

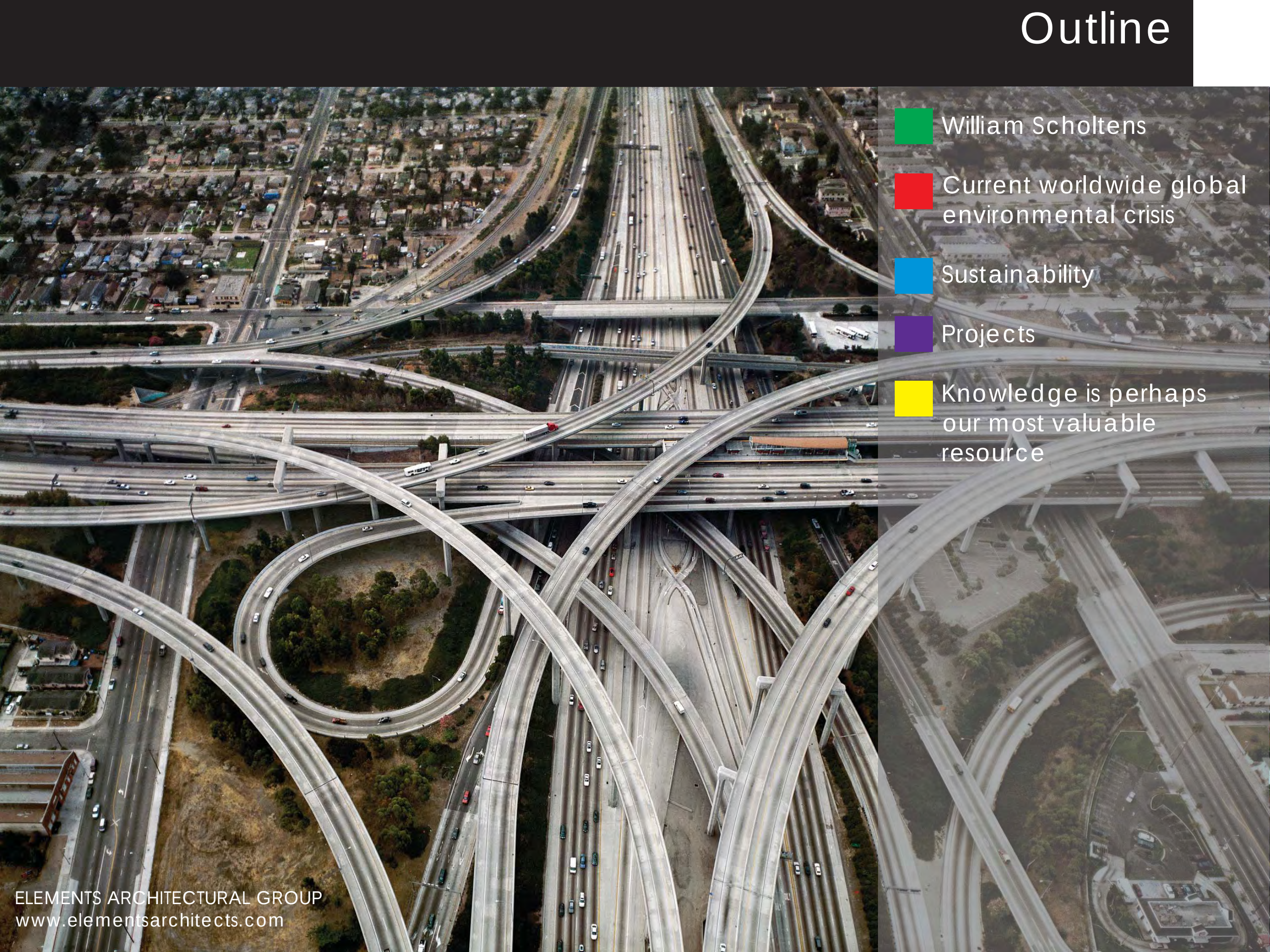
Sustainability

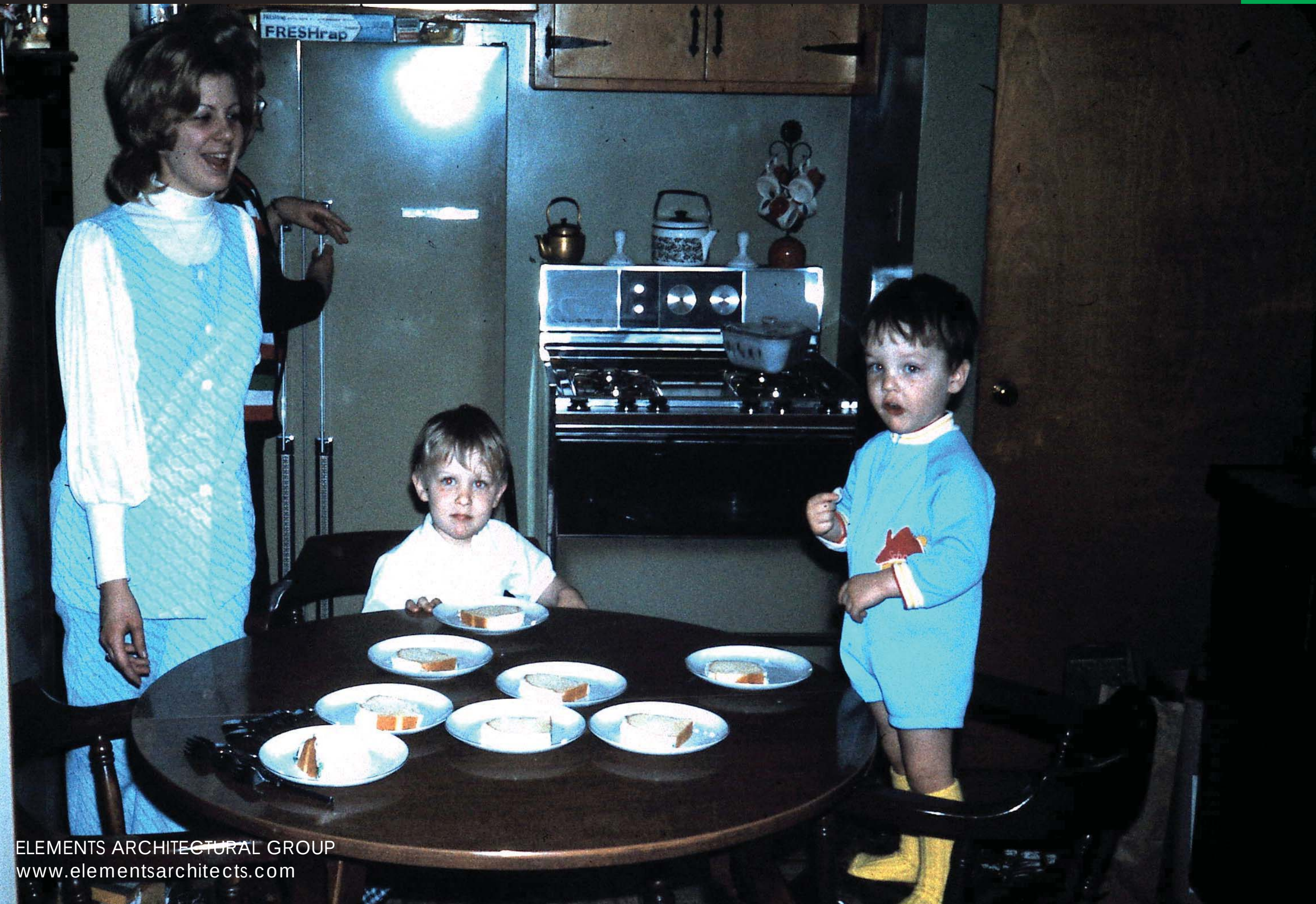
A Tree We Plant for Others

Presentation by William Scholtens

“A society grows great when old men plant trees whose shade they know they shall never sit in.” –Greek proverb

