

ENROLLED ORDINANCE 176-29

MODIFY THE 2021-2025 CAPITAL PLAN FOR THE CREATION OF CAPITAL PROJECT #202107
ICE ARENA CONDENSER REPLACEMENTS AND MODIFY 2021 CAPITAL BUDGET

WHEREAS, the evaporative condensers at Naga-Waukee and Eble Ice Arenas have surpassed the expected useful life; and

WHEREAS, the Naga-Waukee evaporative condenser is currently being repaired, the Eble evaporative condenser has failed and both units require replacement; and

WHEREAS, the evaporative condensers are critical to system operations in removing heat from the refrigerant and returning it to the refrigeration system; and

WHEREAS, until the unit at Eble Ice Arena is replaced, operations must be suspended; and

WHEREAS, the replacement of the unit at Naga-Waukee was scheduled for 2022 but is now recommended for replacement in 2021 due to recent repairs.

THE COUNTY BOARD OF SUPERVISORS OF THE COUNTY OF WAUKESHA ORDAINS that the Waukesha County Adopted 2021-2025 Capital Plan be modified by creating capital project #202107 Ice Arena Evaporative Condenser Replacements.

BE IT FURTHER ORDAINED that the 2021 capital budget be modified to appropriate additional expenditures of \$235,750 and increase use of Tarmann Parkland Acquisition Fund balance by \$235,750 to purchase and install new ice arena evaporative condensers at the Eble and Naga-Waukee Ice arenas.

MODIFY THE 2021-2025 CAPITAL PLAN FOR THE CREATION OF CAPITAL PROJECT #202107
ICE ARENA CONDENSER REPLACEMENTS AND MODIFY 2021 CAPITAL BUDGET


Presented by:
Executive Committee

Approved by: Land Use, Parks,
and Environment Committee

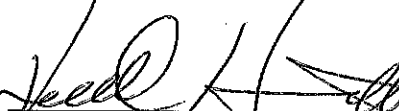
Approved by:
Finance Committee



Paul L. Decker, Chair


William A. Mitchell, Chair


James A. Heinrich, Chair


Timothy Dondlinger


Keith Hammitt


Tyler J. Foti

Absent


James A. Heinrich

Thomas A. Michalski


Joel R. Gaughan


William A. Mitchell

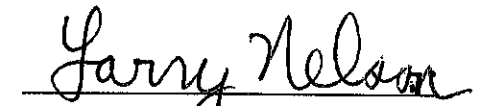

Chris Mommaerts

Absent
Thomas A. Michalski


Absent


David W. Swan


Richard Morris


Larry Nelson


Peter M. Wolff

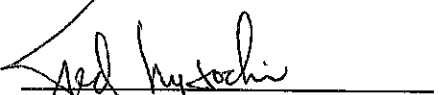

Thomas J. Schellinger


Duane E. Paulson

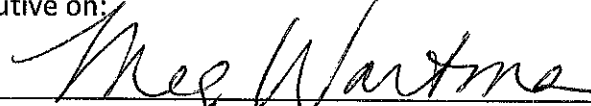
Absent

David D. Zimmermann

Steve Whittow


Ted Wysocki

The foregoing legislation adopted by the County Board of Supervisors of Waukesha County, Wisconsin, was presented to the County Executive on:

Date: 6/25/2021 
Margaret Wartman, County Clerk

The foregoing legislation adopted by the County Board of Supervisors of Waukesha County, Wisconsin, is hereby:

Approved: X
Vetoed: _____

Date: 6/28/2021 
Paul Farrow, County Executive

Project Title:	Ice Arena Evaporative Condenser Replacements	Project #:	202107
Department:	Parks & Land Use	Project Type:	Mechanicals/Bldg Systems
Phase:	One-Year Project	Sponsor:	
Budget Action:	New	Manager:	Dale Shaver, PLU Director
Date:	May 26, 2021		

CAPITAL BUDGET SUMMARY						
Year	2020	2021	2022	2023	2024	Total
Project Phase	Installation					Total Project
Expenditure Budget	\$0	\$235,750	\$0	\$0	\$0	\$235,750
Revenue Budget	\$0	\$235,750	\$0	\$0	\$0	\$235,750
Net Costs After Revenues Applied	\$0	\$0	\$0	\$0	\$0	\$0
COST DOCUMENTATION			REVENUE			
Installation						
Eble		\$130,000				Tarmann Fund Balance
Naga-Waukee		\$75,000				
Contingency		\$30,750				
Total Project Cost		\$235,750				Total Revenue \$235,750
EXPENDITURE BUDGET		\$235,750				REVENUE BUDGET \$235,750

Project Scope & Description

Eble: The existing refrigeration system was installed in 1988 with a total system life expectancy of 25 years. The direct refrigeration system consists of several components including two reciprocating compressors, two pumper drums (circulate the refrigerant through the floors), one low pressure receiver (stores the refrigerant between pumping cycles), a cooling tower system - evaporative type condenser (removes heat from refrigerant, cooling it down as it returns to the refrigeration system) and one waste heat recovery system (primarily uses heat generated during the refrigeration process for heating the soil beneath the rink floor to prevent frost and heave) and controls. On-going repair and replacement is done on system components. This project will have two phases: phase 1 includes recovery and storing of R-22 refrigerant from the system and conducting a pressure test on the ice floor piping to verify project scope. Phase 2 includes the removal and replacement of the existing evaporative condenser and replacement of an estimated 1,500 pounds of refrigerant (costs based on replacement of R-22) with an anticipated life of 20 years. Through this project the Department is evaluating the options of R-22 alternatives. Phase 1 is required immediately and is covered through Ice Arena fund operating expenses in the existing budget; this capital project addresses step 2.

