

What Makes a Building Green?

How to Review and Understand Green Development



Land & Water Conservation Summit
March 21, 2009

Blue Cross Blue Shield of RI

CORPORATE OFFICE FACILITY

SIZE: 325,000 sf

DURATION: 18 months

ARCHITECT: Symmes Maini & McKee
Associates, (SMMA)

*Thirteen (13) story
office building plus a
rooftop mechanical
penthouse consisting
of 325,000 sf of open
landscaped offices
and private offices,
seven elevators, two
stair towers at the
core, a cafeteria, and
a small fitness center.*





Leadership in Energy & Environmental Design

OUR MISSION

To transform the way buildings and communities are designed, built and operated, enabling an environmentally and socially responsible, healthy and prosperous environment that improves the quality of life.

How Do You Define Green?



Builder A



Builder B

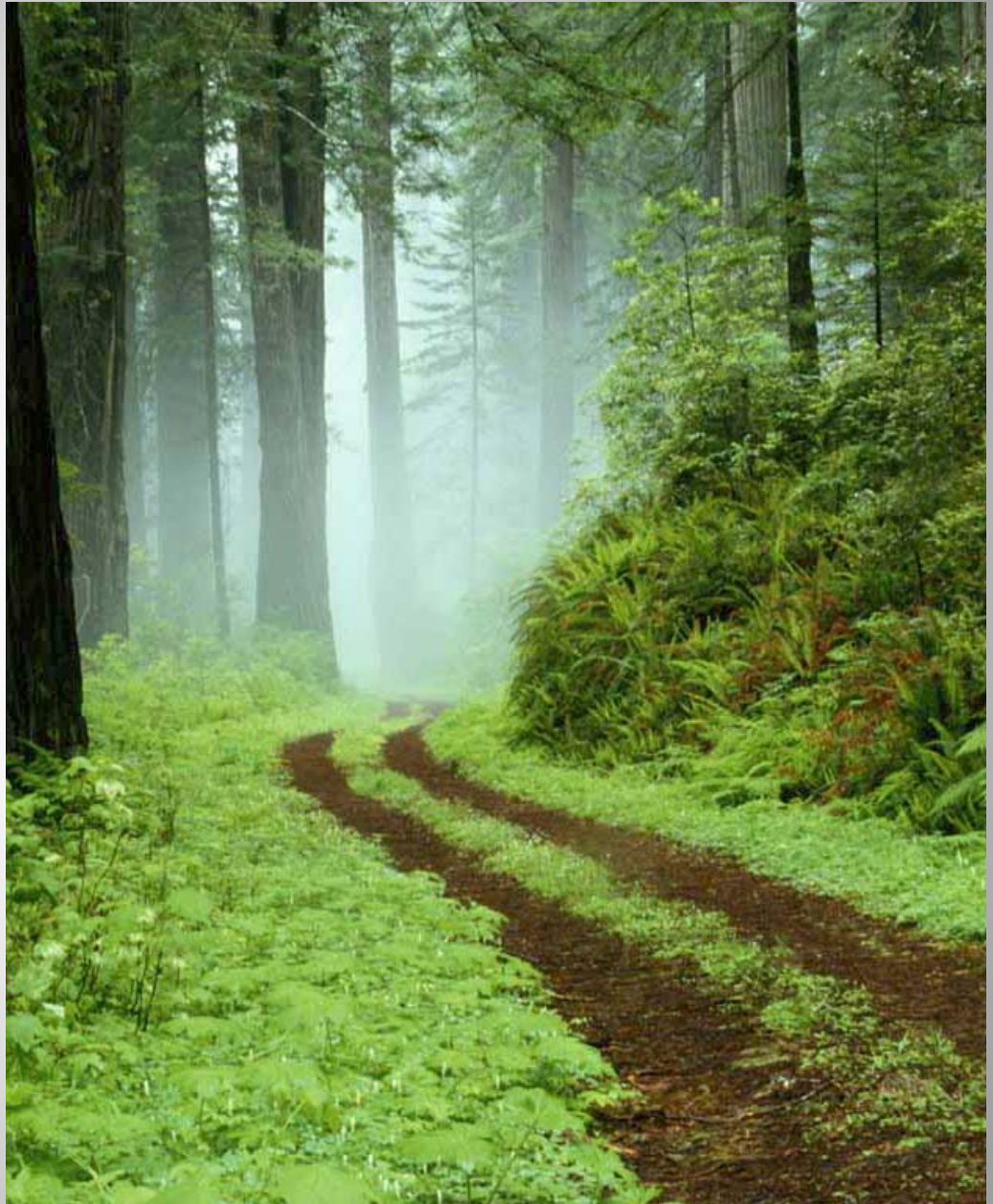


Builder C

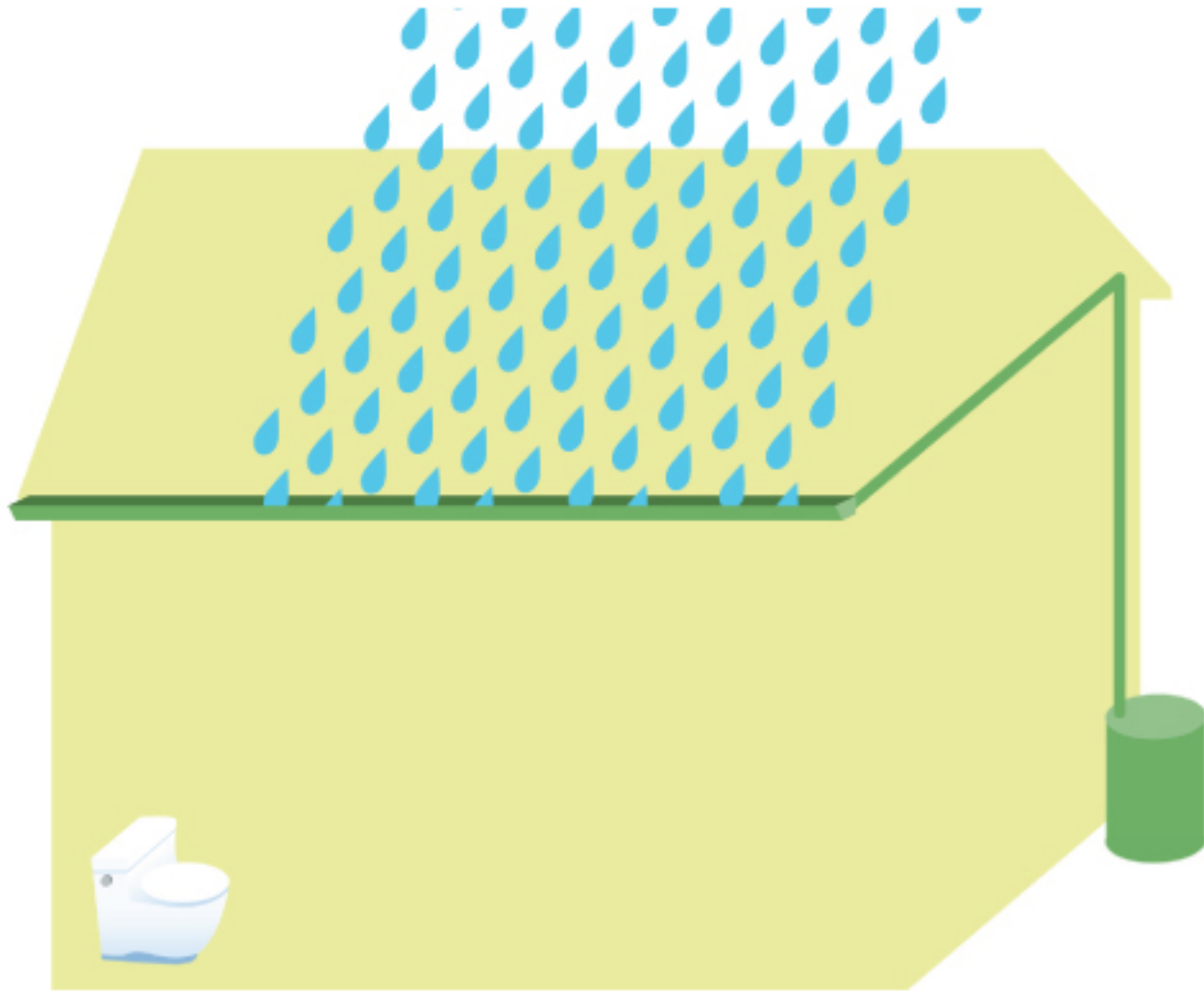
What Is Green Building?



