



Non-Profit Institutions and Community Wind Projects

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Overview

- Case Study:
 - Luther College
- Motivations
- Site Selection and Permitting
- Financing Options
- Advice for Non-Profits



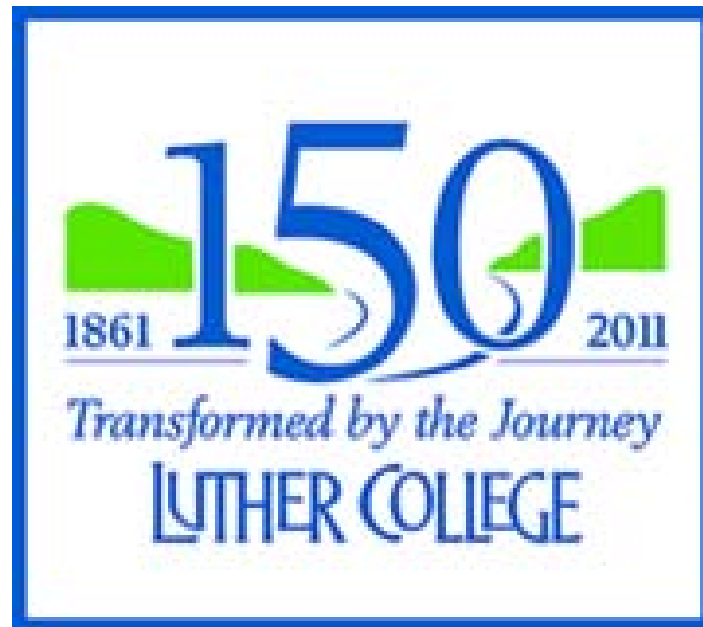
Luther College

- Located in Decorah, Iowa
- A liberal arts college with 2,400 undergraduate students
- One of 25 colleges and universities in the Evangelical Lutheran Church in America (ELCA)



