TOWN OF WINCHENDON MASSACHUSETTS
109 Front Street, Dept. 1 Winchendon, MA 01475
(978) 297-0085
OFFICE OF THE TOWN MANAGER
Keith R. Hickey
Town Manager

MEMO

DATE: February 4, 2020

TO: Board of Selectmen

FROM: Keith R. Hickey
Town Manager

RE: Engineer's Report on Recommended Repairs to the Old Murdock Senior Center

In your Board materials is the report received from Tighe and Bond regarding the necessary repairs to the Old Murdock Senior Center. Tighe and Bond has said that there is no risk of continuing to use the building with the entry way below the clock tower closed. The report summarized the short and long term repairs they recommend in three phases; Critical Repairs, Recommended Repairs and Recommended Long Term Repairs. The repair estimates for each phase are shown below:

Critical Repairs	$1,560,000
Recommended Repairs	$1,950,000
Recommended Long Term Repairs	$1,720,000
Total Recommended Repairs	$5,230,000

Phase I is recommended to be completed as soon as possible. The work in this phase includes completing a hazardous material survey in the areas of the building that will be disturbed by the repairs to determine if there is any lead, asbestos etc. that needs to be addressed before repairs begin. Other repairs include repairing the clock tower façade, repair the ventilator chimneys, repairing the working chimney, repair the clock face, repair portions of the existing slate roof, repair and/or restore the clock tower windows.

Phase II repairs are recommended to be made over the next two to five years. Those repairs include repointing the exterior masonry façade, re-anchoring the outer Wythe brick and repairing the remaining portion of the roof.

Phase III repairs are recommended to be completed in the next six to ten years. Those repairs are primarily installing a lightning protections system and repairing or replacing the windows.

To compare the repair costs to Old Murdock vs. constructing a new senior center, I have researched other communities that have constructed new senior centers over the past few years and found two centers that have been built.

The first was built in Westminster in 2013. The Westminster Senior Center construction cost exclusive of work done by Monty Tech and the Sherriff's Department was $2.75 million for a 7,500 +/-Sf building. Without the help of Monty Tech and Sherriff's the Department, it would have been around $3 million. When adding soft cost for an architect and OPM the project was $4 million in 2013 dollars. Assuming an average of 5% escalation from 2013 to 2022, an estimate for a similar project is approximately $6.25 to $6.75 million.

Groton built an 11,000 Sf building in 2018 for $5.8 million.

It appears on the surface that making the critical and recommended repairs to Old Murdock would be less expensive than constructing a new building. I have attached a debt schedule, property tax impact calculation and the engineer's summary of the recommended repairs to this memo. Bonding $3.5 million over 20 years will cost the taxpayer with a property assessed at $250,000 an additional $75 per year in property taxes. Does the Board want to consider included a warrant article on the 2020 spring warrant to fund these repairs? If so, would the bond be a debt exclusion or not?

Please let me know if there is any additional information you need to determine how you want to proceed with the Senior Center.

Loan Amortization Schedule

	Enter values
Loan amount	$ 3,500,000.00
Annual interest rate	3.00 %
Loan period in years	20
Number of payments per year	1
Start date of loan	7/1/2021
Optional extra payments	

	Loan summary
Scheduled payment	$ 235,254.98
Scheduled number of payments	4
Actual number of payments	4
Total early payments	$ -
Total interest	$ 1,205,099.53

