller, easy to landscape and maintain parcels is gaining momentum. In the past, two-acre properties were desirable; huge parcels of land are not on most buyers' must-have lists at the moment...Also, home buyers are continuing to seek out homes that are close to town or to the train. There is a perception that homes north of the Merritt Parkway are very far away from the 'action'." The article also notes that "there is a shortage of lower priced homes for end users and first time buyers."

Although not evidenced based, anecdotally, it is possible that Weston was not the first choice of location for many residents. The reason Weston was so successful in attracting new residents in the building boom of the 1990's and 2000's was because home prices were relatively less expensive than our neighboring communities while mill rates were just a bit higher. Families were willing to move a little further "into the country" for a quality of life that included open space and a superior education.

Future trends with the Millennials are particularly hard to forecast. They represent a significant population bulge, similar to or greater than the "Boomer" bulge. However, due to economic impacts from "the Great Recession", they have significantly delayed getting married and purchasing homes. The question as to whether they have simply delayed these activities or if this represents a fundamental behavior change is beyond the scope of this inquiry and will not likely be answered for some time.

WESTON'S INTREPLAY IN THE REGION

Not all communities are experiencing the same rate of decline as Weston. Communities along the I-95 corridor appear to be coming back quicker than those municipalities which are further removed from public transportation. This may be due to the desire to reduce commuting time, the desire to live closer to shops and retail, affordability, or the ability to rent vs. buy.

We need to realize that Weston will always be geographically challenged. We will never be able to offer our residents close proximity to a highway or a train station. This remoteness can also be a positive; it is one of the reasons people move to Weston: They want a rural environment.

DEVELOPMENT POTENTIAL

To provide the basis for a discussion of future development policy, a list of public, private and quasi-public sites were evaluated for their development potential. This analysis was based on a review of the 2010 Town's Plan of Conservation and Development (POCD), the Weston Environmental Resource Manual, conversations with Land Use staff, and site visits. (Appendices D and E)

A. Non-Residential Development

Commercial development is most successful along major arteries. Given its geographical location, Weston is not, and will never be, a destination for shopping. Any commercial endeavor would likely have to rely on predominantly local residents or those visiting Weston for a specific purpose to be successful. This dependence can be hampered by the fact that the local town population is estimated to drop to about 7,000 people during normal weekday business hours.

Fairfield County is currently experiencing a 25% vacancy rate in our more urban areas, such as Stamford and Norwalk, and it is the unique enterprises in the more rural towns, such as destination farms, that have had some success. Therefore, we would caution that the Town would need to seriously consider the negative impact of commercial development (vacant buildings, additional public safety costs, traffic) prior to making significant changes (Appendix F).

The Town's existing local shopping center, commonly known as "Weston Center," is the only area in Town currently zoned for commercial development. Other commercial enterprises in Town, such as the Cobbs Mill Inn and Weston Gardens, for example, existed prior to the enactment of zoning regulations. Several residents also operate home based businesses out of their residences. The Planning & Zoning Commission explored the issue of additional commercial development at length during the preparation of the Town's 2010 Plan of Conservation and Development (PCOD). According to the which, 8% of residents surveyed in 2010 were in favor of additional development within Weston Center, 22% were in favor of development within or behind Weston Center and 31% were in favor of development within, behind and across the road from the Center. Few residents were in favor of non-residential development anywhere outside of this immediate vicinity of Weston Center, but land adjacent to Wilton and Redding were also considered. While the statistical accuracy of the survey may be questioned, it does provide the best basis for local views on commercial development.

It is important to note that "Weston Center" generates very little revenue for the Town. The current real estate taxes are approximately $145,000 and the personal property taxes collected from all business are less than $18,000 (see appendix G).

The construction of new commercial uses, such as retail or office uses on land in the vicinity of Weston Center or anywhere else in town would require a zoning map change and/or potentially changes to the text of the zoning regulations. The zoning map and the regulations can be changed, but only by the Planning & Zoning Commission after a public hearing process. The 6-acre Weston Center is zoned as Neighborhood Shopping Center District and it is the only site zoned that way in town. The rest of the town is zoned as a Two Acre Residential and Farming

District. The Neighborhood Shopping Center (NSC) District is intended to allow convenience goods and services that primarily serve the residents of Weston. The existing regulations limit the scale of new commercial development by requiring a minimum lot area of 5 acres, 300 feet of road frontage, 100 foot setbacks for the buildings, a maximum building size of 8,000 square feet and specific numbers of parking spaces.

"The Center of Town"

According to the Town Plan of Conservation of Development, residents only favored additional commercial development in the center of town, in the immediate vicinity of Weston Center. There are few small parcels of land in the area located along Weston Road (Route 57), from the intersection of Weston Road and Norfield Road north to School Rd., including the Town Hall complex that may be suitable for commercial development. The boundaries of the existing Neighborhood Shopping Center (NSC) District would need to be expanded by the Planning & Zoning Commission to include these properties before commercial development on these parcels of land could be considered. The existing NSC regulations would need to also be comprehensively reviewed to see if amendments are needed to allow appropriate commercial development, while providing adequate setbacks and screening from any adjacent residential development.

One parcel of town-owned land that could potentially be redeveloped into a commercial use is the former Jarvis Military Academy property, located at the corner of Norfield Road and Weston Road. The property consists of approximately two level acres of town-owned land. Currently, the Town's Parks and Recreation Department is housed in a 2,200 sq.ft. historic building located on the property. The Neighborhood Shopping Center District would need to be expanded to rezone the Jarvis property. The Planning & Zoning Commission, with a proposed site plan, could also address changes needed to the regulations to facilitate appropriately scaled non-residential development on the site.

Given the history associated with this site, the Town's POCD also recommends incorporating the historic home into any future development of the site. The Town, as landowner, is exempt from the zoning regulations, so another possibility for the reuse of this site is that the Town could lease the existing building for a commercial or professional office use if the building is no longer needed for municipal use. While the reuse of the Jarvis property may add valuable services to the town center, such as doctor's or other professional offices, it would not yield a significant source of new tax revenue.

Directly across Norfield Road from the Jarvis property, is private property located at 48 Norfield Road. This is another important site in the Town center that would have to be rezoned to be incorporated into Neighborhood Shopping Center District before it could utilized for new commercial or office development. The site is currently listed for sale at $1.1 million. It is a one acre site that contains a large historic home and outbuildings. This property abuts Town office buildings. The property is currently zoned for residential use and was previously utilized as a law office under the home occupation regulations. Beginning in 1950, before it was used as a law office, the property was utilized for a dentist's office and the dentist lived in the house. The prior owner obtained variances from the Zoning Board of Appeals which allowed up the law office to have 5 employees who lived outside of the home, as long as one of the firm's

employees lived in the house. That variance still applies to the property. However, a new business in the house must still be a home occupation, unless the Town were to own the property and lease it to a business as the Town is exempt from zoning. As with the Jarvis property, reuse of this property may add valuable services to the town center, such as doctor's or other professional offices, but it would not yield a significant source of new tax revenue.

The existing 6-acre Weston Center site is largely built out with several commercial buildings and parking areas. There was support for additional development or redevelopment of this site during the preparation of the Plan of Conservation and Development (POCD), and there may be some room for minor building expansion around the periphery of this site. However, it would be extremely difficult for any building expansion project to comply with the current building setback and parking space requirements. Weston Center already has fewer parking spaces than zoning regulations require for the businesses currently operating there. While potentially offering additional amenities, this would not be a large new tax revenue source.

The owner of Weston Center also owns an additional 7 acres immediately to the west of the Center which is currently in the Two –Acre Residential and Farming District. The vacant parcel contains approximately 7 acres of land and meets the minimum, 5-acre lot area for permitted uses in the Neighborhood Shopping Center District, if the parcel were to be rezoned. Permitted principal uses include retail and personal service businesses, banks, professional offices, sit-down restaurants and automotive service stations.

Based on the existing requirements of the NSC District, this site could support approximately 32,600 square feet of total site development (assuming 15% total site coverage) which could accommodate the maximum 8,000 square foot building either as an 8,000 square foot single-story building or as a two-story building with a 4,000 square foot footprint. The remaining total site development would include site access drives, parking areas and sidewalks. This would leave the remaining four acres of the site as open space and would allow an area to buffer uses from surrounding properties and to blend any new development into the landscape. Based upon a discussion with the agent for the owner, there may be an opportunity for professional offices. The Planning & Zoning Commission, with a proposed site plan, could also address changes needed to the regulations to facilitate more commercial space or a greater mix of uses on the site that is still appropriately scaled given the surrounding residential neighborhoods.

The Town owned property from the Onion Barn to the Bus Garage is approximately 5-6 acres in size. However, development options are constrained by factors such as the presence of the school bus depot, athletic fields, and existing traffic conditions along Route 57. Septic systems for Hulbutt Elementary School also are located under the ball fields, further reducing the opportunity for expansion. While the POCD expressed that this may be the best opportunity for additional non-residential development within the town center, there are concerns with respect to safety given the proximity of the site to the school campus. In addition to these security concerns, the POCD also noted that there are significant issues that required detailed study related to future development of this area.

Should Hurlbutt Elementary School not be needed to house students, the Town would have the flexibility to consider other options for use, including but not limited to commercial development, a Community Center, Town Green, Senior or alternative housing, etc.

In addition to considering zoning map changes to expand the existing Neighborhood Shopping Center or text amendments to increase flexibility in the existing NSC District, the Planning & Zoning Commission could look at the creation of a mixed-use "Village District" to address development of all land in the town center. A Village District is a zoning tool permitted by state statute that permits the adoption of flexible aesthetic or design standards to encourage infill development that is consistent with the Town's character and can yield additional zoning flexibility. A privately initiated proposal for a Village District for 115 acres in the center of Town including Weston Center, the Town and Library facilities and neighboring houses and church buildings generated a great deal of discussion during the preparation of the POCD, but did not garner enough public support to be adopted at that time.

Property abutting the Redding and Wilton borders

The potential redevelopment of the Georgetown Wire Mill property into a mixed-use community in Redding, including the potential for a train station along the branch line may make the Georgetown area close to the intersection of Route 57 and Route 107, attractive for development in the future. However, after many attempts by several developers to get this project off the ground, the Wire Mill property is in tax foreclosure.

The 85-acre town owned property known as Fromson-Strassler and the 97-acre privately owned Weston Farms property in Georgetown that abut Wilton and Redding were evaluated as potential sites for new commercial or office development. During the information gathering for the POCD, the community discussed the development of a portion of the Fromson-Strassler property for an office complex or other non-residential uses, and the potential revenue if the Town were to enter into a long term ground lease, at length. The POCD stressed that additional, substantial analysis was needed by a committee. However, commercial realtors caution that the Fairfield County office and retail markets have softened substantially since the POCD was written and that commercial developers are looking for property that directly abut major roads. Neither the Fromson Strassler property nor the Weston Farms property have direct frontage along a major arterial road. The site preparation costs needed to provide access and utilities to these "inland" properties, along with environmentally sensitive areas on both, makes non-residential development on these properties even more difficult in an already difficult regional real estate market at this time.

B. Residential Development

Town-owned as well as large lot privately owned properties were considered (Appendix H). Based on the current zoning regulations, the minimum lot area for new homes is 2 acres. The mathematical analysis below represents a maximum build out of the sites based on the existing zoning and subdivision requirements and assumes a generally accepted formula that a minimum15% of each site is utilized for infrastructure and roads. The estimated total number of new homes that could be built, is just that, an estimate for planning purposes only. Construction on these sites could be limited by specific site conditions such as wetlands, rock outcrops, streams, steep slopes and flood plains as well as road design standards contained in the subdivision regulations.

1. Major Public Sites

Fromson-Strassler Property

As discussed above, approximately 85 acres of publically-owned, undeveloped land lies in the northwest corner of the Town, on the Wilton town line. Approximately 60 acres of this land is encumbered with wetlands, watercourses, shallow bedrock, steep slopes, and rock outcroppings. The best opportunity for development is an area of 10 acres on the lower sections at the end of Upper Parish Road. Assuming that approximately an unconstrained 25 acres of this site remains buildable, it is anticipated that this site could yield up to 10 new single family lots. The Conservation Commission did approve an 8 home layout for this property in the late 1990's.

Moore Property

The Town owns approximately 36 acres of land on Lords Highway East. While the property is generally flat and not constrained by environmental conditions, the Town's deed to this property restricts sale to a third party for residential and/ or commercial development. This restriction is binding on the town and runs with the land. The property could be used for municipal functions, which could include construction of recreational uses, office uses or publically-owned housing. The land could also possibly be leased by the Town to a third party but it is uncommon for a private developer to be willing to make a private investment in land when he/she would not own nor control for the life of the investment. These deed restrictions should be further discussed with town counsel.

Several other Town owned sites were considered, but for a variety of reasons were deemed to be unsuitable for further development. These sites were as follows:

Bisceglie Park – 55 acres on Newtown Turnpike. This property is the location of youth baseball fields, a fitness trail and the town's swimming hole. Most of the property is across the West Branch of the Saugatuck and in its natural state contains wetlands and relatively steep slopes.

Devil's Glen – The property is on the east side of town between Valley Forge and Davis Hill. It is a natural gorge formed by the Saugatuck River below the Senior Dam and is rugged terrain. The property is generally regarded as an open space conservation area.

Lachat Property – This 40 acre property on Godfrey Road West is currently being revitalized as a farm with community gardens and a restored historic farm house for educational programs. The property is co-owned with the Nature Conservancy and development is limited by deed restrictions.

Keane Park – Located on River Road in lower Weston, this 8 acres "pocket" park has children's swings and a play area along banks of the Saugatuck River. It is a low lying area in the flood plain of the river

Morehouse Farm Park - This 30 acre property located off Newtown Turnpike at Valley Forge Road, near the Redding town line, contains playing fields on the upper portion of the property and the historic Morehouse family home last owned by descendant Minerva Heddy on the lower portion. This property is in a sensitive watershed area.

2. Major Private Sites

Weston Farms Property

This property contains approximately 97 acres off Osborne Farm Road in the Georgetown area of the town, south of the Meadow Ridge Retirement Community. It contains a vacant 75 acre parcel and several undeveloped 2-acre lots in an approved subdivision. The land is currently on the market and the realtor has advertised that bids to purchase the property are due on May 12, 2015. This land could be potentially be subdivided into a maximum of 41, two-acre single family lots.

The development of this property would require subdivision approval by the Planning & Zoning Commission. The property could provide an opportunity for a developer to propose more flexible zoning techniques to the Commission, such as an open space residential development. Open space residential development regulations permits the lot sizes to be reduced so that homes can be arranged to fit or clustered on a portion of the property, while a setting high standards for the quantity, quality and configuration of the protected open space. Open space residential developments encourage a creative design process and high-quality development on smaller lots, while minimizing a development's impact on the natural features of the land. High-quality housing on smaller lots may be very attractive option for seniors who wish to stay in the community, but no longer want a 2-acre lot to maintain.

Belknap Property

This property contains approximately 42 acres between Wampum Hill Road and Cindy Lane. It borders property held by the Aspetuck Land Trust. This land could be subdivided into a maximum of 17, two-acre single family lots, but this total would likely be less due to large wetland areas and topographical conditions that may make road construction on this site difficult.

Tannery Lane Subdivision

The Tannery Lane Subdivision, approved by the Planning & Zoning Commission in 2004, contains a lot that is 26 acres in size. This lot is west of the Saugatuck River, off of Banks Drive and Smith Ridge Road. Currently approved as a single house lot, it has recently been sold. This land could be potentially re-subdivided into a maximum of 11, two-acre single family lots if road access could be provided onto Lyons Plain Road. This total would also likely be reduced due to the floodplain of the Saugatuck River on the property.

Weston Woods

This 22 acres property off Newtown Turnpike, south of the Singing Oaks Subdivision, was subdivided into residential lots and a 6-acre museum property for the Weston Woods Institute in 2009. The land is currently developed with several residential buildings as well buildings utilized by the Institute. The owner of this land is considering development of senior housing and is researching potential changes to the zoning regulations as the current regulations do not have any specific provisions for senior, or age-restricted housing. This land could be subdivided into a maximum of six, two-acre single family lots.

Assuming that the development of all of these sites occurs, yielding 85 new homes, and an average home price of $1,000,000, we could expect total grand list growth of $59,500,000, a 2.6% increase.

With regard to integrating this report with the POCD, we acknowledge that the POCD projected that there were between 200 and 500 lots (including the 85 referenced in this report) potentially available to develop. However, given that the lots have not been developed thus far, it may be fair to assume many are not ideal for development, because of topographic, access or other challenges, or that the property owners have no interest in subdividing their property.

CONCLUSIONS

This project originated as a confluence of two separate, but related factors. Most recently, a request by the Board of Finance to hire a planner to help assess whether there any options to increase school enrollment. More distally, the 2010 Town Plan of Conservation and Development (POCD) generated by the Planning and Zoning board made the recommendation to hire a planner to examine issues pertaining to alternative housing and village district development.

The essential question we must ask ourselves is whether it is time to revisit our planning and zoning regulations to allow for more expansion and growth, which may have a positive impact on school enrollment and grand list growth. If we can nudge our planning and zoning priorities in such a way as to encourage growth and maintain our open space and small town feel, what would be the positive (or negative) impact on grand list growth, home sales and school enrollment?

1. Non-residential Development

Given the minimal land zoned for non-residential development, the opportunities under the existing zoning to supplement the town's tax base with commercial development are nearly nonexistent. If the residents of the town have an interest in increasing non-residential development, changes to the zoning regulations could be considered. This includes map changes to permit non-residential development in new locations, review of the permitted non-residential uses and consideration of lower lot requirements for certain lower intensity uses.

Currently, all commercial activity, including home occupations, represents approximately one percent of the grand list. Given that non-residential development is not likely to be a significant direct source of grand list growth, attention should focus on non-residential development that provide amenities that would make the town more attractive to new and current residents. Could these types of services make Weston a more appealing place to move, and act as a significant factor in convincing residents to stay long term? We have not been able to metrically analyze whether additional amenities, such as neighborhood scale retail development, would have an impact on home sales.

2. Residential Development

Although Weston may be "geographically challenged", that doesn't't preclude searching for ways to increase our grand list or to attract home buyers. There may be ways to consider modifications to the scarce number of available development sites to provide more potential for housing growth while striving to maintain the open space /conservation legacy that has been a

hallmark of Weston's image. Innovative site planning and zoning techniques can provide the best of both.

Under the existing residential zoning, a full build out of the sites discussed above would yield a maximum total of approximately 85 single family homes. This number of potential housing units, is well above any plans or proposals that the array of private developers are currently considering. Large lot, single family homes will provide some tax revenue to the town, but given the time span that it will take to build, the tax impact will hardly be noticeable. Based on 2012 demographic data from CERC and the Connecticut Department of Education, the 85 homes would yield approximately 0.75 public school children per single family dwelling or a total of 63 public school children. These estimates may be somewhat low if the housing skews more toward new families. The projected impact on the more than 500 public school enrollment decline by 2025 would be minimal.

Single family homes on large lots tend to be less affordable to young families. Smaller lot, single family development, which will yield more affordable, starter homes will tend to attract families with school aged children. This could be accomplished through increasing the permitted density within certain areas of the town with more limited environmental constraints, along major roads or, to a lesser degree, through the creation of cluster, or conservation cluster design subdivision regulations. Conservation cluster subdivisions preserve the total number of residential units permitted by existing zoning but allow dwellings to be clustered on smaller lots to allow for the permanent conservation of environmental features and open space. Given the sensitive environmental nature of vacant land, and the strong desire to maintain the town's bucolic character, conservation cluster subdivisions would be an ideal way to allow for responsible development which reflects environmental land constraints. These types of alternative housing developments may induce new families to move in, and empty-nest families to remain in town.

New traditional development cannot be the sole answer to declining school enrollment and stagnant Grand List growth. Even if all 85 single family homes, permissible under existing zoning, were developed by 2025 the population would be still only increase slightly more than the total population growth from 2000 projected to 2020, of roughly 166 persons.

The development of zoning for age-restricted (typically 55+), or senior housing can be undertaken. These types of developments are sometimes known as "Planned Adult Communities", or PACs. They can consist of small detached dwellings (on one-half to one-quarter acre lots) or townhouses (often owned in condominium) and typically, zoning regulations lay out a range of recreation and other amenities (community center, walking paths, etc.) to be provided on site to be controlled by a Home Owners Association. A hybrid could also be developed whereby only a percentage of the total housing constructed would be age-restricted with the balance intended for families. This type of development promotes housing choice and even very modest housing turnover should aging households in town decide to move.

NEXT STEPS, PHASE II

1. Form a committee to explore the potential desire of current and future residents:

   A. This committee should conduct town meetings to discuss report, gain feedback from all stakeholders and modify/fine-tune next steps

   B. Conduct focus groups among key demographic groups and representative townsfolk to gauge desirability of options and to collect data in order to craft survey questions. Key initial groups will be:
      i. Representative Townsfolk
      ii. Individuals who have recently moved into town
      iii. Real estate professionals who work in area
      iv. Parents of High-School seniors and parents of recent High-School graduates

   C. Conduct survey market research to better understand:
      i. Why people may be moving to Weston?
      ii. Why people chose to leave or stay in Weston?
      iii. What amenities are missing and desired in Weston?
      iv. Desirability of commercial expansion around town center.
      v. Feelings/concerns around senior/cluster/alternative housing

   D. Develop a detailed marketing plan (potentially Phase III).

2. Land Use staff should survey the neighboring communities to get a sense of different zoning districts and their effectiveness in increasing tax revenue.

