



DENTON INDEPENDENT
SCHOOL DISTRICT



Semi-Annual UTILITY Report - July to Dec. 2021

Paul Andress – Executive Director of Operations – DISD

Angela Alfonso – Utility Specialist – DISD

Arnoldo Villarreal – Project Manager – TD

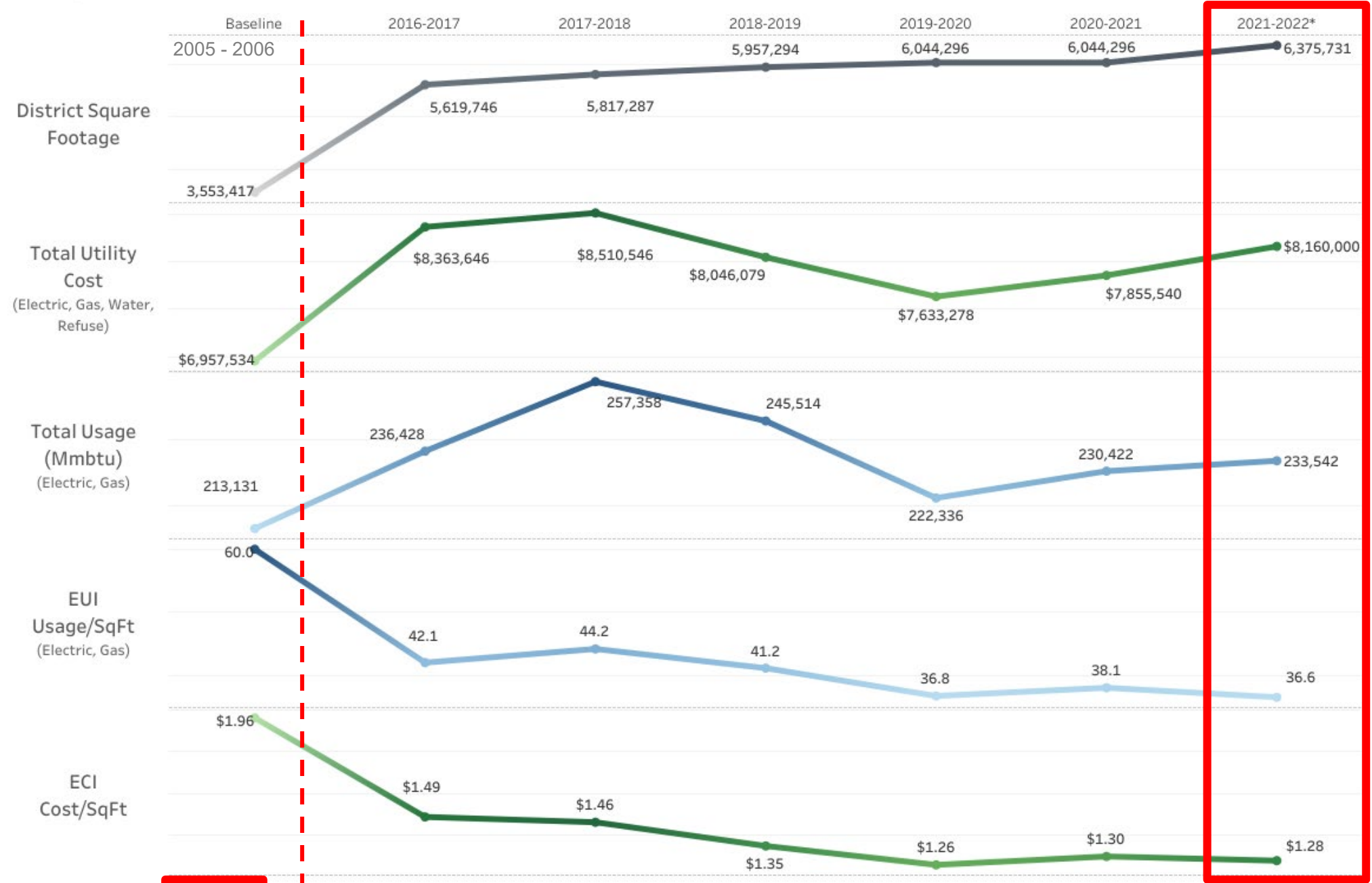
Brian Lillard – Vice President – TD

Daniel Wine – Account Manager – TD

Donna Kisor, P.E. – Engineering – TD

Brandon Hoke, P.E. – Engineering - TD

Utility Performance Trends



*Estimated



Comparison by Utility

	July 2020 - Dec 2020	July 2021 - Dec 2021	% Change	Cost Change (\$)
Electric	\$2,681,200	\$3,082,536	15%	\$401,335
Gas	\$146,942	\$194,041	32%	\$47,098
Irrigation Water	\$351,004	\$408,962	17%	\$57,958
Potable, Sewer & Storm Water	\$491,375	\$457,731	-7%	(\$33,644)
Refuse	\$393,106	\$453,788	15%	\$60,682
Total	\$4,063,628	\$4,597,057	13.13%	\$533,430

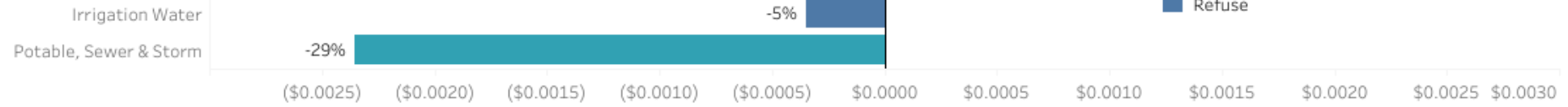
All Schools Energy Performance Change Compared To Last Year



