9/28/2023

Winter Park Ward Park

ASHRAE Level II Energy Audit

15 lightyears

Energy Testing | Solar Power | Green Certification

TLC ENGINEERING SOLUTIONS

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Executive Summary

TLC Engineering Solutions (TLC) and 15 Lightyears performed an ASHRAE Level 2 facility energy audit of the Winter Park Ward Park as a part of a contract with the City of Winter Park.

This report is related to the energy-consuming systems only and is intended to fulfill the requirements of an ASHRAE Level 2 Energy Audit, per the guidelines set forth by the ASHRAE document "Procedures for Commercial Building Energy Audits." The purpose was to observe existing conditions and gather information that would enable TLC to render an opinion concerning conditions or deficiencies that could affect efficient use of this facility, and to identify potential areas for improvement. Neither the field visits nor this report is intended to uncover hidden defects or the presence of hazardous materials.

TLC reviewed the drawings dated November 1977, current utility bills from January 2021 through December 2022, subsequent project documentation, and visited the site in January 2023 to review the mechanical and electrical equipment, the HVAC and lighting controls systems, and observe each space type and its general energy use intensity. In the course of its work, TLC obtained extensive photo documentation of the conditions of the facility. Several of the photographs are included in Appendix C of this report, and the reader is encouraged to thoroughly review the photographs and descriptions, as they are intended to support and supplement the observations described herein.

After the time on site, TLC developed energy saving spreadsheets to assist with the analysis of recommended Energy Conservation Measures (ECMs) and Facility Improvement Measures (FIMs). The combination of all the walkthrough and post-walkthrough activities led to the development of the ECM and FIM list. A complete description and analysis of each ECM, as well as a table summarizing estimated cost and savings of each measure, can be found later in this report in the Energy Saving Opportunities section.

Project Information & Contacts

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General Facility Description

Ward Park is a conglomeration of several buildings and fields, which includes the Showalter Stadium. An aerial view of the park is shown below.

Figure 1: Aerial View of Ward Park

There are several restrooms throughout the park that are naturally ventilated. Lastly, the Showalter Stadium consists of a field, press box, and its support buildings. The support building holds locker rooms, showers, offices, and gathering areas.

Mechanical Systems

Ward Park features mechanical systems primarily consisting of split-system air conditioning systems, through-wall Acs, and exhaust fans. Mechanical system information came from a combination of resources, including information gathered during TLC's audit walk-through of the buildings and construction document review, as well as stadium drawings provided by the City of Winter Park (dated November 1977). The below breakdown of the mechanical systems and areas they serve is TLC's best attempt to consolidate all avenues of information into one master list.

Equipment Naming Convention

The general naming convention used on the mechanical drawings is shown below. Please note, this convention applies to most of the equipment, but not all equipment.

AHU-1

Equipment Type (ie, AHU = Air-Handling Unit) | Equipment ID Number

Air Handling Units

Air conditioning system types vary by building. The majority of the concessions buildings include packaged units located outside the building and ducted in. Several of the other standalone buildings are unconditioned.

The Stadium includes several different system types. There are three (3) ductless mini-split fan coil units used for cooling, with capacities of 1.5 tons, 2 tons, and 3 tons respectively. Also included are two (2) split system air handling units, both with a capacity of 2 tons. Lastly, the Stadium utilizes two (2) window air conditioners, which both have a capacity of 1 ton.

Exhaust Fans

Exhaust fans were observed, providing general exhaust for restrooms located within the enclosed buildings, including the Stadium restroom. Additionally, specialized spaces such as locker rooms, are provided with exhaust via dedicated fans.

Building Controls

The buildings located in Ward Park are not currently controlled by a centralized Building Automation System (BAS). All equipment within the buildings operate as a standalone system, based on the commands of local thermostats and wall switches. Several of the stadium HVAC units are controlled via Ecobee smart thermostats. The thermostats provide remote monitoring and setpoint change capability to the Winter Park Facilities personnel, as well as limited energy analysis such as runtime trending.

Lighting Systems

Interior lighting throughout the facility is predominantly linear fluorescent fixtures utilizing T8 lamps. The lighting is controlled manually with no occupancy controls. The Stadium also utilizes exterior stadium flood lights. TLC and 15 Lightyears noted that the three (3) new restrooms, located near the soccer fields, Babe Ruth Softball Fields, and Cady Way softball fields, are outfitted with LED lighting.

Domestic Water Fixture (Plumbing) Systems

There are three (3) Electric Water Heaters dispersed between the buildings. The Concessions building includes a water heater with 19 gallons and 2500-watt capacity. One of the restrooms utilizes a similarly ranked 19-gallon and 2500-watt capacity system. Lastly, the Stadium has a water heater with a 119-gallon and 36-kW capacity.