3. Town Officials should reach out to all large non-developed private properties; efforts should be made to explore the intentions of the owners/developers

4. The Board of Selectmen should collaborate with the Planning and Zoning Commission to determine the interest and feasibility of modifying the existing zoning regulations to promote the potential for housing and commercial changes.

5. Conversations should be held with the Norwalk Transit District to determine the feasibility of bus service.

6. A planning consultant should be considered to tie together all initiatives that may impact "Town Center."

Appendix A

School districts consider options as enrollment drops

Rob Ryser
Updated 10:51 pm, Saturday, May 2, 2015

NEWTOWN -- As the school system approaches its turnover season -- the time of year when it discharges high school seniors and prepares for a new class of kindergartners -- it does so with more concern than perhaps any time in a generation.

Some 450 students will graduate from Newtown High School in June, but administrators expect only 235 kids to enter kindergarten in the fall.

It is a sharp drop-off in enrollment that has everything to do with the continuing effects of the Great Recession and nothing to do -- for once -- with the tragic events of the Sandy Hook Elementary School shootings two years ago.

"This is not a tragedy-based decline," said Joseph Erardi, the first-year superintendent of Newtown schools.

Indeed, Newtown is only the latest of several local school districts to commission a study of its declining enrollment and begin serious discussions about closing a school.

New Milford has already been through a divisive process that pitted parents against school board members and concluded with a decision to close John Pettibone Elementary in June.

Ridgefield, by a blip in its enrollment, has been saved -- at least for now -- from going through the same school closure process, although that conversation will resume in January.

Voters in three Litchfield County towns that make up the Region 12 school district have flat-out said "no" to a plan that would have shut three elementary schools and built one common building for Bridgewater, Roxbury and Washington.

Although Newtown and nearby districts have unique circumstances that require

particular approaches, the common denominator here and across Connecticut is historically low birth rates that began after the Great Recession in 2007 and are now beginning to shrink school populations.

"It is statewide," said Robert Rader, executive director of the Connecticut Association of Boards of Education. "We have been working with (the University of Connecticut) to address these demographics, and from what they're showing us, it looks like there will be a decline for years to come."

The irony is that in the middle of this suburban enrollment crisis, city districts such as Danbury are growing, largely because of immigration. Danbury is adding as many as 140 students a year, for example, and plans a major expansion of its high school, already the largest in the state.

Enrollment crisis

But the situation in the suburbs is very near desperate -- even in districts where parents have won out over administrators and blocked plans to close elementary schools.

"What keeps me up at night is some of our classes have six or seven kids," said Julie Stuart, a mother of two from Bridgewater who has been active in keeping the town's only school open. "We can't continue to have that."

Other suburban school districts hat have not faced the enrollment crisis will likely have to do so soon.

The reason: birth rates across the state are expected to continue to decline over the next five years. Parents worried about the economy are putting off having children or having fewer of them, according to experts who have conduced demographic studies for three local school districts.

While improvements in the economy such as lower unemployment rates could spark an increase in local birth rates, they are not expected to climb to pre-recession levels -- at least not for the next 10 years.

For that reason, the state school boards association is organizing a summer workshop with UConn demographers to help local boards understand the impact

that falling student populations will have on programs and facilities.

"Some districts are going to lose 20 to 25 percent of their students," Rader said.

But the enrollment crisis will also affect communities that have under-enrolled elementary schools.

New Milford saw that firsthand last year, when the school board, facing an 11 percent enrollment decline, voted 5-4 to close Pettibone. The 60-year-old building would have needed $2 million in repairs just to keep it open.

"There is still a group of people who clearly dispute the statistics and have their own interpretation of the facts, and that is their prerogative," said Angela Chastain, chairwoman of the New Milford Board of Education. "But the facts were clear to me that we didn't need a school that was two-thirds empty. And since declining enrollment is a statewide issue, we are paving the way for other school districts."

A New Milford mother disagrees.

"I still think it is terrible idea," said Michelle Liguori, who will send her second-grade daughter who is now at Pettibone to the Sarah Noble Intermediate School in the fall.

"We would rather have smaller class sizes for our children," Liguori said. "I don't think it was about the kids. I think it was about the bottom line."

Newtown's situation

In Newtown, where enrollment has declined 16 percent since 2007, from 5,600 students to 4,700 students, the district expects to lose about 200 students annually for the next five years.

Those numbers will be presented to the school board this summer with a recommendation by the Facility Review Committee.

The only schools certain not to be closed are the town's high school and the new Sandy Hook Elementary School, a $50 million project underway on the site of the building razed after the 2012 shooting of 20 first-graders and six educators.

The fact that the enrollment decline started before the 2012 massacre is noted three times in an analysis prepared for Newtown by Milone & MacBroom, the same firm

hired by Ridgefield and New Milford to calculate their future enrollments.

The demographers note in the Newtown study that one of the most significant indicators of declining enrollment is a 20 percent drop during the last decade of women in their 20s and 30s. Births, which averaged 345 a year in Newtown at the turn of the millennium, are down to an average of 180 annually since 2008.

Although the authors assume the annual birth rate in Newtown will climb back to the mid-200s over the next 10 years if the unemployment rate continues to drop, that would still be well below the number of births in town before the Great Recession.

Not everyone agrees, however, that births are a reliable indicator of future enrollment.

In Ridgefield, for example, the school board was ready to close one of its six elementary schools when its K-5 enrollment dropped under 2,000.

But something unexpected happened: More than 100 new students entered the elementary schools this year who were not accounted for in the town's birth records.

"We had an influx of children not born here and we attribute that to the quality of the school system," said Chris Murray, vice chairman of Ridgefield's school board.

"Our birth rate issue is being countered by the attractiveness of our schools," he said. "That gives us a measure of control over our destiny, which we are happy about, and which we hope continues."

It is not clear whether the trend of families with school-age kids moving into Ridgefield will continue.

"We don't want to close a school," Murray said. "We want the problem to be solved organically -- not politically -- simply by having more kids showing up."

Saving schools

The three towns of Region 12 don't want their schools to close, either. In April, voters overwhelmingly rejected a plan to consolidate the three elementaries into a single building on the Shepaug Valley School campus in Washington.

Residents had a say in the decision because the original agreement that established the three-town district required an elementary school in each town.

But since 2003 enrollment has declined by 32 percent, and by 2023, if nothing changes, the 800 students in the district now are expected to drop to 460.

The result is that administrators and parents have tried various creative solutions, from hiring a marketing firm to promote district schools to entertaining merger talks with neighboring districts.

In April, the district applied to the state to authorize a special agriscience program at the middle school in Washington in an effort to attract new students.

And in Bridgewater, the Burnham School has a combined class called "one-dergarten," made up of five kindergartners and eight first-graders. The idea is to make the most of small class sizes.

Still another idea was to lower tuition to $7,500 to attract out-of-town students -- perhaps students from Pettibone -- anything but close the only school in Bridgewater.

"People don't realize what it would be like to live in a town without a school," Stuart said. "It would just be seniors and weekenders and the whole town would lose its flavor. We would be the first town in the state without a single school within our borders."

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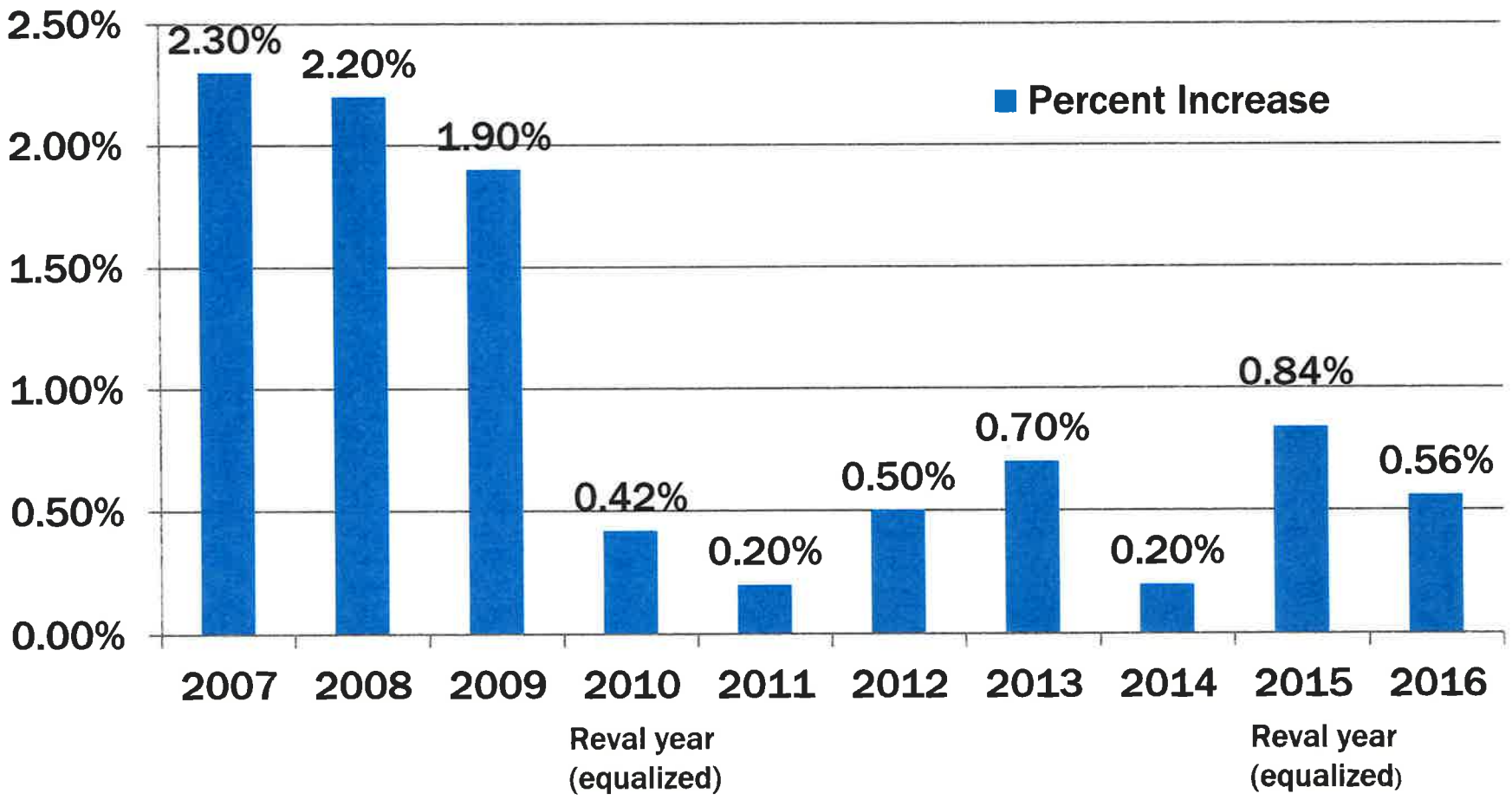
Appendix B

October 2014 Net Grand List - Final as of 1-31-2015

	2013 GL	2014 GL	% CHANGE	$ CHANGE
R.E.	2,191,212,640	2,202,424,150	0.51%	$11,211,510
M.V.	117,243,278	117,725,119	0.41%	$481,841
P.P.	21,539,234	22,849,098	6.08%	$1,309,864
TOTAL	2,329,995,152	2,342,998,367	0.56%	$13,003,215

Appendix C

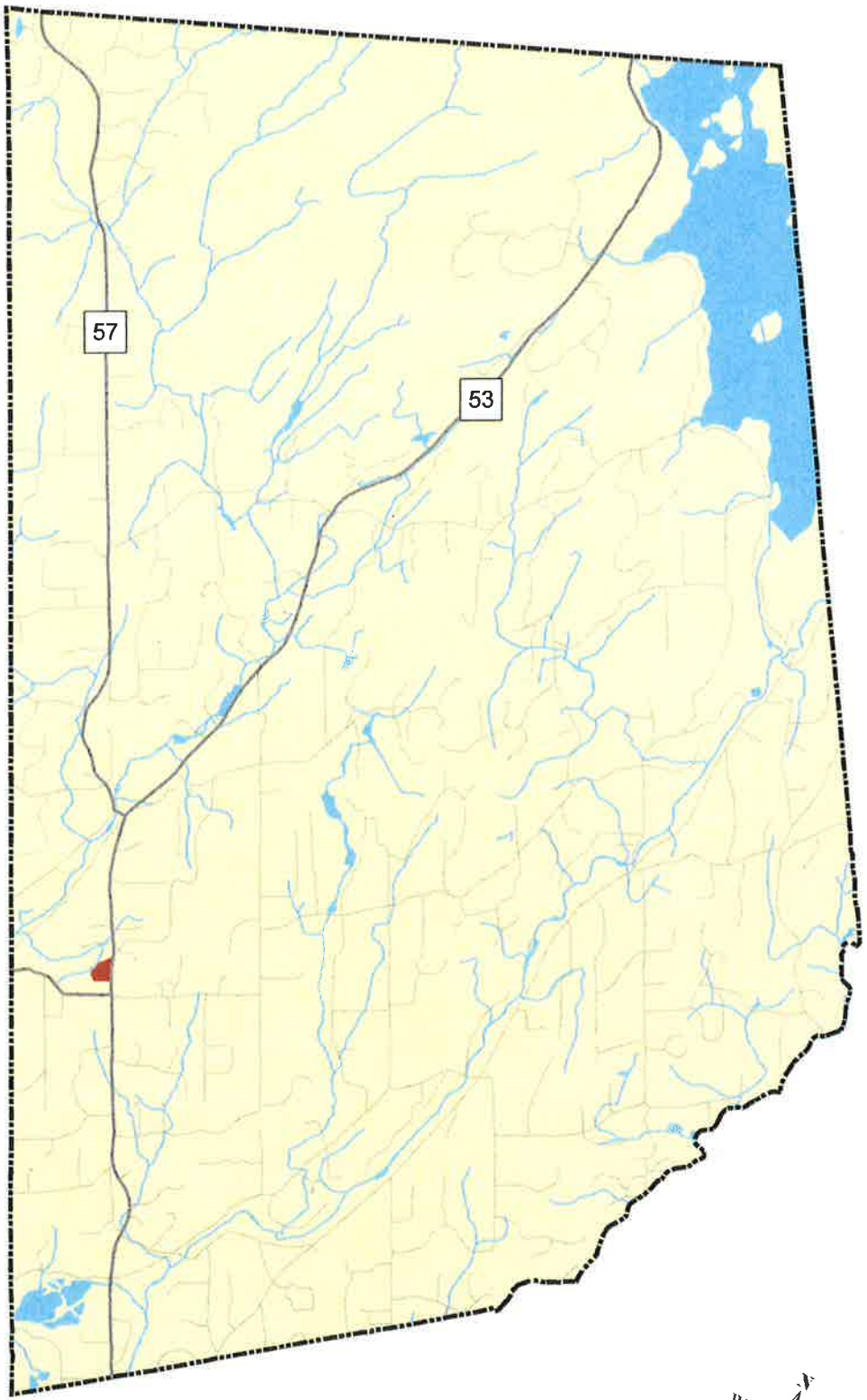
GRAND LIST GROWTH



Appendix D

Zoning

2010 Weston Plan of Conservation and Development



Legend

- Roads
- Watercourse
- Neighborhood Shopping Center District
- Two Acre Residential and Farming District

SWRPA
South Western Regional Planning Agency

Disclaimer: This map is intended for general planning purposes only.

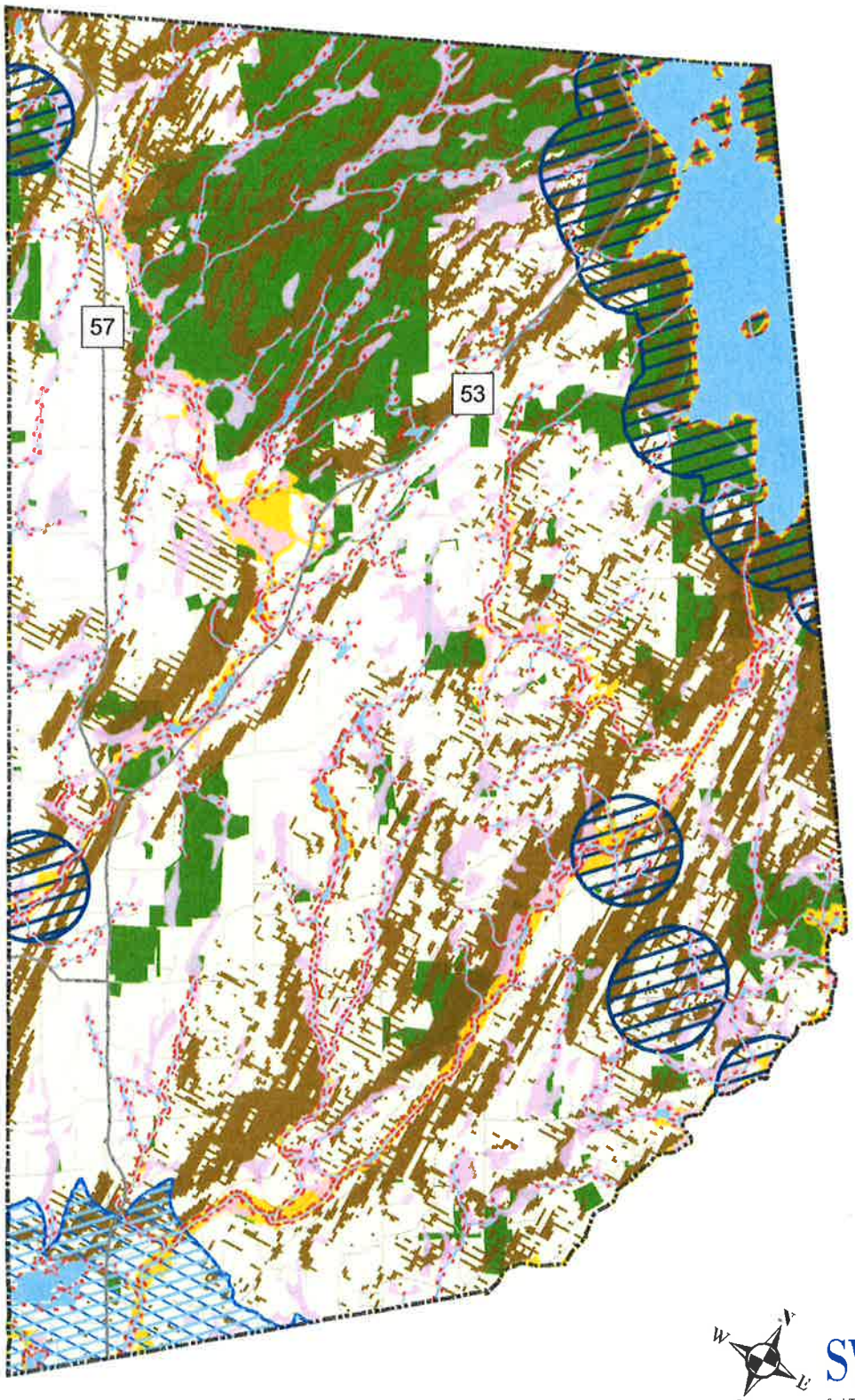
Source: Source: Zoning Map, Town of Weston, Sanborn Map Company, Inc. July 1, 1985, and Data Accumulation Plan, Weston Road & Willow Drive prepared for Weston Shopping Center Associates, LLC. December, 15, 2006.

