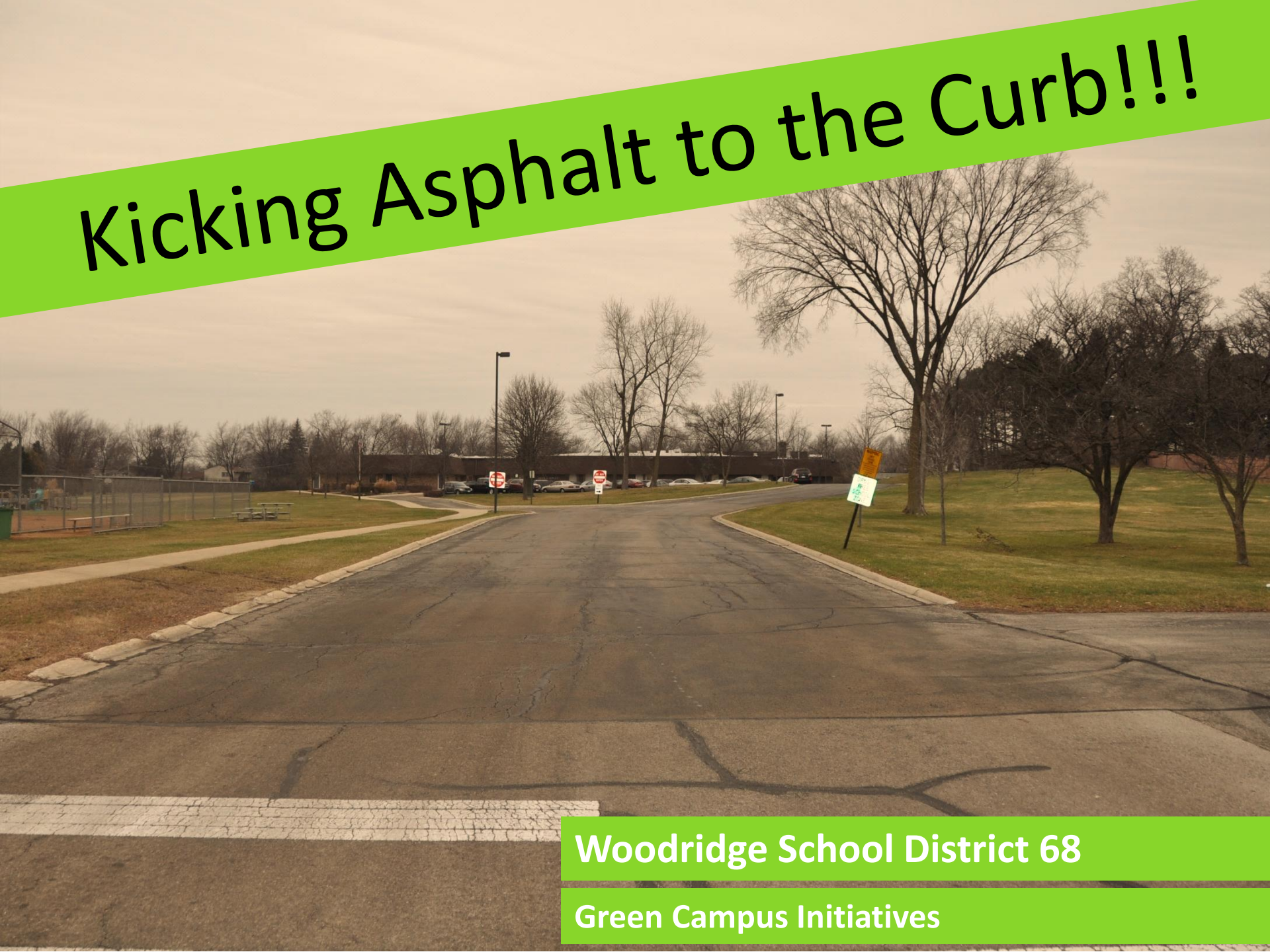
Kicking Asphalt to the Curb!!!