Lender name: Senior Center

Pmt No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulative Interest
1	7/1/2022	$ 3,500,000.00	$ 235,254.98	$ -	$ 235,254.98	$ 130,254.98	$ 105,000.00	$ 3,369,745.02	$ 105,000.00
2	7/1/2023	3,369,745.02	235,254.98	-	235,254.98	134,162.63	101,092.35	3,235,582.40	206,092.35
3	7/1/2024	3,235,582.40	235,254.98	-	235,254.98	138,187.50	97,067.47	3,097,394.89	303,159.82
4	7/1/2025	3,097,394.89	235,254.98	-	235,254.98	142,333.13	92,921.85	2,955,061.76	396,081.67
5	7/1/2026	2,955,061.76	235,254.98	-	235,254.98	146,603.12	88,651.85	2,808,458.64	484,733.52
6	7/1/2027	2,808,458.64	235,254.98	-	235,254.98	151,001.22	84,253.76	2,657,457.42	568,987.28
7	7/1/2028	2,657,457.42	235,254.98	-	235,254.98	155,531.25	79,723.72	2,501,926.17	648,711.00
8	7/1/2029	2,501,926.17	235,254.98	-	235,254.98	160,197.19	75,057.79	2,341,728.98	723,768.79
9	7/1/2030	2,341,728.98	235,254.98	-	235,254.98	165,003.11	70,251.87	2,176,725.87	794,020.66
10	7/1/2031	2,176,725.87	235,254.98	-	235,254.98	169,953.20	65,301.78	2,006,772.67	859,322.43
11	7/1/2032	2,006,772.67	235,254.98	-	235,254.98	175,051.80	60,203.18	1,831,720.87	919,525.61
12	7/1/2033	1,831,720.87	235,254.98	-	235,254.98	180,303.35	54,951.63	1,651,417.52	974,477.24
13	7/1/2034	1,651,417.52	235,254.98	-	235,254.98	185,712.45	49,542.53	1,465,705.07	1,024,019.77
14	7/1/2035	1,465,705.07	235,254.98	-	235,254.98	191,283.82	43,971.15	1,274,421.25	1,067,990.92
15	7/1/2036	1,274,421.25	235,254.98	-	235,254.98	197,022.34	38,232.64	1,077,398.91	1,106,223.56
16	7/1/2037	1,077,398.91	235,254.98	-	235,254.98	202,933.01	32,321.97	874,465.90	1,138,545.52
17	7/1/2038	874,465.90	235,254.98	-	235,254.98	209,021.00	26,233.98	665,444.90	1,164,779.50
18	7/1/2039	665,444.90	235,254.98	-	235,254.98	215,291.63	19,963.35	450,153.27	1,184,742.85
19	7/1/2040	450,153.27	235,254.98	-	235,254.98	221,750.38	13,504.60	228,402.89	1,198,247.45
20	7/1/2041	228,402.89	235,254.98	-	228,402.89	221,550.80	6,852.09	0.00	1,205,099.53

Massachusetts Department of Revenue
Division of Local Services
Municipal Databank/Local Aid Section
Tax Impact Calculator

1. Where present, uncheck NULL boxes and enter values (no commas) to set min and max data ranges.
2. Report will always include all data, but will display only communities within set ranges.
3. Click "View Report" and scroll down to check report status.
4. To view or sort data, export to Excel.

Close

Municipality: Winchendon Enter dollar amount: 235255

1 of 1 Find | Next

Property Tax Impact Calculator FY2020

The Tax Impact Calculator is intended to help local officials analyze the impact on the local tax rate from hypothetical changes to the budget, including Proposition 2 ½ overrides, debt exclusions, and capital exclusions.

This calculator is effective for determining the impact of an expenditure based on current year data. In succeeding years, the results will vary with changes in a community's total assessed value, tax rate, and debt service structure.

Municipality: Winchendon
Increase selected: $235,255
Total Levy: $12,646,617

	All Property Types	
Current Tax Rates:	$16.28	
Tax rate impact of expenditure amount:	$0.30	
Value range and tax bill impact:	Assessed Value ($)	Tax bill impact ($)
Average Single Family Residence:	**205,866**	**61.76**
	250,000	75.00
	350,000	105.00
	450,000	135.00
	550,000	165.00
	650,000	195.00
	750,000	225.00
	850,000	255.00
	950,000	285.00
	1,050,000	315.00
	1,150,000	345.00
	1,250,000	375.00

Section 2
Recommendations

Architectural and Structural Improvements

Section 1 presented structural and architectural deficiencies identified during the existing conditions evaluation. The proposed repairs to the WSC focuses on repairing the building and clock tower masonry facade and improving the overall building envelope.

Building Code Application

Historic Buildings are covered in the International Existing Building Code (IEBC 2015). Chapter 12, Section 1202 – Repairs, states that "repairs to any portion of a historic building or structure shall be permitted with original or like materials and original methods of construction, subject to the provisions of this chapter". In addition, if the local building code official deems the current condition of the clock tower and chimneys to be "unsafe conditions", then no work shall be required beyond what is necessary to remedy the unsafe condition. Section 1202 - Repairs, will allow the necessary repairs to stabilize the masonry chimneys, building façade, and clock tower, without the need to upgrade the building for seismic loads as would normally be the case with other structures.

The recommended repairs to the masonry facade can be implemented in a phased approach, with the most severely deteriorated areas being repaired first. We divided the repairs into three phases as follows:

Phase I – Critical Repairs that must be completed to eliminate a potentially "unsafe Condition".

