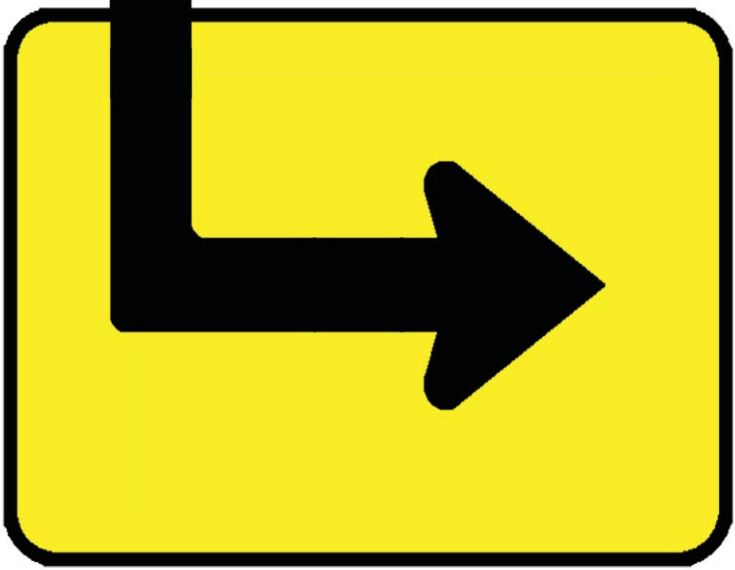
what's next?



# thinking beyond the box: landscapes of exchange and consumer waste as food for cultural change

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# WHAT'S NEXT?

# THINKING BEYOND THE BOX:

# LANDSCAPES OF EXCHANGE AND CONSUMER WASTE

# AS FOOD FOR CULTURAL CHANGE

By

Peter Benjamin Schwanda

A thesis submitted in partial ful llment

of the requirements for the degree

of

Master of Architecture

MONTANA STATE UNIVERSITY
Bozeman, Montana

April 2007

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Peter Benjamin Schwanda

April 2007

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The current state of architecture is pregnant with possibility for its future. As technology and innovation give shape to a malleable landscape of digital media, the world surges onward, pioneered by high-tech industries and ever-ready consumers. International political and commercial forces are colliding and entwining in new ways as globalization increases and borderless commerce gains momentum. As the power struggle over consumer dollars and sociopolitical control has intensified a "one planet" mentality, globalization continues to exhibit our interconnectedness.

"*We've become a burden to our planet. Resources are becoming scarce, and soon nature will no longer be able to satisfy our needs*."[1]

*-Quintus Septimus Florens Tertullianus, Roman theologian, 200 B.C.*

However, another significant power struggle ferments between the human race and the planet itself and the impact of the former upon the ecological state of the latter. At the heart of this situation lies the environmental movement of activists and scientists alike, who seek remediation and revolution. The important questions, however, pertain to the world's readiness for and acceptance of a "green revolution"; architecturally, this translates to the commercial and societal acceptance of truly sustainable and ecologically minded design and construction. The irony of the sustainable or "green" movement is that it is not truly sustainable itself – the philosophy and approaches behind current practice have not yet provided the impetus to ensure its staying power. The future of the postmodern ecological movement has the potential to be self-sustaining, drawing on the revolutionary power and the logic of the philosophy behind the very movement itself.

1 Bruce Mau, Jennifer Leonard, eds., and The Institute Without Borders, Massive Change (2nd ed. New York, NY: Phaidon Press Inc., 2004), 45.

theor

# etical

*"'We are dealing with an urgent problem of our epoch, nay more, with the problem of our epoch. The balance of society comes down to a question of building. We conclude with these justifiable alternatives: Architecture or Revolution. Revolution can be avoided*.'"

*- Le Corbusier, Vers une Architecture*[2]

2 Architecture for Humanity, ed., *Design Like You Give a Damn: Architectural Responses to Humanitarian Crises* (New York, NY: Metropolis Books, 2006), 35.

Can the conceptual and ideal act as the stimuli for an actual revolution? How does a sense of morality and philosophy inform architecture? Based on perspectives including philosophy, revolutions and the sociological, economical, political, and commercial environment of our current world and throughout history, I seek to discern the readiness of the global society for a "sustainable revolution." The aggressive, anthropocentric nature of much of today's built environment is a testament to a troublesome past and a misconstrued approach towards architecture. In an interest to pursue architecture as a more humane, less profane endeavor, I explore the stimuli that are necessary for the movement to gain momentum; a next-generation approach to sustainability in the big box landscape, in light of society's readiness for smarter growth, has the potential to incite change. The nature of architecture as a profession may be coming to a tipping point. Architecture as we know it is already morphing into new areas with the advent of the technological information age; the requisites of making a mark in a world of finite resources seem to indicate that architecture as we know it is losing its validity and may be replaced by a new generation of architecture and architects. As the nature of the architectural landscape is changing, retail and big box environments are shifting, and vacant buildings are being left in the wake.

I pursue the aforementioned stimuli through analysis and scrutiny of current practice and sustainability trends, marketing strategies, and the sociological strengths of ideas, beliefs, and products that have evoked massive (ideological, cultural, commercial) change in both our past and our present age. Research into the history of environmental and ecological movements proves insightful to the potential for widespread acceptance of this generation's sustainable movement. Reflecting on what has already been explored and theorized (in seminal works such as E.F. Schumacher's *Small is Beautiful*)[3] is as important as evaluating current conditions. Exploration

3 E.F. Schumacher, *Small Is Beautiful: Economics as if People Mattered* (2nd ed. New York, NY: Harper & Row, 1989).

of the cutting edge of green technology, in concert with radical "grassroots" approaches to ecological thought, generates practical solutions that will apply to "young revolutionaries," but also to a new breed of environmentally minded consumer and architectural client.

*"If we are able to stay with a situation, it will carry us to a new place."*[4]

"And *they shall build the old wastes, they shall raise up the former desolations, and they shall repair the waste cities, the desolations of many generations*."

*- Isaiah: 61:4*[5]

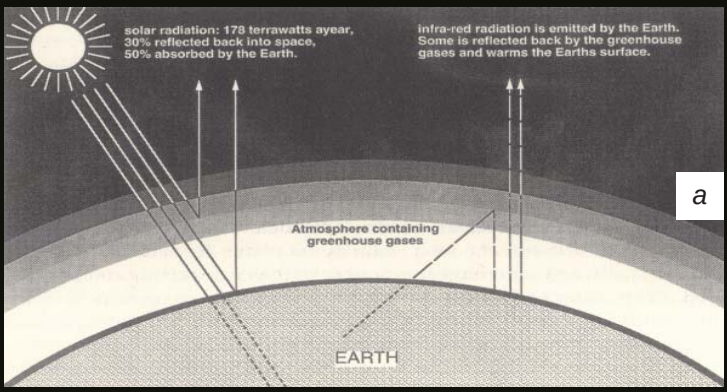
4 Shaun McNiff, *Trust the Process: An Artist's Guide to Letting Go* (Boston, MA: Shambhala Publications, Inc., 1998), 22.
5 *The Holy Bible: King James Version*. Grand Rapids, MI: Zondervan, 2002.

***Construction of the built environment represents one third of all landfill waste, 48% of all fossil fuel consumption,[6] and 50% of greenhouse gas emissions.[7a]***

***Americans represent 4.5% of the world's population, yet consume one third of the resources used by the global population.[8]***

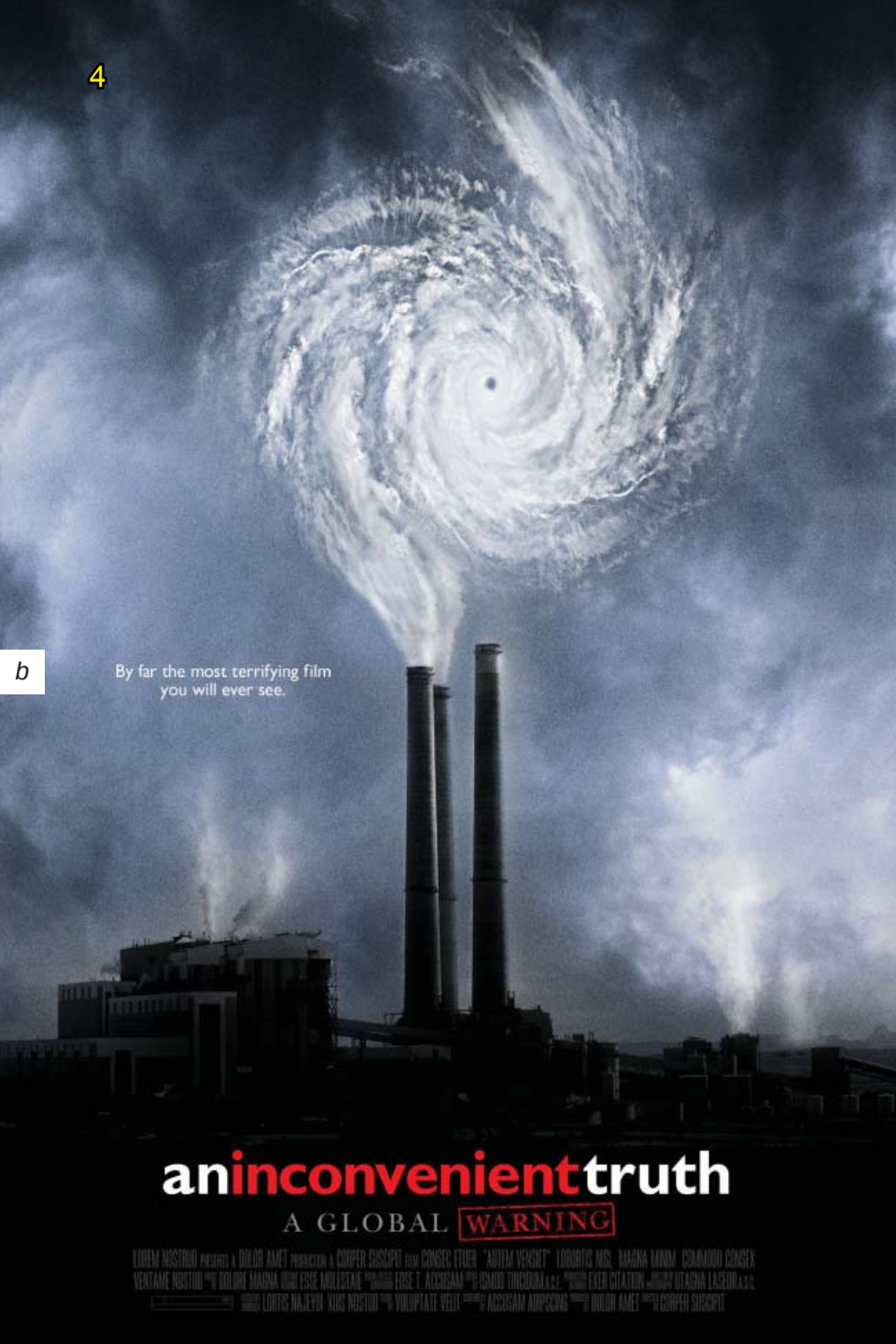
***Each day, the world's economy uses an amount of energy that it took the planet [more than] 10,000 days to create.[9]***

***Each week, the average American consumes 36 pounds of resources, which take 2000 pounds of waste to create and support,[10] and an ecological footprint of thirty acres.[11]***




*a*

6 Celeste Novak, "*SDAT*." Montana State University. Gaines Hall, Bozeman, MT (31 Mar. 2006).
7 Kontentreal (Producers). 2006. *Design E²: The Economies of Being Environmentally Conscious* [Television series]. PBS.
8 Brian Howard, Doug Moss, Jim Motavelli, and Karen Soucy, eds., *Green Living: The E Magazine Handbook for Living Lightly on the Earth* (1st ed. New York, NY: Penguin, 2005), xiii.
9 Paul Hawken, *The Ecology of Commerce: A Declaration of Sustainability* (1st ed. New York, NY: Harper Business, 1993), 21-22.
10 Hawken 37.
11 *Green Living* xiv.


4
b
By far the most terrifying film you will ever see.
aninconvenienttruth
A GLOBAL WARNING

APRIL 3, 2006 www.time.com AOL Keyword: TIME

SPECIAL REPORT GLOBAL WARMING

# TIME

## BE WORRIED. BE VERY WORRIED.

Climate change isn't some vague future problem—it's already damaging the planet at an alarming pace. Here's how it affects you, your kids and their kids as well

EARTH AT THE TIPPING POINT

HOW IT THREATENS YOUR HEALTH

HOW CHINA & INDIA CAN HELP SAVE THE WORLD—OR DESTROY IT

THE CLIMATE CRUSADERS

***"All of our victories are temporary; only the defeats are permanent."***[12b]

***"As man proceeds toward his announced goal of the conquest of nature, he has written a depressing record of destruction, directed not only against the earth he inhabits but against the life that shares it with him."***[13c]

***"Man has lost the capacity to foresee and forestall. He will end by destroying the earth."***

***- Albert Schweitzer***[14d]

***"One can see how buildings constructed rapidly by indifferent men with indifferent plans, using remotely made and general parts, are bound to create indifference – at best – in the population at large […]"***[15]

***"We see architecture as a prosthetic device, like an artificial arm. We want to integrate architecture with the organic host system." - Kenneth Yeang***[16]

***"Ideas and products and messages and behaviors spread just like viruses do."***[17]

12 David Quammen, "The Future of Parks: An Endangered Idea," *National Geographic* (Oct. 2006), 67.
13 Rachel Carson, *Silent Spring* (4th ed. Cambridge, MA: The Riverside Press, 1962), 85.
14 Carson (Insert).
15 Michael Benedikt, *For an Architecture of Reality* (New York, NY: Lumen Books, 1987), 42.
16 David Gissen, ed., *Big & Green: Toward Sustainable Architecture in the 21st Century* (1st ed. New York, NY: Princeton Architectural Press, 2002), 175.
17 Malcom Gladwell, *The Tipping Point: How Little Things Can Make a Big Difference* (2nd ed. Boston, MA: Little, Brown and Company, 2002), 7.

***"I think it's more important to rest the alternative strategies on the multiplicity of implications rather than trying to be reductionist* […] *Maybe the global warming issue is yet another one to address in rethinking our patterns of development."***[18]



18 Peter Calthorpe quoted in: Barry Silverthorn, 2004, *The End of Suburbia: Oil Depletion and the Collapse of the American Dream*, The Electric Wallpaper Company.



*e*

Architecture has long been engaged in a power struggle with the natural environment for dominance. History is wrought with structures and remnants that exhibit a distinct egocentrism. Prehistoric and Paleolithic architecture progressed, from caves and temporary structures that sought simple shelter and fulfillment of basic needs of survival, to the Neolithic sense of permanence and the concept of "making a mark" on the landscape. The development of agricultural processes not only allowed for maintenance of permanent settlements,[19] but permitted continual survival in a given area. Or did it? As a species, this continued survival is what we seek here on Earth, yet with exponentially escalating populations, we are challenging the finite limits of the sole environment in the universe with conditions that permit life.[20] The Agricultural Revolution caused a social transformation both in lifestyles and philosophical views of humans and their connection to the natural world. The connection to nature as a life-giving source was still strong, and though we have now watered down the links through industrial processes, we are still inextricably tied to the enabling resources of the earth. Through this dilution, much of the human race has lost its collective memory, and lives a daily life without cognizance of its routine damage to the environment.

History, as it is typically studied, can be defined as a record of human action.[21] Human advancement from a nomadic or hunter-gatherer structure, to a settled, agrarian society, ushered in one of the first major paradigm shifts pertaining to

19 The migratory nature of subsistence made fixed living impossible. As living patterns were established, advantageous living sites were used repeatedly, and eventually seasonal shelters were built. (Fred Stitt, *Ecological Design Handbook: Sustainable Strategies for Architecture, Landscape Architecture, Interior Design, Planning* (1st ed. San Francisco, CA: McGraw-Hill, 1999), 165.

20 Bill Bryson, *A Short History of Nearly Everything* (1st ed. New York, NY: Broadway Books, 2003) 246-247. Bryson expands on this fact, noting distance from the sun, composition and variation of the planet's surface, etc.

21 John Foran, *Theorizing Revolutions* (1st ed. New York, NY: Routledge, 1997) 132. Interestingly, Foran also describes cultural history as a continual story of resistance, rebellion, and revolution (Foran 127).

our relationships to and attitudes towards Nature. Fear was a primary component of Paleolithic life, and a respect of Nature was necessary to ensure daily survival and to satisfy an innate drive for genetic proliferation through procreation.[22] The discovery and development of a more predictable food source signaled the progression to an agricultural relationship with the land, which allowed for a sustained existence to be drawn from the ground. With the daily fear of whence and where the next meal might come (an anxiety still existent in portions of the developing world and in itinerant populations of the developed world) having been assuaged, the focus of the species' attention could shift to other endeavors. Architecture's desires for permanence can be traced to these first agrarian civilizations. Likewise, humanity's roots in an extractive lifestyle are found here.

With the abatement of daily worries about survival, man began to develop more complex organizational systems, social structures, and building techniques. Instead of relying on found, natural shelters, ingenuity of construction led to the use of other naturally occurring materials: mud, wood, stone. Initially, this approach was harmless, and the attitudes behind extracting materials from the earth to ensure survival still maintained an engrained respect for the natural provisions of the surrounding environment. However, as man began to make his mark on the earth, and the traces of his constructions increased, the paradigms were shifting. However, the burden of the human population on Earth, and the effects of its waste and destruction would not be noticed or felt for some time to come. The incredible vastness of the world was treated as an invitation for continual expansion, exploration, and colonization of any uncharted or unclaimed territories. The ecological resource destruction, in comparison to the scale of the planet, was still relatively minimal. The processing of waste could still be handled by natural and biological systems, especially since the wastes being broken down were primarily natural elements unaltered by man. The

22 Bryson 411. "The desire to breed, to disperse one's genes, is the most powerful impulse in nature."

emerging Western concept of land ownership is an illustration of the evolving paradigm of disrespect for the Earth and often for the people native to a place.

Centuries later, as simple civilizations had developed into advanced societies in a constant evolution called progress, another shift was changing the face of the planet. With the slow and steady growth of population made possible by the evolution of agriculture and economy, economies developed in western societies that dealt with a growing "surplus" of goods. The Agricultural Revolution, which had transfigured many of the Earth's people from nomadic bands of "Leavers" to an extractive horde of "Takers," allowed for the creation of civilizations which, dependent on agriculture's provision of surplus, became focused on production and consumption beyond their immediate needs.[23] This focus evolved into the consumer-economy we now know and accept, and also prepared the world for the Industrial Revolution. The Europe of the 17th century was still anchored in agriculture. With the advent of steam power and the Watt engine, European production efficiency was catapulted into a new realm.[24] The symbolic American inventions of the "spinning jenny" and the cotton gin,[25] complemented this newfound desire for efficiency and whetted the appetites of consumers for mass-production. The resulting industrialization of the Western world and the associated consumptive desires gained increasing momentum. Continual advancements allowed for increased

---

23 Daniel Quinn, *Ishmael: An Adventure of the Mind and Spirit* (New York, NY: Bantam Books, 1992). This novel explores the burgeoning world population and accompanying stresses. The historical distinction is made between the "Leavers" and the "Takers," two groups representative of people before and after the Agricultural Revolution, respectively.

24 The IR represented a "shift from the dependence on human strength and to the power of the machine" (*Ecological Architecture: A Critical History* 20).

25 James Hargreaves patented the "spinning jenny" in 1767, which was able to spin 16 cotton threads at a time. Eli Whitney is credited with the invention of the cotton gin in 1793. For further information and a note on the true inventor of the steam engine, Thomas Newcomen, see:

Richard Hooker. "The European Enlightenment: The Industrial Revolution." 1996. World Civilizations: An Internet Classroom and Anthology. 3 Dec. 2006. <http://www.wsu.edu/~dee/ENLIGHT/INDUSTRY.HTM>.

extraction from the earth: coal and oil were discovered and developed as fuel sources, leading to an eventual reliance on energy and electricity; Henry Ford pioneered a new sequence of *assembly line* production, perfected at the River Rouge plant in Michigan; the efficiency of transportation and communication increased exponentially, translating to desire for “things” in an ever-reducing time frame, an immediacy now illustrated by a culture running on McDonalds, Wal-Marts and other counterparts, modeled after consumer desires.




*f*

"*Designers are going into the more trendy stuff and social responsibility is not one of them. Building is not one of them. Originality doesn't seem to be one of them.*"[26]

-Steve Badanes

The transformation of human desires toward ever-increasing consumerism and control of the environment has manifested itself as anthropocentrism in architecture – the expression of a human ego regarding abilities and *rights* that extends into the built environment. The shift in thinking and the gradual evolution into a civilization that no longer is running the ridge of survival has fueled an increased desire to make a mark on the land.[27] This concept of mark-making often stands in antithesis to ecologically-minded incorporation and harmony with the natural environment.[28] The architecture operating in the urban spectrum bears testament to the branding and image-

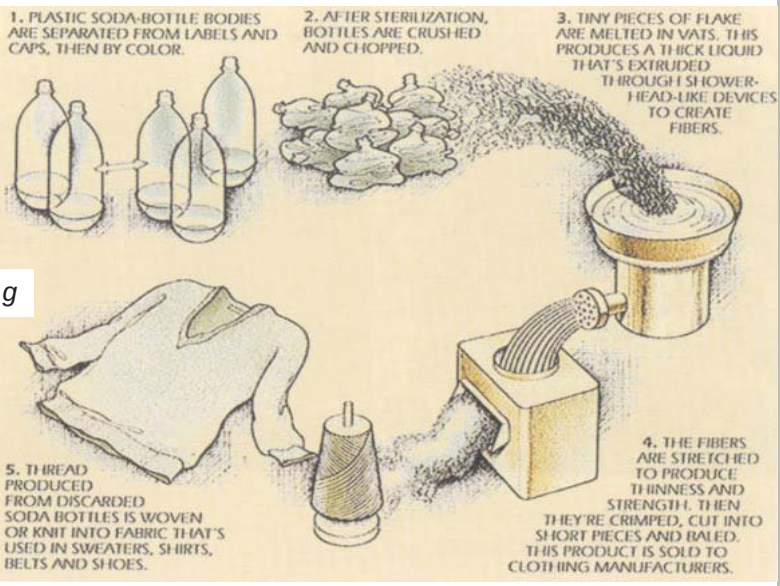
26 Stitt 451.

27 Daniel Quinn 220.

28 An interesting essay on anthropocentrism in architecture, addressing similar issues of mark-making:

Ryker, Lori. "The Ecological Post Modern Position: Searching for an Architecture of Peace." The Artemis Institute. 3 Dec. 2006. <http://www.artemisinstitute.org/PUBLICATIONS.html>

focused ideals of corporate and commercial clients. Few are the companies whose policies mandate, or even endeavor to pursue, a strategy allied with conservation and sustaining of resources.[29]




*g*

The design realm is proportioned with a weight toward architecture treated as an *object in the landscape*, often ignorant of its spatial, environmental, historical, or climatic context.[30]

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29 Patagonia is a clothing company with a commitment to environmental responsibility. New Belgium Brewery in Fort Collins, Colorado has a allegiance to ecologically-informed decisions, including a dedication to wind power. Interface is a carpet company with an extensive recycling and reuse program. There are companies that buck the trend of environmental ignorance in every sector. For a list of companies, see the following sites: <http://www.treehugger.com/files/2006/10/inccoms_green_5.php>
<http://www.inc.com/green/> ("The Green 50").

30 "'The "control of nature" is a phrase conceived in arrogance, born of the Neanderthal age of biology and the convenience of Man.'" Rachel Carson quoted in: *Sustainable Architecture White Papers*, 12.
Earth Pledge Foundation, eds. *Sustainable Architecture White Papers*. (New York, NY: Earth Pledge Foundation, 2000).

Industrial, universal spaces, and *everywhere* design has given birth to a built environment of ambiguity and a placelessness that belies the real problem: lack of consideration of ecological and holistic context results in architecture that does not contribute to natural cycles in a beneficial manner. In 1956, the first true indoor mall, Southdale designed by Victor Gruen, opened its doors.[31] Later, the 1980s saw the birth of a typology of *architecture* which serves as an archetypal illustration of excess space and consumer goods and disconnect from context and environment: the big box store. As the popularity of malls grew, [32] the *supermall* was developed, an absurd enclosure of space which must be conditioned and controlled in all manners.[33abcd] A completely artificial environment was created, one with no connection to the environment in which it was *placed*; a mall is a completely controlled experience. Temperature, climate, and lighting manipulation became a science of control, deemed necessary to encourage bizarre spending habits.[34] Branding and imaging, circulation, spatial hierarchy, and strategic programming of spaces became a designer's tools for directing the movements of consumer pawns in an economic game of profit.

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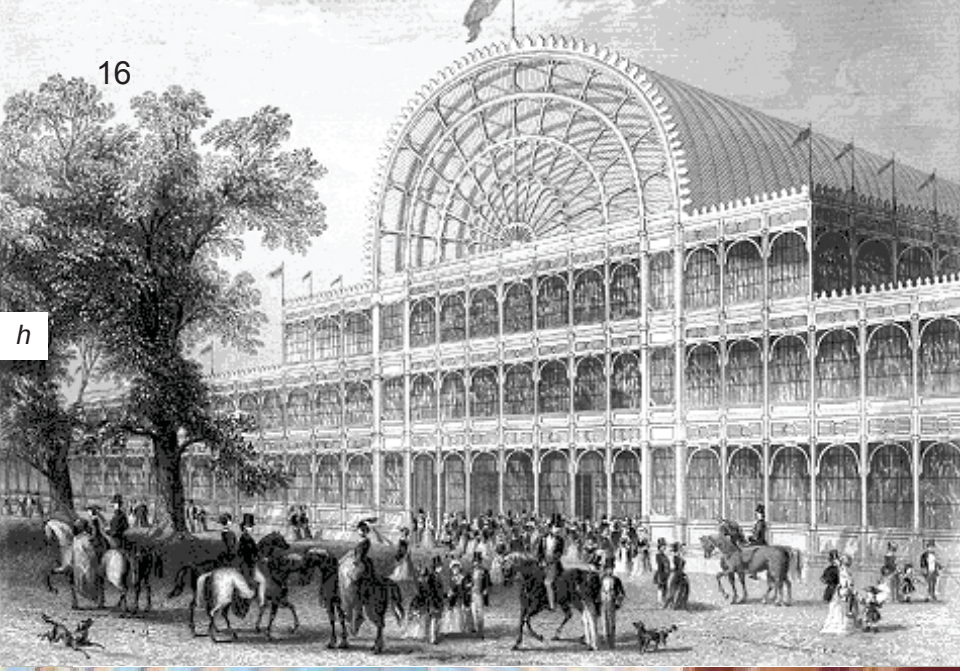
31 Between 1960 and 1980 the regional mall format was perfected, distilled into formulas, and reproduced to the saturation point. Margaret Crawford, "The World in a Shopping Mall," *Variations on a Theme Park: The New American City and the End of Public Space* (Ed. Michael Sorkin. New York: Hill and Wang, 1992), 7-10.