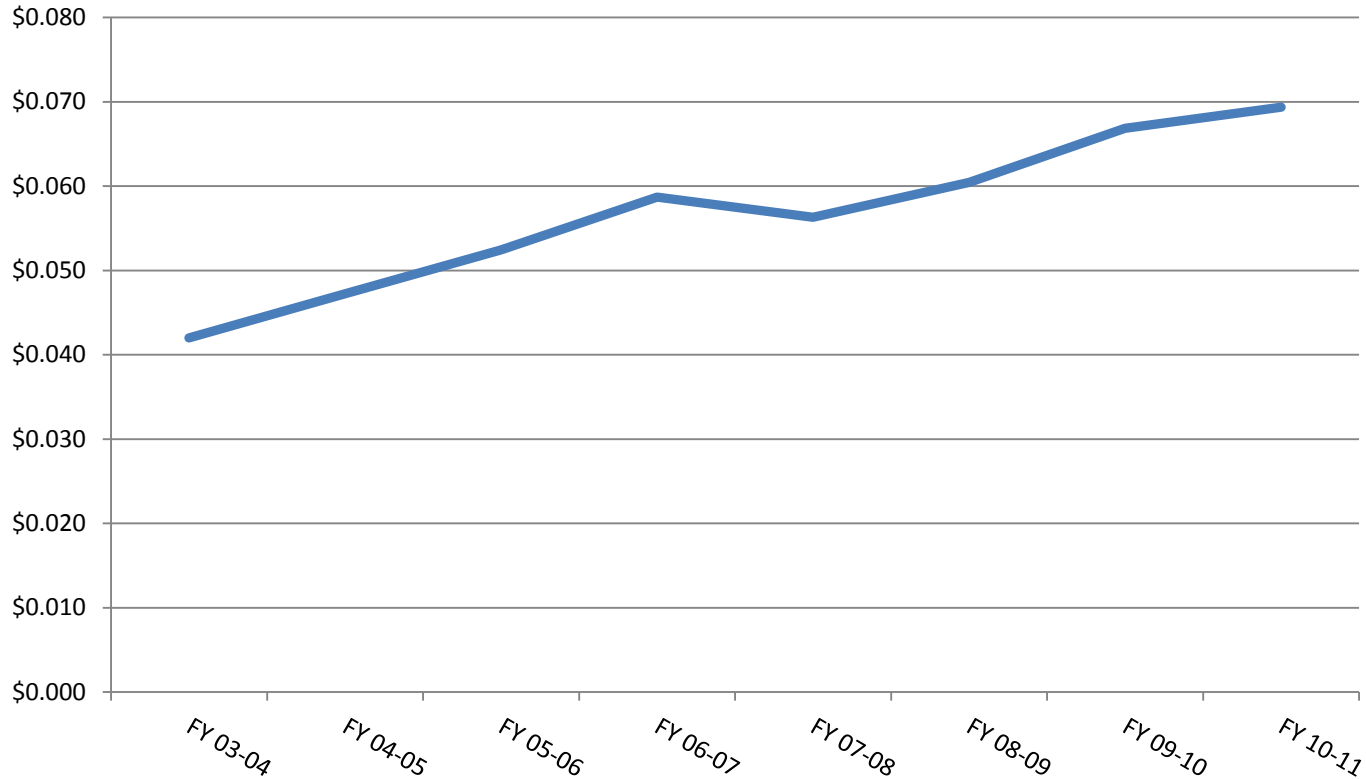
Motivations

- Economic cost containment
- Environmental stewardship



Motivation: Cost Containment

KWHr Costs Including Demand Charges



Luther's electricity costs have been rising at nearly 9% per year. Alliant Energy has been warning us they will likely go up 10% per year. Luther's turbine project has less than a 10 year payback period.