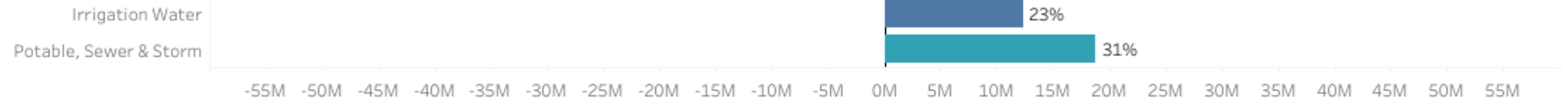
Water and Refuse Performance Change Compared To Last Year

- Irrigation Water
- Potable, Sewer & Storm
- Rainfall
- Refuse

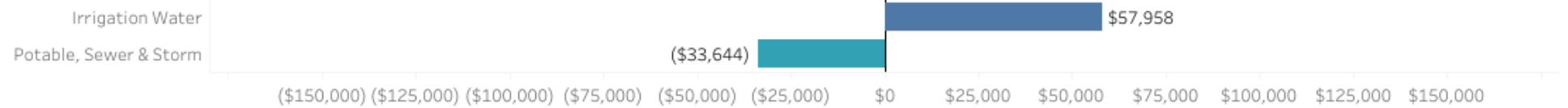
Effective Rate



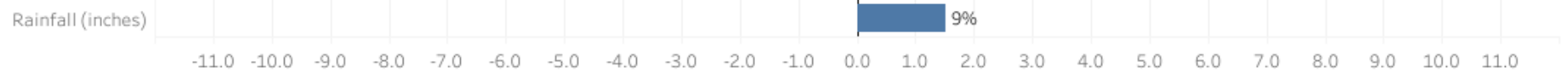
Consumption



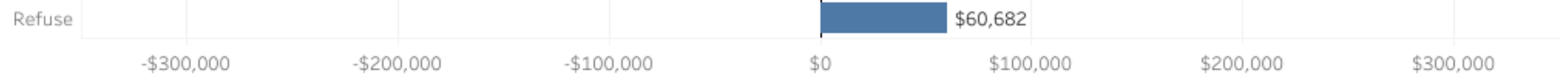
Cost



Rainfall

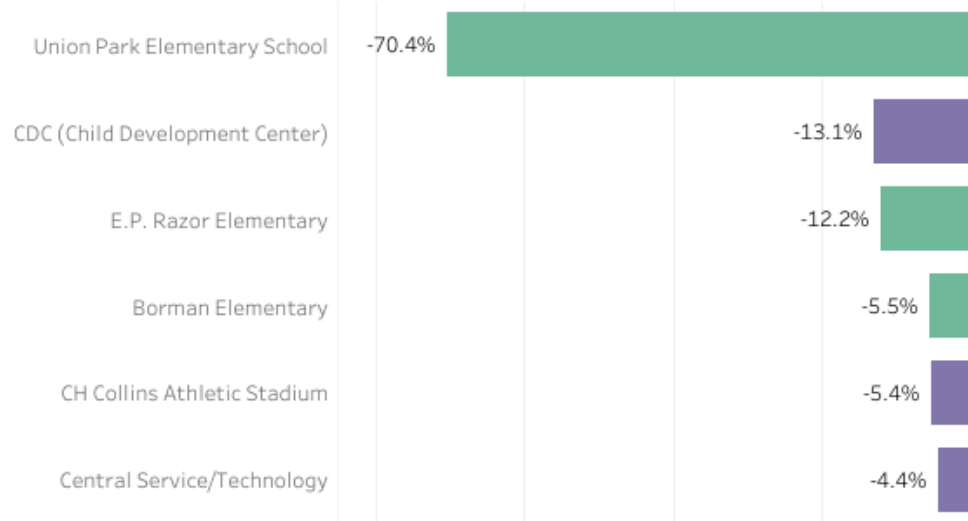


Refuse



Electric - Top Performers

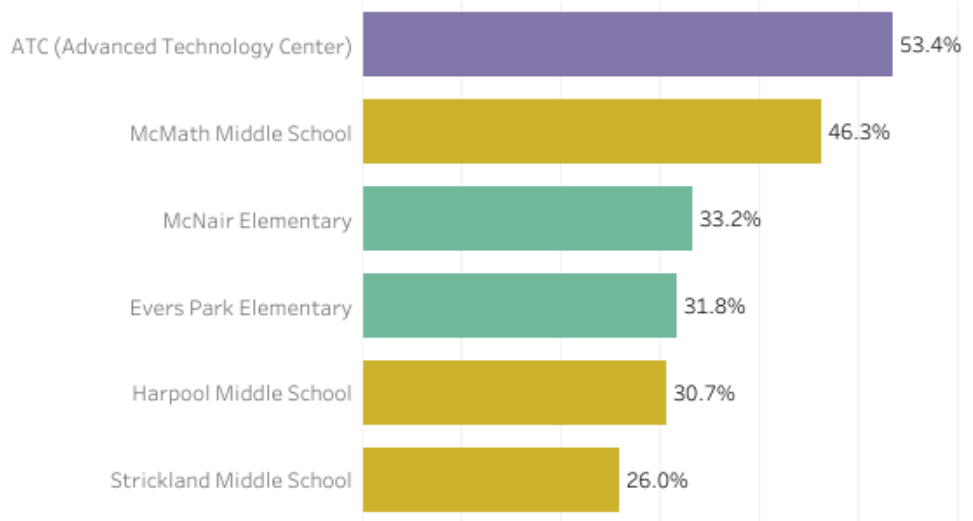
Largest % Decrease in Usage



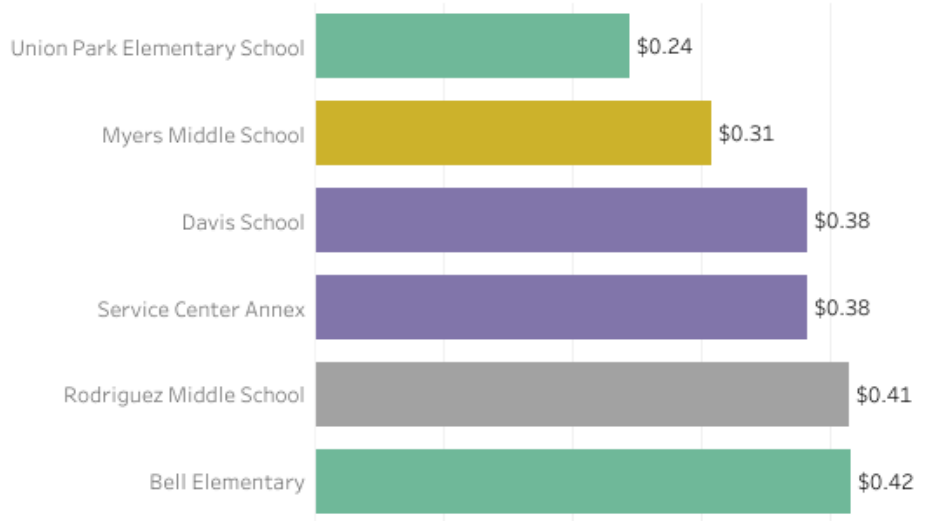
Opportunities

- Auxiliary ■
- Elementary Schools ■
- Middle Schools ■
- High Schools ■

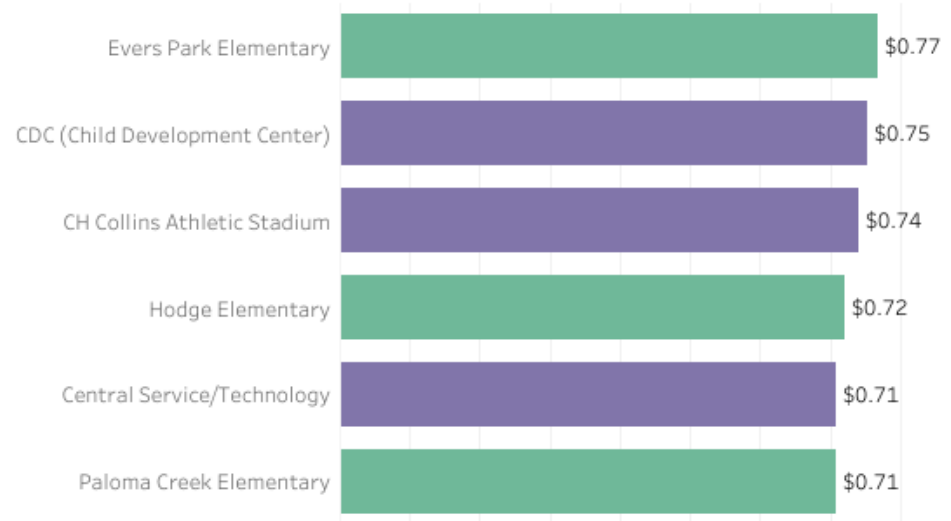