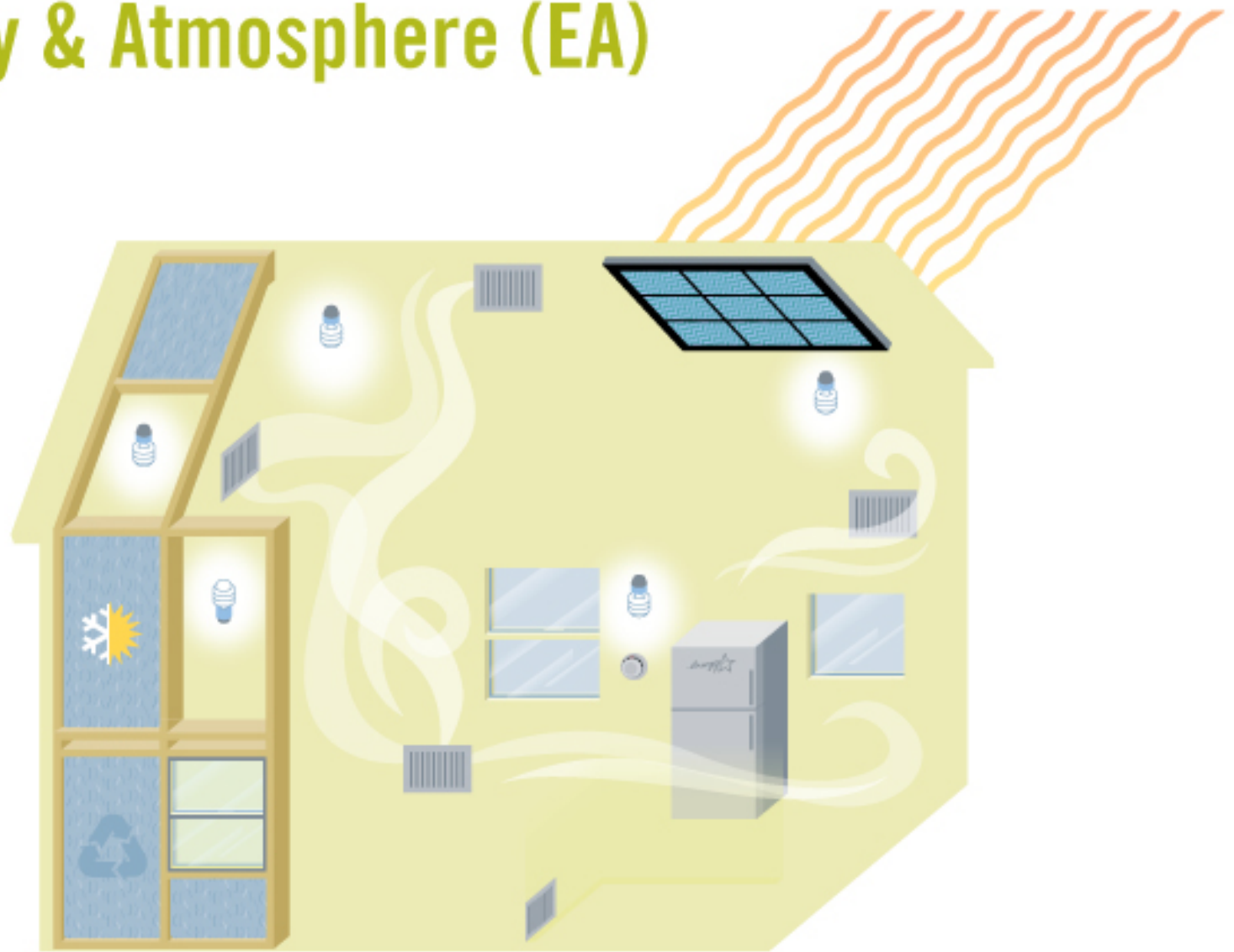
Site Planning



