

Westport High School Municipal Reuse Study

Code Assessment and Cost Estimate
June 18, 2020

Contents

1. Existing space inventory
2. Preferred reuse scheme
3. Summary of existing conditions reports
4. Code Assessment
5. Cost Estimate



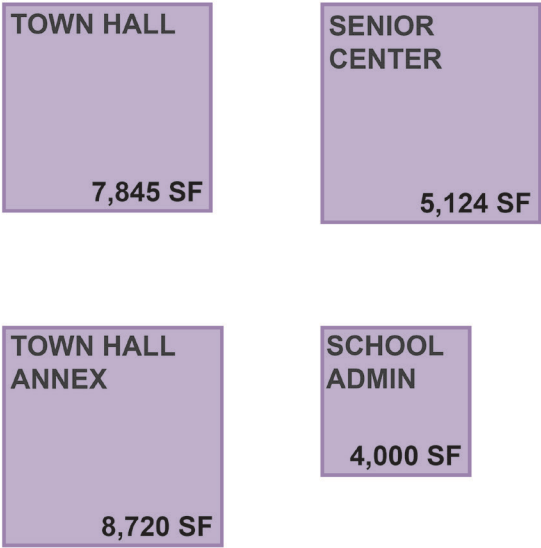
Existing Space Inventory

Municipal Offices	
Town Hall	7,845 SF
Town Hall Annex	8,720 SF
Senior Center	5,125 SF
School Administration	4,000 SF
Total Municipal Spaces	25,690 SF

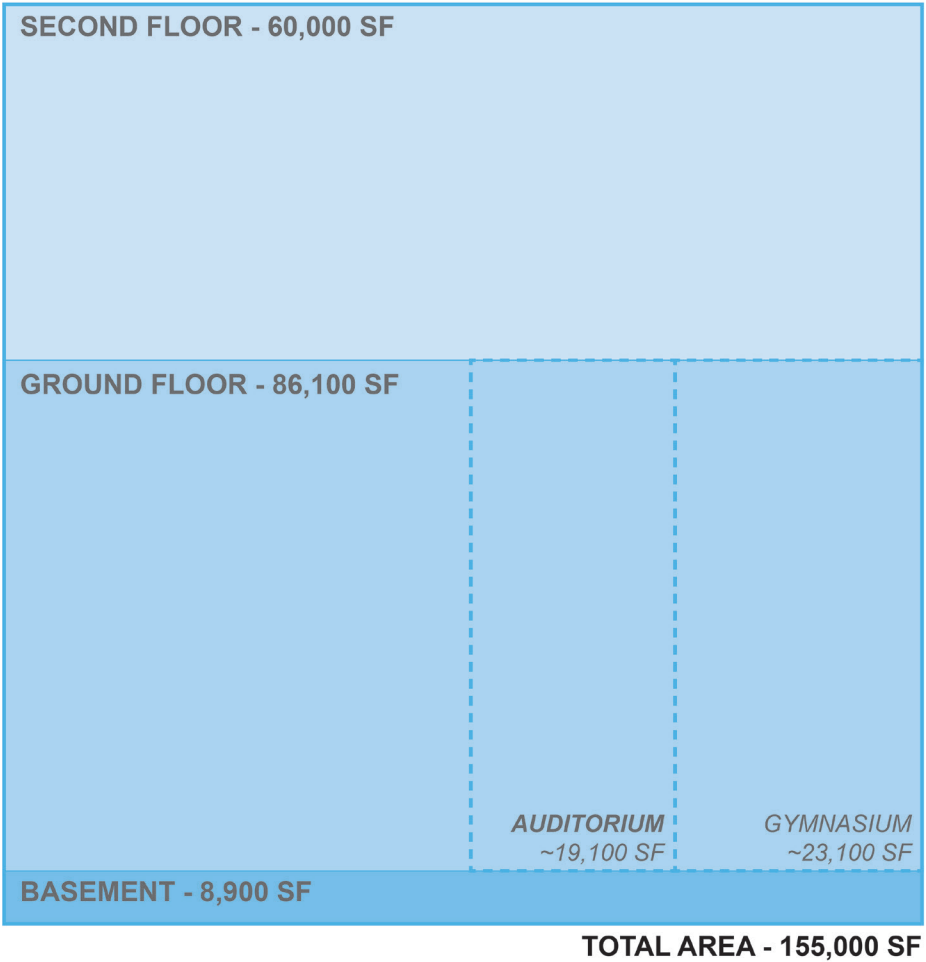
Existing High School	
Second floor	60,000 SF
Ground floor	86,100 SF
- Auditorium (incl. band and partial cafeteria)	(20,000 SF)
- Gymnasium (incl. locker rooms and entry)	(24,000 SF)
Basement floor	8,900 SF
Total High School Area	155,000 SF

Excess space	129,310 SF
<i>Excess (excluding Gym and Auditorium)</i>	<i>85,310 SF</i>