Highest % Increase in Usage



Lowest Cost per SqFt



Highest Cost per SqFt



SOLAR UPDATE – UNION PARK ELEMENTARY

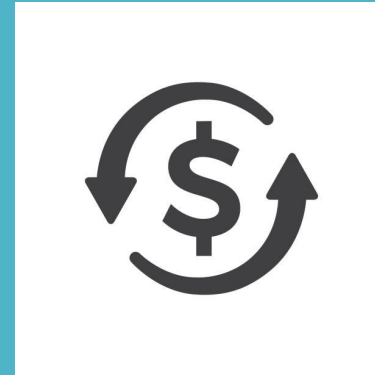


RUNNING COST AVOIDANCE:

\$7,703.92

AVERAGE PER MONTH:

\$2,567.97



INSTALLATION COST OF SOLAR:

\$565,257

ROI = 17.89

THE SOLAR PROJECT TO DATE HAS HAD THE FOLLOWING IMPACTS:
(BASED ON 48,870.07 KWH OF ENERGY AVOIDANCE)

<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>



GENERATED THE SAME AS **6.7** HOMES ELECTRICITY USE AND ON TRACK FOR **27** HOMES THIS YEAR.



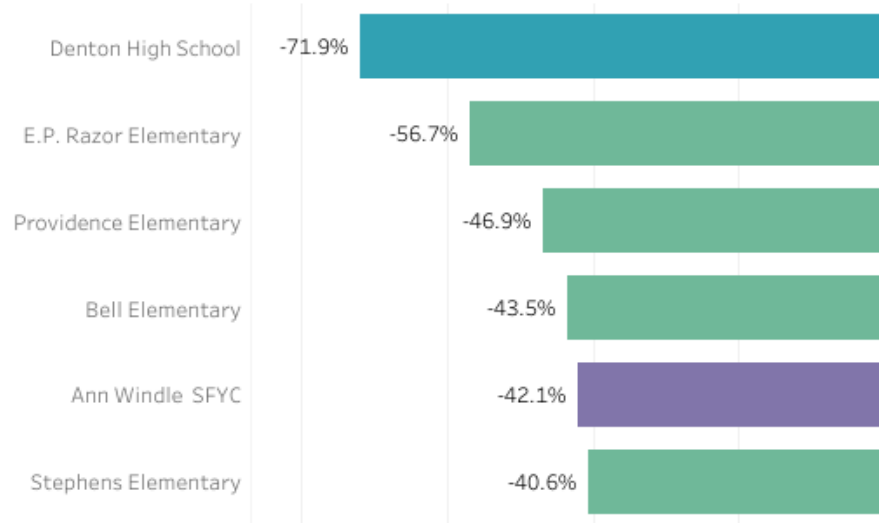
REMOVED **7.5** CARS OFF THE ROAD AND ON TRACK FOR **29.8** CARS THIS YEAR.