32 Chung, Chuihua Judy, and Jeffrey Inaba, Rem Koolhaas, and Sze Tsung Leong, eds. *Harvard Design School Guide to Shopping*. (New York, NY: TASCHEN GmbH, 2001). *Junkspace* is further defined in this compilation by Rem Koolhaas. Refer to the first section of the book for an informative timeline showing the history of malls, including notables such as Joseph Paxton's Crystal Palace, the Edmonton Mall, and the Mall of America.

33 "Exaggerating the differences between the world outside and the world inside established a basic mall trope: an inverted space whose forbidding exterior hid paradisiacal interiors" (Crawford 22).

34 Forced air heating, in terms of thermal comfort, is the least efficient way to heat a space.



*h*



*i*



*j*

| | square meters per person | square feet per person |
|---|---|---|
| **United States** | **2.9** | **31** |
| U.S. shopping malls | **2.2** | **23** |
| | | |
| **Asia** | **0.2** | **2** |
| Japan | **0.8** | **9** |
| *Tokyo* | **0.3** | **4** |
| China | **0.05** | **0.5** |
| *Hong Kong* | **0.2** | **2** |
| *Shanghai* | **0.2** | **2** |
| South Korea | **0.4** | **4** |
| *Seoul* | **0.1** | **1** |
| Singapore | **0.6** | **6** |
| *Bangkok* | **0.1** | **1** |
| *Jakarta* | **0.1** | **1** |
| *Manila* | **0.2** | **2** |
| *Kuala Lumpur* | **0.8** | **9** |

| | square meters per person | square feet per person |
|---|---|---|
| **Europe** | **0.4** | **4** |
| United Kingdom | **0.9** | **10** |
| France | **0.8** | **9** |
| Germany | **0.2** | **2** |
| Spain | **0.4** | **4** |
| Italy | **0.2** | **2** |
| Sweden | **0.8** | **9** |
| Netherlands | **0.5** | **5** |
| Austria | **0.6** | **6** |
| Switzerland | **0.7** | **7** |
| Portugal | **0.2** | **2** |
| Belgium | **0.2** | **2** |
| Greece | **0.1** | **1** |
| | | |
| **Latin America** | **0.5** | **5** |
| **Former USSR** | **0.1** | **1** |
| **Africa** | **0.01** | **0.1** |
| | | |
| **World** | **0.3** | **4** |

*k*

sources: ICSC, Harvard Project on the City, Shopping Estimates

The mall typology not only illustrates an ultimate disconnect from environmental ties, but also is a vast excess of square footage.[35a] The vastness of enclosure represents a volume of air which must be heated, cooled, moved, and filtered. In combination with the demand for lighting, these burdens translate to a significant energy load. It might be argued that the combination of many stores and services is an example of shared infrastructure that therefore actually reduces the natural resources used for construction and operation of such a building. However, a building of such a size, dictated by the needs of maintaining a comfortable interior experience, limits the effectiveness of passive strategies of solar gain and natural daylighting.[b] Similarly, the construction of such a programmatic giant *necessitates* a parking area of even greater square footage. An endless, impermeable surface can severely alter the water drainage patterns for a site, cause unnatural runoff loads, and allow rainwater to wash away oils and chemicals that are then added to the local watershed.[36]

A large mall, or any box store, represents a typology that is as far removed from ecological motives and as deeply entrenched in economic motives as possible. The leader of all such development is symbolized by the commercial behemoth Wal-Mart.[c] The iconic status of Wal-Mart has reached unprecedented proportions, with brand recognition approaching the status of Coca-Cola. Wal-Mart prides itself on providing a maximized product, the commodification of which provides maximized profits; goods are treated as a resource to be consumed. The staggering fact of the matter is that, while the

---

35 The U.S. has retail space amounting to 31 s.f. per person (23 s.f. per person is contained within malls). The retail square footage in the U.S. represents 39% of the world total. Wal-Mart square footage is 3.6% of the U.S. total, with approximately 301,500,000 square feet. *Harvard Design School Guide to Shopping*, 51-52.

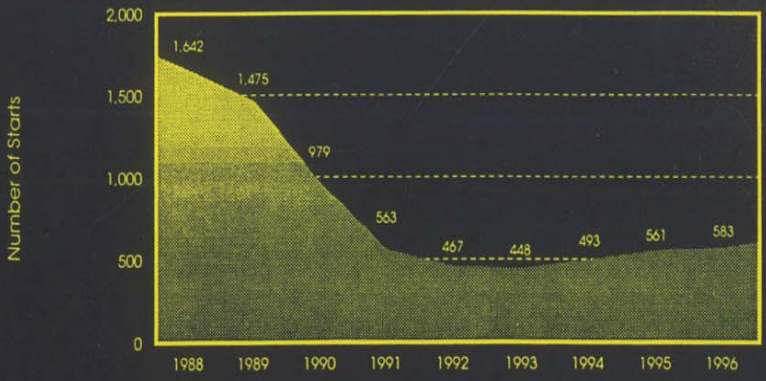
36 "[…] very simply, when the area devoted to parking is too great, it destroys the land."
Christopher Alexander, Sara Ishikawa, Murray Silverstein, Max Jacobson, Ingrid Fiksdahl-King, and Shlomo Angel, *A Pattern Language* (New York, NY: Oxford University Press, 1977), 121.

purchase of such marketable goods is regarded as part of the consumption process, only a marginal percentage of the raw materials used are actually consumed. The balance is bound for a landfill.[37] The industry is focused on the allocation and use of the environment as a resource and a means to achieve capitalistic ends.[38] All decisions are made based on economics and upfront costs. More holistic decision making would include evaluating such costs as degradation of the local environment and systems, impact on local economies and traffic patterns, and other life cycle costs. It is this strictly economic tunnel vision which leads Wal-Mart to construct, after realizing the success of a standard store in a given location, a *Supercenter* across the street. A separate building is evaluated as being an economically advantageous action, as opposed to renovating or adding on to an existing store. A consumer must have more options when it comes to the *whats* and *whens* of consumption of *needed* goods;[39] a consumer desires choices and convenience. Economically, it is more viable to have an uninterrupted transfer of operation from an existing store to a brand new Supercenter;[d] any closure period or reduction in sales due to the movement of goods or renovation of spaces would be a travesty.

37 According to Bill McDonough, Mutually Assured Destruction is an apt description of Wal-Mart style consumption: China toxifies itself and produces cheap goods; the goods are then sold through Sam Walton's effective economic distribution system; eighty percent of the material ends up in a landfill in a short period of time (McDonough, "*Being Less Bad Is Not Being Good*").

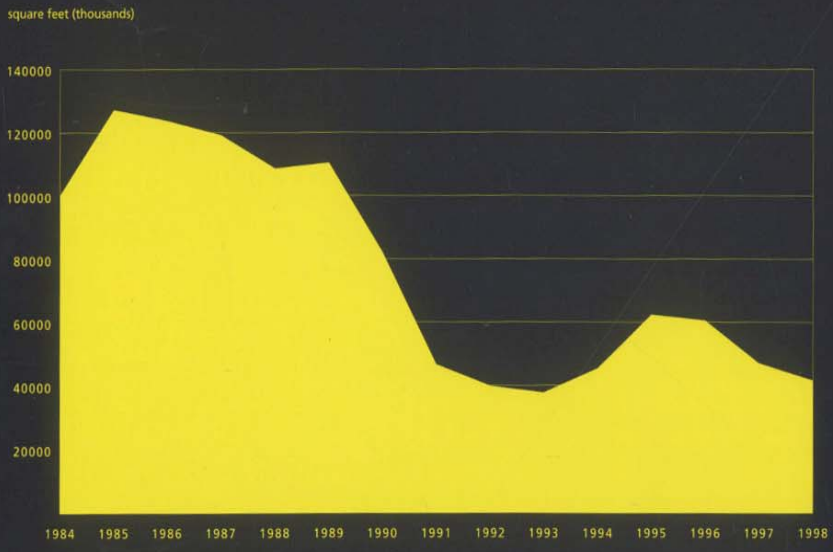
38 Bruce Mau notes that "large retail brands have one foot firmly in ecosystem services and one foot firmly in a brand that is well known with consumers" (Mau 132).

39 "People who shop at Wal-Mart do not want to kill off their old downtown; they want to save a few dollars, have a wider choice of goods, and so forth. Who can blame them?" Michael Benedikt, "Less for Less Yet: On Architecture's Value(s) in the Marketplace," *Commodification and Spectacle in Architecture* (Ed. William Saunders. Minneapolis, MN: University of Minnesota Press, 2005), 16.




New shopping centers: United States

Source: International Council of Shopping Centers




Shopping center construction, square feet: United States

Source: International Council of Shopping Centers

24 DEPARTMENT STORE ECONOMIST June 21, 1939

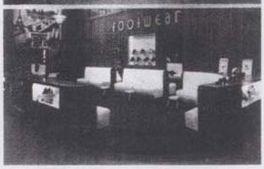
# WINDOW-LESS STORE

## Built By R. L. Baldwin Has 5 Floors

**Eliminating All Windows in Selling Spaces Lowers Heating, Cooling Costs. Adds to Selling Efficiency**

By E. PAUL BEMIS
Department Store Architect






One of the first windowless merchandising stores in the South was recently created by the addition of a new unit to the existing structure of R. L. Baldwin & Co., Durham, N. C. This enlarged and modernized store now contains a floor area of more than 30,000 sq. ft., on five floors and is devoted to women's and children's apparel, as well as men's furnishings, draperies, fine stationery and fine gifts.

All windows have been blocked by constructing air-tight partitions between the windows and the selling floors. Selling spaces are free from the slightest daylight or natural combination, thereby eliminating dust and insects, noise entering below, and a robust, mechanical ventilation and air conditioning, pleasing, artificial lighting result.

The exterior of the building remains windows the same as in the conventional store. However, in the interior, not a single window is to be seen on the selling floors. The windows only serve certain service work rooms and other utility departments.

### Lighting More Effective

By eliminating the windows, the heating and cooling problems are better and more economically. The artificial lighting is more effective and in most ways the illumination of the selling floors is superior to that of the daylighted windows of the store. Being all daylighted windows are closed to the selling spaces, it was important to install an efficient artificial lighting system for a window-less store which would give sufficient light but would also avoid excessive glare and shadows.

Extensive ratings would entail a higher maintenance cost as well as burden the air conditioning system with an additional heat load. The lighting chandeliers involved methods for the best light distribution, plus high horizontally ceiling with the least consumption of current.

Light intensity for the first and second floor was designed to pro-

[illegible] Divine candles uniformly throughout. Other floors were designed for diffused candles. A combination of direct flush ceiling units with indirect, suspended units was employed. It was determined, through experiments, that this combination produced the best results. Flexible light control through different sets of switches was employed so that the store could be illuminated with three different light intensities. The lowest intensity was three about 10-foot candles, the second 15, etc. The full intensity is employed during the store's most active business hours.

A window-less [illegible] mechanical ventilation and air conditioning system is employed throughout the entire store. However, in the interior, not a single window is to be seen on the selling floors. The windows only serve certain service work rooms and other utility departments.

The air conditioning system is used for filtering, washing and cooling the air in winter. Also, it eliminates the traditional radiators, since all warm air is transmitted through the floor to concealed ducts.

A window-less store is the ideal condition for best performance of the mechanical cooling, heating, ventilating and store lighting systems. In the near future, we venture to say, every new store will be designed on the window-less principle.

### Use Photo Murals

In many respects, the design and decorative appointment are impressive and unique. Lifted two walls of photo murals, scenes, scenes and others. Every floor and color is treated in a different color and wood finish.

The walls and fixtures are perfectly flush. In several cases the wood-work of the fixtures extends from



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A revolution is a response to certain stimuli or conditions which are determined to be unacceptable. The Sustainability Revolution is often viewed as an iteration or evolution of the environmental movements of the past. Similarly, it is a response to the stimulus of a world wrought with deterioration and destruction that has reared its ugly head increasingly over the last several decades. As time has progressed, the most pertinent and relative revolutionary impetus has changed, depending on geographical, chronological, and sociopolitical factors.

The history and definition of the movement shed light on both the stimuli that have existed in the past and the present momentum that exists. The goal is to push the current sustainability trends to the point of revolution beyond the grassroots, often isolated, efforts of an aging generation of *flower children*.

Sustainability is differently defined by advocates and organizations, and the variance of definitions themselves shows the widespread nature of the movement. Triple Bottom Line, the Hanover Principles, and Cradle to Cradle are just a couple of the prevailing guidelines.[40] There are 30,000 sustainability groups in the U.S., and thousands of non-profit organizations worldwide which are dedicated to a sustainable future in some manner.[41] International commitments such as the 1987 UNCED Brundtland Report, defines *sustainable development* as growth "that meets the needs of the present without compromising the ability of future generations to meet their own needs."[42a] The diversity of these groups, who advocate everything from cohousing to biodiesel, is evidenced at such regional conventions as Bioneers.[43]

40 William McDonough and Michael Braungart, *Cradle To Cradle: Remaking the Way We Make Things* (1st ed. New York, NY: North Point Press, 2002), 153. The Triple Bottom Line refers to Ecology, Equity, and Economy.

41 Andrés Edwards, *The Sustainability Revolution: Portrait of a Paradigm Shift* (1st ed. Gabriola Island, BC: New Society Publishers, 2005), 7. Estimate of figures by Paul Hawken.

42 Gissen 15. Notably, this sentiment still has an anthropocentric tone.

43 Bioneers Conference, 4th, 20-22 October 2006. Northern Rockies Bioneers, Bioregional OutReach Network. Bozeman, Montana.

Even a distilled definition is a lengthy amalgamation:

> "*Sustainability includes resource equity, embodied energy, global community, economics, renewability, traditional wisdom, institutional change, and technology*."[44]

Recent history provides a fairly linear progression of education and comprehension of the world of human inhabitance, which improves understanding of the current situation. The evidence explored in the previous section illustrated the progression of lifestyles and a paradigm shift from dependence on the earth for food and the elements vital to life to dependence on the earth for its valuable minerals and extractive opportunities, which fuel a *consumption-based* surplus economy.[45] The aforementioned progression left us with post-Fordian production capabilities and a pump that was primed for maximizing extraction from the earth.[a]

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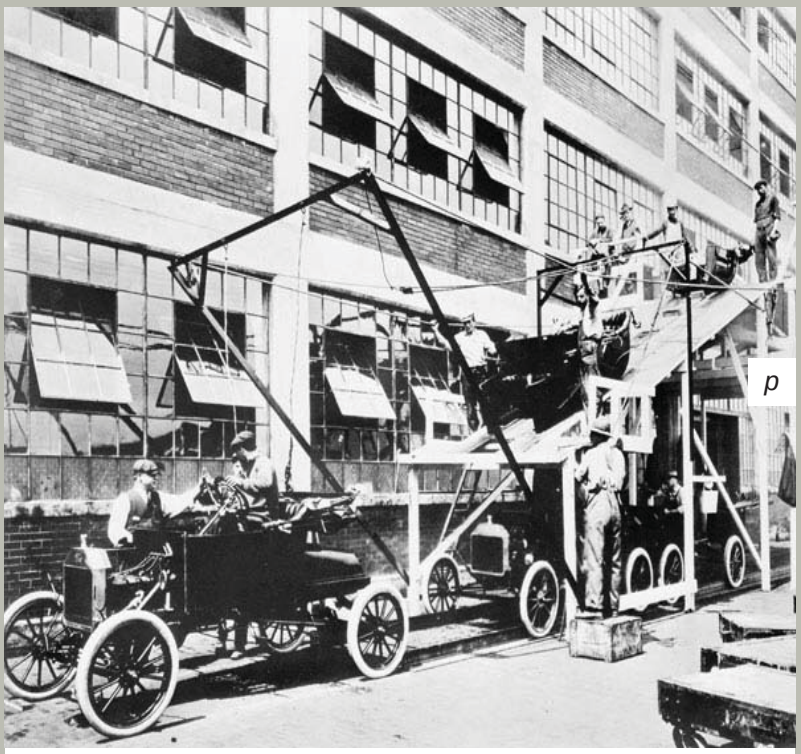
44 James Steele, *Ecological Architecture: A Critical History* (1st ed. New York, NY: Thames & Hudson Inc., 2005), 6-7.

45 Mark Meister and Phyllis Japp, eds., *Enviropop: Studies in Environmental Rhetoric and Popular Culture* (1st ed. Westport, CT: Praeger Publishers, 2002), 7.

"Popular culture is a world where commodification reigns, a world in which everything is a product for consumption; everything if for sale in some aspect or another. The environment is thus a product to be consumed, whether in the form of raw materials for production of goods, the source of experiences to be appropriated, or aesthetic images to enjoy or promote a product."

In this text, the good life and consumer culture are compared – the juxtaposition of simplicity and a "cornucopia of […] consumer delights" (Meister 81).



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Meanwhile, as industries grow, the decay of the earth by extractive processes increases. William McDonough asserts that "design is the first signal of human intention,"[46] and the objectives of the western industrialized world were clearly about reaping the benefits of the earth without the responsibility of a symbiotic relationship.

46 William McDonough, "*Being Less Bad Is Not Being Good*" (2006 AIA National Convention. Los Angeles, CA. 10 June 2006).

Things would change. The 1960s was a decade marked by personal liberties and protests, social revolution, exploration, and production. It was also an era marked by imagery and communication of ideas. One particular image proved fundamental to the growth of the environmental movement and the seeds of change: Earth from space. In 1969, the first image of the planet Earth from space was published, forcing the ranks of global citizenry to consider a realm of questions formerly unrealized.[47a] In the words of William McDonough in reference to throwing things *away*, the concept of "away" went away after 1969, as populations began to understand the finite limits of the planet.[48b] James Corner's *Taking Measures Across the American Landscape*, an "extensive visual panorama," had a similar effect as the view from space after the first moon landing.[49c]

Suddenly, the infinite patterns of growth, consumption, exploration, and production in which the world was currently engaged, were contrasted with an image of a finite Earth. The environment, whose stable conditions allow life to exist, was no longer perceived as being able to coalesce with our boundless existence. It appeared, and this sentiment has grown over the ensuing decades, that humanity was engaged in a dangerous game – a finite game with an uncomfortable end result. The increase in awareness in the 1970s shows the truth in HG Wells' words: "Human history becomes more and more a race between education and catastrophe."[50]

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47 Nicholas Low, Brendan Gleeson, Ray Green, and Darko Radović, *The Green City: Sustainable Homes, Sustainable Suburbs* (1st ed. New York, NY: Routledge, 2005), 13.

48 McDonough, *Cradle to Cradle*, 27.

49 James Corner and Alex MacLean, *Taking Measures Across the American Landscape* (New Haven, CT: Yale University Press, 1996), 15. This record highlights "the landscape created by [the] pattern of production and consumption in suburban sprawl" (Grahame, *The Emergence of 'Landscape Urbanism'*).

50 Gissen 36.

# LIFE

## '68

**The Incredible Year**

**SPECIAL ISSUE**



The earth as seen from Apollo 8 in space, showing the outlines of North and South America

JANUARY 10 · 1969 · 40¢

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The crux of the situation has been aptly described by William McDonough as a challenge for humanity to continue as a participant in a life that is an "infinite game" within a world of finite resources.[51] The publication of the image of earth is the symbolic embodiment of this realization. Soon, the Four Ps - Pollution, Poisons, Pesticides, and Population - began to appear in headlines.[52] In 1970, President Nixon declared ecological destruction a national crisis in his State of the Union address, and the U.S. had its first Earth Day in June of that year.[53]

The subsequent decade saw the exploration of economic practices, and the associated analysis of the emerging environmental movement fostered rational responses. Efficiency served as a rallying cry for many movements during the 1970s. Production efficiency underwent another phase of post-industrial "tightening up" of processes and techniques. Spatial efficiency was realized by significant urban growth, standardization of the built environment, and the processes housed and products produced by the architectural typologies of warehouse and factory respectively.

Environmental awareness began to spread with education and the same mass-media that stimulated the consumer economy. The efficiencies that were being explored in other arenas translated into an evolving architecture that focused on standardization and on universal designs that were able to be successful in many different locations.[54] Unfortunately, this homogeny of design led to a blandness of architectural landscape. The Brutalist *International Style* that was being embraced seemed a subservient byproduct of an increasingly connected world of globalization. The incredible volume of production during wartime and in post-war America had the unfortunate compromise of quality for quantity. The

51 McDonough, "*Being Less Bad Is Not Being Good*."
52 Steele 156.
53 Stitt 156.
54 "Today modernism is associated with a minimalist aesthetic of steel and glass, but it began as an attempt by architects and designers to harness the potential of industry to produce low-cost buildings, in particular, housing." *Harvard Design School Guide to Shopping*, 35.


where is
away?

post-war housing shortage resulted in the construction of a residential landscape of disturbing placelessness.[55] The American dream was realized in the development of a bland, suburban Everytown, America. Two decades later, the aging of both residential and commercial buildings was evident. The 1970s also saw the infamous Oil Crisis and Energy Crunch of 1973. The result of OPEC embargoes and foreign policies, the shocks caused a xenophobic reaction from industrialized (oil dependent) nations seeking energy self-sufficiency,[56] and had a direct impact on ordinary citizens. The oil shocks caused energy conservation to became a buzz phrase,[57] fueled both by frugality in an unstable economy and an understanding that environmental ramifications should be considered.

As a result of the above conditions, the 1970s gave birth to the Three L's, one of the first declarations which contributed to an emergence of a degree of sustainability in architecture: Long Life, Loose Fit, Low Energy. The relation of these responses to the aforementioned contextual stimuli reads clearly. Accompanying theoretical views and writings of the age included E.F. Schumacher's *Small is Beautiful*, a critique of the economic trends of the time that serves as a blueprint by which all generations can examine their own impact. "Apocalyptic publications" such as *Limits to Growth* and *Blueprint for Survival* spread anxiety of planetary Armageddon.[58] Education of the public proved to be an essential avenue if massive change were to ever occur. However, another influential text had a dramatically different approach. Rachel Carson's exposé of the chemical industry in *Silent Spring* took a "shock and awe" approach towards educating the masses and propagating change through guilt.

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55 Following World War II, *Levittowns* sprung up overnight. These factory-built towns were a pinnacle of mass-produced housing. In one instance, there were 17,000 identical capes on 1400 acres. Stitt 404.

56 Steele 36.

57 Low 108.

58 Maurie Cohen and Joseph Murphy, eds., *Exploring Sustainable Consumption: Environmental Policy and the Social Sciences* (1st ed. New York, NY: Pergamon, 2001), 225.

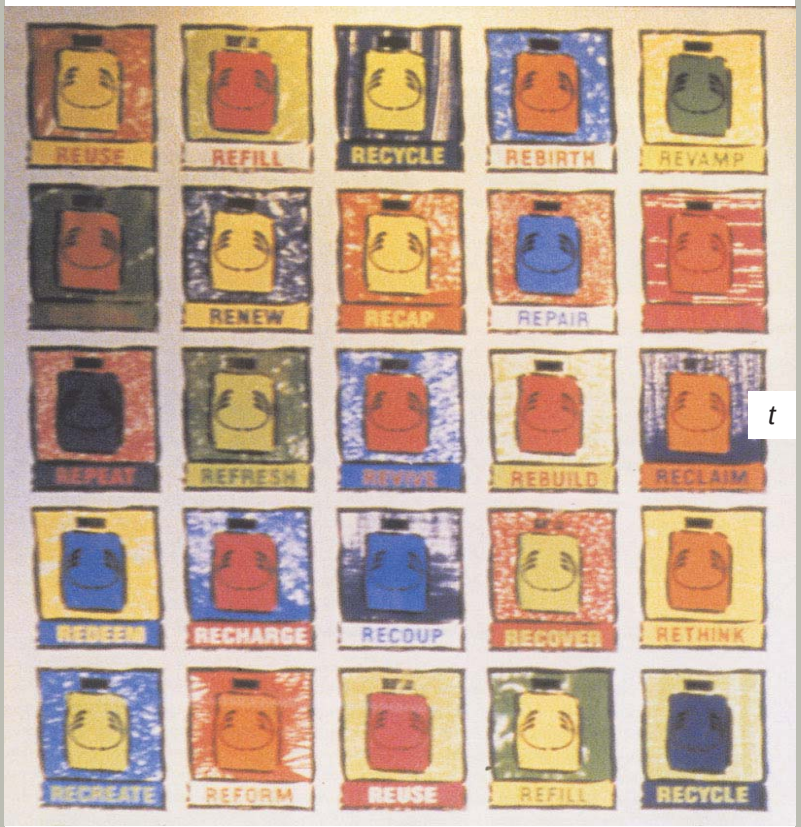
*“Then, a strange blight crept over the area and everything began to change.”*[59]

*“This town does not actually exist, but it might easily have a thousand counterparts in America or elsewhere in the world.”*[60]

*“It is also an era dominated by industry, in which the right to make a dollar at whatever cost is seldom challenged.”*[61]

59 Carson 2.
60 Carson 3.
61 Carson 13.

The "visible evidence" of the 1970s[62] - rising fuel costs and environmental damage - led to an increased realization that the earth's resources are not exhaustible was becoming more prevalent.[63] The 1980s brought radicalism to the sensible attitudes popular in the 60s.[64] The decade saw influence of the Three Rs - Reduce, Reuse, Recycle[65] – as well as an increasing reliance on technology.[a]

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62 Gissen 10.
63 Joost van Kasteren, Huub Croes, Marcel Dewever, and Michiel Haas, *Buildings that Last: Guidelines for Strategic Thinking*, (1st ed. New York, NY: Distributed Art Publishers Inc., 2002), 12.
64 Steele 8.
65 Some suggest a 4th R should be added – Recover (Gissen 43).