Impact: Produce One Third of Luther's Electricity Renewably



5.2 million kWh/year



Motivation: Environmental Stewardship

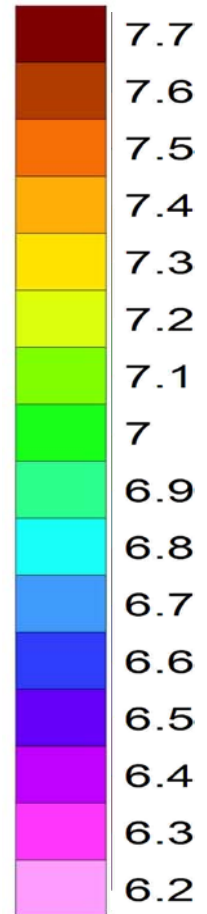
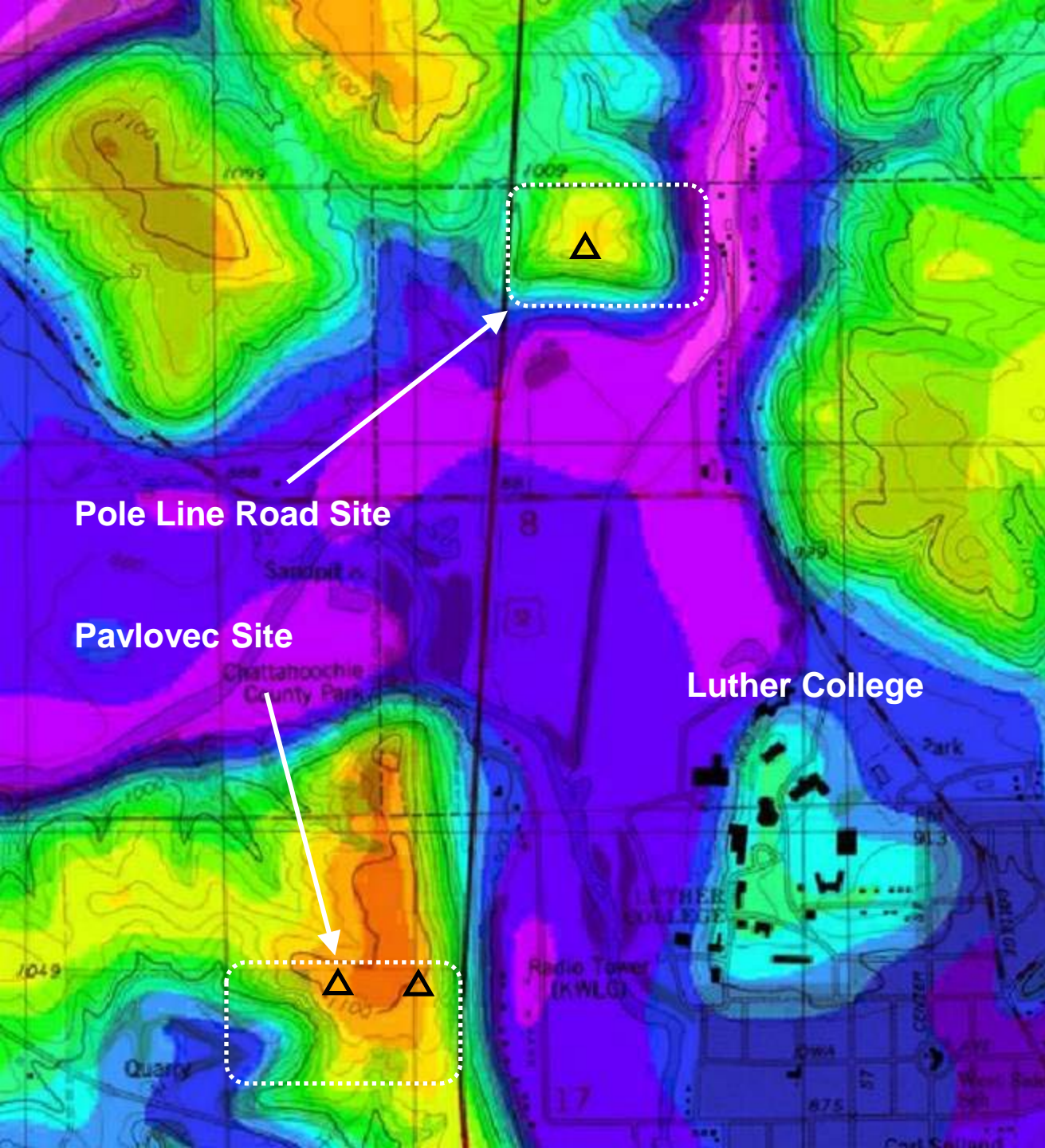


- President Torgerson became a charter signatory in January 2007.
- Two long-term goals:
 - Make sustainability a part of every student's learning experience
 - Achieve carbon neutrality
- Interim goal: Reduce Luther's greenhouse gas emissions 50% by 2015.

Siting and Permitting

- Site Options
- Flicker and Noise Studies
- NEPA Review for USDA REAP Application
- Meetings with Landowners
- County Conditional Use Permit Application

Estimated Mean Annual Wind Speed Around Luther College Sites in Meters per Second at a 80-Meter (262 feet) Hub Height



**1 meter per second
is 2.24 miles per hour**

This is a detailed high-resolution mean annual wind speed map developed by Wind Utility Consulting, PC. It is based in part on the WindLogics study of May 2004.