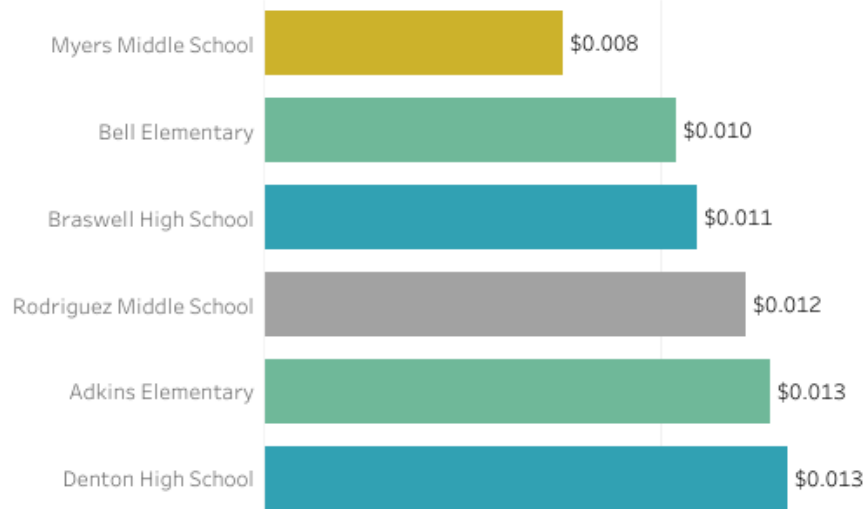
REDUCED CARBON EMISSIONS BY **34.6** METRIC TONS OF CO2 AND ON TRACK TO REDUCE **139** METRIC TONS OF CO2 THIS YEAR.