Woodridge School District 68

Green Campus Initiatives

WOODRIDGE SCHOOL DISTRICT 68

INSPIRING EDUCATION & INNOVATION

Edgewood Elementary School

Goodrich Elementary School

John L. Sipley Elementary School

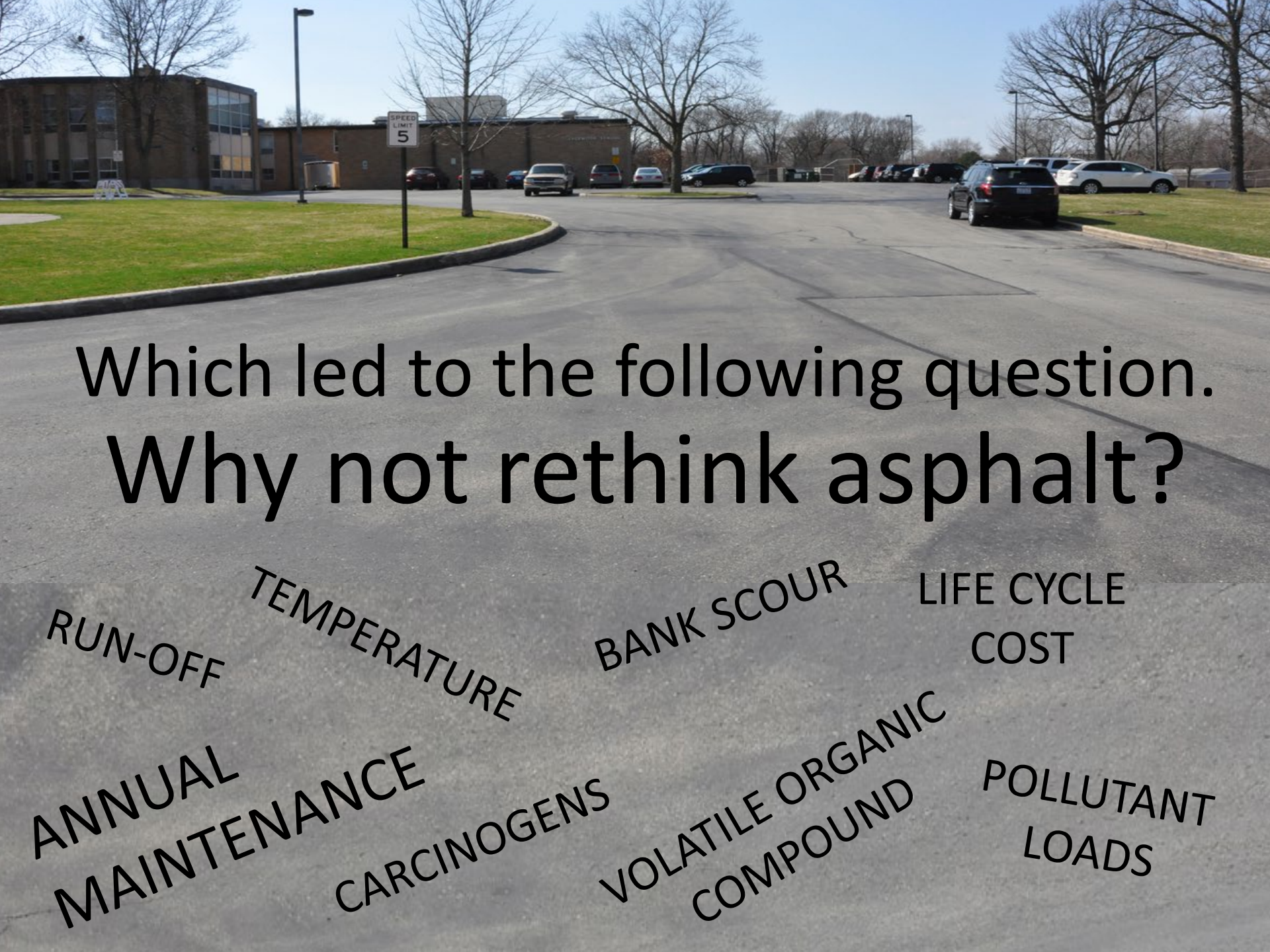
Meadowview Elementary School

William F. Murphy Elementary School

Willow Creek Elementary School

Thomas Jefferson Junior High School

This whole project started with a simple question about pavers…



Which led to the following question.

Why not rethink asphalt?

