

Environmental Sustainability

Presentation





Potential 2020 referenda



Operating

Continue our momentum investing in equitable opportunities, rich programming, and retaining high-quality staff

Capital

Take action on the most pressing projects in support of our academic vision







\$33M Operating Referendum
Continue our momentum in equitable opportunities, rich programming and retaining high-quality staff





\$317 M Facilities Referendum Most pressing building projects in support of our academic vision





289 Operating Referendum



Shall the Madison Metropolitan School District, Dane County, Wisconsin be authorized to exceed the revenue limit specified in Section 121.91, Wisconsin Statutes, by \$6,000,000 for 2020-2021 school year; by an additional \$8,000,000 (for a total \$14,000,000) for 2021-2022 school year; by an additional \$9,000,000 (for a total of \$23,000,000) for the 2022-23 school year; and by an additional \$10,000,000 (for a total of \$33,000,000) for the 2023-2024 school year and thereafter, for recurring purposes consisting of operational and maintenance expenses?







An operating referendum can accelerate our positive academic momentum

Recurring revenue authority could allow for investments in:



Full-Day 4K



Daily world language in middle school



Programming in arts, music, and science/ technology



Attracting and retaining high-quality teachers



Strategic equity
projects, such as: Early
College STEM Academy,
historically accurate and
culturally relevant
curriculum, restorative
justice, etc.

Future Ready

Ask: \$33M Operating Referendum

Yr 4 estimated total mill rate impact \$0.96



\$27 per year incremental increase for every \$100,000 in home value over 4 years

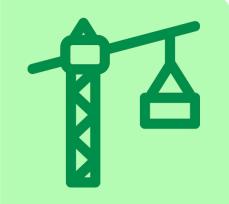












2>Facilities Referendum

Shall the Madison Metropolitan School District, Dane County, Wisconsin be authorized to issue pursuant to Chapter 67 of the Wisconsin Statutes, general obligation bonds in an amount not to exceed \$317,000,000 for the public purpose of paying the cost of a school building and facility improvement project consisting of: renovations and additions at all four high schools, including safety and security improvements, plumbing/heating and cooling, science labs and classrooms, athletic, theatre, and environmental sustainability improvements; land acquisition for and construction of a new elementary school located near Rimrock Road to relocate an existing elementary school; remodeling the district owned Hoyt School to relocate Capital High; and acquisition of furnishings fixtures and equipment?



A \$317M facilities referendum will allow us to:

Invest in significant renovations that will transform learning environments in our four main high schools, we will impact a third of our students and every attendance area.

Move our Capital High
Eastside and Westside
students out of temporary
spaces not meant for high
school instruction into a
school building we own,
Hoyt School, and renovate
Hoyt to meet their needs.

Build a new elementary school in the Rimrock area to give underserved students and families a much-needed school in their neighborhood.

 Moving out of a leased school space in Monona, saving on lease costs

Reduce the carbon footprint of our facilities and operations, leading to a future with cleaner and operationally more efficient facilities.



MMSD Renewable Energy Resolution

NOW, THEREFORE, BE IT RESOLVED, that the District build into the 2019 Long Range Facility Plan consideration for energy efficiency and renewable energy projects to begin as soon as possible;

BE IT FURTHER RESOLVED, that the District Building Services Department would continue to devote staff time to develop and implement a plan to meet this goal;

BE IT FURTHER RESOLVED, that the District identify grants and other external funding resources to assist in our efforts to install solar panels and implement major energy efficiency improvements beginning in 2019





Current Practices

Geothermal Sites:

West and Olson

Solar Projects in progress:

West: 100Kw solar system, solar array Renewable Energy Rider: 2 MW project in partnership with MG&E and City of Madison

Fleet Purchasing

Vehicle fleet moves to electric vehicles as current fleet expires







Current Practices - Outdoor Learning Spaces

Lake View Forest

Lincoln Community Garden

Badger Rock Site and Instructional Model

Midvale Community Garden

Spring Harbor Greenhouse

Crestwood School Forest

La Follette Arboretum, School Garden, and Greenhouse

Kennedy Community Garden and Ropes Course

Toki/Orchard Ridge Forest

Memorial Greenhouse

Cherokee Community Gardens

Allis Community Garden

Many others....





