



# Capital Improvement Program 2021 Annual Report

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Board of Education – December 15, 2021



# Thank You, Ann Arbor Community

## 2019 BOND PREPARING FOR THE FUTURE





## Capital Improvement Program 2021 Total Investment in Schools

Bond Fund	\$31,152,975
Sinking Fund	\$16,584,450
Yearly Sinking Fund Repairs	\$6,424,429
<b>TOTAL INVESTMENT</b>	<b>\$54,161,854</b>



# Presentation Overview

1. Review Bond Commitments
2. Highlights Current Projects
3. Financial Update
4. Preview Upcoming Projects
5. Community Engagement
6. Environmental Sustainability Update
7. Capital Improvement Program Website
8. Capital Improvement Program Partners
9. Thank You, Ann Arbor Community



# 2019 BOND PREPARING FOR THE FUTURE

## Review Bond Commitments





# Overall AAPS Bond Plan 2020-2030

## Elementary Schools

School	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
<b>Southwest</b>														
Carpenter Elementary	A/C and Lighting				Major Project									
Burns Park Elementary	A/C and Lighting	Paving		Major Project										
Angell Elementary	A/C and Lighting				Major Project									
Pittsfield Elementary		A/C and Lighting, and Paving	Outdoor Learning Enhancements			Major Project								
Pattengill Elementary		Roofing and Paving		Outdoor Learning Enhancements			Major Project							
Allen Elementary	Paving	Lighting	Outdoor Learning Enhancements					Major Project						
Bryant Elementary	Roofing and Solar		Outdoor Learning Enhancements	Paving					Major Project					
Current Mitchell Elementary	A/C and Lighting				Stages Burns Park	Stages Angell	Stages Pittsfield	Stages Pattengill						
New Mitchell Elementary	Project Planning		New Construction											
<b>Northeast</b>														
Logan Elementary		Paving	Outdoor Learning Enhancements	Lighting	Major Project									
King Elementary	NE Sector Study		Outdoor Learning Enhancements	Lighting		Major Project								
Thurston Elementary		Outdoor Learning, Paving, Roofing, Solar	A/C and Lighting				Major Project							
<b>Southwest</b>														
Dickens Elementary	A/C and Lighting, and Paving			Major Project										
Lakewood Elementary	A/C and Lighting				Major Project									
Eberwhite Elementary		A/C and Lighting	Paving	Outdoor Learning, Roofing, and Solar		Major Project								
Bach Elementary		A/C and Lighting	Paving	Outdoor Learning Enhancements			Major Project							
Laxton Elementary		Outdoor Learning Enhancements	A/C and Lighting		Roofing	Paving		Major Project						
Southwest Staging Site			Project Planning		New Construction	Stages Eberwhite	Stages Bach	Stages Laxton						
<b>Northwest</b>														
Wines Elementary		A/C and Lighting, and Paving	Roofing and Solar	Outdoor Learning Enhancements		Intermediate Summer Project			Major Project					
Abbot Elementary		Outdoor Learning Enhancements	Roofing and Solar	A/C and Lighting			Intermediate Summer Project				Major Project			
Haisley Elementary		Outdoor Learning Enhancements	Paving	A/C and Lighting				Intermediate Summer Project					Major Project	
Northwest Staging Site						Project Planning		New Construction	Stages Abbot	Stages Haisley	Stages Wines			

## K-8s, Secondary Schools, and Other Buildings

School	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
<b>K-8s</b>																				
A2 STEAM K8		Outdoor Learning Enhancements	A/C and Lighting	Paving			Intermediate Summer Project			Major Project										
A2 Open K8			Lighting	Outdoor Learning Enhancements and Paving				Intermediate Summer Project				Major Project								
<b>Middle Schools</b>																				
Stanton Middle School			Renovation including Air Conditioning, Lighting, and Fire Suppression	Outdoor Learning Enhancements				Paving				Major Project								
Chagoe Middle School		Renovation including A/C, Lighting, Fire Suppression, Paving, Roofing, and Solar			Outdoor Learning Enhancements				Intermediate Summer Project				Major Project							
Scarlett Middle School	Renovation including Air Conditioning, Lighting, and Fire Suppression			Roofing, Solar, and Paving			Outdoor Learning Enhancements			Intermediate Summer Project				Major Project						
Tappan Middle School	Renovation including Air Conditioning, Lighting, Fire Suppression, and Paving		Solar	Paving and Outdoor Learning Enhancements						Intermediate Summer Project					Major Project					
Forsythe Middle School		Renovation including Air Conditioning, Lighting, Fire Suppression, and Paving			Outdoor Learning Enhancements						Intermediate Summer Project								Major Project	
<b>High Schools</b>																				
Pioneer High School		Lighting, and Roofing and Solar	Lighting, and Paving							Major Project										
Huron High School	Roofing	Paving		Lighting	Lighting				Intermediate Summer Project				Major Project							
Skyline High School			Initial Summer Project							Intermediate Summer Project									Final Summer Project	
Community High School	Renovation including Air Conditioning, Lighting, and Fire Suppression			Outdoor Learning Enhancements and Paving			Intermediate Summer Project		Paving		Major Project									
Pathways to Success			Major Project																	
<b>Other Buildings</b>																				
Preschool		Outdoor Learning, Roofing, and Solar							Paving		Intermediate Summer Project								Final Summer Project	
Freeman		Paving	Outdoor Learning Enhancements	Roofing and Solar	Lighting															
Bales Bldg	Office Utilization Analysis																			
Transportation Bldg			Interior Renovation and Lighting	Outdoor Learning, and Roofing and Solar															Final Summer Project	

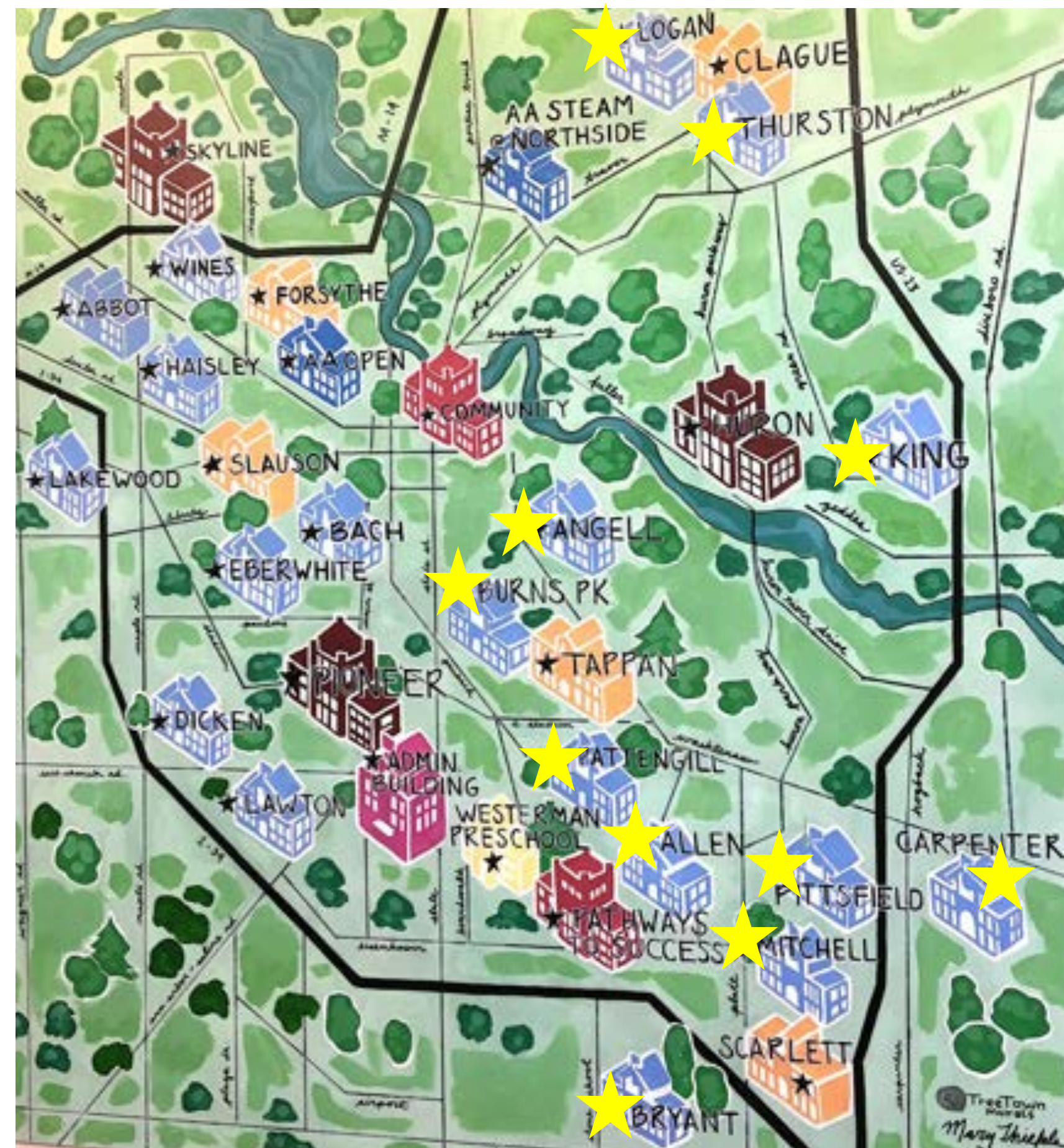
\* Approved by the Board of Education December 2020