RUN-OFF

TEMPERATURE

BANK SCOUR

LIFE CYCLE COST

ANNUAL MAINTENANCE

CARCINOGENS

VOLATILE ORGANIC COMPOUND

POLLUTANT LOADS

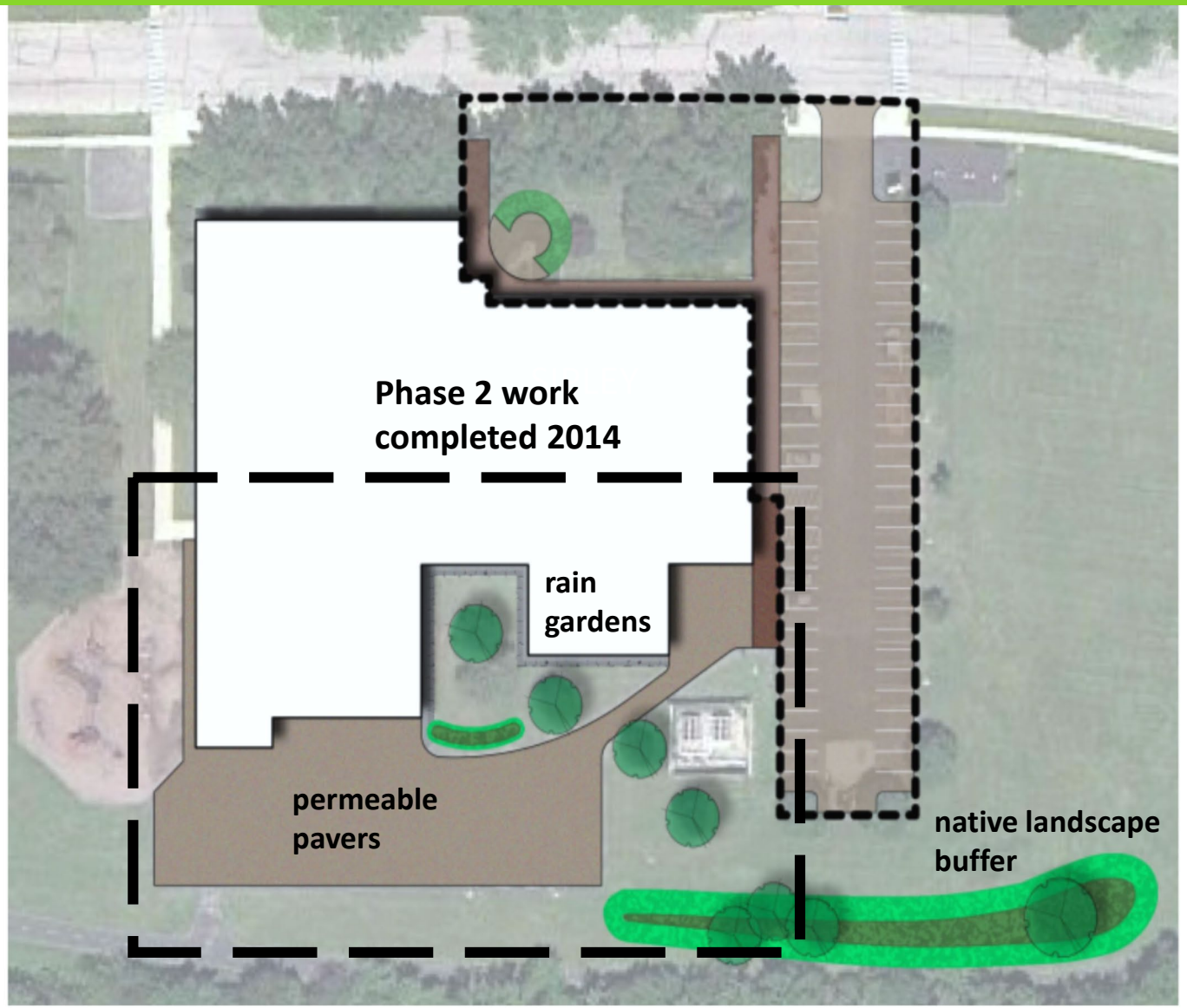
Willow Creek Elementary School

Green Campus Initiative

Willow Creek Elementary School

Green Campus Initiative

Willow Creek Elementary School