Pole Line Road Site

Identifying Home Numbers for All Buildings Used in Analysis

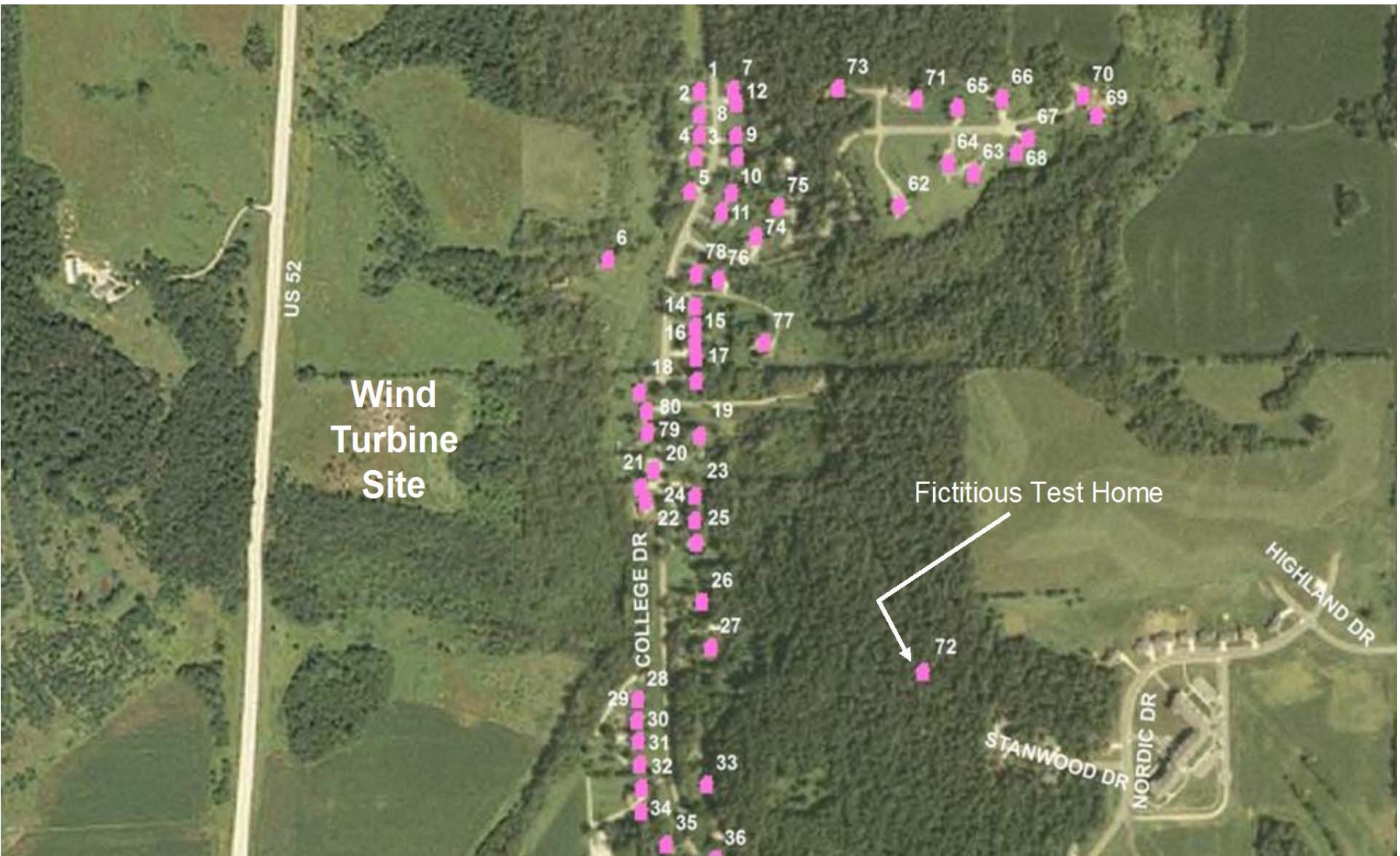