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*Efficiency,*
*Materials and Finishes,*
*and the LEEDing Edge*

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Understanding the current condition of the sustainable movement, at least in generic terms, is fundamental to making a prognosis as to the future of ecological design and sustainability. In order to adequately conceive of the *next generation of sustainability in architecture*, the past and present provide the evolutionary keys. The strength of the existing movement, whose societal basis still remains very much at the grassroots level, indicates a potential that is worth its weight in discourse. The development of cutting-edge technologies provides evidence that we are beginning to understand natural systems to the point of replication and utilization of their benefits.[66] The popularity and marketing of materials and finishes is indicative of a public that is buying into the image of sustainable building. The increasing use of optimum value engineering (and advanced framing techniques in the residential construction sector), and a focus on the energy efficiency that was the mantra of the 1970s, translate into an economic focus. The development and increasing recognition and use of sustainable certification initiatives, such as LEED and Energy Star, are certainly trends that offer hope for a more widely accepted standard of environmental accountability.

However, these *solutions*, which accommodate quantifications of environmental kindness and the image-laden marketability of a lifestyle, do not provide a truly practical assessment of sustainability that is relevant to our modern world. The ability of these standards and trends to endure the test of time (*are the ideas themselves sustainable?*) is questionable. Out of necessity, the focus of ecological design will shift over the next thirty years, and the future of the sustainable movement is the subject of much discourse.

66 Research on advanced photovoltaics is exploring the replication of the photosynthetic process. (*Biomimicry*, 62-94). The potential of solar energy (all energy is in some way a form of solar energy) is incredible; a free wireless source of nuclear fusion just 8 minutes away (McDonough, *Being Less Bad is not Good*).

In order for the sustainable movement to be truly a self-sustaining concept, it must address a condition that is universal in nature, yet can be practically addressed at a local level. Using the tenets of Malcolm Gladwell's *The Tipping Point* and Bruce Mau's *Massive Change*, small changes to an existing situation can add up to achieve a revolutionary shift in approach and socio-cultural acceptance and promotion. Mau identifies the power of large corporations to evoke change: "one incremental change for them becomes massive change for the entire industry."[67]

There is a portion of the environmental and design communities that views technology as the saving grace of both the architecture profession, and, more macrocosmically, our planet.[68] Others claim that these advocates are merely "seduced by the imagery" of *high-tech*, whose over-complexity often exceeds actual needs.[69] Often, our euphoria at new technology translates to an "illusion of detachment," where we are living with less and less direct contact with nature.[70] Technological invention takes time and often incorporates the use of high-tech materials, which themselves are not natural derivatives of the earth, but synthetic laboratory creations. Technology brought us chlorofluorocarbons and plastics that will not biodegrade in an acceptable timeframe. The fiscal input required for new technologies' research and development, not to mention the cost to an eventual consumer, is not yet feasible or economically sustainable. The encouraging indicator on the technological front is that much of the developing technology is focused on systems which are related to a more holistic design approach.

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67 Mau 131.

68 Many advocate *appropriate* technology based on *Small is Beautiful* principles - "modest solutions to environmental problems, claiming that 'high tech' answers just cause more problems and resource depletion. The 'high-tech' advocates […] continue to believe that all problems can be solved by science." Steele 6-7.

69 Peter Smith, *Architecture in a Climate of Change: A Guide to Sustainable Design* (1st ed. Boston, MA: Architectural Press, 2001), 162.

70 Low 18.

In the architectural and construction industries, there is a prevalent trend occurring – that of "greenwashing." Product vendors and sales representatives are engrained with a company doctrine, which advocates the "sustainable" nature of the marketed product. One of the inherent predicaments with the sustainable movement is that there are a host of definitions, as well as criteria, by which to evaluate a product's "greenness": embodied energy, proximity of source, recycled content, durability, flexibility, energy efficiency, life cycle analysis, LEED points, FSC certification, Energy Star rating, and other assessment standards.[71abc] This debate seems to mostly focus on the materials and finishes which are specified and installed on a given project. Efficient appliances, trendy cork and bamboo floors, recycled content terrazzo, certified woods, and photovoltaics are all products that seem to shout and tout their own *sustainability*.[72def] They have become buzz words, a "fashion of the intelligentsia,"[73] much like the movement itself, whose meaning has been distorted and often lost.[74]

At a recent AIA Convention in Billings, Montana, I heard countless vendors and representatives peddle the *greenness* of their product. From selectively harvested old growth forests to petroleum-based insulations, each representative insisted on the greenness of their product and their company. The various rating systems also represent a level of bias. The evolving national standard appears to be the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) guidelines.

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71 Leadership in Energy and Environmental Design, Forest Stewardship Council, Energy Star (appliance ratings), Sustainable Forestry Initiative (ensures long-term forestry management plan), etc. All are a type of *Ecolabelling*.

72 Cork and bamboo, hyped for there fast-growing nature and ability to be sustainably harvested, are often shipped all over the world, calling into question the associated embodied energy.

73 Low (back cover).

74 Buzz words can "become a shield towards design." (Bill Massie, HATCHfest, "*Architectural Panel*." HATCHfest. Emerson Cultural Center, Bozeman, MT. 3 Oct. 2006).



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*“It’s not easy being green.”*

*- Kermit the Frog, 1972*[75]

*“Not all that can be counted counts, and not all that counts can be counted.”*

*- Albert Einstein*[76]

75 Stitt 5.
76 Low 182.

Admittedly, LEED and other evaluation systems, are *products* (the USGBC even uses this terminology), because they are evaluations which are paid for and marketed as a *gold star* – a pat on the back for sustainable design.[77]

However helpful these ratings are in establishing national and international standards for various criterions, they inherently reduce a holistic sense of design to a series of numbers and checklists. It would be impossible for any of these to address every aspect of sustainable design which would ideally be considered. Instead, the attitude seems to have shifted away from design guided by sustainable principles, towards design guided by LEED points. For a given site condition, these point categories' relevance and applicability differs.[78] This can lead to a level of misrepresentation and "greenwashing" by both architects and contractors; this half-rhetoric needs to be viewed with skepticism.[79] Other ironies include the *negative* points awarded as penalties for non-sustainable design characteristics such as excess square footage. In a movement where *small is beautiful,* and efficiency reigns, the square footage of a building is a continual point of contention. However, the increase in square footage, which has occurred over the last fifty years,[80] is not limited to standard construction, but extends into the realm of "sustainable design." Since building green is perceived as more expensive,[81] many residential projects are for more wealthy clients.

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77 "But a measuring stick alone will not bring about change; what matters is the intention and the way in which you put it to use." (*Buildings that Last*, 124).

78 For example, LEED points are given for a bike rack, regardless of whether or not bicycle transportation is realistic.

79 Low 187.

80 In the year 2000, homes were 38% larger than in 1975 despite smaller households (*Green Living* 239), and the last 50 years have seen an increase from 1100 to 2450 s.f. Since every new 2000 square foot house is equivalent to one acre of clear cut (Chiras 2), and 90% of the 1.2 million single family homes built annually in the U.S. are wood-framed, the implications are astounding (*Green Living* 137).

81 While initial costs may be more expensive, life cycle analysis, from "construction to obsolescence" (Low 112), proves economic benefits; initial construction costs represent only ten percent of lifetime operation costs (*Design E²: The Economies of Being Environmentally Conscious*).

Consequently, “sustainably” designed projects are often second homes. “Let’s face it: Having a second home is itself a sort of appalling excess. We figured if we’re going to do it, we better be as responsible as we can.”[82] This should strike a chord within the sustainable movement, due to the inherent wastefulness and excess of consumption that is represented in a second residence.

While ecological standards and product manufacturers’ commitments represent significant effort on the sustainable design front, there is also much progress to be made. Many approaches still fail to realize that products and projects, conceived of in traditional industrial and post-Fordian terms, still correspond to significant consumption of resources and creation of waste. Instead, a converse approach, epitomized by the *waste equals food* philosophy of Nature, asserts that there is existent waste which designers can treat as the impetus and input for design. Our concept of waste has been misconstrued and disregards the potential. There will always be waste, a natural byproduct of human and development processes.

Landscape urbanism, often touted as the next wave of sustainability, addresses the blight of urban landscapes and looks at solving the problems that industrial development has created over the last one hundred and fifty years.[83] Yet, the approach is based in master planning and scheming at a level which often seems unrealistic. Central to the ecological movements of the past is the tenet that small decisions, when added up, can evoke massive change and lead to the tipping point of a revolution. The next generation of sustainability should address a universal condition with this potential. Design must address ecological, socio-cultural, and community sustainability, and take a different look at what we have at our disposal and how we can improve the world around us in these terms.

82 *Green Living* 136-137. Interview with Julia Louis-Dreyfus and Brad Hall.
83 Charles Waldheim “highlighted the leftover void spaces of the city as potential commons” (Grahame, *The Emergence of ‘Landscape Urbanism’*).

*"America is drowning in retail glut - and we wouldn't have it any other way."*[84]

84 Al Norman, "Slam Dunking Wal-Mart: The Case Against Sprawl," 1999, Sprawl Busters: Home Town America Fights Back! 26 March 2007. <http://www.sprawl-busters.com/caseagainstsprawl.htm>.

The Big Box store typology is not a new concept. Its roots can be traced back to the early 1960s and the openings of the first Target, Woolworths, and Wal-Mart. Sam Walton, and the other founders saw incredible entrepreneurial possibility in the *discount store*. Further back, the lineage of the modern box store might be traced to such vast enclosures as Joseph Paxton's Crystal Palace for the London World Expo of 1851. The focus was, and is, on including as much as possible under one roof. Today, big box stores house many of the corporate giants of our generation: Wal-Mart, Kmart, Target, and Costco. While malls and *supermalls* have a large market in the U.S., the anchor stores of malls are now increasingly being found in disconnected big box entities. There are two generic types of these retail behemoths. The first is the general merchandiser who sells a variety of goods and focuses on discount prices and wholesale consumption. The second type is referred to as *category killers*; retailers who operate in a specialized market, such as sporting goods, bed and bath, home repair, or electronics. Both types have an existing stronghold in our economy and a dominating presence on our landscape.

Wal-Mart provides an iconic illustration of the gluttony of space-consumption and proliferation,[85] arguable monopolization of an industry, and a pledge for continued growth.[86] When a Wal-Mart comes to town, there are a number of deleterious effects on existing businesses and residents. An immediate drop in sales for local businesses and retailers often culminates in closeouts and liquidations.

85 By the year 2000, the total area of Wal-Mart stores was over 301 million s.f., an area equal to 1.2 Manhattans. (*Harvard Design School Guide to Shopping* 67)

86 *Wal-Mart: The High Cost of Low Price*. Dir. Robert Greenwald. Brave New Films, 2005. At a Wal-Mart corporate event, CEO Lee Scott pledged to "stay the course." Their current courses of action are disconcerting, save very recent efforts at conservation. For more information on current efforts, see: Wal-Mart. "Environment." 2005. Wal-Mart Stores - Environment. 12 Dec. 2006. <http://walmartstores.com/GlobalWMStoresWeb/navigate.do?catg=217>.

Jobs are lost.[87] Retail property becomes devalued due to the inevitability that a new Wal-Mart will lead to empty buildings along Main Street that will not be able to be sold. Conversely, the value of property around Wal-Mart, which is often undeveloped or former farmland, will become inflated. Another less direct but equally serious byproduct of a new Wal-Mart is the standard operating procedure of a municipality granting subsidies for the construction and extension of basic infrastructures.[88] This money, extended as a welcome mat to a company exceeding $300 billion in sales annually,[89] represents funding that is essentially diverted from other civic services and schools. The detrimental effects of a big box retailer coming to town are disconcerting, especially for a small business owner. Even more startling is the regularity with which these retailers fail to provide basic benefits to their employees.[90] The adverse effects on a community, including the encouragement of automobile culture, are deep reaching, especially in the lower income sectors of society, who make up the majority of Wal-Mart employees and customers. A typical employee might lament their having to cash their paycheck and immediately return to Wal-Mart in order to buy products;[91]

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87 Wal-Mart claims that it provides 100 jobs in a town where it builds a store, yet study shows that 150 jobs are lost in Wal-Mart's service area. (Bill Quinn, *How Wal-Mart is Destroying America (and the World): And What You Can Do About It* (Berkely, CA: Ten Speed Press, 2005), 131.

88 *Wal-Mart: The High Cost of Low Price*. Over $1 billion in subsides nationwide.

89 Wal-Mart. "Timeline." 2005. Wal-Mart Stores - Timeline. 12 Dec. 2006. <http://www.walmartstores.com/GlobalWMStoresWeb/navigate.do?catg=6>.

90 *Wal-Mart: The High Cost of Low Price*. Wal-Mart is often accused of abusing federal assistance programs such as Welfare and Medicaid, as well as state assistance programs. The cost to taxpayers to support Wal-Mart employees due to lack of provision for benefits is estimated at over 1.5 billion dollars. The sticker price of a Wal-Mart and its true costs are often disparate. Many of those employees on federal assistance are minorities and seniors. As the world's largest employer – 1.2 million employees – Wal-Mart employs more minorities and seniors than any other company.

91 *Wal-Mart: The High Cost of Low Price*.

this situation bears a sad resemblance to the company stores common in corrupt industries of the past.[92]

*"You load sixteen tons, and what do you get?*
*Another day older and deeper in debt.*
*Saint Peter, don't you call me, 'cause I can't go;*
*I owe my soul to the company store..."*

- "16 Tons" by Merle Travis, 1947

As an architectural typology, the big box has upsetting consequences. The resultant blandness of aesthetics and of landscape are points of contention, as is the sprawl often encouraged by stores that act as satellites to an already established urban commercial area (downtown). Furthermore, the alteration of natural patterns is harmful to the environment: storm water runoff, loss of established habitats, use of resources for construction. The box store is usually in excess of 50,000 square feet[93] and often much more. A Wal-Mart store is usually in the 100,000 to 140,000 square foot range,[94] and the Supercenters have a footprint between 150,000 and 220,000 square feet.[a]

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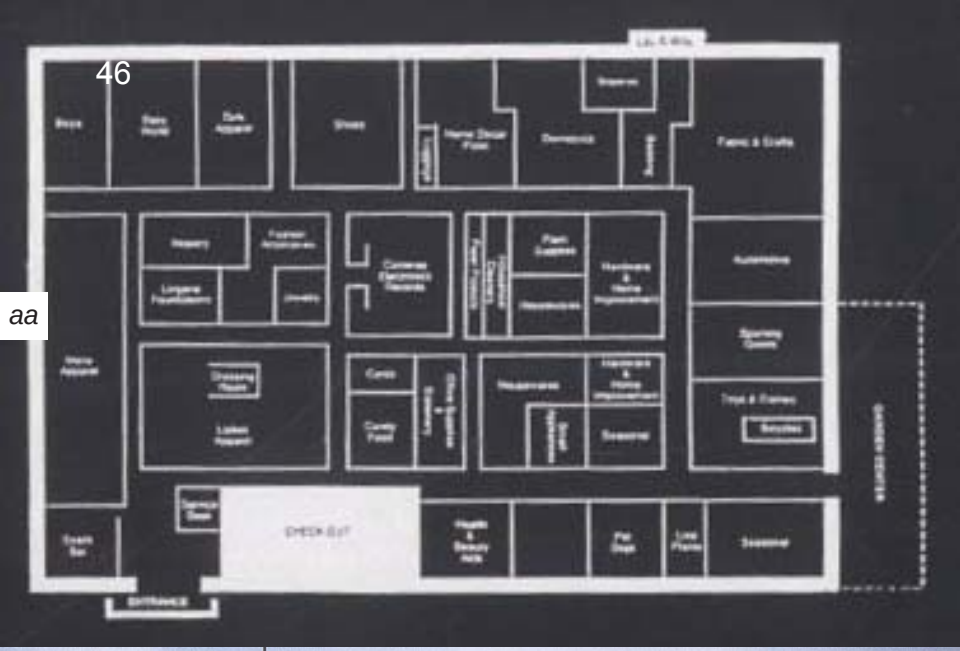
92 The struggles of working such discount center jobs are further investigated in Barbara Ehrenreich's *Nickel and Dimed*, in which the journalist works at a Wal-Mart (Twin Cities, MN) and other remedial jobs (in Key West, FL and Portland, ME), seeking to determine whether a $6-7/hour job will pay enough to "get by" and pay incidental living costs and rent for the cheapest housing available. (Barbara Ehrenreich, *Nickel and Dimed: On (Not) Getting By in America* (New York, NY: Henry Holt and Company, LLC, 2001).

93 50,000 square feet is approximately equivalent to one football field. This is a large amount of space to enclose, and represents the very low end of the big box store typology.

94 Wal-Mart Retail Stores allegedly average 101,000 s.f., though many are significantly larger, and Supercenters average 185,000 s.f. For more information, Wal-Mart's facts site is: Wal-Mart Stores, Inc. "Retail Stores." 2006. Wal-Mart Facts: Get the Facts and Latest News About Wal-Mart from Wal-Mart. 3 Dec. 2006. < http://www.walmartfacts.com/articles/2502.aspx>.


Fabric & Crafts
Seasonal
Automotive
Sporting Goods
Toys & Games
Bicycles
Hardware & Home Improvement
Electronics
Cameras Electronics Service
Jewelry
Fashion Accessories
Lingerie Foundations
Shoes
Home Decor Paint
Domestics
Bedding
Men's Apparel
Ladies' Apparel
Dressing Room
Candy
Candy Food
Check Stands
Customer Service
Health & Beauty Aids
Pet Dept.
Lawn Plants
Seasonal
EXIT
ENTRANCE
GROCERY CENTER

aa



bb

The associated parking contributes by covering an additional square footage, often two to three times the footprint of the store itself, with impervious paving and limited landscaping.[95b]

The square footage of these stores is astounding, but the inherent eventual obsolescence of such a store (a designed obsolescence comparable to the limited lifespan of the products and goods being devoured by consumers) is shocking.[a] Wal-Mart represents just a portion of the total retail market, and currently, the number of empty Wal-Marts alone account for 26,699,678 square feet of vacancy.[96] That figure translates to a square mile of unused space, equivalent to nearly 550 football fields, which could be repurposed. While this surplus is disturbing, the potential of such an available amount of space could be extremely beneficial to society; this square footage could be converted to nearly 30,000 classrooms that could be used to educate almost 600,000 students.[97] Similar societal comparisons evoke possibilities and ideas of how a typology that initially degraded a town might be reincarnated as a life-giving, community-growing center. The inherent irony of many socially responsible solutions is just the beginning; imagine the antithesis of sustainable consumption and development – the box store – being adaptively reused and re-envisioned to provide housing, support local business and agriculture, and give back to the earth. A sense of community might be fostered whose sincerity extends beyond the (Wal-Mart) commercials featuring smiling employees and a company's *commitment* to the local community. The principles of Wal-Mart that have led to its commercial success might be translated and applied to achieve community success.

This optimistic musing begs the question: Why doesn't Wal-Mart incorporate a future reuse of their buildings in their

95 Five Stones and The Center for Community and Corporate Ethics. "Battle-Mart: Zoning Regulations." 2005. Wal-Mart Watch – Battle-Mart:Zoning Regulations. 3 Dec. 2006
< http://walmartwatch.com/battlemart/go/cat/zoning_regulations>.
96 *Wal-Mart: The High Cost of Low Price*.
97 *Wal-Mart: The High Cost of Low Price*.

designs?[98] Why is it that the Waltons[99] and the CEO of Wal-Mart, Lee Scott,[100] are unable to see the justification of designing these spaces for a second life? Certainly they can afford the design budget, and certainly they could use the public relations and brand reputation benefits. Instead, the following situations occur: Wal-Mart in Cathedral City, CA moves 2.2 miles out of town, and the town loses potential earnings for sales tax; Wal-Marts are fined extensively for violations of the Clean Water Act and other environmental regulations; proposed Wal-Marts around the country are protested to the point of dismissal by local communities;[101] Wal-Mart attempts to build adjacent to the Washington Farm where George Washington spent his childhood; Wal-Mart in Auburn, Maine is closed and a new Supercenter is opened across the street.

98 See *Precedent Studies* for further information on William McDonough's 1993 Eco-Mart design of a Wal-Mart whose design incorporated a future reuse as housing.

99 *Wal-Mart: The High Cost of Low Price*. As the world's wealthiest family, with a net worth of over $100 billion, the Walton's give less than one percent of their charity. Notably, Bill Gates contributes 58% of his wealth to philanthropic efforts.

100 *Wal-Mart: The High Cost of Low Price*. Lee Scott's 2005 salary was over $27 million, while the average hourly employee made less than $14,000.

101 Bangor, Maine, Sanford, Maine, and Nashua, New Hampshire are communities, relatively near the proposed project site, which have all rejected Wal-Mart's attempts to build.







cc

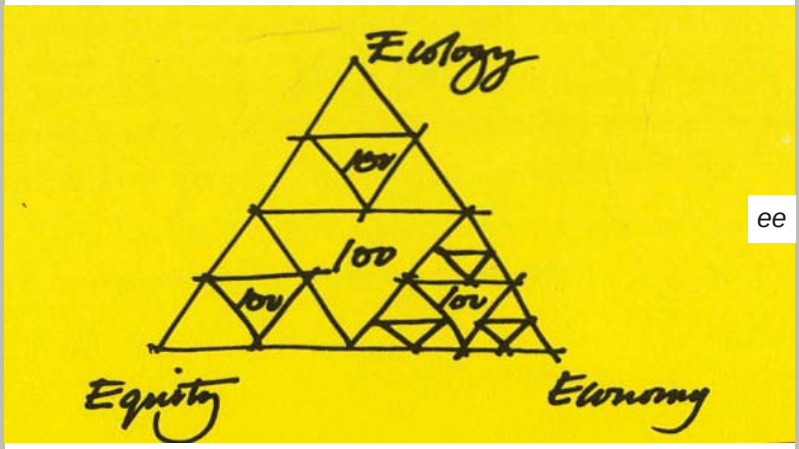
*The department store, the mall, even the big box - they're dead and buried. Wait'll you see The Next Big Thing.*





dd

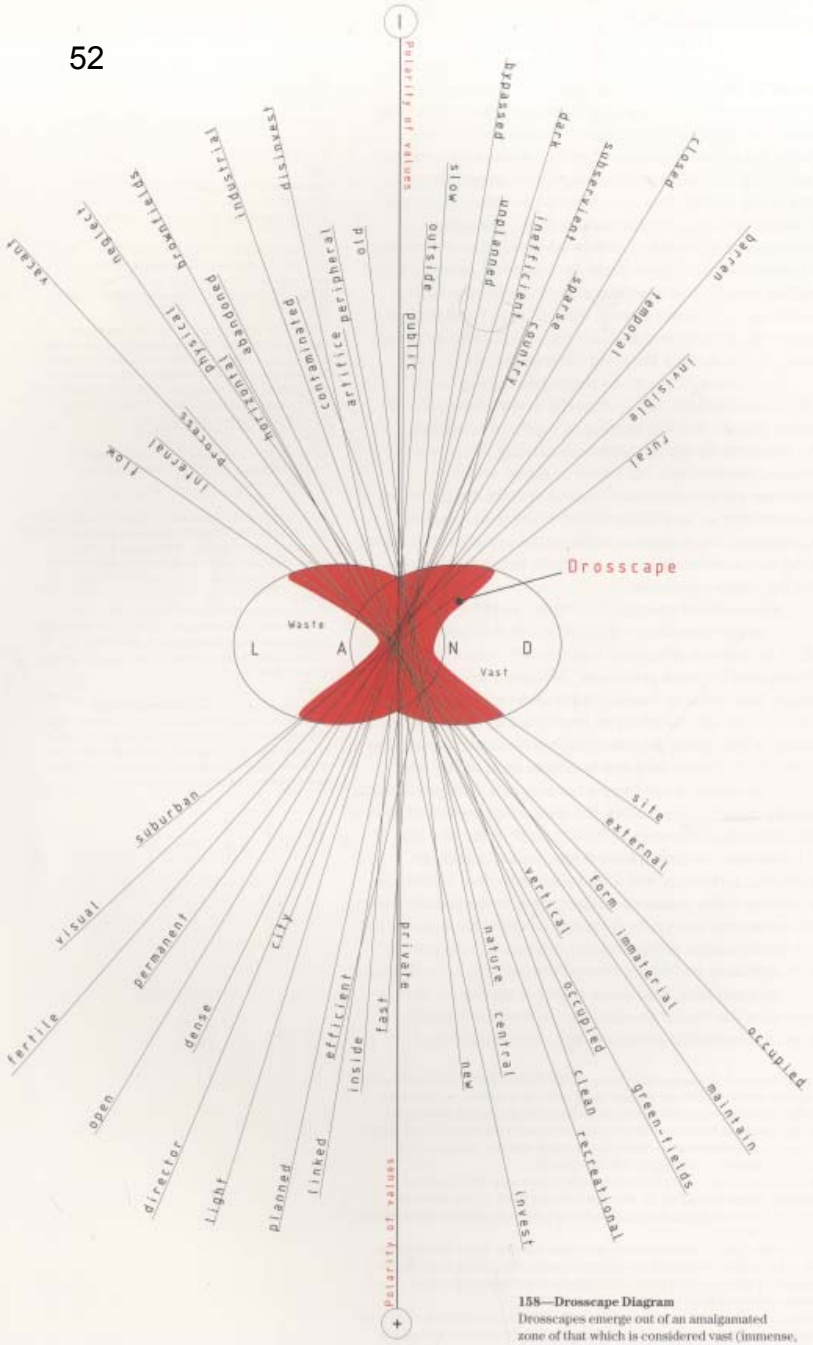
The current world is characterized by growth and consumption. The *natural* byproduct of both of these processes is waste, or dross:[a] wasted land, wasted sites, wasted resources, wasted infrastructure, wasted garbage.[b] Waste can be condemned and viewed apathetically or pessimistically, or it can be taken as a potential input, a possibility for improvement. The concept that *waste equals food*, explored in William McDonough and Michael Braungart's *Cradle to Cradle*, represents this paradigm shift. It is proposed as a holistic design approach that parallels the natural recycling and reuse of basic chemicals in nature, and requires "complex interactive and responsive processing" on the part of a designer.[102]




*ee*

*"[There is an] inseparable relationship between [...] contemporary advertising images and the romanticization of postindustrial derelict landscapes."*[103]

102 Alan Berger, *Drosscape: Wasting Land in Urban America* (1st ed. New York, NY: Princeton Architectural Press, 2006), 3.
103 Alan Berger, *Drosscape: Wasting Land in Urban America* (1st ed. New York, NY: Princeton Architectural Press, 2006), 3.