0 0.25 0.5 1 1.5 2 Miles

Limitations for Development

2010 Weston Plan of Conservation and Development

Appendix E



Legend

- Watercourse
- 50 foot Waterbody Setback
- Aquifer Projection Area
- Natural Diversity Areas
- Regulated Wetlands
- Steep Slopes (>10%)
- Open Space
- FEMA Flood Zones 2010

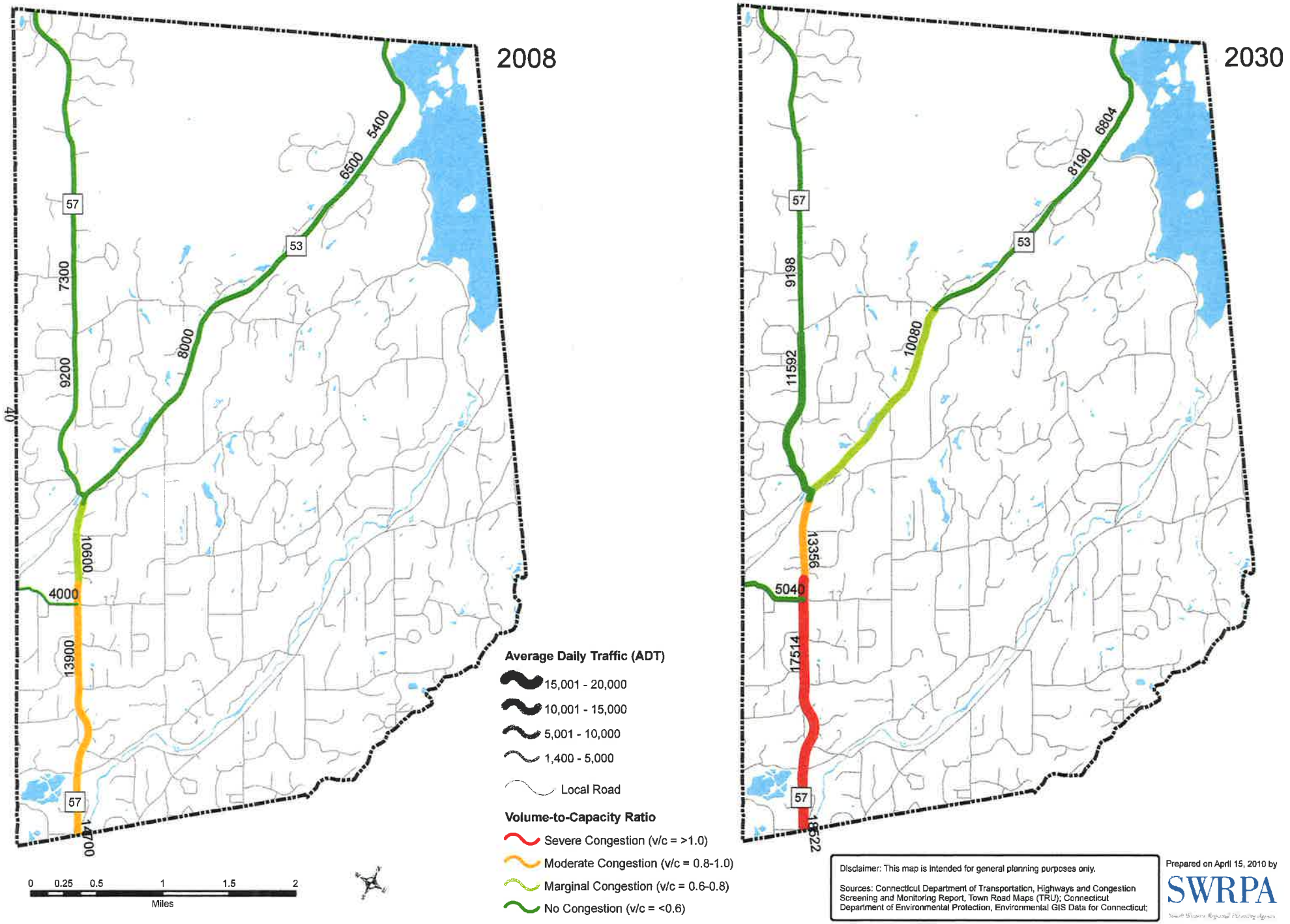
SWRPA
South Western Regional Planning Agency

0 0.25 0.5 1 1.5 2 Miles

Traffic Volume and Volume-to-Capacity Ratio

Appendix F

2010 Weston Plan of Conservation and Development



Appendix G

Real Estate

Weston Shopping Center Assoc./190 Weston Road	$131,697.24
Weston Shopping Center Assoc./204 Weston Road	$5,656.48
Weston Shopping Center Assoc./Weston Road	$8,319.50
Real Estate Tax Total:	$145,673.22

Personal Property

Weston Service Center - personal property	$524.42
Peters Weston Market - personal property	$6,593.76
Lang's Pharmacy - personal property	$208.42
Lunch Box - personal property	$315.96
Camelot Real Estate	$149.68
Peters Spirit Shop	$350.74
Weston Hardware	$26.26
Fairfield County Bank	$9,166.42
Minute Man Cleaners	$229.32
Personal Property Tax Total:	$17,564.98

Guidera Office/48 Norfield Rd	$17,816.62

Appendix H preliminary inventory

Preliminary Inventory of Town and Other Lands 1-19-15 rev 1-20-15
(subject to further checking on ownership, classification, acreage notes and comments; sources SpecPrint 2011 – Weston, CT and Weston TPOCD Land Use Map 2010)

Town Land Listed as Town Parks and Open Space

Bisceglie Park - Newtown Turnpike (near Rte 53-57 intersection) approximately 55 acres location of youth baseball fields, town swimming park (most land across West Branch is in natural state, in wetlands, and relatively steep slopes) 1.1 mile (2 min.) to Town Hall

Devil's Glen - On east side of town Between Valley Forge and Davis Hill a natural gorge formed by the Saugatuck River below the Senior Dam not far from Moore Property (rugged terrain and natural beauty accentuated by waterfalls and deep pools; generally regarded as an opens space conservation area). 4.9 miles (11 min) to Town Hall

Fromson Strassler - Upper Parish (private lane; no other existing access way) - approximately 85 acres in natural state on Weston-Wilton town line in the northwest corner near Georgetown (60+_acres in watercourses, wetlands, rock ledge etc.; Wilton section is an additional 30 acres similarly difficult to develop; best land for development is on the lower sections at end of Upper Parish just past CL&P power lines - about 10+ acres). 4.6 miles (8 minutes) to Town Hall

Jarvis Military Academy - On corner of Norfield and Weston Road (Rt. 57) 1.9 acre (offices for town Parks and Recreation; historic site). Across for Town Hall.

Lachat Property - Godfrey Road West approximately 40acres (large sections cleared haying fields; sections set off for community gardens; efforts being made to restore historic home and run educational programs; some deed restrictions; ownership share with The Nature Conservancy) 2.7 miles (5 min) to Town Hall

Keane Park - River Road in lower Weston near local Grange Hall - approximately 8 acres (location of children swings and play area along banks of the Saugatuck River; low lying area with sections in flood plain). 2.1 miles (4 min.) to Town Hall

Moore Property - Lords Highway East - Davis Hill on eastern side of town near Saugatuck Reservoir - approximately 35 acres (relatively flat and gentle sloping; some sections may have high water table; near water company and town open space lands including Trout Brook) 4.1 miles (9 min.) to Town Hall.

Morehouse Park -- Newtown Turnpike at intersection of Valley Forge near Redding town line approximately 30+ acres (location of town playing fields on upper portion of the property and site of historic Morehouse family home last owned by descendant Minerva Heddy on lower section; near watershed lands) 3.7 miles (6 min) to Town Hall.

Trout Brook Valley -- East of Valley Forge near Devil's Glen off Bradley Road approximately 42 acreas (Trout Brook merges with the Saugatuck River just below the property; generally

regards as a conservation and open space area and gateway to more 700 acres of open space land stretching in Easton across to Route 58 and contiguous watershed lands and Saugatuck Forest trail system.) 4.9 miles (11 min) to Town Hall.

Variety of small and inner holdings ranging in size from less than 2 acres to 10 acres mostly in the northern half of town in the following neighborhoods: Cannondale-Brookwood (west side near Wilton); Michaels Way; November Trail; Mountain View; Godfrey between Old Orchard and Old Field; Ravenwood; Banks Drive.

Major Vacant Private Parcels
Nevas 75 acres - Osborne Hill - Grey Fox near Georgetown
Belknap 40 acres – Inner holdings west of Georgetown Road and north of Cannondale near Wampum and Cindy and Wilson; land reportedly is on the market with potential direct access off Georgetown between Wilson and Samuelson; rugged land with wetlands, streams and bolder fields
Smith Ridge 26 acres - Off Steep Hill and west of Saugatuck River
Weston Woods 20+ acres - Off Newtown Turnpike south of Singing Oaks

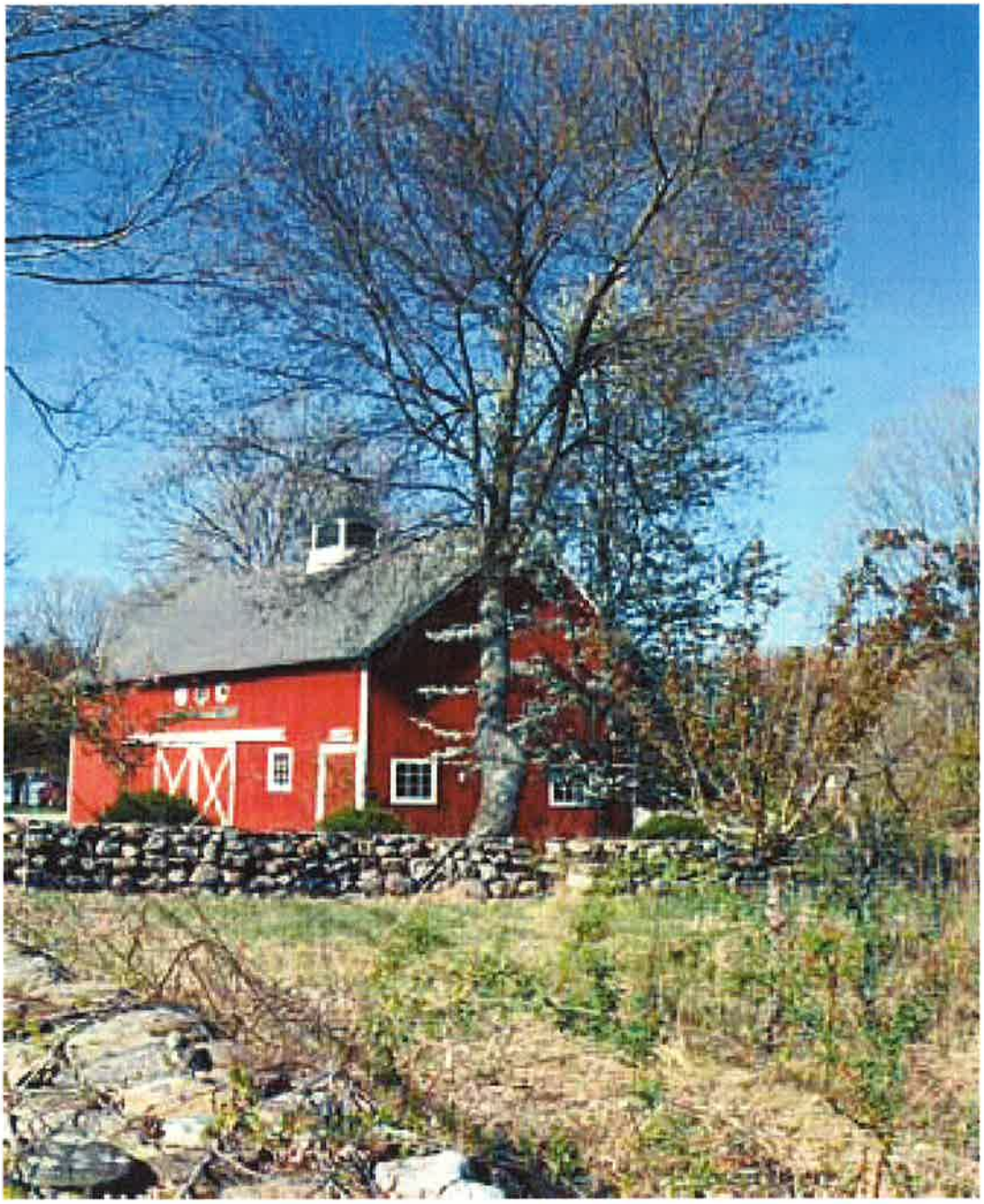
Private Clubs and Organizations
Aspetuck CC 100+ acres - Old Redding Road on east side
Weston Gun Club 40 acres - Godfrey Road East near transfer station northeast
Weston Field Club 25 acres off Ladder Hill - north central
Hemlock Girls Scouts 13 acres - Old Easton Road on east side
Weston Racquet Club 10 acres off Newtown Turnpike south of Singing Oaks north central
Grange about 1 acre - Goodhill Road - lower Weston

Open Spaces Held by Non profits (The Nature Conservancy/Aspetuck Land Trust primarily) - 1,800+ acres
Open Spaces Held by Water Company - 1,186
Open Spaces Municipally Held - 324 acres (includes those listed above)

Town Property for Schools, Playing Fields and Other Uses
Transfer Station - 56 acres Godfrey East
Middle School and DPW - 30+ acres - School Road North
High School 40+ acres - School Road Central
Intermediate School 13+ acres - School Road Central
Elementary School 36+ acres - School Road South
Annex, School Board, Baskeball Court and Field Hockey 5+ acres
Town Hall, Police Fire and Library 4 acres
Total = 184 acres

Town Shopping Center 6.1 acres (property owner has another 7 adjacent undeveloped acres)

TOWN PLAN OF CONSERVATION AND DEVELOPMENT



PLANNING AND ZONING COMMISSION
TOWN OF WESTON, CONNECTICUT - JULY 1, 2010

B. Other Facilities and Infrastructure

1. In General

The Town of Weston takes much pride in the small town character and appearance of its facilities and service offerings. One purpose of the Plan is to evaluate strategic long-term options for use of physical space to meet present and future community needs.

Town Hall complex, located on Norfield Road near the intersection of Route 57, is comprised of Town Hall, the library, police headquarters, communications center and one of Weston's two fire houses, which also includes Weston's Emergency Medical Service. A thorough analysis of the physical condition of town facilities for Weston was the subject of a report compiled in 2008 by Kaestle-Boos. Given fiscal constraints, the focus of the Capital Committee and Town Government is on maintenance, repair and where necessary, replacement, rather than the construction of new facilities. For example, a new roof, doors and windows are being installed in 2010 at the Middle School. Likewise, reconstruction of the Valley Forge Bridge has been undertaken, having been necessitated by its age and poor condition. Middle School wetlands mitigation and Revson Field projects are also under consideration and are driven by necessity and cost. In the coming years, the facility housing the Weston Police Department should be studied to ascertain its need of repair, renovation or replacement. Town Government should continue to monitor and prioritize repairs, renovations and necessary expansions to ensure our current facilities are well maintained.

2. School Facilities

The facilities on the school campus have recently undergone substantial expansion with the construction of the Intermediate School and partial renovation of and addition to the High School. While the Middle School is undergoing major capital improvements, such as a new roof, the Committee does not anticipate that further expansion will be necessary in the coming decade. As previously noted, the Committee recommends that the bus depot be relocated: its position contributes to traffic problems, it is an unattractive gateway to the heart of Weston, and is a poor use of prime Town-owned real estate. Town Government, together with the Board of Education, should determine if the buses can be moved to another location in Weston, such as the Transfer Station or the Public Works Garage, or if they can be moved entirely outside of Weston.

Hurlbutt Elementary School

Weston Intermediate School

The school facilities represent a tremendous resource for students in Weston. Many individuals with whom the Committee spoke while preparing the Plan suggested that those facilities should be made more available to the Weston's non-student public. Specifically, it was suggested that, to the extent space becomes available in the future, the Senior Center could be expanded to encompass a larger part of East House at Hurlbutt Elementary School. It was further suggested that, on weekend evenings, that space could be utilized as a Teen Center. To supplement the Weston Public Library facilities, the computer labs within the schools might also be made available to the public on a limited basis. Auditoriums, gymnasiums, the workout room at the High School, the Middle School pool—all should be, or continue to be, made available to the general public and their availability should be publicized. Efforts should be made to ensure that the process of reserving those spaces is streamlined and does not include unnecessary obstacles for Weston's own community groups. The need for and, if needed, the cost of such requirements as security deposits and insurance certificates should be investigated so as to guarantee affordable access to such facilities.

The Committee makes the following recommendations:

1. The Facilities Subcommittee of the Board of Education, expanded for this purpose to include a number of other interested citizens, should explore the expanded use of school facilities for the community as a whole including:
   (a) expanded use of parts of East House in Hurlbutt Elementary School for seniors and teens;
   (b) use of the High School gym by residents a few nights a week for "pick-up" basketball games and the like;
   (c) use of the Middle School pool for exercise class for residents/seniors;
   (d) use of the High School workout room for residents and seniors;
   (e) use of the High School cafeteria for town wide social events; and
   (f) use of smaller rooms in schools for various community functions.

2. The expanded Subcommittee should explore the feasibility of installing picnic benches and barbecues on school property for use by Weston residents when schools are not in session.

3. The expanded Subcommittee should investigate the possibility of leasing, for profit, school facilities (i.e., pool, gym, etc.) for private functions.

4. The expanded Subcommittee, together with the Town Attorney, should review relevant labor contracts to ascertain what duties attendant to the foregoing uses can be undertaken by responsible adult residents on a volunteer basis.

5. Examine ways to broaden community interaction, including movie nights, progressive dinners, outdoor performances in theater, dance and music and a community fair to benefit all four schools.

E. Traffic Volume

Although Weston is a small town, it is confronted with local traffic congestion at various times of the day. The morning appears to have the most acute congestion. A significant number of parents drive their children to school at the peak of the work commute. Additionally, Weston employs 473 people, many at the schools, others at the Town Hall complex; 83 percent of those employees commute to Weston from other towns.

Weston is not a destination so much as it is a place that traffic passes through. Weston is seeing an increase in regional through-trips over roads not designed for heavy traffic volume (i.e. use of Cannondale Road to access Route 7; use of Kellogg Hill and Wells Hill Roads to cut through from Easton and Redding). Increased traffic is due to the commercial buildup in communities to our north, south and west and a corresponding increase in population all around Weston. The main roads impacted are State Routes 57 and 53, as well as Lyons Plains Road. Although most town roads appear capable of handling local traffic, an increase in through-traffic will cause excessive road wear and require increased maintenance.

There has been concern of increased traffic along Route 57 with the development of the Gilbert and Bennett property in the Redding section of Georgetown. Studies of existing and projected traffic patterns, however, do not foretell a substantial change in traffic. In fact, prolonged construction on Route 7 between Wilton and Danbury has already increased north-south traffic on Route 57 without major complications. Weekend and evening traffic may increase as individuals seek out services and amenities offered by the multi-use project when and if it is completed. Presently, the completion date has been postponed until economic conditions warrant resumption of development.

In light of the foregoing, the Committee recommends the following:

1. To alleviate in-town traffic congestion and its attendant pollution, the Board of Education should continue to actively promote the use of school buses by students and carpooling by employees.

2. Town Government, together with the Town Engineer, Police Commission and Police Department, should monitor any plans by the State to improve Route 57 to ensure that any changes do not encourage the growth of through-traffic and do not impair the bucolic character of Weston.

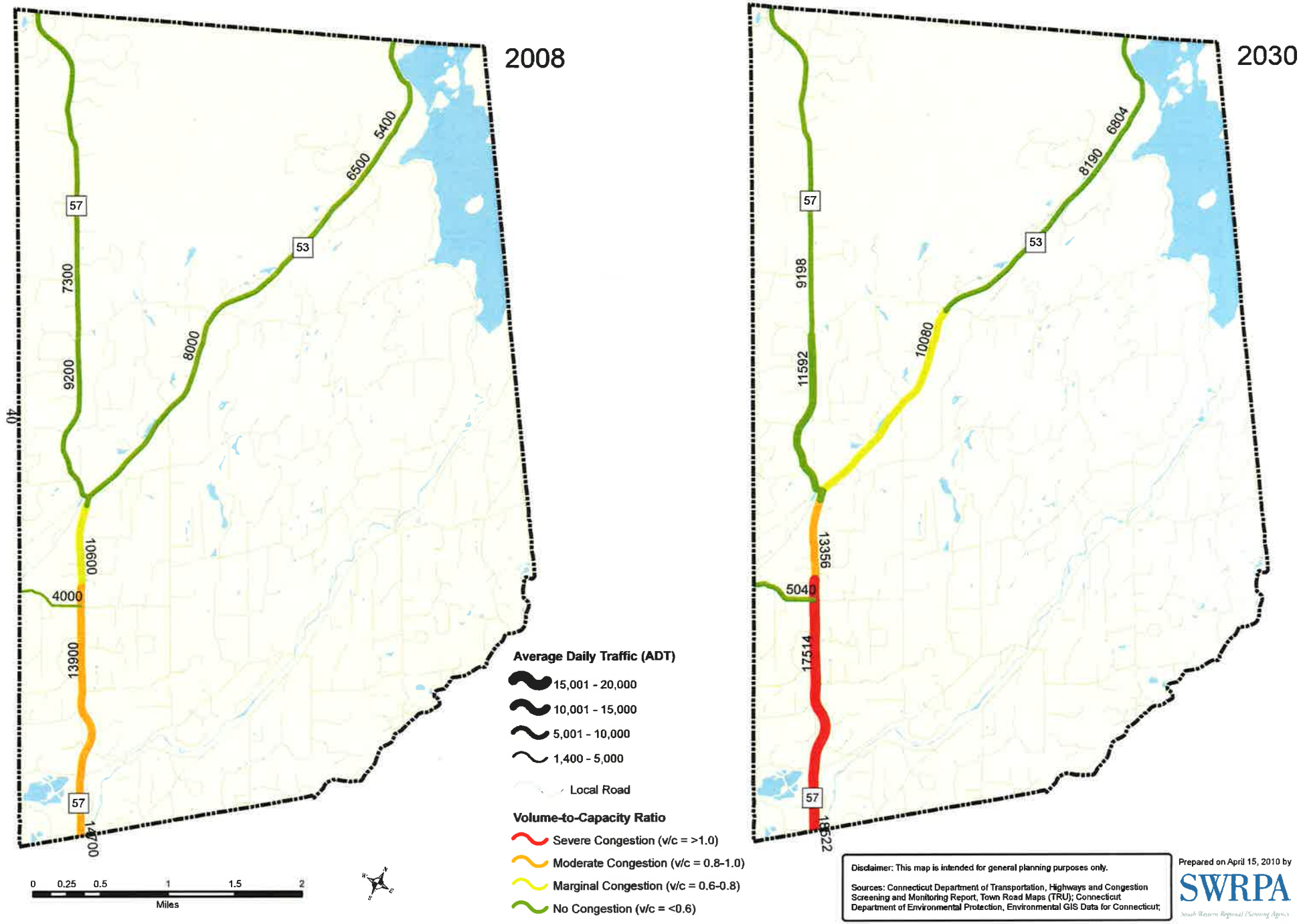
Implementation

Implementation of the strategies and recommendations of this Plan is essential for the planning process to have meaning and value.

The Planning and Zoning Commission will retain primary responsibility for promoting and coordinating implementation of the Plan's recommendations. The Commission cannot implement the Plan on its own, however. Many recommendations require active cooperation with other boards, commissions and departments. Following the Plan's adoption, the Planning and Zoning Commission will contact the boards and commissions whose cooperation we need.

Traffic Volume and Volume-to-Capacity Ratio

2010 Weston Plan of Conservation and Development



Disclaimer: This map is intended for general planning purposes only.