Building Envelope

The buildings throughout the site primarily consist of CMU block buildings with pitched roofs. The stadium does include sections of flat roof where condensing units and exhaust fans are located. During the audit walkthrough, no issues were noted with the observable aspects of the building envelope. However, due to the standalone nature of the concessions and restroom buildings, the envelope may benefit from increased infiltration reduction measures, such as weather stripping.

Key Operating Parameters

The park is currently operated 8am to 8pm every day. However, the thermostats in the stadium indicated that the building was designated as occupied from 6:30 am – 11:30 pm.

Site Visit

The site was audited by TLC engineers and 15 Lightyears personnel in January 2023. A full evaluation of existing energy consuming systems, compliant with ASHRAE Standard 211-2019 was performed. During the audit, TLC personnel were escorted by the City of Winter Park facilities manager, Leif Bouffard. He, as well as any facility staff that were available for comment, were questioned on system operation, condition, and maintenance of the building systems.

Utility Analysis

Historical Utility Data

The building is currently provided with electricity and water utilities. Electrical utility consumption values were provided for the months of January 2021 through June 2023. The monthly consumption profile is as expected, where values increase during the sports seasons. No billing statements were provided, but a blended rate for kWh savings was determined based on published rates. Calculation of the blended utility rate takes into account the non-fixed costs associated with electrical utilities use by the facility, including fuel charges, per-kWh cost, demand charges, etc. Table 3 details the components of the blended rate calculation

Table 1: Annual Baseline Energy Consumption

Utility	Total
Annual Electrical Consumption (kWh)	112,702
Annual Electrical Cost	-

The following graph and table show the total consumption and demand per monthly billing period for electricity.

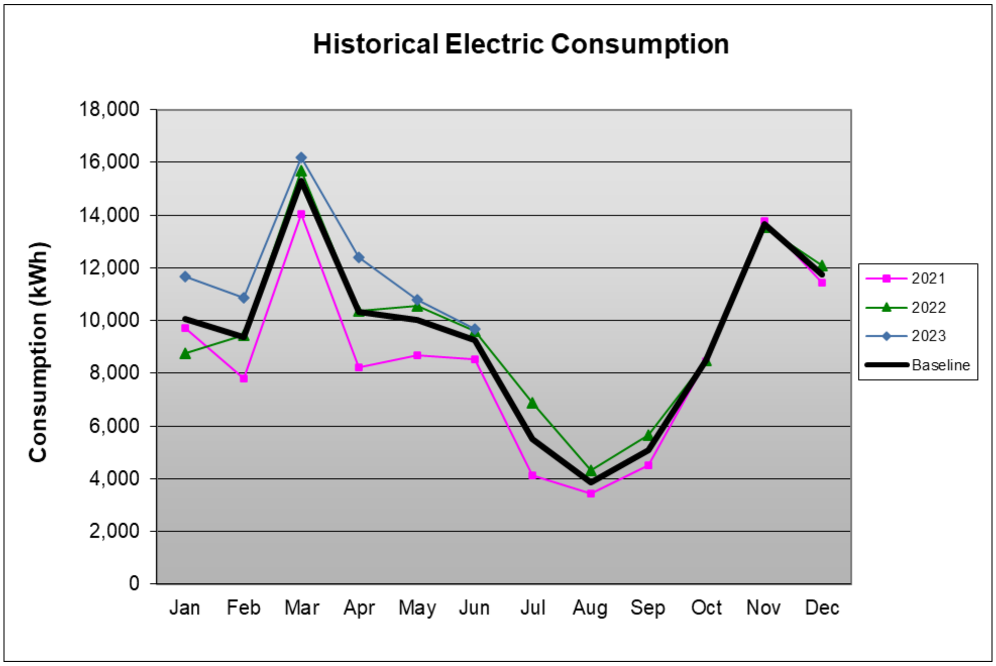


Figure 2: Ward Park Electric Consumption

Table 2: Ward Park Electricity Consumption Data

Date	Consumption (kWh)	Demand (kW)
Jan-21	9,711	310.8
Feb-21	7,810	312.8
Mar-21	14,044	314
Apr-21	8,236	308.8
May-21	8,668	314
Jun-21	8,524	314
Jul-21	4,114	282.8
Aug-21	3,430	136
Sep-21	4,517	154.4
Oct-21	8,473	155.6
Nov-21	13,769	156.8
Dec-21	11,425	154.4
Jan-22	8,757	154
Feb-22	9,457	156.8
Mar-22	15,704	158.4
Apr-22	10,365	154
May-22	10,575	158.8
Jun-22	9,593	159.2