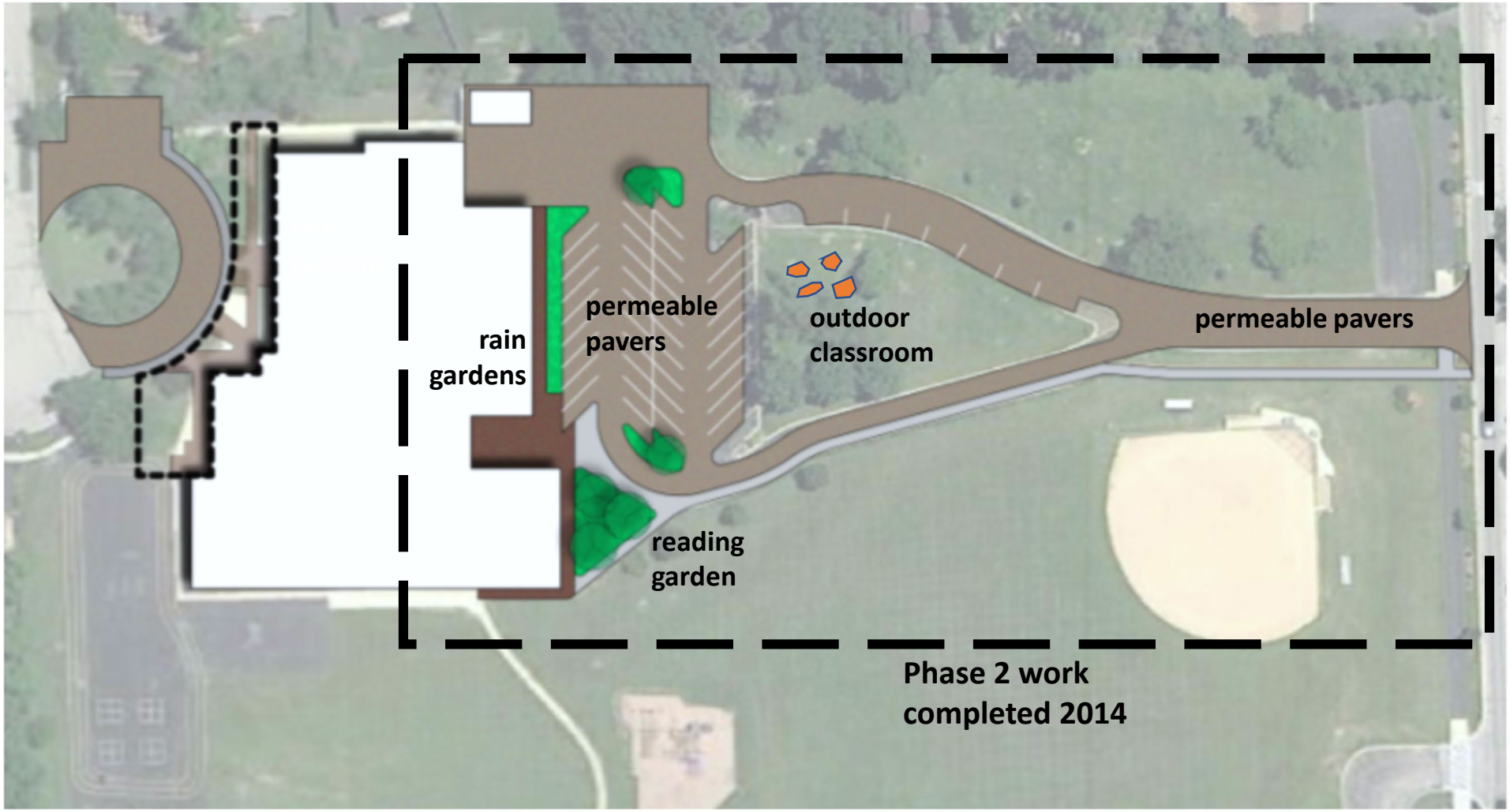
Sipley Elementary School

Green Campus Initiatives

Sipley Elementary School

Green Campus Initiatives

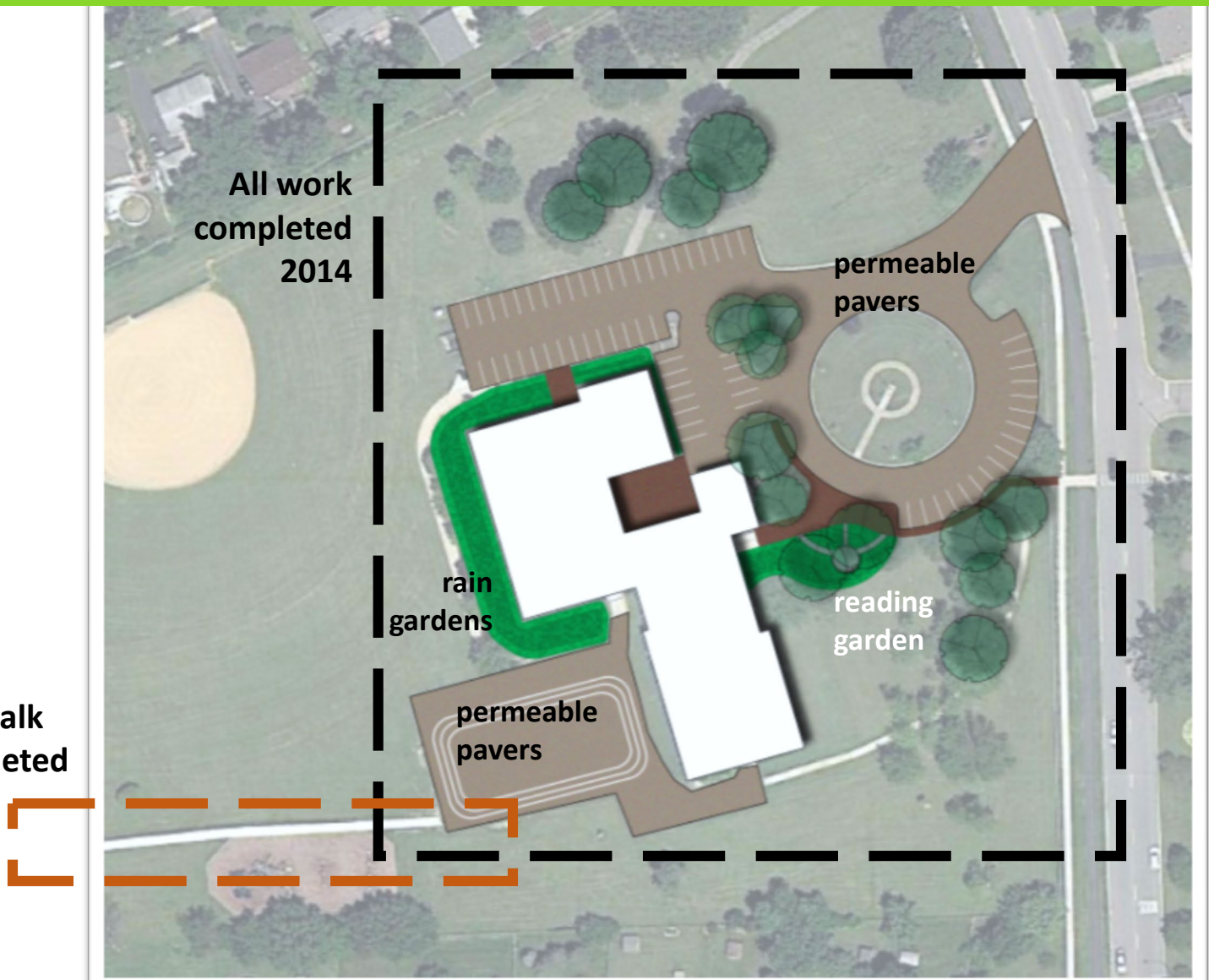
Sipley Elementary School



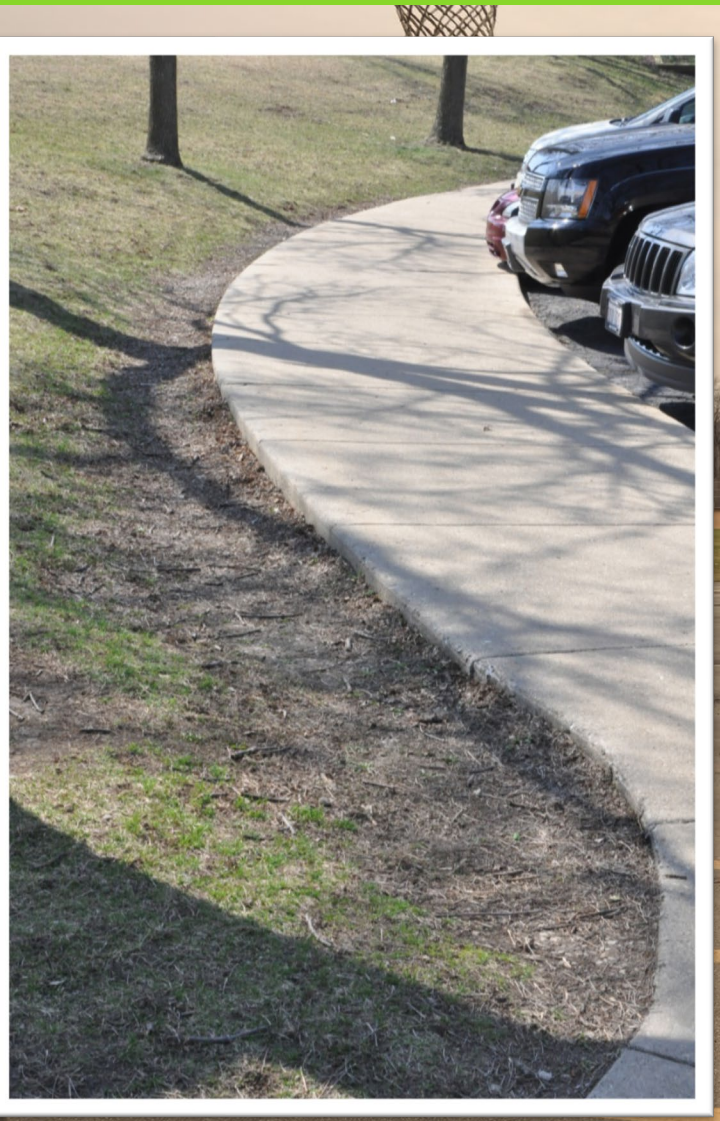

Edgewood Elementary School