Outline

- 
- William Scholtens
 - Current worldwide global environmental crisis
 - Sustainability
 - Projects
 - Knowledge is perhaps our most valuable resource





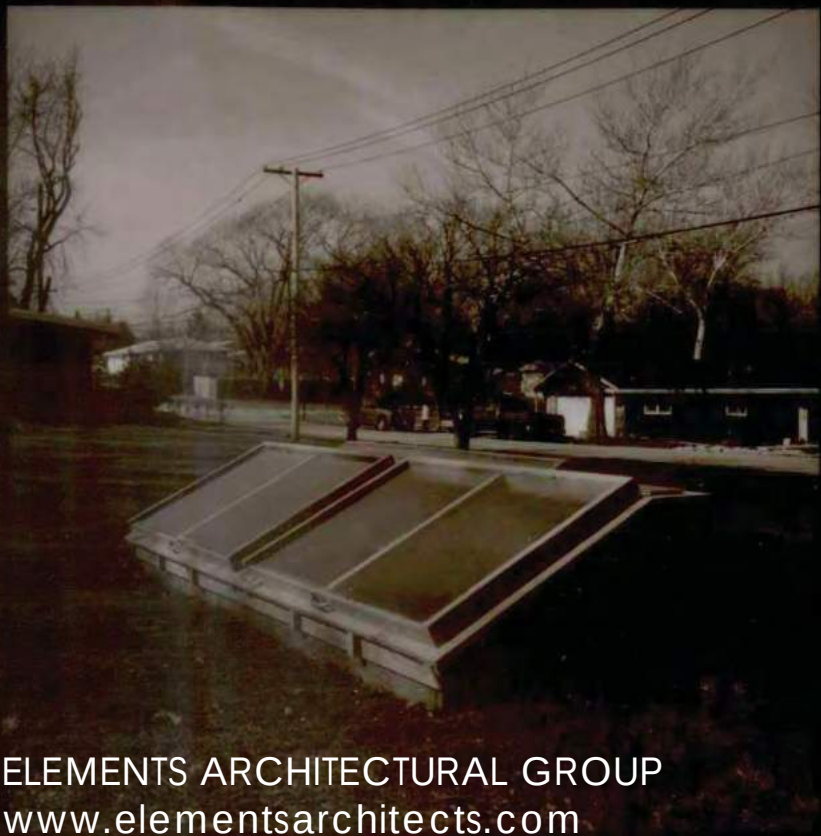






William Scholtens

Zero energy, four season garden

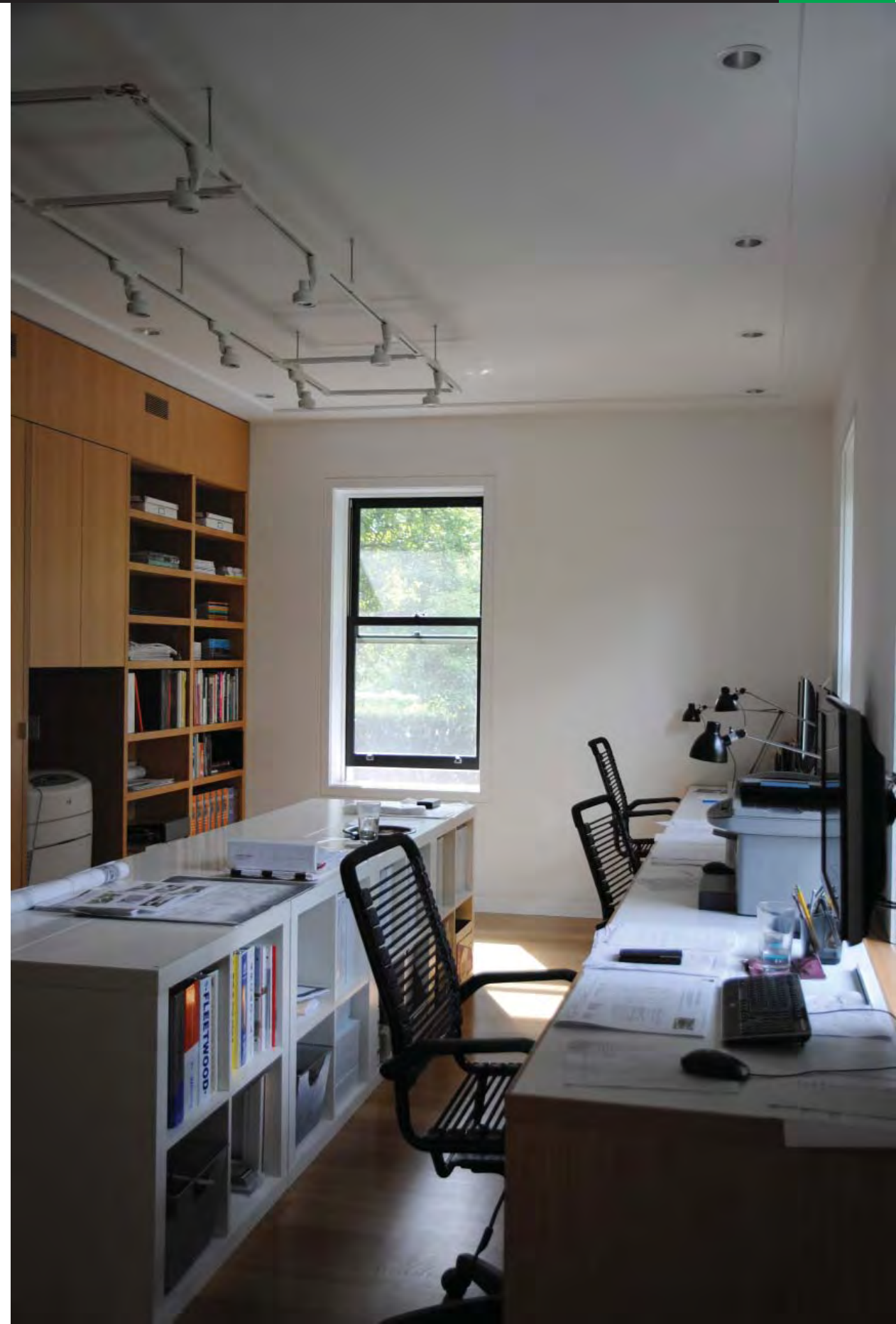


53

KODAK TMX 6052

52

▲10

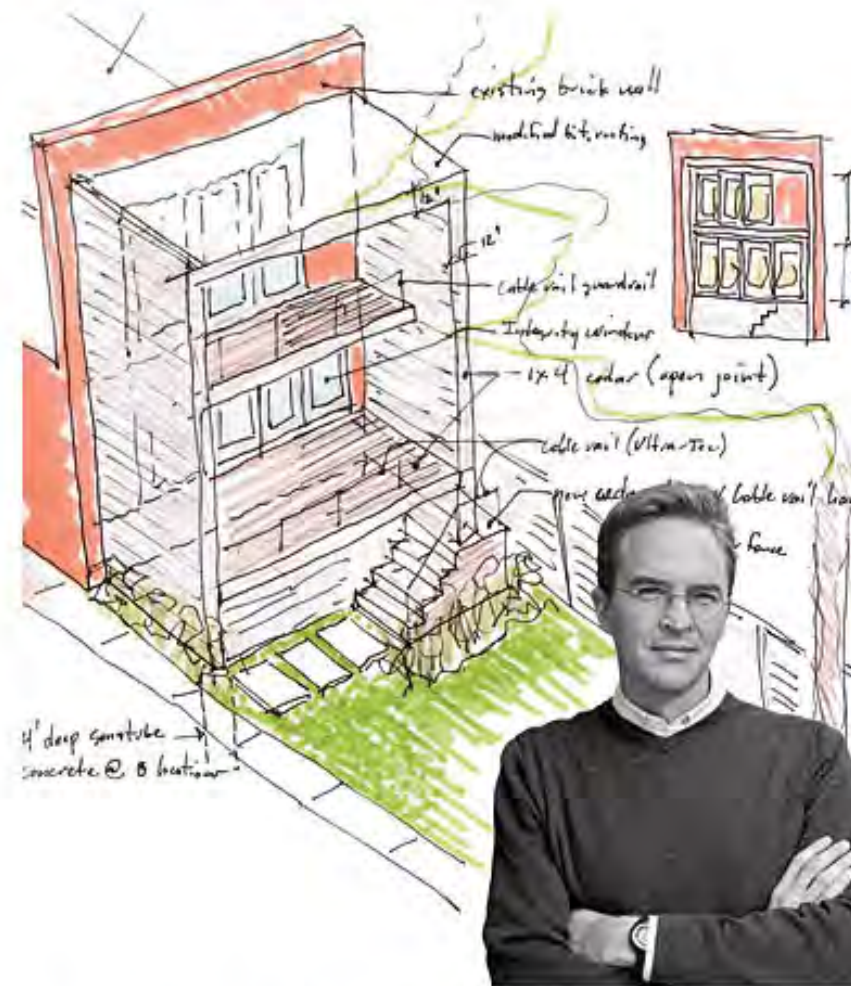


Best of the New: Green Innovator

William Scholtens

BY AMALIE DRURY AND JAN PARR

Like 22 likes. Sign Up to see what your friends like.



The best moment of the past year for architect William Scholtens and his four-member Elements Architectural Group? When they heard that a Lincoln Park home they'd designed had been awarded the LEED Platinum rating—the highest green designation, rarely given for residences. Scholtens says they used local materials, focused on air quality, and installed solar panels. And instead of plopping a huge wind turbine on the roof and spotlighting it with LEDs, Elements went beautifully subtle, proving to architects and future clients alike that green living can be elegant. Now the firm is moving on to the next step in its greening-the-world mission: affordability. "So far, green homes have mostly been for the wealthy," Scholtens says. "We're going to show that green homes really can be done for the middle-income bracket—and the results can be warm, dry, and noble." Plans for such a home are shown above. *Elements Architectural Group, 205 Superior St., Oak Park, 312-363-8175, elementsarchitects.com*