# Overall AAPS Bond Plan 2020-2030

## Elementary Schools – Part I

School	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Southeast	Carpenter Elementary	A/C and Lighting				Major Project (Does Not Stage)					
	Burns Park Elementary	A/C and Lighting	Paving		Major Project (Stages at Old Mitchell)						
	Angell Elementary	A/C and Lighting			Major Project (Stages at Old Mitchell)						
	Pittsfield Elementary		A/C and Lighting, and Paving	Outdoor Learning Enhancements		Major Project (Stages at Old Mitchell)					
	Pattengill Elementary		Roofing and Paving		Outdoor Learning Enhancements		Major Project (Stages at Old Mitchell)				
	Allen Elementary	Paving	Lighting	Outdoor Learning Enhancements			Major Project (Does Not Stage)				
	Bryant Elementary	Roofing and Solar		Outdoor Learning Enhancements	Paving				Major Project (Does Not Stage)		
	Current Mitchell Elementary	A/C and Lighting			Staging Prep	Stages Burns Park	Summer	Stages Angell	Summer	Stages Pittsfield	Summer
	New Mitchell Elementary	Project Planning		New Construction							
Northeast	Logan Elementary		Paving	Outdoor Learning Enhancements	Lighting	Major Project (Stages at NE Staging Site)					
	King Elementary	NE Sector Study		Outdoor Learning Enhancements	Lighting		Major Project (Stages at NE Staging Site)				
	Thurston Elementary		Outdoor Learning, Paving, Roofing, Solar	A/C and Lighting			Major Project (Stages at NE Staging Site)				





# Overall AAPS Bond Plan 2020-2030

## Elementary Schools – Part 2

School	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
<b>Southwest</b> Dicken Elementary	A/C and Lighting, plus Paving			Major Project (Over 100 Stages)										
Lakewood Elementary	A/C and Lighting				Major Project (Over 100 Stages)									
Eberwhite Elementary		A/C and Lighting	Paving	Outdoor Learning, Roofing and Solar		Major Project (Stages of New 200 School)								
Bach Elementary		A/C and Lighting	Paving	Outdoor Learning Enhancements			Major Project (Stages of New 200 School)							
Lawton Elementary		Outdoor Learning Enhancements	A/C and Lighting		Roofing	Paving		Major Project (Stages of New 200 School)						
Southwest Staging Site			Project Planning		New Construction	Stages Eberwhite	Stages Bach	Stages Lawton	Touch-Up					

School / Building	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
<b>Northwest</b> Wines Elementary		A/C and Lighting, plus Paving	Roofing and Solar	Outdoor Learning Enhancements		Intermediate Summer Project			Major Project (Over 100 Stages)					
Abbot Elementary		Outdoor Learning Enhancements	Roofing and Solar	A/C and Lighting			Intermediate Summer Project				Major Project (Stages of New 200 Staging Site)			
Haisley Elementary		Outdoor Learning Enhancements	Paving	A/C and Lighting				Intermediate Summer Project					Major Project (Stages of New 200 Staging Site)	
Northwest Staging Site							Project Planning		New Construction	Stages A2 Steam	Stages A2 Open	Stages A2 Open	Stages A2 Open	Touch-Up







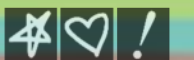
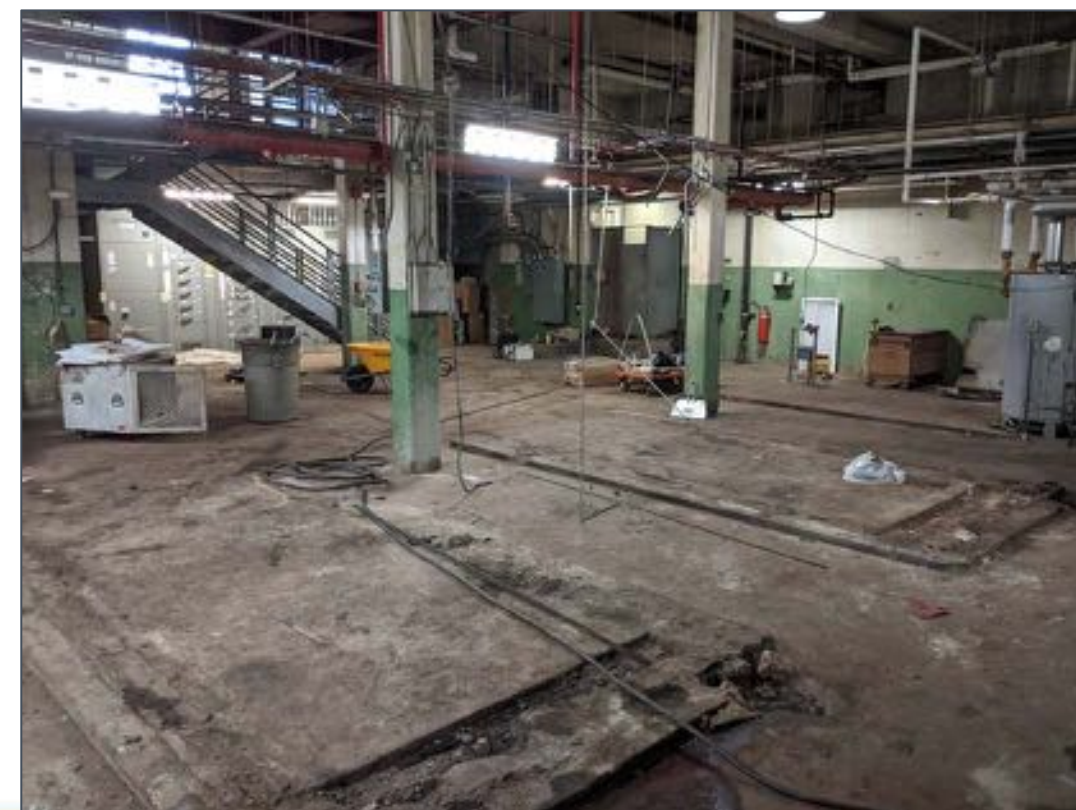