Date	Consumption (kWh)	Demand (kW)
Jul-22	6,872	159.2
Aug-22	4,311	76.652
Sep-22	5,660	157.624
Oct-22	8,478	158.744
Nov-22	13,562	158.744
Dec-22	12,105	158.744
Jan-23	11,687	158.796
Feb-23	10,871	158.824
Mar-23	16,170	159.744
Apr-23	12,395	159.744
May-23	10,796	160.464
Jun-23	9,669	160.464

Benchmarking

TLC compared energy consumption for Ward Park using common benchmarks to gauge how the site compares to similar ones both regionally and nationally, principally through the use of Energy Star Portfolio Manager. The facility's Energy Use Intensity (EUI), which is used by energy engineers to determine overall energy consumption to a common unit of measure, was compared to other similar buildings throughout the United States. The Energy Use Intensity measures annual consumption of electricity per square foot, in kBTU/sf/year.

These benchmark tools were developed by the Department of Energy and are based on feedback from building operators all over the country. Using the utility billing information and observing the system operation allows the energy profiles to be broken down to greater detail. The facility was modeled in Portfolio Manager as an athletic/training building.

The historical energy consumption was entered into Portfolio Manager. Based on the most recent 24-months of utility data, the chart below compares Ward Park to the average energy use intensity (EUI) of similar buildings in Energy Star's database.

