

# GREEN PILOT PROJECT



City of West Union, Iowa





# What is a Green Pilot Community?

- A partnership with Iowa Department of Economic Development
- Sustainable Community Design
- Creating best practices & a model to follow
- Technical assistance, training & financial incentives
- Increased economic activity
- Federal, State, & Local agency involvement

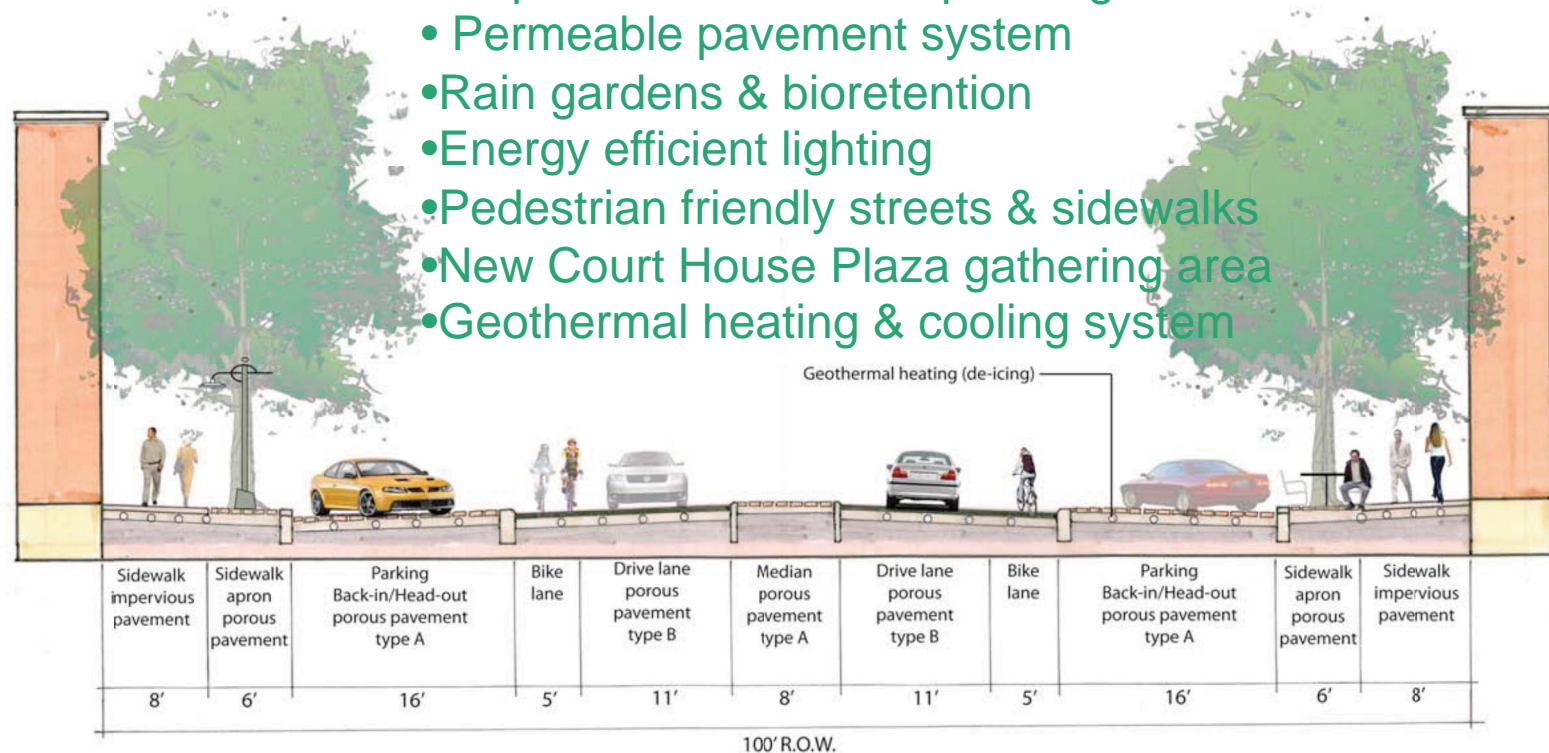


# West Union, Iowa

## Creating a sustainable, green model community . . .

A new green streetscape planned for completion in 2012 incorporating

- Permeable pavement system
- Rain gardens & bioretention
- Energy efficient lighting
- Pedestrian friendly streets & sidewalks
- New Court House Plaza gathering area
- Geothermal heating & cooling system