Green Campus Initiatives

Edgewood Elementary School

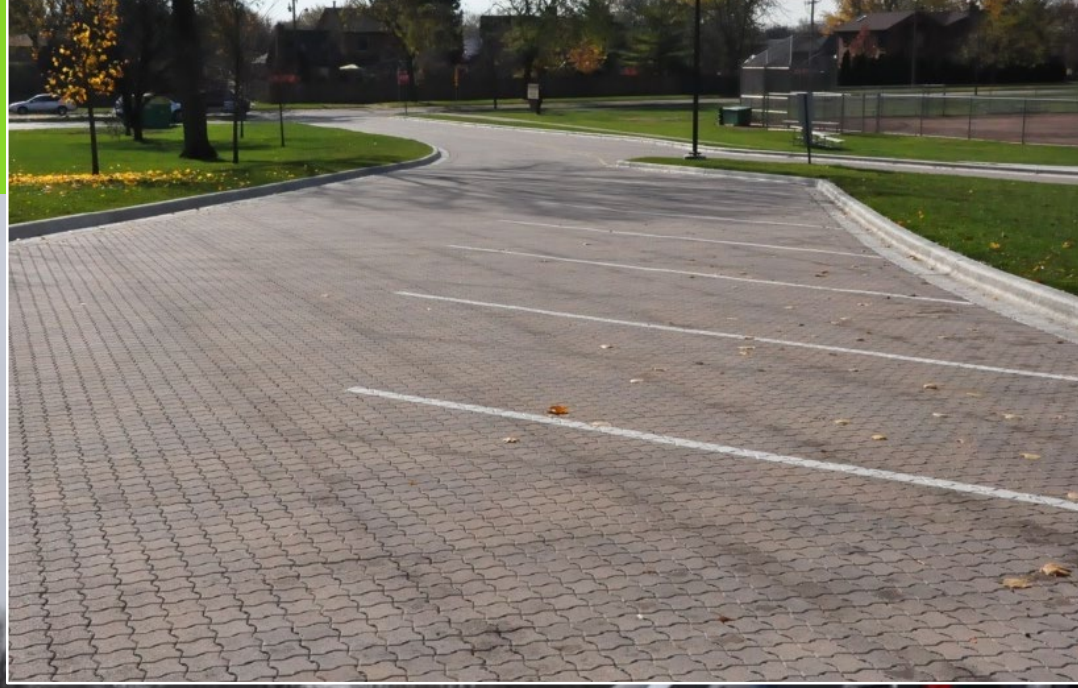


Objective 1



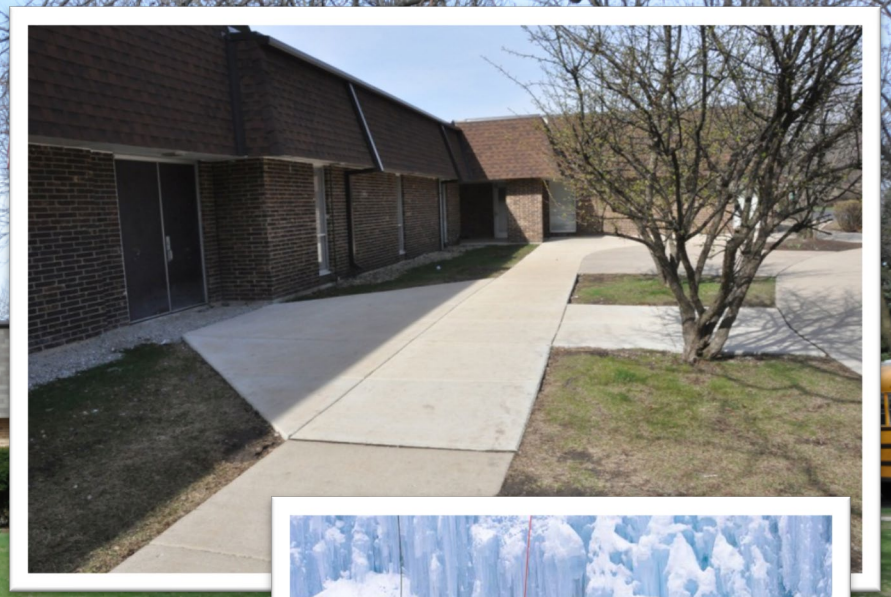
eliminate maintenance issues, hazards, and reduce costs

Solution



replace deteriorating asphalt and concrete with more durable materials – permeable pavers.