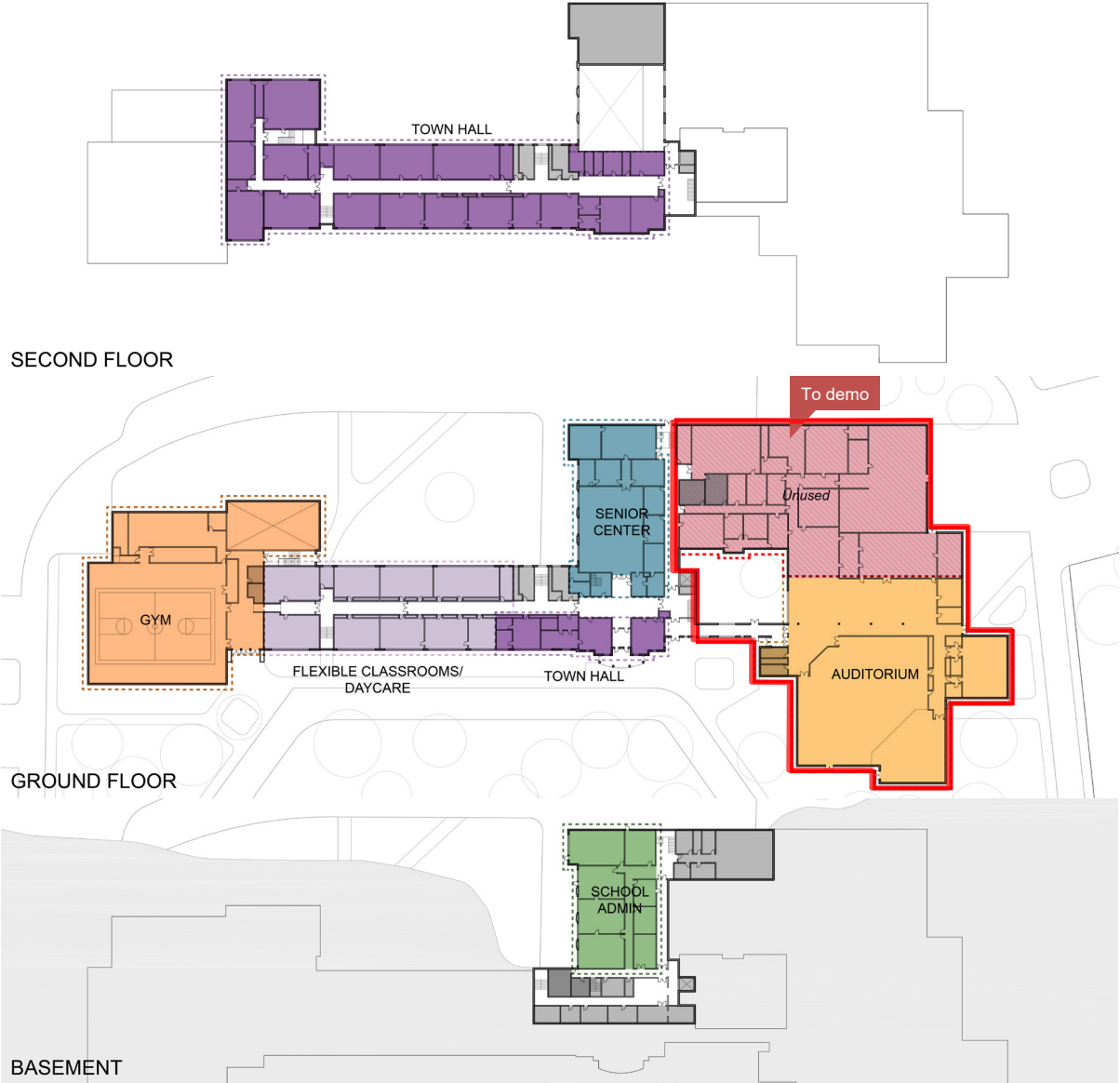
MUNICIPAL OFFICES



HIGH SCHOOL



Preferred Reuse Scheme



	Existing (SF)	Allocated(SF)	Surplus(SF)
Town Hall (Incl. Annex)	16,565	20,300	3,735
Senior Center	5,124	8,200	3,075
School Administration	4,000	6,150	2,150
Overflow Program Spaces (Flexible classrooms/Daycare)	-	8,700	8,700
Total Municipal Spaces GSF	34,765	45,700	23,335
Gym	24,000	24,000	
Circulation (corridors/egress)	15,000	15,000	
Storage/Mechanical	30,650	30,650	
Unused areas (for demolition)	-	22,000	
Auditorium (for demolition)	20,000	20,000	
Total Demolition GSF		42,000	
Total Building GSF		113,000	

Summary of Existing Conditions Reports*

Building Systems Conditions

Fire protection:

- Building does not contain an automatic sprinkler system and would require one if there are major alterations to the building.

Plumbing:

- Portions of the system have been updated as part of building renovation projects, including domestic well water and water heating equipment in 1992, but plumbing and drainage piping appear to be in poor condition, exceeded their life expectancy and should be replaced.

HVAC

- Majority of HVAC systems appear to be originally installed equipment and have exceeded their life expectancy.
- The boilers were installed in 1992, but they are nearing the end of their useful service life.
- Classrooms are heated and ventilated through classroom unit ventilators. Many spaces rely on window ac units.

Electrical

- Electrical systems have reached their life expectancy and are in poor condition.
- A new power distribution system should be provided.

Structural Conditions

- In order to meet current building code a significant amount of structural work will be required.
- Lateral force resisting system of the structure is seriously deficient and will require major retrofitting to meet code.
- Existing unreinforced masonry walls will either need to be removed or reenforced to meet code minimum strength requirements.

**See the full reports for a complete assessment:*

- *Structural Existing Conditions Report - May 16, 2016*
- *Electrical, Fire Protection, Plumbing, HVAC Existing Conditions Report - May 16, 2016*
- *Hazardous Materials Identification Study - July 1, 2016*
- *Environmental Assessment Report - July 6, 2016*
- *Assessment of Existing Conditions - July 7, 2016*



17 Brian Road ◇ Lancaster, MA 01523



IMAGE CREDIT – GOOGLE MAPS©

17 MAIN ROAD, WESTPORT, MA 02790
780 CMR 34 BUILDING EVALUATION REPORT
FORMER HIGH SCHOOL CHANGE IN USE TO BUSINESS

Prepared For:

Utile
117 Kingston Street
Boston, MA 02111

BFA # UTILE 22-048

July 8, 2022

BACKGROUND

The Town of Westport is studying potential re-use of the former high school building at 17 Main Road for various local government offices. A conversion of the building to office uses would be classified under the building code (780 CMR) as a change in use and potentially require code compliance upgrades. Additionally, other applicable state codes and laws may also trigger upgrades to establish compliance with their regulations.