**158—Drosscape Diagram**
Drosscapes emerge out of an amalgamated zone of that which is considered vast (immense, extensive), and that which is waste (squandered, ravaged). Other values stretch the drosscape into an amorphous entity emerging from a wide range of societal concerns.

*"Cycle to cycle: Instead of disposing of waste, think about how to use it as an input. The goal is no waste generation at all. Apply the intelligence of nature to human needs. Waste = food."*[104a]

The world in which we live is entrenched in a *cradle-to-grave* lifestyle of consumption. Unprecedented resource waste is all around us. Observe the excessive product packaging at any department store or shopping market, the overflowing garbage barrels in front of peoples' houses each week, the accumulation of material goods, and the land around us that is contaminated or derelict due to misuse. We treat land and architectural sites as a resource to be consumed and therefore wasted.[105]

The concept of the Drosscape is first presented in the text *Drosscape: A New Paradigm*, first published in 2005. It addresses wasted land and wasted sites as wasted resources, natural byproducts of deindustrialization.[106] Dross is often leftover, discarded, vacant, or peripheral. Urban growth, industrialization, and suburban development have left behind socio-cultural waste and infrastructures that are becoming dross or are already categorized as interstitial *junkspace*.[107] Suburban development creates big box stores and retail environments that are soon to become extinct or antiquated in a fast-paced commercial society. Retail development and malls are designed as spaces that will create a controlled environment. Sze Tsung Leong suggests that this "control space generates its own type of residue."[108] This cumulative residual space is often the most pervasive and abundant manifestation of dross at the suburban level.

---

104 McDonough quoted in Mau, 187.

105 For an interesting perspective on the "consumption of place" – the treatment of nature as a consumption good – and the "consumption of space," see *Exploring Sustainable Consumption* (Cohen 121).

106 Berger 3.

107 *Harvard Design School Guide to Shopping*.

108 Sze Tsung Leong in *Harvard Design School Guide to Shopping, 777*.

*"Vacant big box space in the Chicago area now totals more than 12 million square feet."*[109a]

*"[…]by 2010, 55% of the nation's shopping (is predicted to) be conducted in nonstore venues – online services[…] and the like."*[110]

gg

*"The dead mall, already in evidence in some more prescient corners of the country, will likely be a fixture of the suburban environment in the not-too-distant future […] The latest victim of the cut-throat world of retail, the mall lies in disrepair alongside the highway, an abandoned corpse."*[111b]

*"Aggressive builders like Wal-Mart chief executive officer David Glass, along with old retail pros such as Stanley Marcus, are predicting that 50 to 75 percent of present retail will be extinct within a decade."*[112c]

hh

109 Kenneth Labich in *Harvard Design School Guide to Shopping, 78-79.*
110 Dale Lewison in *Harvard Design School Guide to Shopping, 76-77.*
111 Daniel Herman in *Harvard Design School Guide to Shopping, 466.*
112 Greg Hassell in *Harvard Design School Guide to Shopping, 74-75.*

*"Some securities analysts are warning that as many as 600 of the nations 2,000 regional malls may be closed or converted to other uses in the coming years."*[113]

ii

*In the next few decades, there will be a surplus of wasted space, vacant store lots, oceans of parking lots, and wasted* landscapes of exchange.[114a]

*"Relatively new big-box retailers are replacing their smaller stores with "supercenters" leaving empty, vacant, or abandoned property and buildings scattered across the country. Wal-Mart closed nearly three hundred stores in recent years in the effort to consolidate its retail operations into supercenters."*[115]

jj

113 Daniel Herman in *Harvard Design School Guide to Shopping, 464.*
114 Berger 204-205. Landscapes of exchange – i.e. shopping centers, big box stores, etc. Berger identifies an increase in *demalling* ("the vacancy rate of older shopping centers"), as 440 regional malls were abandoned on dying in 2001. "During the past five years Montgomery Ward, JC Penney, Stern's, Kmart, Sears, and Lord & Taylor, among others, closed more than seven hundred stores that were considered anchors in regional and smaller retail malls as part of bankruptcies, restructurings, or market repositioning."
115 Berger 204-205.

kk

What might happen when a recession hits and the economy takes a downturn? Such economic shifts are inevitable, and they translate to increased competition in the already overburdened world of retail. With *category killers* and continual rivalry between big box retailers and discount stores, not all merchandisers will be able to survive.

While it is certainly important to create built environments that are durable and have an inherent second-life potential for adaptation, it is more important to understand the practical potential of this already wasted space for redevelopment. The materials and resources that have been used can be *re*imagined and areas of suburban development revitalized for the benefit of the community.[116] Reusing or repurposing an existing structure should always be considered as the first solution. The waste characterized by the drosscape must be treated as the *food*, or input, for the next generation of the sustainable revolution. The focus – a more holistic and responsible design approach - extends beyond ecological sustainability to include economic and socio-cultural sustainability as well.

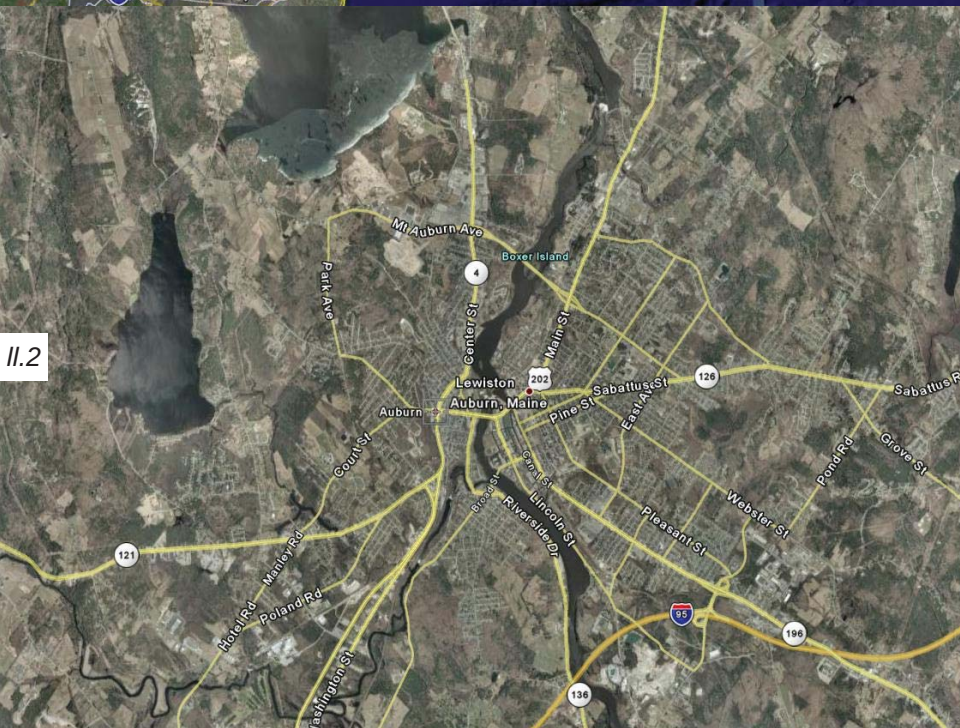
116 "The suburb itself [is] a product; nature and community packaged and sold" (Crawford 21). Can this paradigm serve as a mantra for repurposed suburban landscapes of exchange? This concept serves as a summary of the design implications of the project.

***"A mature approach to sustainability means acknowledging the dialects between cultural and ecological sustainability: these two ideas must be addressed as an inseparable complex of related issues."***[117]

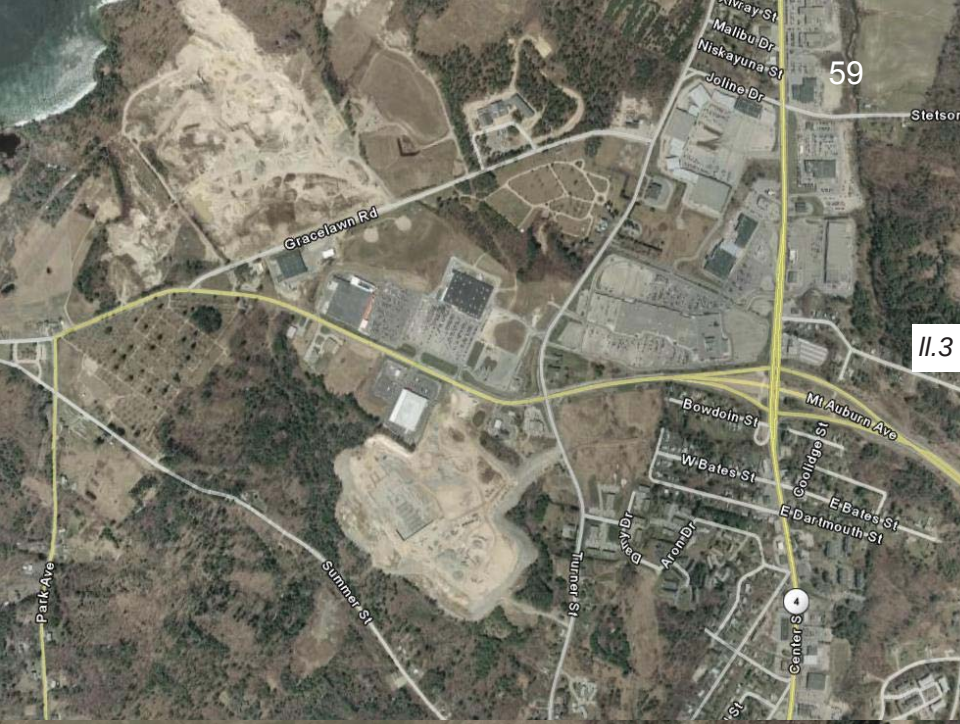
117 Low 131.


Montréal
Ottawa
Toronto
New Brunswick
Prince Edward Island
Maine
Nova Scotia
Auburn, Maine
Vermont
New Hampshire
New York
Rhode Island
Pennsylvania
New York
New Jersey
Philadelphia

II.1


Mt Auburn Ave
Boxer Island
Park Ave
Center St
Main St
Lewiston
Auburn, Maine
Auburn
Sabattus St
Pine St
East Av
Court St
Canal St
Broad St
Riverside Dr
Lincoln St
Pleasant St
Webster St
Pond Rd
Grove St
Manley Rd
Hotel Rd
Poland Rd
Washington St

II.2


Murray St
Malibu Dr
Niskayuna St
Joline Dr
Stetson
Gracclawn Rd
Bowdoin St
Mt Auburn Ave
W Bates St
Coolidge St
E Bates St
E Dartmouth St
Berry Dr
Aron Dr
Turner St
Summer St
Park Ave
Center St

II.3


Mt Auburn Ave

II.4









*mm.1-.7*



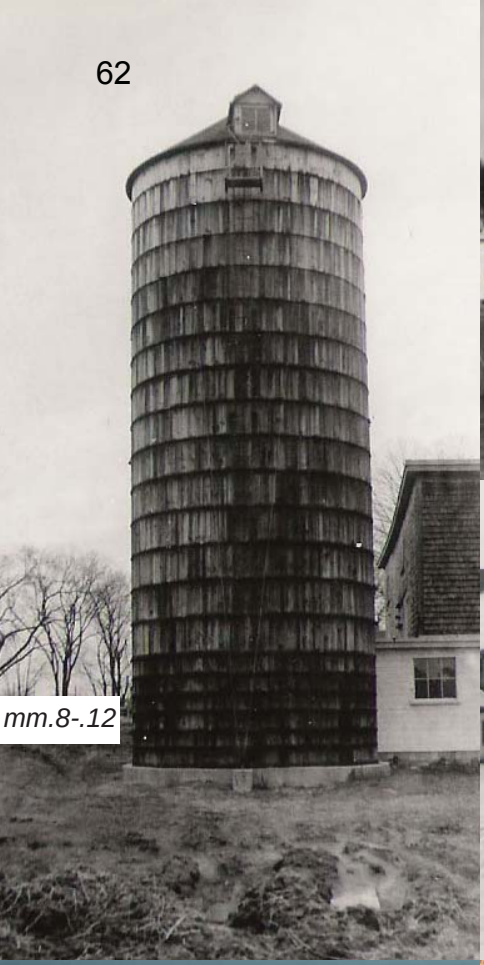




During the 1950s, Auburn, Maine was an industrialized city of around 20,000 residents. Its sister city of Lewiston, located across the Androscoggin River, was home to shoe and textile mills. At this point, Auburn was home to many farms – rolling stretches of fields that supported a thriving dairy production industry. These farms were all family-owned operations, all relatively small in scale, at least in comparison to the mid-western plots of land now serving automated dairy production. Near an intersection in Auburn, where Mount Auburn Avenue met Turner Street, were located three family farms, operated by: the Winters, the Mowers, and the Whites. Whiteholm Dairy and its accompanying pastures of grazing Jersey cows, lay on the north side of Mount Auburn Ave.

The White farm, originally established in the late 1700s,[118] was fully operational until the late 1970s, when the economics of maintaining a small-scale farm became prohibitive. The cows were sold in 1971, but the farm continued to process milk for another 5 years. The Whites closed down the farm in 1976, and sold the land to developers in the mid-1980s. Within a few years, Wal-Mart had decided that Auburn, Maine, was a prime market for big box store consumerism. A declining economy and a swelling lower-middle class, with average incomes well below the wealthier Portland suburbs of Southern Maine, provided significant potential. Wal-Mart searched for land to purchase in Auburn, and found the old site of the White family farmstead. The ball of development was soon rolling – an off-the-shelf design cranked out by corporate architects seemed appropriate for the site. However, in order for the site to work, the adjacent roads would need to be altered and traffic patterns changed for the projected influx of automobile consumers. The site also sloped down to the road, and such a grade would not work for such a large building designed for a pancake-flat plot of land. Naturally, this meant that the earth must be manipulated in order to serve the prepackaged *design*. A change of no less than 30' was necessary.

118 The farm's uses changed over time, becoming a dairy farm in the 1910s.



*mm.8-.12*









The site of a former pasture, which served as a young girl's riding ring for her horse, would now be transformed into a sea of pavement and parking. Construction began in 1993 and the store opened in February of 1994.

Wal-Mart was not the only developer that had latched onto this farmland. The Auburn Mall had been built in the late 1970s across Turner Street, and up Mount Auburn Ave. another big box was going in – a future BJ's. While wholesale would provide a bit of market competition, time would prove Wal-Mart's success. Ten years down the road, the corporation would deem that the store's success in the area mandated expansion of the store into a new 24-hour Wal-Mart Supercenter. The new center's name: Whiteholm Farm Plaza. Yet, expansion and renovation of the existing building would be more difficult and possibly more costly to construct. More importantly, it would cause undue interruption of the ceaseless stream of consumers coming in the doors. A day of sales lost was a profit margin that Wal-Mart was unwilling to cede. So, plans and development began again: phase two of the Wal-Marting of Auburn. The previously undeveloped land across Mount Auburn Avenue was purchased, and in 2000 construction of the new Supercenter began in earnest, a discount store of unprecedented size in Auburn. A newly burgeoning population of immigrants and lower income families would ensure the new store's success.[119] However, an abundance of new development called into question the town's ability to support the recent commercial growth without accompanying residential and population growth. If smart residential growth occurred, the existing situation might be salvageable. If the unmet needs of the residential population were addressed and the *customers* of the stores valued, instead of seen only in light of their purchasing power, then the community could be sustained.

119 Crawford characterizes *Sustainers* ("'struggling poor; anger toward the American system"') and *Belongers* ("'middle-class, conservative, conforming shoppers, low to moderate income'") as being "'value oriented'" and correlating to the success of stores such as Kmart (and Wal-Mart). Crawford 9.







nn.1-.3



A new Wal-Mart is also planned to be built in the neighboring town of Lewiston:

"[…] Auburn's Linda Berube had a more dismal view.
'Lewiston and Auburn, we're still a pretty small community,' she said. 'I don't think we can support all of this.'
She's afraid that the recent retail development is a bubble poised to burst.
'Look at all of those nice restaurants there,' she said, pointing to the recently built Longhorn Steakhouse, Ruby Tuesdays and TGI Fridays. 'They're all great and I'm glad to have them. But I'm afraid they're all going to be empty in a year. I don't think we can support all of this.'"[120]

The Supercenter opened its doors in October of 2001. But what would become of the old store once the construction of the new was completed? Surely it wouldn't return to farmland. Instead, vacancy seemed its immediate destiny.

The site in Auburn, Maine, serves as a sufficient representation of big box store development. A big box store corporation comes to town and buys a large piece of land, formerly agricultural or production oriented, and constructs a banal warehouse devoid of contextual and historical precedent. Eventually, time shows the inadequacy of the store. Either at the hands of a new competitor and their adjacent box store, or from success of the original store (*read: at the expense of local businesses)*, a new store is built for the same company, often very nearby. The resulting empty store, along with the vacant parking lot, remains unused for an unspecified amount of time. In the case of the Auburn Wal-Mart and its adjacent Supercenter, five years passed before another box store company used the property… [121]

120 Scott Taylor, "Wal-Mart Reaction Mixed," Sun Journal, 26 January 2007.
121 Factual information, pertaining to the farm's history, within this section was obtained via interviews with Janet White Schwanda, November 2006, and Edward and John White, December 2006.

oo


WAL★MART

pp


WAL★MART
SUPERCENTER
LOWE'S
BURGER KING
WHITEHOLM FARM PLAZA

qq


KOHL'S

From: Steve Mitchael

Wal-Mart Stores Incorporated

Phone message:

"The status, or the history on that project is that we actually produced the documents in 1992. That store actually grand opened in 1994. In 2001 we did a relocation across the street to a brand-new Supercenter. To make a long story short […] the site where the original store was we were not able to reach any kind of a business deal to expand on that site. So when we moved across the street, of course that left a vacant – or dark – building in our possession. And in 2003 we actually sold that property to Kohls. After that sale and transfer of title we don't maintain any control over that at all and don't have any say so in what that property use would be unless we would of course have restricted it. If you're concerned, or questioning why that building was torn down and a new building built in its place, unfortunately I don't have any answers for you. You would have to make contact with Kohls, as that was a sale outright. I will tell you that we are in the business of taking what we call acquisition buildings and converting those former use buildings into Wal-Mart stores. We've done approximately 100 to 120 in the past 8 to 10 years."

prac

tical


WALMART
GREAT, NOW THEY'RE EVEN TAKING BUSINESS AWAY FROM US.

rr


Wal-Mart put my store out of business, so I had to get a job at Wal-Mart. Thanks to Wal-Mart, I can now only afford to shop at Wal-Mart. Enjoy shopping at Wal-Mart.
BIZARRO.COM
5-8-06
GREETER GONE WILD

ss

Abandoned sites are often associated with detriment to a community. Consequently, the concept of using this type of site for a community-centered architectural project has a degree of inherent irony. A Wal-Mart site transforming into a neighborhood of housing, public space, and civic services is likewise diametrical. Furthermore, the conception of such a redevelopment *drosscape* project as a holistic design for sustainability provides a stark contrast to the practices of a consumptive and destructive behemoth such as Wal-Mart.

This project addresses the adverse impacts of big box stores and the standard accusations[a] - of a long train of abuses - levied against them: low wages that correlate to affordable housing, lack of benefits and provisions for health care, lack of a connection to an existing socio-culture of a community, abuse of infrastructure and municipal funding, detriment to local businesses, economic polarization, and ecological degradation. The antithesis of this list serves as the generator for the programmed spaces and future uses of the site.[122]

**Initial Program Estimates**

- Affordable housing *(estimated at 50,000 square feet)*
- Public Services (i.e. Clinic) *(estimated at 10,000 square feet)*
- Public Space *(estimated at 10,000 square feet)*
- Community Social Center *(estimated at 5,000 square feet)*
- Local Businesses *(estimated at 40,000 square feet)*
- Open Space *(Reduced hardscaping, restoration of character)*

122 Ironically, in Bradford Peck's *The World as a Department Store*, an ideal state is "modeled after a department store that equitably supplied housing, food, and endless goods to its contented citizens" (Crawford 19). These aims at social equity may not be far off the mark.

*Their profits are recycled within the city in which they are located […] locally owned small businesses return about 60 percent of their profits to the community, whereas chain stores return about 20 percent and discount superstores about 5 to 8 percent.*"[123]

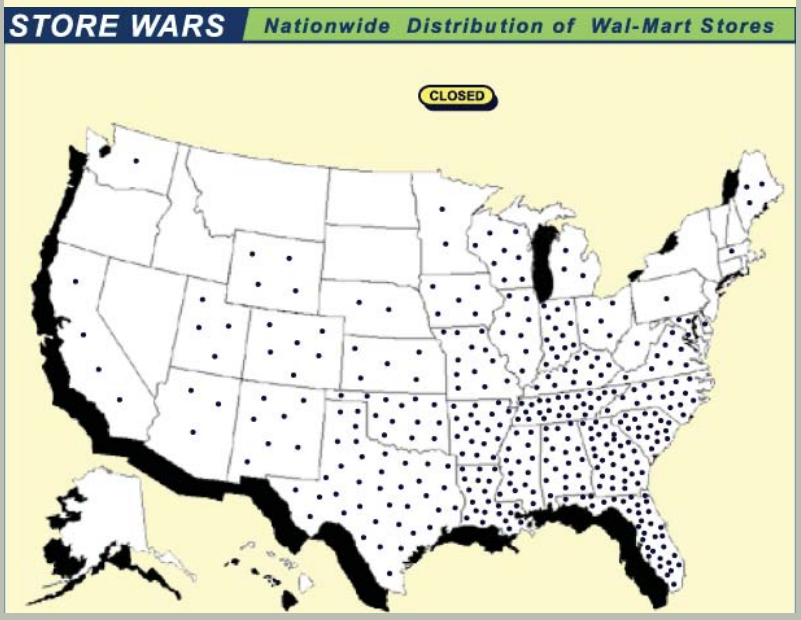
"*The artificial separation of houses and work creates intolerable rifts in people's inner lives.*"[124]

"*Most of the optimistic ideas about repairing suburbia* […] *revolve around fixing up the shopping centers and turning them into mixed use places where people can live and work and buy stuff. In other words, turning what were single use places into true urban villages.*"[125]

*"The more needs you fulfill, the longer people stay."*
*- Bill Dawson, developer*[126]

123 Michael Corbett and Judy Corbett, *Designing Sustainable Communities: Learning from Village Homes* (Washington, D.C.: Island Press, 2000), 104.
124 Alexander 52.
125 James Howard Kunstler quoted in *The End of Suburbia*.
126 Crawford 15.


STORE WARS
Nationwide Distribution of Wal-Mart Stores
OPEN
2971 open Wal-Mart stores
366 closed Wal-Mart stores
Data current as of April 2001, Wal-Mart Stores, Inc.
Dots represent store numbers, not specific store locations


STORE WARS
Nationwide Distribution of Wal-Mart Stores
CLOSED

tt

*“If a path to the better there be, it begins with a full look at the worst.”*

*- Thomas Hardy, 1887*[127]

127 *The End of Suburbia*.

There exists in this country an unprecedented amount of former retail space which is currently vacant, as well as a soon-to-be vacated amount of square footage, as the commercial engine moves into the future. This vacated retail area, amounting to between 20 and 30 million square feet for Wal-Mart alone and over half a billion square feet nationwide, provides potential.[128]

The current sustainability movement, a manifestation of the environmental trends of the 1960s and 1970s and the ecological design movement of the 1980s and 1990s, is one ready for transformation. The torch has too long been carried by a stereotypically hippie or yuppie few, engendered by either liberating eco-centric mantras or a desire for cutting-edge techniques and technology affordable for a limited strata of society.

There is going to be a continued housing shortage in this country, especially in the area of low-income, affordable housing. Market-rate housing is not an option for an expanding lower-middle class, and those at or below the poverty line are left without options.[129] There is a current "under-investment in public sector housing,"[130] and a new way of addressing housing might avoid the New Urbanism shortfall of "recasting suburbia."[131]

128 Vacated Wal-Marts currently account for over 20 million s.f. of vacated space, while their total holdings total over 500 million s.f. (not including parking). Selling the stores has not proved profitable; there are now hundreds of these stores open for lease, while only dozens are for sale. For more information, see: <walmartwatch.com>, <walmartrealty.com>, and <http://reclaimdemocracy.org/independent_business/dead_malls.html>.

129 In 2006, the federal poverty line was determined to be 20,000 for a family of four. For more information, and other figures, see: United States Department of Health and Human Services. "The 2006 HHS Poverty Guidelines." 2006. 2006 Federal Poverty Guidelines. 3 Dec. 2006.
< http://aspe.hhs.gov/poverty/06poverty.shtml>.

130 Colin Porteous, *The New Eco-Architecture: Alternatives from the Modern Movement* (1st ed. New York, NY: Spon Press, 2002), 170.