Objective 2



correct stormwater problems
and very serious icing issues

Solution

install permeable pavers - everywhere

Solution

and rain gardens

Solution

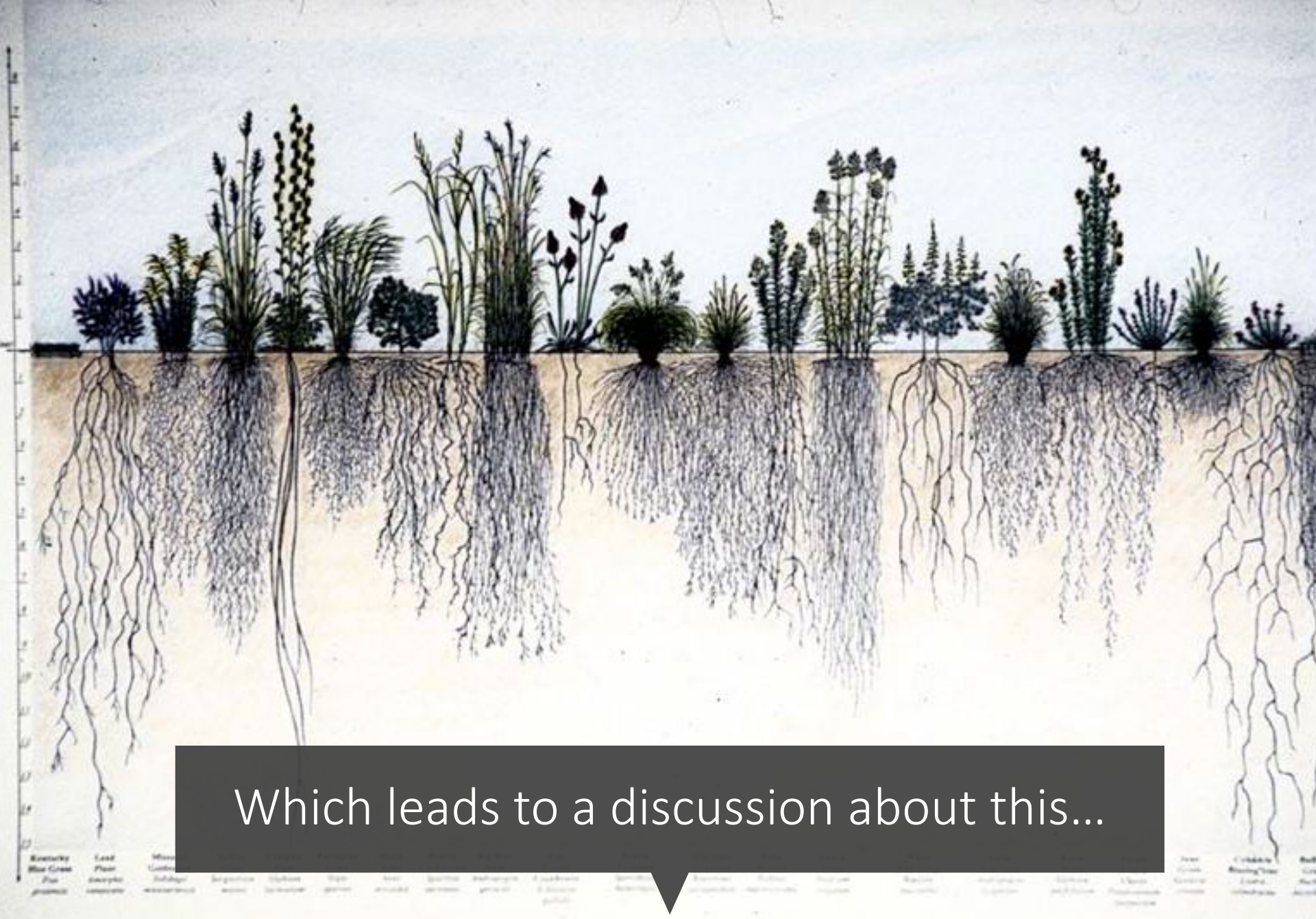
and more
rain gardens

Objective 3

enhance the front entry of each school

Solution

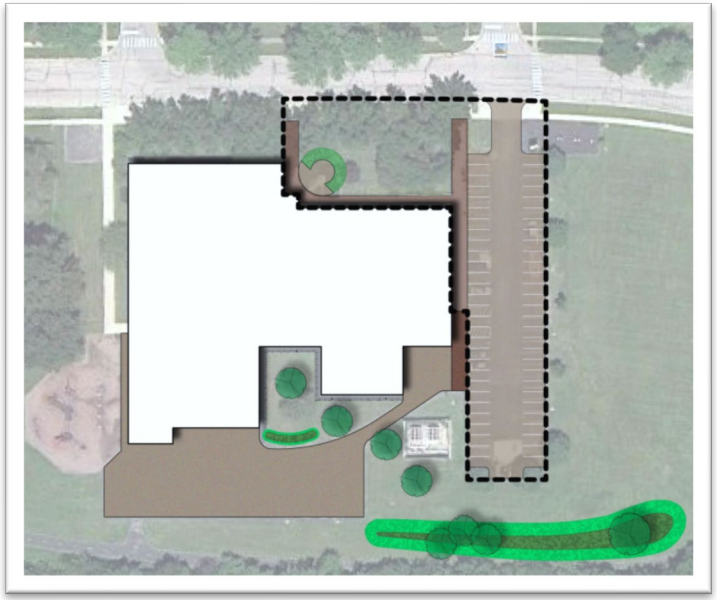
install teaching and reading gardens

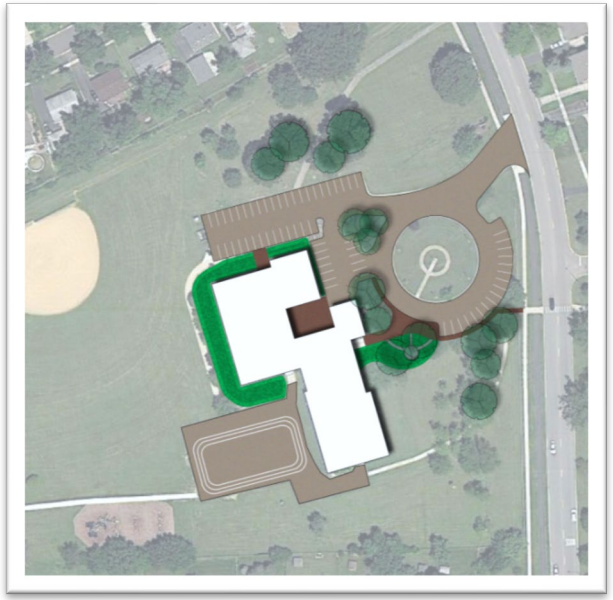

Which leads to a discussion about this…
Root Systems of Prairie Plants

Solution

which inspires all ages…

Sustainable Results





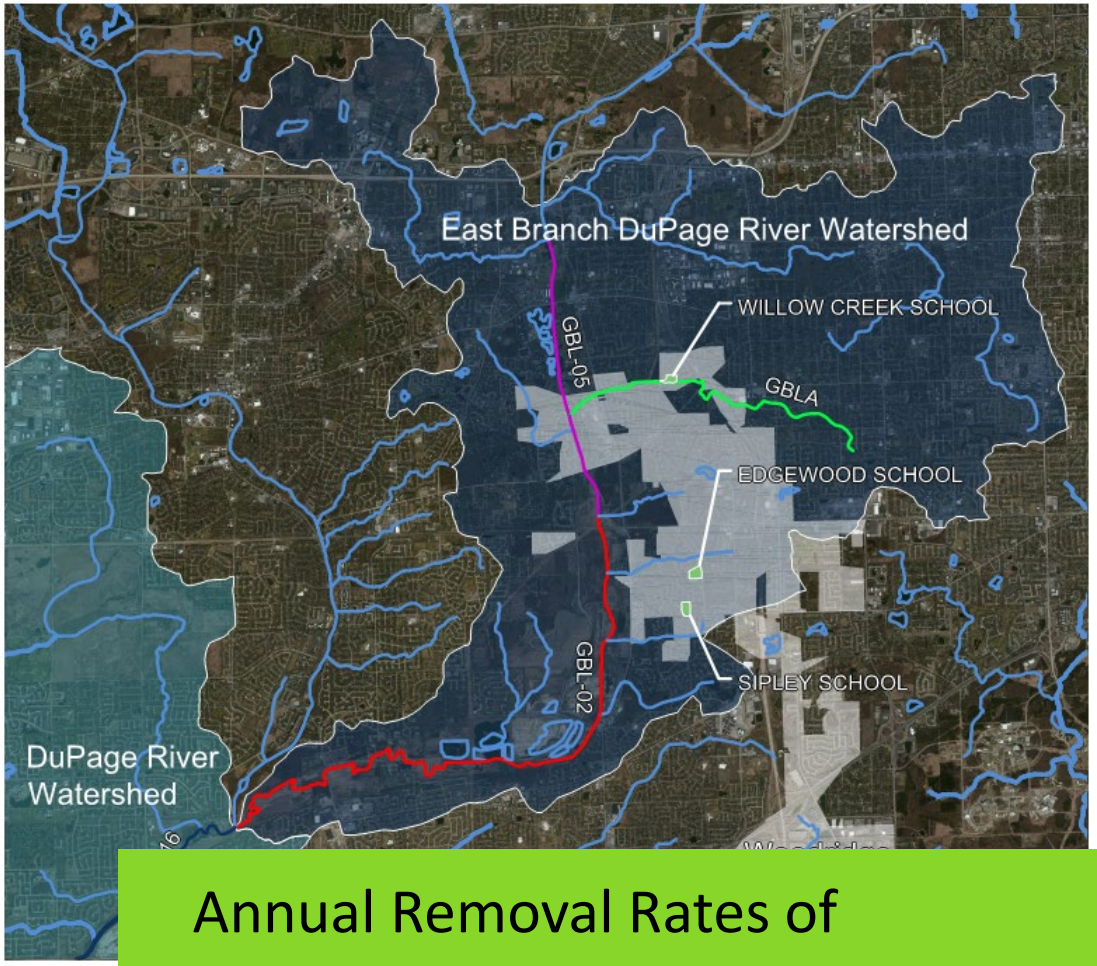
WSD 68 has installed:

Almost 5 acres of Permeable Pavers
10,400 s.f. of Rain Gardens
815 l.f. of Infiltration Trenches
6,000 sf of Native Filter Strips
Outdoor Classrooms/Reading Gardens

2016

And…

- lowered life cycle costs
- longer service life
- better structural support for vehicles
- reduced runoff by nearly 90%
- increased wildlife habitat
- provided environmental education
- reduced road salt use
- 80% pollutant load removal
- sequesters carbon



Annual Removal Rates of

Bod	152	LBS/YR
Cod	2,800	
Tss	15,932	
Lead	5	
Zinc	7	
tn	95	
Tp	11	


Approximately 37.5” of precipitation falls on every acre of the midwest
That’s equal to nearly 1,000,000 gallons of water per acre per year
Of that, almost 90% falls in ½ inch increments, or less
Based on 5 acres of permeable pavers, that’s almost 5,000,000 gallons of precipitation that does not enter the city system