- Hazardous materials survey
- Clock tower masonry repairs
- Chimney masonry repairs above the roof level
- Clock tower window replacement
- Selective roof repairs related to the execution of the clock tower and chimney work

Phase II – Recommended repairs that should be completed within five years to prevent further deterioration of the building structure.

- Roof and flashing repairs for the remainder of the roof
- Building masonry repairs – cutting and pointing masonry
- Interior finish repairs – Repair damage resulting from water infiltration due to masonry and roof deterioration

Phase III – Recommended long term repairs that will protect the building structure from further deterioration or damage.

- Window restoration and maintenance for the entire building

- Joint sealant replacement – schedule for 10 year replacement intervals
- Lightning protection

The following architectural and structural improvements are proposed to stop the current deterioration of the building and clock tower and to prevent a potential catastrophic collapse of the clock tower masonry façade.

The extent of the recommended exterior building façade repairs are outlined in Structures North report (See Appendix A). The illustrated work areas include Tower East, Tower North, Tower South, Tower West, East Elevation Center Top, Clock Faces, and the Chimneys. The following is a summary of the masonry façade repairs recommended by Structures North.

Phase I – Critical Repairs

Hazardous Material Survey

As previously stated, our condition assessment did not include a hazardous materials survey. Prior to any renovation work, a hazardous building materials (HBM) survey should be completed for the areas where proposed improvements will occur, and suspect materials should be tested for the presence of hazardous materials such as lead, asbestos, and PCBs. The results of survey should be incorporated into the construction documents, and if positive, HBM's industry standard specifications should be prepared to properly specify the procedures for removal and disposal of the hazardous building materials. We have carried an allowance in our opinion of probable construction costs, in an attempt to capture some of this cost.

Clock Tower

The recommended repairs to each face of the clock tower façade between tower level 3+2 and the bell deck include the following:

- Selectively demolish the outer brick wythe and brown stone and rebuild the facade using a mixture of old and new brick and brown stone of matching size and shape
- Remove the corroded steel flat plate lintels supporting the brick masonry above the seven arched windows and infilling the space between brick piers that currently are supporting the lintels with solid masonry. Once the infill masonry is complete, the brownstone can be anchored to the newly installed solid masonry.
- Install supplemental stainless-steel helical anchors to tie the newly constructed face brick back to the inner wythes of the masonry walls
- Install supplemental stainless-steel helical anchors to tie the existing face brick to the inner wythes for the masonry walls for the remainder of the clock tower face

Ventilator Chimneys

The recommended repairs to each ventilation chimney include the following:

- Remove the copper chimney caps and steel support post to allow for masonry façade repairs

- Provide corrosion protection for the steel support posts. The corrosion protection to include sandblast surface preparation and a high-performance coating system.
- In addition, provide dissimilar metal isolators between the copper cap and steel support posts
- Selectively demolish the outer wythes chimney face brick and brown stone cap and rebuild the facade using a mixture of old and new brick and brownstone
- Install supplemental stainless-steel helical anchors to tie the newly constructed face brick to the inner wythes of brick masonry

Working Chimney

The recommended repairs to working chimney include the following:

- Selectively demolish the outer chimney face brick and brown capstone and rebuild the facade using a mixture of old and new brick, and brownstone
- Install supplemental stainless-steel helical anchors to tie the newly constructed face brick to the inner (backup) brick structure

Clock Faces

The recommended repairs for the wood clock faces include the following:

- Replace the sections of the wood clock face that are deteriorated

Roofing and Flashings

All proposed roofing repairs will need to be coordinated with the recommended masonry repairs to the clock tower and chimneys. The recommended roof repairs are as follows:

- Remove existing slate roof, including copper flashing, to facilitate the installation of the roof supported scaffolding necessary to repair the brick masonry clock and bell tower along with the masonry chimney stacks, and gabled parapet walls
- Install a temporary membrane roofing system and protection board to provide a water tight roof assembly and to permit installation and support of scaffolding associated with the clock tower and chimney repair work.
- Upon completion of all above-roof repairs including masonry and roofing repairs associated with the clock/bell tower and copper-cap repairs to chimneys, the scaffolding may then be removed to facilitate the roof deck preparation for slate and flashing reinstallation
- Reinstall existing salvaged slate and supplement with new slate to facilitate roof repairs, incorporate new copper flashing in accordance with industry standards and practices.

Clock Tower Windows

The windows are important to the architectural character of the building. They need to be repaired and or restored in-kind. Each window should be individually inspected, and the following items checked and repaired as needed.