131 Steele 213.

This means addressing a new function of accommodation that diverges from the American dream advocacy of a "single home with its own little territory wherein you have the fulfillment of the individual and the family" and little else.[132]

The reliance upon the automobile, and the placeless suburbs and burgeoning problem of sprawl have led to a denigrated sense of community and connection to other human beings and to the earth. The attitudes of ego-centric design must be challenged with those of eco-centric design.[133]

"*The marketing of contemporary suburbia has become so abstract* […] *It's a dirty secret that none of these places are real places – they're not real communities that have any kind of social networks or economic networks. They're just dormitories on cul-de-sacs*."[134]

"Sustainable housing is not just a matter of bricks versus adobe, facades finished with panels of aluminum versus glass, or the difference between natural versus mechanical ventilation. These are important aspects, but the essence of sustainable buildings is considering the functions of the organization that is to be housed there and the physical, social, and cultural environment in which it is set."[135]

The architecture must embrace "new patterns of consumption […and] a lifestyle designed for permanence."[136] Basic ecological and socio-cultural needs of the site and perceived client must be explored in the architecture. "One by one, the elements of a product might be redefined positively against an ever widening backdrop, until the product itself evolves and is transformed, and every aspect is designed to nourish a diverse world."[137]

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132 Paolo Soleri quoted in *Design Outlaws on the Ecological Frontier*, 246.
133 James Wines quoted in *Sustainable Architecture White Papers*, 17.
134 James Howard Kunstler quoted in *The End of Suburbia*.
135 Van Kasteren 113.
136 Schumacher 21.
137 McDonough, *Cradle to Cradle*, 145.

Renovation and reuse must be paramount. "Renovating abandoned or underused structures could be considered the ultimate form of recycling, […resulting] in far less construction waste than demolition."[138]

"Preservation and Adaptive Re-Use should be seen as the first design solution whenever there is a pre-existing structure on a site. […] Good design will be marked by innovative use and reuse of the buildings – designed or not – from our past. These will become the best opportunities to express new sustainable design values in contrast to our past decisions for the built environment."[139]

**The 10 sins of retail sprawl**[140]

* It destroys the economic and environmental value of land
* It encourages an inefficient land-use pattern that is very expensive to serve.
* It fosters redundant competition between local governments, an economic war of tax incentives.
* It forces costly infrastructure development at the edge of towns.
* It causes disinvestment from established core commercial areas.
* It requires the use of public tax support for revitalizing rundown core areas.
* It degrades the visual, aesthetic character of local communities.
* It lowers the value of other commercial and residential property, reducing public revenues.
* It weakens the sense of place and community cohesiveness.
* It masquerades as a form of economic development.

138 Harry Gordon quoted in *Sustainable Architecture White Papers*, 35.
139 John Connel quoted in *Design Outlaws on the Ecological Frontier*, 360-361.
140 Al Norman. "Slam Dunking Wal-Mart: The Case Against Sprawl." 1999. Sprawl Busters: Home Town America Fights Back! 26 March 2007. <http://www.sprawl-busters.com/caseagainstsprawl.htm>.

*"Everyplace becomes more like every other place, all adding up to Noplace."*

- Jane Jacobs, 1961

*The Death and Life of Great American Cities*[141]

141 Al Norman. "Slam Dunking Wal-Mart: The Case Against Sprawl." 1999. Sprawl Busters: Home Town America Fights Back! 26 March 2007. <http://www.sprawl-busters.com/caseagainstsprawl.htm>.

*"Who are you, dragging those big boxes behind you?"*
*"I am the Spirit of Wal-Marts Yet To Come."*
*"You must be busy."*
*"I bring big boxes full of little things. I look for spaces and I redirect cash flows."*
*"I can't quite see the shape of those boxes."*
*"They are yet to come, in new styles, bigger and better, and on line too."*
*"Your holiday compatriot scared the Dickens into Scrooge."*
*"He was gloomy, graveyards and all that, but I bring expansion, on and on, no end."*
*"There's got to be an end sometime."*
*"The Hudson Bay Company is still doing business after several centuries."*
*"Sure, but competition moved more slowly for most of that time, and the Bay isn't such a big deal now. Lots of young upstarts are trying to overtake you."*
*"Let them try. I have Momentum. I have Brand Recognition. I have Mindshare and I Attract Business."*
*"You have a lot of enemies, too."*
*"No publicity is bad publicity."*
*"You are making everywhere bethe same."*
*"I glory in it. Serving and redirecting local needs, that's what I bring."*
*"And those cash flows, that's what you take?"*
*"Sure. Making America safe for mobility. Always the ower price leader."*
*"Have you ever read about Frank Lloyd Wright's Broadacre City?"*
*"Wright paints a pretty picture of distributed retail along with his ideas for scattered housing, but he didn't understand Economies of Scale. I'll do all the general merchandise -- clothing, housewares, food and such -- and leave boutiques to those local craftspeople Wright liked to write about. Let them look after the place's local identity. I've got Businessto do."*[142]

142 David Kolb. "The Spirit of Commerce." 2006. Sprawling Places. 26 March 2007. <http://www.dkolb.org/sprawlingplaces/index/sprawlno/thespiri.html>.


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Auburn
Lake Auburn
Martindale Country Club
Prospect Hill Golf Course
Fox Ridge Golf Course
Thorncrag Bird Sanctuary
EXIT 80
EXIT 75
95
4
202
121
126
196
136
122

*Location*: 105 Mount Auburn Avenue, Auburn, Maine; Lot 2, Turner Street Plaza

*Lot Size*: 15.154 acres of existing lot; master plan includes adjacent lot of approximate equal size.

*Existing*: Box store at 116,800 square feet ±
Parking Lot at approximately 285,000 square feet (6.54 acres ±).
746 stalls on site, adjacent lots more than double the total.
Roads, cleared land for parking and footprint, curb cuts and entrances from Mt. Auburn Ave. and Turner St.

*Future:* Expected growth in surrounding area, suburban residential and "rural residential" (subdivisions – higher density if possible).

*Adjacencies*: Wal-Mart Supercenter (across Mount Auburn Ave.), Home Depot, BJ's Wholesale, Lamey Wellehan Shoe Company, Auburn Mall (with many vacancies, the mall has been in decline for the last 10 years), vacant lot (paved), Lakeview Park.

*Zoning*: Classification: General Business (GB)
Minimum Lot Width and Depth: 10,000 s.f., 100' in depth and width

Density: Not to exceed 30 percent
"*The density of residential uses shall be the same as that required for buildings in the Multi-Family Suburban District (MFS.)"*
(See 3.44.C.2." of *Chapter 29 Zoning Ordinance*)
Maximum Height: 4 stories or 45 feet, Religious/Municipal allowed steeple or cupola to a maximum of 90 feet.

Yard Requirements: Front: 25 feet
Side: 25 feet
Rear: 35 feet

*Principal Buildings*: More than one principal building is allowed, provided that all setback requirements are met and that the buildings are separated by 30 feet or a distance equal to the height of the taller building.

*General Business*:[143]

A. **Purpose** – This district is intended to include commercial uses serving both the City and the region, together with normal accessory uses compatible with a cohesive and attractive shopping and office area.

B. **Use Regulation**

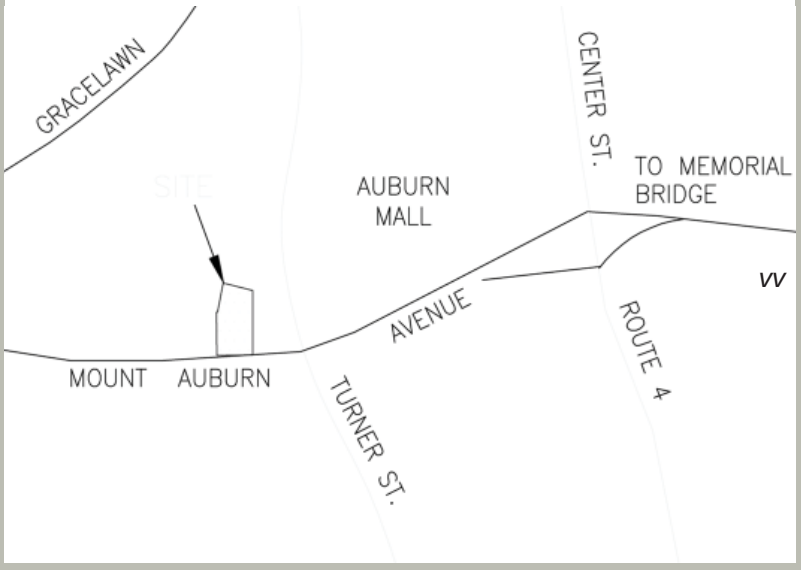
1. **Permitted Uses** – The following uses are permitted:

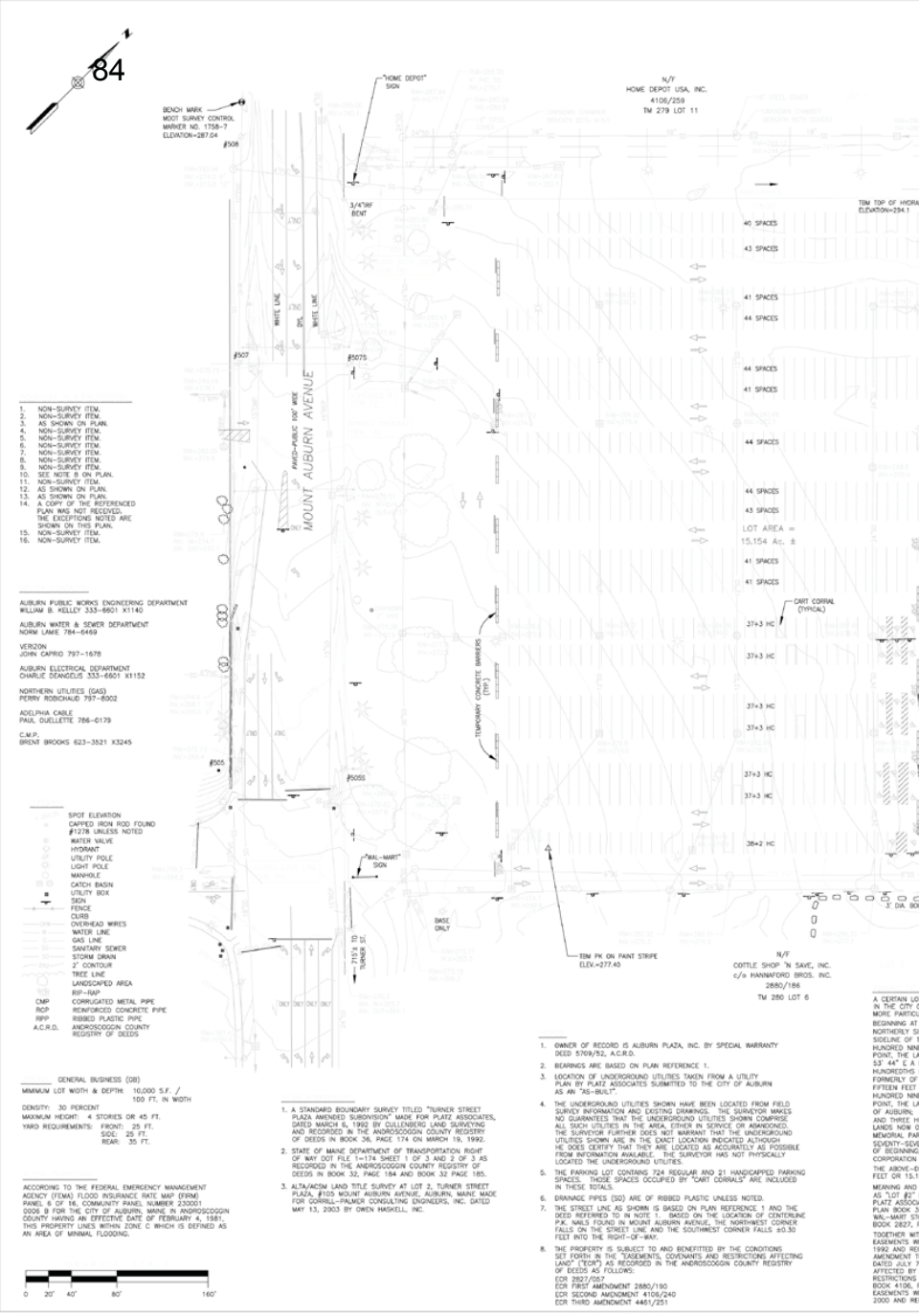
a. Residential dwelling uses permitted in the Multi-Family Suburban District (MFS)
b. Grocery stores and supermarkets.
c. Clothing stores.
d. Furniture stores.
f. Specialty shops.
i. Child day care centers.
j. Medical and dental clinics.
l. Retail laundries and dry cleaners, but not plants.
m. Banks, business and professional offices.
o. Governmental offices.
p. Municipal, civic or public service buildings and other utility facilities.
r. Restaurants, bars, dining or lunch room, but not to include drive-in and carry-out restaurants.
s. Halls, private clubs and lodges, bowling alleys, ice and roller skating rinks, indoor theaters and similar places of indoor amusement or recreation.
x. Retail, service, office and commercial uses similar to the foregoing.

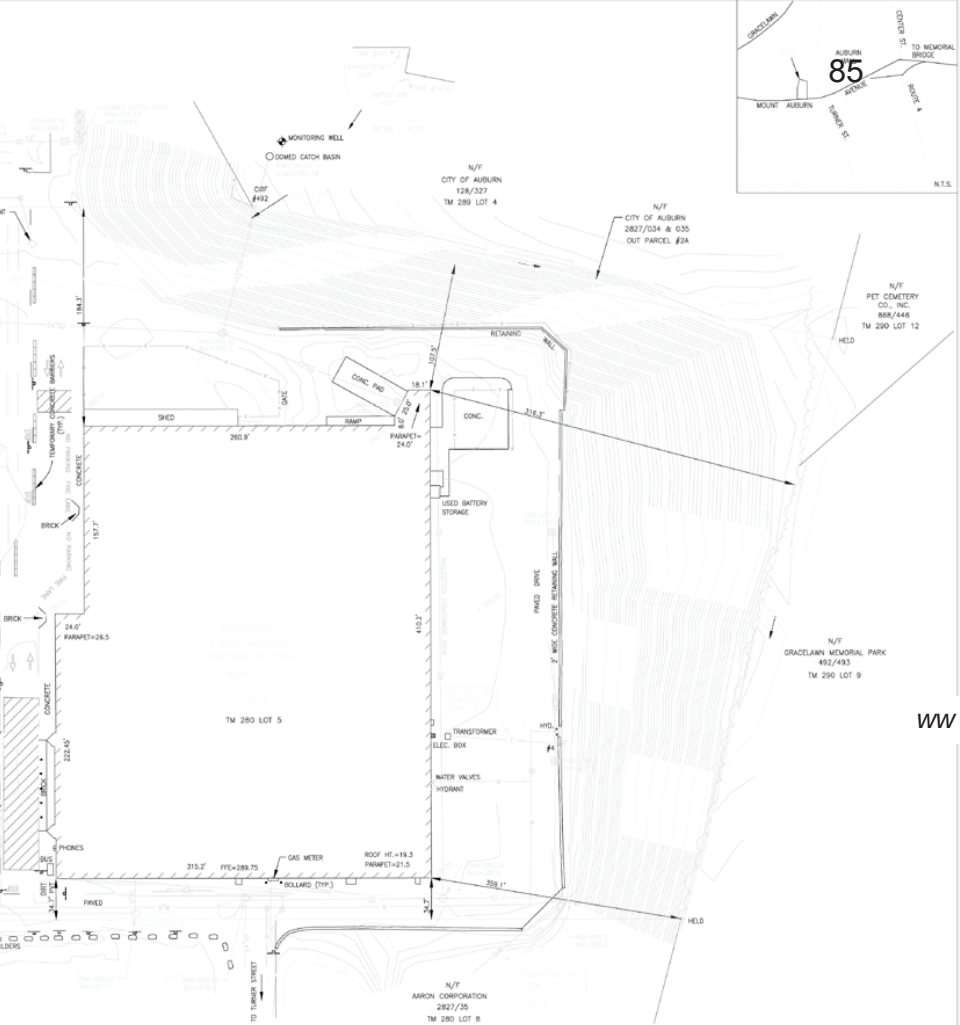
143 City of Auburn, Maine. *Chapter 29 Zoning Ordinance*. Land Use Division. 3 Dec. 2006. <http://www.auburnmaine.org/planning_permiting/completezoning.pdf>. All numbers from above section and text from this section is excerpted from the *Zoning Ordinance*.

z. Accessory uses, building and structures.
bb. Greenhouses and lawn maintenance services.
cc. Temporary outdoor places of amusement.
dd. Churches and temples.
2. **Special Exception Uses** – the following uses are permitted as Special Exceptions after approval by the Planning Board in 3.62 – 2 in accordance with Article 7, Section 7.2:
g. Outdoor theaters.
h. Drive-in or carry-out restaurants.
3.62 - 3
n. Convenience stores.
q. Any new building of 5,000 square feet or more or any existing building which proposes a use permitted under Section 3.62.B.1. which will occupy an area of 5,000 square feet or more.

*Building Code*: International Building Code
International Residential Code
ASHRAE 90.1 - 2001




BENCH MARK
MDOT SURVEY CONTROL
MARKER NO. 1758-7
ELEVATION=287.04
#508
"HOME DEPOT" SIGN
3/4"RF BENT
N/F
HOME DEPOT USA, INC.
4106/259
TM 279 LOT 11
TBM TOP OF HYDRA
ELEVATION=294.1
40 SPACES
43 SPACES
41 SPACES
44 SPACES
44 SPACES
41 SPACES
44 SPACES
44 SPACES
43 SPACES
LOT AREA =
15.154 Ac. ±
41 SPACES
41 SPACES
CART CORRAL (TYPICAL)
37+3 HC
37+3 HC
37+3 HC
37+3 HC
37+3 HC
37+3 HC
36+2 HC
3' DIA. BO
WHITE LINE
DN.
WHITE LINE
#507
#507S
RWCD-PUBLIC 100' WIDE
MOUNT AUBURN AVENUE
TEMPORARY CONCRETE BARRIERS (TYP.)
#505
#505S
"WAL-MART" SIGN
BASE ONLY
715'± TO TURNER ST.
TBM PK ON PAINT STRIPE
ELEV.=277.40
N/F
COTTLE SHOP 'N SAVE, INC.
c/o HANNAFORD BROS. INC.
2850/186
TM 280 LOT 6
A CERTAIN LO
IN THE CITY
MORE PARTICU
BEGINNING AT
NORTHERLY SI
SIDELINE OF
HUNDRED NINE
POINT, THE LA
53' 44" E, A
HUNDREDTHS
FORMERLY OF
FIFTEEN FEET
HUNDRED NINE
POINT, THE LA
OF AUBURN;
AND THREE H
LANDS NOW O
MEMORIAL PAR
SEVENTY-SEVE
OF BEGINNING
CORPORATION
THE ABOVE-D
FEET OR 15.1
MEANING AND
AS "LOT #2"
PLATZ ASSOCI
PLAN BOOK 3
WAL-MART ST
BOOK 2827, P
TOGETHER WIT
EASEMENTS IN
1992 AND RE
AMENDMENT T
DATED JULY 7
AFFECTED BY
RESTRICTIONS
BOOK 4106, P
EASEMENTS IN
2000 AND RE
1. NON-SURVEY ITEM.
2. NON-SURVEY ITEM.
3. AS SHOWN ON PLAN.
4. NON-SURVEY ITEM.
5. NON-SURVEY ITEM.
6. NON-SURVEY ITEM.
7. NON-SURVEY ITEM.
8. NON-SURVEY ITEM.
9. NON-SURVEY ITEM.
10. SEE NOTE 8 ON PLAN.
11. NON-SURVEY ITEM.
12. AS SHOWN ON PLAN.
13. AS SHOWN ON PLAN.
14. A COPY OF THE REFERENCED PLAN WAS NOT RECEIVED. THE EXCEPTIONS NOTED ARE SHOWN ON THIS PLAN.
15. NON-SURVEY ITEM.
16. NON-SURVEY ITEM.
AUBURN PUBLIC WORKS ENGINEERING DEPARTMENT
WILLIAM B. KELLEY 333-6601 X1140
AUBURN WATER & SEWER DEPARTMENT
NORM LAMIE 784-6469
VERIZON
JOHN CAPRIO 797-1678
AUBURN ELECTRICAL DEPARTMENT
CHARLIE DEANGELIS 333-6601 X1152
NORTHERN UTILITIES (GAS)
PERRY ROBICHAUD 797-8002
ADELPHIA CABLE
PAUL DUELLETTE 786-0179
C.M.P.
BRENT BROOKS 623-3521 X3245
SPOT ELEVATION
CAPPED IRON ROD FOUND #1278 UNLESS NOTED
WATER VALVE
HYDRANT
UTILITY POLE
LIGHT POLE
MANHOLE
CATCH BASIN
UTILITY BOX
SIGN
FENCE
CURB
OVERHEAD WIRES
WATER LINE
GAS LINE
SANITARY SEWER
STORM DRAIN
2' CONTOUR
TREE LINE
LANDSCAPED AREA
RIP-RAP
CMP CORRUGATED METAL PIPE
RCP REINFORCED CONCRETE PIPE
RPP RIBBED PLASTIC PIPE
A.C.R.D. ANDROSCOGGIN COUNTY REGISTRY OF DEEDS
GENERAL BUSINESS (GB)
MINIMUM LOT WIDTH & DEPTH: 10,000 S.F. / 100 FT. IN WIDTH
DENSITY: 30 PERCENT
MAXIMUM HEIGHT: 4 STORIES OR 45 FT.
YARD REQUIREMENTS: FRONT: 25 FT.
SIDE: 25 FT.
REAR: 35 FT.
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) PANEL 6 OF 16, COMMUNITY PANEL NUMBER 230001 0006 B FOR THE CITY OF AUBURN, MAINE IN ANDROSCOGGIN COUNTY HAVING AN EFFECTIVE DATE OF FEBRUARY 4, 1981, THIS PROPERTY LINES WITHIN ZONE C WHICH IS DEFINED AS AN AREA OF MINIMAL FLOODING.
0 20' 40' 80' 160'
1. A STANDARD BOUNDARY SURVEY TITLED "TURNER STREET PLAZA AMENDED SUBDIVISION" MADE FOR PLATZ ASSOCIATES, DATED MARCH 6, 1992 BY CULLENBERG LAND SURVEYING AND RECORDED IN THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN BOOK 36, PAGE 174 ON MARCH 19, 1992.
2. STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY DOT FILE 1=174 SHEET 1 OF 3 AND 2 OF 3 AS RECORDED IN THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN BOOK 32, PAGE 184 AND BOOK 32 PAGE 185.
3. ALTA/ACSM LAND TITLE SURVEY AT LOT 2, TURNER STREET PLAZA, #105 MOUNT AUBURN AVENUE, AUBURN, MAINE MADE FOR CORRILL-PALMER CONSULTING ENGINEERS, INC. DATED MAY 13, 2003 BY OWEN HASKELL, INC.
1. OWNER OF RECORD IS AUBURN PLAZA, INC. BY SPECIAL WARRANTY DEED 5709/52, A.C.R.D.
2. BEARINGS ARE BASED ON PLAN REFERENCE 1.
3. LOCATION OF UNDERGROUND UTILITIES TAKEN FROM A UTILITY PLAN BY PLATZ ASSOCIATES SUBMITTED TO THE CITY OF AUBURN AS AN "AS-BUILT".
4. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
5. THE PARKING LOT CONTAINS 724 REGULAR AND 21 HANDICAPPED PARKING SPACES. THOSE SPACES OCCUPIED BY "CART CORRALS" ARE INCLUDED IN THESE TOTALS.
6. DRAINAGE PIPES (SD) ARE OF RIBBED PLASTIC UNLESS NOTED.
7. THE STREET LINE AS SHOWN IS BASED ON PLAN REFERENCE 1 AND THE DEED REFERRED TO IN NOTE 1. BASED ON THE LOCATION OF CENTERLINE P.K. NAILS FOUND IN MOUNT AUBURN AVENUE, THE NORTHWEST CORNER FALLS ON THE STREET LINE AND THE SOUTHWEST CORNER FALLS ±0.50 FEET INTO THE RIGHT-OF-WAY.
8. THE PROPERTY IS SUBJECT TO AND BENEFITTED BY THE CONDITIONS SET FORTH IN THE "EASEMENTS, COVENANTS AND RESTRICTIONS AFFECTING LAND" ("EOR") AS RECORDED IN THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS AS FOLLOWS:
EOR 2827/057
EOR FIRST AMENDMENT 2880/190
EOR SECOND AMENDMENT 4106/240
EOR THIRD AMENDMENT 4461/251




OR PARCEL OF LAND, WITH THE BUILDINGS THEREON, SITUATED
F AUBURN, COUNTY OF ANDROSCOGGIN, STATE OF MAINE, BEING
ARLY DESCRIBED AS FOLLOWS:

A POINT AT THE SOUTHWEST CORNER OF SAID PARCEL, OR THE
DELINE OF MOUNT AUBURN AVENUE 715'± FROM THE WESTERLY
URNER STREET; THENCE N 45° 05' 02" W A DISTANCE OF FIVE
TY-EIGHT AND NINETY-FOUR HUNDREDTHS FEET (598.94') TO A
ST COURSE BY THE SIDELINE OF MOUNT AVENUE; THENCE N 44°
DISTANCE OF SEVEN HUNDRED EIGHTEEN AND NINETY-TWO
FEET (718.92') TO A POINT, THE LAST COURSE BY LAND NOW OR
HOME DEPOT USA, INC.; THENCE S 33° 02' 46" E A DISTANCE OF
(35') TO A POINT; THENCE N 56° 07' 14" E A DISTANCE OF FOUR
TY-EIGHT AND NINETY-FIVE HUNDREDTHS FEET (498.95') TO A
ST TWO (2) COURSES BY LAND NOW OR FORMERLY OF THE CITY
THENCE S 30° 23' 49" E A DISTANCE OF FIVE HUNDRED FOUR
UNDREDTHS FEET (504.03') TO A POINT, THE LAST COURSE BY
R FORMERLY OF PET CEMETERY CO., INC. AND GRACELAWN
K; THENCE S 44° 54' 58" W A DISTANCE OF ONE THOUSAND
N AND FIFTY-ONE HUNDREDTHS FEET (1077.51') TO THE POINT
THE LAST COURSE BY LANDS NOW OR FORMERLY OF AARON
AND COTILE'S SHOP 'N SAVE, INC.

SCRIBED PARCEL IN AUBURN, MAINE CONTAINS 660,105 SQUARE
54 ACRES.