Current worldwide global environmental crisis



Current worldwide global environmental crisis

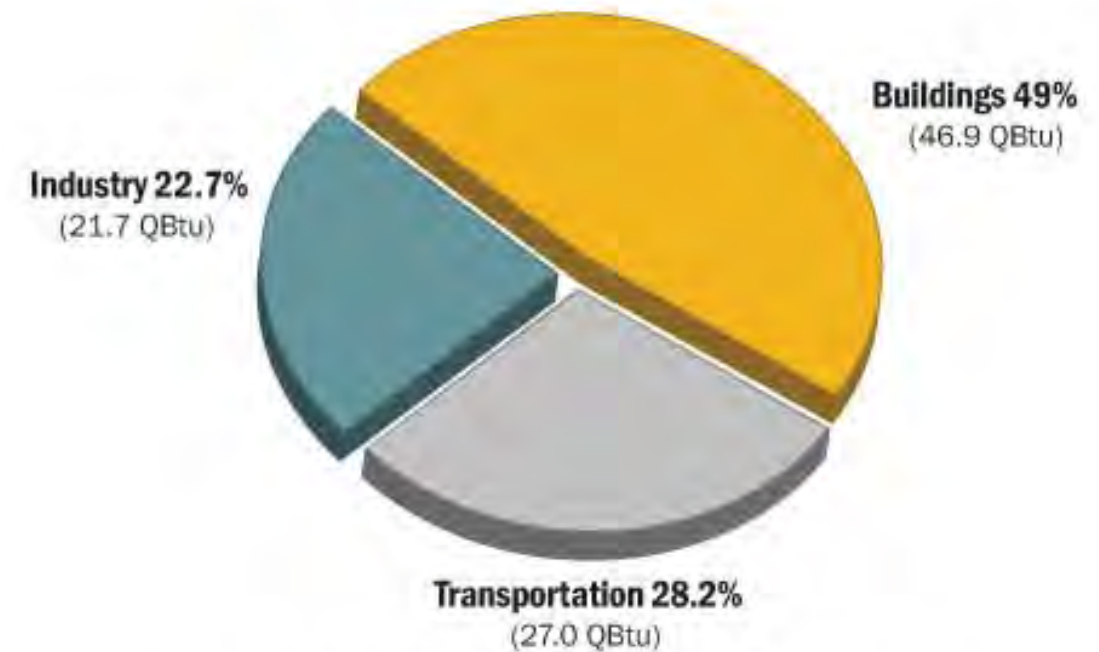
Building Energy Use

Buildings Consume More Energy Than Any Other Sector



U.S. Energy Consumption by Sector (Historic / Projected)

Source: ©2010 2030, Inc. / Architecture 2030. All Rights Reserved.
Data Source: U.S. Energy Information Administration



U.S. Energy Consumption by Sector

Source: ©2010 2030, Inc. / Architecture 2030. All Rights Reserved.
Data Source: U.S. Energy Information Administration (2009)

Current worldwide global environmental crisis

Strained resources



Current worldwide global environmental crisis

Satisfying our demands



Current worldwide global environmental crisis

Crowding our planet



Current worldwide global environmental crisis
if everyone consumed like Americans, we would need 5.4 Earths to sustain us



Current worldwide global environmental crisis

it's not them. it's us.



Sustainability

Possible or unobtainable?



Sustainability

If we keep doing what we're doing, can we keep doing what we're doing?



Sustainability

What we do now does not put a negative debt on future generations



Sustainability

Buildings that produce the same amount of energy, or more, than it uses



Energy

How to understand it

there are 2 types of energy.

Operational- how much energy is created

Embodied - how much energy it took to make it

Cheeseburger

operating energy - 500 calories (1,984 BTU)



Cheeseburger

embodied energy - 3,344 calories (13,268 BTU)



