

# Solar Development in a Public Power State

October 10th, 2018



11TH ANNUAL  
Nebraska  
Wind & Solar

CONFERENCE & EXHIBITION

PRESENTED BY **NEXtera**<sup>®</sup>  
**ENERGY**   
RESOURCES



**GENPRO**  
ENERGY SOLUTIONS



# GenPro Energy Solutions Overview



# Nebraska Projects

- 1.3 MW Tracked System - Grand Island Municipal Utility
- 2.85 MW Tracked System - City of Fremont Utilities - Phase I and Phase II
- 3.91 MW Tracked Ground Mount - City of Lexington
- 209kW Tracked Ground Mount - Atkinson, NE WWTF
- 500kW Tracked Ground Mount - City of Schuyler, NE
- 6.12 MW Community Solar Project - NPPD & the City of Scottsbluff
- 50kW Ground Mount for City Wells - City of Gordon, NE
- 538kW Tracked System - City of Aurora WWTF
- 1 MW Tracked Ground Mount - City of Gothenburg, NE - Phase I and Phase II
- 500kW Tracked Ground Mount - City of Central City
- NPPD Community Solar Project Pilots - Venango and Scottsbluff

Project  
Development -  
It's all about  
the numbers!

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## Financial Drivers

**Internal rate of return (IRR)** is the interest rate at which the net present value of all the cash flows (both positive and negative) from a project or investment equal zero. **Internal rate of return** is used to evaluate the attractiveness of a project or investment.

**Net Present Value (NPV)** is the difference between the present value of cash inflows and the present value of cash outflows over a period of time. **NPV** is used in capital budgeting to analyze the profitability of a projected investment or project.

The concept of **levelized cost of electricity (LCOE)** is used to compare the cost of energy coming from different sources. The wide range of electrical power technologies available, both renewable and non-renewable, is quite varied with respect to physical principles and operation - a solar PV system is drastically different from a biomass power plant. However, the LCOE provides a common basis for comparison:

$$\text{LCOE} = \text{Total cost of ownership (\$)} / \text{System production over its lifetime (kWh)}$$

# Community Solar

- Can be owned by the Utility or 3<sup>rd</sup> party financed
- A program is created where residential and commercial customers can purchase shares or panels
- Gain economies of scale through 1 larger solar installation



# COMMUNITY SOLAR PROGRAMS

- Allows community members to participate without the upfront cost of installing their own solar
- Allows the Utility to manage solar resources on the grid
- Promotes economic development
- Access to renewables for everyone



# COMMUNITY OUTREACH PLANS

Community Events & City Council  
Ambassadors

Public Talking Points

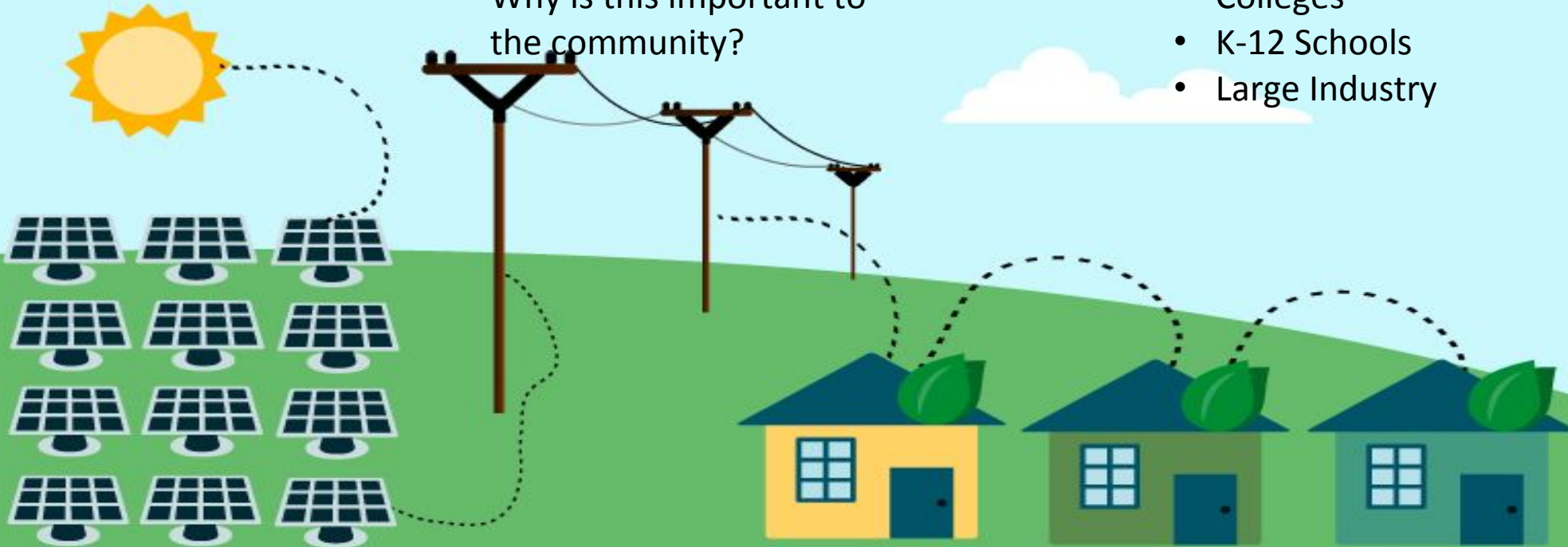
- What does this do to my bill?
- How does this work?
- Why is this important to the community?