INTENDING HEREBY TO CONVEY THE SAME PREMISES AS DESCRIBED
N THE PLAN OF TURNER STREET PLAZA AMENDED SUBDIVISION FOR
TES DATED MARCH 9, 1992 AND RECORDED IN SAID REGISTRY
, PAGE 174. REFERENCE IS ALSO MADE TO A DEED TO
RES, INC. DATED APRIL 7, 1992 AND RECORDED IN SAID REGISTRY
AGE 38.

H THE RIGHTS AND EASEMENTS AS SET FORTH IN THAT CERTAIN
H COVENANTS AND RESTRICTIONS AFFECTING LAND DATED APRIL 7,
CORDED IN BOOK 2827, PAGE 57 AS AMENDED BY A FIRST
D EASEMENTS WITH COVENANTS AND RESTRICTIONS AFFECTING LAND
1992 AND RECORDED IN BOOK 2880, PAGE 190, AS FURTHER
A SECOND AMENDMENT TO EASEMENTS WITH COVENANTS AND
AFFECTING LAND DATED SEPTEMBER 29, 1998 AND RECORDED IN
AGE 240, AS FURTHER AFFECTED BY A THIRD AMENDMENT TO
TH COVENANTS AND RESTRICTIONS AFFECTING LAND DATED JUNE 23,
CORDED IN BOOK 4461, PAGE 251.

TO: SDM MT. AUBURN LLC, SDM MT. AUBURN OP LLC, AND FIDELITY NATIONAL TITLE INSURANCE COMPANY,

CERTIFICATE ATTACHED TO PRINT OF THE SURVEY MADE BY THE UNDERSIGNED, LAST DATED MAY 10, 2005 OF THE ABOVE DESCRIBED PROPERTY. THE PROPERTY IS LOCATED AT 105 MOUNT AUBURN AVENUE, AUBURN, MAINE.

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, OF THE ABOVE DATE, THAT:

A. THIS SURVEY (A) WAS MADE ON THE GROUND AS PER THE FIELD NOTES SHOWN HEREON AND CORRECTLY SHOWS THE BOUNDARY LINES AND DIMENSIONS AND AREA OF THE LAND INDICATED HEREON, (B) CORRECTLY SHOWS THE LOCATION OF ALL BUILDINGS, STRUCTURES, AND OTHER IMPROVEMENTS AND VISIBLE ITEMS ON THE SUBJECT PROPERTY, AND (C) CORRECTLY SHOWS THE LOCATION AND DIMENSIONS OF ALL ALLEYS, STREETS, ROADS, RIGHTS-OF-WAY, EASEMENTS, AND OTHER MATTERS OF RECORD OF WHICH THE UNDERSIGNED WAS BEEN ADVISED AFFECTING THE SUBJECT PROPERTY ACCORDING TO THE LEGAL DESCRIPTION IN SUCH EASEMENTS AND OTHER MATTERS (WITH INSTRUMENT, BOOK, AND PAGE NUMBER INDICATED);
B. EXCEPT AS SHOWN THERE ARE NOT VISIBLE (A) EASEMENTS, RIGHTS-OF-WAY, PARTY WALLS OR CONFLICTS, (B) ENCROACHMENTS ON ADJOINING PREMISES, STREETS, OR ALLEYS BY AND OF SAID BUILDINGS, STRUCTURES, OR OTHER IMPROVEMENTS, AND (C) ENCROACHMENTS ON THE SUBJECT PROPERTY BY BUILDING, STRUCTURES OR OTHER IMPROVEMENTS SITUATED IN ADJOINING PREMISES;
C. THE DISTANCE FROM THE NEAREST STREET INTERSECTION, STREET, AND ROAD IS AS SHOWN HEREON;
D. THE SUBJECT PROPERTY DOES SERVE ADJOINING PROPERTIES FOR DRAINAGE, INGRESS AND EGRESS, OR OTHER PURPOSES; (SEE NOTE B)
E. ALL REQUIRED BUILDING SETBACK LINES ON THE PROPERTY ARE LOCATED AS SHOWN HEREON;
F. THE SUBJECT PROPERTY HAS ACCESS TO AND FROM A PUBLIC ROADWAY;
G. THE SUBJECT PROPERTY IS NOT LOCATED IN A 100-YEAR FLOOD PLAIN OR IN AN IDENTIFIED FLOOD OR MUDSLIDE HAZARD AREA AS DEFINED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT UNDER THE FLOOD DISASTER PROTECTION ACT OF 1973, AS AMENDED;
H. THE SUBJECT PROPERTY CONTAINS 15.154 ACRES ± OF LAND; AND
THAT THIS SURVEY CONFORMS TO THE CURRENT STANDARDS OF THE SURVEYOR'S ASSOCIATION IN THE STATE IN WHICH THIS SUBJECT IS LOCATED FOR A LAND TITLE SURVEY.

EXECUTED ON THE 17TH DAY OF JUNE, 2005

JOE M. WALKER, PLS #2338
STATE OF MAINE

PRELIMINARY

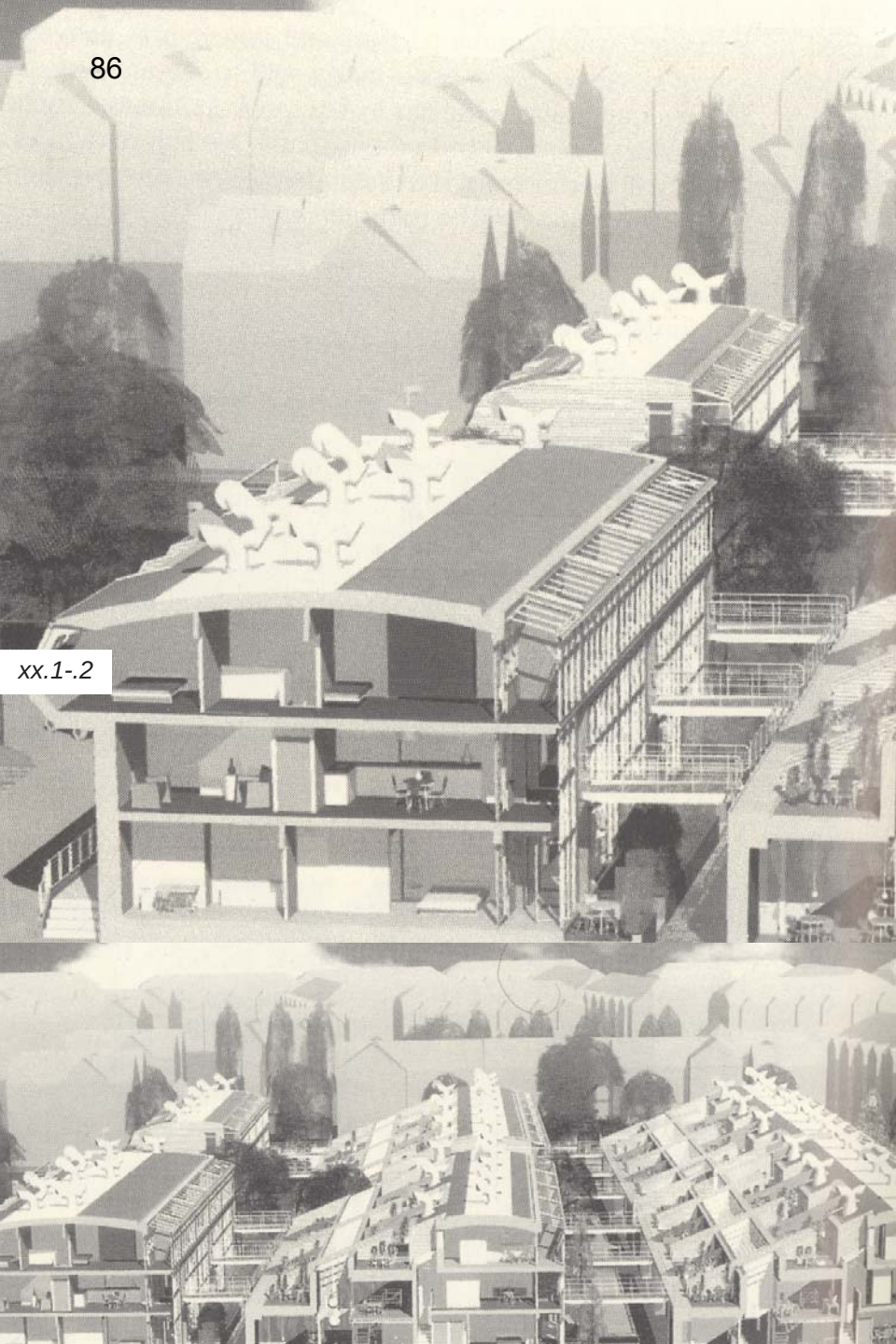
ALTA/ACSM LAND TITLE SURVEY

105 MOUNT AUBURN AVENUE
AUBURN, MAINE

EDWARDS AND KELCEY ENGINEERS, INC.

16 CASCO ST., PORTLAND, ME 04101 (207)774-0424
Engineering, Land Surveying

| | | |
|---|---|---|
| JWW | | |
| JLW | JUNE 17, 2005 | 2005-074A-A |
| JWW | | |
| 971 | 1" = 40' | 1 |



*xx.1-.2*

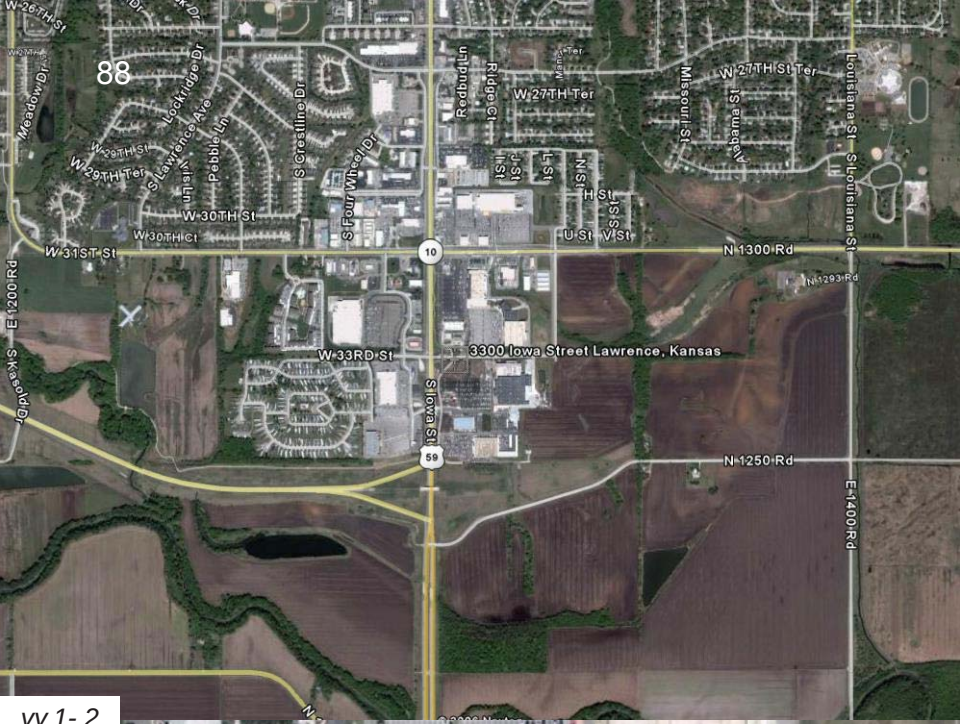
***BedZed***

*Location:* *Borough of Sutton, London, UK*
*Description:* *Beddington Zero Energy Development*
*Architect:* *Bill Dunster Architects*
*Developers:* *Peabody Trust, BioRegional Development Group*

BedZed is a medium-density development of 82 units and houses and 17,000 square feet of work space,[144] based on a three-storey module.[145] It was developed by the Peabody Trust, a prominent association involved in social housing and socio-economic regeneration, and BioRegional, an environmental development charity.[146] The development is a reuse of a waste landscape (a former sewage works),[147] and aims at conservation and sustainability. Heating and electricity needs are med by a Combined Heat and Power unit, and a Living Machine is a bio-filtration nutrient extractor that recycles grey water. In addition to passive solar techniques, all units have photovoltaic panels, and electricity is used to generate power for shared electric neighborhood vehicles. This approach addresses the more important issues at hand, which is the possibility for a housing development to encourage a shift in behaviors and consumption patterns. Goals include reducing fossil fuel consumption from automobiles by 50 percent over a ten year period, reducing water use by one third,[148] and carbon neutrality over a 60 to 120 year period.

Decisions about materials were made based on a twelve factors:[149] climate change, fossil fuel depletion, ozone depletion, human toxicity to air, human toxicity to water, waste disposal, water extraction, acid deposition, ecotoxicity, eutrophication (adding nutrients to water), summer smog, minerals extraction.

144 Smith 76.
145 Pitts 135. The basic residential module can be a single unit or subdivided into smaller apartments.
146 Pitts 133-134.
147 Low 54-56 (factual information within this paragraph).
148 Water consumption is reduced by grey water recovery, a Living Machine, dual-flush toilets, and rain water collection and storage.
149 Low 183-185.


88
W 26TH St
W 27TH Ter
W 28TH St
W 29TH Ter
W 30TH St
W 30TH Ct
W 31ST St
W 33RD St
3300 Iowa Street Lawrence, Kansas
Meadow Dr
Lockridge Dr
S Lawrence Ave
Pebble Ln
S Crestline Dr
S Four Wheel Dr
Redhurst Ln
Ridge Ct
Missouri St
Alabama St
Louisiana St
N 1300 Rd
N 1293 Rd
N 1250 Rd
E 1200 Rd
E 1400 Rd
S Iowa St
10
59

yy.1-.2


3300 Iowa Street Lawrence, Kansas
W 33RD St
S Iowa St
10

***Eco-Mart***

*Location:* *Lawrence, Kansas*
*Description:* *Wal-Mart store*
*Architect:* *William McDonough + Partners*

Opened in 1993, Eco-Mart was designed as a prototype Wal-Mart store, hoping to be as efficient and environmentally friendly as possible.[c] William McDonough, author of *Cradle to Cradle*, designed the store with an potential future conversion to housing. The goal was that, by changing the image of the store for the community, the community's attitude towards the store would change. By becoming a *part* of the community, it would be more difficult for Wal-Mart to desert the building and build another store when the need arose.

In Eco-Mart, daylighting, in concert with a sensor-connected artificial lighting system, was used in half of the sales area. After just two months, sales in those areas were significantly higher.[150] The initial objective was to use the Eco-Mart strategy in fifty locations,[151] but only two stores followed.[152] Other features included: a recyclable wood roof made from sustainable forests, the elimination of CFCs (chlorofluorocarbons are shown to cause depletion of the ozone layer and contribute to global warming) from the HVAC systems, increased Indoor Air Quality, skylights with holographic film that would drop lighting costs by 50%, a new block wall system that allowed for window placement in walls,[153] reduced water use due to a

150 Smith 177. This economic success and recovery of investment is evident in many sustainable projects, such as the Herman Miller Factory, also by McDonough + Partners, which paid for its design via increased profits in just four months.

151 Inside UVa. "Time Out, Everything Needs to Be Redesigned." 25 March 1994. UVa Today: Inside UVa – Text Only Archives. 3 Dec. 2006. <http://www.virginia.edu/insideuva/textonlyarchive/94-03-25/2.txt>.

152 *Harvard Design Guide*, 312. Other Eco-Mart locations: Moore, Oklahoma and City of Industry, California. The estimated savings would allow for a three year payback for the efficient equipment.

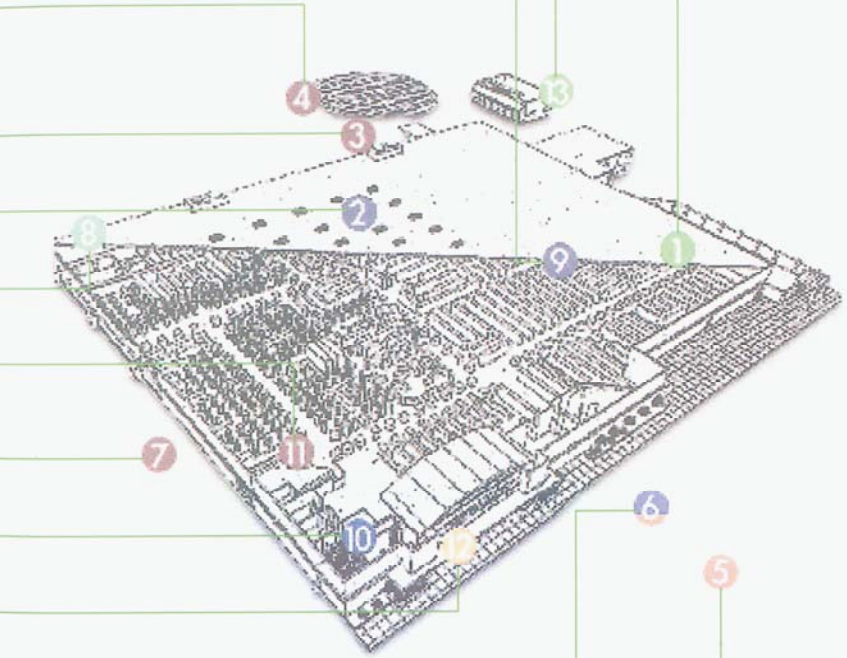
153 "Time Out, Everything Needs to Be Redesigned." Having windows in the walls was also a design feature that would make conversion to apartments possible as an adaptive repurposing of the building.

special plumbing system, a grey water recovery system, energy-efficient lights, an environmental awareness education center, native plants landscaping, recycled asphalt paving, a packaging recycling area, and a solar powered Wal-Mart sign.[154]

Wal-Mart has an incredible appetite for space and maximized profits. In 2000 and 2001, the company opened a new store at a rate of one every working day.[155] With an average of no less than 100,000 square feet, this growth and construction is unprecedented. Unfortunately, the Eco-Mart of Lawrence, Kansas fell to the corporate desire for continual expansion. The store was not converted to housing, but to a Wal-Mart Supercenter. While this is an unfortunate step away from the initial goals and a diversion from the more sustainable intentions, the upside is that the store was converted, instead of a completely new building being constructed. On September 13, 2006 the new store opened. At 207,105 s.f., the Supercenter is 90,000 s.f. larger, with 36 general merchandising departments.[156] Environmentally minded design was traded for increased conveniences, groceries, and 24-hour service. Fortunately the recycling center originally constructed on site will remain open to the community.

154 *Harvard Design Guide*, 312-313.
155 Smith 177.
156 Wal-Mart Stores, Inc. “Lawrence Residents to Have One-Stop Shopping Conveniences at New Wal-Mart Supercenter.” 2006. Wal-Mart Facts: Get the Facts and Latest News About Wal-Mart from Wal-Mart. 3 Dec. 2006. <http://www.walmartfacts.com/articles/4434.aspx>.

Wal-Mart Eco-Store




In-store light fixtures use energy-efficient fluorescent lamps; each fixture requires 25 to 30 percent less electricity than the standard fixtures in other Wal-Mart stores.

A recycling center is located on site.

The roof and ceiling structures are made of wood that is easily reusable or recyclable for low environmental impact.

The Wal-Mart pylon sign is solar powered.

Recycled asphalt was used to pave the parking lot.



*aaa.1*



*aaa.2*

***Eastgate Mall***

*Location:* *Chattanooga, Tennessee*
*Description:* *Eastgate Mall conversion*
*Planners:* *Dover, Kohl & Partners*

In 1963, the Eastgate Mall opened in Chattanooga, Tennessee, the first suburban shopping center in the region. As such, it was an important center for many years. Now, four decades later, the Eastgate Mall has a different future; it aims to be a center once again. A fifty year plan will convert the mall into a traditional downtown.[e]

"'*A square will be built in front of the mall. The mall will be refaced and new buildings added to create a main street; a residential square shaped by new townhouses will be constructed to the right of the mall; and a new street will be cut through the mall linking the residential square with the main street*.'"[157]

"*Today, the smart business way to restore the economic engine is to create a traditional town center*."[158]

The conversion will include new stores, a day care, a health club, and an urban church.[159] A week-long design *charrette* incorporated the input of over 300 local residents.[160] The goal is a revitalized community-center, converted and constructed in phases. While ecological sustainability is not as focal to the designs, the adaptive reuse of a previously developed site is inherently more sustainable than new construction, and socio-cultural restoration is important, especially in areas formerly enslaved by Post-Industrial consumption lifestyles.[161]

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157 Richard Bailey quoted in *Harvard Design Guide*, 154.

158 Dover, Kohl & Partners. "Eastgate Mall Redevelopment: Brainerd's New Town Center." Dover, Kohl & Partners – Index of Project Graphic Pages. 3 Dec. 2006. <http://www.doverkohl.com/project_graphic_pages_pfds/Eastgate%20Mall%20Redevelopment%20project%20page.pdf>.

159 Natalie Pawelski, "Community Joins Effort to Revive City Mall" (1998. CNN. 3 Dec. 2006. <http://www.cnn.com/US/9811/27/sprawl.america/>). This article was part of a supplemental series to CNN's television series "*Sprawl America*."

160 Richard Bailey, "Mall Over," Urban Land, July 1998, 47.

161 The concept of 'Post-Industrial society' was first proposed by Daniel Bell in the 1970s, and refers to a society in which most people aren't employed in the production of goods (Steele 30).

***Experimental Wal-Mart***

*Location:* *McKinney, Texas (and Aurora, Colorado)*
*Description:* *Sustainable/Green Wal-Mart store*
*Planners:* *Design team and numerous consultants*

In 2005, CEO Lee Scott commented on the flak that Wal-Mart was receiving from its environmentally minded critics:

"Frankly, I thought the environment was the least relevant. We are recycling responsibly and we are not wasteful – so a Wal-Mart environment program sounded more like a public relations campaign than substance to me."[162]

However, Wal-Mart's scale can not be ignored: as a country, they would be 20th in the world in size; as a city, they would be the fifth largest in the U.S. Recognizing Wal-Mart's scope and potential for impacting positive change, there has been an evident shift in corporate attitude. In 2005, Wal-Mart opened an experimental store, one of two, in McKinney, Texas, hoping to investigate changes that might be made to the existing infrastructure and traditional methods of the retail industry. They have pledged to share the results gathered, partially by auditors from the U.S. Department of Energy Oak Ridge National Laboratory, with the industry and the public; yet, no data or cost analysis will be released until the end of the three year study.[163] This store comes in the wake of much criticism of the company for their lack of forward-thinking and environmental negligence, which prompted Wal-Marts recent "Sustainability 360" campaign. New company commitments include preservation an acre of wildlife habitat for every developed acre of store footprint, and efforts to help find new uses for stores which are vacated.

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162 Wal-Mart Stores, Inc. "21st Century Leadership." 2005. Wal-Mart Stores – 21st Century Leadership. 31 March 2007. <http://www.walmartstores.com/Files/21st%20Century%20Leadership.pdf>.

163 Yoder, Jeff. "Wal-Mart Goes Green with Sustainable Store." 1 Aug. 2005. Building Design + Construction. 31 March 2007. <http://www.bdcnetwork.com/article/CA630093.html?industryid=42770>.

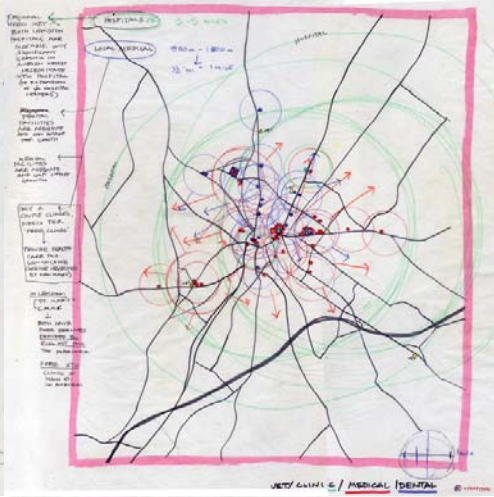
Features of the McKinney store include: saving energy by incorporating photovoltaics and a wind turbine, and burning used motor oil and cooking oil in a bio-fuel boiler; using air conditioning condensate for irrigation, cooling using passive strategies and thermostatically controlled louvers and fans; lighting with high efficiency fixtures with sensor-connected dimming control to augment natural daylighting; controlling runoff with bioswales, rainwater collection, and pervious paving surfaces; recycling construction waste and food waste; incorporating low VOC materials and fly ash concrete.[164]

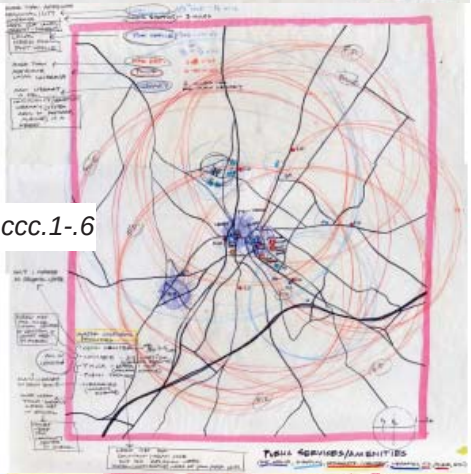



*bbb.1-.4*

164 Wal-Mart Stores, Inc. "McKinney Experimental Store." 2005. Wal-Mart Stores – Experimental Stores. 31 March 2007. <http://www.walmartstores.com/GlobalWMStoresWeb/navigate.do?catg=646>.