The greenest material is the one never used
Athena Institute



Building once well

Maintenance, Construction, Operational



Building once well

Bruges ± 1,000 years

Memorable

Habitable

Distinguished

Heirloom

Design & construct buildings
worthy of preservation



Building once well

Paris ± 600 years



Building once well

Boston ± 300 years



Building once well

Chicago ± 100 years



Building once well
Big is not a substitute for good. Chicago ± 25 years



Projects

Lincoln Park Renovation. LEED Platinum pending



Lincoln Park Renovation

Retain existing building



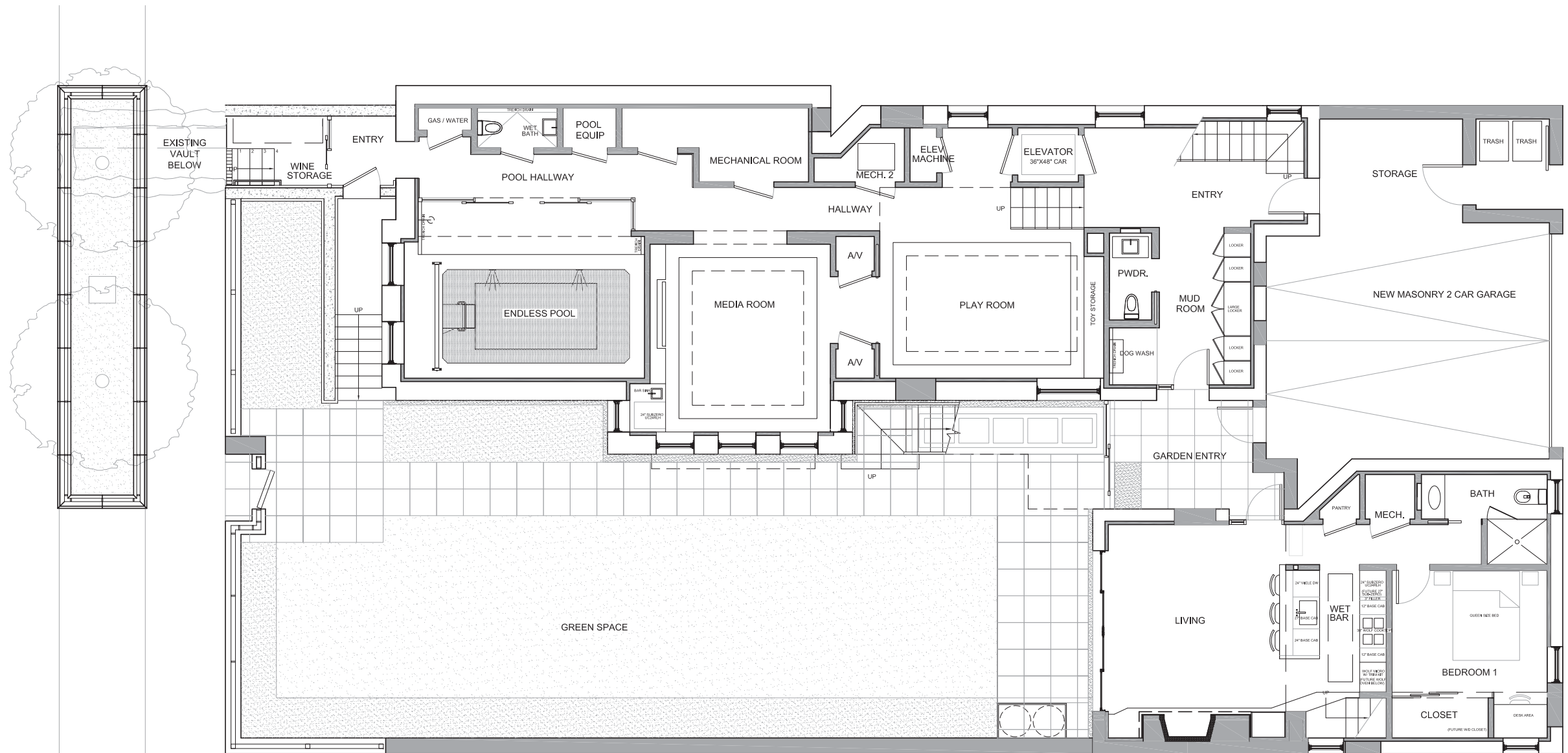
Lincoln Park Renovation

Retain existing building



Lincoln Park Renovation

Strategy - create 2 residences



GROUND FLOOR PLAN

SCALE: 1/8" = 1'-0"

ISSUED: 06.08.2011

REVISED:

2013-2015 N. CLEVELAND AVE, CHICAGO, IL 60614

ELEMENTS ARCHITECTURAL GROUP.
www.elementsarchitects.com

G

Lincoln Park Renovation

Original details long gone



Lincoln Park Renovation

Demolition to cave form. Material Reuse



Lincoln Park Renovation

Recycling



CONSTRUCTION WASTE MANAGEMENT MONTHLY PROJECT RECYCLING REPORT



	Contractor/Builder to fill in green cells		Waste Management to fill in yellow cells
Project Title:	Bruce Emery	WM District	
Project Size:		Contact:	Al Dzurny
Project Address:	2015 N Cleveland Ave, Chicago, IL	Month/Year:	
Superintendent:		Contractor Project:	

Container / Ticket number	Haul Date	Total Tonnage (sum of concrete, metal, wood, other and residual)	Concrete Tonnage (diverted)	Metal Tonnage (diverted)	Wood Tonnage (diverted)	Paper and Card-board Products Tonnage (diverted)	Other Diverted Tonnage (Explain in Comments) (diverted)	Total Diverted Tonnage	Residual or Trash Tonnage (landfilled)	% Recycled/ Diverted Material	Name and location to which material was sent:	Comments. If landfilled, explain why material was not diverted. If Other Recycled Material, include description of material; IE: Wallboard, Glass, Clean Green, Etc.
2008 TOTALS												
JANUARY 2008 TOTALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%		
FEBRUARY 2008 TOTALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%		
MARCH 2008 TOTALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%		
APRIL 2008 TOTALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%		
MAY 2008 TOTALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%		
JUNE 2008 TOTALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
JULY 2008 TOTALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
AUGUST 2008 TOTALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
SEPTEMBER 2008 TOTALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
OCTOBER 2008 TOTALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
NOVEMBER 2008 TOTALS		10.70	1.07	1.07	2.14	1.07	1.07	6.42	4.28	0.60		
DECEMBER 2008 TOTALS		6.47	0.00	1.29	1.29	0.65	0.00	3.23	3.24	0.50		

Project Summary	Totals	January	February	March	April	May	June	July	August	September	October	November	December	YTD TOTAL	PROJECT TOTAL
CONCRETE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07	0.00	1.07	1.07
METAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07	1.29	2.36	2.36
WOOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.14	1.29	3.43	3.43
PAPER/CARDBOARD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07	0.65	1.72	1.72
OTHER DIVERTED	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07	0.00	1.07	1.07
SUBTOTAL DIVERTED	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.42	3.23	9.65	9.65
RESIDUAL/TRASH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.28	3.24	7.52	7.52
SUBTOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.70	6.47	17.17	17.17
% of Recycled Material	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	60.00%	49.92%	56.20%	56.20%