Sources: Connecticut Department of Transportation, Highways and Congestion Screening and Monitoring Report, Town Road Maps (TRU); Connecticut Department of Environmental Protection, Environmental GIS Data for Connecticut;

Prepared on April 15, 2010 by SWRPA

Weston Route 57-School Road Intersection Study

Final Report

Prepared for the South Western Regional Planning Agency

7/25/2012

SWRPA
South Western Regional Planning Agency

MILONE & MACBROOM®

Table of Contents

1 Introduction

The South Western Regional Planning Agency (SWRPA) in conjunction with the Connecticut Department of Transportation (CTDOT) and the Town of Weston identified the need to undertake improvements at the intersection of State Route 57 and School Road in Weston, Connecticut. The study intersection serves as a major access point to four schools within the town. As a result, this intersection is often subject to congestion and excessive delays during peak school hours. The absence of pedestrian facilities such as sidewalks and crosswalks at the intersection also presents some safety concerns. Signage in this school zone is also inadequate and needs to be improved. A previous study undertaken by Purcell Associates in 1996 recommended a number of traffic operations and geometric improvements for the intersection, none of which have been implemented to date.

The primary objectives of this latest study are to:

- Collect and review all available traffic and safety data
- Analyze data and develop improvement alternatives
- Consider the needs of all users, in particular students from the neighboring schools
- Produce a final technical report with recommendations for a preferred alternative

The SWRPA contracted with Milone & MacBroom, Inc. (MMI) to serve as the primary consultant on this intersection improvement study for Route 57 and School Road. MMI subcontracted with VN Engineers (DBE) to assist in accident analysis.

This report summarizes the existing and future conditions assessment and proposed improvement alternatives for the intersection of Route 57 and School Road.

2 Existing Conditions

2.1 Existing Roadway Conditions

The intersection of Route 57 and School Road is a signal-controlled "T" intersection. Route 57 is a north/south urban minor arterial characterized by one 12-foot travel lane in each direction with two-foot shoulders. School Road is a two-way local roadway characterized by two 12-foot approach lanes and one exiting lane at its intersection with Route 57 with no shoulders. School Road serves as the main access to four schools located on School Road. The traffic signal at the intersection of Route 57 and School Road is fully actuated and is owned and maintained by the state. Approximately 70 feet east of the study intersection is a driveway to the Hurlbutt Elementary School. This intersection is stop controlled on the elementary school driveway and the School Road westbound approach.

There is currently a pedestrian push button signal at the intersection of Route 57 and School Road; however, there are no handicap ramps or sidewalks. There are no crosswalks at the study intersection; however, there is an unsignalized mid-block pedestrian crossing on Route 57 between School Road and Norfield Road, which is located south of School Road. Route 57 at the intersection with Norfield Road is currently signalized. This traffic signal is also owned and maintained by the state. It is understood that this intersection will be improved with new traffic signal equipment and pedestrian facilities (State Project # 173-403). Signage within the study area is also quite limited and needs to be improved.

Figure 1: Site Location Map

2.1.1 Vehicular Speeds

Vehicular travel speed data on Route 57 was obtained from CTDOT. Route 57 has a regulatory posted speed limit of 35 miles per hour in this area. In 2009, it was found that the 85th percentile speed for northbound traveling vehicles on Route 57 was 42 miles per hour. Southbound vehicles on Route 57 had an 85th percentile speed of 43 miles per hour. The 85th percentile speed is the speed at or below which 85 percent of the vehicles were recorded to have traveled. The average speed of vehicles traveling on Route 57 through this area was recorded to be 40 miles per hour.

2.2 School Data

As indicated, there are currently four schools located on School Road. These schools are:

- Hurlbutt Elementary School
- Weston Intermediate School
- Weston Middle School
- Weston High School

Information on the schools was provided by the Weston Board of Education and is summarized below:

	School Hours
Hurlbutt Elementary School	8:30 a.m. to 3:15 p.m.
Weston Intermediate School	8:30 a.m. to 3:15 p.m.
Weston Middle School	7:45 a.m. to 2:30 p.m.
Weston High School	7:45 a.m. to 2:30 p.m.
Total Number of Students	2,500
Total Number of Staff/Teachers	377
Number of School Buses	22
Percentage of Students via bus	63%
Percentage of Students via car	37%
Percentage of Staff via car	100%

Source: Weston Board of Education

School bus and parent pickup/drop-off activity information was also provided for the four schools. The driveways to the intermediate, middle, and high schools are located approximately one-half mile to one mile from the intersection of Route 57 and School Road; therefore, school bus and parent pickup/drop-off activity at these schools do not directly impact traffic operations at the study intersection. The driveway to the Hurlbutt Elementary School, however, is located in close proximity to the study intersection, which results in pickup/drop-off activity at the elementary school directly impacting the study intersection. Parent pickup/drop-off activity at the elementary school occurs in front of the school building via the first driveway while school bus pickup/drop-off occurs in the rear of the building via a second driveway located further up School Road.

2.3 Existing Traffic Conditions

The intersection of Route 57 and School Road experiences significant delays and congestion during the morning and afternoon school peak periods due to the heavy volume of traffic accessing School Road during these hours. In addition, the close proximity of the Hurlbutt Elementary School driveway exacerbates the existing traffic situation and leads to further congestion and delays. Currently, these intersections require the services of a police officer at the intersection of Route 57 and School Road and a traffic person at the intersection of School Road and the elementary school driveway during school peak hours. It is also our understanding, based on information provided by the Weston Board of Education, that there are on average two sporting events per week and one concert/play per month at the schools, which generates higher than normal traffic on School Road.

2.3.1 Traffic Volumes

A review of traffic data at the nearest CTDOT traffic monitoring station on Route 57 in the vicinity of the study intersection was undertaken. The traffic data is presented in **Table 1** below.

TABLE 1
Two-Way Annual Daily Traffic (ADT) on Route 57

Year	ADT
2010	10,700
2007	10,400
2004	11,200

Source: Connecticut Department of Transportation

The most recent data indicates that Route 57 carries approximately 10,700 vehicles daily. This segment of Route 57 has experienced fluctuating traffic volumes over the past decade or so with a decline in traffic volumes from 2004 to 2007 and some marginal growth from

2007 to 2010. 2008 vehicle classification data provided by CTDOT indicates that approximately 98.5 percent of the traffic on Route 57 was comprised of light vehicles with 1.5 percent heavy vehicle traffic. The light vehicle traffic was broken up as passenger cars – 88 percent and four-tire single unit trucks – 10.5 percent. The heavy vehicle traffic was broken up as buses – 0.1 percent, three- or four-axle single unit trucks – 1.3 percent, and single trailer trucks – 0.1 percent. There were no multitrailer trucks recorded on Route 57.

To supplement the CTDOT data, turning movement traffic counts were manually conducted at the intersections of Route 57 at School Road and School Road at the elementary school driveway during the morning and afternoon peak periods on Wednesday, January 25, 2012. The counts were performed from 7:00 a.m. and 9:00 a.m. and from 2:00 p.m. and 6:00 p.m. in order to capture both the school dismissal and commuter peak periods. The peak hour traffic counts were found to be comparable to the CTDOT 2010 traffic data.

Figures 2 and **3** illustrate the peak hour traffic volumes that were extracted from the counts. The weekday morning peak hour occurred from 7:30 a.m. to 8:30 a.m. while the afternoon peak hour occurred from 2:45 p.m. to 3:45 p.m. These afternoon traffic volumes depict the school dismissal peak. A separate, less noticeable commuter peak did occur later in the afternoon. However, the total volume of traffic through the study area during the later commuter peak was significantly less than during the school dismissal peak. The afternoon commuter peak was not analyzed as a result.

The volume of traffic experienced at the intersection was observed to be greater during the morning peak hour than during the afternoon peak hour. This is due to the school arrival period and commuter period coinciding during the morning, whereas during the afternoon the dismissal and commuter peak periods occur separately.

Buses were enumerated during both morning and afternoon count periods. As illustrated in Figures 2 and 3, approximately 42 buses were observed entering and exiting the study intersection during the morning peak period while 32 buses were observed during the afternoon peak period. During the morning peak hour, the majority of buses traveling along Route 57 arrived from the south, turned right onto School Road, and continued through past the elementary school driveway. A notable number of buses also traveled westbound on School Road and turned left into the elementary school driveway during the morning peak hour.


Weston Road (Route 57)
School Road
203 (6)
44 (20)
44 (2)
225 (5)
24
66 (1)
476
96 (3)
(12) 333
(1) 109
224 (4)
346 (10)
Route 57 at School Road
Weston, CT
Figure: 2
Existing Traffic Volumes
Weekday Morning Peak Hour
7:30 AM - 8:30 AM
00 = All Vehicles
(00) = Buses
Source:
Aerial: Microsoft Bing Aerial
N
Milone & MacBroom


School Road
Route 57
254 (13)
19
49 (2)
290 (11)
18
85
260 (1)
36 (5)
(15) 145
24
316 (3)
133 (10)
Route 57 at School Road
Weston, CT
Figure: 3
Existing Traffic Volumes
Weekday Afternoon Peak Hour
2:45 PM - 3:45 PM
00 = All Vehicles
(00) = Buses
Source:
Aerial: Microsoft Bing Aerial
N
Milone & MacBroom

During the afternoon peak hour, similar to the morning, the majority of bus traffic along Route 57 arrived from the south, turned right onto School Road, and continued past the driveway. The opposite predominant flow also occurred during the afternoon peak hour where a large percentage of buses arrived from the east along School Road and turned left onto Route 57.

2.3.2 Pedestrian Activity

No pedestrian activity was observed during the morning peak hour. During the afternoon peak hour, however, a number of pedestrians were observed to cross traffic. The pedestrians were all students. Five pedestrians crossed at the intersection of Route 57 and School Road. At the intersection of School Road and the school driveway, nine pedestrians were observed to cross the street. It should be noted that these pedestrian counts were conducted in January and could therefore be considerably higher during the warmer months of the year.

2.4 Capacity Analysis

The adequacy of the intersections to handle the peak hour traffic volumes was evaluated using the *Synchro* Program. This software package adheres to the methodologies outlined in the *Highway Capacity Manual* (HCM)[1] to determine Level of Service (LOS). LOS is a qualitative measure of the efficiency of intersection operations in terms of delay and inconvenience to motorists.

A description of the various LOS designations, A through F, for signalized and unsignalized intersections is presented in the Appendix. **Table 2** summarizes the analysis results for the intersection of Route 57 and School Road.

As mentioned above, the intersections handle more traffic during the morning peak hour than during the afternoon peak hour. As a result, operations are better during the afternoon peak hour. The intersection of Route 57 and School Road operates overall at LOS E during the morning peak hour. A large volume of traffic makes a right turn from Route 57 onto School Road during this period. Accordingly, the northbound approach operates at LOS F during the morning peak hour. During the afternoon peak hour, the intersection operates overall at LOS C while the School Road westbound left-turn movement operates at LOS E.

At the intersection of the school driveway intersection with School Road, the stop sign controlled school driveway approach operates at LOS F during the morning peak hour and LOS C during the afternoon peak hour.

[1] *Highway Capacity Manual*, Transportation Research Board.

TABLE 2
Capacity Analysis Summary
Existing (2012) Traffic Volumes

LOCATION/MOVEMENTS	LEVEL OF SERVICE	
	WEEKDAY MORNING	WEEKDAY AFTERNOON
SIGNALIZED		
Route 57 at School Road		
Route 57 Northbound Approach	F	C
Route 57 Southbound Approach	D	A
School Road Westbound Left	E	E
School Westbound Right	A	A
Overall	**E**	**C**
UNSIGNALIZED		
School Road at school driveway		
Driveway Northbound Approach	F	C
School Road Westbound Approach	B	B

2.5 Accident History

Information on three years of traffic accidents occurring from 2006 through 2008 was obtained from CTDOT for the segment of Route 57 from mile marker 4.50 to 4.60. This segment of Weston Road is about 500 feet in length and includes the intersection with School Road. **Table 3** exhibits a summary of these accidents by severity and collision type.

TABLE 3
Accident Summary
Route 57 at School Road

LOCATION: Route 57, Weston, CT STUDY DURATION: 1/1/2006 to 12/31/2008	ACCIDENT SEVERITY				TYPE OF COLLISION												
					TURN												
	FATALITY	INJURY	PROPERTY DAMAGE ONLY	**TOTAL**	SAME DIRECTION	OPPOSITE DIRECTION	INTERSECTING PATHS	REAR-END	HEAD-ON	BACKING	ANGLE	OVERTURN	SIDE SWIPE (Same Direction)	PEDESTRIAN / BICYCLIST	ANIMAL IMPACT	FIXED OBJECT	**TOTAL**
Route 57 (Weston Road) at School Road (Mile Marker 4.50 to 4.60)	0	1	6	**7**	0	0	0	6	0	0	0	0	1	0	0	0	**7**
TOTAL	0	1	6	**7**	0	0	0	6	0	0	0	0	1	0	0	0	**7**

During the three-year study period, seven collisions occurred within the vicinity of this intersection, with one crash resulting in a personal injury. Most of the accidents were rear-end type collisions that transpired with no adverse weather or road surface conditions, and all reported accidents occurred during daylight hours. Of the six rear-end collisions, two occurred north of the intersection in the southbound direction while two occurred south of the intersection in the northbound direction. One rear-end accident occurred north of the intersection traveling north while the sideswipe accident occurred north of the intersection traveling south. A collision diagram of the study intersection is presented in **Figure 4**. Subsequently, additional accident data from 2009 through 2011 was obtained from the Weston Police Department. Three accidents were reported at the study intersection during this period (2009-2011). All three accidents involved property damage. There were no injuries or fatalities.

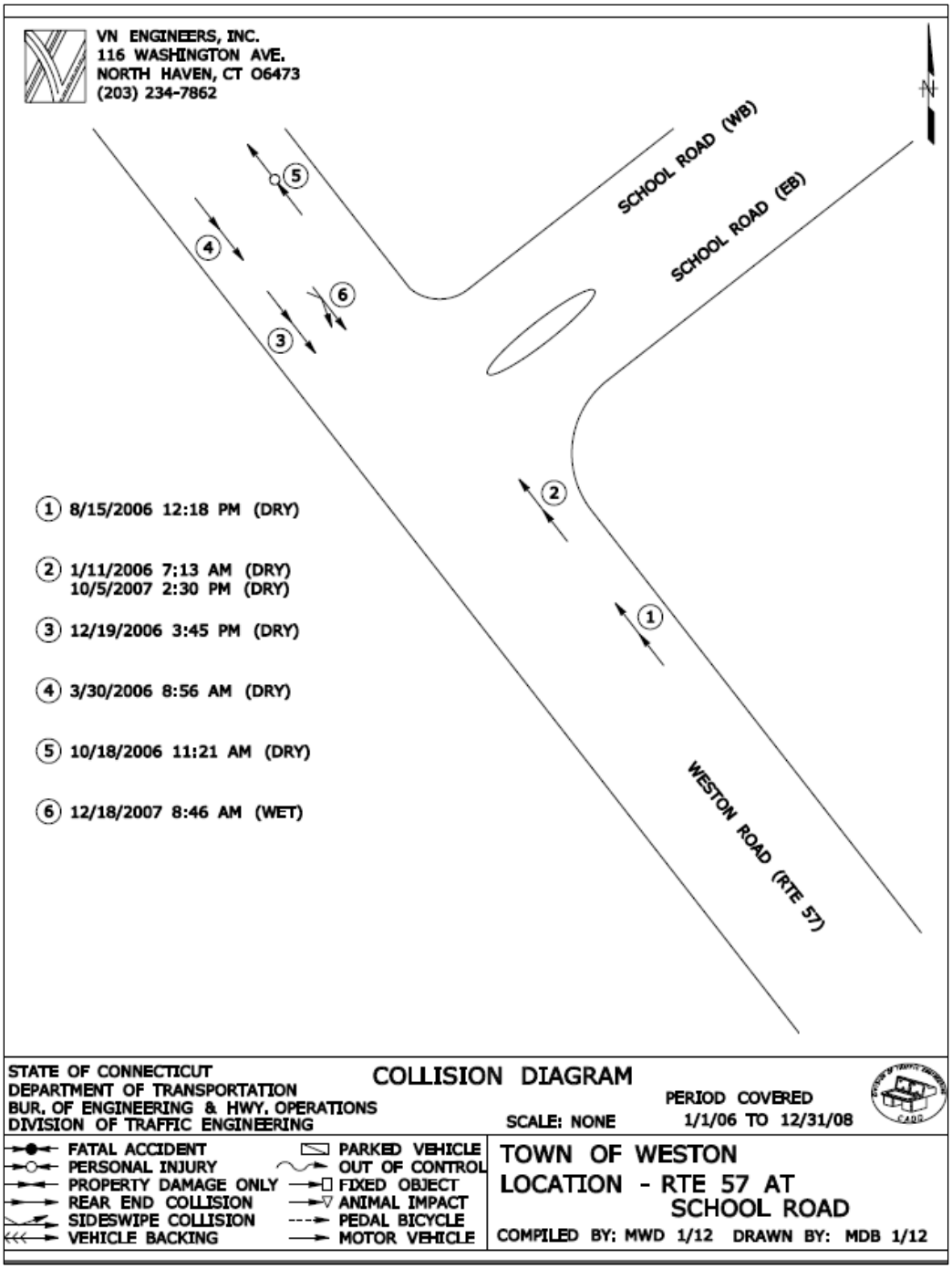


Figure 4: Collision Diagram

2.6 Sightlines

Based on the 85th percentile speed on Route 57, the minimum acceptable intersection sight distance per the CTDOT guidelines is 390 feet. The measured sight distances looking left and right from the School Road approach are approximately 650 feet and 200 feet, respectively. The sightline looking right is restricted by a stone wall and vegetation. This sightline can be improved by relocating the stone wall and some clearing of the vegetation on the northeastern corner of the intersection.

3 Future Conditions

3.1 Future Traffic Conditions

A future (2030) planning year horizon was utilized for this study. A review of traffic data at the nearest CTDOT traffic monitoring station on Route 57 in the vicinity of the study intersection indicates fluctuating traffic volumes over the past decade or so with a decline in traffic volumes from 2004 to 2007 and some marginal growth from 2007 to 2010. However, a one (1) percent per year ambient roadway traffic growth into the future was conservatively assumed for this study. The growth rate was vetted and approved by CTDOT. The existing intersection traffic volumes were, therefore, projected to year 2030 using a one percent annual growth factor.

CTDOT was also contacted to determine whether there were any approved or yet to be constructed projects in the immediate vicinity of the study intersection to include as part of the future (2030) background traffic. CTDOT determined that there were no such projects to include. **Figures 5** and **6** illustrate the future (2030) weekday morning and afternoon peak hour traffic volumes.

3.2 Capacity Analysis

The adequacy of the study intersection to handle the peak-hour traffic volumes under 2030 conditions was evaluated using the *Synchro* program. This software package adheres to the methodologies outlined in the *Highway Capacity Manual* (HCM)[2] to determine Level of Service (LOS).

A description of the various LOS designations, A through F, for signalized and unsignalized intersections is presented in the Appendix. **Table 4** summarizes the analysis results for the intersection of Route 57 and School Road and the intersection of School Road at the Hurlbutt Elementary school driveway under future (2030) peak hour conditions.

[2] *Highway Capacity Manual*, Transportation Research Board.


School Road
Weston Road (Route 57)
245 (10)
55 (25)
55 (5)
270 (10)
575
120 (5)
30
80 (5)
(15) 400
(5) 135
270 (5)
420 (15)
Route 57 at School Road
Weston, CT
Figure: 5
Future Traffic Volumes
Weekday Morning Peak Hour
7:30 AM - 8:30 AM
00 = All Vehicles
(00) = Buses
Source:
Aerial: Microsoft Bing Aerial
N
Milone & MacBroom


School Road
Route 57
305 (20)
25 (5)
60 (5)
350 (15)
315 (5)
45 (10)
25
105
(20) 175
30
380 (5)
160 (15)
Route 57 at School Road
Weston, CT
Figure: 6
Future Traffic Volumes
Weekday Afternoon Peak Hour
2:45 PM - 3:45 PM
00 = All Vehicles
(00) = Buses
Source:
Aerial: Microsoft Bing Aerial
N
Milone & MacBroom

TABLE 4
Capacity Analysis Summary
Future (2030) Traffic Volumes

LOCATION/MOVEMENTS	LEVEL OF SERVICE	
	A.M. PEAK	P.M. PEAK
SIGNALIZED		
Route 57 at School Road		
Route 57 Northbound Approach	F	D
Route 57 Southbound Approach	F	A
School Road Westbound Left	F	F
School Westbound Right	A	A
Overall	**F**	**E**
UNSIGNALIZED		
School Road at school driveway		
Driveway Northbound Approach	F	D
School Road Westbound Approach	C	B

Under future (2030) conditions, the intersection of Route 57 and School Road will operate overall at LOS F during the morning peak hour and LOS E during the afternoon peak hour. It is projected that approximately 420 vehicles will make a right turn from Route 57 onto School Road during future (2030) morning peak hour conditions. Accordingly, the northbound approach will operate at LOS F during the morning peak hour. During the afternoon peak hour, the School Road westbound left-turn movement will operate at LOS F.

At the intersection of the Hurlbutt school driveway at School Road, the stop sign controlled school driveway northbound approach will operate at LOS F during the future morning peak hour and LOS D during the future afternoon peak hour. The westbound approach on School Road will operate at LOS C and LOS B during future (2030) morning and afternoon peak hours, respectively.