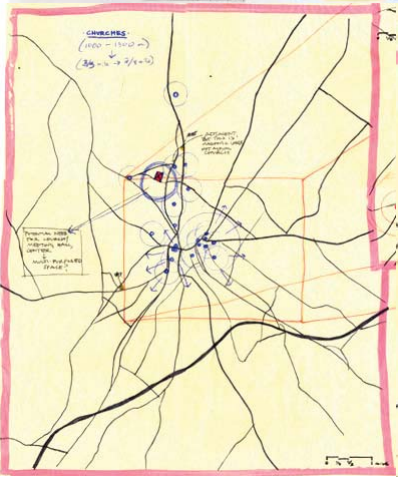

FIELDS/PARKS

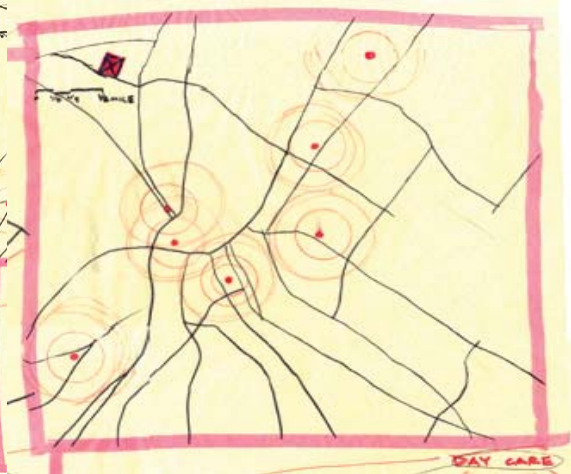

JETT/ CLINIC / MEDICAL DENTAL


PUBLIC SERVICES/AMENITIES

ccc.1-.6


MISC


CHURCHES


DAY CARE

In order to develop the most appropriate and stimulating program for the site, an in-depth analysis of existing conditions was required, both on the scale of the site and the greater community and city. The goal of the program, based on determined needs of, and benefit to, the community, is to: *establish a mixed use community center that will have maximum daily use by a maximum percentage of the community during different time daily time periods.*

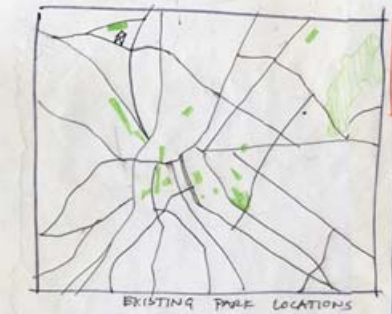
To determine the specific programmatic elements for the mixed use community center, various mapping exercises were conducted to place and evaluate the locations of existing community and commercial infrastructure and services: parks, schools, day care centers, hospitals, medical clinics and doctors' offices, dental services, churches, and social centers. Future residential and commercial growth patterns were also investigated.

*"For the consumer, the visible result of this intensive research is the "mix" – each mall's unique blend of tenants and department store "anchors." The mix is established and maintained by restrictive leases with clauses that control everything from décor to prices. […] Mall managers constantly adjust the mix, using rents and leases to adapt to the rapidly changing patterns of consumption. The system operates much like television programming, with each network presenting slightly different configurations of the same elements. Apparent diversity masks fundamental homogeneity."*[165]

165 Crawford 9.






EXISTING PARK LOCATIONS

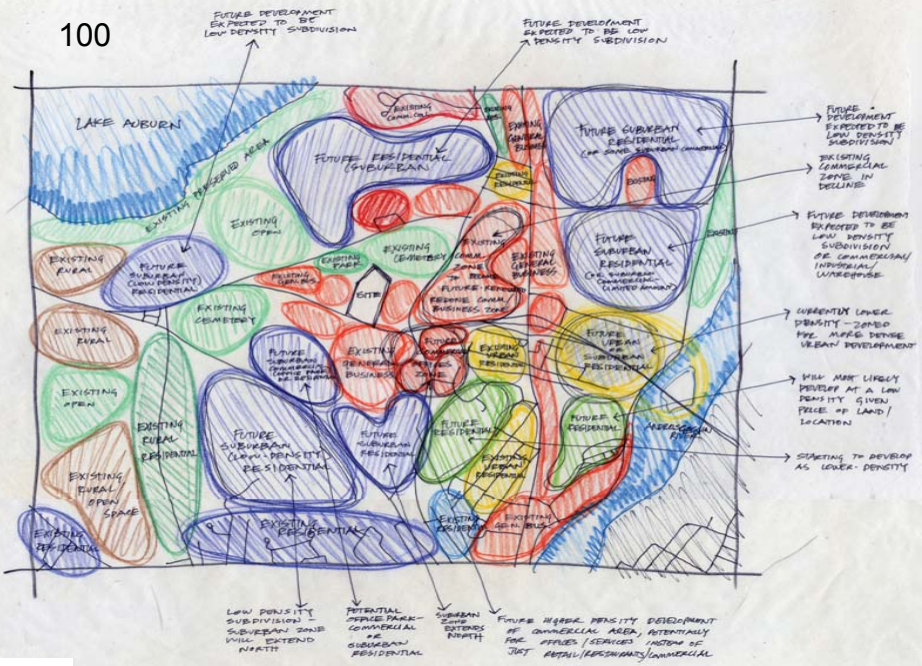

CONNECTOR LINK NEEDED
EXISTING PARKS

ccc.7-.9

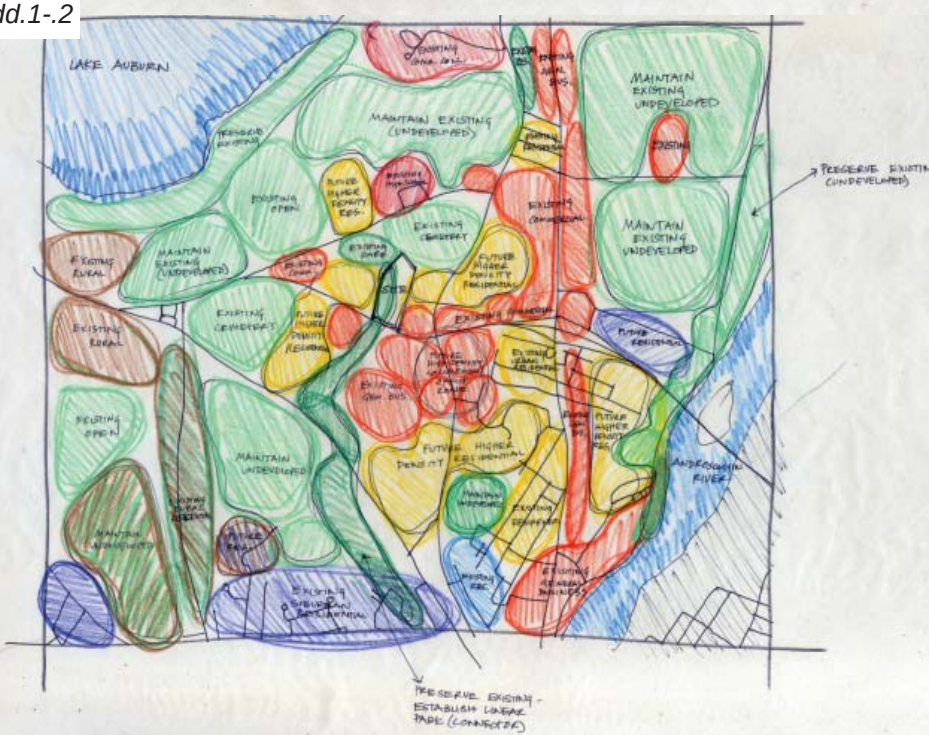

CONNECTOR LINK TO EXISTING PARKS

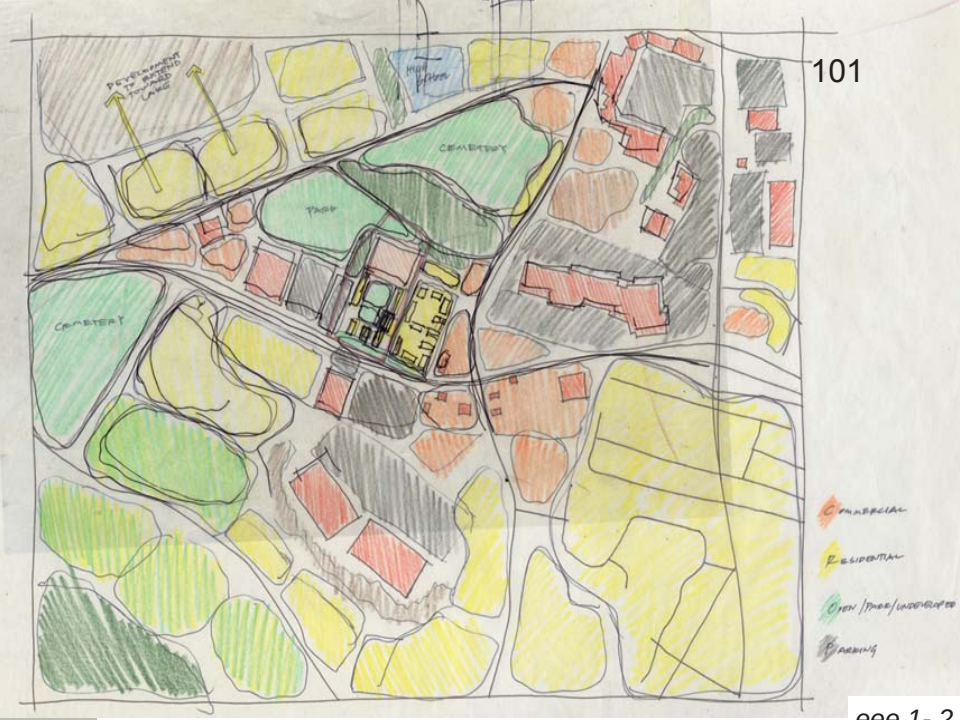
A thorough evaluation of the community needs was then distilled to the following list of elements, all of which would contribute to the development of a community focal point – a "one-stop" community center:

- Field/Outdoor Recreation Space – Ice Rink in winter
- Park/Green space – to connect to adjacent park and eventually connect to greenbelt/corridor across street to create linear park for Auburn
- Community Free Clinic – geared toward low-income residents, free consultations
- Elementary School (Primary – K-2)
- Branch Library – shared by Elementary School, Community Center
- Local Post Office
- Local shops (Grocer, Organic food store, Local Services) possibly 5-10 units, possible connection to Community Center (Clothes Tree)
- Major Community Center Space (primary square footage allotment): assembly spaces, administration, café (one of the local shops), performing space, practice spaces, indoor gym, teen center, kitchen (production cafeteria).
- Church – (modern evangelical setup – benefiting from mixed use nature of Community Center – possible shared lease with Community Center – use of Indoor Gym or Assembly/Performance space for church services. Also need administrative offices.
- Day Care (either operated by Community Services or Church)
- Commercial space – one or two tenants – dependant on remaining space


FUTURE DEVELOPMENT EXPECTED TO BE LOW DENSITY SUBDIVISION
FUTURE DEVELOPMENT EXPECTED TO BE LOW DENSITY SUBDIVISION
LAKE AUBURN
EXISTING PRESERVED AREA
FUTURE RESIDENTIAL (SUBURBAN)
FUTURE SUBURBAN RESIDENTIAL
FUTURE DEVELOPMENT EXPECTED TO BE LOW DENSITY SUBDIVISION
EXISTING COMMERCIAL ZONE IN DECLINE
FUTURE DEVELOPMENT EXPECTED TO BE LOW DENSITY SUBDIVISION OR COMMERCIAL/ INDUSTRIAL/ WAREHOUSE
CURRENTLY LOWER DENSITY - ZONED FOR MORE DENSE URBAN DEVELOPMENT
WILL MOST LIKELY DEVELOP AT A LOW DENSITY GIVEN PRICE OF LAND/ LOCATION
STARTING TO DEVELOP AS LOWER-DENSITY
EXISTING RURAL
FUTURE SUBURBAN (LOW DENSITY) RESIDENTIAL
EXISTING CEMETERY
EXISTING OPEN
EXISTING RURAL
EXISTING OPEN
EXISTING RURAL RESIDENTIAL
EXISTING RURAL/ OPEN SPACE
EXISTING RESIDENTIAL
FUTURE SUBURBAN (LOW-DENSITY) RESIDENTIAL
FUTURE SUBURBAN RESIDENTIAL
FUTURE RESIDENTIAL
FUTURE RESIDENTIAL
FUTURE SUBURBAN RESIDENTIAL
EXISTING RESIDENTIAL
EXISTING GEN. BUS.
LOW DENSITY SUBDIVISION - SUBURBAN ZONE WILL EXTEND NORTH
POTENTIAL OFFICE PARK - COMMERCIAL OR SUBURBAN RESIDENTIAL
SUBURBAN ZONE EXTENDS NORTH
FUTURE HIGHER DENSITY DEVELOPMENT OF COMMERCIAL AREA, POTENTIALLY FOR OFFICES/SERVICES INSTEAD OF JUST RETAIL/RESTAURANTS/COMMERCIAL

ddd.1-.2


LAKE AUBURN
MAINTAIN EXISTING UNDEVELOPED
MAINTAIN EXISTING (UNDEVELOPED)
PRESERVE EXISTING (UNDEVELOPED)
EXISTING OPEN
EXISTING RURAL
MAINTAIN EXISTING (UNDEVELOPED)
EXISTING CEMETERY
EXISTING RURAL
EXISTING OPEN
MAINTAIN UNDEVELOPED
FUTURE HIGHER DENSITY RESIDENTIAL
ANDROSCOGGIN RIVER
PRESERVE EXISTING - ESTABLISH LINEAR PARK (CONNECTOR)


CEMETERY
PARK
CEMETERY
COMMERCIAL
RESIDENTIAL
OPEN / PARK / UNDEVELOPED
PARKING

eee.1-.2


UNDEVELOPED
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
SCHOOL
CEMETERY
WOOD
RESIDENTIAL
RESIDENTIAL

**Crawford on Fourier's Phalanstery**:

*"[… it] merged the arcade and the palace into a prefigurative mall form, its glass-roofed corridors were intended to encourage social intercourse and foster communal emotions, rather than stimulate consumption."*[166]

*"Malls have achieved their commercial success through a variety of strategies that all depend on 'indirect commodification,' a process by which nonsalable objects, activities, and images are purposely placed in the commodified world of the mall. The basic marketing principle is 'adjacent attraction,' where 'the most dissimilar objects lend each other mutual support when they are placed next to each other.'"*[167]

166 Crawford 6.

167 Crawford 14-15.

The strategy for this project is to address the universal condition that has been identified – that of vacated retail space, specifically from big box stores. Determining the context and needs of the community might actually benefit from a closer look at the structure and ideology of a big box store.

- Corporate Structure
- Development Strategy
- Getting Lost in a Store
- Impulse Buying
- Regional Draw
- Employees
- Maximization of Products
- All Under One Roof

Some of these characteristics of Wal-Mart may seem to run counterintuitive to developing a community center. They should not be cast aside so quickly; alternatively, they should be considered part of thinking outside the box, or rather, thinking *beyond* the box. Instead of literally incorporating the philosophy of a big box store ('We want you to be exposed to many products and buy everything'), substitute the goal of a community into that philosophy: 'we want you to be exposed to many important aspects of a community and buy into the community.' A commercial entity is geared towards fueling *consumption of goods*. A socio-cultural entity can similarly be geared toward the *experience and consumption of community.* In essence, this is the application of the logic and means of Wal-Mart to achieve different ends – community benefit. Instead of impulse *buying* and spontaneous *spending*, can such an approach to a community center foster spontaneous *interactions* and impulse *community*? The outcome would be a group of people better integrated into the socio-cultural fabric of their community, and less entrapped by the web of consumerism. Simple put, the generative study of this investigation, *the science of community*, provides a counterpoint to *the science of malling* described by Crawford.

The retail environment has, in its history, seen experimentation with, and conversion to, a strip mall format that focuses on the reduction of public and social spaces and finding

a more “efficient” and profitable shopping system. Essentially, the sole humane characteristic of malls was being stripped away. In a socio-cultural environment, where the focus is on community instead of commercialism, the focus is not on efficiency but effectiveness. Reduction of public space is not acceptable.

In malls, efficiency and profitability are achieved by various strategies, such as those quoted above. The effectiveness of a community center might be shaped by similar means. The development of the design and plan of this project was informed by the principles of *indirect commodification* and *adjacent attraction*. These organizational strategies provide mutual benefit to adjacent programmatic elements, especially in an all-under-one-roof scheme. However, some similar-function adjacencies might still be advantageous enough to overrule the concept of adjacent attraction that is based on dissimilarity. The concept is meant to inform the design, not be the sole rule for organization.

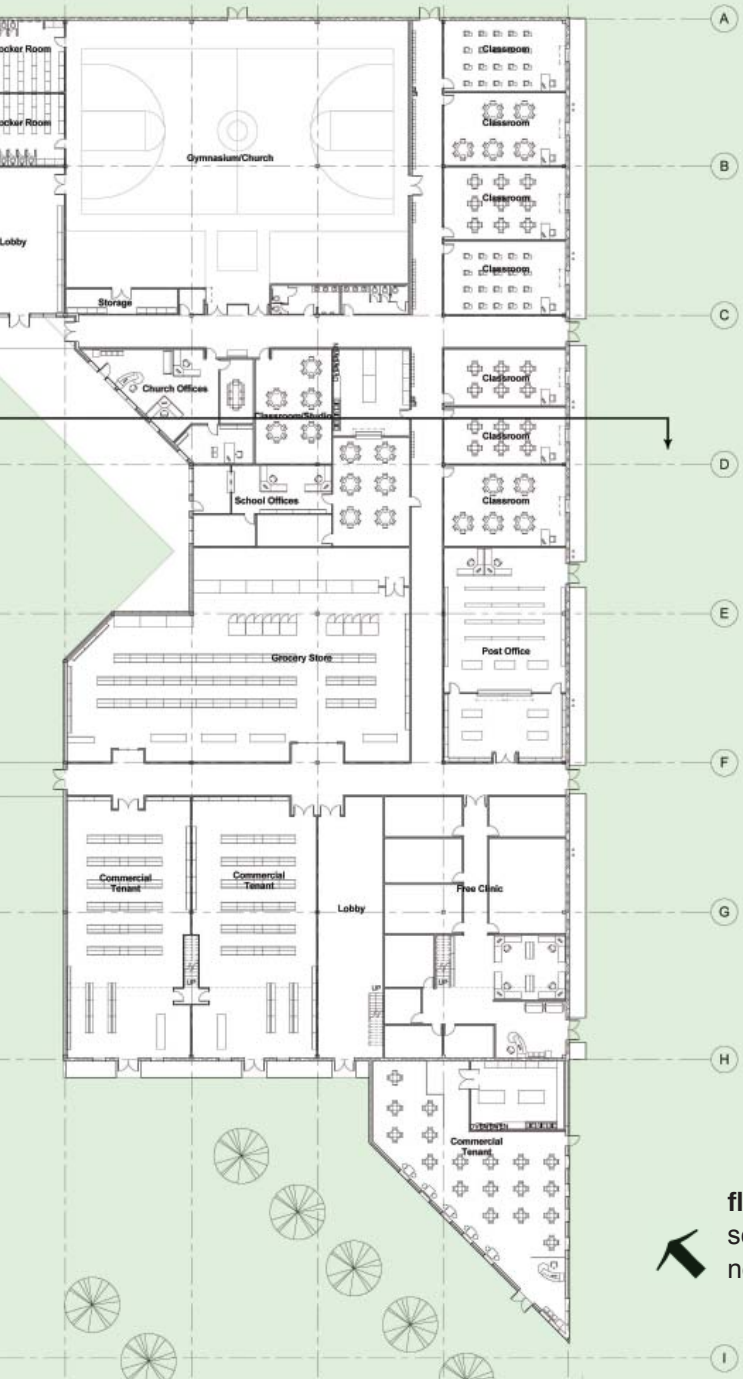
Another organizational strategy investigates the efficiency of the Wal-Mart plan itself. When Wal-Mart abandons a building or tears down an existing structure to build a new retail store, the reasoning focuses on the efficiency of the standard plan that has been developed for the store. This illustrates the company’s belief in its store layout. After investigating the design, one finds that a typical box store uses departmental groupings for its sales. Major departments are placed around the outside of the box, with specific departmental adjacencies aimed to spurring spontaneous spending. These departments are oriented towards a shopper looking for a specific item – a shopper with *intent*. However, the middle of the store - the vortex concentric to the exterior departmental ring – is home to minor departments oriented towards the *impulse* buyer. A network of aisles is placed to maximize exposure to the store’s contents, and a major entrance is used to control the exposure of the consumer to different elements. As a consumer, the unexpected is stimulating, and lesser items and frivolities are distracting, encouraging impulsive spending. Given this commercial model’s proven success, it can be applied to a building that houses multiple functions instead of a multitude of products.

Based on the aforementioned community study and *malling* strategies, the following program was determined as the most beneficial to the community:

| | | |
|---|---|---|
| **Existing Building -** | **116,800 s.f** | |
| Community Center - | 6500 s.f. | + 2000 s.f. 2nd floor = 8500 s.f. |
| Library - | 5800 s.f. | + 1800 s.f. 2nd floor = 7600 s.f. |
| Day Care Center - | 2900 s.f. | + 600 s.f. 2nd floor = 3500 s.f. |
| Conference Rooms | 1100 s.f. | |
| Café - | 3700 s.f. | + 1300 s.f. 2nd floor = 5000 s.f. |
| Auditorium - | 8500 s.f. | |
| Gymnasium/Church - | 9150 s.f. | |
| Locker Rooms - | 1250 s.f. | |
| School - | 8600 s.f. | |
| Church Office - | 1200 s.f. | |
| Post Office - | 2350 s.f. | |
| Local Grocer - | 5650 s.f. | |
| Free Medical Clinic - | 4300 s.f. | + 1200 s.f. 2nd floor = 5500 s.f. |
| Town Office - | 2900 s.f. | + 600 s.f. 2nd floor = 3500 s.f. |
| Commercial Tenant - | 2900 s.f. | + 600 s.f. 2nd floor = 3500 s.f. |
| Greenhouse/Tenant - | 7000 s.f. | |
| Commercial Tenant - | 2250 s.f. | + 500 s.f. 2nd floor = 2750 s.f. |
| Commercial Tenant - | 1300 s.f. | + 500 s.f. 2nd floor = 1800 s.f. |
| Public Restrooms - | 1000 s.f. | |
| Public Lobby Space - | 4500 s.f. | |
| Circulation/Public - | 12350 s.f. | |
| **Total Reuse -** | **95,200 s.f** | **Total 2nd floor – 9100 s.f.** |
| Second-skin volume - | 4250 s.f. | |
| Commercial Tenant - | 1700 s.f | |
| Commercial Tenant - | 1900 s.f. | |
| Commercial Tenant - | 1900 s.f. | |
| Commercial Tenant - | 1900 s.f. | |
| Commercial Tenant - | 3100 s.f. | |
| **Total New -** | **14950 s.f.** | |


SECTION AA
Community Center
Auditorium
SECTION BB
Cafe/Coffee Shop
Library
W.C.
W.C.
Conference Room
Day Care Center
Tenant/Commercial
Town Office
Lobby
Tenant/Greenhouse
Commercial Tenant
Commercial Tenant
Commercial Tenant
Commercial Tenant

*fff*




**floor plan**
scale: 1” = 60’
north

| | |
|---|---|
| Residential Units (above tenants) - | 20 units |
| Residential Units (master plan) - | 30 units/block |
| | **150 total units** |
| Commercial Tenants (master plan) - | 8 tenants – 30400 s.f. |
| Public Green - | 90000 s.f. |
| Amphitheatre - | 3000 seats |
| Green Roof - | 39000 s.f. |
| Parking - | 250 stalls |
| | (Reduced from 750) |

The project incorporates a master plan for the former Wal-Mart site and the adjacent 15 acre parcel, predicated on the belief that a New Urbanist approach towards planning must be taken. The master plan for the community includes: residential units, commercial units around the edge, moving parking to the periphery, reduction of parking on the former Wal-Mart site, community gardens and green space, and connection to the existing Lakeview Park. From a sustainable development point of view that is inclusive of ecological and socio-cultural sensitivity, a master plan provides an opportunity to more holistically address issues of drainage, density, and sharing of resources. The residential units are oriented for optimal passive daylighting and solar gain, with a reduced lawn space to focus on communal greens, and the opportunity for gardens between the units. The commercial units are on the southern edge, acting as a buffer and transition between the residential and community-oriented development and the busier Mount Auburn Ave.

Site planning for the adaptive reuse of the Wal-Mart site included a matrix evaluation of building use and parking demands and led to a reduction from 750 to 250 parking stalls. Driving aisles remain paved, but permeable paving is used in the majority of the stalls to promote on-site storm water infiltration. The existing Lakeview Park, developed on an existing landfill, will be utilized for future community needs, with two major connections from the Mixed-Use Community Center – a walkway from the Community Center and a green roof that merges with the hill at the East side of the park. A

tiered amphitheatre will help water infiltration and limit erosion on the slope that was graded when Wal-Mart initially developed. Maximum reuse of the site is essential. A central green space in front of the building will be a focal point for community leisure.

In the Mixed-Use Community Center, major functions, primarily used by community members with *intent*, are placed around the outside of the building (Community Center, Library, Day Care Center, Auditorium Gymnasium/Church, School, Post Office, Free Clinic), and minor, mostly commercial, functions are grouped around the center (Tenant, Commercial, Retail, Town Office, Grocery Store, School and Church offices, Greenhouse, Café/Coffee Shop). With the goal of spontaneous community interaction, the programmatic center of the building is not a conglomeration of consumer junk, but in fact a void space – a courtyard – meant to encourage social behavior. The network of corridors is placed to maximize exposure to the different uses within the building. It also provides a covered area for an aging segment of the population that is prone to *mall walking*, exercising in a safe environment. One major entrance achieves the goal of directing community members through a public space, and therefore encouraging interaction, while also maximizing exposure to the lesser functions of the building that are not housed around the outer ring.

One of the major issues with big box stores is their vast enclosure of space devoid of natural daylight or energy benefits. This project addresses this issue with a major formal change to the existing structure. In a simple modulation, the existing bays of the structural grid are alternately dropped to a single story ceiling height. Double height spaces are maintained where programmatically beneficial. Limiting the total volume enclosed by the store will reduce energy loads. The modulation of form also allows for extensive daylight penetration into the interior. Structurally, the change is simple. The existing roof is cut and dropped with the joists to a single story height, where the joists are re-bolted and welded to a horizontal brace connected to the existing column grid. New structure will only be required for the Auditorium and Gymnasium portions of the building to accommodate longer clear spans.

