

Presentation Outline

September 1, 2015

Town Council Meeting

A. Overview of Micro-Grid Project, Current Status and Recommendations

1. Micro-Grid Project Objectives
 - Shelter with heat and power at WMS and Sweeney schools
 - Minimize Town of Windham's cost
 - Long term savings
2. Recommended configuration
 - 480 VAC interconnection
 - Co-Gen
 - Photovoltaic (PV)
3. Current status and proposed schedule
4. Micro-Grid Committee recommendation to include roof replacement in the Micro-Grid Project
5. To allow the PV to be included in the Micro-Grid Project, the Micro-Grid Building Committee is recommending that the WMS roof be replaced next year as part of the Micro-Grid Project and that the Town Council:
 - Authorize an increase in the Town's contribution to the Micro-Grid Project to cover some of the cost of the roof replacement, and
 - Appoint the members of the Micro-Grid Building Committee as the WMS Roof Replacement Building Committee
6. Answer any questions the Town Council has regarding the Micro-Grid Project

B. Rationale for Including the Roof with the Micro-Grid Project

1. Our analysis shows that the cost to the Town will be less if the roof is replaced now as part of the Micro-Grid project as opposed to 2022. (\$ 1.0 M savings)
2. The roof was designed as a 20 year roof and is at the end of its useful life.
 - Installed in 1996
 - Will be 20 years old when replaced
 - Currently leaking
 - Town spends between \$10,000 to \$13,000 per school for repairs.
3. We cannot include the PV panels if we do not replace the roof because the roof uses stone ballast and the structure for the roof will not support the existing ballast and new PV panels.
4. The Town should take advantage of reasonable bonding interest rates
5. We are concerned the State Board of Education reimbursement rates will go down in the future.
6. Including the PV will lower the Town Green House gas emissions
7. Savings from the co-gen and PV will pay for the roof. Total project payback will be 15 years.

<u>Microgrid Only</u>	
Total Project	Town Share
\$ 2.1 M	\$ 325 K

<u>Microgrid w/ Roof</u>	
Total Project	Town Share
\$ 4.9 M	\$ 1.2 M

New Roof as part of the School Facilities Master Plan

- If the roof were to be replaced as part of a school renovation project, it would be subject to compliance with State Space Standards. Therefore, if the school is not fully occupied, a penalty would be incurred commensurate with the occupancy vs. capacity.

Below is an example of the associated costs if the Middle School roof replacement were to be included as part of an overall school renovation project in 2022. These numbers are based upon a one of several draft proposals Friar Associates presented to the Board of Education as part of the Master Plan studies.

Windham Middle School Roof Replacement as part of a Considered Alteration project			
			Total %
Total Construction Costs			\$2,060,200
Estimated Soft Costs			<u>\$787,274</u>
Construction and Soft Costs			\$2,847,474
Escalation 4%, 5%* per year	8.5 yrs	40.50%	<u>\$1,153,227</u>
Total Project Budget			\$4,000,701
Net State Reimbursement			<u>\$2,112,167</u> 52.8%
Cost to Windham			\$1,888,534 47.2%

*Escalation Years 1-2 = 4%
*Escalation Years 3-10 = 5%

Space Standards	Sq. Ft.	Enrollment		
Existing Square Footage (adjusted)	171,243			
Proposed Square Footage (net)	171,243	1193		
State Allowable Square Footage	107,954	78.97%	942	-251
Square Footage Penalty %		21.03%		
Construction Schedule	6/14/22 - 8/18/23			

State Reimbursement			
Estimate Ineligible Costs	4%		\$160,028
Estimate Eligible Costs			\$3,840,673
State Reimbursement (Alteration)	69.64%		\$2,674,645
Reimbursement Penalty	21.03%		<u>\$562,478</u>
Net State Reimbursement			\$2,112,167

New Roof with the Microgrid project

- Adherence to State Space Standards does not apply to projects solely for roof replacements. If the roof renovation were included a standalone project, phased as a part of the Microgrid project, it would not incur any grant penalty for Space Standards.
- Because the roof is 2 years shy of 20 years old (the minimum time for full reimbursement), it will incur a 10% penalty (5% per year) on the grant.

Projected Construction costs	\$2,060,200	
Arch. Design	\$144,214	
Other Prof. Fees	\$25,000	
Contingency	\$309,030	
OH&P	\$309,030	
Total Project Budget	\$2,847,474	
Net State Reimbursement	1,959,317	68.8%
Cost to Windham	888,157	31.2%

State Reimbursement		
Estimate Ineligible Costs	4%	\$113,899
Estimate Eligible Costs		\$2,733,575
State Reimbursement	79.64%	\$2,177,019
Reimbursement Penalty (18 yrs. old)	10.00%	\$217,702
Net State Reimbursement		\$1,959,317