Current Practices - Sustainable Food Sources

- Fresh purchases from local farmers: 9% and growing
- REAP Farm to School Program
 - 12 schools participate in Fresh Fruit & Vegetable Grant
- MMSD Chefs prepare food at Food Production Center
- Garden bars throughout the district to offer students choices for fruits and vegetables and to introduce new items while also reducing food waste
- High school kitchens produce the majority of the menu items on site for same day service.
 - Two high schools piloting a "Nourish " line: scratch cooked items reflecting MMSD's cultural diversity
- School gardens and cooking classes are an opportunity to provide hands-on learning in urban ag and farm-to-plate preparation
- Wellness Policy has allowed for longer lunches







Referendum Planning:

Improving Sustainable and Healthy High Schools

Environmentally Responsible Improvements

Energy related improvements and renewable energy Water use and waste management Integrated learning opportunities

Focus on Student and Staff Wellness

Wellness spaces

Optimized (health-based) learning environments

Community Friendly

Design informed by all stakeholders



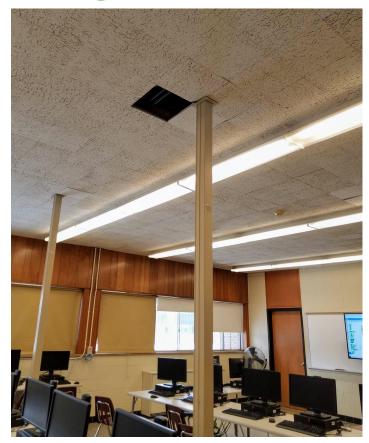


SUSTAINABILITY CONSIDERATIONS | PREPARED BY Findorf

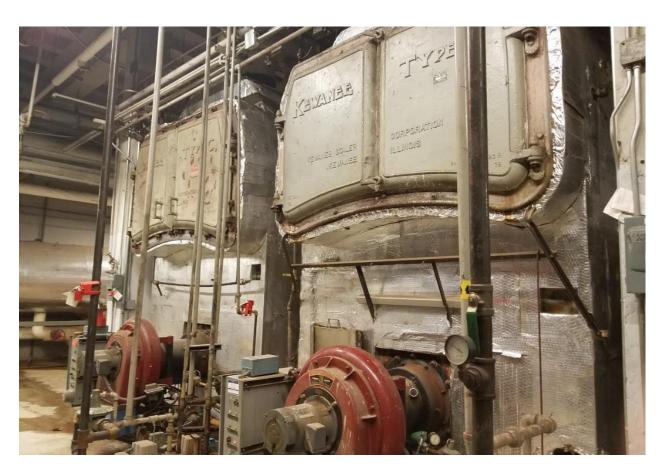
	Base Scope				+\$2M Scope Considerations			Additional Scope Considerations							
	West	East	LaF	Mem	Hoyt	West	Street	LaF	Mem	Hoyt	West	East	LaF	Mem	Ho
ENVIRONMENT															
Lighting															
LED Retofit (Lights + Occupancy)			•		•										
Mechanical	-				-										
Overhaul of HVAC System		0.00	•		•	$\overline{}$									
Energy Management / Benchmarking				•	•										
Energy / Water Metering - Basic	•	•		•											
Innovative / More Efficient Systems						•	•	•	•	•			•	•	18)
Envelope Improvements															
Existing Window/Door Replacement		•	•	•	•										
Roofing		•	•	•	•										
Renewable Energy	-														
\$150K Solar Allowance		•	•	•	- 1					•					
Additonal \$250K Solar Allowance (per school)						•		•	•						
Additonal Solar Allowance											•	•	•	•	
Battery Storage Exploration					-							•	•	•	
Water Management															
Erosion Control		• 6	•	•	•										
Environmental Remediation	•	•	•	•	•										
Indoor Water Use Reduction			•	•	•										
Rainwater Management - Collection + Storage		•	•	•	•										
Rainwater Management - Greywater Reuse									•						
Materials															
Asbestos and Lead Abatement			•	•	•										
Material Selection - Recycled + Regional		•	•	•	•										
Material Salvage and Reuse (Demolition)		•	•	•	•										
Construction Waste Reduction + Recycling	•	•	•	•	•										
Prefabrication of Building Components (as applicable)		•			•										
Integrated Learning Opportunities															
Visibility of Sustainability Features - Basic		•	•	•	•										
Curriculum - Environment		•	•	•	•										
Using the Building as a teaching tool		•	•	•	•										
Prototype Space - Carbon Capture / Battery Storage / Wind / Solar PV / Other															
Other															
Existing Building Reuse		•	•		•										
Gardens - Updates to Existing					•	_									_