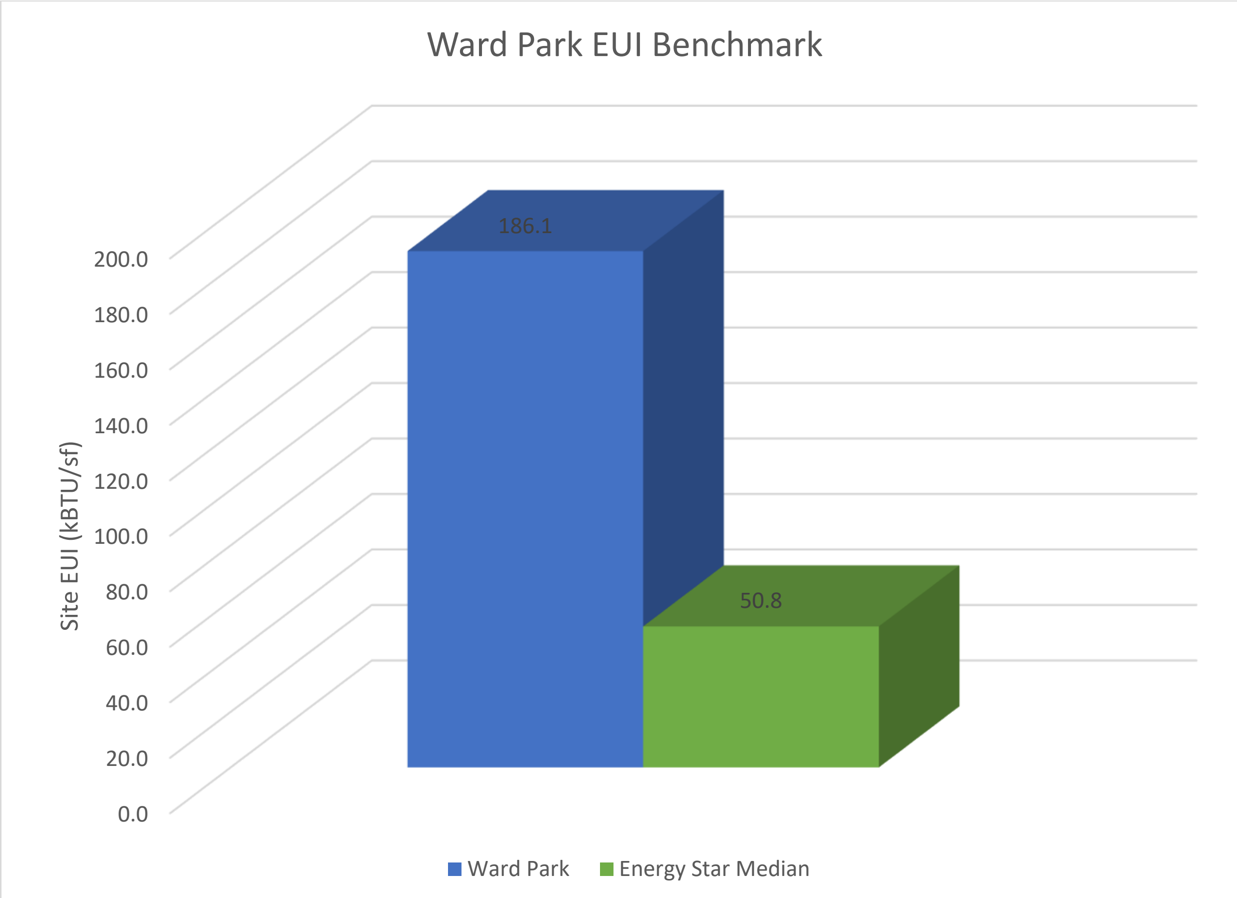


Figure 3: Ward Park Energy Performance Comparison

Based on most recent 24 months of utility data, a comparison can be drawn between Ward Park and the average energy use intensity (EUI) of similar buildings throughout the United States. The median EUI for an athletics building in the United States is 50.8 kBTU/sf, and the calculated EUI of Ward Park is 186.1 kBTU/sf. The median value reported by Energy Star is dependent on the annual responses from building surveys, and that the baseline for comparison includes gyms, sports arenas, etc. It is important to note that the nature of Ward Park as a multi-building facility may contribute to the higher EUI, as each conditioned building may be influenced by infiltration of outside air, among other considerations. The energy conservation measures detailed in this report will serve to decrease the EUI of the facility building through efficiency increases.

Utility Rate Analysis

The building is provided with electricity by the City of Winter Park (CoWP), following their Rate Schedule GSD-1, General Service – Demand. The utility rate charges shown below were used to calculate the costs associated with the provided consumption and demand. Energy savings calculated for this building have been assigned a blended rate of $0.2109/kWh, which is the calculated blended rate not including fixed customer charges.

Table 3: Utility Rate Schedule

Description	Charge
Demand Charge	$5.05 per kW of billing demand
Energy Charge	$0.04216 per kWh
Fuel Cost Recovery Factor	$0.02281 per kWh
Gross Receipts Tax	2.5641%
Franchise Fee	6.00%
Electric Utility Tax	10.00%
EL State Sales Tax (Commercial Only)	7.45% (First $5,000)
EL State Sales Tax (Commercial Only)	6.95% (Over $5,000)

Average Rates

As noted above, a blended cost per kWh has been calculated from the rate schedule. Savings for this building have been calculated using the blended rate. The following table details the average rate over the period of analysis.

Table 4: Average Utility Rate

Utility	Average
Electricity	$0.2109/kWh

Energy Saving Opportunities

The operation and condition of equipment at Ward Park was observed to offer a few different avenues for improvement. This is to be expected given the age of the equipment itself and how long it has been in service. Improvements can be made by replacing the aging equipment as well as optimizing the control sequences and settings. The following table summarizes the recommended ECMs for this facility that should be considered for future projects. In addition, the table distinguishes between measures specifically intended to save energy (ECMs) and facility improvement measures (FIM) that benefit the overall operation of the facility but may not provide significant energy savings.

Table 5: ECM/FIM Summary

Energy Savings Measure	FIM/ECM	ECM Category	Annual kWh Savings	Annual $ Savings	Cost $	Payback (years)
HVAC Controls Optimization	ECM	Low Cost	1,879	$396	$2,700	6.8
Exhaust Fan Controls	ECM	Low Cost	7,563	$1,595	$1,463	0.9
Interior Lighting Improvement & Controls	ECM	Low Cost	31,235	$6,587	$2,392	0.4
Exterior Lighting Improvements	ECM	High Cost	54,255	$11,442	$65,124	5.7
DX Unit Retrofits	FIM	Capital Improvement	--	--	$8,900	
Totals			**94,932**	**$20,021**	**$71,679**	3.6

*ROI calculations exclude capital improvement items, as they are intended more for facility improvement than for energy savings.

The cost and paybacks shown in the table above are estimates based on the information gathered during the auditing process. TLC utilized RSMeans 2023, as well as engineering best practices, to estimate the cost of these suggested measures. Final pricing will vary based on contractors' estimation and final equipment selections. Final payback periods are also dependent on contractor pricing and the facility's negotiated utility price.

HVAC Controls Optimization

General Description

The scope for this ECM involves optimizing the building HVAC controls through one or multiple controls strategies. For this project, the controls strategy recommended would be occupancy scheduling with setback temperatures.

Consistent occupied and unoccupied temperature settings will be implemented based on the building type and their needs. Occupied schedules for the HVAC controls will be set up to dictate the hours when the building is considered occupied versus unoccupied. Whenever a building enters unoccupied mode, the building HVAC controls will utilize the unoccupied settings in lieu of the occupied settings.

Site Specifics

While the building overall is considered a 24/7 occupancy building, there are areas that are not occupied outside of regular operating hours. These noncritical areas would be optimized with controls schedules based on the hours these areas are typically occupied. HVAC controls will be given setback temperature settings to use during unoccupied conditions. Operating portions of the building at setback temperatures will result in energy savings due to the HVAC systems not having to work as hard to condition these areas when unoccupied.