4 Preliminary Improvement Alternatives

The traffic and safety issues at the intersection of Route 57 and School Road and its immediate environs necessitate the need for traffic/geometric improvements. For this study, two (2) near- and two (2) long-term improvement alternatives were developed for the intersection.

The near-term alternatives were identified as improvements that can be implemented within a one- to five-year time frame. These improvements would usually involve minimal to no property, utility, or environmental impacts. Costs associated with these improvements are not expected to exceed $500,000.

The long-term alternatives were identified as improvements that will most likely be implemented beyond a five-year time frame. These improvements would involve property, utility, or environmental impacts and would, therefore, involve some permitting process. Costs associated with these improvements are expected to exceed $500,000.

In a nut shell, the major difference between the near term and long term alternatives for this location relates to the cost of construction. A description of the proposed improvement alternatives is presented in sections below.

4.1 Preliminary Near-Term Alternatives

Preliminary Near-Term Alternative 1

This alternative would involve the relocation of the existing parent pickup/drop-off driveway to the Hurlbutt Elementary School further to the east on School Road along the lower western boundary of the baseball field. The relocation would create more separation from the Route 57- School Road intersection and reduce the number of conflict points at that location. A stop control would be installed on the driveway approach while School Road will be free flow. In addition, signal timing improvements and potential coordination with the newly redesigned traffic signal at the intersection of Route 57 and Norfield Road to the south would be implemented.

The proposed improvements would involve impacts to the school property. **Figure 7** presents a conceptual layout of *Preliminary Near-Term Alternative 1*.

Figure 7: Preliminary Near-Term Alternative 1

Preliminary Near-Term Alternative 2

Preliminary Near-Term Alternative 2 would involve the construction of a new parent pickup/drop-off driveway to the Hurlbutt Elementary School further to the east on School Road along the eastern boundary of the baseball field, while leaving the existing driveway open for bus access only to the school bus depot. This new configuration would create more separation from the Route 57- School Road intersection and reduce the number of conflict points within the study area. Similar to *Preliminary Near-Term Alternative 1*, signal timing improvements and potential coordination with the newly redesigned traffic signal at the intersection of Route 57 and Norfield Road to the south would be implemented. In addition, the existing stop sign on School Road westbound would be removed making School Road free flow. The proposed improvements would involve impacts to the school property. **Figure 8** presents a conceptual layout of *Preliminary Near-Term Alternative 2*.

Figure 8: Preliminary Near-Term Alternative 2

4.2 Preliminary Long-Term Alternatives

Preliminary Long-Term Alternative 1

Preliminary Long-Term Alternative 1 would involve widening the Route 57 northbound approach along its eastern edge to provide an exclusive right-turn lane and a through lane. This improvement would reduce queuing on the Route 57 northbound approach. A new sidewalk would be installed along the eastern edge of Route 57 from School Road to Norfield Road with a mid-block crosswalk and advance crosswalk signage. The proposed improvements would involve some right-of-way (ROW) impacts. **Figure 9** presents a conceptual layout of *Preliminary Long-Term Alternative 1*.

Figure 9: Preliminary Long-Term Alternative 1

Preliminary Long-Term Alternative 2

Preliminary Long-Term Alternative 2 would involve widening the Route 57 northbound approach along its eastern edge to provide an exclusive right-turn lane and a through lane. The Route 57 southbound approach would also be widened along the eastern edge to provide a 20-foot bypass to help minimize queuing on this approach. Similar to *Preliminary Long- Term Alternative 1*, a new sidewalk would be installed along the eastern edge of Route 57 from School Road to Norfield Road with a mid-block crosswalk and advance crosswalk signage. This alternative would involve some ROW impacts. **Figure 10** presents a conceptual layout of *Preliminary Long-Term Alternative 2*.

Figure 10: Preliminary Long-Term Alternative 2

4.3 Capacity Analysis of Alternatives

The proposed improvement alternatives were analyzed to determine LOS under future (2030) peak-hour conditions. The *Synchro* program was utilized in the capacity analysis of the improvement alternatives. **Table 5** summarizes the analysis results for the future conditions with and without the proposed improvements.

TABLE 5
Capacity Analysis of Alternatives
Future (2030) Peak-Hour Traffic Volumes

LOCATION/MOVEMENTS	No-Build		Near-Term Alt.1		Near-Term Alt. 2		Long-Term Alt. 1		Long-Term Alt. 2	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Route 57 at School Road										
Overall LOS	**F**	**E**	**D**	**C**	**D**	**C**	**B**	**C**	**B**	**C**
Route 57 NB Approach	F	D	B	B	B	B	A	B	A	B
Route 57 NB Through	-	-	-	-	-	-	B	B	B	B
Route 57 NB Right Turn	-	-	-	-	-	-	A	A	A	A
Route 57 SB Approach	F	A	D	A	D	A	B	A	A	A
School Road WB Left Turn	F	F	D	D	D	D	D	D	D	D
School Road WB Right Turn	A	A	A	A	A	A	A	A	A	A

Under Preliminary Near-Term Alternative 1, the intersection of Route 57 and School Road is anticipated to operate at overall LOS D and LOS C during future 2030 morning and afternoon peak hours, respectively. During the morning peak hour, the LOS on the Route 57 northbound approach is expected to improve from LOS F under the no-build condition to LOS B with the proposed improvements in place while the Route 57 southbound approach is anticipated to improve from LOS F to LOS D. The westbound left-turn movement on School Road is expected to improve from LOS F to LOS D during future 2030 morning and afternoon peak hours.

Under Preliminary Near-Term Alternative 2, the intersection of Route 57 and School Road is anticipated to also operate at overall LOS D and LOS C during future 2030 morning and afternoon peak hours, respectively. During the morning peak hour, the LOS on the Route 57 northbound approach is expected to improve from LOS F under the no-build condition to LOS B with the proposed improvements in place while the Route 57 southbound approach is anticipated to improve from LOS F to LOS D. The westbound left-turn movement on School Road is expected to improve from LOS F to LOS D during future 2030 morning and afternoon peak hours.

Under Preliminary Long-Term Alternative 1, the study intersection is anticipated to operate overall at LOS B and LOS C during future (2030) morning and afternoon peak hours, respectively. With the exception of the School Road westbound left-turn movement, which will operate at LOS D, all other movements are anticipated to operate at LOS B or better with the proposed improvements in place.

Under Preliminary Long-Term Alternative 2, the study intersection is anticipated to operate overall at LOS B and LOS C during future (2030) morning and afternoon peak hours, respectively. With the exception of the School Road westbound left-turn movement, which will operate at LOS D, all other movements are anticipated to operate at LOS B or better with the proposed improvement in place.

4.4 Refinement of Preliminary Alternatives

The preliminary alternatives were presented to officials from SWRPA and the Town of Weston for review and vetting at a stakeholder meeting. Some of the items that were considered in the review of the alternatives include ROW and utility impacts, traffic improvements, and safety improvements.

For *Preliminary Near-Term Alternative 1*, it was agreed that the proposed elementary school driveway should be realigned to avoid impacts to the existing infiltration system in that area. This alternative with the proposed revisions was acceptable to SWRPA and the Town as a near-term improvement for the intersection.

For Preliminary Near-Term Alternative 2, the town indicated that school children would have to cross the proposed driveway to get from the school playground to the ball field during recess, which was a source of concern. In addition, the town indicated that there is an existing sewage system located where the new driveway is proposed. Of the two near-term alternatives, *Preliminary Near-Term Alternative 2* was the least preferred option.

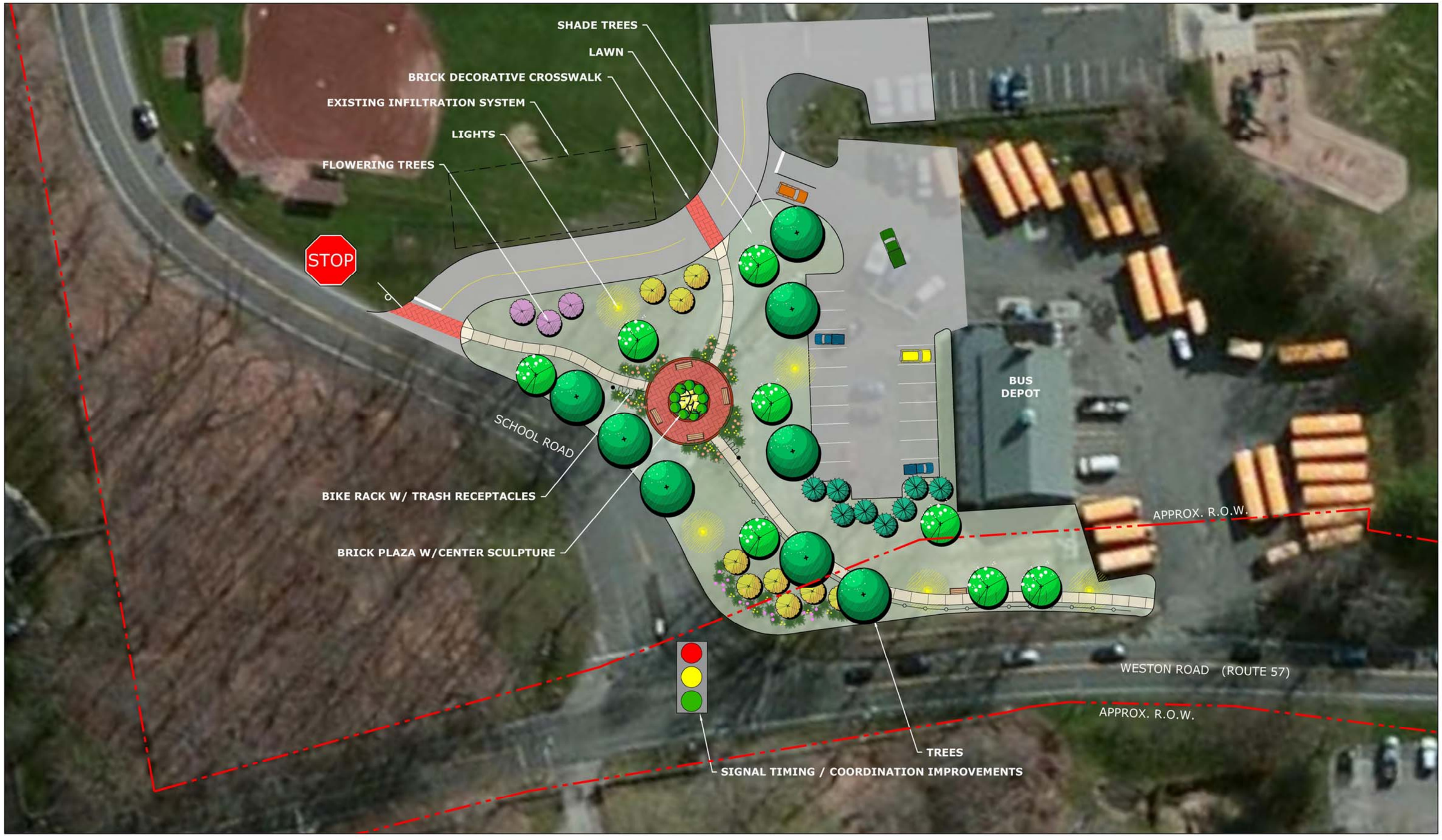
For the Long-Term Alternatives, it was decided that the Route 57 roadway widening improvements would serve as one standalone long-term alternative while the sidewalk improvements would serve as a second long-term alternative.

The preliminary alternatives were revised in accordance with comments provided by SWRPA and the Town of Weston into Preferred Improvement Alternatives. It was agreed that the Preferred Alternatives would be presented to CTDOT for further review and input prior to finalizing the alternatives.

5 Preferred Improvement Alternatives

Preferred Near-Term Alternative

The *Preferred Near-Term Alternative* for the study intersection is presented in ***Figure 11***. This alternative would involve the relocation of the existing driveway to the Hurlbutt Elementary School further to the east on School Road and aligned to avoid any impacts to the existing infiltration system on the school ball field. The proposed relocation would create more separation from and reduce the number of conflict points at the Route 57-School Road intersection. Stop control at the proposed driveway or possibly All-Way stop control at the proposed school driveway - School Road intersection would be provided. In addition, signal timing improvements and potential coordination with the newly redesigned traffic signal at the intersection of Route 57 and Norfield Road to the south would be implemented. Furthermore, a landscaped parklet with street lighting could be provided in the area bounded by the new school driveway, School Road, and Route 57. The proposed improvements would involve impacts to the school property. The order of magnitude cost for this alternative is anticipated to be approximately **$537,000** inclusive of a 40% incidentals/contingency factor. Approximately half of the construction cost comprises costs associated with the parklet and traffic signal upgrade. It should also be noted that costs associated with ROW impacts, permitting, and environmental compliance were not included in the cost estimates. A breakdown of the cost estimates is presented in the Appendix.



PREFERRED NEAR TERM ALTERNATE

WESTON (ROUTE 57) & SCHOOL ROAD INTERSECTION

WESTON, CONNECTICUT MAY 2012

FIGURE 11

MILONE & MACBROOM®
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NORTH

Preferred Long-Term Alternative 1

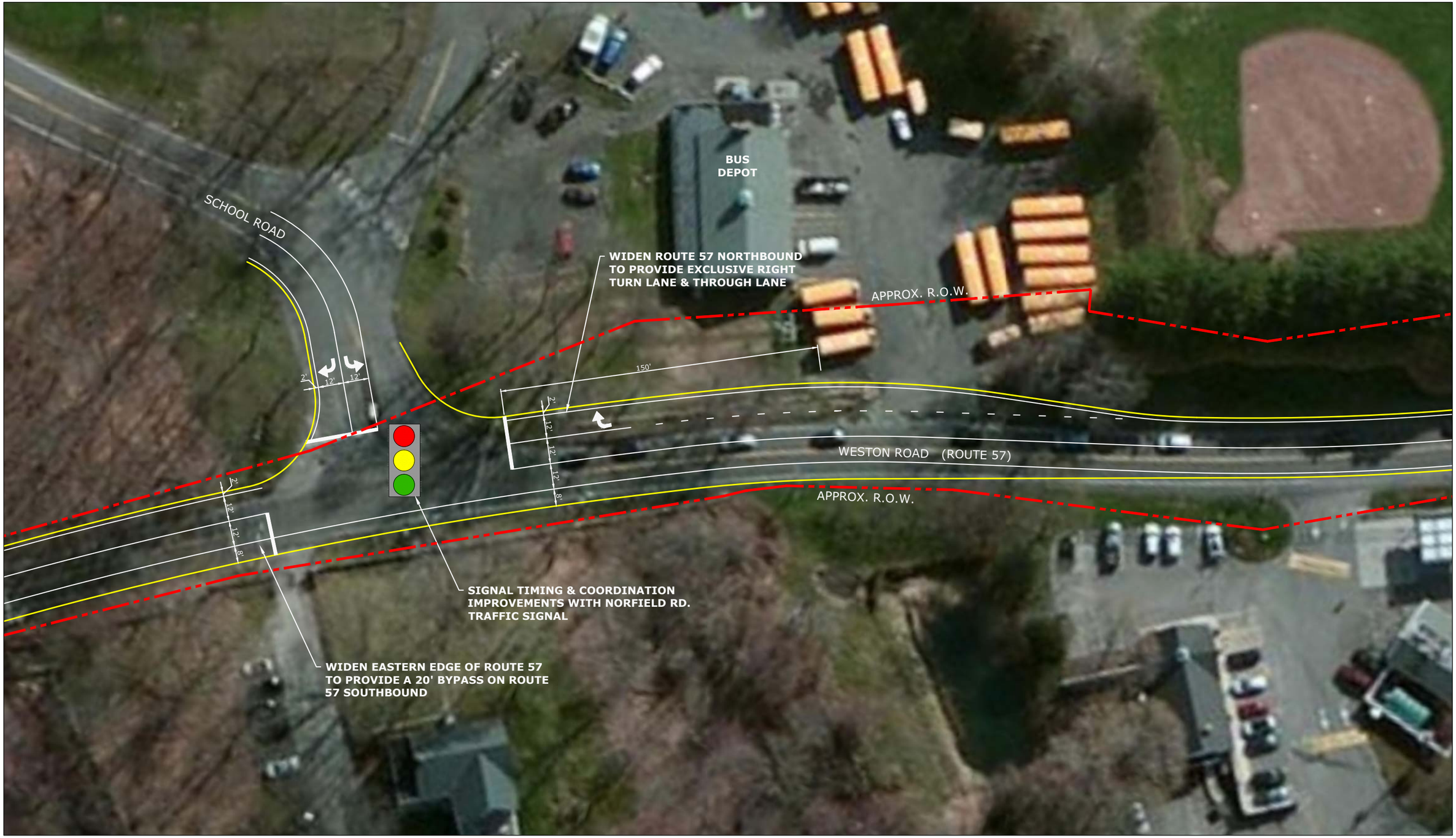
Preferred Long-Term Alternative 1 for the study intersection is presented in ***Figure 12***. This alternative would involve widening the Route 57 northbound approach along its eastern edge to provide an exclusive right-turn lane and a through lane. The Route 57 southbound approach would also be widened along the eastern edge to provide a 20-foot bypass to help minimize queuing on this approach. These improvements would involve little to no ROW impacts. The order of magnitude cost for this alternative is anticipated to be approximately **$866,000** inclusive of a 40% incidentals/contingency factor. It should be noted that costs associated with ROW impacts, permitting, and environmental compliance were not included in the cost estimates. A breakdown of the cost estimates is presented in the Appendix.

Preferred Long-Term Alternative 2

Preferred Long-Term Alternative 1 for the study intersection is presented in ***Figure 13***. This alternative would involve installing a new sidewalk along the eastern edge of Route 57 from School Road to Norfield Road with a mid-block crosswalk and advance crosswalk signage. This alternative would involve some ROW impacts. In addition, landscaping and street lighting would be provided along the sidewalk. The order of magnitude cost for this alternative is anticipated to be approximately **$709,000** inclusive of a 40% incidentals/contingency factor. It should be noted that costs associated with ROW impacts, permitting, and environmental compliance were not included in the cost estimates. A breakdown of the cost estimates is presented in the Appendix.

5.1 Right-of-Way Impacts

As indicated in previous sections of this report, the *Preferred Long-Term Alternatives* will be constructed within the existing ROW; therefore, no impacts are anticipated. The *Preferred Near-Term Alternative* on the other hand will be undertaken on town/school property. The estimated area of impact for this alternative is approximately 37,000 square feet



PREFERRED LONG TERM ALTERNATIVE 1

WESTON (ROUTE 57) & SCHOOL ROAD INTERSECTION

WESTON, CONNECTICUT MAY 2012

FIGURE 12

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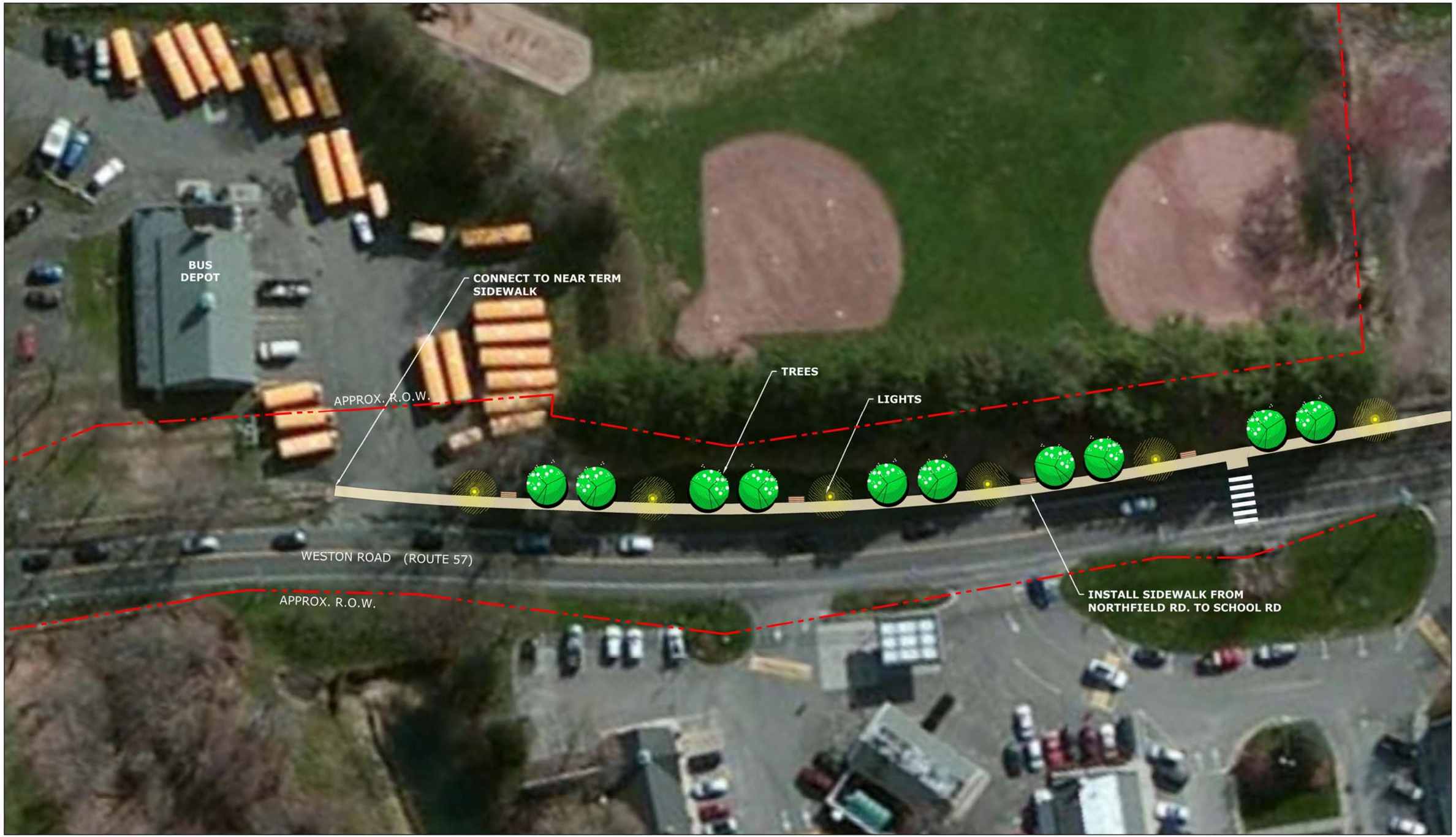
NORTH



PREFERRED LONG TERM ALTERNATIVE 2

WESTON (ROUTE 57) & SCHOOL ROAD INTERSECTION

WESTON, CONNECTICUT MAY 2012

FIGURE 13

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0 20' 40' 60' 80'

NORTH

5.2 Summary of Preferred Improvement Alternatives

TABLE 6
Summary of Preferred Alternatives

Weston Route 57-School Road Intersection Study				
Improvement	**Description**	**Cost***	**R.O.W Impacts**	**Oversight Agency**
Preferred Near-Term Alternative	◦ Relocate existing driveway to the Hurlbutt Elementary School further to the east of School Road. ◦ Provide Stop Control at proposed driveway or All-Way Stop Control at proposed school driveway. ◦ Provide signal timing improvements and potential coordination with newly redesigned traffic signal at the intersection of Route 57 and Norfield Road to the south. ◦ Landscaped parklet with street lighting in the area bounded by the new driveway, School Road, and Route 57.	$537,000	37,000 S.F	Town of Weston CT DOT
Preferred Long-Term Alternative 1	◦ Widen the Route 57 northbound approach along its eastern edge to provide an exclusive right-turn lane and through lane. ◦ Widen Route 57 Southbound approach along the eastern edge to provide a 20 foot bypass.	$866,000	Little or no ROW impacts	Town of Weston CT DOT
Preferred Long-Term Alternative 2	◦ Install new sidewalk along eastern edge of Route 57 from School Road to Norfield Road with a mid-block crosswalk and advance crosswalk signage. ◦ Provide landscaping and street lighting along new sidewalk.	$709,000	Little or no ROW impacts	Town of Weston CT DOT

*Includes a 40% incidentals/contingency factor.