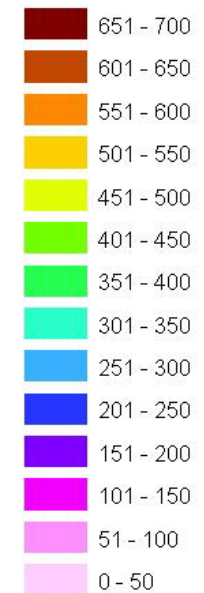
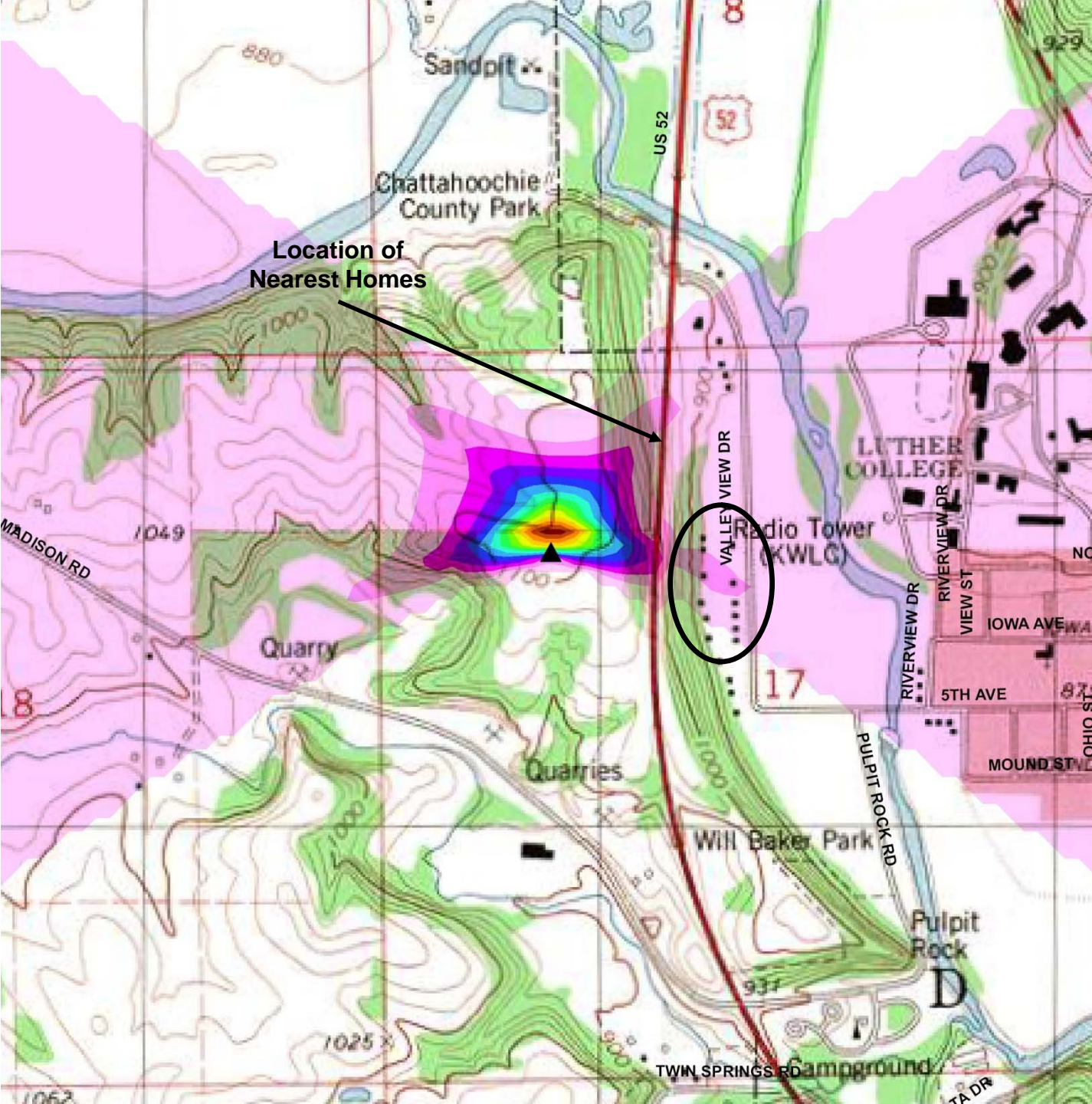