Naga-Waukee: The existing refrigeration system was installed in 1995 with a total system life expectancy of 25 years. The indirect refrigeration system consists of several components including a chiller, two compressors, cooling tower system – evaporative condenser, and a waste heat recovery system. On-going repair and replacement is done on system components. This project will remove the existing, install and reconnect a new evaporative condensing unit to replace the aged unit which does not have projected life beyond the 25 years due to recent repair issues.

Overall:

To continue to manage the refrigeration systems to maximize the life of the equipment, the Department is currently updating the fixed asset inventory, condition analysis and preventative maintenance schedule previously updated in 2014. In addition, more research will be conducted regarding the Eble Ice Arena conversion of R-22 to a suitable replacement refrigerant in an effort to maintain the existing equipment and extend the useful life 10 or more years. Since this is a one-year project, funds for installation will not be spent until a standing committee of the County Board approves the bid process.

Locations:

Eble Ice Arena: 19400 W. Bluemound Rd, Brookfield, WI 53045

Naga-Waukee Ice Arena: 2699 Golf Road, Delafield, WI 53018

Analysis of Need

Eble: The existing refrigeration system was installed in 1988 with a total system life expectancy of 25 years. In 2018, the dehumidification unit was replaced and chiller plan repairs were completed. Through the annual fixed asset projects, the additional component replacements have been in process, which includes compressor work from 2019-2021. While the replacement of the condenser was not planned for this year, the condenser recently failed completely rendering the facility non-operational. About 30% of the contracted ice use is being shifted to Naga-Waukee Ice Arena during the repair period. Total revenue loss projected through August is \$87,000.

Naga-Waukee: During routine maintenance inspection, there was an ammonia leak discovered from the discharge pipe for the existing evaporative condenser. While this leak is scheduled to be repaired, this is temporary to keep the facility operational, and the repair is not

Project Title:	Ice Arena Evaporative Condenser Replacements	Project #:	202107
Department:	Parks & Land Use	Project Type:	Mechanicals/Bldg Systems
Phase:	One-Year Project	Sponsor:	
Budget Action:	New	Manager:	Dale Shaver, PLU Director
Date:	May 26, 2021		

guaranteed and is not a long-term solution. Since the condenser has a projected life expectancy of 25 years (year 2020), we will proactively replace the condenser,

Alternatives

Eble:

1. Due to the phase out of R-22 (and all hydrochlorofluorocarbons), an alternative is to upgrade Eble to an ammonia industrial grade indirect system (same as Naga-Waukee). Costs for this are estimated between \$1.5-2 million with an estimated life expectancy of 30 years.
2. Retrofit the compressors to replace R-22 with R-438A, a non-ozone depleting hydrofluorocarbon. More research is required to determine viability of this option and cost estimates.
3. Replace failed condenser section only. Cost estimates are \$51,000 plus the cost to replace the system refrigerant, while continuing to monitor how other ice arenas effectively migrate to other refrigerant.

Naga-Waukee:

1. Complete the repair to the discharge pipe, budget for the replacement in 2022. In the event of failure, potential losses in revenue will be between \$25,000 and \$35,000 per month.

Ongoing Operating Costs

The proposed project does not change any current on-going operating costs.

Previous Action

None

FISCAL NOTE

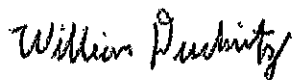
MODIFY THE 2021-2025 CAPITAL PLAN FOR THE CREATION OF CAPITAL PROJECT #202107 ICE
ARENA CONDENSER REPLACEMENTS AND MODIFY 2021 CAPITAL BUDGET

This ordinance modifies the 2021-2025 capital plan to create capital project #202107 – Ice Arena Condenser Replacements. Department management indicates that this project was not included in the proposed 2021-2025 capital plan due to the equipment failure at Eble Ice Arena being unexpected and the Naga-Waukee Ice Arena replacement being originally scheduled for 2022. Department management estimates the total cost of the replacements at \$235,750, which consists of: \$130,000 for replacement of the evaporative condenser and lost refrigerant at Eble Ice Arena, \$75,000 for replacement of the evaporative condenser at Naga-Waukee Ice Arena, and \$30,750 of project contingency.

This ordinance also modifies the capital budget to appropriate additional expenditures of \$235,750 and increase the use of Tarmann Parkland Acquisition Fund balance by \$235,750 to fund the replacements.

The equipment failure at Eble has rendered the facility non-operational, with about 30% of contracted ice use being shifted to Naga-Waukee Ice Arena. Department management estimate that the total revenue loss for the temporary closure at \$87,000.

There is no direct tax levy impact as a result of this ordinance.



William Duckwitz

Budget Manager

5/27/2021

AJK JE# 2021-00003284

VOTING RESULTS

AYE 23

NAY 0

ABSTAIN

ABSENT 2

Ordinance 176-O-027

Ordinance 176-O-027: Modify the 2021-2025 Capital...

 **Passed With 17 Yes Votes Needed**

D1 - Foti	ABSENT
D2 - Zimmermann	AYE
D3 - Morris	ABSENT
D4 - Batzko	AYE
D5 - Dondlinger	AYE
D6 - Walz	AYE
D7 - LaFontain	AYE
D8 - Michalski	AYE
D9 - Heinrich	AYE
D10 - Swan	AYE
D11 - Howard	AYE
D12 - Wolff	AYE
D13 - Decker	AYE

D14 - Mommaerts	AYE
D15 - Mitchell	AYE
D16 - Crowlev	AYE
D17 - Paulson	AYE
D18 - Nelson	AYE
D19 - Cummings	AYE
D20 - Schellinger	AYE
D21 - Gaughan	AYE
D22 - Wysocki	AYE
D23 - Hammitt	AYE
D24 - Whittow	AYE
D25 - Johnson	AYE

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