# 2021-2022 Projects





# Summer 2021 Construction





# Air Conditioning Update

Air Conditioning Program Schedule			
School Year	Square Footage with A/C *	Percentage of SF with A/C	Number of Schools with A/C
Fall 2020	1,579,990	45.7%	11
Fall 2021	1,813,035	<b>52.4%</b>	14
Fall 2022	2,464,615	<b>71.3%</b>	24
Fall 2023	3,156,987	91.3%	30
Fall 2024	3,457,874	100.0%	32

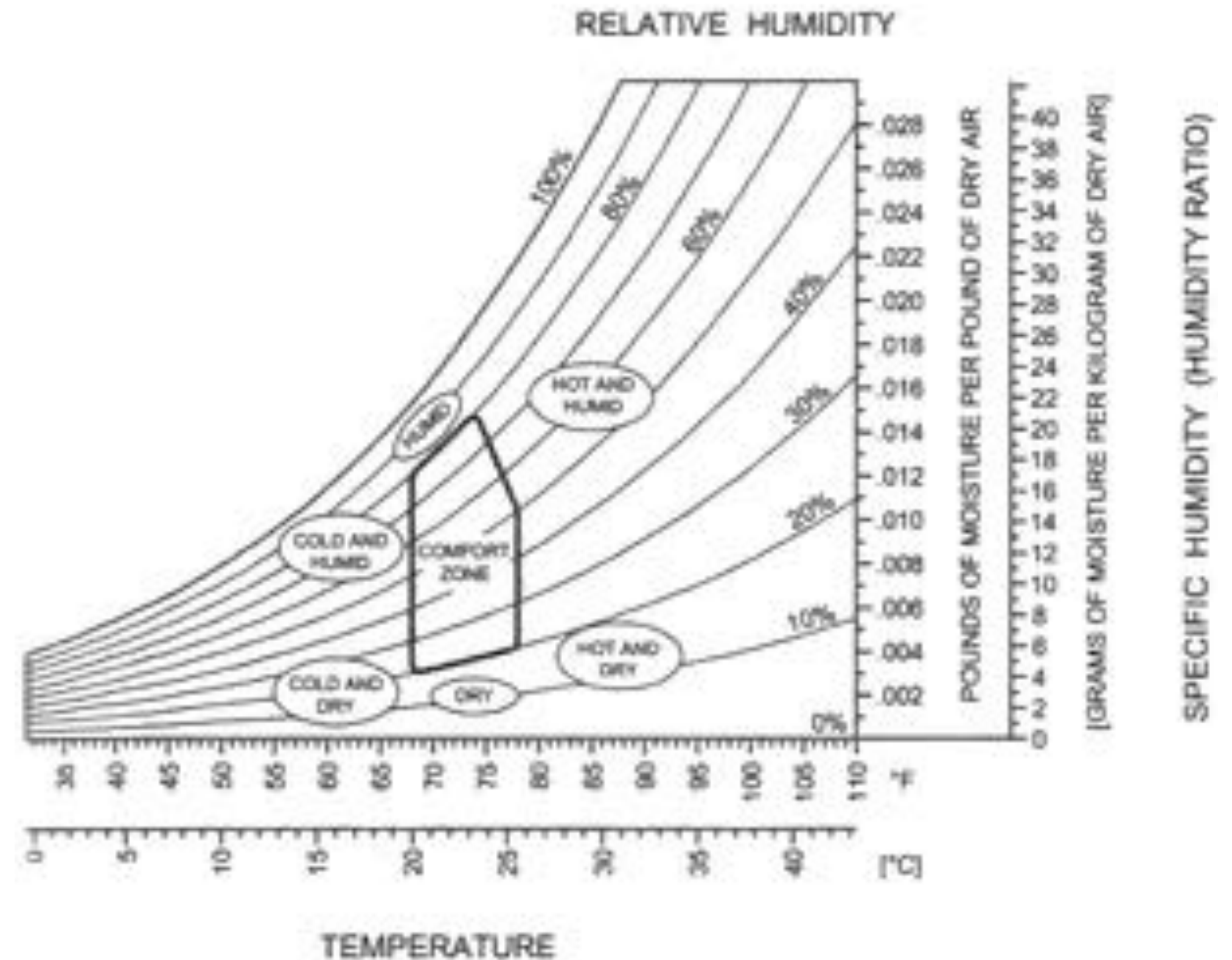
\*Does not include miscellaneous spaces in buildings without classroom A/C





# Benefits of Optimized Thermal Environments

- A reasonable and constant temperature and humidity has been shown to positively impact student health and learning and teacher wellbeing
- Research continues to emphasize linkages between thermal comfort and performance





# Air Conditioning Update

School	Status	Completion Date
Angell Elementary	Awaiting Electrical Service Upgrade Conversion	Summer 2022
Burns Park Elementary	Awaiting Electrical Service Upgrade Conversion	Summer 2022
Carpenter Elementary	Awaiting Electrical Service Upgrade Conversion	Summer 2022
Dicken Elementary	Completed	Summer 2021
Lakewood Elementary	Completed	Summer 2021
Mitchell Elementary	Completed	Summer 2021
Community High School	Third Floor Completed	Summer 2022
Scarlett Middle School	In Process	Summer 2022
Tappan Middle School	In Process	Summer 2022



# Elementary School – Air Conditioning



- Angell Elementary



- Carpenter Elementary



- Lakewood Elementary



- Dicken Elementary



- Mitchell Elementary



# Community High School – New Ventilation and A/C Ductwork





# Community High School – New Heating and Ventilation System



- New Boilers



- New Pumps and Piping



# Scarlett Middle School – A/C and Ventilation



- New Condensing Units



- New Ventilation Equipment



# Tappan Middle School – A/C and Ventilation





# Classroom Window Shades Replacement – Old Shades





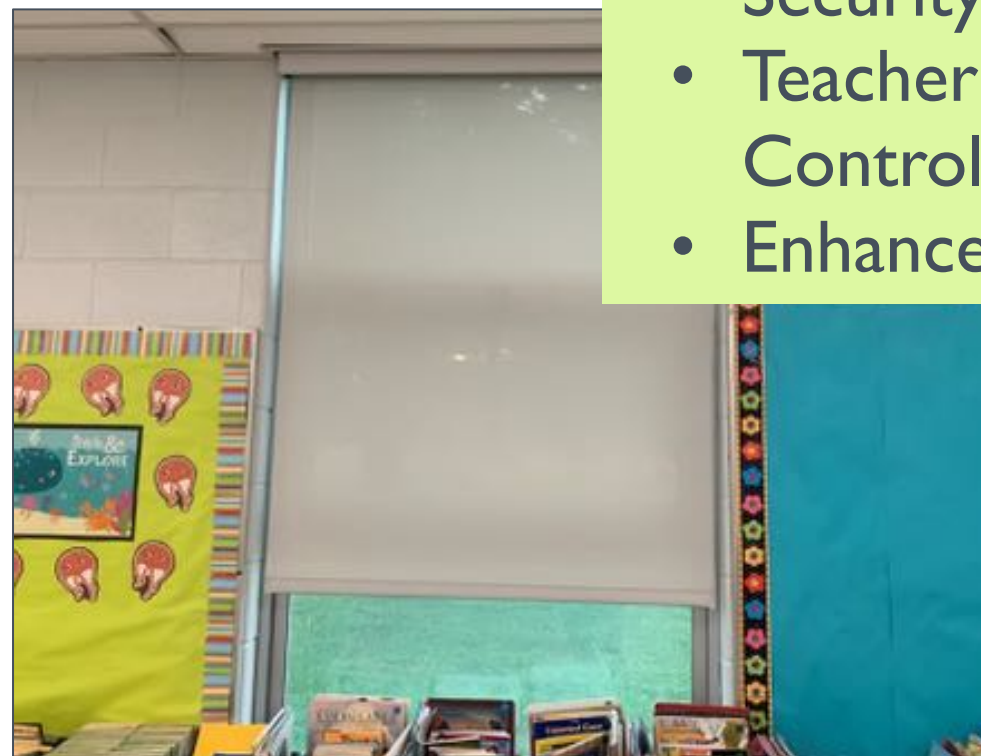
# Classroom Window Shades Replacement – New Shades