APPLICABLE CODES

The following codes are applicable to this project (this report focuses on 780 and 521 CMR):

- **Accessibility**
 - Massachusetts Architectural Access Board (521 CMR).
- **Building Code** - Massachusetts State Building Code Ninth Edition (780 CMR). 780 CMR is an amended version of the 2015 International Building Code.
 - **Existing Building Code** – 780 CMR 34 is an amended version of the 2015 International Existing Building Code (IEBC).
 - **Energy Conservation Code** – 780 CMR 13 and Appendix AA are the energy code for Massachusetts. Both adopt and amend the 2018 International Energy Code (IECC). As an existing building Appendix AA (also known as the Stretch Energy Code) is not applicable.
 - **Mechanical** - International Mechanical Code, 2015, as adopted by 780 CMR 28 (IMC).
- **Fire Code** - Massachusetts Comprehensive Fire Safety Code (527 CMR). 527 CMR 1:00 is an amended version of the 2015 NFPA 1, National Fire Code. References to numerous other NFPA codes and standards, including NFPA 101, are deleted.
- **Electrical Code** - Massachusetts Electrical Code, 527 CMR 12.00. The Massachusetts Electrical Code is an amended version of the 2020 National Electrical Code (NFPA 70).
- **Plumbing** - Massachusetts Fuel Gas and Plumbing Codes (248 CMR). 248 CMR is unique to Massachusetts.

ASSUMPTIONS/BASELINE CONSIDERATIONS

Per discussion with the owner representatives, designers and information identified during a visual observation site visit, the following current conditions have been identified:

1. The building will be used for office uses, but certain existing assembly spaces will be maintained (auditorium, gymnasium, cafeteria). No other new assembly spaces are anticipated.
2. The building is not equipped with sprinklers or standpipes. There is a kitchen hood system and fire extinguishers.
3. The existing fire alarm system is more than 15 years old and is not compliant with accessibility criteria.
4. The 360 degree perimeter road will be maintained.
5. There will not be any additions but there are potential limited demolition areas.
6. The building is not historic.
7. Any work under Chapter 34 of the building code will use the "WORK AREA" method.
8. The existing assembly uses will be treated a separated mixed use.
9. Project costs will exceed \$100,00.

SUMMARY TABLES

REPORT	
Report Nomenclature	<p>This report is divided into four parts:</p> <p>Part A Automatic Sprinkler Protection (M.G.L. Ch.148 §26G & 780 CMR).</p> <p>Part B Building Code Evaluation - References are to 780 CMR unless otherwise noted. References to Chapter 34 (2015 IEBC as adopted and amended) are denoted with a "34-" prefix.</p> <p>Part C Accessibility Code Evaluation - All references are to 521 CMR unless otherwise noted.</p> <p>Part D Plumbing Fixture Count Evaluation – All references are to 248 CMR 10.10.</p>

PART A - AUTOMATIC SPRINKLER PROTECTION	
Sprinklers	The building is greater than 7,500 gsf in area and is subject to Massachusetts General Law Chapter 148 s26G in addition to building code provisions which may trigger sprinklers to be added to the building.
Massachusetts General Law Chapter 148 s26G	<p>Applicability of the law to the existing building varies depending on the work proposed.</p> <p><u>Additions</u> – If any addition occurred regardless of size or occupancy, the law triggers installation of sprinklers throughout.</p> <p><u>Substantial Alterations</u> – If substantial alterations are performed, sprinklers must be installed throughout. Whether a project is a "Substantial Alteration" is determined based on the type, event and cost of the project. In short, if the cost of the project exceeds 33% of the assessed building value not including the land (\$5,123,547), or the extent of the project include more than 33% of the buildings area, then sprinklers are required to be installed.</p>
780 CMR 34-10	<p>Under the "work area" method, 34-10 is applicable and the project is subclassified as a change in use with a change in occupancy classification from E to B.</p> <p>Per 1012.2.1, a sprinkler system is required to be installed if the threshold for the new use is different from the previous use as identified in Chapter 9 of 780 CMR. Both B and E have the same thresholds so there is no difference in threshold. Likewise, for the existing separated assembly uses. So there is a code path for change from E to B which may not require sprinklers under the building code.</p> <p>It is noted that changes to other uses (A, M, H, I, R, M or S) will result in a difference in threshold and trigger sprinkler installation under the building code.</p>
Conclusion	The general law is more likely to trigger sprinklers than the building code. Under the law, there is a very limited scope and cost project that would not trigger sprinklers. Providing sprinklers will provide greater flexibility in potential use and project efforts and may save money in the way of building code "tradeoffs" which allow for less restrictive compliance paths.

PART B - 780 CMR EVALUATION							
Uses	<p><u>Previous Use</u> Educational, Group E – High School</p> <p><u>New Use</u> Business, Group B – Professional Offices.</p>						
Chapter 34 Work Area Method	<p>The work area method of Chapter 34 should be used because it is less restrictive than the other options. Under the work area method, change in use must comply with 34-Chapter 10.</p> <p>More specifically, the project subclassification is a <u>change in use with a change in occupancy classification</u> (34-1001.2.1). Change in use with change in occupancy classification must comply with Sections 34-1002 through 34-1012.</p>						
Special Occupancy (34-1002)	There are no special uses within the building.						
Building Materials & Elements (34-1003 & 1012.3)	<p>There are no requirements specifically triggered under this section. However, any work performed must use materials of construction consistent with existing construction (noncombustible).</p> <p>Interior Finishes must be brought into compliance for new construction. Table 803.11 requires A in exit enclosures, B in corridors and C in rooms and spaces. If the building is sprinklered these change to B, C, C respectively.</p>						
Fire Protection (34-1004 & 1012.2)							
Sprinklers	Per Table 903.1, a Group B has the same threshold as Group E. So sprinklers are not triggered by this provision.						
Fire Extinguishers	Fire extinguishers are required in Group B (906.1). Combination ABC extinguishers should be provided so travel distance to a fire extinguisher is less than 75 feet. A K type extinguisher should be provided in or adjacent to all kitchens.						
Fire Alarm	The threshold for Group B is not different than that for Group E. However, a new manual fire alarm system is recommended as it is unlikely to be able to bring the existing system into compliance with accessibility criteria.						
Emergency Responder Radio Coverage	Emergency Responder Radio Coverage is not required in existing buildings (Section 916.1). Testing can be conducted to determine the existing level of coverage. Another consideration not codified is a security event. Radio coverage systems can be used by first responders better approach a security event.						
Means of Egress (34-1005 & 1012.4)	Because the relative hazard index is being reduced with the change to B per Table 34-1012.4, the existing egress is permitted to remain provided it complies with 34-9.						
Emergency Illumination and Exit Signs	Exit illumination and signs must be brought into full compliance including emergency power back up.						
Occupant Load	<p>Per 1004.3, the calculated occupant load is decreasing based on the relative occupant load factor changing from 1/20 nsf to 1 per 100 gsf.</p> <p>Deducting out assembly areas, the following are the approximate office area occupant loads:</p> <table> <tr> <td>2nd Floor</td><td>60,000 gsf @ 1/100 gsf = 600</td></tr> <tr> <td>1st Floor</td><td>60,100 gsf @ 1/100 gsf = 601 + 1,000 = 1,600</td></tr> <tr> <td>Ground</td><td>8,900 gsf @ 1/100 gsf = 89</td></tr> </table> <p>Gymnasium, Cafeteria and auditorium = Approx. 1,000</p>	2 nd Floor	60,000 gsf @ 1/100 gsf = 600	1 st Floor	60,100 gsf @ 1/100 gsf = 601 + 1,000 = 1,600	Ground	8,900 gsf @ 1/100 gsf = 89
2 nd Floor	60,000 gsf @ 1/100 gsf = 600						
1 st Floor	60,100 gsf @ 1/100 gsf = 601 + 1,000 = 1,600						
Ground	8,900 gsf @ 1/100 gsf = 89						