*ggg.1-.4*

original store

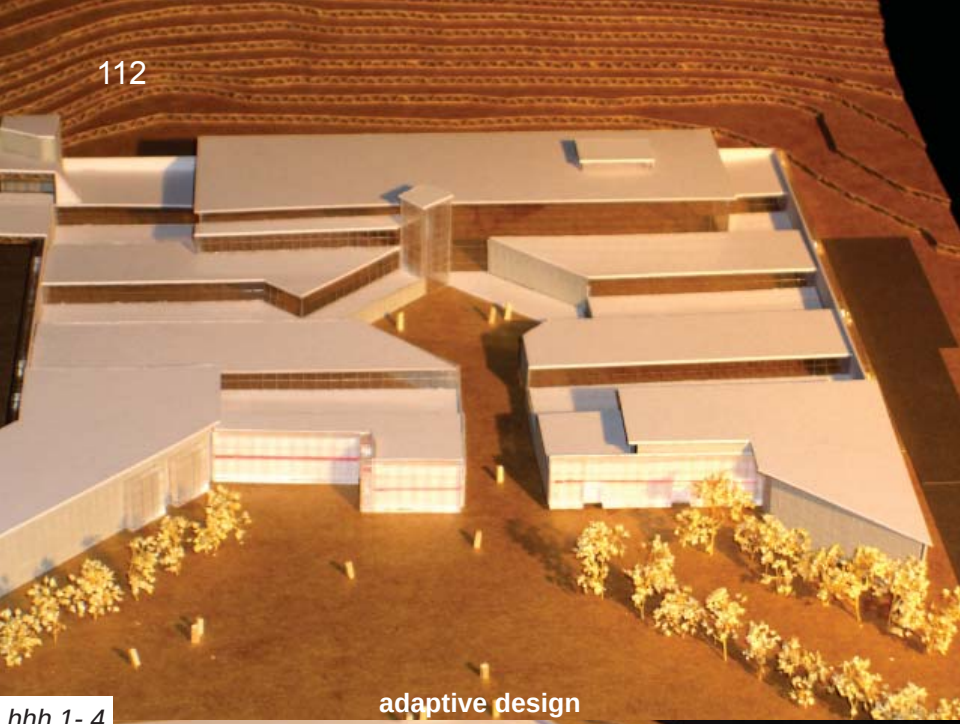
master plan



master plan



site overview

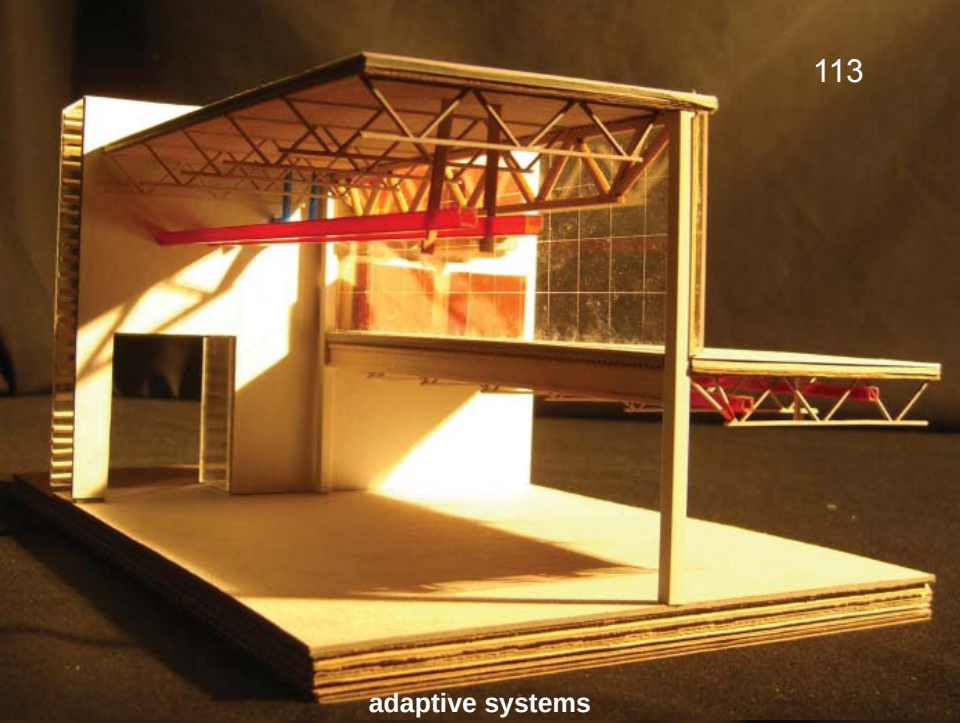


adaptive design

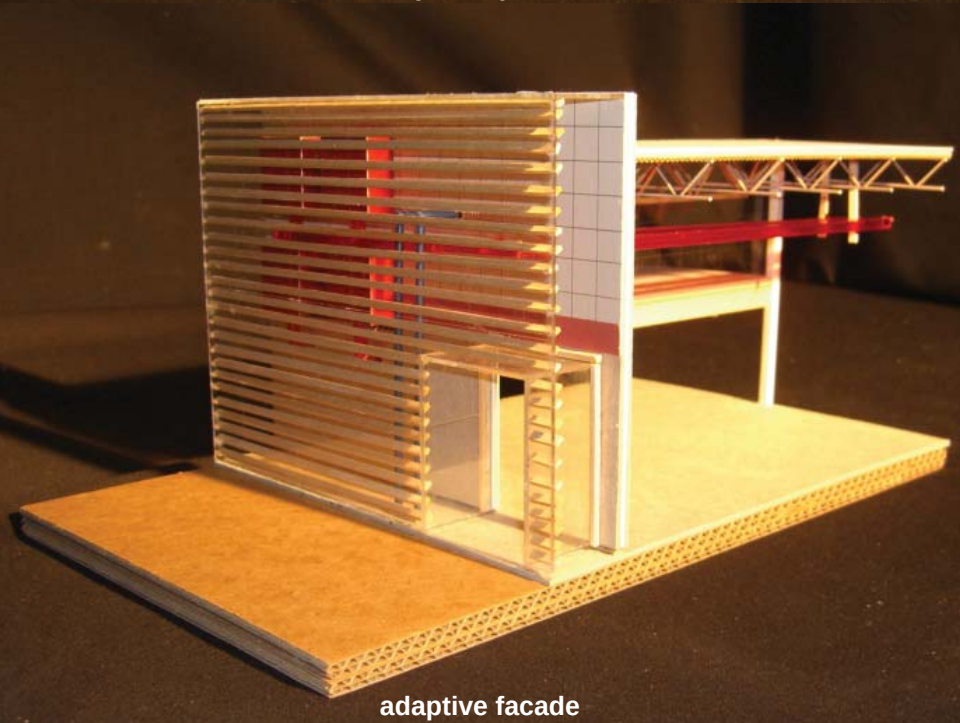
*hhh.1-.4*



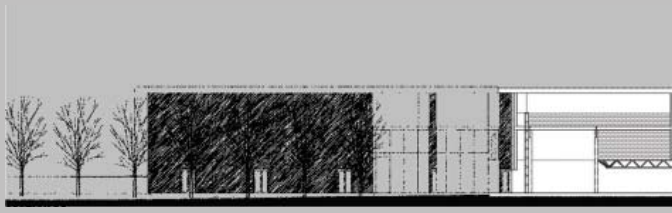
site design



adaptive systems

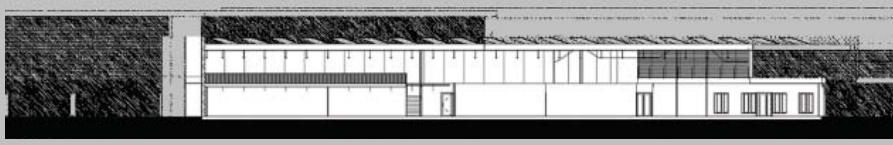


adaptive facade



*iii.1-.2*

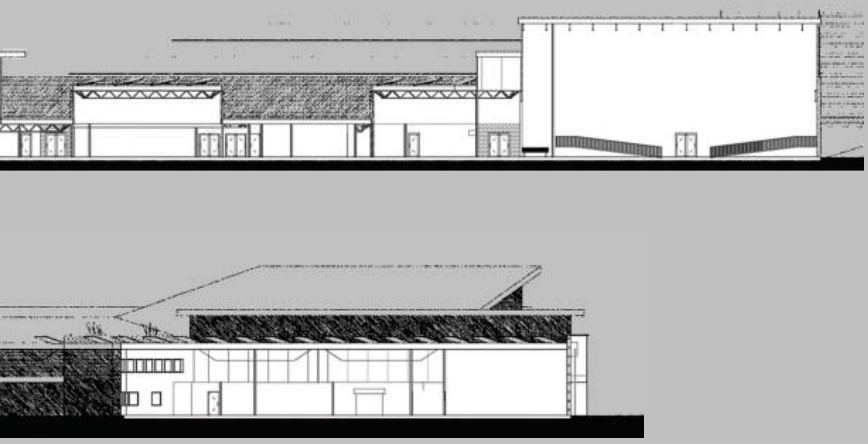
**section aa**





*jjj.1-.2*

**project overview**



section bb



main entry



residential approach

*kkk.1-.2*



western approach

Opportunities for additional solar benefit include the use of photovoltaic panels on a significant portion of the roofscape – the two-story roof sections, and the development of a secondary skin system for the building. The new glass skin will allow the thermal mass of the existing 12" block wall to collect heat that will be distributed to the interior. The volume will have mechanical louvers that limit sun in the summer and can be shut in the winter at night for insulation value. The volume will be vented so that on cool summer nights passive building pre-cooling and fresh air exchange will be possible. The glass volume will, in addition to providing a thermal benefit, house the mechanical *core* equipment. The HVAC units, formerly dotting the roofscape, will be moved to the edges of the building and partially enclosed in an exaggerated parapet that is integrated with the second-skin volume. The units will draw in air that is then ducted into the interior. The second-skin volume will act as a chimney to vent the exchanged air and heat. Drainage from the roofs will also penetrate into this volume and be piped to a primary water collection tank and an overflow bioswale area that will maximize infiltration and phytoremediation.

The building will also be a byproduct of *aesthetic* reuse. The existing block walls and color scheme will be maintained as a relic of commercialism that has now been transposed to a community center. The second-skin will allow transparency to this former façade, while providing a clear counterpoint and attitude for the building. The building will appear to have been kept in tact, and the irony of the transformation will provide an amusing social commentary. However subtle the changes may be, the feeling and use of the building and the site will be drastically different.



eastern façade

*Ill.1-.4*



main façade



western façade

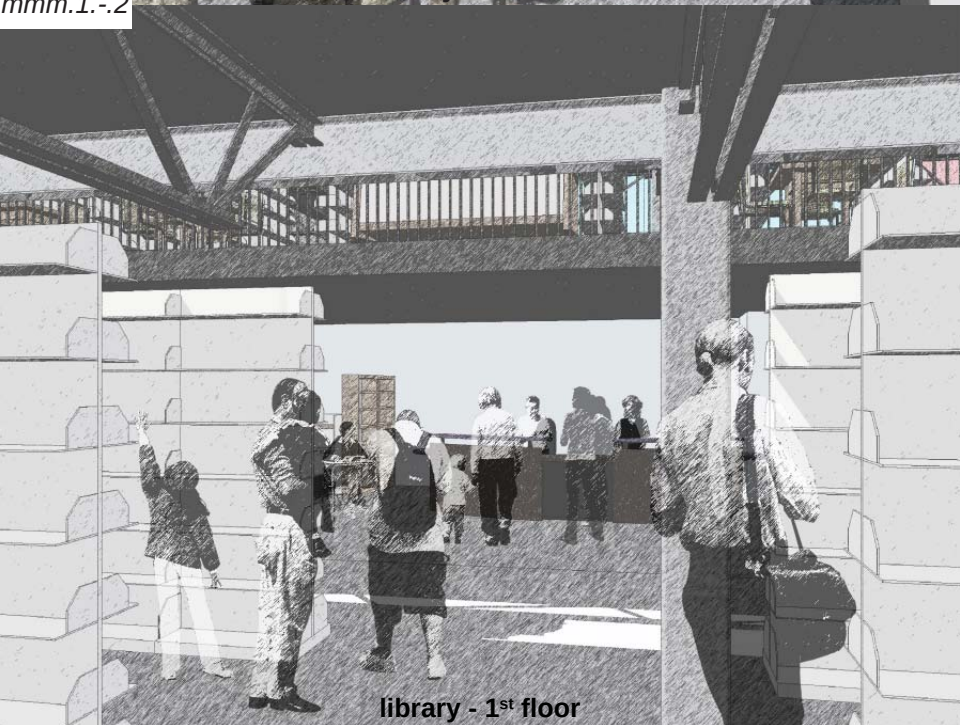


hallway/café



library - 2nd floor

*mmm.1.-.2*



library - 1st floor

While the vacated retail environment has become a universal condition, exemplified by the abandoned mall or big box, individual context must be the primary consideration when adaptively reusing and developing such a project. The following steps provide an outlined methodology for determining the most appropriate response for a given site illustrative of this universal condition.

1. Investigate the history of growth and development of the site. Consider local context and how tradition and history might be culturally sustained.
2. Project future growth trends for the area to determine an accurate picture of what future needs will be.
3. Perform an in-depth community mapping exercise to analyze locations and presence of existing infrastructure and various community services, business, residences, etc., as community needs will vary by location (i.e. suburban versus urban).
4. Based on the community needs, approach the logic of the big box store with an open attitude, realizing that an initial reaction towards modeling based on Wal-Mart philosophy might be over-reactive. Remember that the memory of the community of the former retail environment may be positive or negative, and that a social commentary on this history might be made regarding marketing, imagery, and the selling of a lifestyle. Wal-Mart uses slogans and brand recognition to help achieve success. Consider these tools of development and public relations, and a means of selling a new lifestyle, perhaps a lifestyle of environmental, economic, and socio-cultural sustainability.
5. Consider the organizational strategies of the mall or big box store. What can be learned or taken from the former use? What can be corrected? Perhaps maximization and centralization of services and functions – the all-under-one-roof approach to efficiency – could foster economic sustainability. Remember that consolidation, density, heterogeneity and diversity, adjacent attraction, and indirect commodification might have a benefit in the design.
6. Address the ways in which the site can be *healed*. Can holistic master planning and environmental logic promote ecological sustainability?

café/coffee shop

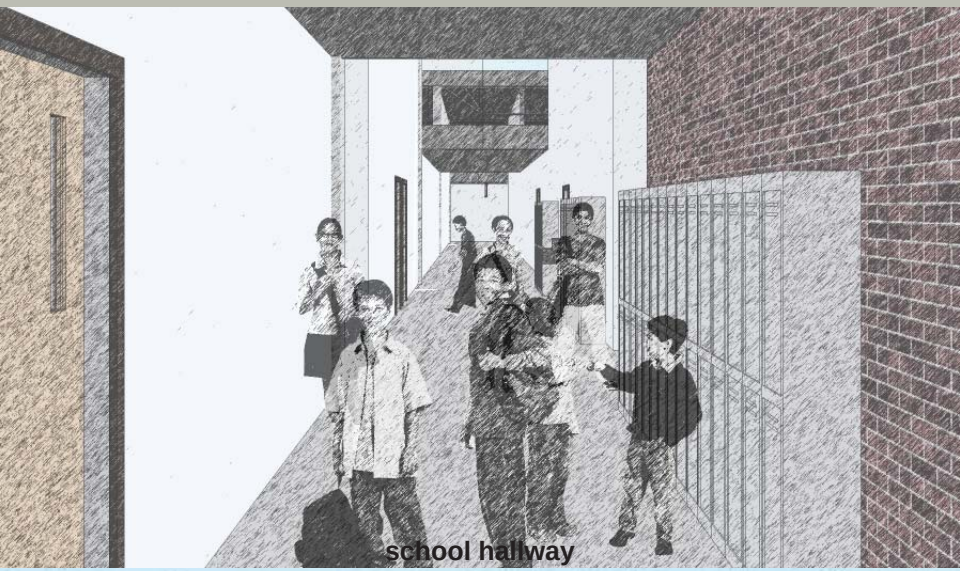
*nnn.1-.5*





courtyard: north/northeast

7. Consider the ways that the existing building and structure can be changed *simply*. In order for the project to be economically feasible, and for it to merit reuse instead of new construction, economic logic must be paramount. Look at precedents and examples of the various functions that are to be housed in the building in order to see how they will fit into the puzzle.



**school hallway**



**courtyard: northeast/east**

*“The duty we owe history is to rewrite it.”*

*- Oscar Wilde*[168]

168 John Foran, *Taking Power: On the Origins of Third World Revolutions* (1st ed. New York, NY: Cambridge University Press, 2005), 187.

In light of the current trends and the potential for the future of the sustainable movement, there is a new area of study that is emerging as a bright spot in the dim reality of resource depletion, over-consumption, and sprawl: adaptive reuse of an urban and suburban drosscape. It is a concept that understands the entropy of development and the potential for residual waste to be repurposed. In nature, evolution occurs to fill niches. In architecture, evolution in the form of adaptive reuse can perform the same benefit.

In the past, architecture was conceived of as universal design solutions during the International Style's reign.[169] This approach, a manifestation and continuation of man's basic desire to make a mark on the land, resulted in a standardization of systems, structural and otherwise. In concert with technological advancements, this allowed for greater enclosure of space and uniformity across the architectural landscape. After decades of technological progression and ideological shifts regarding the use of land as a resource, a landscape exists that needs transformation. Suburban big box development has been an ostensibly natural step in our slide down a slippery slope of ideological arrogance that has resulted in adversely affected ecologies, resources, and communities. Drosscape represents the potential for the next generation of the sustainable movement, and addresses these categories.

Sustainability must move beyond being a banner for environmentalism to incorporate a larger body of thought that addresses the preservation and maintenance of the socio-cultural landscape. The fabric of culture and place is being degraded by big-box lifestyles of consumption.[170]

169 "[…] the International Style has evolved into […] a bland, uniform structure isolated from the particulars of place – local culture, nature, energy, and material flows" (McDonough, *Cradle to Cradle*, 29).
170 Low 136.

*"As daily life teaches, Murphy's law reminds us, and the second law of thermodynamics formalizes, nature produces waste as it grows…the drosscape, which implies that dross, or waste, is 'scaped,' or resurfaced, and reprogrammed for adaptive reuse."*[171]

171 Berger 12.

There is a need for a cultural change in consumer waste patterns and ideologies;[172] byproducts of consumerism, such as wasted *landscapes of exchange*, should be treated as the input or food for this revolution of attitudes. The antithetical nature of this new image of cultural and ecological sustainability provides a stickiness that will help the movement reach a tipping point. The marketing and branding of an architecture using a big box shell, which addresses these issues, could stand as the counterpoint to Wal-Mart consumer culture and the embrace of the big box.[173]

"*Ideas have to be memorable and move us to action*."[174]

It has been hypothesized that if architecture, as it is typically envisioned, does not adjust with changing times and needs for solutions, it could die out.[175] It is possible to *sustain architecture*, as well as the ecological movement itself, with a new paradigm; sustainability needs to be sustained by architecture that is a physical manifestation of this new attitude. One building, in one place, might address a ubiquitous condition, and therefore have the opportunity for applicability across the existing polyglot architectural landscape. The embodiment of this approach will be most effective if it acts as a type of propaganda; the strength of its design and purpose, including the hardware and software of a building,[176] must be provocative.

172 "The ethos of consumption has penetrated every sphere of our lives" (Crawford 11).

173 "In this overcrowded marketplace, imagery has become increasingly critical as a way of attracting particular shops and facilitating acts of consumption" (Crawford 26). Likewise, imagery is important in *shifting* views away from consumption.

174 Gladwell 139.

175 Gissen 8.

176 Low 123. Hardware includes building components and systems, while software addressed how the building is used and the lifestyles it encourages.



*ooo.1-.2*







# case in point

*ppp*




*qqq*

**1993 - Construction on the original Wal-Mart begins (116,800 s.f.)**

**1994 - The original store opens in February.**

**2000 - Construction begins on the Wal-Mart Supercenter (over 200,000 s.f.).**

**2001 - The Supercenter opens in October.**

**2005 - The original Wal-Mart is torn down during the spring and summer months.**

**2005 - Construction on a new Kohl's store begins in December (90,000 s.f.).**

**2006 - Construction is completed in September and the Kohl's store opens on October 3.**

**2007 - Kohl's begins attempts to gain city approval for a 30,000 s.f. addition. Coincidently, the new total square footage would be almost the exact footprint of the original Wal-Mart.**




# More development is coming.



**There is a better way.**

This project began as an endeavor to determine what the next generation of the sustainable movement would be. After weeks of reading and researching the history and the current state of the movement and its various veins, a clearer image of what the future might be began to take shape. It was going to be more than a spurt of sustainable products or technologies, more than a shift from fossil fuel dependency to renewable energy sources, more than LEED and green rating systems; the next generation of sustainability needed to use as a resource the waste created by growth and mistakes of the past. William McDonough and others have long promoted the tenet of "waste equals food," meaning that *waste* must be considered a primary *resource*. This should be the focus of the next generation of sustainability.

A stunning illustration of the potential of waste is the vacant lots and monstrous square footages left in the wake of retail giants. Dying malls and empty big boxes, from Wal-Mart and others, are the *waste* that must be used as the *food*, or *resources*, to be used as the input for the next generation of the built environment.

***Thinking Beyond the Box: Landscapes of Exchange and Consumer Waste as Food for Cultural Change.***

This proposal to adaptively use abandoned retail landscapes and buildings is one that will encourage change by consumers and culture as a whole – a new attitude towards consumerism and waste. The economic feasibility of such a project as was explored by the manifestation of the theoretical, will require forward thinking on the part of communities, local governments, and developers. After meeting with an economics professor during this semester to discuss feasibility, I am convinced that, given the potential for community presence and economic profit from leasable square footages, such a project can be successful. In this particular project the design provides community attractions, exterior public space, a more traditional interior courtyard akin to a town square, and commercial spaces. These characteristics will ensure longevity and local profitability for the project, and socio-cultural sustainability and economic

sustainability are integral parts of the future of the sustainable movement.

When it comes to renovations and adaptive reuse, there is a fine line between doing too little and doing too much. The design for this project certainly positions itself on the side of the line that does more instead of less. In part, this is in response to adaptive reuse precedents that were explored which did not do enough to create an exciting built environment or embrace sustainable principles. For the most part, the structure of the original building is saved. However, there is new structure required in the gymnasium and auditorium portions of the building. These compromises in saving structure are made in order to improve the socio-cultural draw of the project. Compromises are inherent to the design process, especially for such a sensitive and controversial project such as adaptive reuse of a box store. Obviously, doing the least to the building might be seen as a more sustainable approach to the design problem. However, socio-cultural appeal is integral, and construction costs represent a fraction of a building's operating costs. This explains the necessity for such modifications as the modulation of the structure that will allow natural light to penetrate the interior and reduce the interior volume of air that is conditioned. While it will take human labor and energy to modify the structure, the long-term tradeoffs are certainly worth the required energy input.

This project is a local solution to a universal problem. The situation of vacated retail space was created by a universal approach. One can see that a universal approach to solving the identified problem is likely to create a result that is similarly placeless and bound for obsolescence. Certain aforementioned characteristics of this design process are universally applicable. Modulation of structure to allow for natural lighting, addition of a second skin for thermal benefits, and reparation of a site can be applied to other projects, but determining the program for the building and therefore the specifics of the design must not be merely applied as a stamp. The big box stores were originally stamped onto the landscape inhumanely - the next iteration must not be.

This thesis project was enjoyable and frustrating. The difficulties of working with an existing building, especially one of such a scale and blandness, became apparent. Beginning with a negative attitude towards the existing structure meant that my initial designs were a bit of a reflexive overreaction; the initial designs tried to disguise and ignore many aspects of the building. Instead, with the advice of my advisors, the design needed to embrace certain qualities of the big box store and of the former Wal-Mart specifically. The final design for the project settled in this direction, and is better because of this shift.

As a research and design process, this experience was very different from any design studio or project that I have worked on professionally. Working independently and doing exhaustive research will provide great benefit to future design work and personal endeavors. In determining the next generation of sustainability, the approach intentionally avoided predicting the end results of the study. This project, from initial research to final design, was truly generative – each sequence became critical to the foundation for the next sequence. The practical project became a somewhat scientific testing of the hypothesis of the next generation of sustainability. In the end, the validity of the response to wasted landscapes and vacated space has convinced me that such an approach to this existing condition is not only necessary, but potentially successful.

Beginning this endeavor, I did not know where I would end up months later. I did not know the eventual outcome, but it gradually solidified and revealed itself to me over the course of the project. A design project is never done, but I am satisfied with the work that I have done, the discussions and investigations that have resulted, and the designs which have been included in this book. I have learned to develop and apply my own theories, identify critical problems, and pursue an architecture that responds to a social ethic and responsibility. This type of architecture is not often pursued in design school, where prominent sculptural pieces without budgets or other constraints are the typical projects, yet it is the architecture of the future – one of challenges, constraints, responsibility, reuse, holistic thinking, and sustainability.

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**gg** Harvard Design Guide, 466.
**hh** Harvard Design Guide, 468-469.
**ii** Berger 206-207.

**jj** Berger 218-219.
**kk** Berger 216-217.
**ll.1-.4** Google Earth site location images.
**mm.1-.12** "White family farm photos." Personal photographs by White Family.
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**uu** Androscoggin County Chamber of Commerce. "Lewiston - Auburn Area." Street Map.
**vv** "Site Location." Image from Owen Haskell Inc. survey plan.
**ww** "As-Built Plan of Existing Structure." Image from Owen Haskell Inc. survey plan.
**xx.1-.2** Smith 78.
**yy.1-.2** Google Earth images of Lawrence, Kansas, Wal-Mart location.
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**fff** "Floor Plan." Drawing by the author. April 2007.
**ggg.1-.4** "Model Photographs." Images by the author. April 2007.
**hhh.1-.4** "Model Photographs." Images by the author. April 2007.
**iii.1-.2** "Building Sections." Drawings by the author. April 2007.
**jjj.1-.2** "Project Renderings." Images by the author. April 2007.
**kkk.1-.2** "Project Renderings." Images by the author. April 2007.
**lll.1-.4** "Project Renderings." Images by the author. April 2007.
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**ooo.1-.2** "Site Photos." Personal photograph by the author. Jan. 2007.
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