# Energy Audits & Grant Program

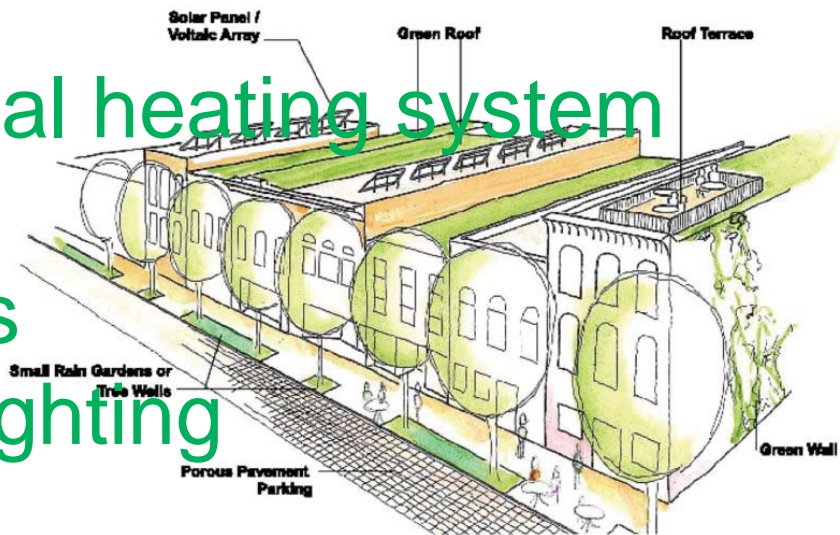
- Free to every business
- 70 businesses participated
- Data gathering
- Grant Rebate Program
- Goal is to reduce energy usage throughout entire community
- Education events for all of West Union





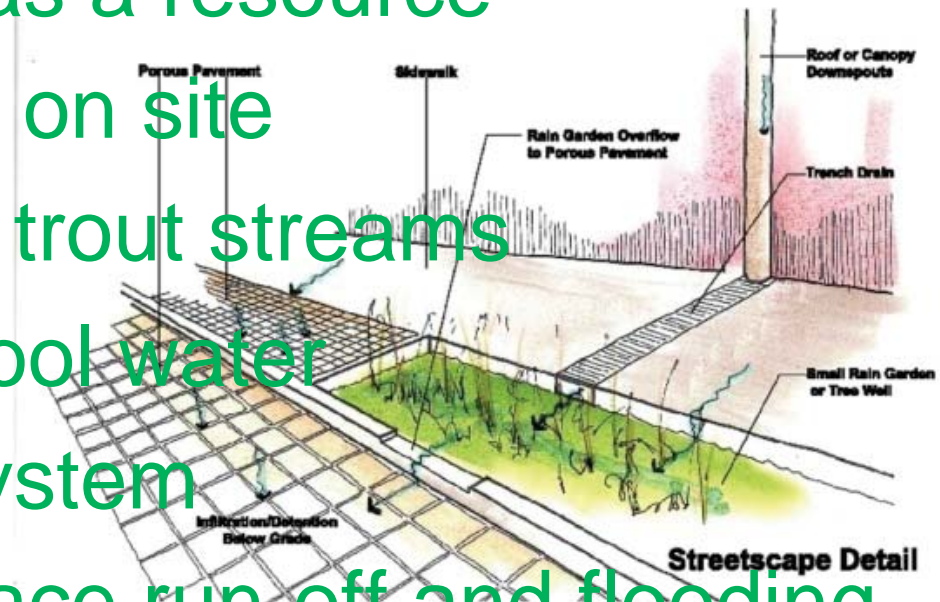
# Green Building Practices

- Permeable pavement system
- Green roofs
- Shared geothermal heating system
- Rain gardens
- Bio-retention cells
- Energy efficient lighting



# Storm Water Management

- Treat water as a resource
- Retain water on site
- Protect local trout streams
- Cleanse & cool water
- Integrated system
- Reduce surface run-off and flooding