Community Survey

- Bill inserts
- E-mail Survey
- Call Campaigns

Anchor Clients

- Hospitals
- Colleges
- K-12 Schools
- Large Industry









What makes a great project from Day 1?

- Site selection
- Site selection
- Site selection

# Infrastructure

- Distribution line voltage
- Substation proximity
- Load proximity

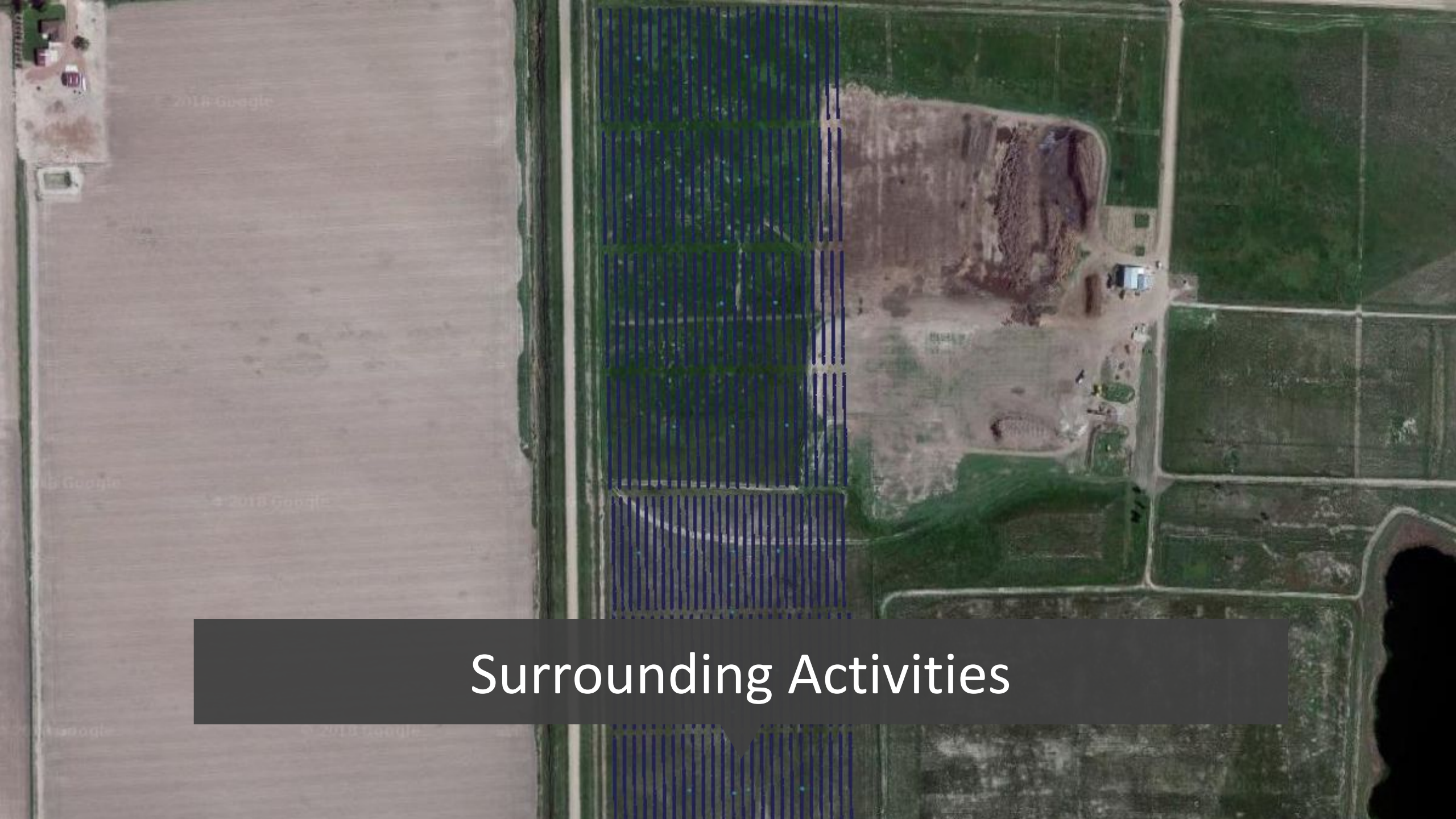




Grade