Lincoln Park Renovation

Reduce energy footprint



Lincoln Park Renovation

Reduce & produce



Lincoln Park Renovation

Harvest



Lincoln Park Renovation

Harvest



Lincoln Park Renovation

Comfort & energy efficiency



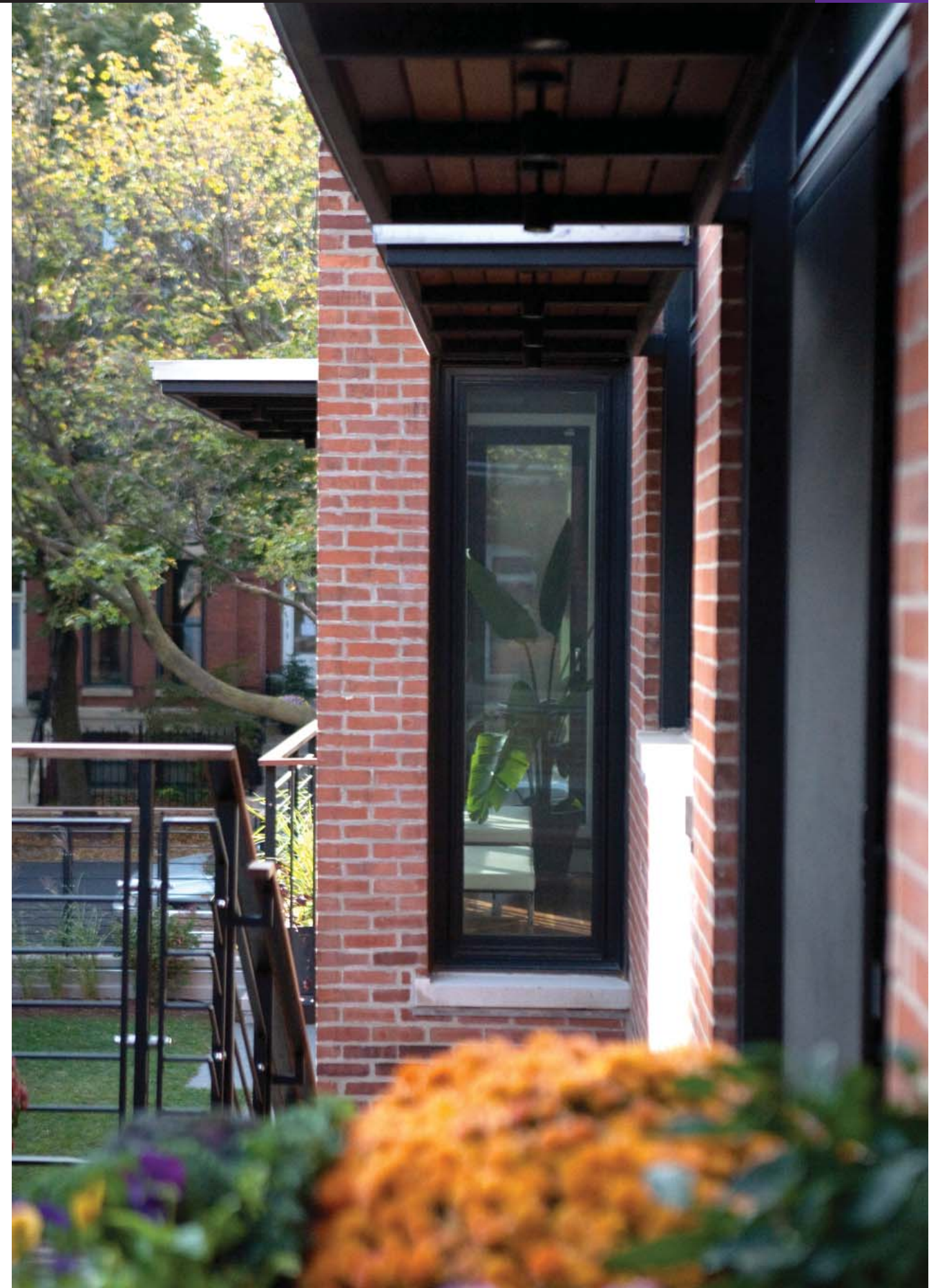
Lincoln Park Renovation

No & low VOC's



Lincoln Park Renovation

Timeless building practices & distinguishability



Lincoln Park Renovation

Timeless building practices & distinguishability



Lincoln Park Renovation

Daylight harvesting & memorable place