Exhaust Fan Controls

General Description

This measure proposes to install or update existing exhaust fan controls. Over time, the control sequences for HVAC equipment such as air handling units will be modified from its original intent. It is also common for the building operation requirements to change, or for manual overrides to be put in place. These changes can result in HVAC systems consuming excess energy and not meeting their original design intent. By optimizing the controls, the HVAC systems can either be returned to their original design intent or can be optimized further than originally intended due to changes to the building operational needs.

Site Specifics

During the audit, it was observed that the bathroom exhaust fans run constantly, even during unoccupied hours. By operating the fans on an occupancy basis, the runtime can be reduced greatly.

Interior Lighting Improvements

General Description

This measure involves converting older style lighting fixtures, such as fluorescent and incandescent, to modern LED lighting fixtures and lamps. Unless a building has been built or renovated in the past few years, it is common to find extensive use of fluorescent and incandescent fixtures throughout the building. Fluorescent and incandescent lighting technologies are a product of their time and often remain without intentional replacement. Older lighting technologies require more wattage to produce the same amount of light as LED fixtures. This also results in a higher heat output from the lamps which raises HVAC cooling costs.

Existing fluorescent and incandescent lighting fixtures will be replaced/retrofitted with new LED lighting fixtures. This will greatly reduce the energy required to illuminate the building. Additionally, cooling systems will have to run less often to offset the heat generated by the lighting. There are several additional benefits to LED lighting technology. LED lighting has longer burn hour life, faster on/off response time, and easier dimming capabilities compared to fluorescent and incandescent technologies. Because LED light fixtures have longer burn hour life, this will reduce the material and time cost of replacing burned out lamps.

Site Specifics

The facility was observed to have predominantly linear fluorescent fixtures with T8 lamps. Existing non-LED lighting will be replaced with new LED lighting on a one-for-one basis. Existing lighting material waste will be disposed of according to local regulations.

Interior Lighting Controls Optimization

General Description

This measure involves installing newer ceiling-mounted dual-occupancy sensors after the installation of the proposed lighting changes that will use half of the building area and reduce burn hours by approximately 30%.

Site Specifics

The facility was observed to have predominantly manual on/off light switches as a means of lighting controls with some exterior lighting remaining on during daylight hours as well. Installing occupancy sensors will allow lighting to shut off in unused areas.

Exterior Lighting Improvements

General Description

This measure involves converting older style exterior lighting fixtures, such as metal halides, to modern LED lighting fixtures and lamps. CFL lamps were also observed in some parts of the exterior areas. Unless a building has been built or renovated in the past few years, lighting technologies such as metal halides and CFLs are common to find. These older lighting fixtures are a product of their time and often remain without intentional replacement. Older lighting technologies require more wattage to produce the same amount of light as LED fixtures.

Existing exterior lighting fixtures will be replaced/retrofitted with new LED lighting fixtures. This will greatly reduce the energy required to illuminate the exterior of the building. There are several additional benefits to LED lighting technology. LED lighting has longer burn hour life, faster on/off response time, and easier dimming capabilities compared to metal halides or CFLs. Because LED light fixtures have longer burn hour life, this will reduce the material and time cost of replacing burned out lamps.

Site Specifics

The facility was observed to have metal halide fixtures at Schowalter Stadium and CFL lights at the concession stand. Existing non-LED lighting will be replaced with new LED lighting on a one-for-one basis. Existing lighting material waste will be disposed of according to local regulations.

Facility Improvement Measures

TLC identified additional Facility Improvement Measures (FIM) that do not provide energy savings but should be addressed. By implementing the recommended FIM, the facility will experience improved equipment reliability, increased thermal comfort for occupants, and be able to operate as originally designed. While it is possible that these measures may decrease energy consumption, this has not been quantified as their purpose is focused on performance and reliability.

DX Unit Retrofit

General Description

This measure proposes replacing existing DX window mounted equipment, which is at or nearing the end of its predicted useful life. Direct expansion (DX) air conditioning equipment consists of a refrigerant loop, in which the refrigerant is compressed and expanded at different points of the loop to transfer thermal energy. Typically, a refrigerant coil is placed directly in the supply air stream, where the refrigerant absorbs thermal energy as it evaporates and expands. Thermal energy is rejected at a compressor, where the refrigerant is compressed and condenses, rejecting the heat that was removed from the supply air steam.