## Schools with window shade replacements completed:

- Angell Elementary
- Burns Park Elementary
- Carpenter Elementary
- Dicken Elementary
- Lakewood Elementary
- Mitchell Elementary

## Schools in progress with window shade replacements:

- Community High School
- Scarlett Middle School
- Tappan Middle School



**Benefits include:**

- Energy Efficiency
- Security
- Teacher Environmental Control
- Enhance Appearance





# Benefits of Enhanced Lighting Environments

The image contains three panels. The left two panels are identical reading passages about hippos. The right panel is a 'Kelvin Color Temperature Scale Chart' showing light color from 1,000K (red) to 10,000K (blue) with corresponding examples like 'Candle' and 'Blue Sky'.

**Reading Passage: Hippos**

Many people think a hippopotamus would eat a person if it had the opportunity. But hippos are plant eaters; they do not eat people. Still, they are mean and fast, so it is best to stay far away from them.

Hippos spend most of the day in shallow African rivers. They like to walk on the bottom of rivers, but they are not looking for food. They are trying to stay cool. Hippos are excellent swimmers. They can hold their breath for five or six minutes while submerged in the water.

Hippos are nocturnal. At night they move to land to eat grass and plants. They eat for five or six hours a night. They can eat 130 pounds of food at a single meal. Eating large meals allows hippos to live for weeks without eating anything if they must. They live in large mud pits and stay as still as possible to conserve energy.

Hippos have enormous mouths with huge teeth. Their lips are two feet wide, and each tooth weighs about six pounds. Most hippos weigh around 5000 pounds. Only the elephant and the rhinoceros are larger land animals.

**Questions:**

- What is the main idea of this story?
  - Hippos are quick and mean.
  - Hippos walk in rivers to stay cool.
  - Hippos are large, nocturnal animals.
- Why do hippos spend most of the day in the river?
  - They are excellent swimmers.
  - They are looking for food.
  - They are trying to stay cool.
- What does the word *submerged* mean in this story?
  - underneath
  - swimming
  - floating
- What is the weather like where the hippopotamus lives?
  - warm
  - cool
  - hot
- Why do hippos live in large mud pits? Include information from the story to explain your answer.

**Kelvin Color Temperature Scale Chart**

Kelvin Temperature	Color Description	Examples
10,000K	Blue Sky	10,000K = Blue Sky
9,000K		
8,000K		
7,000K		7,000K, 7,500K: Cool White Standard LED
6,000K		
5,000K	Cloudy Sky	5,000K: Cloudy Sky 5,500K, 6,000K: Day White Standard LED
4,000K	Direct Sunlight	4,000K: Direct Sunlight 4,000K, 4,500K: Natural White Standard LED 4,500K: Clear Metal Halide
3,000K		3,000K: 300W Halogen 2,800K: 300W Incandescent 2,700K, 2,800K: Warm White Standard LED
2,000K		2,300K: High Pressure
1,000K		1,000K: Candle

- Recognized relationship between higher student performance and presence of daylight and views (Boyce et al., 2003)
- Optimized lighting environments led to as much as 21% increase in student learning rates (Gordon, 2010)



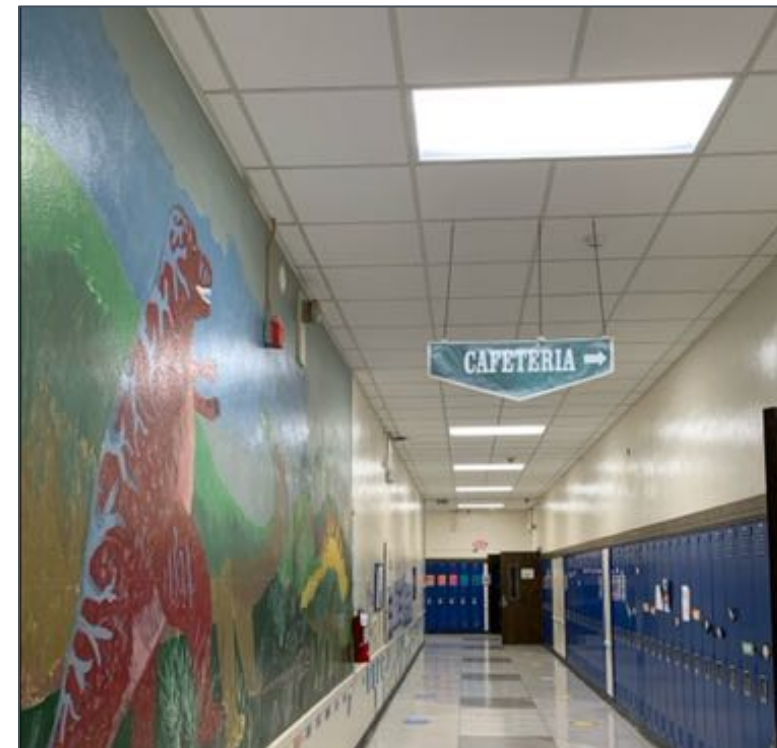
# Classroom and Hallway Energy Efficient LED Lighting and Ceiling Replacements

Schools with lighting and ceiling upgrades completed:

- Angell Elementary
- Burns Park Elementary
- Carpenter Elementary
- Dicken Elementary
- Lakewood Elementary
- Mitchell Elementary

Schools in progress with lighting and ceiling upgrades:

- Community High School
- Scarlett Middle School
- Tappan Middle School



- Burns Park Elementary



- Tappan Middle School



- Lakewood Elementary



- Community High School



# Utility Upgrades – New Electrical Services

To accommodate new air conditioning, the following locations received electrical service upgrades:

- Community High School
- Scarlett Middle School
- Tappan Middle School
- Dicken Elementary
- Lakewood Elementary
- Mitchell Elementary

Schools in progress:

- Angell Elementary
- Burns Park Elementary
- Carpenter Elementary



- Scarlett Middle School



- Tappan Middle School



- Tappan Middle School



# Utility Upgrades – Fire Suppression (Sprinkler) Systems

Schools with newly installed city water mains for new fire suppression systems:

- Community High School
- Scarlett Middle School
- Tappan Middle School

Fire suppression systems scheduled to be activated summer 2022



-Tappan Middle School



- Scarlett Middle School



- Scarlett Middle School



# Rooftop Solar Arrays

## Completed:

- Pattengill Elementary (100 kW) - 2020
- Haisley Elementary (133 kW) - 2021
- A2 STEAM @ Northside (150 kW) - 2021
- Forsythe Middle School (150 kW) - 2021
- Huron High School (133 kW) - 2021

## Contracts Awarded:

- Bryant Elementary (150 kW) - 2022

## Bidding/Pre-Construction:

- Pioneer HS (150 kW) - 2022
- Westerman Preschool (150 kW) - 2022

**1.12 MW (AC output) of  
rooftop solar**

***In 2022 will be equivalent to offsetting carbon of:***

- *2,900,000 miles driven by cars; or*
- *1,280,000 pounds of coal burned; or*
- *212 homes annual electricity usage*