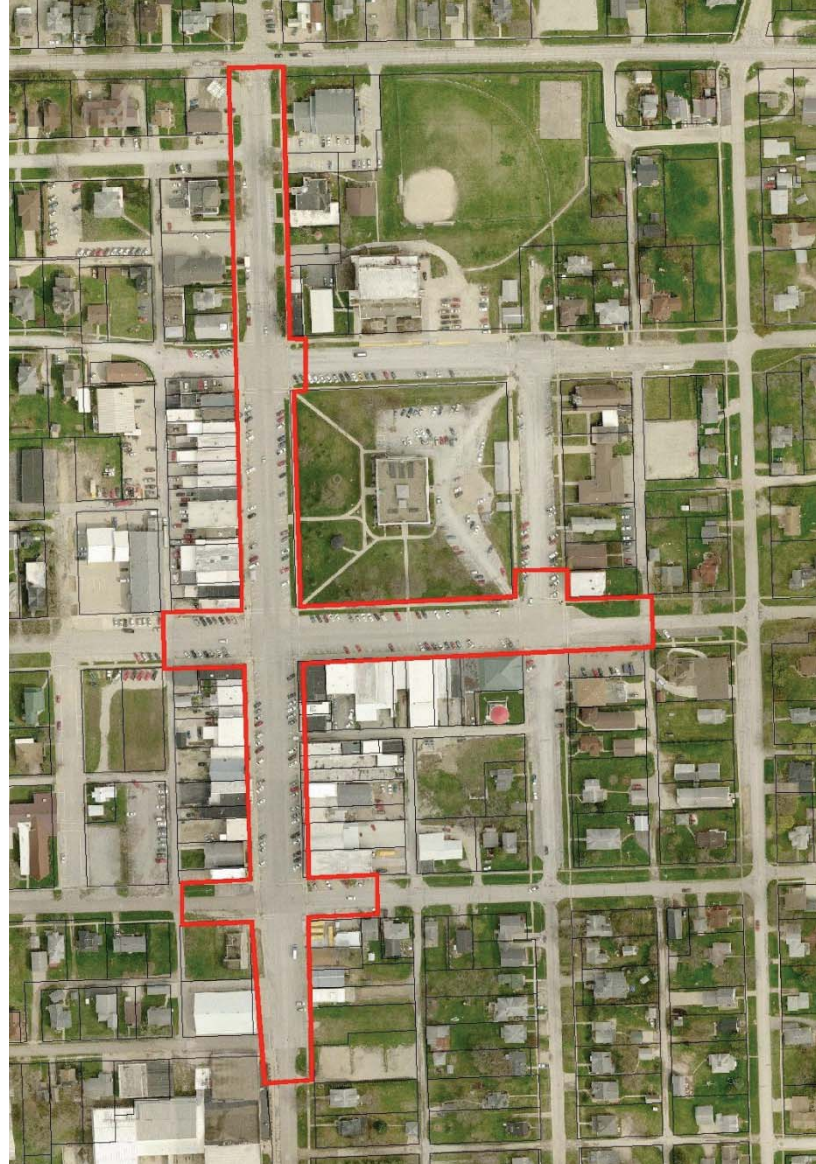


# Our Guiding Principles for the future . . .

- Create great public & private spaces that serve the community and attract new residents and businesses
- Invest in energy efficient structures & systems with a greater reliance on renewable energy sources
- Integrated planning & design
- Make all infrastructure and amenities both functional and beautiful
- Incorporate a healthy, natural environment
- Cultivate local enterprise, art, & craftsmanship to support & enhance the economy of Northeast Iowa
- Reinforce West Union's character & sense of place through the creation of unique gathering places



# Project Area – Downtown West Union





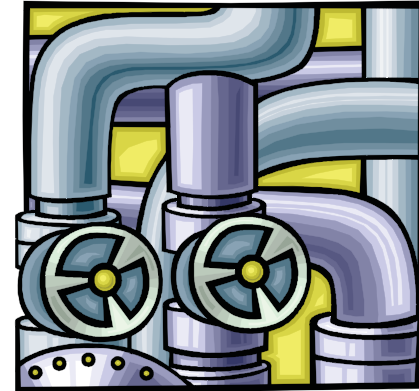
# District Energy System

- 60 downtown buildings will receive free
- Closed loop system
- Two well fields to start – 180 vertical wells total
- System is expandable – could go city-wide
- Will operate as a city utility
- Will replace current heating & cooling – mostly natural gas forced air systems
- 18 businesses will make the conversion



## What the city provides:

- The well field construction
- Distribution piping
- Heat transfer media
- Zone piping
- Valving & metering system