PART B - 780 CMR EVALUATION			
Number of Exits	Number of exits from each floor are compliant.		
	<u>Floor</u>	<u>Required</u>	<u>Provided</u>
	2 nd	3	4
	1 st	4	8+
	G	2	2
Height & Area, Exterior Walls, and Openings (1012.5 & 1012.6)	The existing construction, exterior walls and openings are all deemed compliant because the relative hazard index is staying the same or reducing per Tables 34-1012.5 & 34-1012.6		
Shafts (1012.7)	The existing shafts are acceptable because the hazard index is reducing per Table 34-1012.4 and 34-803.21 Exception 5 which only requires 30 minute enclosures. If new enclosures are provided, 1 hour enclosures and doors are required.		
Accessibility (34-1006 & 1012.8)	See Part B – 521 CMR Evaluation.		
Structural (34-1007)	A structural engineer will need to review and comment. Dead and live loads are increasing so a thorough evaluation is necessary.		
Electrical (34-1008)	All electrical work is required to comply with 527 CMR 12.		
Mechanical (34-1009)	No requirements unless there is work proposed to existing systems or new systems are proposed.		
Plumbing (34-1010)	Any plumbing work is required to comply with 248 CMR. Also, as a change in use, sufficient toilet and bathing facilities must be provided.		
Light and Ventilation (34-1011)	Lighting and ventilation must meet new construction criteria.		
Guards and Fall Protection	<p>Guards shall be provided along all open side walking surfaces where the distance between levels is greater than 30" (34-805.11.1).</p> <p>Any new windows with sill heights less than 36" above finished floor must be equipped with window opening control devices complying with ASTM F2090 (34-702.4).</p>		

PART B - 780 CMR EVALUATION

Energy Conservation

Because the building is existing undergoing a change in occupancy classification, the stretch code is not applicable, but the requirements of the base energy code are applicable. The base energy code is the 2018 International Energy Conservation Code as amended by MA (Chapter 13 of 780 CMR).

Because the building is more than 3 stories above grade, the commercial energy provisions are applicable (as opposed to the residential energy code). The following are the applicable provisions from Chapter 5 for existing buildings undergoing a change in occupancy.

C505.1 General. Spaces undergoing a change in occupancy that would result in an increase in demand for either fossil fuel or electrical energy shall comply with this code. Where the use in a space changes from one use in Table C405.3.2(1) or C405.3.2(2) to another use in Table C405.3.2(1) or C405.3.2(2), the installed lighting wattage shall comply with Section C405.3. Where the space undergoing a change in occupancy or use is in a building with a fenestration area that exceeds the limitations of Section C402.4.1, the space is exempt from Section C402.4.1 provided that there is not an increase in fenestration area.

Exceptions:

1. Where the component performance alternative in Section C402.1.5 is used to comply with this section, the proposed UA shall be not greater than 110 percent of the target UA.

2. Where the total building performance option in Section C407 is used to comply with this section, the annual energy cost of the proposed design shall be not greater than 110 percent of the annual energy cost otherwise permitted by Section C407.3.

This provision conflicts with Section 908 of chapter 34 (which is applicable through Section 1012.1.1) and only requires work completed to the envelope to be made compliant. As both provisions are general provisions, both have equal weight in terms of enforcement.

It is the owner's choice to comply using the prescriptive method (C402 through C406) or performance method (C407.3). Note in either approach, the usage is permitted to be 110% of the target. Also, if the performance method is used, it is possible for certain elements to underperform but other elements to overperform resulting in an equivalent overall usage.

PART C - 521 CMR EVALUATION									
Change in Use (3.4) Accessible Entrance	When the use of a building changes from a private use to one that is open to and used by the public, an accessible entrance must be provided, even if no work is being performed. When a portion of a building changes use from a private use to one that is open to and used by the public, then an accessible route must be provided from an accessible entrance even if no work is being performed.								
Jurisdiction (3.3)	<p>If project costs exceed 30% of the replacement cost value (in any 3 year period), the entire building is required to comply with new construction criteria (3.3.2).</p> <table> <tr> <td>Building Value</td><td>\$15,525,900</td></tr> <tr> <td>EQV Ratio</td><td>0.95 (Commercial)</td></tr> <tr> <td>EQV Value</td><td>\$16,343,052</td></tr> <tr> <td>30%</td><td>\$4,902,915</td></tr> </table>	Building Value	\$15,525,900	EQV Ratio	0.95 (Commercial)	EQV Value	\$16,343,052	30%	\$4,902,915
Building Value	\$15,525,900								
EQV Ratio	0.95 (Commercial)								
EQV Value	\$16,343,052								
30%	\$4,902,915								
Variance (4.1)	A variance may be pursued from 521 CMR to seek relief from some or all the features.								
Commercial (11.00)									
Places of Assembly (14.00)									
Full Compliance Considerations	<p>If the 30% threshold is exceeded, the following are required:</p> <ul style="list-style-type: none"> A. All public and common use areas must be accessible. This includes all common use interior and exterior. B. All entrances are required to be accessible. C. Accessible parking must be provided. D. An elevator is required to serve all levels. 								