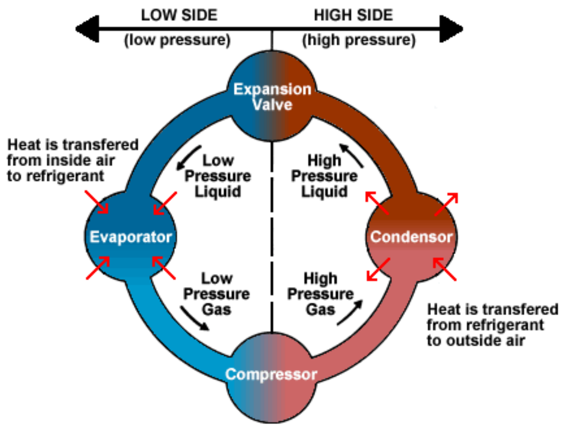


Figure 4: The Refrigeration Cycle

Over time, HVAC units degrade in operational efficiency as coil surfaces oxidize on the exterior and sometimes scale on the interior which reduces heat transfer efficiency. The moving mechanical components also wear, which further reduces the operational efficiency of the equipment. The new equipment will be installed in place of the existing equipment, including providing new refrigerant line sets for all split systems.

Advances in technology and improvements necessitated by energy code updates have led to DX equipment available today with far higher efficiencies than what was used in the past. Replacing the existing systems with new higher efficiency systems will reduce energy consumption and provide improved occupant comfort.

Site Specifics

The window mounted air conditioning units that serve the stadium office, and the Cady Way restrooms, and concessions were observed to be nearing the end of their expected useful life and in need of replacement. This measure proposes to replace the existing window units with ductless split systems rated at 16 SEER. As stated above, the newer system will be more efficient than the existing system and will result in slight energy savings.

Calculation Methodology – Spreadsheet System Models

Savings for this report were evaluated using spreadsheet building models for the lighting and HVAC systems. The methodologies used for each measure are described separately in this section. Industry Standard methods of evaluation were used and are detailed in this section. Additionally, assumptions made to calculate the energy savings are detailed.

Exhaust Fan Controls

Savings for this measure have been based on a reduction in the power consumed by the 11 exhaust fans associated with the Ward Park bathrooms. The following table shows the major inputs used in the calculation of savings for this measure.

Table 6: EF Controls Major Inputs

Input Name	Bldg./Area Affected	Input Value	Basis of Input
Fan Motor HP	Bathroom EFs	1-2/3 HP	As-built drawings
Current Annual Operating Hours	Bathroom EFs	8,760	Building schedule
Existing Fan Power Ratio	Bathroom EFs	.84	No reduction, fan always at 100% power
Proposed Operating Hours	Bathroom EFs	1,500	Estimated average

Calculations:

Savings for this measure were based on calculating the annual fan energy with the existing and proposed fan power ratios. The fan's annual energy consumption in kWh was calculated with the following formula.

$$Energy\ Consumption = Fan\ HP \times 0.7457 \times Hours \times Fan\ Power\ Ratio$$

HVAC Controls Optimization

Savings for this measure have been based on a reduction in cooling energy due to setting back non-critical portions of the building that are not always occupied. The following table shows the major inputs used in the calculation of savings for this measure.

Table 7: Controls Optimization Major Inputs

Input Name	Bldg./Area Affected	Input Value	Basis of Input
% Cooling Energy Reduction	Schowalter Stadium	2%	Engineering judgment
% Cooling Energy Reduction	Concessions	1%	Engineering judgment

Calculations:

Savings for this measure were based on calculating the annual cooling energy and saving a percentage of it. The existing annual cooling energy was calculated from the electric utility baseline as the sum of all the electrical consumption for each month exceeding the lowest month's consumption. The following formula was used to calculate existing annual cooling energy.

$$Existing\ Cooling\ kWh = Annual\ Total\ kWh - (12 \times Baseload\ Month\ kWh)$$

Interior Lighting Improvements and Controls

Savings for this measure have been based on a reduction in the lighting energy based on a reduction in lighting installed wattage. The following table shows the major inputs used in the calculation of savings for this measure.

Table 8: Lighting Improvements Major Inputs

Input Name	Bldg./Area Affected	Input Value	Basis of Input
Building Area	Schowalter Stadium	5,100 sf	Provided value
Existing Lighting Power Density	Schowalter Stadium	0.6 W/sf	Typical value for LED lamps throughout
Annual Burn Hours	Schowalter Stadium	8,760	Building schedule
Proposed Burn Hours	Schowalter Stadium	1,500	Estimated Value
Building Area	Restroom Buildings	1,858 sf	Provided value
Existing Lighting Power Density	Restroom Buildings	0.6 W/sf	Typical value for LED lamps throughout
Annual Burn Hours	Restroom Buildings	8,760	Building Schedule
Proposed Burn Hours	Restroom Buildings	1,000	Estimated Value
Building Area	Concessions	740 sf	Provided value
Existing Lighting Power Density	Concessions	1.0 W/sf	Typical value for T8 lamps throughout
Proposed Lighting Power Density	Concessions	0.6 W/sf	Typical value for LED lamps throughout
Annual Burn Hours	Concessions	1,248	Estimated Value

Calculations:

Savings for this measure were comprised of energy savings. The energy savings were the difference in the existing and proposed kWh for all the lighting fixtures in the building. The energy usage in kWh for the building was calculated using the following formula.

$$Energy\ Usage = \frac{Building\ Area \times LPD \times Hours}{1{,}000}$$

Exterior Lighting Improvements

Savings for this measure have been based on a reduction in the lighting energy based on a reduction in lighting installed wattage. The following table shows the major inputs used in the calculation of savings for this measure.