6 Project Funding

The process of advancing a project from its conceptual phase through implementation is not guaranteed. The reality is that many projects do not get implemented due to the lack of funds.

The fiscal constraints brought about by the downturn of the U.S. economy means that funding for projects has become increasingly difficult to come by, and towns and agencies constantly have to compete for the limited funds available. The proposed near-term and long-term improvement projects at the intersection of Route 57 and School Road are no exception. It will, therefore, be prudent to identify sources of funding early on in the process to improve the chances of implementing these improvement projects. The following are potential sources of funding for the proposed improvements at the intersection of Route 57 and School Road.

- ***Small Town Economic Assistance Program (STEAP)*** – This program, which is administered by the Connecticut Office of Policy and Management, provides funding for projects that promote economic development, community conservation, and quality of life. Examples of such projects include roadway construction, roadway repair, environmental protection, and public safety improvements.

- ***Surface Transportation Program (STP) - Urban Program*** – This program is one of the Surface Transportation programs with funding for projects on minor arterials and collector roads in urban areas. Candidate projects include roadway widening, capacity enhancements, and transit enhancements.

- ***STP – Transportation Alternatives*** – This newly enacted federally funded program replaces the previous STP-Enhancement program. This new program consolidates the twelve previously eligible activities under the Enhancement program into six main eligible categories. Eligible projects include planning, design and construction of on and off road trail facilities for pedestrians, bicyclists and non-motorized forms of transportation, safe routes for non-drivers, conversion of railroad corridors for bicycle and pedestrian use, construction of turnouts, overlooks and viewing areas, community improvement and preservation, and environmental mitigation activities.

APPENDIX

Level of Service Criteria

LEVEL OF SERVICE
SIGNALIZED INTERSECTIONS

Level of Service (LOS) for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions (the absence of traffic control, geometric delay, any incidents, and any other vehicles). Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-minute analysis period. Delay is a complex measure and depends on a number of variables including the quality of progression, the cycle length, the green ratio, and the volume to capacity (v/c) ratio for the lane group. The criteria are given below.

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS	
LEVEL OF SERVICE	**CONTROL DELAY (seconds/vehicle)**
A	<10
B	>10 and <20
C	>20 and <35
D	>35 and <55
E	>55 and <80
F	>80

Specific descriptions of each LOS for signalized intersections are provided below:

Level of Service A describes operations with very low control delay, up to 10 seconds per vehicle (s/veh.). This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.

Level of Service B describes operations with delay greater than 10 and up to 20 s/veh. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

Level of Service C describes operations with control delay greater than 20 and up to 35 s/veh. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level though many still pass through the intersection without stopping.

Level of Service D describes operations with control delay greater than 35 and up to 55 s/veh. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

Level of Service E describes operations with control delay greater than 55 and up to 80 s/veh. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.

Level of Service F describes operations with control delay in excess of 80 s/veh. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

LEVEL OF SERVICE
UNSIGNALIZED INTERSECTIONS

The LOS for a TWSC (two-way stop controlled) intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS is not defined for the intersection as a whole. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. LOS criteria are given in the table below.

LEVEL OF SERVICE CRITERIA FOR TWSC INTERSECTIONS	
LEVEL OF SERVICE	**AVERAGE CONTROL DELAY (seconds/vehicle)**
A	**0-10**
B	**>10 and <15**
C	**>15 and <25**
D	**>25 and <35**
E	**>35 and <50**
F	**>50**

Reference: Highway Capacity Manual 2010, Transportation Research Board, 2010.

Capacity Analysis Worksheets

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	225	44	224	346	96	476
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1770	1538	1700	0	0	1845
Flt Permitted	0.950					0.304
Satd. Flow (perm)	1770	1538	1700	0	0	565
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		80	129			
Link Speed (mph)	25		30			30
Link Distance (ft)	106		324			282
Travel Time (s)	2.9		7.4			6.4
Peak Hour Factor	0.71	0.55	0.68	0.68	0.91	0.91
Heavy Vehicles (%)	2%	5%	2%	3%	3%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	317	80	838	0	0	628
Turn Type		Prot			D.P+P	
Protected Phases	4	4	2		1	1 2
Permitted Phases					2	
Detector Phase	4	4	2			2
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0		7.0	
Minimum Split (s)	12.0	12.0	21.0		10.1	
Total Split (s)	19.0	19.0	31.0	0.0	18.1	49.1
Total Split (%)	27.9%	27.9%	45.5%	0.0%	26.6%	72.1%
Maximum Green (s)	14.0	14.0	25.0		15.0	
Yellow Time (s)	3.0	3.0	3.5		3.0	
All-Red Time (s)	2.0	2.0	2.5		0.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	4.0	3.1	3.1
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.5		3.0	
Recall Mode	None	None	Min		Max	
Walk Time (s)	9.0	9.0				
Flash Dont Walk (s)	1.0	1.0				
Pedestrian Calls (#/hr)	0	0				
Act Effct Green (s)	13.6	13.6	25.0			42.9
Actuated g/C Ratio	0.20	0.20	0.37			0.63
v/c Ratio	0.89	0.22	1.18			0.98
Control Delay	56.4	7.9	116.7			44.5
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	56.4	7.9	116.7			44.5
LOS	E	A	F			D
Approach Delay	46.7		116.7			44.5
Approach LOS	D		F			D
Queue Length 50th (ft)	129	0	~397			145
Queue Length 95th (ft)	#173	8	#367			#356
Internal Link Dist (ft)	26		244			202
Turn Bay Length (ft)						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Base Capacity (vph)	366	382	710			642
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.87	0.21	1.18			0.98

Intersection Summary			
Area Type:	Other		
Cycle Length: 68.1			
Actuated Cycle Length: 67.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 77.4		Intersection LOS: E	
Intersection Capacity Utilization 88.3%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: School Road & Route 57

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	270	55	270	420	120	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1770	1538	1700	0	0	1843
Flt Permitted	0.950					0.223
Satd. Flow (perm)	1770	1538	1700	0	0	415
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		100	130			
Link Speed (mph)	25		30			30
Link Distance (ft)	106		324			282
Travel Time (s)	2.9		7.4			6.4
Peak Hour Factor	0.71	0.55	0.68	0.68	0.91	0.91
Heavy Vehicles (%)	2%	5%	2%	3%	3%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	380	100	1015	0	0	764
Turn Type		Prot			D.P+P	
Protected Phases	4	4	2		1	1 2
Permitted Phases					2	
Detector Phase	4	4	2			2
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0		7.0	
Minimum Split (s)	12.0	12.0	21.0		10.1	
Total Split (s)	19.0	19.0	31.0	0.0	18.1	49.1
Total Split (%)	27.9%	27.9%	45.5%	0.0%	26.6%	72.1%
Yellow Time (s)	3.0	3.0	3.5		3.0	
All-Red Time (s)	2.0	2.0	2.5		0.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	4.0	3.1	3.1
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Recall Mode	None	None	Min		Max	
Act Effct Green (s)	14.0	14.0	25.0			42.9
Actuated g/C Ratio	0.21	0.21	0.37			0.63
v/c Ratio	1.04	0.25	1.44			1.33
Control Delay	89.6	7.5	226.2			177.9
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	89.6	7.5	226.2			177.9
LOS	F	A	F			F
Approach Delay	72.5		226.2			177.9
Approach LOS	E		F			F
Queue Length 50th (ft)	~176	0	~559			~349
Queue Length 95th (ft)	#226	7	#499			#553
Internal Link Dist (ft)	26		244			202
Turn Bay Length (ft)						
Base Capacity (vph)	364	396	706			576
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	1.04	0.25	1.44			1.33

Intersection Summary		
Area Type:	Other	
Cycle Length: 68.1		
Actuated Cycle Length: 68.1		
Natural Cycle: 150		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 1.44		
Intersection Signal Delay: 177.2		Intersection LOS: F
Intersection Capacity Utilization 104.3%		ICU Level of Service G
Analysis Period (min) 15		

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: School Road & Route 57

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	290	49	316	133	36	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1736	1553	1744	0	0	1825
Flt Permitted	0.950					0.927
Satd. Flow (perm)	1709	1553	1744	0	0	1702
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		75	43			
Link Speed (mph)	25		30			30
Link Distance (ft)	106		324			282
Travel Time (s)	2.9		7.4			6.4
Confl. Peds. (#/hr)	5	3		5	3	
Peak Hour Factor	0.71	0.65	0.79	0.79	0.80	0.80
Heavy Vehicles (%)	4%	4%	2%	8%	14%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	408	75	568	0	0	370
Turn Type		Prot			D.P+P	
Protected Phases	4	4	2		1	1 2
Permitted Phases					2	
Detector Phase	4	4	2			2
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0		7.0	
Minimum Split (s)	12.0	12.0	21.0		10.1	
Total Split (s)	19.0	19.0	31.0	0.0	10.1	41.1
Total Split (%)	31.6%	31.6%	51.6%	0.0%	16.8%	68.4%
Yellow Time (s)	3.0	3.0	3.5		3.0	
All-Red Time (s)	2.0	2.0	2.5		0.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	4.0	3.1	3.1
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Recall Mode	None	None	Min		Max	
Act Effct Green (s)	14.1	14.1	21.7			31.7
Actuated g/C Ratio	0.25	0.25	0.38			0.56
v/c Ratio	0.95	0.17	0.82			0.39
Control Delay	60.0	6.7	26.1			6.9
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	60.0	6.7	26.1			6.9
LOS	E	A	C			A
Approach Delay	51.7		26.1			6.9
Approach LOS	D		C			A
Queue Length 50th (ft)	~151	0	155			52
Queue Length 95th (ft)	#210	13	212			75
Internal Link Dist (ft)	26		244			202
Turn Bay Length (ft)						
Base Capacity (vph)	428	440	793			1063
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Reduced v/c Ratio	0.95	0.17	0.72			0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 60.1			
Actuated Cycle Length: 57			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 29.8		Intersection LOS: C	
Intersection Capacity Utilization 67.6%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: School Road & Route 57

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	350	60	380	160	45	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1736	1553	1744	0	0	1825
Flt Permitted	0.950					0.731
Satd. Flow (perm)	1709	1553	1744	0	0	1342
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		92	43			
Link Speed (mph)	25		30			30
Link Distance (ft)	106		324			282
Travel Time (s)	2.9		7.4			6.4
Confl. Peds. (#/hr)	5	3		5	3	
Peak Hour Factor	0.71	0.65	0.79	0.79	0.80	0.80
Heavy Vehicles (%)	4%	4%	2%	8%	14%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	493	92	684	0	0	450
Turn Type		Prot			D.P+P	
Protected Phases	4	4	2		1	1 2
Permitted Phases					2	
Detector Phase	4	4	2			2
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0		7.0	
Minimum Split (s)	12.0	12.0	21.0		10.1	
Total Split (s)	19.0	19.0	31.0	0.0	10.1	41.1
Total Split (%)	31.6%	31.6%	51.6%	0.0%	16.8%	68.4%
Yellow Time (s)	3.0	3.0	3.5		3.0	
All-Red Time (s)	2.0	2.0	2.5		0.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	4.0	3.1	3.1
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Recall Mode	None	None	Min		Max	
Act Effct Green (s)	14.0	14.0	23.9			33.9
Actuated g/C Ratio	0.24	0.24	0.40			0.57
v/c Ratio	1.20	0.21	0.93			0.54
Control Delay	136.4	6.5	38.9			8.9
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	136.4	6.5	38.9			8.9
LOS	F	A	D			A
Approach Delay	116.0		38.9			8.9
Approach LOS	F		D			A
Queue Length 50th (ft)	~227	0	211			67
Queue Length 95th (ft)	#272	14	#325			94
Internal Link Dist (ft)	26		244			202
Turn Bay Length (ft)						
Base Capacity (vph)	412	438	764			851
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Reduced v/c Ratio	1.20	0.21	0.90			0.53

Intersection Summary			
Area Type:	Other		
Cycle Length: 60.1			
Actuated Cycle Length: 59.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 57.3		Intersection LOS: E	
Intersection Capacity Utilization 80.9%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: School Road & Route 57

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	270	55	270	420	120	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.918			
Flt Protected	0.950					0.991
Satd. Flow (prot)	1770	1538	1700	0	0	1843
Flt Permitted	0.950					0.541
Satd. Flow (perm)	1770	1538	1700	0	0	1006
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		60	134			
Link Speed (mph)	25		30			30
Link Distance (ft)	200		324			282
Travel Time (s)	5.5		7.4			6.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	3%	3%	2%
Adj. Flow (vph)	293	60	293	457	130	625
Shared Lane Traffic (%)						
Lane Group Flow (vph)	293	60	750	0	0	755
Turn Type		Prot			D.P+P	
Protected Phases	4	4	2		1	1 2
Permitted Phases					2	
Detector Phase	4	4	2		1	1 2
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0		7.0	
Minimum Split (s)	12.0	12.0	21.0		10.1	
Total Split (s)	26.0	26.0	53.0	0.0	11.0	64.0
Total Split (%)	28.9%	28.9%	58.9%	0.0%	12.2%	71.1%
Maximum Green (s)	21.0	21.0	48.0		7.9	
Yellow Time (s)	3.0	3.0	3.0		3.0	
All-Red Time (s)	2.0	2.0	2.0		0.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.0	3.1	3.1
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.5		3.0	
Recall Mode	None	None	C-Min		Min	
Act Effct Green (s)	18.1	18.1	50.9			60.7
Actuated g/C Ratio	0.20	0.20	0.57			0.67
v/c Ratio	0.82	0.17	0.74			1.00
Control Delay	53.4	9.1	17.8			49.1
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	53.4	9.1	17.8			49.1
LOS	D	A	B			D
Approach Delay	45.9		17.8			49.1
Approach LOS	D		B			D
Stops (vph)	249	13	443			330
Fuel Used(gal)	4	0	7			10
CO Emissions (g/hr)	304	17	468			720

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
NOx Emissions (g/hr)	59	3	91			140
VOC Emissions (g/hr)	70	4	108			167
Dilemma Vehicles (#)	0	0	0			0
Queue Length 50th (ft)	158	0	253			~206
Queue Length 95th (ft)	#260	31	430			#526
Internal Link Dist (ft)	120		244			202
Turn Bay Length (ft)						
Base Capacity (vph)	413	405	1020			752
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.71	0.15	0.74			1.00

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 1 (1%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 35.9		Intersection LOS: D	
Intersection Capacity Utilization 103.5%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: School Road & Route 57

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	400	135	55	245	80	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.966				0.963	
Flt Protected				0.991	0.965	
Satd. Flow (prot)	1773	0	0	1700	1731	0
Flt Permitted				0.991	0.965	
Satd. Flow (perm)	1773	0	0	1700	1731	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	200			135	97	
Travel Time (s)	5.5			3.7	2.6	
Peak Hour Factor	0.61	0.61	0.60	0.60	0.29	0.29
Heavy Vehicles (%)	4%	2%	45%	3%	2%	2%
Adj. Flow (vph)	656	221	92	408	276	103
Shared Lane Traffic (%)						
Lane Group Flow (vph)	877	0	0	500	379	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.5%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	350	60	380	160	45	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.960			
Flt Protected	0.950					0.994
Satd. Flow (prot)	1770	1538	1783	0	0	1849
Flt Permitted	0.950					0.900
Satd. Flow (perm)	1770	1538	1783	0	0	1674
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		65	32			
Link Speed (mph)	25		30			30
Link Distance (ft)	200		324			282
Travel Time (s)	5.5		7.4			6.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	3%	3%	2%
Adj. Flow (vph)	380	65	413	174	49	342
Shared Lane Traffic (%)						
Lane Group Flow (vph)	380	65	587	0	0	391
Turn Type		Prot			D.P+P	
Protected Phases	4	4	2		1	1 2
Permitted Phases					2	
Detector Phase	4	4	2		1	1 2
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0		7.0	
Minimum Split (s)	12.0	12.0	21.0		10.1	
Total Split (s)	31.0	31.0	48.0	0.0	11.0	59.0
Total Split (%)	34.4%	34.4%	53.3%	0.0%	12.2%	65.6%
Maximum Green (s)	26.0	26.0	43.0		7.9	
Yellow Time (s)	3.0	3.0	3.0		3.0	
All-Red Time (s)	2.0	2.0	2.0		0.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.0	3.1	3.1
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.5		3.0	
Recall Mode	None	None	C-Min		Min	
Act Effct Green (s)	22.6	22.6	46.6			56.2
Actuated g/C Ratio	0.25	0.25	0.52			0.62
v/c Ratio	0.86	0.15	0.63			0.37
Control Delay	50.9	7.4	19.2			8.9
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	50.9	7.4	19.2			8.9
LOS	D	A	B			A
Approach Delay	44.6		19.2			8.9
Approach LOS	D		B			A
Stops (vph)	320	12	367			169
Fuel Used(gal)	5	0	6			2
CO Emissions (g/hr)	381	17	385			166

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
NOx Emissions (g/hr)	74	3	75			32
VOC Emissions (g/hr)	88	4	89			38
Dilemma Vehicles (#)	0	0	0			0
Queue Length 50th (ft)	202	0	222			90
Queue Length 95th (ft)	#322	29	355			148
Internal Link Dist (ft)	120		244			202
Turn Bay Length (ft)						
Base Capacity (vph)	511	491	938			1064
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.74	0.13	0.63			0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 1 (1%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 24.3		Intersection LOS: C	
Intersection Capacity Utilization 79.9%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: School Road & Route 57

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	270	55	270	420	120	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		150	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.991
Satd. Flow (prot)	1770	1538	1863	1568	0	1843
Flt Permitted	0.950					0.887
Satd. Flow (perm)	1770	1538	1863	1568	0	1649
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		60		457		
Link Speed (mph)	25		30			30
Link Distance (ft)	200		324			282
Travel Time (s)	5.5		7.4			6.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	3%	3%	2%
Adj. Flow (vph)	293	60	293	457	130	625
Shared Lane Traffic (%)						
Lane Group Flow (vph)	293	60	293	457	0	755
Turn Type		Prot		Perm	D.P+P	
Protected Phases	4	4	2		1	1 2
Permitted Phases				2	2	
Detector Phase	4	4	2	2	1	1 2
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0	15.0	7.0	
Minimum Split (s)	12.0	12.0	21.0	21.0	10.1	
Total Split (s)	26.0	26.0	53.0	53.0	11.0	64.0
Total Split (%)	28.9%	28.9%	58.9%	58.9%	12.2%	71.1%
Maximum Green (s)	21.0	21.0	48.0	48.0	7.9	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	0.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	3.1	3.1
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.5	2.5	3.0	
Recall Mode	None	None	C-Min	C-Min	Min	
Act Effct Green (s)	18.1	18.1	50.9	50.9		60.7
Actuated g/C Ratio	0.20	0.20	0.57	0.57		0.67
v/c Ratio	0.82	0.17	0.28	0.42		0.67
Control Delay	53.4	9.1	11.6	2.4		12.1
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	53.4	9.1	11.6	2.4		12.1
LOS	D	A	B	A		B
Approach Delay	45.9		6.0			12.1
Approach LOS	D		A			B