PART D – PLUMBING FIXTURE COUNTS	
Plumbing Fixtures	Plumbing fixtures needs are dependent on the change in occupant load. Although overall there is reduction in occupant load anticipated, the office use factors require more dense plumbing fixtures than educational, a complete analysis is required
	<p>New bathrooms are likely necessary and will need to comply with accessibility criteria.</p> <p>Office factors are 1/20 for women and 1/25 for men. The calculated occupant loads for the office areas would require approximately:</p> <p>33 women's toilets</p> <p>16 men's toilets (50%) may be urinals.</p> <p>17 Lavatories for each sex.</p>

ANALYSIS

Reviewing each code individually suggest a lot of work will be triggered to establish compliance. And when the reviews are integrated, the following generalizations are identified:

COSTS ARE LESS THAN \$4,902,915 (30% OF EQUALIZED ASSESSED VALUE)

- All the work being performed must comply with 521 CMR new construction criteria.
- All the work being performed must comply with 780 CMR new construction criteria unless exempted by a Chapter 34 provision.
- 248 CMR likely requires some additional bathroom facilities.
- Sprinklers are not explicitly triggered, but possibly triggered based on the extent of the work.

COSTS ARE MORE THAN \$4,902,915 BUT LESS THAN \$5,123,547 (33% OF ASSESSED VALUE)

- The whole building must comply with 521 CMR new construction criteria.
- All the work being performed must comply with 780 CMR new construction criteria unless exempted by a Chapter 34 provision.
- 248 CMR likely requires numerous additional bathroom facilities.
- Sprinklers are likely triggered as the increased cost to comply with 521 CMR and 248 CMR will drive costs over the 33% assessed value (\$5,123,547) under the MGL.

COSTS ARE MORE THAN \$5,123,547

The whole building must comply with:

- 521 CMR new construction criteria.
- 780 CMR new construction criteria unless exempted by a Chapter 34 provision.
- Sprinklers are required regardless of other work.

CONCLUSION

Unless a very limited scope project occurs, full Compliance with 521 CMR, the installation of sprinklers, and an increase in bathroom facilities are necessary. Interior finishes must be brought into compliance as does egress illumination, exit signs and fire alarm system. Construction type and egress are satisfactory.

Key:

SEQ #: 5,292

CLASS	CLASS%	DESCRIPTION			BN ID	BN	CARD	
9340	100	IMP.EDUCATION				1	1 of 1	
PMT NO	PMT DT	TY	DESC	AMOUNT	INSP	BY	1st	%
654	09/27/2020	5	OTHER	1,500			0	0
359	06/25/2019	22	SIDING,ROOF,	5,000	08/18/2020	MG	0	100
129	03/30/2015	3	REMODEL	2,500	07/21/2016	JM	100	100
66	02/16/2015	3	REMODEL	10,000	07/21/2016	JM	100	100
288	06/12/2012	5	OTHER	1,242,000	10/24/2013	JM	100	100

WESTPORT HIGH SCHOOL

trial)

26 82 192 79 28 77 34 48 46 65 51 62 67 40 28 52 32 16 32 10 6 25 7 22 16 285 35 105 13 31 21 38 81 69 49 186 186

(A)
USF
BAS
BMU

s26G

WESTPORT HIGH SCHOOL

trial)

26 82 192 79 28 77 34 48 46 65 51 62 67 40 28 52 32 16 32 10 6 25 7 22 16 285 35 105 13 31 21 38 81 69 49 186 186

(A)
USF
BAS
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s26G

WESTPORT HIGH SCHOOL

trial)

26 82 192 79 28 77 34 48 46 65 51 62 67 40 28 52 32 16 32 10 6 25 7 22 16 285 35 105 13 31 21 38 81 69 49 186 186

(A)
USF
BAS
BMU

s26G

YEAR BLT	1950	SIZE ADJ	0.808	ELEMENT	CD	DESCRIPTION	ADJ	S	BAT	T	DESCRIPTION	UNITS	YB	ADJ PRICE	RCN	TOTAL RCN	22,179,832		
NET AREA	174,416	DETAIL ADJ	1.498	FOUNDATION	3	FOUND. WALL	1.00	A	BMU	N	BSMT UNF	87,208		17.31	1,509,622	CONDITION ELEM	CD		
				EXT. COVER	12	BRICK VEENEER	1.05	A	BAS	L	BASE AREA	87,208	1950	119.84	10,451,230				
\$NLA(RCN)	\$127	OVERALL	1.000	ROOF SHAPE	4	FLAT/SHED	0.98	A	USF	L	UP-STRY FIN	87,208	1950	117.18	10,218,980				
CAPACITY		UNITS	ADJ	ROOF COVER	8	TAR & GRAVEL	1.00												
STORIES		2	1.00	FLOOR COVER	4	ASPH TILE	0.98												
% HEATED		100	1.00	INT. FINISH	1	PLASTER	1.04												
% AIR COND		0	1.00	HEATING/COOL	2	HOT WATER	1.02												
% SPRINKLER		0	1.00	FUEL SOURCE	1	OIL	1.00												
UNITS		0	1.00																
BEDROOMS		0	1.00																
																EFF.YR/AGE	1980 / 39		
																COND	30	30 %	
																FUNC	0		
																ECON	0		
																DEPR	30	% GD	70
																RCNLD	\$15,525,900		

Reuse Study

**Westport High School
Municipal Reuse - Preferred Scheme**

Westport, MA



PM&C LLC
20 Downer Ave, Suite 5
Hingham, MA 02043
(T) 781-740-8007
(F) 781-740-1012