- Check sash chords, weights, and locking hardware and repair as necessary
- Replace damaged or failing glazing and glass

- Strip peeling paint from sill, sash, window frame, and related trim
- Repair damaged window sills, sash, and related trim; prime and repaint. Use epoxy repair/restoration products as needed to restore window components to like new condition.
- Repair or replace existing weather stripping. If weather stripping is not present install new bronze type weather stripping.
- Replace all perimeter sealant with new paintable silicone sealant

Phase II – Recommended Repairs

Building Elevations:

Reference Structures North report (See Appendix A) which highlight the recommended areas of repair for the building structure.

- Some degree of mortar joint repointing of the exterior masonry facade is required on all building elevations. Structures North report outlines the percentage of mortar joint repointing that is required on each building elevation.
- Re-anchoring of the outer wythe brick is expected throughout the building exterior. The re-anchoring is anticipated to include drilling small diameter stainless steel helical anchors into the brick façade in a grid pattern for the purpose of tying the façade to the backup brick structure.
- All opened joints in brownstone parapet copings and brownstone sills are recommended to be re-pointed with mortar
- Opened joints at the interface of brick surfaces and stone surfaces need to be repointed leaving room to properly fill with backer rod and joint sealant
- Flashing between dissimilar masonry and where stone profiles create projecting surfaces should be replaced, including new joint sealants

Remainder Of Roofing and Flashings

New and salvaged slate roofing materials, including ice and water shield, roofing underlayment, copper flashing, snow guard assemblies, snow pads, and gutters and down spouts can be installed once all the proposed masonry repair work above the building roof has been completed. The recommended roof repairs for the remainder of the building roof are as follows:

- The existing slate material will require being supplemented with matching new slate to accommodate for breakage
- New copper and lead-coated copper flashing will be required and incorporated into the slate roofing replacement and repairs
- The roof should be provided with a new snow guard system comprised of snow pads as well as snow rail-type guards, to better control sliding snow and ice

Building Interior

- Once all masonry and roofing repair work is complete, the interior plaster repairs can be performed in the north stair shaft

Phase III – Recommended Long Term Repairs

Lightning Protection

The building and clock tower do not currently have a lightning protection system. Based on the height and use of the building, it is strongly recommended that a lightning protection system be installed. The lightning protection system should include the following:

- Multiple aerial terminals connected with a copper grounding conductor
- Multiple risers located at the corners of the building
- Dedicated lightning rods designed to keep the lightning discharge from damaging the existing electrical service

Building Windows

The windows are important to the architectural character of the building. They need to be repaired and or restored in-kind. Each window should be individually inspected, and the following items checked and repaired as needed.

- Check sash chords, weights, and locking hardware and repair as necessary
- Replace damaged or failing glazing and glass
- Strip peeling paint from sill, sash, window frame, and related trim
- Repair damaged window sills, sash, and related trim; prime and repaint. Use epoxy repair/restoration products as needed to restore window components to like new condition.
- Repair or replace existing weather stripping. If weather stripping is not present install new bronze type weather stripping.
- Replace all perimeter sealant with new paintable silicone sealant
- Consider exterior or interior storm panels

Section 3
Opinion of Probable Construction Costs:

Architectural and Structural Improvements

Section 2 presented the recommended structural and architectural repairs for the clock tower, chimneys, and building. Section 3 is our opinion of the costs associated with the recommended repairs.

As previously stated, the recommend repairs to the facade can be implemented in a phased approach, with the most severely deteriorated areas being repaired first. This will allow the Town of Winchendon to spread out the repair costs over multiple years if desired. The three phased approach we considered is as follows:

Phase I – Critical repairs that must be completed immediately to eliminate a potentially "unsafe Condition".

Phase II – Recommended repairs that should be completed within two to five years to prevent further deterioration of the building structure.

Phase III – Recommended long term repairs that will protect the building structure from further deterioration or damage should be completed within six to ten years.

Our Engineers Opinion of Probable Costs (OPCC) for each phase are tabulated in Appendix C and summarized in Table 3-1.

Table 3-1 presents a summary of each alternative and estimated total project cost.

TABLE 3-1
Construction Phase OPCC Summary

Alternative	Total Phase Cost
Phase I — Critical Repairs	**$1,560,000**
Phase II —Recommended Additional Repairs	**$1,950,000**
Phase III — Long Term Additional Repairs	**$1,720,000**

Tighe & Bond is available to discuss the recommendations outlined in this report at the Town of Winchendon convenience.