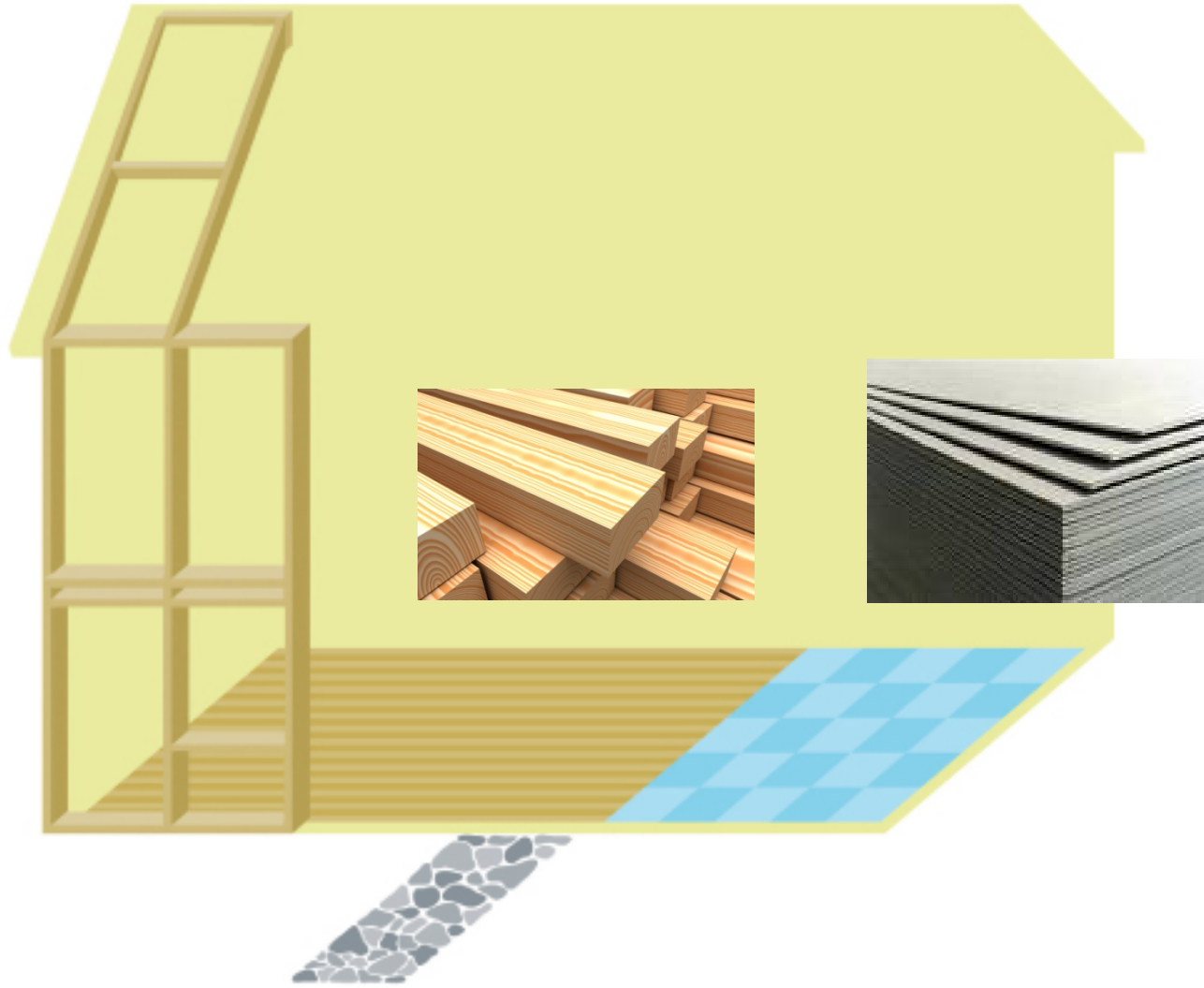
Water Efficiency (WE)