Table 9: Exterior Lighting Improvements Major Inputs

Input Name	Bldg./Area Affected	Input Value	Basis of Input
Stadium Quantity of Fixtures	Schowalter Stadium	60	Existing quantity of fixtures
Concession Stand Quantity of Fixtures	Concession Stand	10	Existing quantity of fixtures
Existing Stadium Fixture Wattage	Schowalter Stadium	1000 W	Typical value for Metal Halide fixtures
Existing Concession Stand Fixture Wattage	Concession Stand	26 W	Typical value for CFL fixtures
Proposed Stadium Fixture Wattage	Schowalter Stadium	400 W	Typical value for exterior LED fixtures

Input Name	Bldg./Area Affected	Input Value	Basis of Input
Proposed Concession Stand Fixture Wattage	Concession Stand	9 W	Typical value for CFL replacement LEDs
Annual Burn Hours	All Exterior Lights	1,500	Ward Park Events Schedule

Calculations:

Savings for this measure were comprised of energy savings. The energy savings were the difference in the existing and proposed kWh for all the lighting fixtures in the building. The energy usage in kWh for the building was calculated using the following formula.

$$Energy\ Usage = \frac{Quantity\ of\ Fixtures \times Fixture\ Wattage \times Hours}{1{,}000}$$

Appendix A – Lighting Line by Line

The following table shows a list of design fixtures in the building. This is not a comprehensive list of all fixtures but details a good representation. This includes only permanent fixtures and does not include any construction lighting. It is important to note that this schedule is from the November 1977 drawings, and may no longer be accurate.

LIGHT FIXTURE SCHEDULE

MARK	MANUFACTURER	CATALOG NUMBER	MATERIAL	LENSE	LAMPING	MOUNTING	MOUNTING HEIGHT	REMARKS
A	ROBERT MFG CO	# [illegible]	18 GUAGE STEEL	HEAVY POLYCARBONATE	2-F40 WW	SURFACE - CEILING	[illegible]	[illegible]
B	LIGHTING PRODUCTS CO	# [illegible]	22 GUAGE STEEL	VIRGIN ACRYLIC	2-F40 WW	SURFACE - CEILING	[illegible]	
C	LIGHTING " "	# [illegible]	20 GUAGE STEEL	" "	4-F40 WW	SURFACE - CEILING	[illegible]	
D	ROBERT MFG CO	# [illegible]	20 GUAGE CRS	NONE	2-F40 WW	SURFACE - CEILING	6'-6"	
E	KIRLIN LIGHTING	# [illegible]	ALUMINUM	PRISMATIC [illegible]	150 W - A-19	RECESSED - CEILING	[illegible]	
F	KIRLIN "	# [illegible]	"	" " " "	150 W - A-23	" "	8'-10"	
G	KIRLIN "	# [illegible]	"	" " " "	100 W - A-19	" "	8'-10"	
H	GENERAL ELECTRIC	C7510 [illegible] - OPS	CAST ALUMINUM	VANDAL-PROOF LEXAN	100 W MERCURY-[illegible]	WALL BRACKET	Δ 8'-8" - B.O. OF FIXTURE	Δ [illegible]
I	" "	C7510 [illegible] - OP4 (120V) - OPS	" "	" " "	250 W MERC.-HEAVY-[illegible]	" "	Δ 8'-8" - [illegible] OF FIXTURE	[illegible] - TYPE BALLAST Δ GIVEN FROM TOP OF SLAB
⊗	LIGHTALARMS	OPLE5			[illegible]	" "	7'-6" " " " "	
E-1	"	12Y12			1- PAR 36	" "	7'-10" CENTER OF FIXTURE	
E-2	"	22Y12D			2- PAR 36	" "	7'-10" " " "	
J	PROGRESS	P [illegible]	CAST ALUMINUM	OPAL GLASS	1-100 W - A-19	" "	7'-4" " " "	