Figure 1

**Estimated Shadow Flicker
Around the Luther
College Site Based on a
GE 1.6 MW XLE Wind
Turbine on an 80-Meter
Tower, in Hours Per Year
with No Cloud Cover**



Wind Turbine Coordinates (Meters) UTM NAD27 Zone 15	
Easting	Northing
595900	4795605

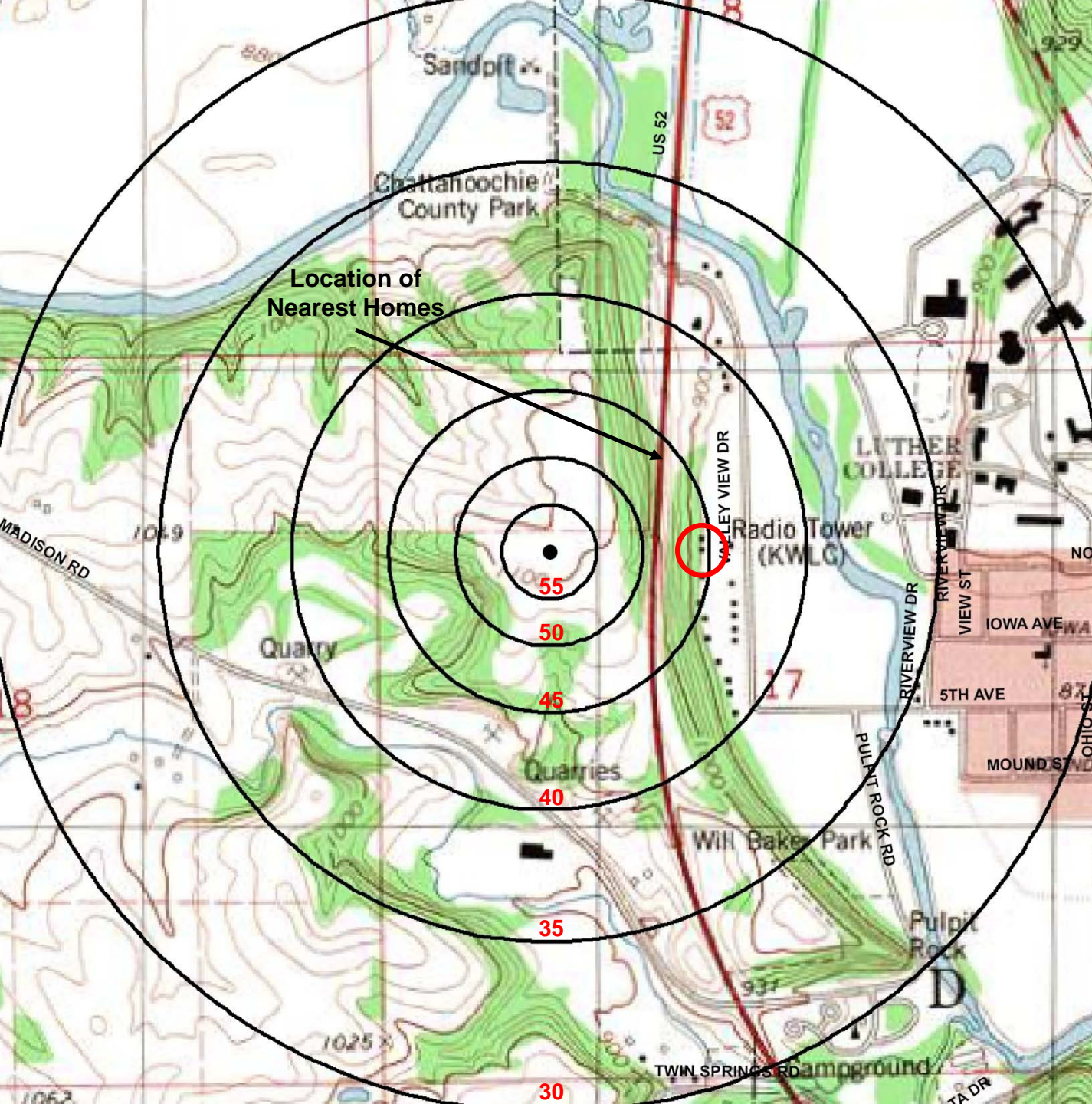
Figure 3

**Projected Noise Levels
Around the Luther
College Site in dBA**

**1 GE 1.6 MW XLE Wind
Turbine**

This map is based on a line of sight distance noise calculation.

The noise calculation is based on the Danish Noise Model which includes a 5 dB penalty for the presence of tones in the noise emission of a turbine.