**6%**

**of AAPS  
annual electrical consumption**

***Annual Savings of \$180,000/year***

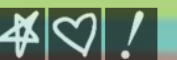


# Huron High School - Solar



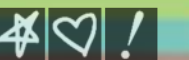


# Forsythe Middle School - Solar



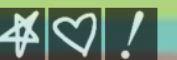


# A2 STEAM - Solar





# Haisley Elementary - Solar





# Paving Projects

## Dicken Elementary

- North parking lot reconstruction



## Allen Elementary

- Complete parking lot reconstruction





# Roof Replacement – Huron High School and Bryant Elementary



*-Huron High School*

*-Bryant Elementary*



# Other Capital Projects 2021-2022





# Carpenter Elementary – Emergency Storm Water Repair



**Emergency repair to stormwater lines under the building. The repair was completed and the classroom restored.**



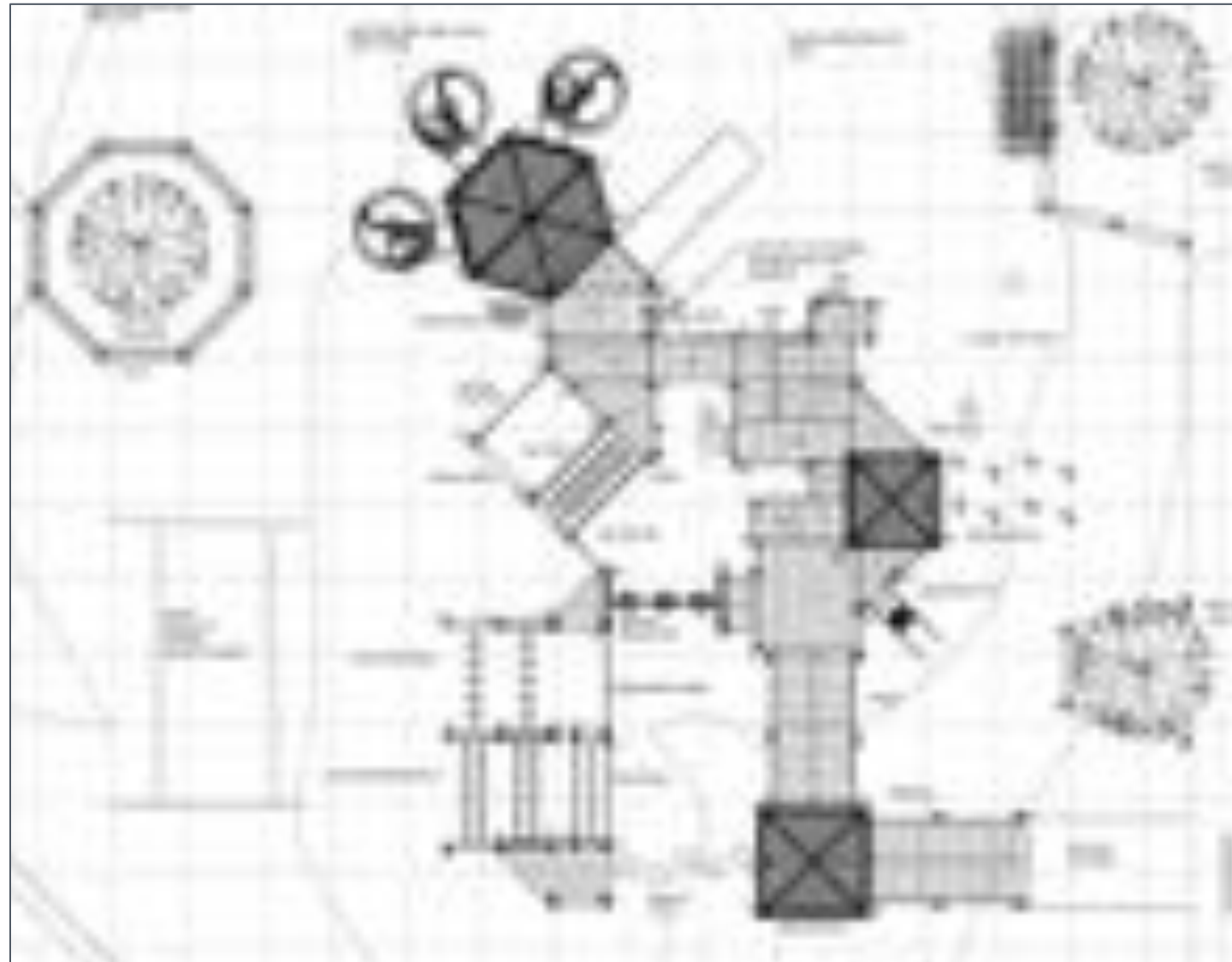
# Thurston Pond – Emergency Stormwater Repairs



**Emergency repair to stormwater line that connects the Thurston Pond to the city stormwater system. Approximately 100' of 18" storm drain was replaced and additional sections grouted. The repair was completed and the woods restored.**



# Eberwhite Elementary – Playground Upgrade – Part 2



**Beginning in 2017, new playground equipment has been installed at all elementary and K-8 schools. At Eberwhite Elementary, two wooden community-built structures were beyond their useful life and have been replaced with new plastic lumber structures. The structures were built by dozens of community volunteers.**



# Scarlett Middle School – Exterior Column Stabilization



**Repairs were completed to the spalling exterior concrete columns at Scarlett MS. The repairs have stabilized the columns and will help prevent future degradation. Painting will be completed in the Spring 2022.**



# Tappan Middle School – Exterior Masonry Restoration



**Phase I of repairs to the masonry parapet and several third floor window lintels was completed in 2021. Phase 2 will complete the project in 2022. The repairs will stabilize the exterior masonry and help prevent future degradation.**