Existing Conditions



Fluorescent Lights and Poorly Insulated Ceiling Enclosure



1947 Kewanee Steam Boiler



Existing Conditions



1960's Vintage Air Handling Unit and Poorly Insulated Windows



Dated Inefficient Plumbing Fixtures





Components of Current Master Plan





LED Lighting/Natural Light Energy Efficient Design



Components of Current Recommendation





Integrated Learning Opportunities

New Efficient Mechanical Systems





Additional Scope Considerations





Expanded PV Capacity

Capsule Classrooms





Cost Saving Summary

	Base Scope	Efficiency Improvement	Expected ROI (Return on Investment)
Mechanical	Boiler Replacement and Controls Upgrade	30% - 35% (heating gas load)	5-8 yrs
Lighting	LED Lighting and Lighting Controls Upgrade	30% - 40% (lighting electricity load)	4-6 yrs





PV Comparison and Summary

	Total Budgeted Cost	PV System Size (kWdc)	Annual Offset of Electric Use	Estimated Annual Energy Savings	Simple Payback
Base Scope	\$600,000	360	4%	\$45,000	13 yr
Total With Added Scope Option	\$1,750,000	1150	13%	\$145,000	12 yr



Financial Tools and Potential Partnerships

Private Fundraising:

- Madison Community Foundation
- The Left Coast Fund Solar on Schools Grant
- Other community foundations, businesses, and individuals

Potential Fundraising Opportunity:

- Focus on Energy
- Explore Green Bonds
- Community

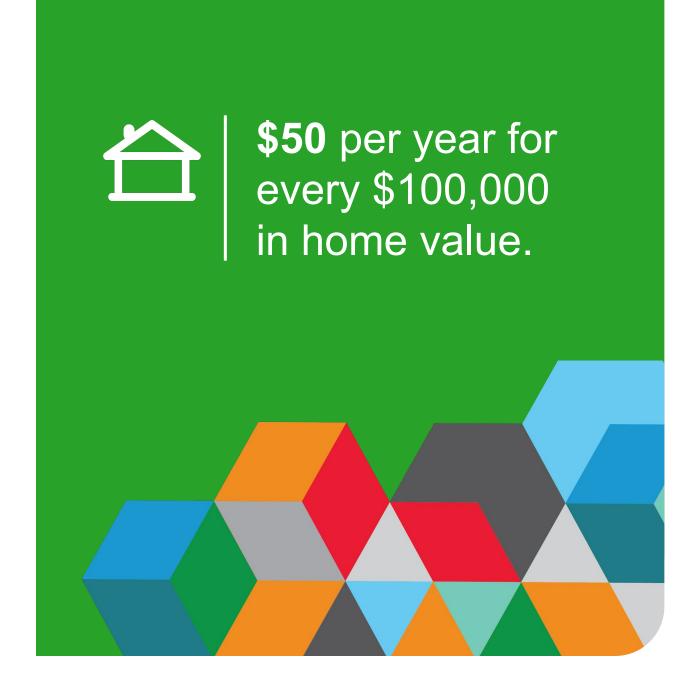






Future Ready Ask: \$317M Facility Referendum

- Support environmentally sustainable projects with positive returns on investment.
 - \$2M increase on facilities ask for environmental projects has no material impact on the mill rate.
- Average mill rate increase is estimated to be \$0.44, paid off over 22 years.





Q1 & Q2 Ask: \$350M

Yr 4 estimated total mill rate impact \$1.51



\$60 increase for every \$100,000 in home value in yr 1, accumulates to **\$130** in yr 4.