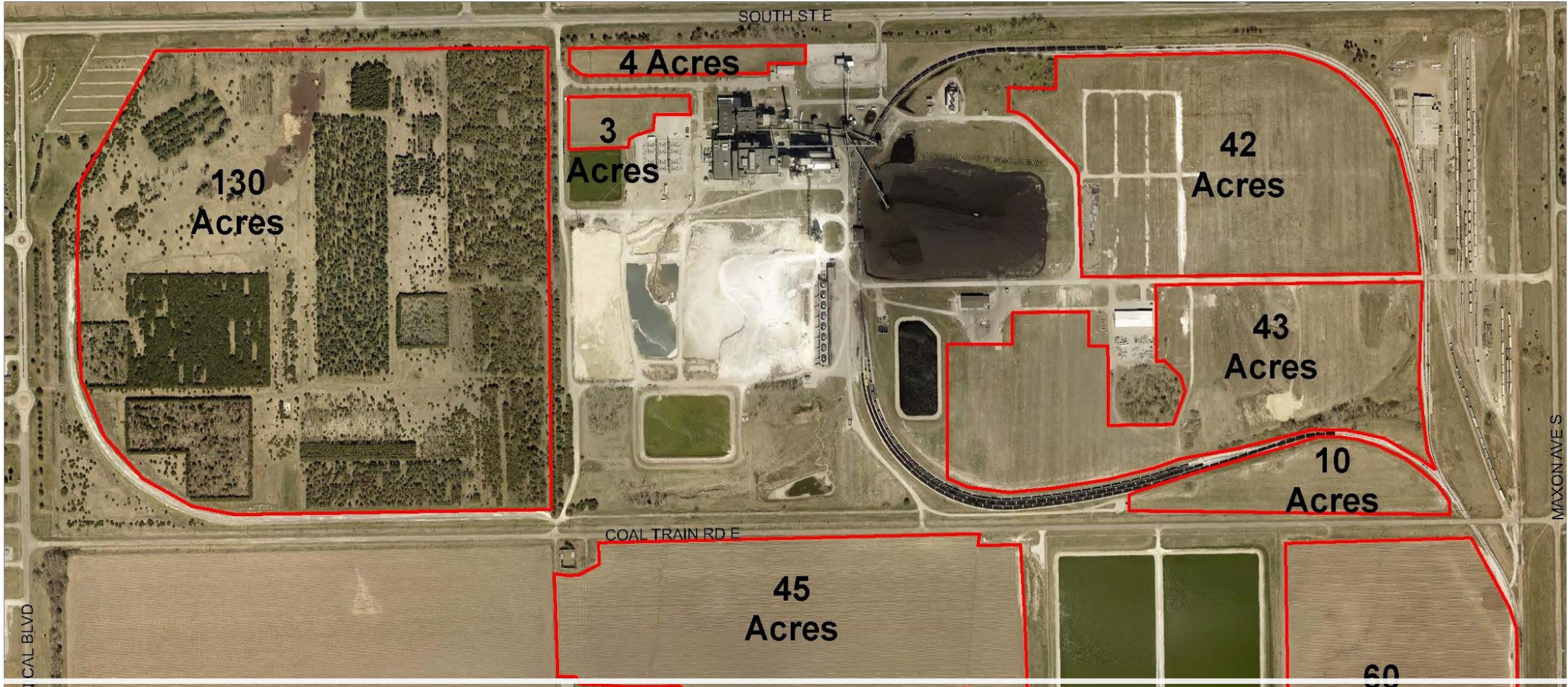
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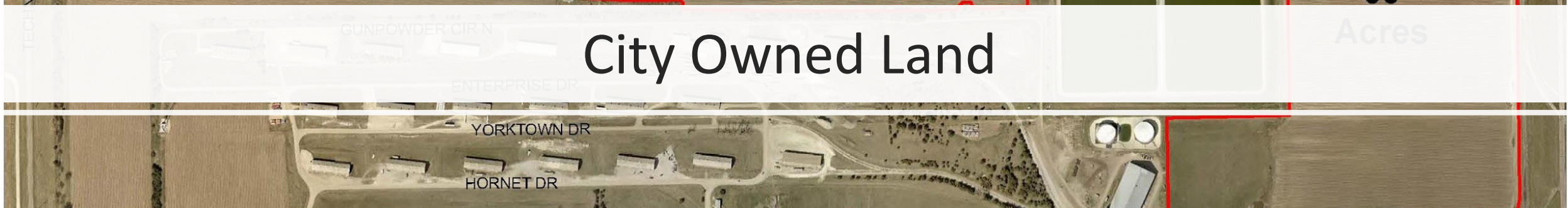


# Surrounding Activities





# City Owned Land







SOUTH ST E

3 Acres



10 Acres

COAL TRAIN RD E

45 Acres

60 Acres

TECHNICAL BLVD

GUNPOWDER CIR N

ENTERPRISE DR

YORKTOWN DR

HORNET DR

MAXON AVE S



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