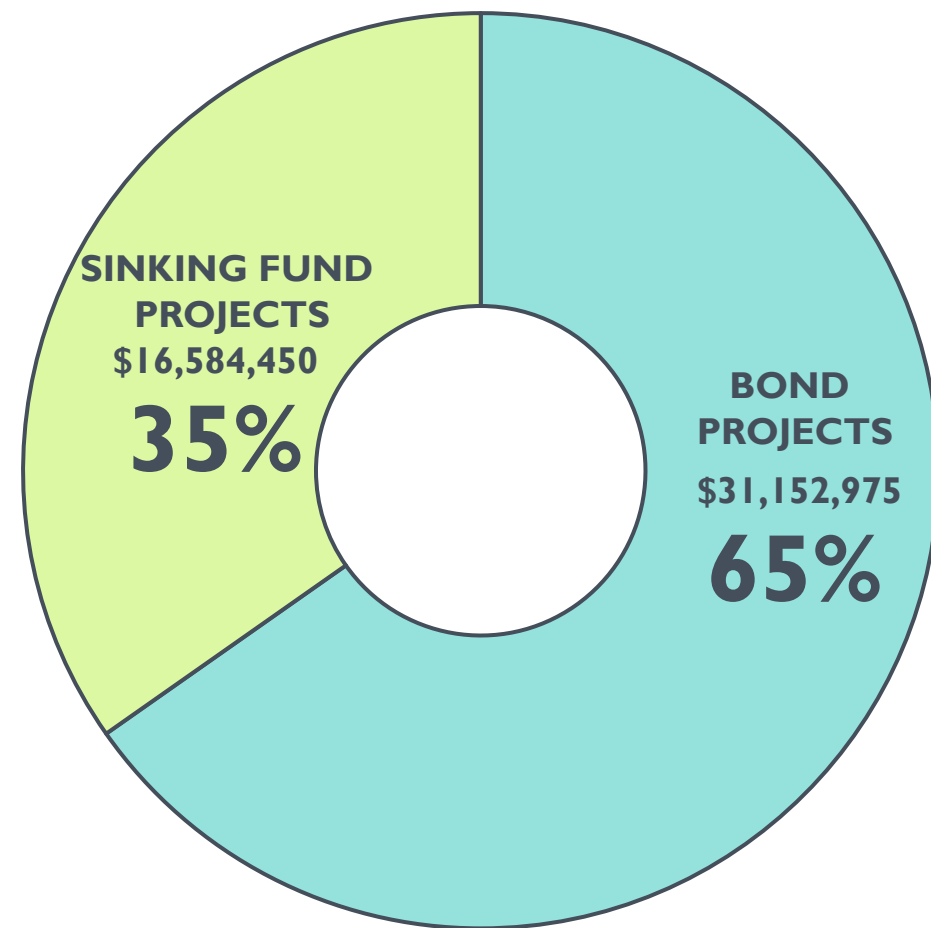
# Financial Update





# Financial Update

**TOTAL CAPITAL PROGRAM EXPENDITURES**  
\$47,737,425



## Capital Program Projects by Fund

Capital Program Funding Source	Expenditures FY21	Expenditures FY22 July-Oct	Total Expenditures 2021 Projects	% Total
Bond Fund	\$16,933,366	\$14,219,609	\$31,152,975	65%
Sinking Fund	\$14,615,635	\$1,968,815	\$16,584,450	35%
<b>Total All Capital Program</b>	<b>\$31,549,001</b>	<b>\$16,188,424</b>	<b>\$47,737,425</b>	<b>100%</b>

Bond Fund Projects	FY21	FY22 July-Oct	Total	% Total
construction	\$10,783,633	\$12,123,719	\$22,907,352	74%
professional fees	\$3,144,516	\$2,048,893	\$5,193,409	17%
buses	\$2,876,048	\$0	\$2,876,048	9%
legal, permits, other fees	\$129,170	\$26,997	\$156,167	1%
land <sup>1</sup>	\$0	\$20,000	\$20,000	0.1%
<b>Total Bond Fund Projects</b>	<b>\$16,933,366</b>	<b>\$14,219,609</b>	<b>\$31,152,975</b>	<b>100%</b>

Sinking Fund Projects	FY21	FY22 July-Oct	Total	% Total
construction	\$4,397,222	\$896,811	\$5,294,033	32%
professional fees	\$1,032,034	\$163,325	\$1,195,359	7%
paving	\$4,602,949	\$77,985	\$4,680,934	28%
roofing	\$1,897,263	\$778,677	\$2,675,940	16%
athletic facilities/improvements	\$1,178,336	\$17,637	\$1,195,973	7%
solar installations	\$840,227	\$0	\$840,227	5%
land <sup>2</sup>	\$636,183	\$0	\$636,183	4%
legal and other fees	\$31,422	\$34,380	\$65,801	0.4%
<b>Total Sinking Fund Projects</b>	<b>\$14,615,635</b>	<b>\$1,968,815</b>	<b>\$16,584,450</b>	<b>100%</b>

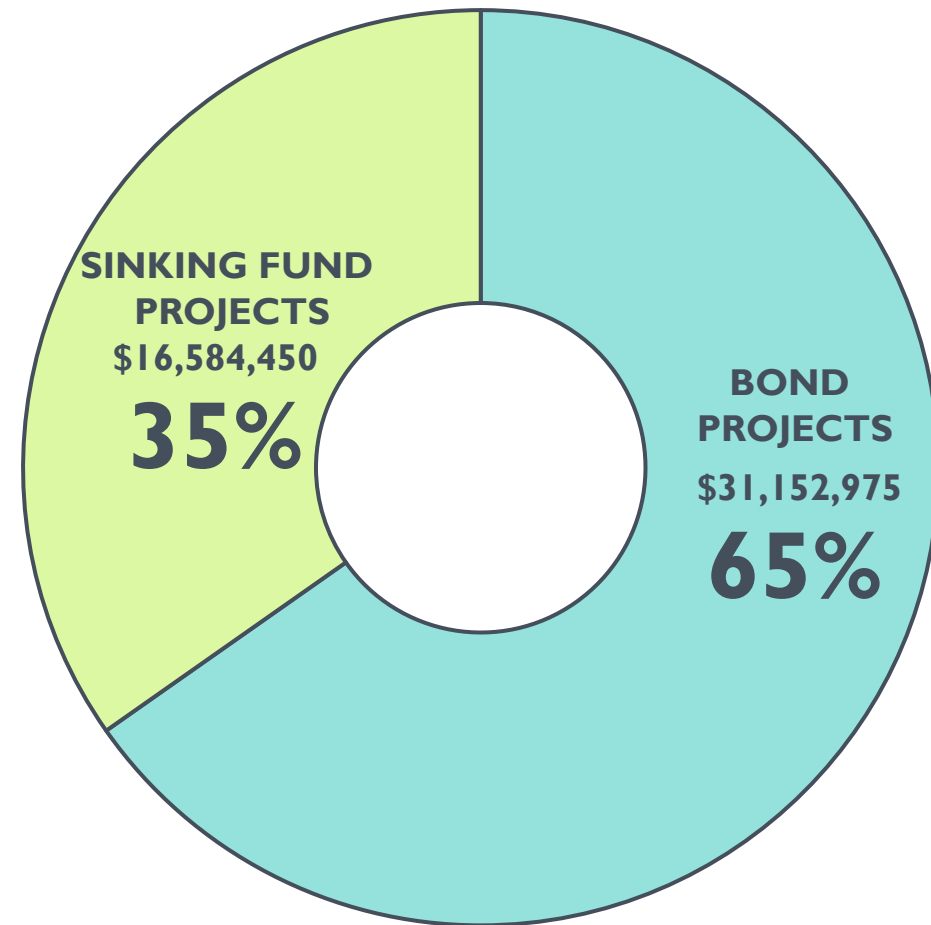
<sup>1</sup> Stone School parcel, deposit; Aug 2021

<sup>2</sup> E. Ellsworth parcel, final payment; Sept 2020



# Financial Update

**TOTAL CAPITAL PROGRAM EXPENDITURES**  
\$47,737,425



## Capital Program Projects by Category

Capital Program Expenditures: FY21, FY22 July-Oct				
Expense Category	Bond Fund	Sinking Fund	Total	% Total
construction	\$22,907,352	\$5,294,033	\$28,201,385	59%
professional fees	\$5,193,409	\$1,195,359	\$6,388,768	13%
paving	\$0	\$4,680,934	\$4,680,934	10%
roofing	\$0	\$2,675,940	\$2,675,940	6%
athletic facilities/improvements	\$0	\$1,195,973	\$1,195,973	3%
solar installations	\$0	\$840,227	\$840,227	2%
buses	\$2,876,048	0	\$2,876,048	6%
land	\$20,000 <sup>1</sup>	\$636,183 <sup>2</sup>	\$656,183	1%
legal and other fees	\$156,167	\$65,801	\$221,968	0.5%
<b>Totals By Fund</b>	<b>\$31,152,975</b>	<b>\$16,584,450</b>	<b>\$47,737,425</b>	<b>100%</b>

<sup>1</sup> Stone School parcel, deposit; Aug 2021

<sup>2</sup> E. Ellsworth parcel, final payment; Sept 2020



# Financial Update

## Capital Improvement Program 2021 Total Investment in Schools

Bond Fund \$31,152,975

Sinking Fund \$16,584,450

Yearly Sinking Fund Repairs \$6,424,429

**TOTAL INVESTMENT \$54,161,854**





# Preview 2022-2023 Projects





# Upcoming 2022-2023 Projects

## Power Conversions and A/C Start-Ups

- Angell Elementary
- Burns Park Elementary
- Carpenter Elementary

## Mechanical and Electrical Infrastructure Upgrades

- Community High School (Phase 2)
- Scarlett Middle School (Phase 2)
- Tappan Middle School (Phase 2)
  
- Clague Middle School (Phase 1)
- Forsythe Middle School (Phase 1)

## Air Conditioning Upgrades

- Bach Elementary
- Eberwhite Elementary
- Pittsfield Elementary
- Wines Elementary