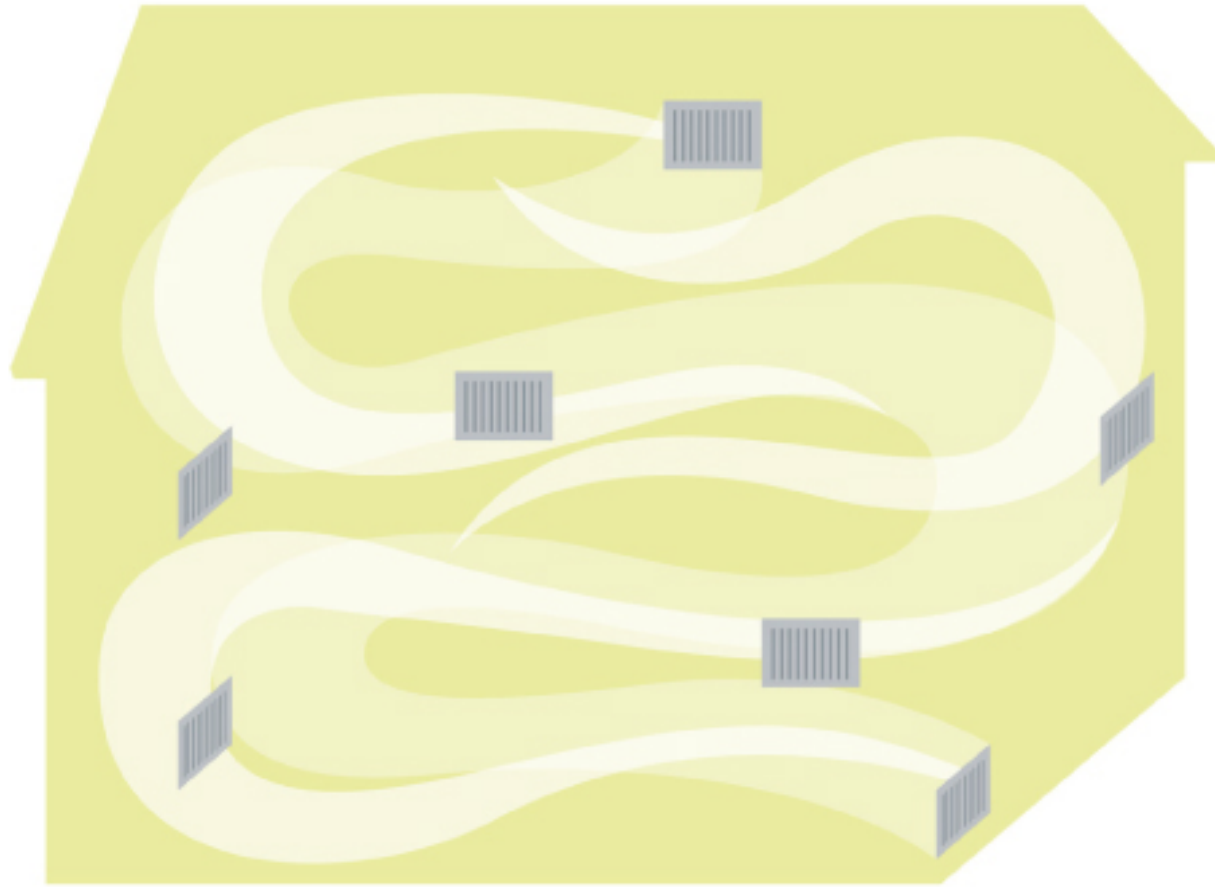
Energy & Atmosphere (EA)



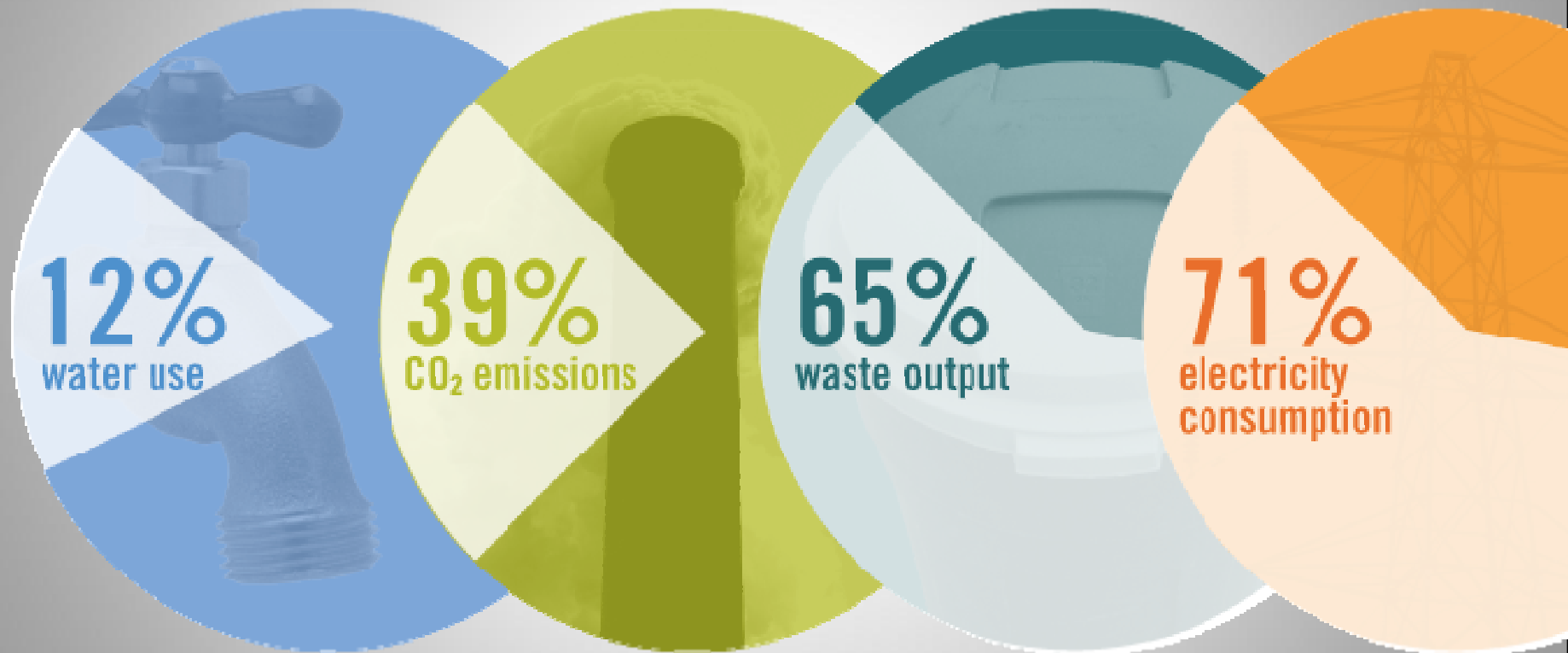
Materials & Resources (MR)



