SOLAR ARRAY TASK FORCE

Date and Time: Monday, October 16, 2023, at 5:00 pm, City Hall, Board Room
Members Present: Chad Henke (C), Paul Svetlik, Jay Coldwell, John Robinson
Members Excused: Susan Woods
Others Present: Deb Hoppa, Pete Roth, Eric Lindman, Kody Hart, Alder Gary Gisselman

Noting the presence of a quorum Chairperson Henke called the meeting to order at 5:00 p.m.

Approval of Minutes from previous meetings: (9/11/2023 and 9/25/2023)
Minutes from 9/25/2023 listed the incorrect public members present as Deb Hoppa should be properly listed as such. Motion by Coldwell, seconded by Svetlik, to approve the minutes as amended. Motion carried 4-0.

Discussion and review of all feedback received from the community meeting held on 9/27/2023 at Northcentral Technical College
Henke reviewed the survey and commented on the results. The open-ended questions of the survey commented on options for fencing to obstruct the view of the array and fencing options were reviewed.

Robinson weighted the answers of the results of the survey and found that blending into the design of the neighborhood was most important to those participating followed by reduce the carbon footprint while return on investment and reduce taxes or utility bills tied in last place.

Coldwell questioned if there was a requirement for fencing to protect the security of the facility. It was stated that there were no requirements that Eric Lindman, Director of the Department of Public Works, was aware of for solar arrays but the power generating facility would need to be secured in some way.

Staff are directed to look into brims and/or fences similar to Monk Gardens within the neighborhood. A top consideration when exploring buffer options should be neighborhood desirability.

Henke mentioned that the survey is available online. It was stated that there were few responses but there would be a press release to promote the online survey and solicit more responses.

Staff are directed to consider scoring ranked questions on the online survey with a weighted result system as Robinson outlined when reviewing.

Discussion pertaining to the Village of Maine in regards to a proposed project
Robinson questioned if the solar array would have the capability to sell power back to the grid. It was stated that the size of the array would require it to be interconnected to the gird via Wisconsin Public Service and that selling power back to the grid would be a possibility.

Pete Roth, community member, reviewed what was discussed at a recent Village of Maine Board meeting in which the solar array was discussed. A concern raised was that the village would not see a funding mechanism that would make it advantageous and that the solar array would not be sustainable in terms of the lifespan of equipment.

Coldwell questioned if the Village of Maine would not receive property tax on this property. It was stated that this may fall under a utility tax in which the property tax is paid to the state which brings those funds back to the municipalities and county from the state. Staff are directed to explore this as a future discussion by the task force.

Discussion pertaining to size and location options for the array
Robinson suggested the following options: proposed locations solely within the city limits; proposed location within the city limits and in the Village of Maine; proposed locations on the roof of the water treatment plant; proposed locations that incorporate a combination of any of those options. Other considerations should include battery energy storage options, buffers, and not proposing any solar array.

Staff are directed to consider options that include cost estimates, stationary verses tracking array options, return on investment, design and size of the array, setback and location options. The options should be presented in December and January meeting of the task force in order to start working with a consultant and present at a community meeting in January.

Discussion and possible action on scheduling the next meeting in November

Staff are directed to schedule the next meeting on Thursday, November 16th at 5pm.

Staff are directed to reach out to the task force to schedule a December task force meeting.

Public Comment

1) Mark Lammar, 112 Ethel Street – spoke about concerns on the design options specifically in regards to the array being on the roof of the water treatment facility in addition to questions asked.
2) Deb Hoppa – spoke on concerns on vendors used, warranties on the equipment, and the amount of energy used in addition to questions asked.
3)

Adjourn

Motion by Robinson, seconded by Svetlik, to adjourn. Motion carried. Meeting adjourned at 6:17 pm.

Clark Dietz

Engineering Quality of Life®

Wausau Solar Array Task Force

November 16, 2023

Contents

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ClarkDietz

PROJECT TITLE
WAUSAU DRINKING WATER TREATMENT FACILITY SOLAR

DATE REVISION

DRAWING TITLE
SCENARIO 1 - WELL HOUSE ARRAY

PROJECT No.
W0400110

DRAWING No.
E000-1

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

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Clark Dietz

PROJECT TITLE
WAUSAU DRINKING WATER
TREATMENT FACILITY SOLAR

DATE REVISION

DRAWING TITLE
SCENARIO 2 - NE FIXED ARRAY

PROJECT No.
W0400110

DRAWING No.
E000-2

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PLOT DATE 11/15/2023 5:06 PM