# Upcoming 2022-2023 Projects

## Theater Rigging Upgrades

- Huron High School
- Pioneer High School
- Forsythe Middle School
- Slauson Middle School
- Tappan Middle School

## Paving – Patch and Repair

- Logan Elementary
- Pattengill Elementary
- Pittsfield Elementary
- Wines Elementary

## Elevator Upgrades

- Community High School
- Slauson Middle School
- Tappan Middle School

## Roofing

- King Elementary
- Mitchell Elementary
- Pioneer High School
- Pattengill Elementary
- Westerman Preschool



# Upcoming 2022-2023 Projects

## Rooftop Solar

- Pioneer High School
- Westerman Preschool

## Outdoor Learning Environments

- Ann Arbor STEAM @ Northside
- Abbot Elementary
- Haisley Elementary
- Lawton Elementary
- Thurston Elementary

## Additional Projects

- Lawton Elementary Stormwater
- Skyline High School Stormwater & Irrigation
- Skyline High School Building Envelope
- Transportation Fuel System Upgrade

## Major Projects – Planning Phase

- Mitchell Elementary School
- Pathways to Success Academic Campus



# Community Engagement





# Community Engagement

In February 2021, meetings were held with local environmental organizations and the general public, specifically on the environmental sustainability aspects of the bond program. The meetings included:

- **A2ZERO membership - February 23<sup>rd</sup>**
- **A2 Climate Partnership - February 24<sup>th</sup>**
- **Wolf Pack working group - February 24<sup>th</sup>**

In May 2021, several public bond update meetings were held. In addition to inviting the general public, invitations were sent to parent and teacher groups, service organizations, business organizations, and community organizations. The meetings were held on:

- **Tuesday May 18 at 12 noon**
- **Tuesday May 25 at 8am**
- **Tuesday May 25 at 6:30pm**
- **Thursday May 27 at 12 noon**





# Environmental Sustainability Update





# Recent and Ongoing Sustainability Efforts

## Site Improvements – Low Embodied Carbon

### Lower Carbon Impact Paving and Site Improvements Initiatives:

- **Recycled Asphalt Base Material**
  - ✓ Dicken ES and Allen ES sites
  - ✓ Increased recycled content in pavement; meets MDOT specification
- **Low Carbon Concrete Pilot**
  - ✓ Dicken ES and Allen ES sites
  - ✓ Reduces use of Portland Cement in sidewalks/concrete; meets MDOT specification
- **Low Embodied Materials Task Force**
  - ✓ Participation in local group of institutions, businesses, manufacturers, engineers



*Allen ES site improvements*



# Recent and Ongoing Sustainability Efforts

## A/C Lighting Projects – C&D Recycling

### Material Recovery and Construction and Demolition Debris Recycling:

- **Over 110 tons of Steel recycled** at seven project locations
  - ✓ Recycling scrap steel uses 75% less energy than energy used to process iron ore (virgin steel)
- **Over 40 pallets (one semi trailer) or 160 cubic feet of acoustic ceiling tiles recycled**
  - ✓ Participated in a pilot effort to recover ceiling tiles through Armstrong Worldwide Industries



*Palletized acoustic ceiling tiles – ready for processing*

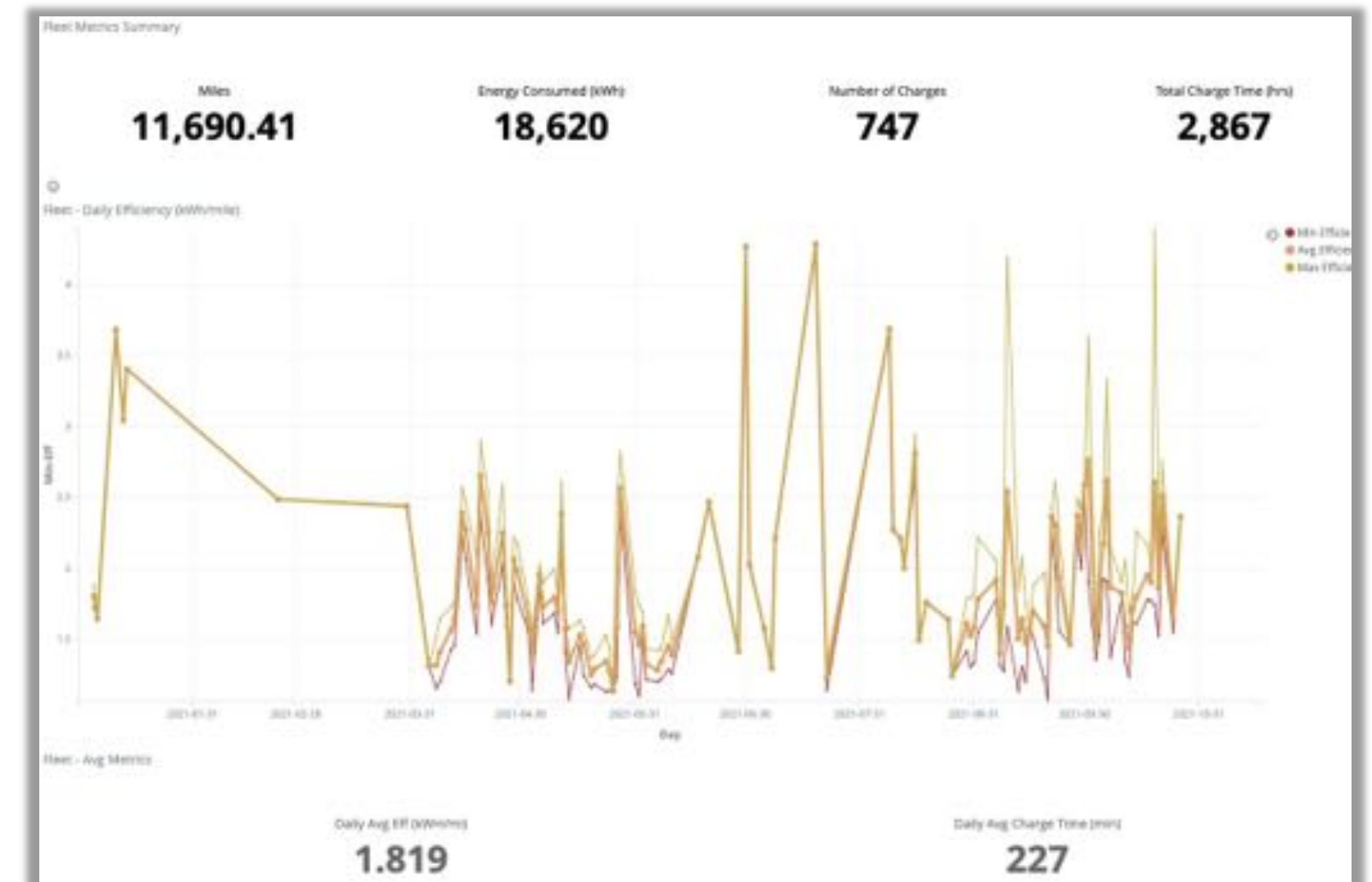


# Recent and Ongoing Sustainability Efforts

## Electric Bus Pilot Program

### Electric Bus Pilot Program:

- **All four electric buses in service**
  - ✓ Logged over 10,000 combined service miles
  - ✓ Tracking performance through software tool; reporting results to EGLE
  - ✓ Many lessons learned; Thomas Built, Hoekstra, Proterra and DTE all involved in corrective actions and issues
- DTE/Proterra working on deploying **Vehicle to Grid/Vehicle to Building capacity**