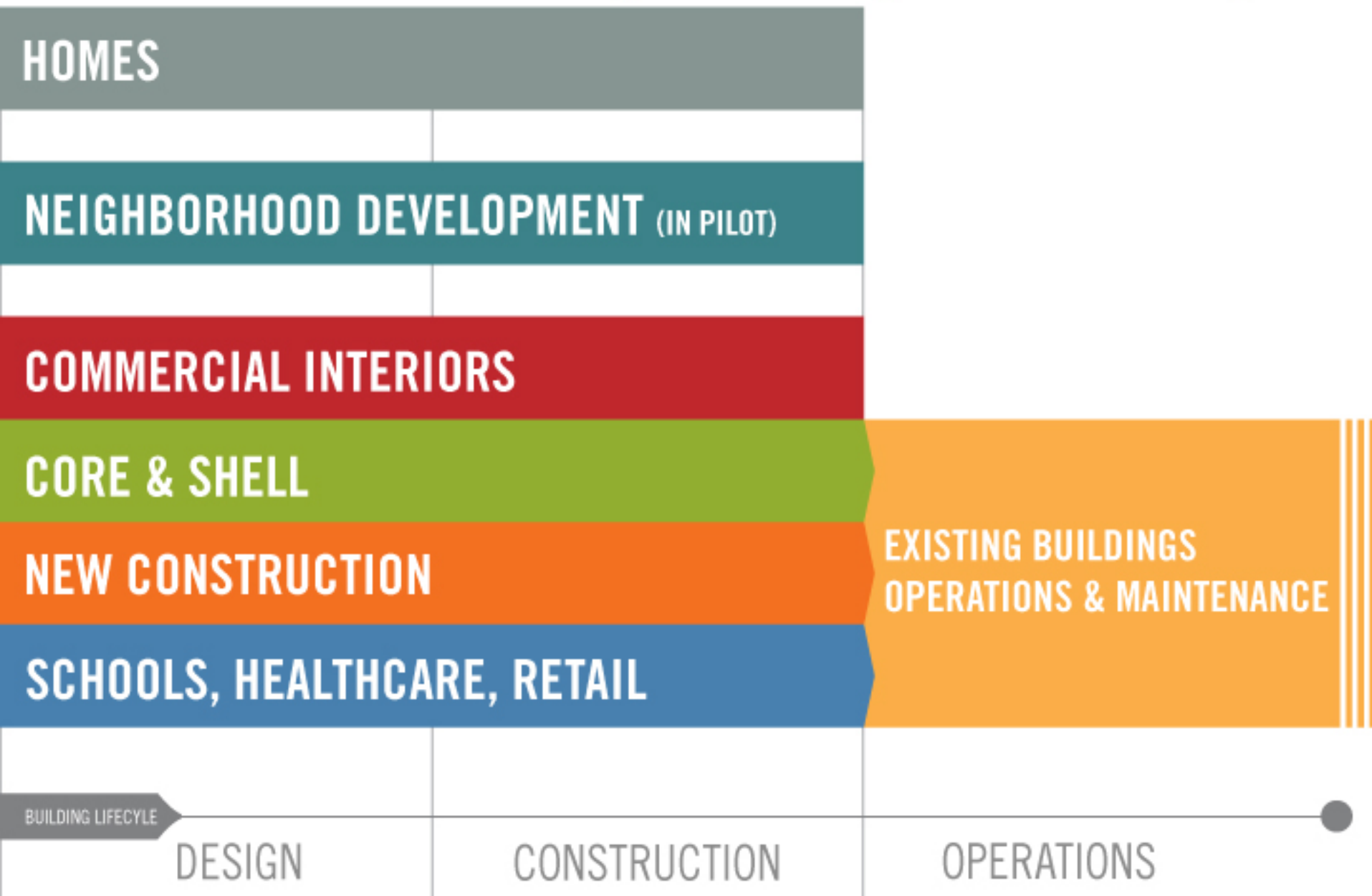
Indoor Environmental Quality (EQ)