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Stops (vph)	249	13	135	26		418
Fuel Used(gal)	4	0	2	1		6
CO Emissions (g/hr)	304	17	144	99		388
NOx Emissions (g/hr)	59	3	28	19		76
VOC Emissions (g/hr)	70	4	33	23		90
Dilemma Vehicles (#)	0	0	0	0		0
Queue Length 50th (ft)	158	0	83	0		191
Queue Length 95th (ft)	#260	31	137	43		306
Internal Link Dist (ft)	120		244			202
Turn Bay Length (ft)				150		
Base Capacity (vph)	413	405	1054	1085		1129
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.71	0.15	0.28	0.42		0.67

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 1 (1%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 77.7%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: School Road & Route 57

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	350	60	380	160	45	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		150	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Satd. Flow (prot)	1770	1538	1863	1568	0	1849
Flt Permitted	0.950					0.923
Satd. Flow (perm)	1770	1538	1863	1568	0	1717
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		65		174		
Link Speed (mph)	25		30			30
Link Distance (ft)	200		324			282
Travel Time (s)	5.5		7.4			6.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	3%	3%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	380	65	413	174	0	391
Turn Type		Prot		Perm	D.P+P	
Protected Phases	4	4	2		1	1 2
Permitted Phases				2	2	
Detector Phase	4	4	2	2	1	1 2
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0	15.0	7.0	
Minimum Split (s)	12.0	12.0	21.0	21.0	10.1	
Total Split (s)	31.0	31.0	48.0	48.0	11.0	59.0
Total Split (%)	34.4%	34.4%	53.3%	53.3%	12.2%	65.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	0.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	3.1	3.1
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	Min	
Act Effct Green (s)	22.6	22.6	46.6	46.6		56.2
Actuated g/C Ratio	0.25	0.25	0.52	0.52		0.62
v/c Ratio	0.86	0.15	0.43	0.19		0.36
Control Delay	50.9	7.4	16.1	2.8		8.8
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	50.9	7.4	16.1	2.8		8.8
LOS	D	A	B	A		A
Approach Delay	44.6		12.1			8.8
Approach LOS	D		B			A
Stops (vph)	320	12	232	16		169
Fuel Used(gal)	5	0	3	1		2
CO Emissions (g/hr)	381	17	244	41		166
NOx Emissions (g/hr)	74	3	47	8		32
VOC Emissions (g/hr)	88	4	56	9		38
Dilemma Vehicles (#)	0	0	0	0		0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	202	0	143	0		90
Queue Length 95th (ft)	#322	29	229	32		148
Internal Link Dist (ft)	120		244			202
Turn Bay Length (ft)				150		
Base Capacity (vph)	511	491	964	896		1087
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.74	0.13	0.43	0.19		0.36

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 1 (1%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 21.4		Intersection LOS: C	
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: School Road & Route 57

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	270	55	270	420	120	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	16
Storage Length (ft)	0	0		150	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.991
Satd. Flow (prot)	1770	1538	1863	1568	0	2089
Flt Permitted	0.950					0.887
Satd. Flow (perm)	1770	1538	1863	1568	0	1869
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		60		457		
Link Speed (mph)	25		30			30
Link Distance (ft)	200		324			282
Travel Time (s)	5.5		7.4			6.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	3%	3%	2%
Adj. Flow (vph)	293	60	293	457	130	625
Shared Lane Traffic (%)						
Lane Group Flow (vph)	293	60	293	457	0	755
Turn Type		Prot		Perm	D.P+P	
Protected Phases	4	4	2		1	1 2
Permitted Phases				2	2	
Detector Phase	4	4	2	2	1	1 2
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0	15.0	7.0	
Minimum Split (s)	12.0	12.0	21.0	21.0	10.1	
Total Split (s)	26.0	26.0	53.0	53.0	11.0	64.0
Total Split (%)	28.9%	28.9%	58.9%	58.9%	12.2%	71.1%
Maximum Green (s)	21.0	21.0	48.0	48.0	7.9	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	0.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	3.1	3.1
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.5	2.5	3.0	
Recall Mode	None	None	C-Min	C-Min	Min	
Act Effct Green (s)	18.1	18.1	50.9	50.9		60.7
Actuated g/C Ratio	0.20	0.20	0.57	0.57		0.67
v/c Ratio	0.82	0.17	0.28	0.42		0.59
Control Delay	53.4	9.1	11.6	2.4		9.9
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	53.4	9.1	11.6	2.4		9.9
LOS	D	A	B	A		A
Approach Delay	45.9		6.0			9.9

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS	D		A			A
Stops (vph)	249	13	135	26		371
Fuel Used(gal)	4	0	2	1		5
CO Emissions (g/hr)	304	17	144	99		348
NOx Emissions (g/hr)	59	3	28	19		68
VOC Emissions (g/hr)	70	4	33	23		81
Dilemma Vehicles (#)	0	0	0	0		0
Queue Length 50th (ft)	158	0	83	0		177
Queue Length 95th (ft)	#260	31	137	43		273
Internal Link Dist (ft)	120		244			202
Turn Bay Length (ft)				150		
Base Capacity (vph)	413	405	1054	1085		1280
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.71	0.15	0.28	0.42		0.59

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 1 (1%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 77.7%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: School Road & Route 57

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	350	60	380	160	45	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	16
Storage Length (ft)	0	0		150	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.994
Satd. Flow (prot)	1770	1538	1863	1568	0	2096
Flt Permitted	0.950					0.923
Satd. Flow (perm)	1770	1538	1863	1568	0	1946
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		65		174		
Link Speed (mph)	25		30			30
Link Distance (ft)	200		324			282
Travel Time (s)	5.5		7.4			6.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	3%	3%	2%
Adj. Flow (vph)	380	65	413	174	49	342
Shared Lane Traffic (%)						
Lane Group Flow (vph)	380	65	413	174	0	391
Turn Type		Prot		Perm	D.P+P	
Protected Phases	4	4	2		1	1 2
Permitted Phases				2	2	
Detector Phase	4	4	2	2	1	1 2
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0	15.0	7.0	
Minimum Split (s)	12.0	12.0	21.0	21.0	10.1	
Total Split (s)	31.0	31.0	48.0	48.0	11.0	59.0
Total Split (%)	34.4%	34.4%	53.3%	53.3%	12.2%	65.6%
Maximum Green (s)	26.0	26.0	43.0	43.0	7.9	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	0.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	3.1	3.1
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.5	2.5	3.0	
Recall Mode	None	None	C-Min	C-Min	Min	
Act Effct Green (s)	22.6	22.6	46.6	46.6		56.2
Actuated g/C Ratio	0.25	0.25	0.52	0.52		0.62
v/c Ratio	0.86	0.15	0.43	0.19		0.32
Control Delay	50.9	7.4	16.1	2.8		8.1
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	50.9	7.4	16.1	2.8		8.1
LOS	D	A	B	A		A
Approach Delay	44.6		12.1			8.1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS	D		B			A
Stops (vph)	320	12	232	16		158
Fuel Used(gal)	5	0	3	1		2
CO Emissions (g/hr)	381	17	244	41		158
NOx Emissions (g/hr)	74	3	47	8		31
VOC Emissions (g/hr)	88	4	56	9		37
Dilemma Vehicles (#)	0	0	0	0		0
Queue Length 50th (ft)	202	0	143	0		87
Queue Length 95th (ft)	#322	29	229	32		141
Internal Link Dist (ft)	120		244			202
Turn Bay Length (ft)				150		
Base Capacity (vph)	511	491	965	896		1233
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.74	0.13	0.43	0.19		0.32

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 1 (1%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 21.2		Intersection LOS: C	
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: School Road & Route 57

Cost Estimates

CONCEPTUAL LEVEL CONSTRUCTION COST OPINION
NEAR TERM 1
ROUTE 57 AT SCHOOL ROAD
WESTON, CONNECTICUT

ITEM/DESCRIPTION	UNIT	QTY	UNIT COST	COST
Pavement	SY	520	$ 74.00	$38,480.00
Earthwork	CY	350	$ 30.00	$10,500.00
Pavement Removal, Turf, Topsoil	SY	600	$ 20.00	$12,000.00
Curbing	LF	470	$ 50.00	$23,500.00
				$84,480.00
Drainage (20%)				$ 16,896.00
				$101,376.00
Minor Items (30%)				$ 30,412.80
				$131,788.80
Lump Sum Items (14.5%)				$ 19,109.38
Traffic Person	EA	1	$ 12,000.00	$12,000.00
			Roadway Cost:	***$162,898.18***
Traffic Signal Modifications/Upgrade	Ea.	1	$ 100,000.00	$100,000.00
Streetscape (Lighting and Landscaping)	Est.	1	$ 120,000.00	$120,000.00
			Construction Cost:	***$382,898.18***
			Contingency ±10%:	$38,289.82
			Incidentals to Construction ±30%	$114,869.45
			2012 Project Total:	**$536,057.45**
			2012 Project Total (Rounded):	**$537,000.00**

Note:
Exclusions: Right of Way Impacts, Permitting, Environmental Compliance, Handling of Harzadous materials

CONCEPTUAL LEVEL CONSTRUCTION COST OPINION
LONG TERM 1-ROADWAY
ROUTE 57 AT SCHOOL ROAD
WESTON, CONNECTICUT

ITEM/DESCRIPTION	UNIT	QTY	UNIT COST	COST
Pavement	SY	1,360	$ 74.00	$100,640.00
Earthwork	CY	904	$ 30.00	$27,120.00
Mill	SY	5,010	$ 6.00	$30,060.00
2" Overlay	TON	576	$ 110.00	$63,376.50
Tack Coat	GAL	501	$ 9.00	$4,509.00
Curbing	CF	2,400	$ 10.00	$24,000.00
				$249,705.50
Drainage (20%)				$49,941.10
				$299,646.60
Minor Items (30%)				$ 89,893.98
				$ 389,540.58
Lump Sum Items (14.5%)				$ 56,483.38
Traffic Person	EA	1		$72,000.00
			Roadway Cost:	***$ 518,023.96***
Traffic Signal Modifications/Upgrade	Ea.	1	$ 100,000.00	$100,000.00
			Construction Cost:	***$ 618,023.96***
			Contingency ±10%:	$61,802.40
			Incidentals to Construction ±30%	$185,407.19
			2012 Project Total:	**$865,233.55**
			2012 Project Total (Rounded):	**$866,000.00**

Note:
Exclusions: Right of Way Impacts, Permitting, Environmental Compliance, Handling of Harzadous materials

CONCEPTUAL LEVEL CONSTRUCTION COST OPINION
LONG TERM 2- SIDEWALK
ROUTE 57 AT SCHOOL ROAD
WESTON, CONNECTICUT

ITEM/DESCRIPTION	UNIT	QTY	UNIT COST	COST
Sidewalk	SF	6,900	$ 15.00	$103,500.00
Minor Items (20%)				$ 20,700.00
Traffic Person	EA	1	$ 12,000.00	$ 12,000.00
				$136,200.00
Lump Sum Items (14.5%)				$ 19,749.00
			Roadway Cost:	***$155,949.00***
Streetscape (Lighting and Landscaping)	LF	1,000	$ 350.00	$350,000.00
			Construction Cost:	***$505,949.00***
			Contingency ±10%:	$50,594.90
			Incidentals to Construction ±30%	$151,784.70
			2012 Project Total:	**$708,328.60**
			2012 Project Total (Rounded):	**$709,000.00**

Note:
Exclusions: Right of Way Impacts, Permitting, Environmental Compliance, Handling of Harzadous materials

Report of Meetings

KICK-OFF MEETING NOTES

Weston Route 57-School Road Intersection Study

Westport Route 136 – Bayberry Lane Extension Intersection Study

Held on December 7, 2011

In attendance:

Gayle Weinstein	-	Weston First Selectman
Chief John Troxell	-	Weston Police Department
Chief Dale Call	-	Westport Police Department
Peter Ratkiewich	-	Town of Westport Department of Public Works
Barry Hammons	-	Town of Westport Department of Public Works
Sue Prosi	-	South Western Regional Planning Agency (SWRPA)
Alex Karman	-	South Western Regional Planning Agency (SWRPA)
Ron Malone		
Steve Halstead		
Dave Sullivan	-	Milone & MacBroom (MMI)
Kwesi Brown	-	Milone & MacBroom (MMI)

1. **Introductions and Study Overview**

Sue Prosi from SWRPA welcomed everyone and led introductions around the room. Dave Sullivan from MMI gave a brief overview of the study while Kwesi Brown from MMI discussed the study approach, tasks, deliverables and schedule for the two studies.

2. **Discussion Items**

Weston Route 57 - School Road Intersection

- Data Collection
  - Traffic data collection effort should not be limited to school peak hours but should include commuter hours as well.
  - Collection of school information should be coordinated through Joann Keating, Weston Board of Education.
  - Traffic issues at the Route 57-School Road intersection are also due to the geometric layout of intersection.

- SWRPA will provide available information including previous reports and GIS/survey information.
- There are potential wetland issues north of school road to consider.
- SWRPA to look into obtaining wetland delineation resources.
- MMI to contact CTDOT for wetlands mapping, available information, past studies (including the Project Development Unit review of the intersection, and the current signal upgrade.
- Weston Police Department will provide accident records for study area. This data will cover CTDOT's most recent three year period and accidents that have occurred since then.

- Analysis
  - Anticipated land use changes
    - Possible relocation of school bus depot to town highway department not likely to materialize.
    - Potential long term conversion of school bus depot area to a senior center or some other use. This will not impact current intersection study.

- Alternatives
  - Improvement recommendations from previous Purcell Study required ROW acquisition for turn lanes. The property owner directly opposite School Road was opposed to it.
  - Recommended alternatives for the Route 57-School Road intersection should not be limited to signal improvements. Geometric improvements such as turn lanes should be considered as well.
  - There are currently limited-to-no pedestrian accommodations at the study intersection.
  - The provision of sidewalks along the western side of Route 57 to Northfield Road should be considered at a minimum and as one of the full build alternatives.
  - The "Safe Routes to School" program would be a good source of funding for some of the pedestrian and bicyclist improvements within the study area.
  - MMI to coordinate with Fred Kulakowski and Joe Ouellette of the CTDOT on the
    - CTDOT improvements at Route 57 - School Road intersection.
    - Upgrade of existing signal at Northfield Road.

- Schedule
  - Data collection effort would likely begin after the holidays.
  - Both studies will run concurrent to each other.

Westport Route 136 – Bayberry Lane Extension Intersection

- Data Collection
    - MMI will contact CTDOT Traffic for available information and previous reports, studies, and design concepts.
    - Barry Hammons and Peter Ratkiewich of Westport DPW will provide GIS mapping /shapefiles and CADD based survey files for study area.
    - Westport Police Department will provide accident records for study area. This data will cover CTDOT's most recent three year period and accidents that have occurred since then.

- Analysis
    - The study should consider that there is an elementary school south of Berkley Road.
    - The northwestern corner of the intersection of Route 136 at Bayberry Lane is sometimes used as a pull over area by trucks.

- Alternatives
    - Attendees agreed that bicycle and pedestrian usage was not significant, though will be considered in the analysis as part of the complete streets approach.
    - MMI to develop a roundabout alternative for intersection.
    - MMI to develop alternatives that look into sight line improvement and maintenance issues on Route 136.
    - Vehicular speeds are an issue on Route 136. MMI to look at posted speeds and advance signage improvements.
    - Property, utility and environmental impacts
        - There is currently a Tenneco gas pipeline going through the parcel north of the intersection.
        - There is a seasonal pond on the parcel north of the intersection.
        - There are some other wetlands in the study area.

- Schedule
    - Both studies will run concurrent.

- Meetings
    - Possible consolidation of second meeting for the two studies into one meeting.

MEETING NOTES ON PRELIMINARY IMPROVEMENT ALTERNATIVES

Weston Route 57-School Road Intersection Study

Westport Route 136 – Bayberry Lane Extension Intersection Study

Held on April 10, 2012

In attendance:

Gayle Weinstein	-	Weston First Selectman
Chief John Troxell	-	Weston Police Department
John Conte	-	Town of Weston
Dan Clarke	-	Weston Schools
Jo-Ann Keating	-	Weston Schools
Peter Ratkiewich	-	Town of Westport Department of Public Works
Sue Prosi	-	South Western Regional Planning Agency (SWRPA)
Alex Karman	-	SWRPA
Dave Sullivan	-	Milone & MacBroom (MMI)
Kwesi Brown	-	MMI

1. Introductions and Study Update

Dave Sullivan from MMI welcomed everyone and led introductions around the room. Kwesi Brown gave an update on the existing and future conditions assessment for the two study sites and presented the preliminary near term and long term improvement alternatives that were being considered for the intersection of Route 57 at School Road in Weston and the intersection of Route 136 at Bayberry Lane in Westport.

2. Weston Route 57- School Road Intersection Preliminary Alternatives

The following improvements were presented as potential improvement alternatives for the intersection of Route 57 at School Road:

<u>Weston Near Term 1</u>

- Close the existing parent-pickup drop off driveway and relocate it further to the east on School Road along the lower western boundary of the baseball field. This will create more separation from the Route 57/School Road intersection and reduce the number of conflict points at that location.

- Implement signal timing improvements and potential coordination with the re-designed traffic signal at the intersection of Route 57 at Norfield Road to the south.
- Remove the existing stop sign on School Road westbound so that School Road becomes free flow.

Weston Near Term 2

- Construct a new parent pickup/drop off driveway further to the east on School along the eastern boundary of the baseball field. While leaving the existing driveway open only for bus access to the school bus depot. This will create more separation from the Route 57/School Road intersection and reduce the number of conflict points within that area.
- Implement signal timing improvements and potential coordination with the re-designed traffic signal at the intersection of Route 57 at Norfield Road to the south.
- Remove the existing stop sign on School Road westbound so that School Road becomes free flow.

Weston Long Term 1

- Widen the Route 57 northbound approach along the eastern side to provide an exclusive right turn lane and a through lane. This would reduce queuing on the northbound approach.
- Install a new sidewalk along the eastern edge of Route 57 from School Road to Norfield Road with a mid-block crosswalk. Provide appropriate signage in advance of the mid-block crosswalk.

Weston Long Term 2

- Widen the Route 57 northbound approach along the eastern side to provide an exclusive right turn lane and a through lane.
- Widen the Route 57 southbound approach along the eastern side to provide a 20 foot bypass to reduce queuing on this approach.
- Install a new sidewalk along the eastern edge of Route 57 from School Road to Norfield Road with a mid-block crosswalk. Provide appropriate signage in advance of the mid-block crosswalk.

Comments on Weston Improvements

- Near Term 1 - Realign the proposed driveway to minimize impacts to the ball field and utilities in that area. Also, provide an All Way Stop at the School Road/new driveway intersection. This alternative with the proposed revisions was acceptable to all as a near term improvement.
- Near Term 2 – According to the town, this alternative would not work as students would have to cross the proposed driveway to get from the playground to the ball field. Also there is currently a sewage system located where the new roadway is proposed. Of the two near term alternatives, Near Term 2 was the least preferred option by the town.
- Long Term Alternatives – It was decided that the sidewalk improvements would serve as one standalone long term alternative while the Route 57 roadway widening improvements would serve as the second long term alternative. The proposed location of the sidewalks along the eastern edge of Route 57 was acceptable to all.

3. Westport Route 136- Bayberry Lane Extension Intersection Preliminary Alternatives

The following improvements were recommended for the intersection of Route 136 at Bayberry Lane:

<u>Westport Near Term 1</u>

- Realign the intersection of Route 136 at Bayberry Lane to slow vehicles down; the Bayberry Lane Extension westbound approach will remain unchanged.
- Provide an All Way Stop control at the intersection of Route 136 at Bayberry Lane to reduce vehicular speeds and improve sightlines.

<u>Westport Near Term</u> 2

- Construct a three point single lane roundabout at the intersection of Route 136 at Bayberry Lane to calm traffic and also to improve sightlines.

<u>Westport Long Term 1</u>

- Reconfigure the intersection into a four-legged intersection with Two-Way stop sign control on the Bayberry Lane approaches.
- The proposed intersection reconfiguration will involve impacts to the property on northwestern quadrant of the intersection.

Westport Long Term 2

- Reconfigure the intersection and construct a four point single lane roundabout. The intersection reconfiguration will involve impacts to the property on northwestern quadrant of the intersection.

Comments on Westport Improvements

- Near Term 1 – It was agreed that the proposed All Way Stop at the intersection may get some push back from the Connecticut Department of Transportation (CTDOT).
- Near Term 2 – It is likely that CTDOT would be open to a roundabout at the intersection.
- Long Term Alternatives – The long term may be a viable option if the town is able to acquire the property on the northwestern quadrant of the intersection. The town of Westport was in favor of all four improvement alternatives

4. Other Items

- There was a discussion on potential funding sources for the two studies. SWRPA identified the STP Urban Grant, the Safe Routes to School Program and the Small Town Economic Assistance Program (STEAP) as potential funding sources. SWRPA also talked about helping the towns of Weston and Westport sign up for the Safe Routes to School Program. It was agreed that MMI should have a section on funding sources in the final report.
- It was decided that MMI will forward the alternatives to CTDOT for their review and input.
- It was confirmed that MMI would quantify ROW impacts by calculating area of impacts as well as conduct cost estimates of the proposed improvements.