**AAPPS Fleet Charging Metrics – 11/21**



# Recent and Ongoing Sustainability Efforts

## Geothermal System Planning

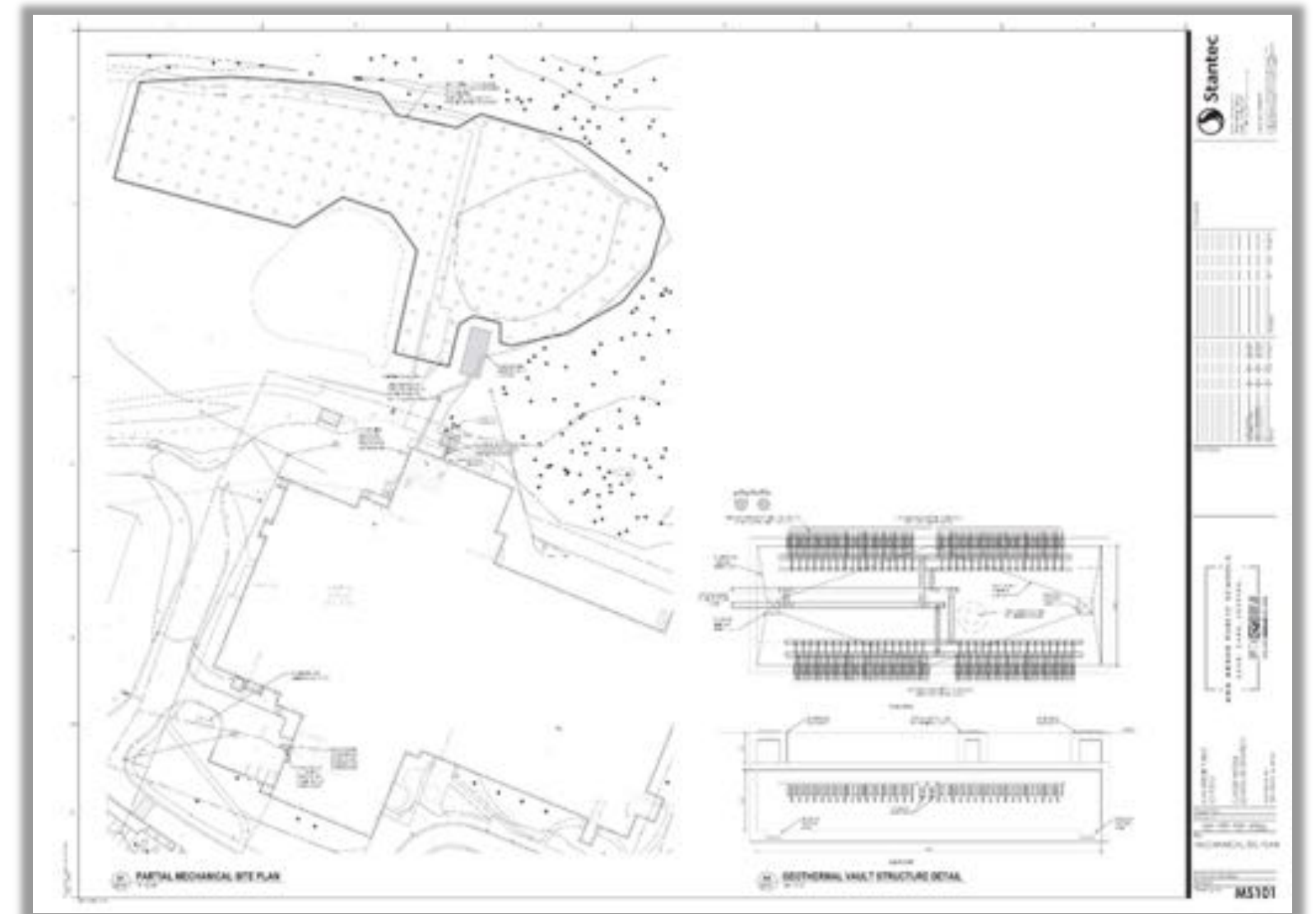
### High Efficiency Systems:

- **Geothermal**

- ✓ Clague MS (Phase I – 2022)
- ✓ Forsythe MS (Phase I – 2022)
- ✓ Provides significant energy and efficiency to HVAC and hot water systems
- ✓ All electric heating and cooling systems with supplemental peak load natural gas backup

- **Electrification**

- ✓ Substantial transition of HVAC system to electric
- ✓ Step forward in advancing longer term carbon neutrality goals



*Clague MS – Preliminary Geothermal Site Diagram*



# Environmental Sustainability in AAPS - Upcoming Outdoor Learning Environments (OLE)

*GOAL: Provide exterior capital improvements to support outdoor academic opportunities for students across all elementary/K-8 school campuses with direct ties to instruction*

Materials and strategies designed to:

- *Support and enhance existing outdoor learning initiatives;*
- *Create new opportunities for outdoor academic activities;*
- *Increase access to nature and the connection to the environment;*
- *Promote health and wellness;*
- *Utilize local, natural, and low carbon materials; and*
- *Add color and moments of joy to outdoor environments.*

The tentative schedule for these projects is as follows:

**Summer 2022:** A2 STEAM, Abbott, Haisley, Lawton, Thurston and Preschool

**Summer 2023:** Allen, Bryant, King, Logan, and Pittsfield

**Summer 2024:** A2 Open, Bach, Eberwhite, Pattengill, and Wines

**The following schools will receive OLE enhancements as part of a Major Project in the bond program over the next 5 years:** Angell, Burns Park, Carpenter, Lakewood, Mitchell





# Environmental Sustainability in AAPS - Upcoming

## Environmental Sustainability Task Force

Launched 2021

- **Focus**

- ✓ Advise the AAPS BOE on a formal sustainability plan that will support achieving the goal of sustainability, guide adjustments in operations, and advise on AAPS capital improvement planning, and other district endeavors related to sustainability

- **Process**

- ✓ Monthly meetings
- ✓ Five groups/teams preparing case study presentations to share out with the group; will identify best-practice K-12 examples to draw from in developing an AAPS Sustainability Management Plan



**SAMPLE - Whole School Sustainability Framework**



# Environmental Sustainability in AAPS - Upcoming

## Director of Environmental Sustainability



**POSITION TITLE:** Director - Environmental Sustainability  
**FTE:** 1.00  
**POSITION LOCATION:** Balas Administrative Building  
**SALARY:** \$95,000 - \$105,000  
**REPORTING RELATIONSHIP:** Assistant Superintendent, Finance and Operations and Superintendent of Schools

### POSITION SUMMARY:

Under the direction of Assistant Superintendent, Finance and Operations, directs the development and implementation of a new Ann Arbor Public Schools Environmental Sustainability Management Plan (ESMP) in coordination with the district's Environmental Sustainability Taskforce and in alignment with Board of Education Policy 8000: Environmental Sustainability. Achieves fulfillment and ongoing compliance of the ESMP with aligned implementation and evaluation of sustainability initiatives, education, programs, operations and capital improvements.



# Capital Projects Website





# Website Home Page



<https://a2schoolsbond.org/>



# Capital Improvement Program Partners



*Thank you!*



# Executive Partners & Construction Managers

ANN ARBOR PUBLIC SCHOOLS  
LEAD. CARE. INSPIRE.



**Gilbane**

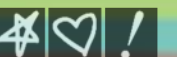


**KEO**





# Professional Team





# Trade Contractors

Asphalt Specialists, Inc.



**EAGLE EXCAVATION INC.**



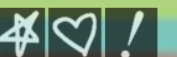
**atelier ten**



**B R i**  
Beckett & Raeder



**RIGHTWAY  
REMEDIAION  
SERVICES LLC**





# Trade Contractors



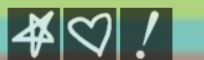
Trenko Glass



FIRE SYSTEMS OF MICHIGAN



DTS CONTRACTING, INC.





# Trade Contractors







*Thank You,  
Ann Arbor Community!*