Prepared for:

utile

July 15, 2022



Westport High School
Municipal Reuse - Preferred Scheme
Westport, MA
Reuse Study

15-Jul-22

MAIN CONSTRUCTION COST SUMMARY

	Construction Start	Gross Floor Area ²	\$/sf	Estimated Construction Cost
PREFERRED REUSE OPTION				
	Jul-23			
PREFERRED REUSE OPTION TO EXISTING SCHOOL		113,000	\$168.70	\$19,062,989
REMOVE HAZARDOUS MATERIALS ¹				\$1,943,500
SITEWORK				No Work Included
SUBTOTAL TRADE COSTS BUILDING and SITEWORK		113,000	\$185.90	\$21,006,489
DESIGN AND PRICING CONTINGENCY	15.0%			\$3,150,973
ESCALATION	6.0%			\$1,260,389
SUBTOTAL with CONTINGENCIES		113,000	\$224.94	\$25,417,851
GENERAL CONDITIONS	6.0%			\$1,525,071
GENERAL REQUIREMENTS	3.0%			\$762,536
INSURANCE	1.50%			\$381,268
BONDS	1.00%			\$254,179
PERMIT				Excluded
FEE	2.5%			\$708,523
TOTAL OF ALL CONSTRUCTION		113,000	\$257.07	\$29,049,428
		<i>Net Square Footage</i>	<i>58,350</i>	<i>\$497.85</i>
Estimated costs to Renovate existing Town Hall		34,765	\$520.00	\$18,077,800

¹ Hazmat costs are based on UEC report June 3, 2016 escalated to 2022 (dampproofing removal at exterior/foundations only at areas to be demolished)

² Includes additional areas not used (Gym + Storage/Mech spaces)



Westport High School
Municipal Reuse - Preferred Scheme
Westport, MA

15-Jul-22

Reuse Study

This Study cost estimate was produced from outline program drawings, existing drawings, existing conditions reports and Code Evaluation report and other documentation prepared by Utile and their design team received July 2022. Design and engineering changes occurring subsequent to the issue of these documents have not been incorporated in this estimate.

This estimate includes all direct construction costs, general contractors overhead and profit and design contingency. Cost escalation assumes start dates indicated.

Bidding conditions are expected to be public bidding under Chapter 149 of the Massachusetts General Laws to pre-qualified general contractors, and pre-qualified sub-contractors, open specifications for materials and manufactures.

The estimate is based on prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

ITEMS NOT CONSIDERED IN THIS ESTIMATE

Items not included in this estimate are:

- Limited work in gymnasium and storage/mech areas (life safety only)
- Limited site work is included (only reinstatement at demolished wing footprint)
- Land acquisition, feasibility, and financing costs
- All professional fees and insurance
- All Furnishings, Fixtures and Equipment
- Items identified in the design as Not In Contract (NIC)
- Items identified in the design as by others
- Owner supplied and/or installed items as indicated in the estimate
- Utility company back charges, including work required off-site
- Work to City streets and sidewalks, (except as noted in this estimate)
- Construction contingency



Westport High School
Municipal Reuse - Preferred Scheme
Westport, MA

15-Jul-22

Reuse Study

GFA 113,000

CONSTRUCTION COST SUMMARY					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
PREFERRED REUSE OPTION TO EXISTING SCHOOL					
A10 FOUNDATIONS					
A1010	Standard Foundations	\$75,000			
A1020	Special Foundations	\$0			
A1030	Lowest Floor Construction	\$124,200	\$199,200	\$1.76	1.0%
B10 SUPERSTRUCTURE					
B1010	Upper Floor Construction	\$904,000			
B1020	Roof Construction	\$112,100	\$1,016,100	\$8.99	5.3%
B20 EXTERIOR CLOSURE					
B2010	Exterior Walls	\$221,000			
B2020	Windows/Curtainwall	\$916,608			
B2030	Exterior Doors	\$60,000	\$1,197,608	\$10.60	6.3%
B30 ROOFING					
B3010	Roof Coverings	\$1,987,200			
B3020	Roof Openings	\$0	\$1,987,200	\$17.59	10.4%
C10 INTERIOR CONSTRUCTION					
C1010	Partitions	\$2,039,400			
C1020	Interior Doors	\$350,100			
C1030	Specialties/Millwork	\$286,288	\$2,675,788	\$23.68	14.0%
C20 STAIRCASES					
C2010	Stair Construction	\$54,000			
C2020	Stair Finishes	\$43,440	\$97,440	\$0.86	0.5%
C30 INTERIOR FINISHES					
C3010	Wall Finishes	\$525,150			
C3020	Floor Finishes	\$787,725			
C3030	Ceiling Finishes	\$583,500	\$1,896,375	\$16.78	9.9%
D10 CONVEYING SYSTEMS					
D1010	Elevator	\$30,000	\$30,000	\$0.27	0.2%
D20 PLUMBING					
D20	Plumbing	\$701,928	\$701,928	\$6.21	3.7%
D30 HVAC					
D30	HVAC	\$3,282,188	\$3,282,188	\$29.05	17.2%
D40 FIRE PROTECTION					
D40	Fire Protection	\$1,103,000	\$1,103,000	\$9.76	5.8%
D50 ELECTRICAL					
D5010	Electrical Systems	\$2,960,188	\$2,960,188	\$26.20	15.5%



Westport High School
Municipal Reuse - Preferred Scheme
Westport, MA

15-Jul-22

Reuse Study

GFA 113,000

CONSTRUCTION COST SUMMARY					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
PREFERRED REUSE OPTION TO EXISTING SCHOOL					
E10 EQUIPMENT					
E10 Equipment		\$110,000	\$110,000	\$0.97	0.6%
E20 FURNISHINGS					
E2010 Fixed Furnishings		\$389,524			
E2020 Movable Furnishings		NIC	\$389,524	\$3.45	2.0%
F10 SPECIAL CONSTRUCTION					
F10 Special Construction		\$80,000	\$80,000	\$0.71	0.4%
F20 SELECTIVE BUILDING DEMOLITION					
F2010 Building Elements Demolition		\$1,336,450			
F2020 Hazardous Components Abatement		\$0	\$1,336,450	\$11.83	7.0%
TOTAL DIRECT COST (Trade Costs)			\$19,062,989	\$168.70	100.0%