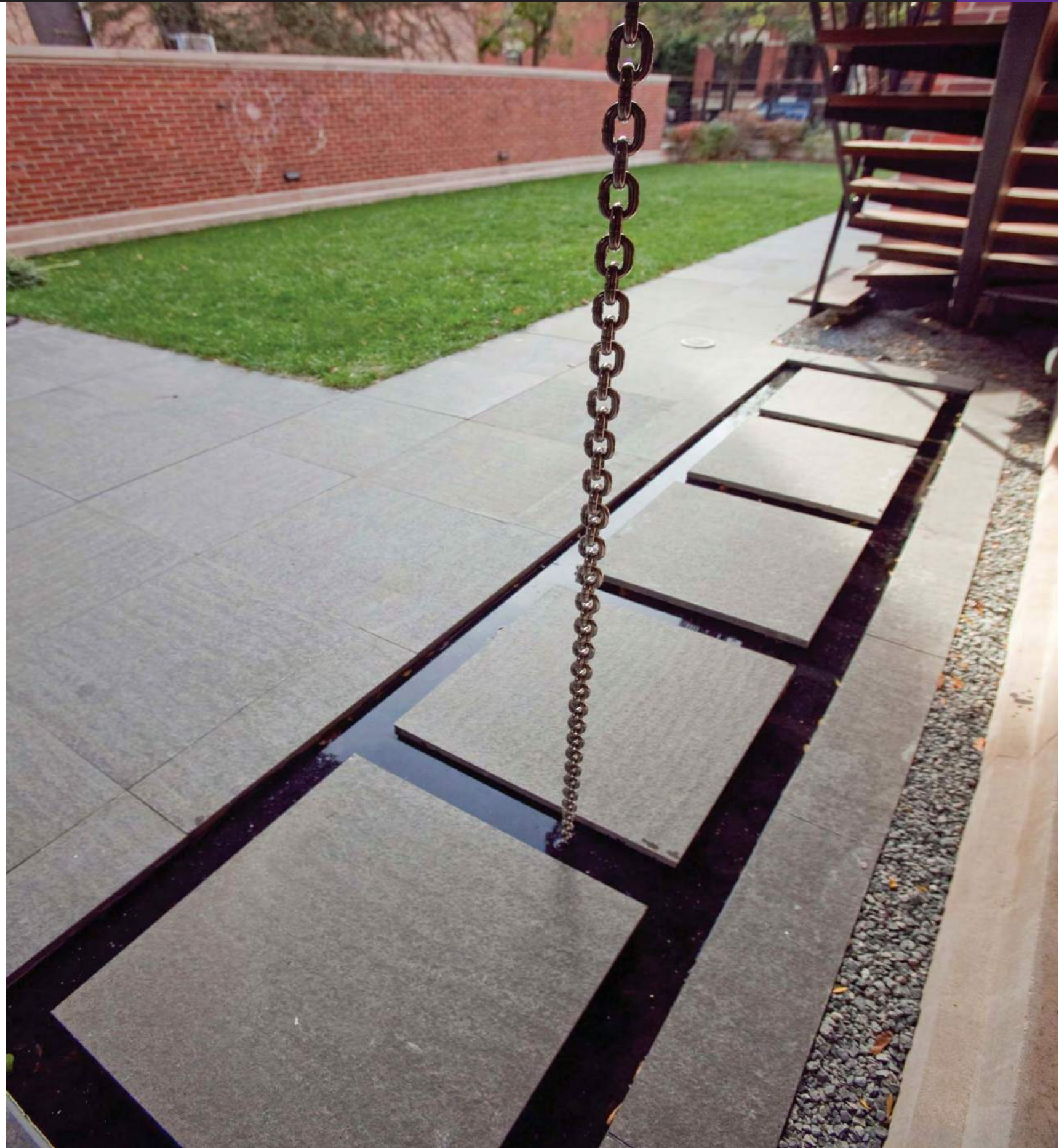
Lincoln Park Renovation

Durable materials



Lincoln Park Renovation

Rain catchment



Lincoln Park Renovation



Lincoln Park Renovation



Lincoln Park Renovation



Lincoln Park Renovation



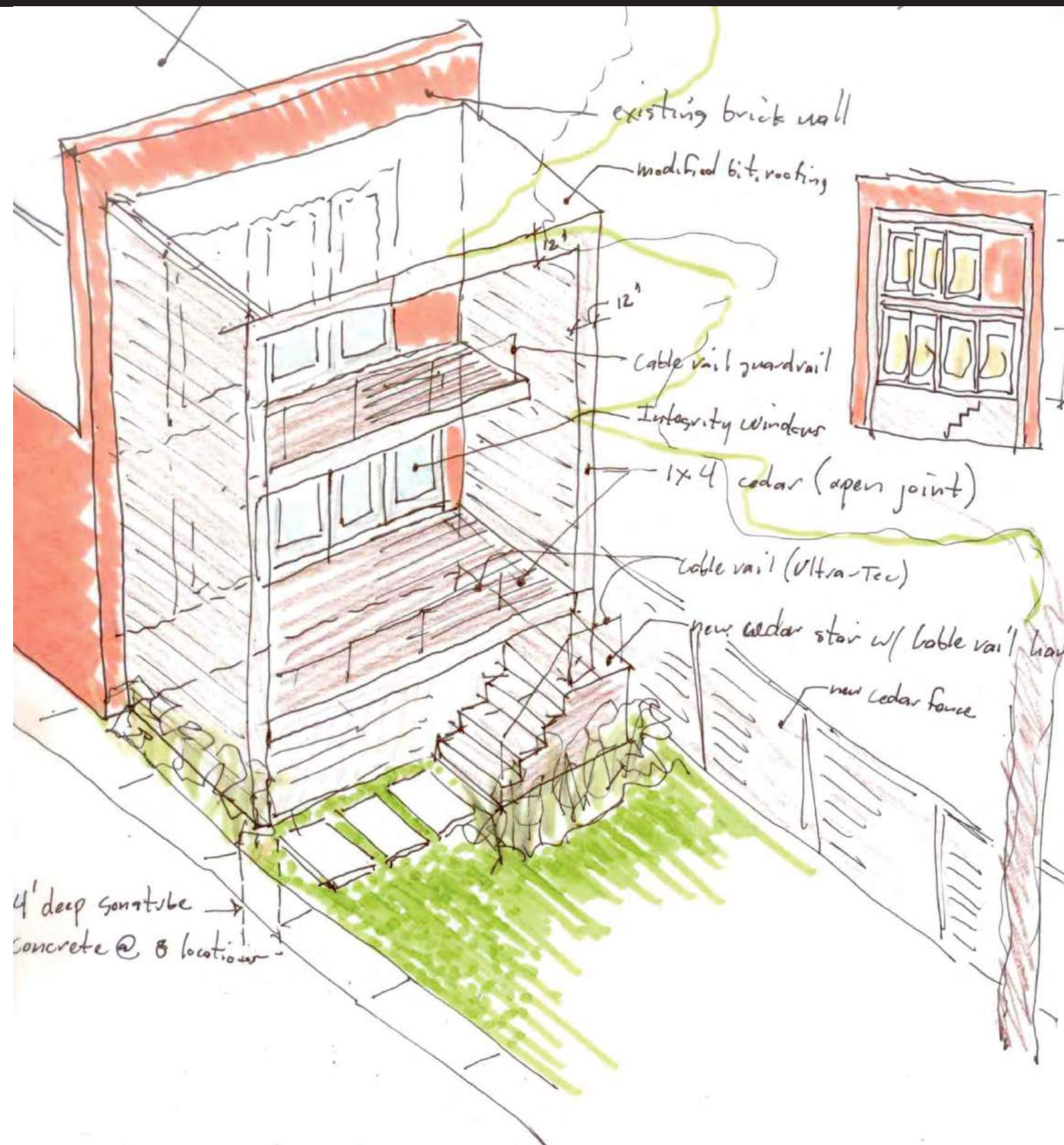
West Side Residence

Affordable home



West Side Residence

Concept sketch



Concept Image of Rear Facade NTS

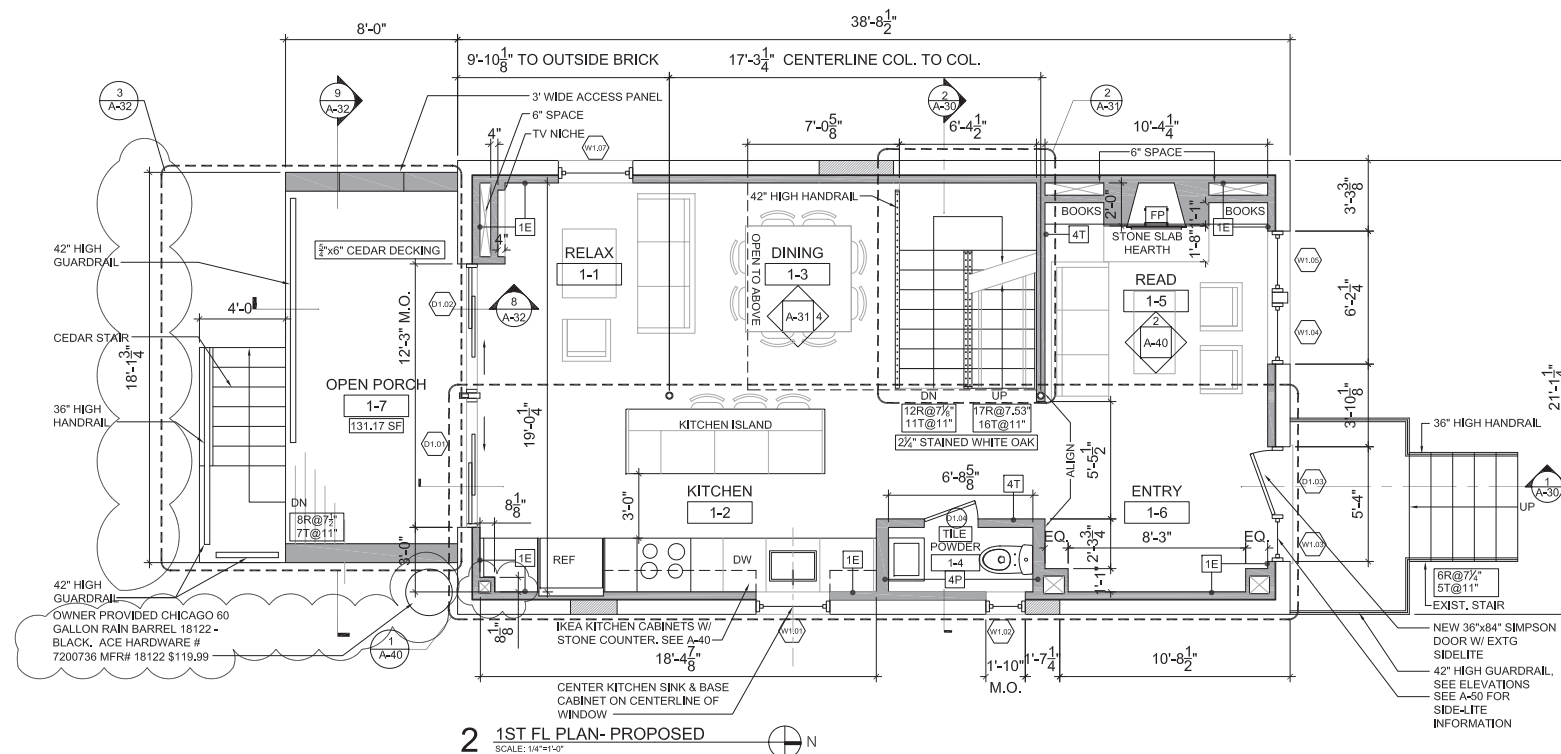
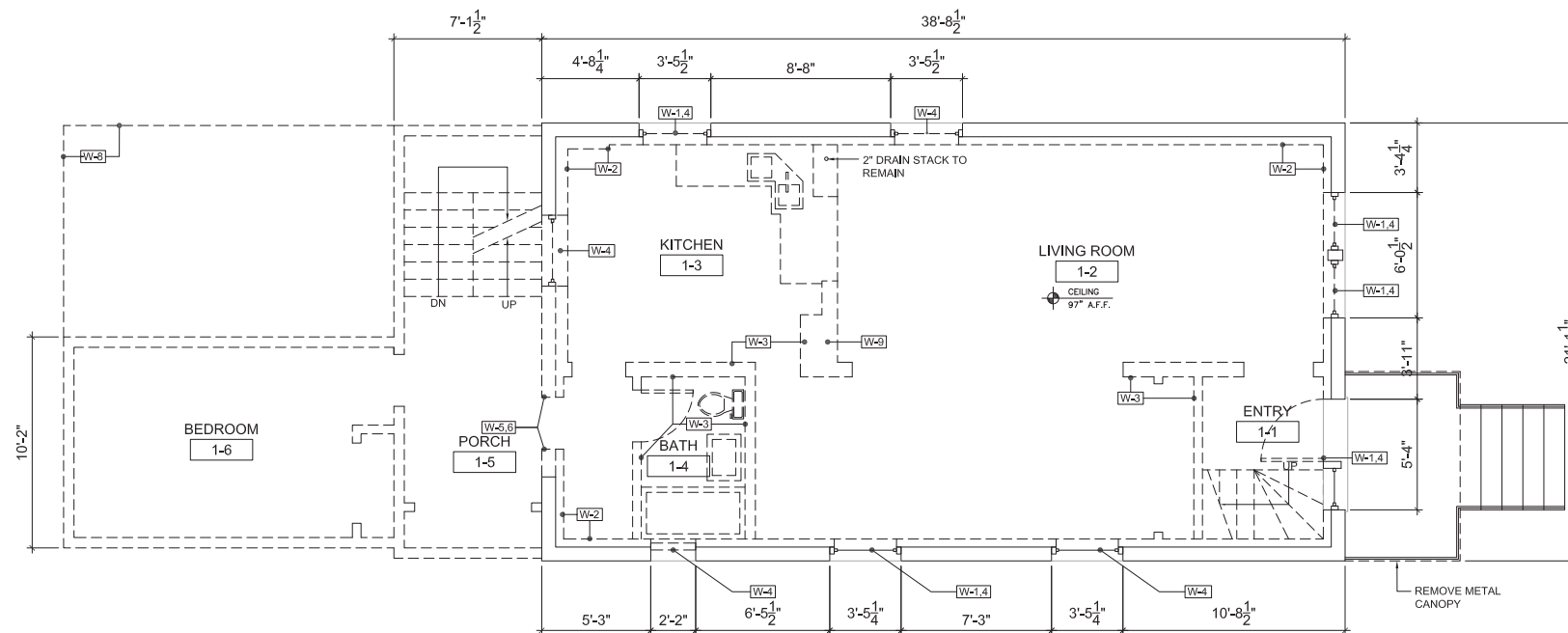
King Residence
1447 W. 11th

