



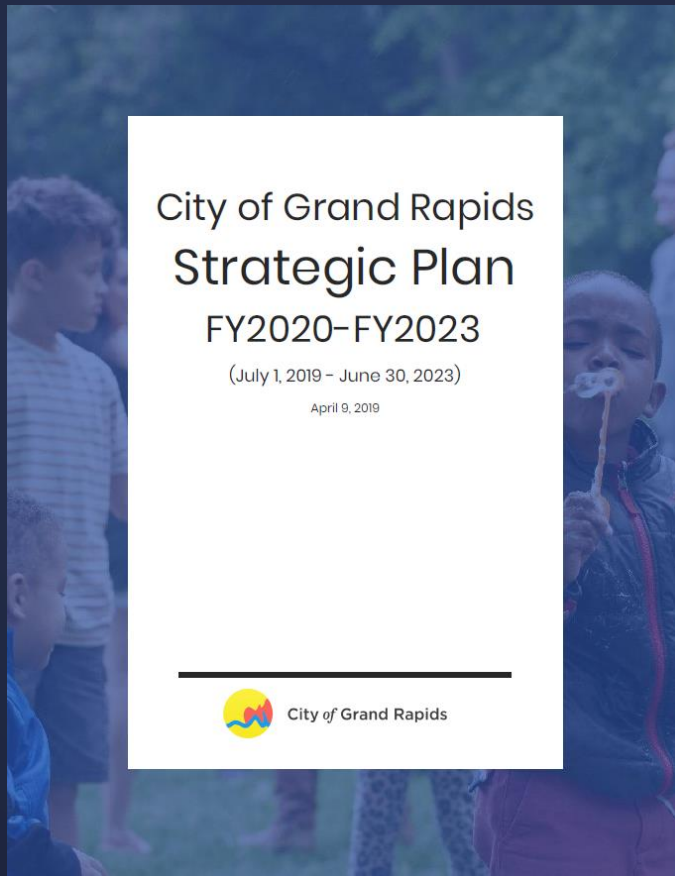
# Lake Michigan Filtration Plant Solar

City Commission Fiscal Committee

December 1, 2020

Alison Sutter, Office of Sustainability and Performance Management

# Alignment to the Strategic Plan

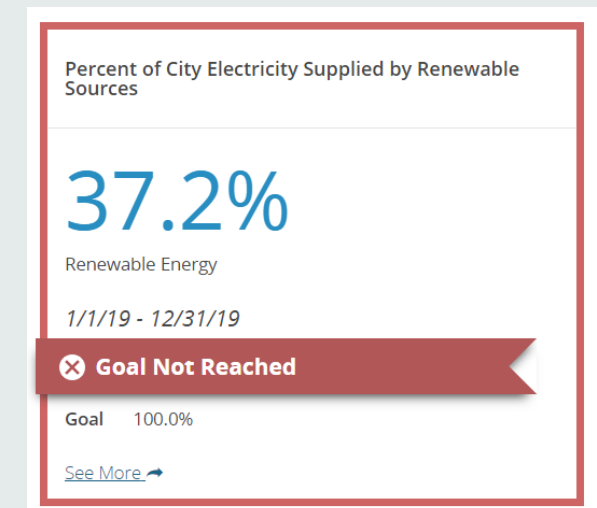
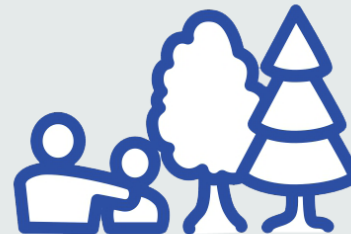


## ▪ Values



## ▪ Health and Environment

- Objective 1: Reduce carbon emissions and increase climate resiliency.
  - Strategy 2: Reduce the carbon footprint of City operations (buildings, utilities and fleet)
  - **Strategy 3: Assess the feasibility and cost of offsetting 100% of City electricity with renewable sources by FY2025**



# ES Services Company Solar Equipment Services Contract

- ES Services Company will install, own, operate and maintain a 0.91 MW<sub>AC</sub> ground mount solar installation on 4 acres at the Lake Michigan Filtration Plant (LMFP) that will produce an estimated 1.5 million kilowatt hours per year, which is 10% of the plant's total electricity consumption.
- City's Energy Advisory Committee is in support of this project.
- Office of Sustainability and Performance Management presented this project to the Utility Advisory Board and received no objections.

# Lake Michigan Filtration Plant Solar Array Location



Onsite assessment enabled ES Services to define the recommended location of the array

# LMFP Solar Cost and Savings Estimates

- ES Services Company will invest between \$1.5 and \$2.0 million in upfront capital costs and an additional \$25,000 in annual operations and maintenance for a total investment of \$2.1 to \$2.6 million over 24 years
- The Water Department will pay ES Services Company a fixed monthly rent of \$9,917 for an annual cost of \$119,004 and a total cost of \$2.86 million over 24 years
- The Service Contract is expected to result in approximately \$125,300 in electricity savings in the first year, which will generate a net savings of \$6,296
- Taking into consideration a 2.5% annual electricity rate increase, the net average annual savings of this project is expected to be \$49,000 for a total of \$1.2 million in net savings over 24 years

# Agreement Details

- Fixed rent provides more certainty for the Water Department's budget planning
- If the City cancels the contract, the City will trigger additional financial obligations (ex. If the City cancels after 5 years, the cost would be \$1.96 million and after 15 years would be \$654,500)
- ES Services Company is responsible for all operations and maintenance of the solar array
- ES Services Company will relocate the handful of trees located where the array will be installed or plant replacement trees
- ES Services Company will install a decorative fence with security lighting and will plant pollinator species under the array

# Additional LMFP Solar Benefits

- Additional economic benefits
  - No capital outlay; fixed lease expense billed monthly (estimated at \$9,917/month)
  - No maintenance hassle
- Environmental benefits
  - Increase the City's renewable energy performance from 37% to 41%
  - Elimination of between 700 and 1,000 metric tons of carbon dioxide equivalents (equal to removing 150 – 200 passenger vehicles)
  - Decreased air pollution due to electricity generated from traditional coal fired power plants
  - Pollinator species planted with the solar array
- Community benefits
  - Demonstrate to others in the West Michigan community that solar is a viable and cost-effective option
  - Stimulate clean energy economy (business growth and job opportunities)

# LMFP – Grand Haven Township Planning Commission and Zoning Board of Appeals

- Special Land Use (SLU) application filed on Monday, November 9 with the Planning Commission
- Variance application filed on Wednesday, November 25 with the Zoning Board of Appeals (ZBA)
- ZBA will review the variance application on Tuesday, December 15
- Planning Commission will review the SLU in January
  - The Planning Commission has final authority to approval the project and the approval is effective immediately or the next day



# Next Steps and Timing

- December 1: Request City Commission approval of the solar contract, which is contingent upon Planning Commission and Zoning Board of Appeals approval
- December 15: Grand Haven ZBA meeting on variance application
- December 20: Contract must be finalized to secure 26% 2020 Federal Tax Credits
- January: Grand Haven Township Planning Commission meeting to review Special Land Use application
- February: Estimated construction start date
- June 2021: Estimated construction completion date
- July 2021: Estimated commercial operation date



Questions, Thank you.