U.S. Building Impacts:



LEED address the complete lifecycle of buildings:



Energy & Atmosphere (EA)

Yes ? No

0 0 0

Energy & Atmosphere

30 Points

Y

Prereq 1 **Energy Efficiency Best Management Practices - Planning, Documentation, and Opportunity Assessment** Required

Y

Prereq 2 **Minimum Energy Efficiency Performance** Required

Y

Prereq 3 **Refrigerant Management - Ozone Protection** Required

Credit 1 **Optimize Energy Efficiency Performance** 15

Credit 2 **Existing Building Commissioning** 6

Investigation and Analysis 2

Implementation 2

Ongoing Commissioning 2

Credit 3 **Performance Measurement** 3

Building Automation System 1

System-Level Metering, 40% 1

System-Level Metering, 80% 1

Credit 4 **Renewable Energy** 4

On-site 3% / Off-site 25% 1

On-site 6% / Off-site 50% 1

On-site 9% / Off-site 75% 1

On-site 12% / Off-site 100% 1

Credit 5 **Refrigerant Management** 1

Credit 6 **Emissions Reduction Reporting** 1

Yes ? No

0 0 0

Materials & Resources

14 Points

USGBC has four levels of LEED:





U.S. GREEN BUILDING COUNCIL

LEED PLATINUM

2006

PERCEIVED ADVANTAGES OF BUILDING GREEN

8-9% decrease in operating costs

7.5% increase in building values

6.6% improvement in ROI

3.5% increase in occupancy

3% rent increase





Adobe Systems Incorporated, West Tower (Almaden)

37% energy savings

41% water savings

94% waste diverted

Source: Cushman & Wakefield of California, Inc. as an agent for Adobe Systems Inc.



16 Gordon Avenue, Providence, RI LEED Silver



RI College - New Residence Hall LEED Certified



URI Dining Hall – LEED Silver



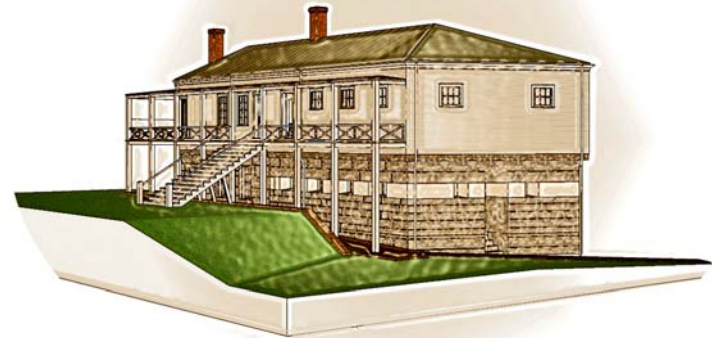
Moran Shipping, Providence, RI Designed to LEED Silver