## What the business owner provides:

- Individual heat pumps
- Ductwork
- Piping for isolation valves

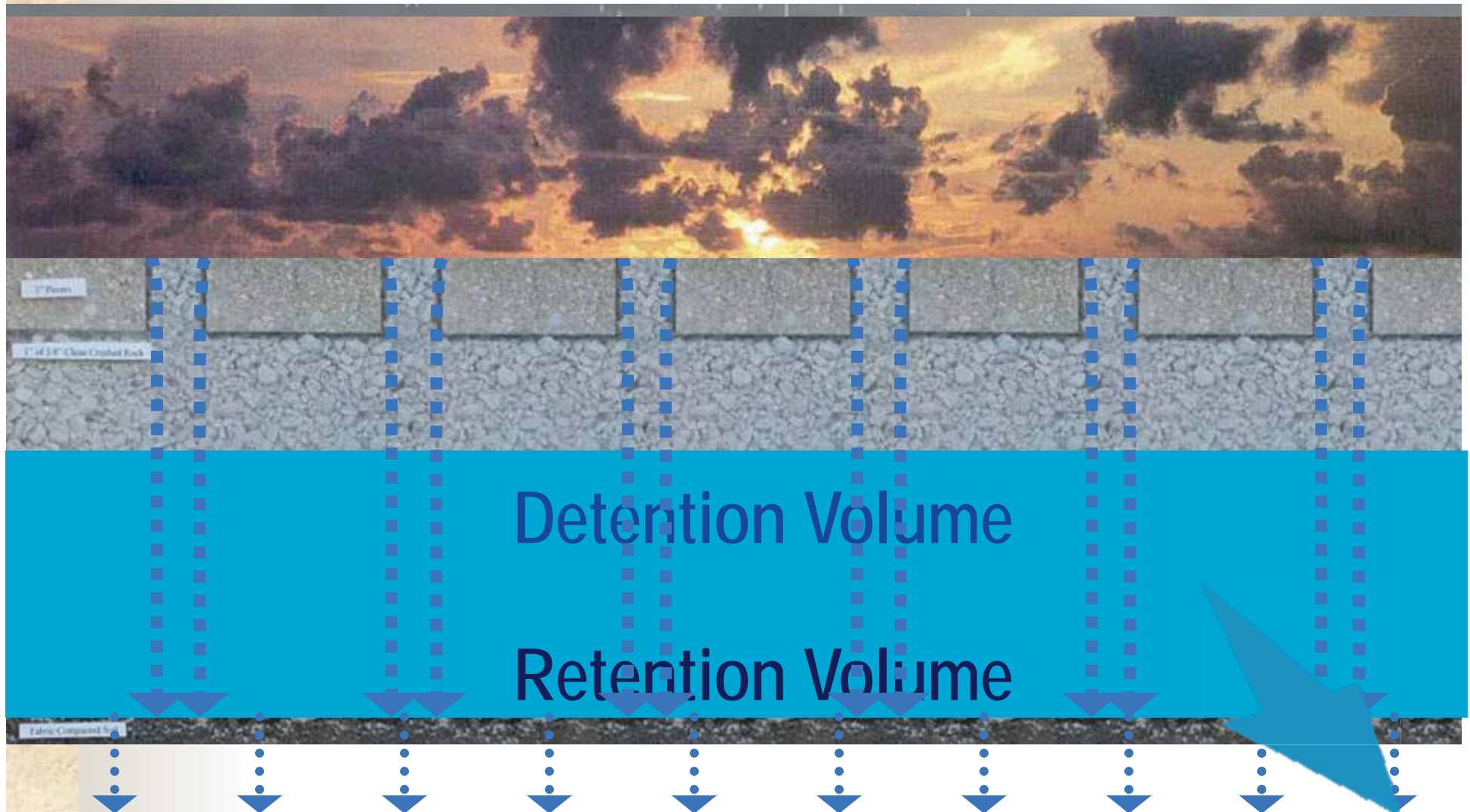
# Permeable Pavement Systems

- Reduce surface water runoff
- Promotes infiltration
- Enhances water quality by cooling and cleansing





# Permeable Pavement: Infiltration (Retention) and Detention Capacity





# Project Funding Sources

IDOT RISE fund \$2,327,034 streets,  
sidewalks, lighting

Community Development Block Grant  
\$1,000,000 geothermal system

I-Jobs Dedicated Funding (state) \$1,175,000  
streets, sidewalks, eng.

Department of Energy  
\$1,000,000 geothermal, grant fund

Environmental Protection Agency \$500,000  
geothermal system

IDALS I-Jobs \$500,000 porous  
pavers

IDNR I-Jobs \$100,000 bio-  
retention cells

WIRB (Water Improvement Review Board)  
\$500,000 porous pavers



# The Finished Product







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