Wind Turbine Coordinates (Meters)	
UTM NAD27 Zone 15	
Easting	Northing
595900	4795605

NEPA Review

- Archaeological study
 - Approval by state office of historic preservation
- Wide-ranging environmental assessment
 - Air and water quality
 - Threatened and endangered species impact
 - Environmental justice review
 - Impact on wetlands and agricultural lands
- USDA finding of no significant impact

Meetings with Nearby Landowners

- Invited all landowners within a mile of the turbine to an information meeting on campus
 - Full transparency
 - Turbine picture simulations
 - Answered questions
 - No opposition
 - Substantial support

County Approval

- Conditional use permit application
- Review by Winneshiek County Planning and Zoning Commission
 - Public meeting
 - Unanimous approval
- Review by Winneshiek County Board of Supervisors
 - Public meeting
 - Unanimous approval

Two Basic Financing Options



Non-Profit “Go-It-Alone” Option

- Luther College owns the turbine and consumes the power on campus
- Advantages
 - Produce 1/3 of the college’s electricity renewably from day one
 - Significant hedge against rising electricity prices
- Disadvantages
 - No federal subsidies like the Renewable Energy Production Incentive (REPI) available
 - No state subsidies or grants available in Iowa
 - Roll back meter at only 65% of average cost/kWh
 - 19-20 year payback at best

For-Profit “Tap the Incentives” Option

- Luther College invests in Luther College Wind Energy Project, LLC which sells the power for ten years but keeps the environmental attributes to reduce Luther’s carbon footprint from day one
- Advantages
 - Taps several state and federal incentives only available to for-profit entities
 - 9-10 year payback
- Disadvantages
 - A more complicated option that requires higher legal fees and careful coordination
 - The hedge against rising electricity prices is delayed for ten years

Key Features of the For Profit Option

- Formation of LLC
- Long-term power purchase agreement
- Eligibility for Iowa state tax credit
- USDA Rural Energy for America Program grant and guaranteed loan
- Iowa Energy Center's Alternative Energy Revolving Loan Program
- US Treasury Section 1603 grant

Luther College Wind Energy Project, LLC (LCWEP)

- Formed by Luther College in June 2005
- Luther is currently the sole investor
- Created to become eligible for Iowa's 476C Renewable Energy Production Tax Credit



Iowa's 476C Renewable Energy Production Tax Credit

- 1.5 cents/kWh sold to grid
- No inflation escalator
- Transferable by sale
- 5 million kWh = \$75,000
- \$750,000 over ten years



Power Purchase Agreement (PPA)

- Investor-owned utilities must purchase power from facilities <20 MW
- Iowa generators can disaggregate green power attributes from sale of power
- LCWEP signed a 10 year power only PPA with options to renew
- Luther's intention is to put the power behind our meter in year 11



USDA Rural Energy for America Program (REAP)

- LCWEP was eligible for funding but not Luther College
- Long, complicated application and environmental assessment
- Finding of no significant impact under NEPA
- Awarded a \$500,000 grant and a \$928,000 guaranteed loan
- Grant received as income in year one
- 15-year recapture provision



Committed to the future of rural communities.

Iowa Energy Center's Alternative Energy Revolving Loan Program

- Competitive quarterly application rounds
- Zero interest financing
- Must be matched by commercial bank financing
- Received \$350,000 of 0% financing to be repaid over nine years



US Treasury Section 1603 Grant

- LCWEP requested two legal opinions regarding eligibility since Luther College was sole investor
- Required formation of a separate C corporation
 - Luther College Ventures
- Required construction contracts to be written in specific ways
- Required independent CPA review
- Received \$971,249
- Five year recapture provision



Advice for Non Profits

- Tap the energy of in-house champions
- Secure buy-in from senior leadership
- Seek and secure professional advice
- Be fully transparent with your constituency and community
- Keep detailed records of corporate minutes, elections, etc.
- Have a multi-year project completion expectation and *be patient*

Celebrate Success!





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