Gas - Top Performers

Largest % Decrease in Usage



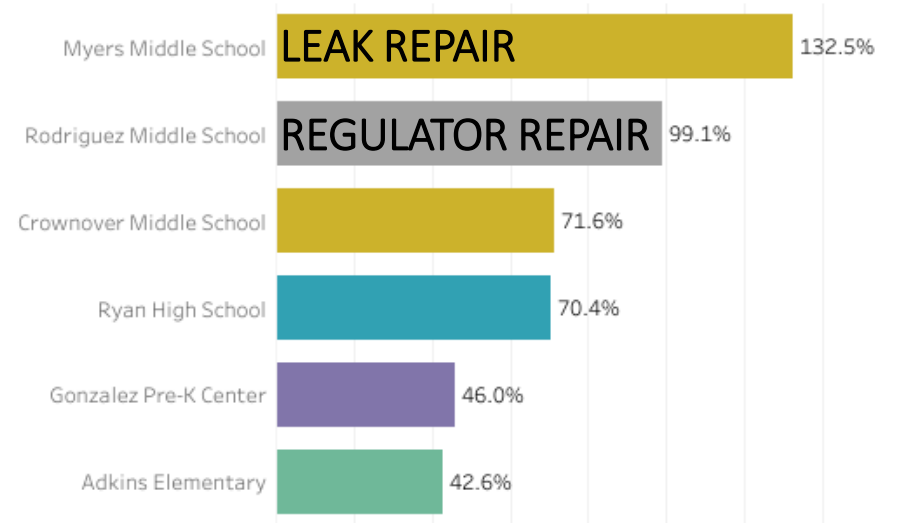
Lowest Cost per SqFt



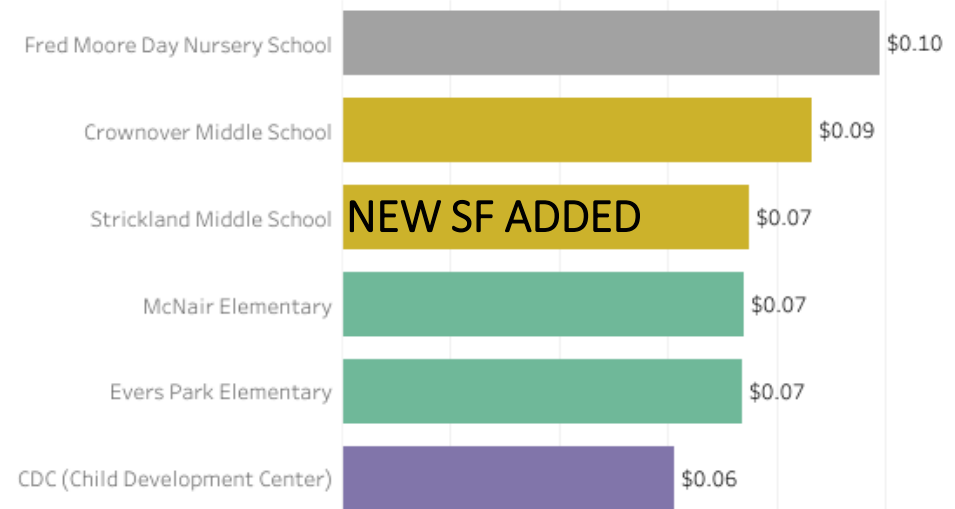
Opportunities

- Auxiliary ■
- Elementary Schools ■
- Middle Schools ■
- High Schools ■

Highest % Increase in Usage

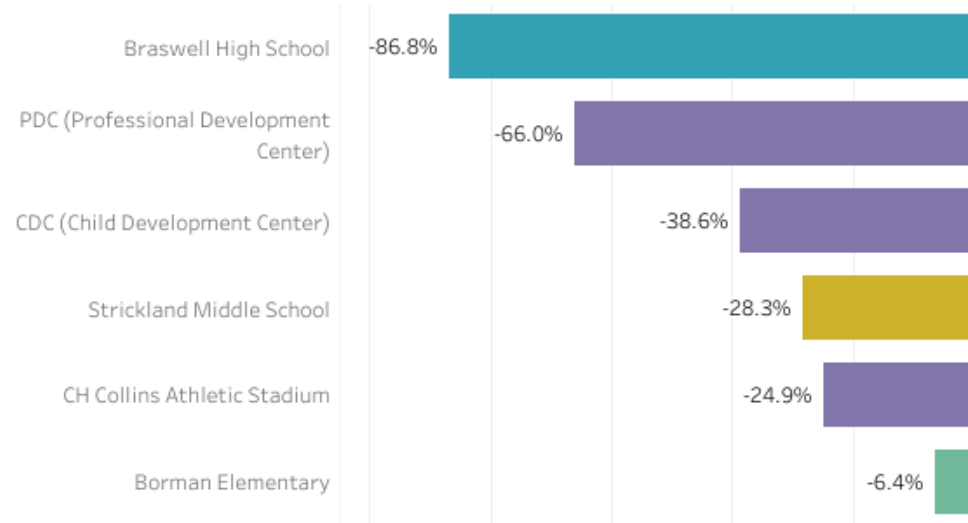


Highest Cost per SqFt

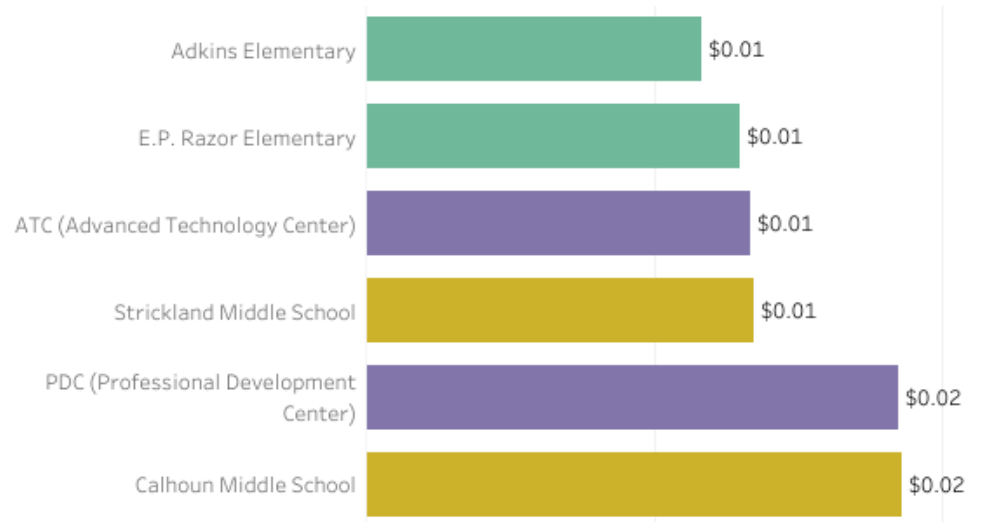


Potable Water - Top Performers

Largest % Decrease in Usage



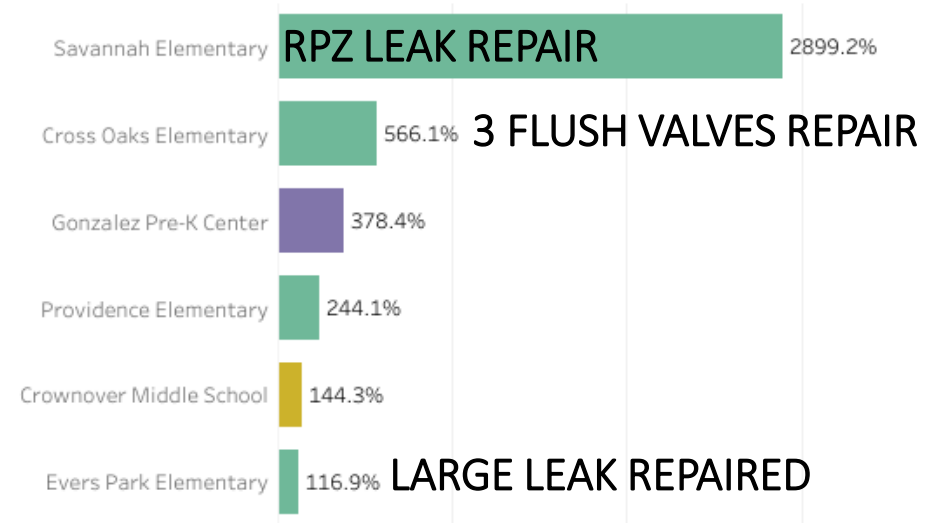