Clark Dietz

PROJECT TITLE
WAUSAU DRINKING WATER TREATMENT FACILITY SOLAR

DATE REVISION

DRAWING TITLE
SCENARIO 3 - BAY SHORE ARRAY

PROJECT No.
W0400110

DRAWING No.
E000-3

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PROJECT TITLE
WAUSAU DRINKING WATER TREATMENT FACILITY SOLAR

DATE REVISION

DRAWING TITLE
SCENARIO 4 - WELL HOUSE / MAINE ARRAY

PROJECT No.
W0400110

DRAWING No.
E000-4

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PLOT DATE 11/15/2023 5:07 PM

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PLOT DATE 11/15/2023 5:07 PM

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PROJECT TITLE
WAUSAU DRINKING WATER TREATMENT FACILITY SOLAR

DATE REVISION

DRAWING TITLE
SCENARIO 5 - ROOF ARRAYS

PROJECT No.
W0400110

DRAWING No.
E000-5

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Contents

Conceptual Array Options Summary

Option	Mount	Approximate Size*	Estimated Cost	Estimated Cost w/ Tax Credit & Grants***
Well House Array	Single Axis Tracker	1.1 MW ac	$3,800,000	$2,660,000
NE Fixed Array	Fixed Ballast	1.5 MW ac	$8,200,000	$5,740,000
Bayshore Array	Fixed	3.1 MW ac	$10,600,000	$7,420,000
Well House/Maine Array	Single Axis Tracker	1.2 MW ac	$4,100,000	$2,870,000
Roof Arrays**	Roof Ballast	0.3 MW ac	$800,000	$560,000

*The existing DWTF switchgear is limited to a tie-in of approximately 1.1 MW ac due to the ampacity rating of the bussing. Additional switchgear would be necessary to tie-in a larger array.
**There may be structural limitations to the existing roofs that would not allow the addition of solar panels, or the roofs may need reinforcing. Further structural evaluation is necessary.
***Assumes a 30% federal tax credit. Grants may be available but exact amounts for each option are unknown.

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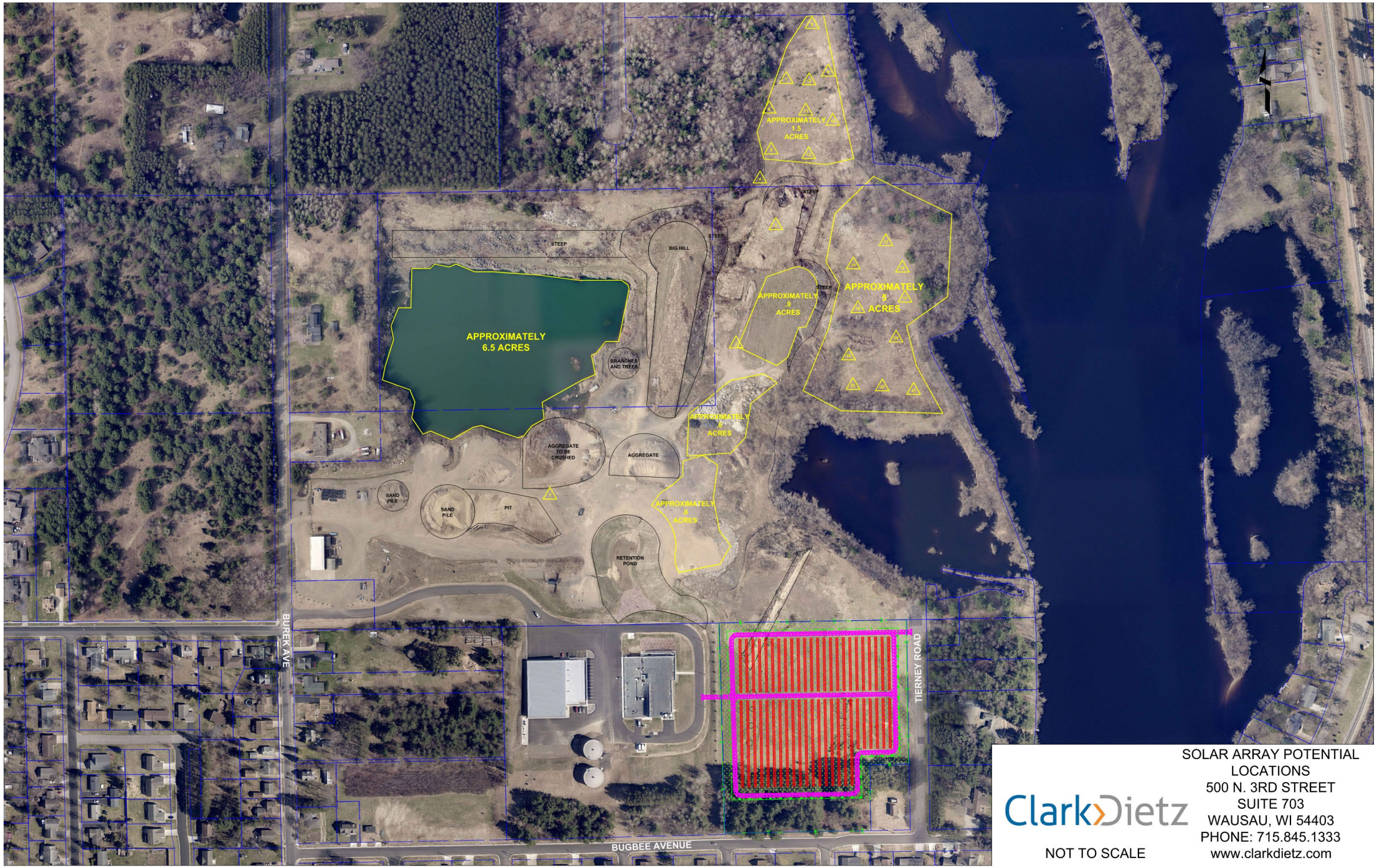