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Westport, MA

15-Jul-22

Reuse Study

GFA 113,000

	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST
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PREFERRED REUSE OPTION TO EXISTING SCHOOL

GROSS FLOOR AREA CALCULATION

Total Building

Basement	8,900
Level 1	62,100
Level 2	42,000

TOTAL GROSS FLOOR AREA (GFA)

113,000 sf

Program Areas

Town Hall	20,300
Senior Center	8,200
School Administration	6,150
Flex Classrooms/Daycare	8,700
Gym	24,000
Circulation	15,000
Storage/Mechanical	30,650

A10 FOUNDATIONS

A1010 STANDARD FOUNDATIONS

Allowance for new foundations to support braced frames	1	ls	75,000.00	75,000	
SUBTOTAL					75,000

A1020 SPECIAL FOUNDATIONS

SUBTOTAL

A1030 LOWEST FLOOR CONSTRUCTION

Cut and patch existing slab for new plumbing/foundations	62,100	sf	2.00	124,200	
SUBTOTAL					124,200

TOTAL - FOUNDATIONS

\$199,200

B10 SUPERSTRUCTURE

B1010 FLOOR CONSTRUCTION

Allowance for bracing steel; 3lbs per SF allowance	113	tns	8,000.00	904,000	
SUBTOTAL					904,000

B1020 ROOF CONSTRUCTION

Existing deck reinforcement	62,100	sf	1.00	62,100	
Dunnage/reinforcement to roofs for new rooftop equipment	1	ls	50,000.00	50,000	
SUBTOTAL					112,100

TOTAL - SUPERSTRUCTURE

\$1,016,100

B20 EXTERIOR CLOSURE

B2010 EXTERIOR WALLS - solid

042000 MASONRY

Existing brick veneer - clean & seal	1	ls	50,000.00	50,000	
Allowance for new exterior closure at demolished wing	1,425	sf	120.00	171,000	

070001 WATERPROOFING, DAMPPROOFING AND CAULKING

Air barrier/flashing					ETR
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Westport High School
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Westport, MA

15-Jul-22

Reuse Study

GFA 113,000

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PREFERRED REUSE OPTION TO EXISTING SCHOOL

59							
60	072100	THERMAL INSULATION					
61		Insulation at interior side of exterior wall				Assumed not Required	
62							
63	092900	GYPSUM BOARD ASSEMBLIES					
64		2-1/2" metal stud at interior side of exterior wall				Assumed not Required	
65		SUBTOTAL					221,000
66							
67	B2020	WINDOWS/CURTAINWALL					
68		Exterior Wall Area - Glazed					
69							
70	061000	ROUGH CARPENTRY					
71		Wood blocking at openings	704	lf	12.00	8,448	
72							
73	070001	WATERPROOFING, DAMPPROOFING AND CAULKING					
74		Backer rod & double sealant	704	lf	10.00	7,040	
75							
76	080001	METAL WINDOWS/CW					
77		Replacement thermally broken aluminum windows w/ new CW at classroom wing	5,632	sf	160.00	901,120	
78		SUBTOTAL					916,608
79							
80	B2030	EXTERIOR DOORS					
81		Glazed entrance doors including frame and hardware; double door	5	pr	12,000.00	60,000	
82		SUBTOTAL					60,000
83							
84	TOTAL - EXTERIOR CLOSURE						\$1,197,608

B30 ROOFING

B3010 ROOF COVERINGS

Roof demolition

Remove existing roofing, complete 62,100 sf 2.00 w/HazMat

Flat roofing

PVC membrane roofing on dens deck on 5" polyiso on vapor barrier 62,100 sf 32.00 1,987,200

SUBTOTAL 1,987,200

B3020 ROOF OPENINGS

No work assumed in this section

SUBTOTAL -

TOTAL - ROOFING

\$1,987,200

C10 INTERIOR CONSTRUCTION

C1010 PARTITIONS

New layouts for Administration + Senior Center 14,350 sf 24.00 344,400

Reinforcement to existing interior CMU walls and exterior walls; spray shotcrete 4-6" thick 113,000 sf 15.00 1,695,000

SUBTOTAL 2,039,400

C1020 INTERIOR DOORS

Replace existing doors + hardware 58,350 nsf 6.00 350,100

SUBTOTAL 350,100



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Municipal Reuse - Preferred Scheme
Westport, MA

15-Jul-22

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PREFERRED REUSE OPTION TO EXISTING SCHOOL

C1030 SPECIALTIES / MILLWORK

055000 MISCELLANEOUS METALS

Miscellaneous metals throughout building 58,350 nsf 1.00 58,350

064020 INTERIOR ARCHITECTURAL WOODWORK

Reception counters etc. 1 ls 30,000.00 30,000

070001 WATERPROOFING, DAMPPROOFING AND CAULKING

Miscellaneous sealants throughout building 58,350 nsf 1.25 72,938

102800 TOILET ACCESSORIES

Allowance to provide toilet accessories and partitions 58,350 nsf 1.00 58,350

104400 FIRE PROTECTION SPECIALTIES

Fire extinguisher cabinets 19 ea 350.00 6,650

105626 HIGH DENSITY STORAGE

Allowance for HD storage 1 ls 60,000.00 60,000

SUBTOTAL 286,288

TOTAL - INTERIOR CONSTRUCTION

\$2,675,788

C20 STAIRCASES

C2010 STAIR CONSTRUCTION

New handrails at stairs to meet code compliance 6 ea 9,000.00 54,000

SUBTOTAL 54,000

C2020 STAIR FINISHES

High performance coating to stairs including all railings etc. 6 flt 3,000.00 18,000

Rubber tile at stairs - landings; allowance 600 sf 16.00 9,600

Rubber tile at stairs - treads & risers; allowance 720 lft 22.00 15,840

SUBTOTAL 43,440

TOTAL - STAIRCASES

\$97,440

C30 INTERIOR FINISHES

C3010 WALL FINISHES

Painting/wall finishes 58,350 nsf 9.00 525,150

SUBTOTAL 525,150

C3020 FLOOR FINISHES

Floor prep 58,350 nsf 3.50 204,225

Flooring allowance 58,350 nsf 10.00 583,500

SUBTOTAL 787,725

C3030 CEILING FINISHES

Ceiling finishes; complete 58,350 nsf 10.00 583,500

SUBTOTAL 583,500



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Westport, MA

15-Jul-22

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PREFERRED REUSE OPTION TO EXISTING SCHOOL

TOTAL - INTERIOR FINISHES							\$1,896,375
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D10 CONVEYING SYSTEMS

D1010 ELEVATOR

Allowance to upgrade elevator controls

1

ls

30,000.00

30,000

SUBTOTAL

30,000

TOTAL - CONVEYING SYSTEMS							\$30,000
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D20 PLUMBING

D20 PLUMBING, GENERALLY

Plumbing; replace/add fixtures per code; includes all piping etc.