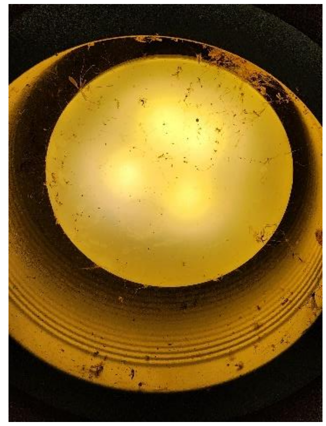
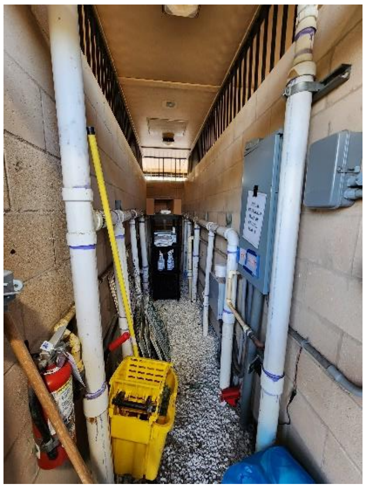
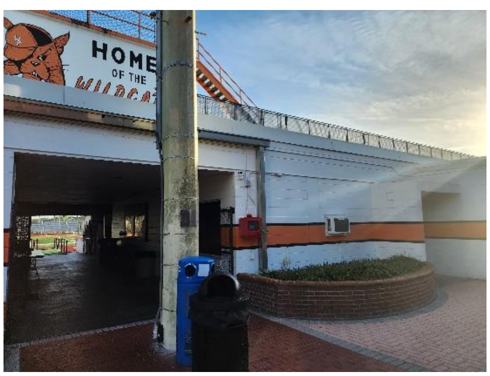
Appendix B – Mechanical Equipment

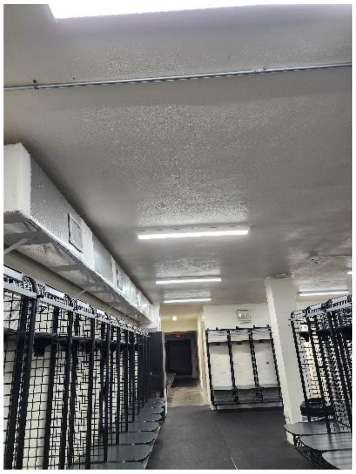
The following table shows a listing of all recorded major equipment in the building.

Building - Ward Park	Type	Equip	Location Served	Tag	Qty	Capacity	Units	Make	Model	Serial Number	Year
Cady Way Pool	A/C	Window Air Conditioner			1		Tons	Haier			
Concessions	EWH	Electric Water Heater - 19 Gallon			1	2500.0	Watts	State Industries	ES6 20 SOMS 200	2136125973239	2021
Concessions	EF	Exhaust Fans			Multiple						
Concessions	Supply	Air Conditioning									
Restrooms	EF	Exhaust Fans			Multiple						
Restrooms	EWH	Electric Water Heater - 19 Gallon			1	2500.0	Watts	A.O. Smith	ELSF 20 100	.SF-20-J261291000	
Stadium	A/C	Window Air Conditioner			1	1.0	Tons	LG	LW1216HR		
Stadium	A/C	Window Air Conditioner			1	1.0	Tons	LG	LW122		
Stadium	FCU	Fan Coil Unit			1		HP	Daikin	FTXB24AXVJU	K016606	2019
Stadium	FCU	Fan Coil Unit			1		HP	Daikin	FTX36NVJU	E012614	2018
Stadium	FCU	Fan Coil Unit			1		HP	Mitsubishi Electric	MSZ-GL18NA	7007630 T	
Stadium	CU/AHU	Condensing Unit/Air Handling Unit			1	3.0	Tons	Goodman	GSX1400361KD	1906359229	2019
Stadium	CU	Condensing Unit			1	3.0	Tons	Daikin	RK36NMVJU	E001245	2020
Stadium	CU	Condensing Unit			1	1.5	Tons	Mitsubishi Electric	MUZ-GL18NA	7000423 T	
Stadium	CU/AHU	Condensing Unit/Air Handling Unit			1	3.0	Tons	Goodman	GSX140361KD	19	2019
Stadium	CU	Condensing Unit			1	2.0		Daikin	RXB24AXVJU	K015655	2019
Stadium	EWH	Electric Water Heater - 119 Gallons			1	36.0	kW	Lochinvar	HSP36-120	BM7098340	2005
Stadium	EF	Exhaust Fans			Multiple		HP				
Stadium	B	Boiler			1						

Appendix C – Site Walkthrough Photos

Concessions	
 C1: Exterior of Concessions	 C2: Lighting
 C3: Interior of Concessions	 C4: Electric Water Heater
Restrooms	

 C5: Exterior of Restroom	 C6: Lighting
 C7: Water Closet	 C8: Exhaust Fan Ductwork
Stadium	
 C9: Exterior of Stadium	 C10: Interior Lighting


C11: Locker Room Ductwork


C12: FCUs


C13: Condensing Unit


C14: Mini Split Condensing Units


C15: Electric Water Heater


C16: Stadium Exterior Lighting