General Project Info Report

LEA	Project Number	Project Type	Facility Name	Project Status	Grades	Architect Name	GA Auth. Date	Site Accquisition Costs	Total Costs	Total Area(in Sqft)	Reimb. %
157	157-0011	CV	Weston High School	Cancelled Project				-	$25,000	0	40.95
157	157-0012	CV	Weston Middle School	Cancelled Project				-	$25,000	0	40.95
157	157-0018	P/CV	Weston Middle School	Cancelled Project				-	$45,000	0	40.95
157	157-0019	RR	Weston High School	Audited			6/1/1988	-	$181,147	0	41.19
157	157-0020	CV/AA	Weston High School	Audited				-	$84,914	0	41.19
157	157-0021	CV/AA	Weston Middle School	Audited				-	$110,919	0	41.19
157	157-0022	CV/AA	Hurlbutt Elementary School	Audited				-	$12,060	0	41.19
157	157-0023	CV/AA	Hurlbutt Elementary School	Audited				-	$70,686	0	41.19
157	157-0024	CV/AA	Hurlbutt Elementary School	Audited				-	$125,620	0	41.19
157	157-0026	CV	Weston High School	Audit Issues		DeCarlo & Doll	3/15/1989	-	$2,552,216	0	41.19
157	157-0027	CV	Weston Middle School	Audit Issues		DeCarlo & Doll	3/15/1989	-	$2,764,903	0	41.19
157	157-0028	CV	Hurlbutt Elementary School	Audit Issues			3/15/1989	-	$446,744	0	41.19
157	157-0029	CV	Hurlbutt Elementary School	Audit Issues			3/15/1989	-	$302,208	0	41.19
157	157-0030	CV	Hurlbutt Elementary School	Audit Issues			3/15/1989	-	$564,999	0	41.19
157	157-0031	CV/OT	Weston High School	Audited				-	$41,030	0	41.19
157	157-0032	CV/OT	Weston Middle School	Audited				-	$75,792	0	41.19
157	157-0033		Weston Middle School	LEA Funded No Grant				-	$0	0	0

157	157-0034	E	Hurlbutt Elementary School	Audited	1,2,3,4,G	DeCarlo & Doll	9/24/1991	-	$945,845	82,860	21.43
157	157-0035	RR	Weston Middle School	Audit Issues	5,6,7,8		6/29/1993	-	$807,647	0	21.43
157	157-0036	E/A/EC/O/CV/AA/FC/HC	Hurlbutt Elementary School	Audit Issues	1,2,3,G	Friar Assoc.	6/12/1996	-	$4,896,583	104,911	21.43
157	157-0037	E/A/RR/EC/CV/AA/FC/HC	Central Administration	Cancelled Project			6/12/1996	-	$337,000	4,300	10.715
157	157-0038	A/SI/EC/O/CV/AA/FC/HC	Weston Middle School	Audit Issues	4,5,6,7,8	Friar Assoc.	6/12/1996	-	$1,195,188	169,777	21.43
157	157-0039	N	Central Administration	Audited		Friar Assoc.	6/26/1997	-	$1,048,114	4,000	10.72
157	157-0040	RR	Hurlbutt Elementary School	Audited			6/8/1998	-	$129,120	0	21.43
157	157-0041	EA/RR/EC/O/CV/AA/FC/HC	Weston Middle School	Unresolved Issues	6,7,8	Unknown	6/30/2001	-	$6,357,337	166,900	21.43
157	157-0042	N/PS	Weston Intermediate School	Audited	3,4,5	Unknown	6/30/2001	$608,754	$28,138,288	118,935	21.43
157	157-0043	EA/RR/EC/O/CV/AA/FC/HC	Weston High School	Audit Issues	9,10,11,12	Unknown	6/30/2001	-	$42,123,566	232,561	21.43
157	157-0044	EA/RR/EC/O/CV/AA/FC/HC	Hurlbutt Elementary School	Cancelled Project	1,2,G	Unknown	6/30/2001	-	$474,583	106,893	21.43
157	157-0045	RR	Hurlbutt Elementary School	LEA Funded No Grant			1/10/2001	-	$194,400	0	21.43
157	157-0046	EC/AA	Hurlbutt Elementary School	LEA Funded No Grant	1,2,3,G		6/30/2002	-	$157,188	6,868	21.43
157	157-0047	EC	Hurlbutt Elementary School	Unresolved Issues	1,2,3,4,G	Fletcher-Thompson, Inc.	6/30/2003	-	$600,000	106,497	21.43
157	157-0048	CV	Hurlbutt Elementary School	In Process			8/16/2004	-	$365,000		21.43
157	157-0049	CV	Weston Middle School	In Process			8/16/2004	-	$365,000		21.43
157	157-0050	CV	Hurlbutt Elementary School	In Process			8/12/2005	-	$60,000		21.43
157	157-0051	CV	Weston Middle School	Cancelled Project			8/12/2005	-	$68,000	155,141	21.43
157	157-0052	EC	Weston High School	Estimated Grant Calc	9,10,11,12	Kaestle/Boos	6/30/2011	-	$1,410,105	227,561	21.43

DEPARTMENT OF ADMINISTRATIVE SERVICES (DAS)

OFFICE OF SCHOOL CONSTRUCTION GRANTS & REVIEW (OSCG&R)

BULLETIN - BUILDING AREAS

FORM SCG-3043

The Office of School Construction Grants & Review (SCG) frequently responds to questions regarding *building area* as it applies to school construction projects. The requirements and application of building areas for grant applications may differ from other agencies or other applicable requirements. This bulletin serves to address the application of the building code relative to the project building in determining the maximum allowable building area, the minimum allowed construction type, and the application of building area in OSCG&R grant calculations.

The OSCG&R is not a codes enforcement agency and does not offer interpretations or clarifications of the State Codes. However, we do offer our understanding of the applicability of the codes pertinent to the plan review process and clarification of the agency's position regarding various matters relating to the School Construction Grant process (Connecticut General Statute (C.G.S.) Chapter 173).

A meeting and discussion between staff of the OSCG&R and the office of the State Building Inspector was conducted to help clarify a number of related issues. The following questions and answers attempt to summarize and outline the issues discussed, clarify the concepts and application of the codes, and identify what is expected on the Code Information Sheets (for proper grant calculations), when submitting to the OSCG&R for plan review and approval.

1. <u>How do we determine what is the proper building area to use?</u>

For Code Information purposes:
The Building Code defines Building Area (in Chapter 5) as (all) area included **within** surrounding exterior walls and firewalls, exclusive of vent shafts (not mechanical vent shafts) and courts (open courtyards). Areas of the building not provided with surrounding walls shall be included in the building area if such areas are included within the horizontal projection of the roof or floor above. The (ICC) commentary explains further and includes the open projected floor areas at vertical openings (such as atriums). Building Area is applied when determining the largest floor area to determine the maximum allowable floor area and building area. The entire area of each floor must be calculated (including the horizontal projected floor areas of multi-story vertical openings) in order to determine the largest floor.

The Building Code also similarly defines Gross Floor Area (in Chapter 10) as the area included **within** surrounding exterior walls. Depending on the use of a space, either *Net Floor Area* or *Gross Floor Area* is used to determine the maximum occupant load for each floor level. Gross floor area is secondary to the issues that this bulletin attempts to address.

For Grant Calculation purposes:
The DAS has relied on the Building Code's definition of Building Area as the basis for what building area is and how it is measured relative to the DAS Space Standards calculations. This has provided a consistent approach when determining the grant calculations. Building Area is one of three primary factors in determining the Space Standards for the grant calculations (for the applicable State Standard Space Specifications refer to C.G.S. 10- 287c-15). Therefore, **"gross square feet of such building" as used in C.G.S. 10-286 is considered by the DAS to be the same value as the Building Area** defined in the Connecticut State Building Code.

2. <u>What is considered a multi-story space requiring calculating additional floor area for the open area?</u>
It is easier to address what is not considered a multi-story space. Gymnasiums, cafeterias, auditoriums, and similar multi-purpose rooms are generally considered tall one-story spaces instead of multi-story spaces. However, there may be exceptions. As such, each project is viewed separately on a case-by-case basis.

3. **Does the upper (open) floor area of atriums or vertical openings count in the building area calculations?** Yes, when determining the maximum allowable floor area for height and area. However, some vestibules or vertical openings (or portions of the space) may be very high one story spaces. The open floor area of such spaces is not considered occupied area when determining the maximum occupant load for spaces and floors, in further determining the required exiting capacities.

4. **Are mezzanine (and balcony) areas included in the calculated building area?** Per a review of Section 505.2 of the Building Code, the area of a mezzanine is not considered when applying the provisions for height and area. However, the area of a mezzanine is included in fire areas, and used to determine occupant loads of spaces.

5. **Are areas under roof overhangs and canopies included in the building area?** Areas of the building not provided with surrounding walls shall be included in the building area if such areas are included within the horizontal projection of the roof or floor above. However, it's not the intent to include the simple architectural overhangs. If there are large projections, then those areas beneath should be included as building area. This will be viewed on a case-by-case basis. Detached canopies or unenclosed covered walkways, etc., that are not a continuation of the building's roof(s) should not get counted towards building area.

6. **How is building area presented for grant calculations?** Building areas are first presented when an application for a school construction project is submitted to the DCS/SCG. However, it may change by the completion of the project. Therefore, the DAS/SCG relies on the accuracy of the areas identified by the design professionals on the Code Information Sheet (refer to

   "Construction Document Guidelines for School Districts and Design Professionals"). The areas shown in item #4 Building Area, of the Code Information, shall be the same areas that SCG uses in item #16 Building Areas for Grant Calculation.

   Payment requests submitted by the Local Education Agency (LEA) may be impacted by the **space standards**. The OSCG&R Grant Data Unit may make grant calculation adjustments if necessary, based upon the area information on the Code Information Sheets, believing this information to be more current and accurate than what was originally filed (or is on file).

   Exceptions in the codes allow various building areas elements to be exempted from the Height & Area calculations. However, all actual building areas shall be accounted for in the grant calculation.
   It should be noted that although the Building Code definition is utilized in reporting the building area for code and for grant purposes, the actual footprint area is usually larger (by the exterior wall thicknesses). Other building area elements may be identified on the construction documents, either for construction purposes or for grant-calculation purposes. The following common terminology must be used for continuity and clarity. Refer to the "Construction Document Guidelines for School Districts and Design Professionals" for the formatting of this information.

   Open Space Area shall refer to those building areas under excessive roof overhangs (and canopies) and open floor areas of vertical openings. These areas must be identified and itemized whenever a LEA requests a space standard waiver, and the areas shown on the code information must reconcile with the waiver request letter. The areas or portions of those areas may be considered when calculating the grant.

   Total Constructed Building Area shall refer to the area of the building **(all floors)** when measured to **exterior face** of the exterior walls. This is usually the same area that the contractors are using.

7. **What if the building area changes during the project?** If the building areas change between the time of application and the Plan Review/Approval process, SCG relies on the accuracy of the areas identified by the design professionals, on the Code Information Sheet, and may make grant calculation adjustments if necessary, based upon the area information on the Code Information Sheets (believing this information to be more current and accurate).

   However, if changes are required after the review and approval of a project, then follow the procedures outlined below in the **BUILDING AREA ADJUSTMENTS AFTER A PRE-BID CONFORMANCE REVIEW (PCR) SUBMISSION** section of this bulletin.

BUILDING AREA ADJUSTMENTS AFTER A PRE-BID CONFORMANCE REVIEW (PCR) SUBMISSION

When SCG receives an application, the building area indicated by the LEA is presumed to be an estimate. At the time of the PCR meeting, the LEA and design professionals submit project documentation for review. The areas indicated on the drawings are presumed to be more current and more accurate and may supersede the previously submitted application data. SCG may make adjustments to the data necessary for the proper calculations for grant payments.

For any number of reasons, the building area (square feet) may change by the completion of the project. For example, the LEA discovers that the building areas for a particular structure/project (as indicated on the SCG-049 School Construction Project application) were reported incorrectly in the past. If after the PCR and review the LEA discovers the need to change those previously submitted building areas, the procedures listed on this bulletin, must be followed.

1. The LEA will provide a written explanation (to SCG Manager) for what precipitates the need for the change in the previously recorded building area, detailing the specifics of what is to be adjusted, and why, along with supporting documentation

2. To ensure the accuracy of information, the building shall be surveyed. Previously submitted Code Information Plan(s) can be revised to record the survey information, and shall be signed and sealed by the licensed architect or engineer. The design professional shall:

    a. Survey the buildings' exterior perimeter at each floor level.

    b. Transpose the exterior dimensions onto the Code Information Plans (previously submitted as a part of the PCR process). Each floor level must be presented with dimensions.

    c. Identify exterior wall thickness (used to recalculate building areas) for each floor. The wall thicknesses must be indicated on the Code Information Plans.

    d. Revise the Code Information Sheet using the Building Code definition of Building Area, include areas under canopies, roof /floor overhangs or projections, and/or extract open (to air) courts/courtyards or shafts. Include the open areas of the vertical openings at each floor level.

    e. Add a new line to Code Information Sheet (below #16): "17 Total Constructed Building Area" and provide the new calculated area (measured to the exterior face of the building).

3. Provide a copy of the revised Plans (signed and sealed) to SCG, along with the letter from the Superintendent of Schools (described in #1 above) requesting an adjustment. The design professional shall include a certification statement on the revised drawing. The certification shall attest to the revisions based upon a survey of the actual conditions.

WIS Trail to Parade Ground Road

After an on-site review with the Weston Police Chief and Joseph Olenik the following detailed cost estimate is provided to the Facilities Committee for consideration on improving the existing foot path leading from behind WIS to a jointly owned driveway on Parade Ground Court. This improvement will allow students and residents to use this as an alternate route to the BOE property from Parade Ground. The recommendations of the Facilities Director is to also limit the seasonal access (time of day and months) through proper signage as well as adding active video surveillance of the area leading to the playground area of the WIS. This funding does not currently exist in any operations accounts.

Grounds Overtime Cost: 3 grounds workers 16 hours each = $ 1,958.40

Material (gravel, block, cement) = $ 850.00

Camera Installation with license = $ 7,100.00

Annual Cost for upkeep: $ 1,200.00

Total Cost: $11,108.40

Minutes
Facilities Committee
October 6, 2017

Present:
Elise Major, Committee Chair
Sara Spaulding, Committee Member
Ellen Uzenoff, Committee Member
Dr. William McKersie, Superintendent of Schools
Richard Rudl, Director of Finance and Operations
Joseph Olenik, Director of Facilities

Guests:
John Ireland, Silver Petrucelli and Associates
Dean Petrucelli, Silver Petrucelli and Associates
Jonathan Luiz, Town Administrator
Richard Wolf, Town Building Committee
Mark Berkowitz, District Athletic Director

Public:
Steve Semaya, Weston Resident
Ron Cavalier, Weston Resident
James Smith, Weston Resident
Elizabeth Smith, Weston Resident
Gina Albert, Weston Resident
Nicole Richardt, Weston Resident
Catherine Revzon, Weston Resident
Richard Silverstein, Weston Resident
Carrie Silverstein, Weston Resident
Katie Gregory, Weston Resident

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The meeting was called to order by Ms. Major at 9:01 a.m.

The Committee discussed the following items regarding the WIS knee wall study update:

• Mr. Ireland and Mr. Petrucelli, both from Silver Petrucelli and Associates, provided an update on their findings regarding the intermediate school knee wall failure. Silver

Petrucelli was hired by the District to first study and then prepare construction documents for the wall failure. Their report shows that two walls in the cafeteria and two in the gym were not constructed properly, causing the exterior wall line to shift away from the interior wall, leading to the wall failure and allowing water to infiltrate the buildings at multiple points. They added that no imminent threat to safety is present, and recommended that all construction be completed next summer, and estimate that it will take all summer to complete. Construction contracts should be signed in March.

• Mr. Olenik reported that to date, the District has not been able to find the original construction manual for the walls, but Mr. Wolf asked that a list of required documents be prepared, and the Town Building Committee may be able to locate them. Additionally, Mr. Wolf added that members of the Town Building Committee would like to examine the walls themselves.

• The Committee agreed to move this forward to the full Board, who will, in turn, vote on moving it forward to the Town Building Committee.

The Committee discussed the following items regarding virtual net metering:

• Mr. Luiz informed the Committee that the Town was approached by Solomon Energy with a proposal to take part in the Windham Solar Farm Project which will enable the Town and District to receive energy generated from the farm. He added that a contract has been created, but it has not been signed, and there is no commitment at this point, and that the Board of Finance and Board of Selectmen are interested in the project.

• The Committee agreed that this is worth pursuing, and will continue to discuss the project within the District, at the staff level, and come up with questions that can be forwarded to Solomon Energy.

The Committee discussed the following items regarding the path behind the WIS leading to Parade Ground Court:

• Dr. McKersie informed the Committee that there is currently a path behind the intermediate school that is widely used by students and parents to get to and home from the campus. The path was reviewed by Mr. Olenik as well as the District's Internal Counsel and the Town Administrator to determine its condition and to determine if there were any liability issues that the District should be concerned with. District Grounds staff then cleaned the area of brush allowing for easier access. Dr. McKersie added that he would like to find a way to safely keep the trail open.

• Ms. Uzenoff added that student safety is paramount, and that the path should be monitored, especially given its proximity to a playground. Additionally, the Parade Ground Ct. area, which the path leads to, needs to be monitored to ensure that it doesn't become a hang-out for students, causing disruption to the residents who live there. Mr.

Olenik added that cameras would need to be installed on the path in order to properly monitor it.

• Ms. Major opened up the meeting to public comment.

Mr. Richard Silverstein
18 Parade Ground Ct.
Mr. Silverstein spoke in opposition to keeping the path open.

Ms. Elizabeth Smith
24 Parade Ground Ct.
Ms. Smith spoke in favor of keeping the path open.

Mr. Steve Semaya
22 Parade Ground Ct.
Mr. Semaya spoke in favor of keeping the path open.

Katie Gregory
7 Farrell Rd.
Ms. Gregory spoke in favor of keeping the path open.

The Committee discussed the following regarding the Beautification Committee update:

• Ms. Major reported that she has touched base with the Committee and they are aware of the District's needs, and they are willing to help as much as possible. She will be back in touch with them once the District moves forward with its planting plans in the spring.

The Committee discussed the following regarding the video streaming update:

• Dr. McKersie reported that the District was approached by a video streaming company that is interested in installing video cameras on the high school playing fields and gyms in order to stream sporting events. The challenge is on the lower field, where a tower would need to be constructed in order to house the camera equipment, and this is a very large undertaking, which increases the cost of the project and also requires Town involvement. He added however that there may be other options, such as placing the cameras on existing structures, which may lower the costs.

• Mr. Berkowitz reported that by installing the cameras and joining the National Federation of High Schools (NFHS) Network the District will be able to live stream athletic competitions and other events, providing people who are unable to attend the event the opportunity to view it. The NFHS Network is a nationwide broadcast system that allows high schools to televise their events. This would provide students the opportunity to broadcast live programs through a web portal. Students would be able to produce, direct, announce, film, and generate graphics for each event. The program

would generate revenue for the District, as families have to subscribe to the network in order to view the events, and the only cost to the District would be the camera purchase.

• The Committee agreed to review this item again at their November meeting.

The Committee discussed the following regarding capital and maintenance projects:

• Mr. Olenik informed the Committee that five or six new security cameras still need to be installed district-wide, and once they are, training of the administrative staff in their use will begin. All the hardware for the new Alertus Emergency Notification System has been received, and the District will use in-house staff to install the system. The base unit will be installed in December, with the remaining installation to be completed next summer.

The Committee discussed the following regarding the finance and operations update:

• Mr. Rudl shared with the Committee a report he created which summarizes the work priorities, accomplishments and challenges for the Finance and Operations Departments during the 2016-17 school year. The purpose of the document is to provide the Board and Administration team a more in-depth understanding of the Finance and Operations Departments. Among the points covered in the report includes staff changes in the Facilities Department that occurred to approve efficiency and yield financial savings, major projects completed by in-house staff, which resulted in savings of over $251,000, and structural changes to Security, which has improved communication, allowed for increased training for Security Specialists, better coverage in times of absenteeism, and the implementation of new security cameras and a mass notification system.

• The Committee will consider sharing this report with the Board of Finance.

The Committee discussed the following regarding approval of the September minutes:

• The Committee approved the September minutes.

The Committee discussed the following regarding other business:

• Mr. Olenik reported that in response to a request from the District's Athletic Director he reviewed the positioning of the speakers on Stadium Field to confirm if they had slipped down. Mr. Olenik had the original installer review the positioning and they confirmed that the speakers have not moved, but that part of the system is no longer functioning properly. Additionally, the frequencies that are being used for system are no longer allowed by the FCC, so a new wireless system will need to be installed. The Athletic Director is aware of the situation.

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• Dr. McKersie provided an update on the request from a local Girl Scout to place signs on campus alerting residents to the dangers of leaving children and pets in parked vehicles during warm weather. While the District was unable to grant her request to install the actual signs, Dr. McKersie did offer to provide assistance if there are other ways that the District can help her achieve the goals of her project and attain the necessary Girl Scout Recognition.

• Ms. Richardt informed the Committee of the poor condition of the pool area, reporting that there are several areas that need to be addressed immediately, due to safety and cleanliness issues. Mr. Olenik reported that he will address basic maintenance issues immediately. In the long term, the Committee suggested that the 10 Year Facilities plan devote more attention to the pool area. Additionally the Committee will provide updates on this item in future meetings. The Committee also suggested that at their next meeting a list of contact names for organizations that use the pool be provided.

• Ms. Gregory inquired if the District was aware that the Weston Senior Center was planning on holding an event during school hours. Dr. McKersie reported that the District has been in communication with the Senior Center and that security coordination is stronger than ever. This includes communication with the police department. Ms. Gregory also suggested that the District consider installing a stronger barrier along School Rd. by the North House playground.

There being no further business to discuss, the Committee adjourned at 11:40 a.m.

Respectfully submitted,

Andrew Galli
Administrative Assistant to the Director of Finance and Operations

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