Lowest Cost per SqFt



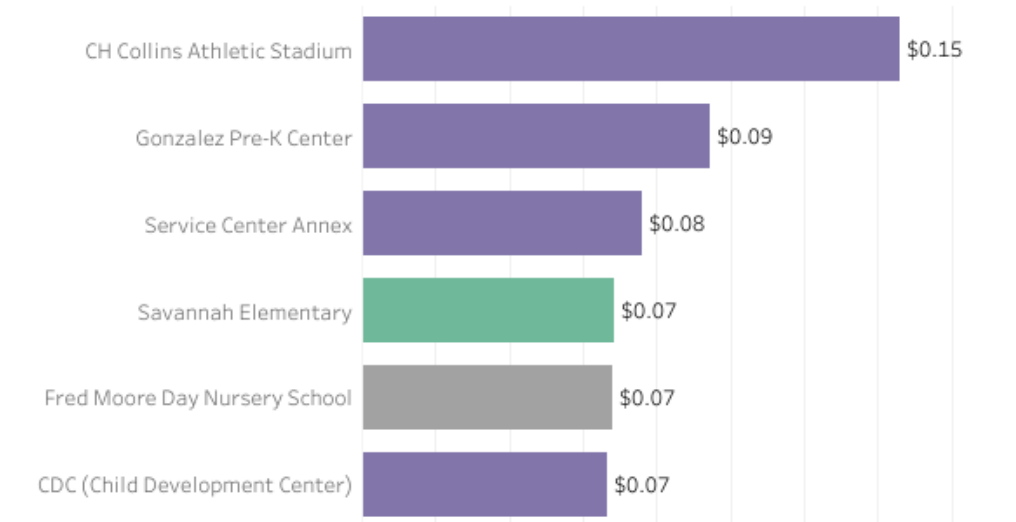
Opportunities

- Auxiliary ■
- Elementary Schools ■
- Middle Schools ■
- High Schools ■

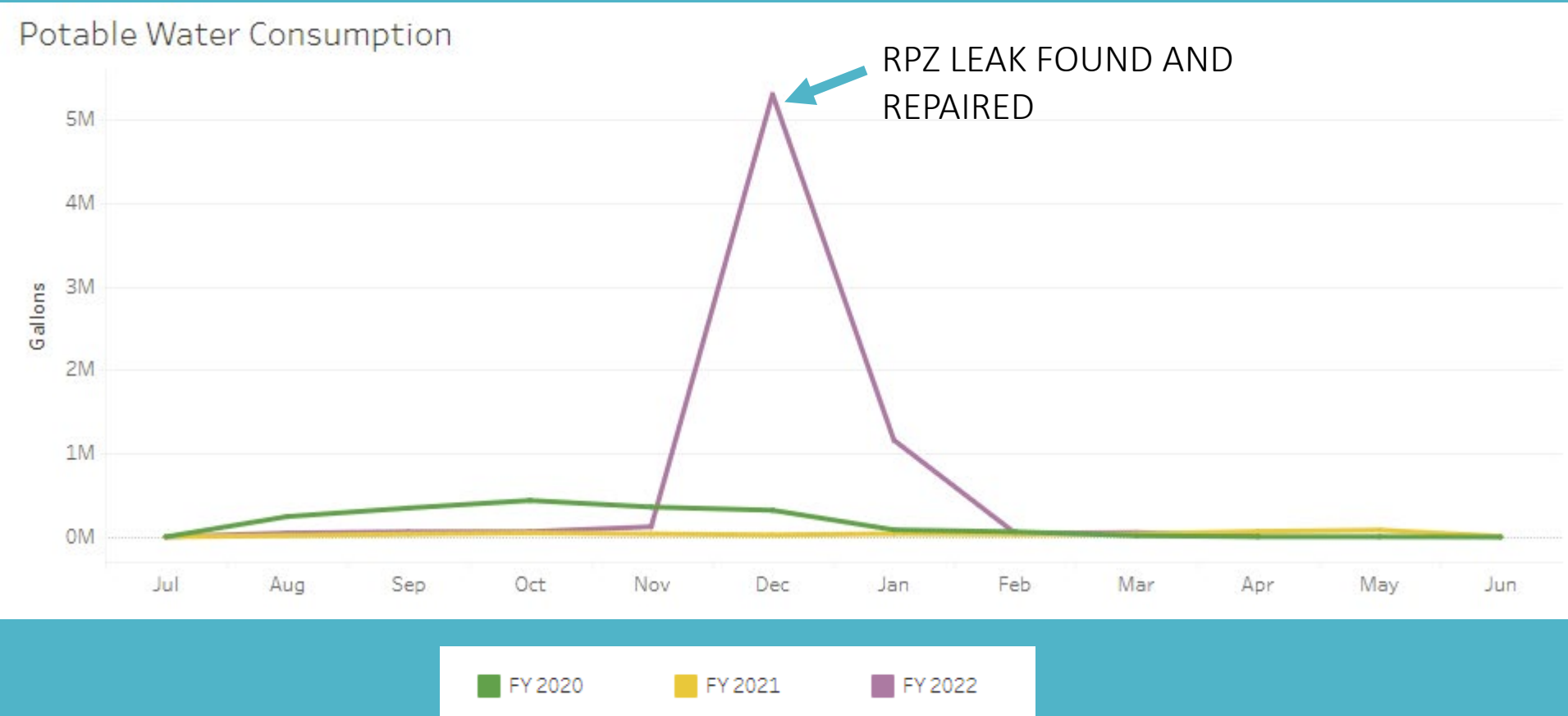
Highest % Increase in Usage



Highest Cost per SqFt

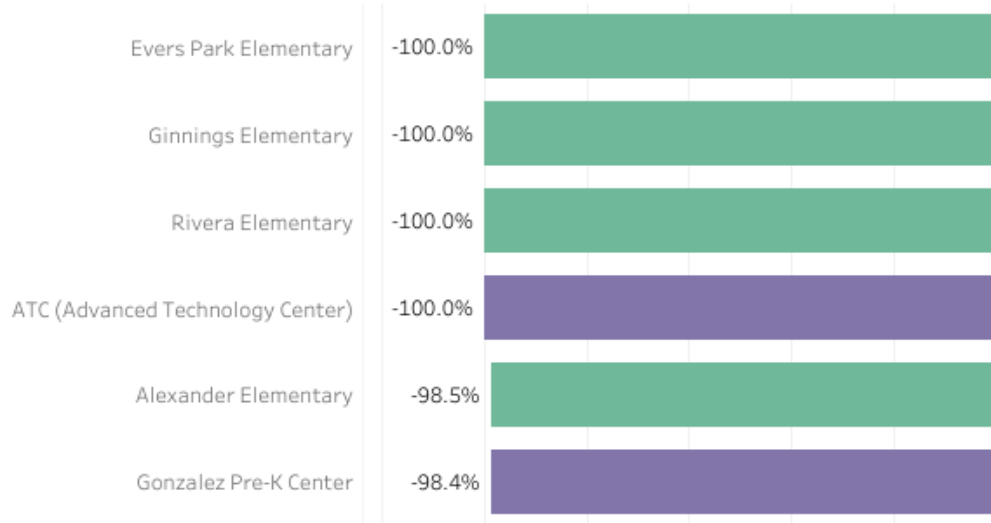


SAVANNAH ELEMENTARY

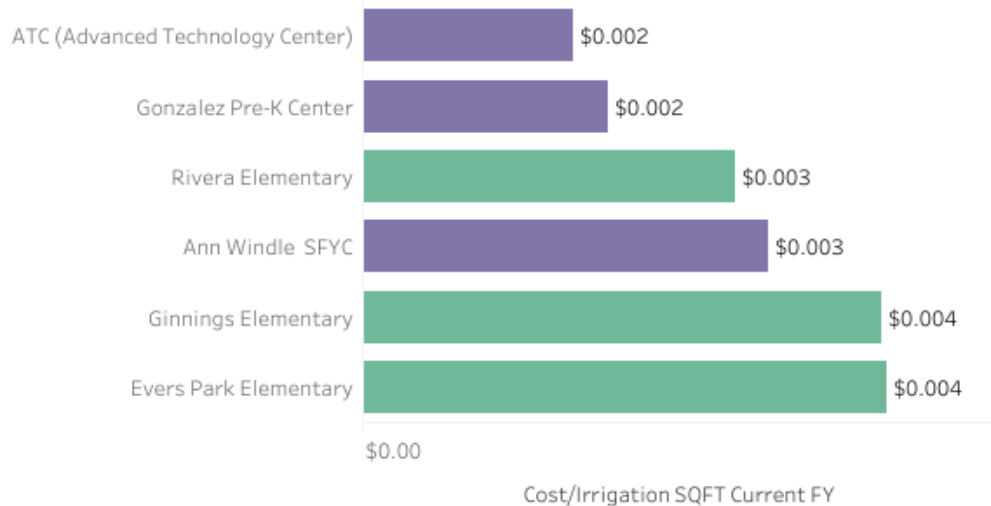


Irrigation Water - Top Performers

Largest % Decrease in Usage

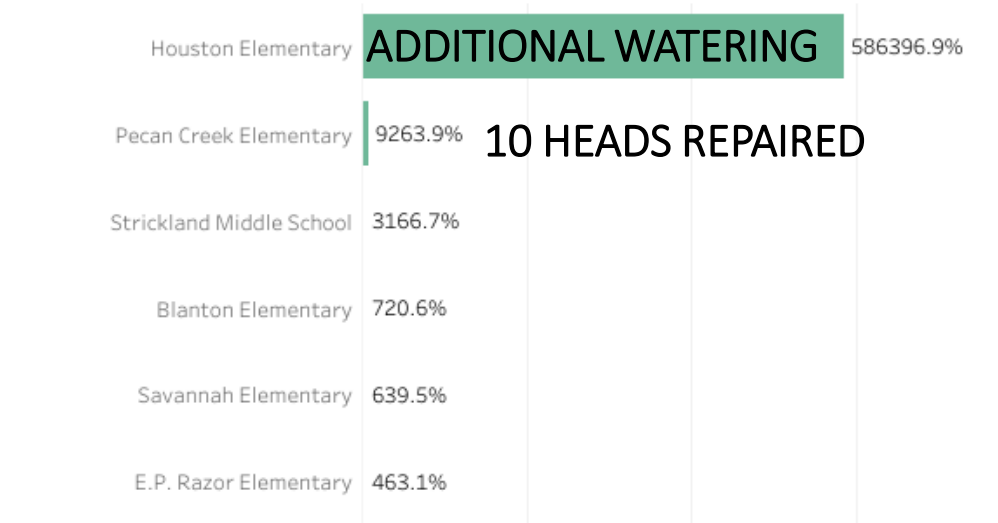