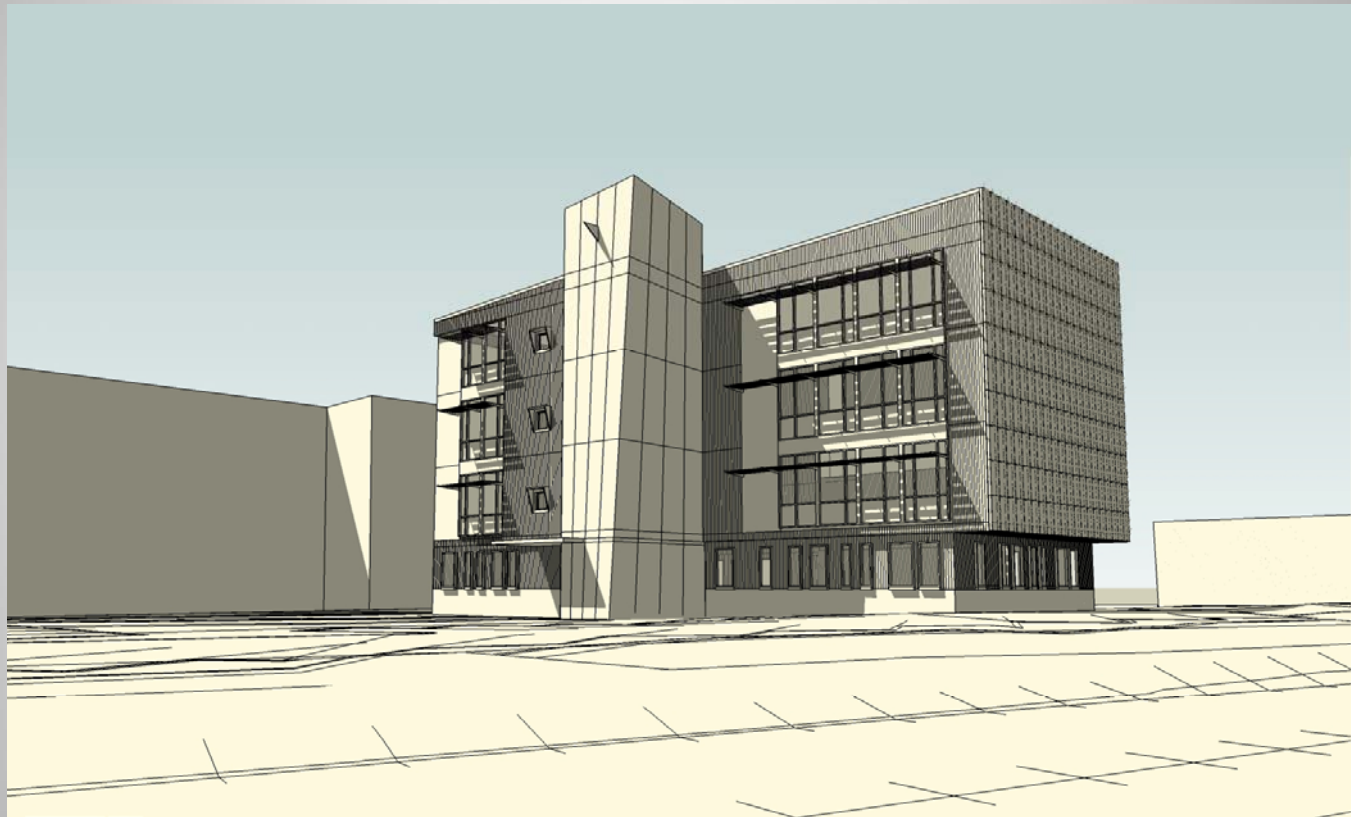
Moran Shipping: Providence, RI

Corporate Headquarters for Moran Shipping located in Providence, Rhode Island, is an adaptive reuse project of a historic building. Designed to achieve LEED Silver, the project maintained 98% of the existing walls, floors and structure.

Fort Adams Redoubt Jail LEED Registered



460 Harris Avenue, Providence, RI Designed for LEED Core & Shell



460 Harris Avenue, Providence, Rhode Island

A four story 16,000 gsf office building recently pre-registered as LEED Core & Shell. This is one of several sites the developer is targeting in urban areas that have seen years of neglect in terms of development. By utilizing an integrated design approach, the intent is to bring on-line a building that takes into account it's urban industrial context while at the same time focusing on Building Envelope, Energy Systems, Day-Lighting and Views and Indoor-Air Quality.

American Locomotive “ALCO” LEED ND (Neighborhood)



“ALCO” LEED Home



American Locomotive Works: Providence, RI

Green roof designed for the American Locomotive works, located in Providence RI. The 17.5 acre project has been accepted into a national pilot program for LEED for Neighborhood Development. Building 24 is designed to achieve LEED for homes certification.

Questions?



Thank You !



Norm Cook

Board Member, RI Green Building Council
Principal, Architect Tonic Alchemy



Gaytha Langlois

Board Member, RI Green Building Council
Dir., Ctr. For Sustainable Business Practices
Bryant University