SOLAR ARRAY POTENTIAL LOCATIONS

NOT TO SCALE

ClarkDietz
500 N. 3RD STREET
SUITE 703
WAUSAU, WI 54403
PHONE: 715.845.1333
www.clarkdietz.com

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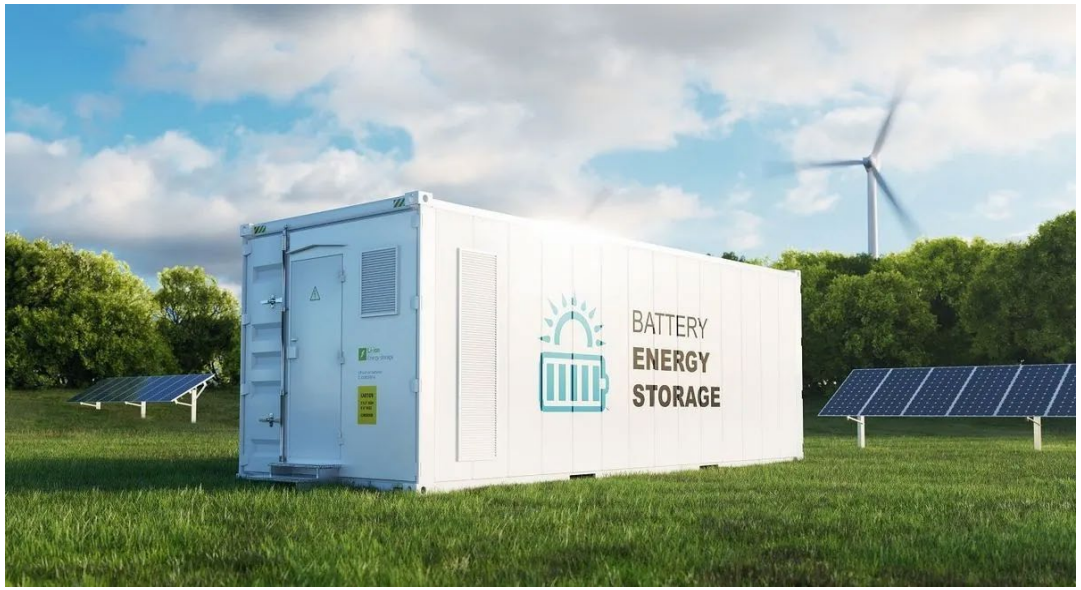
Battery Storage



- Two types of batteries used for storage are lead acid and lithium ion.
  - Lead acid – lower energy density, cost effective
  - Lithium ion – higher energy density, more efficient, higher cost, most common for this application

- Pros of battery storage:
  - Greater energy independence allowing for use of solar generated power at times when the array is not producing

- Cons of battery storage:
  - Expensive
  - Requires a considerable amount of space
  - Adds complexity and additional maintenance to the system

Battery Storage (cont.)

- Battery storage can add up to 70% to the cost of the project based on cost benchmarks from NREL. The main factor affecting the cost is the amount of storage needed/desired. A larger array would benefit from having more storage, however storage should be limited to an amount that makes sense based on the usage of the DWTF.
- Solar battery systems do qualify for the 30% federal tax credit.
- Battery systems are typically packaged in a shipping container and multiple systems can be connected to achieve the desired storage capacity.