Lowest Cost per SqFt

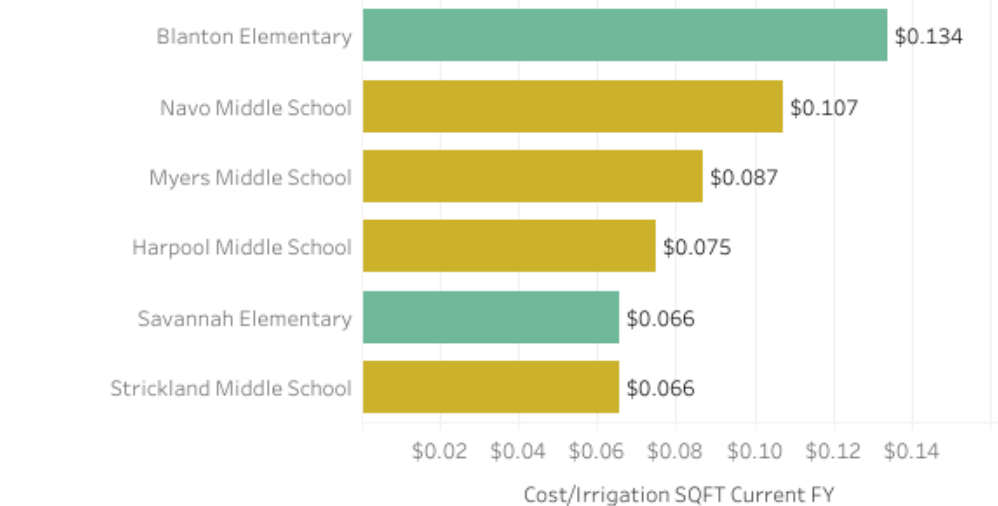


Opportunities

Highest % Increase in Usage

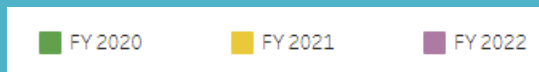
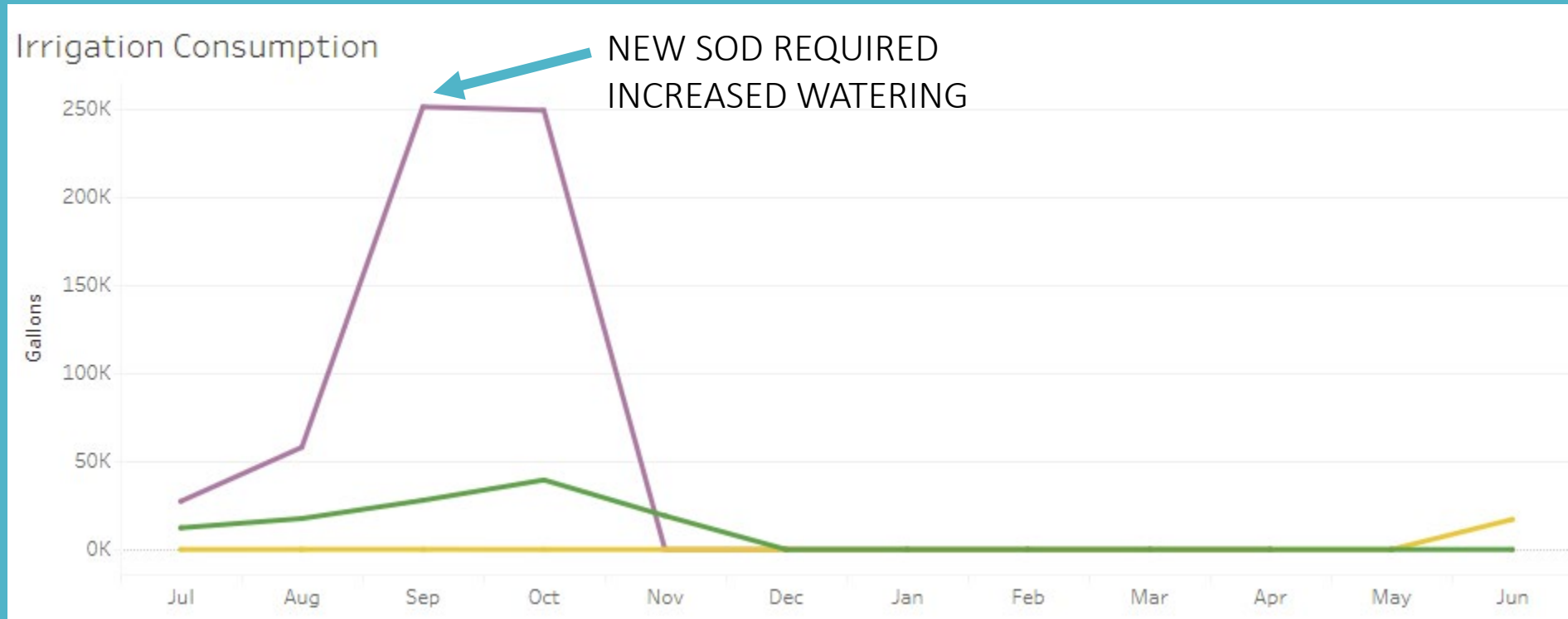


Highest Cost per SqFt



- Auxiliary ■
- Elementary Schools ■
- Middle Schools ■
- High Schools ■

HOUSTON ELEMENTARY



RECENT ACCOMPLISHMENTS

Bi-weekly utility audits have continued to find items as outlined in this report

Union Park Solar tracking has been confirmed working. Those lessons learned are being applied to new solar campuses

Addition of district owned and monitored smart domestic water meters on 17 campuses (in progress)

Looking Ahead

Solar tracking and reporting at Shultz

Fault detection software updates from Ryan HS

Close look at energy changes at schools with recent upgrades

Conversion of five schools to the newest smart irrigation control system

Implementation of Smart meters on irrigation systems to more quickly identify items requiring repair