83

ftx

8,000.00

664,000

Cut & cap existing plumbing

58,350

nsf

0.65

37,928

SUBTOTAL

701,928

TOTAL - PLUMBING							\$701,928
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D30 HVAC

D30 HVAC, GENERALLY

Cut & cap existing HVAC

58,350

nsf

1.25

72,938

HVAC complete upgrades; includes new VRF system; no work in Gymnasium and storage/mechanical areas

58,350

nsf

55.00

3,209,250

SUBTOTAL

3,282,188

TOTAL - HVAC							\$3,282,188
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D40 FIRE PROTECTION

D40 FIRE PROTECTION, GENERALLY

Install new sprinkler system throughout

113,000

gsf

6.00

678,000

Underground fire water storage tank - 40,000gal; includes E&B, concrete pad, hold downs etc.

1

loc

300,000.00

300,000

Vertical turbine fire pump with jockey pump

1

ea

125,000.00

125,000

SUBTOTAL

1,103,000

TOTAL - FIRE PROTECTION							\$1,103,000
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D50 ELECTRICAL

D5010 SERVICE & DISTRIBUTION

Normal Power

Normal power transformers, panelboards and feeders

113,000

gsf

4.00

452,000

Emergency power transformers, panelboards and feeders

113,000

gsf

2.25

254,250

2500A 480/277V main switchboard

1

ls

included above

Equipment wiring feed and connection



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Westport, MA

15-Jul-22

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	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST
--	-------------	-----	------	--------------	--------------	--------------	---------------

PREFERRED REUSE OPTION TO EXISTING SCHOOL

219	Emergency generator	1	ea	110,000.00	110,000		
220	Equipment wiring feed and connection	113,000	gsf	2.00	226,000		
221	SUBTOTAL					1,042,250	

D5020 LIGHTING & POWER

224	LED lighting allowance; program areas only	58,350	nsf	6.00	350,100		
225	Exit lighting	58,350	nsf	0.25	14,588		
226	<u>Lighting controls</u>						
227	Automated lighting controls system	58,350	nsf	1.00	58,350		
228	<u>Branch devices</u>						
229	Branch devices	58,350	nsf	0.50	29,175		
230	<u>Lighting and branch circuitry</u>						
231	Branch circuitry	58,350	nsf	6.00	350,100		
232	SUBTOTAL					802,313	

D5030 COMMUNICATION & SECURITY SYSTEMS

235	<u>Fire Alarm</u>						
236	New FA system system	113,000	gsf	4.00	452,000		
237	<u>Telephone/Data/CATV</u>						
238	Fit-Out Closets, devices and cabling	58,350	nsf	3.50	204,225		
239	Rough-in	58,350	nsf	1.00	58,350		
240	<u>First Responder Bidirectional Amplifier System</u>						
241	First Responder Bidirectional Amplifier System	113,000	gsf	0.50	56,500		
242	<u>AV</u>						
243	AV equipment provided by others					By Others	
244	Rough-in only	58,350	nsf	1.00	58,350		
245	<u>Security System</u>						
246	Security System	58,350	nsf	2.00	116,700		
247	SUBTOTAL					946,125	

D5040 OTHER ELECTRICAL SYSTEMS

250	<u>Miscellaneous</u>						
251	Demolition work	113,000	gsf	1.00	113,000		
252	Temporary power	113,000	gsf	0.50	56,500		
253	SUBTOTAL					169,500	

TOTAL - ELECTRICAL

\$2,960,188

E10 EQUIPMENT

E10 EQUIPMENT, GENERALLY

262	Allowance for warming kitchen	1	ls	110,000.00	110,000		
263	SUBTOTAL					110,000	

TOTAL - EQUIPMENT

\$110,000

E20 FURNISHINGS

E2010 FIXED FURNISHINGS

271	New casework/millwork	58,350	nsf	6.00	350,100		
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	DESCRIPTION	QTY	UNIT	UNIT COST	ESTD COST	SUB TOTAL	TOTAL COST
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PREFERRED REUSE OPTION TO EXISTING SCHOOL

272	Window blinds	5,632	sf	7.00	39,424		
273	SUBTOTAL					389,524	
274							
275	E2020 MOVABLE FURNISHINGS						
276	All movable furnishings to be provided and installed by owner						
277	SUBTOTAL					NIC	
278							
279	TOTAL - FURNISHINGS						\$389,524
280							

F10 SPECIAL CONSTRUCTION

F10 SPECIAL CONSTRUCTION

Fire rated vault

1 ls 80,000.00 80,000 80,000

SUBTOTAL

TOTAL - SPECIAL CONSTRUCTION

\$80,000

F20 SELECTIVE BUILDING DEMOLITION

F2010 BUILDING ELEMENTS DEMOLITION

Demolish chimney

1 ls 30,000.00 30,000

Demolish existing finished + specialties etc.

58,350 nsf 7.00 408,450

Demolish existing auditorium wing

42,000 sf 10.00 420,000

#REF! Carry lawn/planting at existing wing footprint that was demolished

42,000 sf 6.00 252,000

#REF! Temporary enclosures/protection

113,000 sf 2.00 226,000

#REF! SUBTOTAL

1,336,450

F2020 HAZARDOUS COMPONENTS ABATEMENT

See summary

SUBTOTAL

TOTAL - SELECTIVE BUILDING DEMOLITION

\$1,336,450