Elements Arch.

U. [Signature] 6/22/10

West Side Residence

Strategy - reduce square footage and increase quality



West Side Residence

Material re-use & harvesting cubic volume



West Side Residence

Space & light



West Side Residence

Create memorable habitable space



West Side Residence

Shading & connection to outdoors



West Side Residence

Shading & connection to outdoors



Suburban Residence

Before



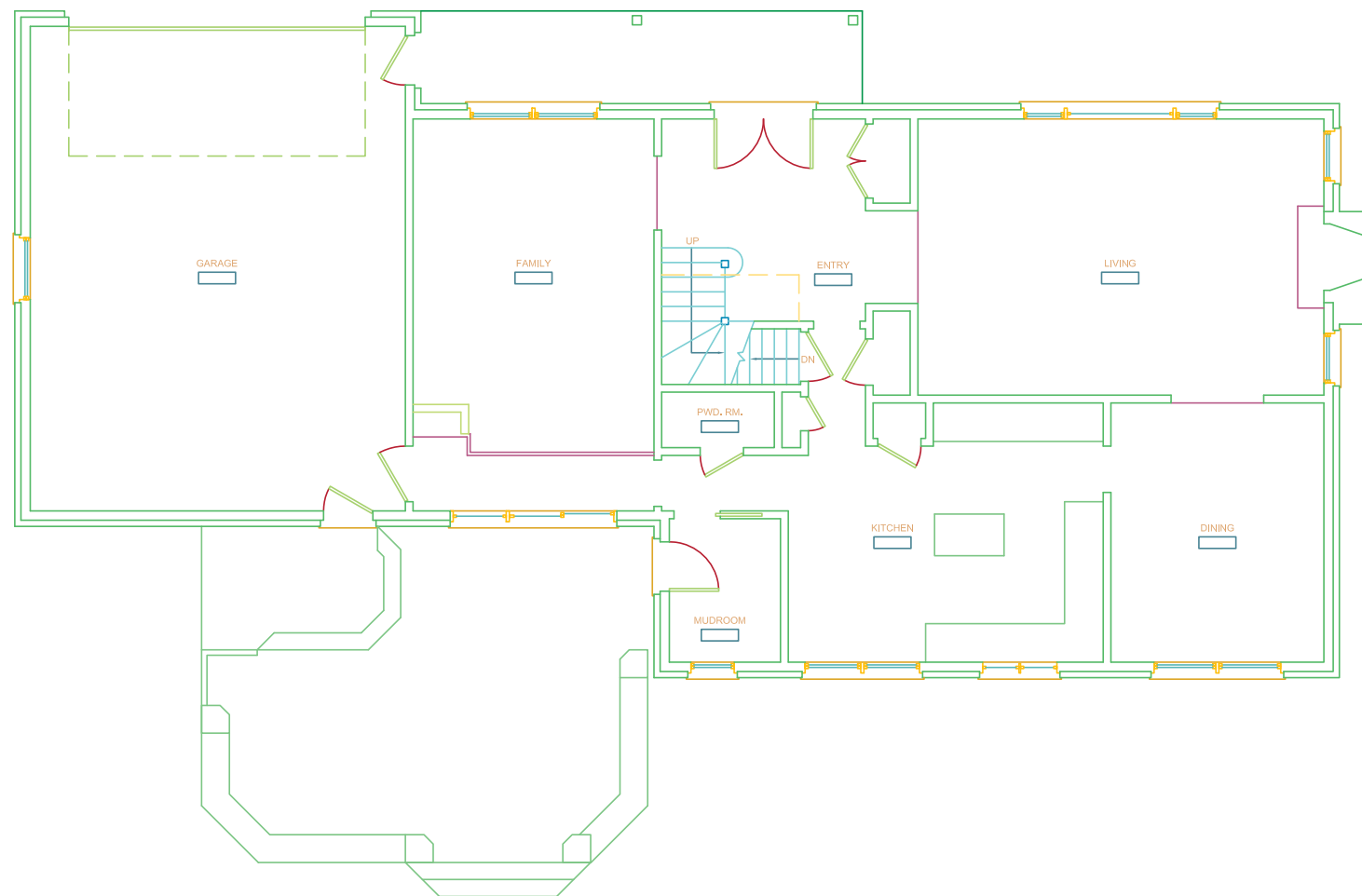
Suburban Residence

Before



Suburban Residence

Dark & indistinguishable

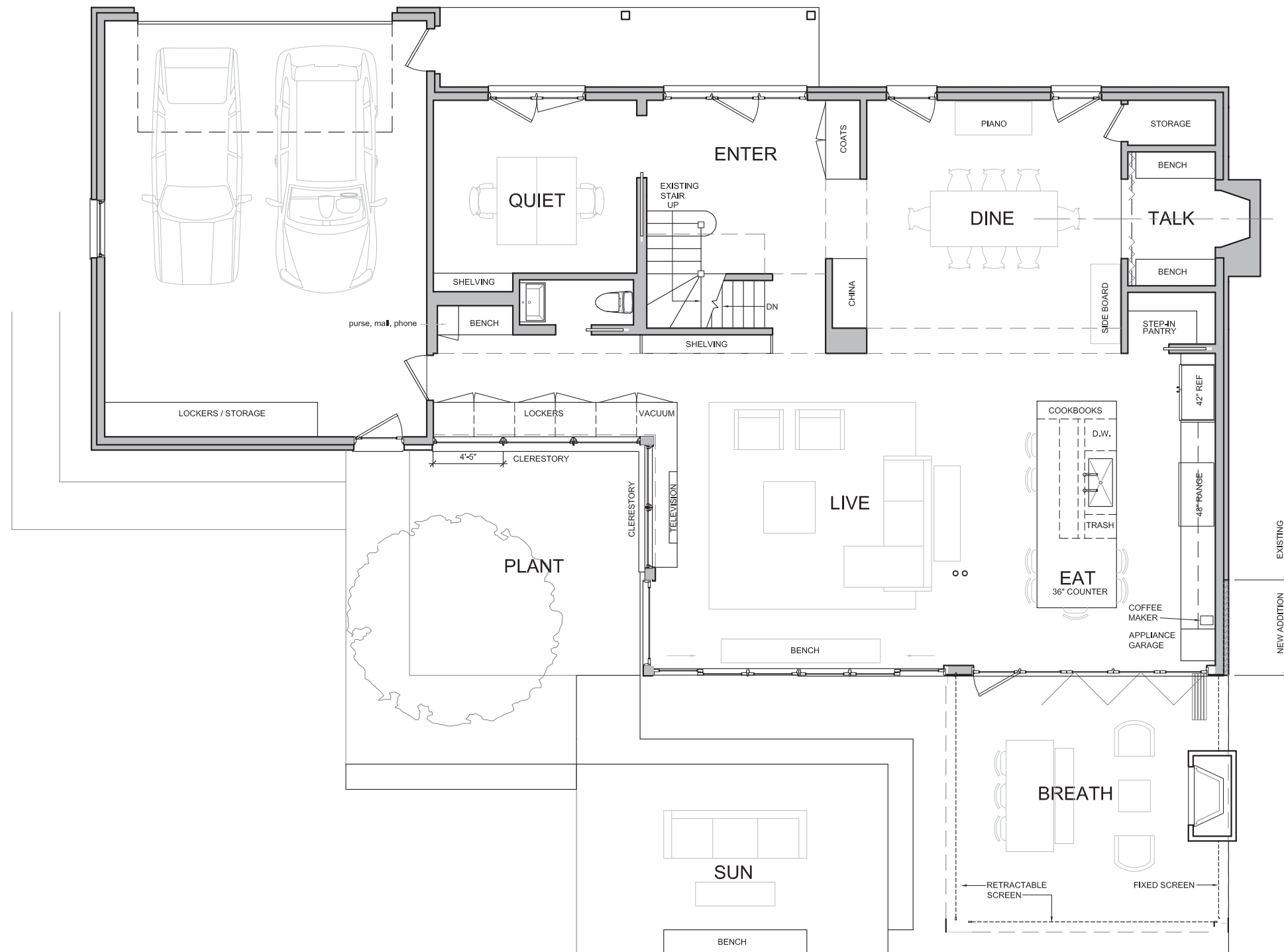


1 EXISTING FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"



Suburban Residence

Light filled, open floor plan



Suburban Residence

Outdoor rooms



Suburban Residence

Memorable places



Suburban Residence

Warm, dry, noble



Suburban Residence

Open floor plan



Suburban Residence

Transformative spaces



Suburban Residence

Deep daylighting & whole house ventilation



Suburban Residence

Conversation with the exterior

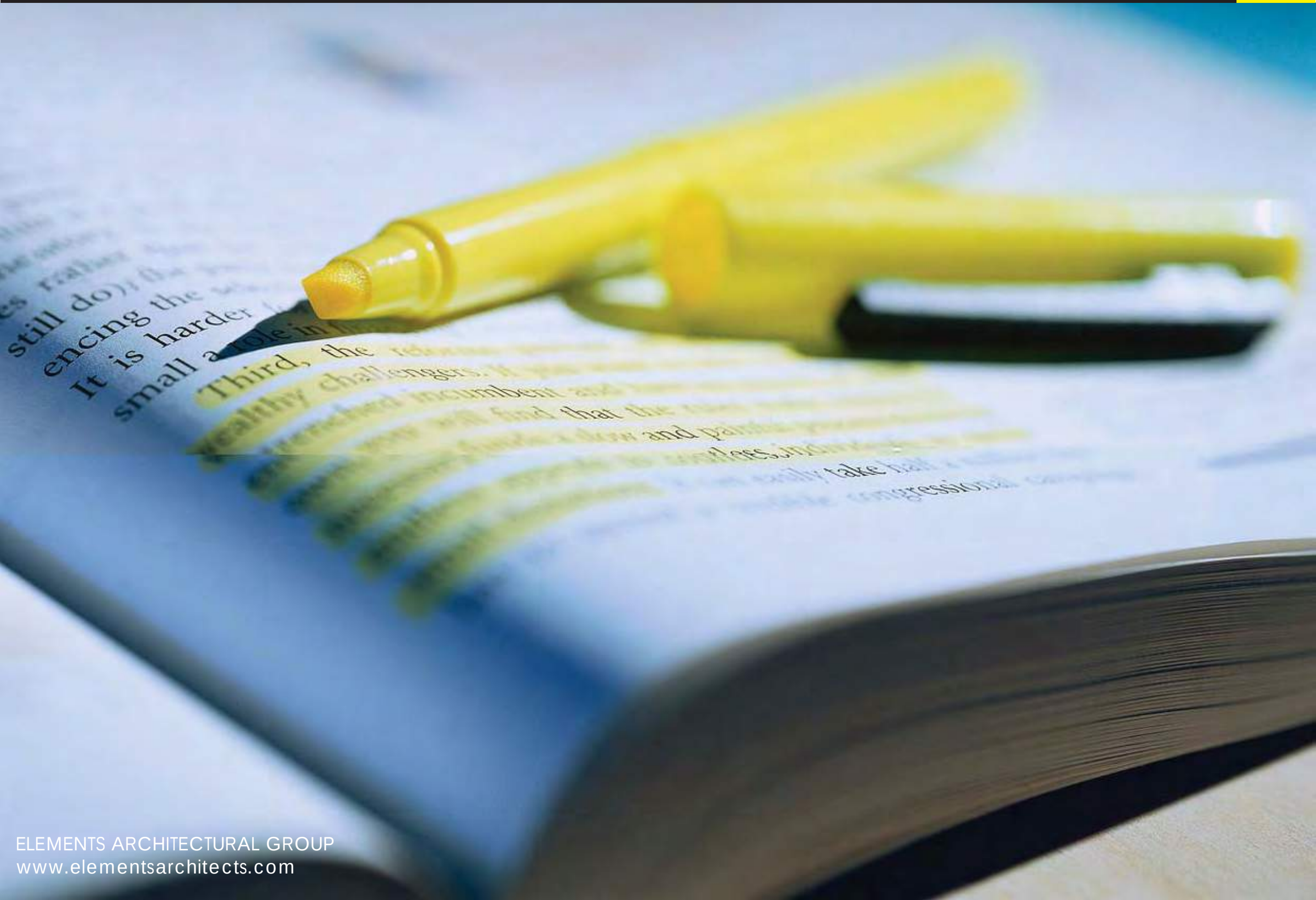


Suburban Residence

A model for the masses?



Knowledge is perhaps our most valuable resource



Infrared thermal leak detector

awareness of heat loss/ gain



\$25

ELEMENTS ARCHITECTURAL GROUP
www.elementsarchitects.com



Unplug the DVR
see appliances as energy users



Kilowatt usage meter
raise awareness. if it can't be measured, it can't be managed



\$25

If you think you need an extra room....
Think again



Install dual flush toilets

see water as a limited resource



Install aerators on faucets
read your water bills



\$20

Plant a garden
see your land as a living system, grow your own food



Plant a garden
teach future generations



Plant a tree
CO₂ eaters. reduce heat island effect



Read VOC labels on products you buy for your home
When you buy, you vote



Think about ways to partition your home
for heating and cooling



Use your local library/ resources
reduce waste...





Architecture work:
Elements Architectural Group

Photos:
William Scholtens
Edward Burtynsky
Millecent Wong Photography
Chicago Home + Garden
January 2011
National Geographic: State of
the Earth 2010
Olympic Bread Company
Audi North America

Statistics:
Architecture 2030
Athena Institute
National Geographic: State of
the Earth 2010

Cheeseburger Calorie Info:
Alan Shoppe