Funding

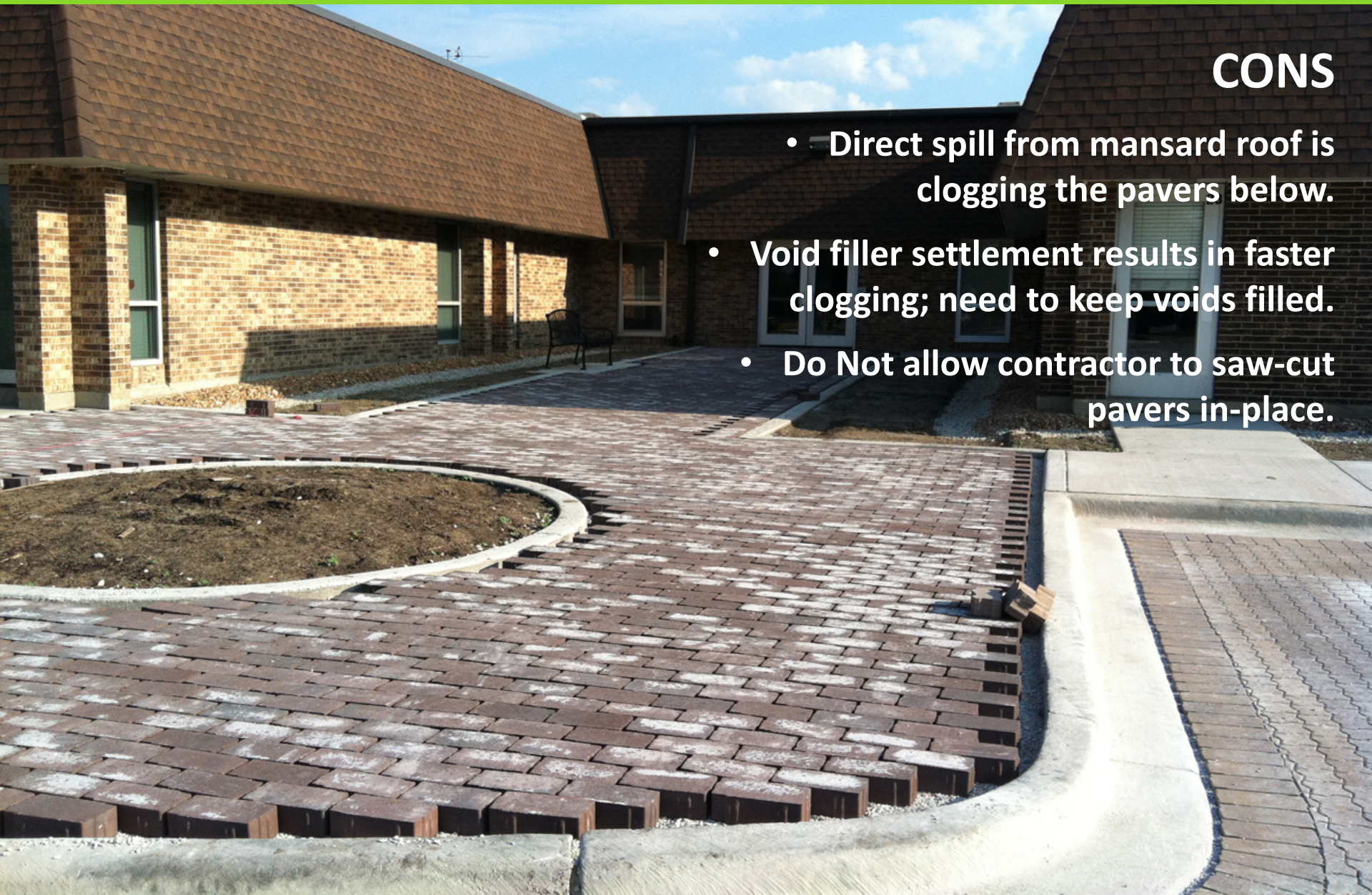
IEPA 319 Grant

The Verdict

Lessons Learned

- Exclude the use of recycled aggregates from specifications.
- Make sure contractors are experienced with permeable pavements.
- Public outreach and education.

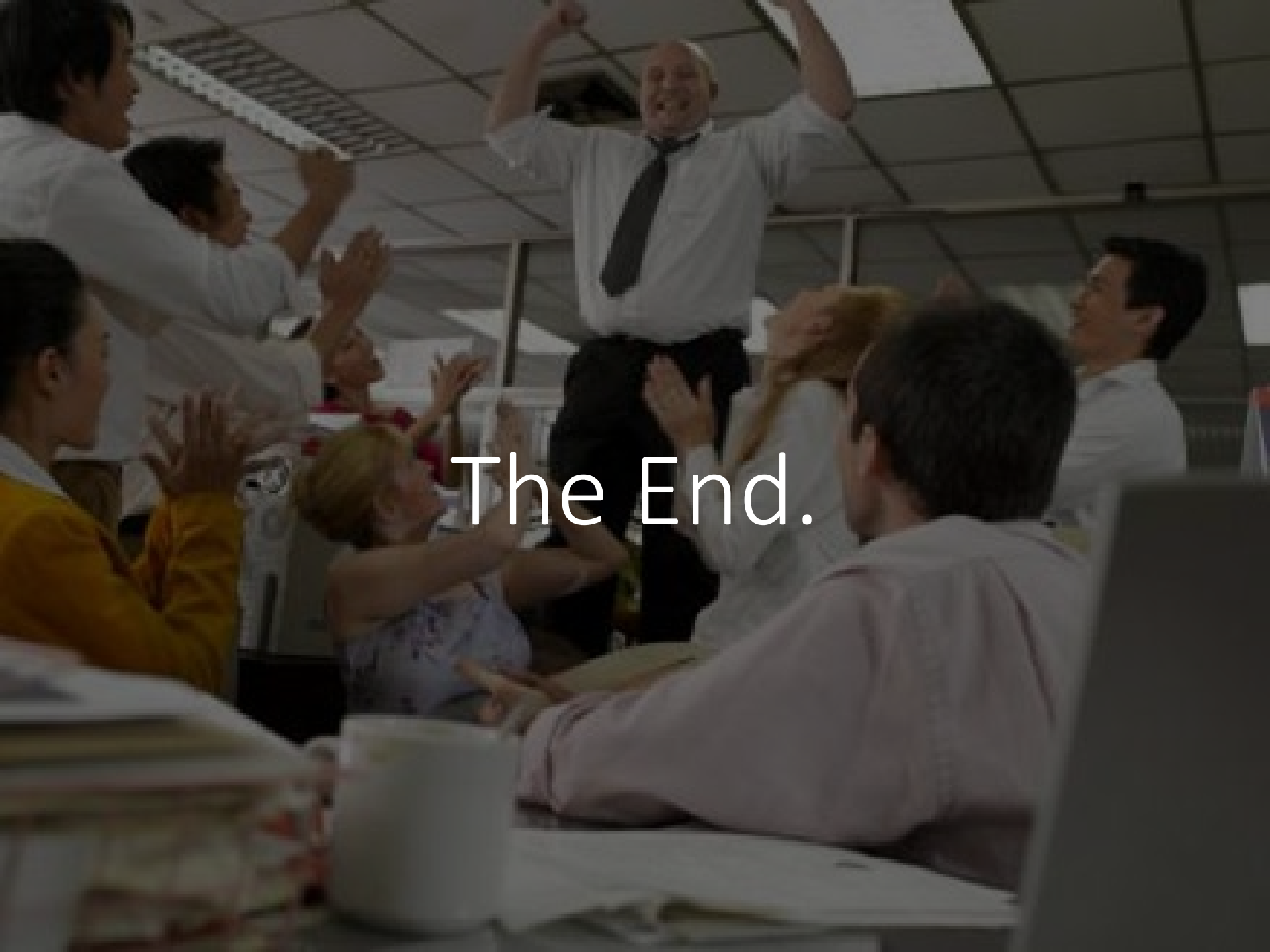
The Verdict



CONS

- Direct spill from mansard roof is clogging the pavers below.
- Void filler settlement results in faster clogging; need to keep voids filled.
- Do Not allow contractor to saw-cut pavers in-place.


Payback on investment,
less than seven years...
Priceless…


The End.