



**Memory Through Re-Use:**

Food, Fuel, Fossils, Filth and a Few Filling Stations

by

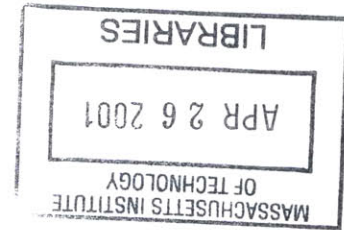
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SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE  
IN PARTIAL FULFILLMENT OF  
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**ROTCH**

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paper and electronic copies of this thesis document in whole or in part.

This book is for my parents,  
who have always encouraged me to do whatever I thought was right.

Many thanks to my advisor Kanda-sensei, and my friend Shun.

Thanks to Peter Testa, Edith Ackerman, Micheal Singer, my friends, my classmates, my family, and Rebecca, all of whom have listened, given advice, and put up with me.

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Gregory Russell, Architect

## **Abstract**

### **Memory Through Re-Use:**

Food, Fuel, Fossils, Filth  
and a Few Filling Stations  
by Zachary M. Kron

Submitted to the Department of Architecture on January 19, 2001  
in Partial Fulfillment of the Requirements for the Degree of Master of Architecture

This project engages disposable objects and concepts in the design process. Cultural items deemed unusable, obsolete, unfashionable, repugnant, toxic, or otherwise dirty are used as a resource and as a means to access collective memory. In this way the project will redefine for itself that which is useful and that which is wasteful, thereby identifying untapped resources of creative and pragmatic material:

by using abandoned gas stations (a site typology created by a piece of sweeping national legislation) the project addresses generic issues applied nationally, making the design a repeatable intervention.

by identifying local examples of these generic sites, specific issues of contextual appropriateness are explored.

by highlighting the previous use of the site, rather than disguising it, the thesis creates a continuity with the past, learning from and improving on the lessons of a tradition. The previous use of the site is not celebrated through a simple physical preservation, but through a continuation of the methods employed on the sites to create identity.

Thesis Supervisor:  
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by designing a public lavatory, issues of waste, resource, and stigma are explored. The program foregrounds issues of personal involvement (bodily necessity) in public issues (municipal infrastructure). The program addresses issues of transformation from states of use, to abandonment, to rediscovery, and follows the principle that waste equals food.

**move** (moov) vt. **moved, mov'ing** [ME. *moven* , <Angle-Fr. *mover* < OFr. *movoir* < IE.base \**mew-*, to push away, whence Sans. *mivati*, (he) shoves] **1.** to change the place or position of; push, carry, or pull from one place or position to another **2.** to set or keep in motion; actuate, impel, turn, stir, etc. **3.** to cause or persuade (*to act, do, say, speak*, etc); prompt **4.** to arouse or stir the emotions, passions, or sympathies of **5.** to propose or suggest; esp., to propose formally, as in a meeting **6.** to cause (the bowels) to evacuate **7.** *Commerce* to dispose of (goods) by selling



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Using a war ration card, 1942.

## Introduction

### Design Statement and the Need to Re-Use

From the first it has been the theatre's business to entertain people, as it also has of all the other arts. It is this business which always gives it its particular dignity; it needs no other passport than fun, but this it has got to have. We should not, by any means be giving it a higher status if we were to turn it e.g. into a purveyor of morality; it would on the contrary run the risk of being debased, and this would occur at once if it failed to make its moral lesson enjoyable, and enjoyable to the senses at that: a principle, admittedly, by which morality can only gain.

-Bertolt Brecht  
from "A Short Organum for the Theatre"

An excellent plumber is infinitely more admirable than an incompetent philosopher. The society that scorns excellence in plumbing just because plumbing is a humble activity, and tolerates shoddiness in philosophy because it is an exalted activity, will have neither good plumbing nor good philosophy. Neither its pipes nor its philosophy will hold water.

- John William Gardner

## **Design Statement**

Design is the creation of connections between the world of ideas and the world of objects. Design that fully engages physical necessity (provides light, view, shelter), but fails to evoke a distinct set of ideas is simply problem solving, it is not an expansion or enriching of the human experience, but a maintainer. Design that has perceivable and definite ideas, but does not become a loved object, has failed to foster the fusion of worlds that is human consciousness, and remains abstract intellectualization. The thing which evokes a different understanding of what it means to be alive, the idea that has become manifest, this is the designed object.

There is a problematic side to this object, this material that is idea. The two operate independently, i.e., the object may entice the beholder to ideas, and the idea may entice one to the object. Idea and form exist independently of the other despite their singular embodiment. This independence is often referred to as propaganda (pejoratively since 1940), usually found as a form that is a carrier of an idea rather than the reverse, and is often associated with a soft form of coercion. We assume that any idea that must be baited with a lovely form is sinister or repulsive: without glossy exterior  $x$ , everyone would abhor interior  $y$ . However, we must also consider the value of propaganda not as an enticement to embrace that which is sinister, but to endure that which is difficult.



### **Buildings and Propaganda**

How do idea and form intersect in a building? Architectural design has moved beyond the celebration of a building's facade as an end in itself (Beaux Arts), beyond an exposing all the workings of a building for the sheer marvel of functionality (Modern), and beyond the creation of empty facades for the sheer irony of it (Post-Modern). Do we again invert a triple inversion or can we move beyond inversion to both the simultaneity of opposites (irony) and an optimistic idea of progress (sincerity).<sup>1</sup> Imagine a design that is conceptually loaded in an optimistic manner, its concept apparent, its form apparent, its contradictions apparent, the experience unified but in tension.

### **The need to reuse**

In a country with a short history, we readily dispose of the history we generate. The idea of “durable” goods becomes absurd considering that the average American buys a new car every five years, collectively creating 7 billion pounds of scrap every year<sup>2</sup>. On both a factual and metaphorical level, we can see this purposeful amnesia enacted in our treatment of cultural artifacts, from buildings to bottle caps. This cultural insistence on constant rebuilding from fresh stock robs the final design of the rich embodied history and implied meanings contained within experienced goods.

American culture is famous for its enormous capacity to produce goods, consume resources and generate waste; we are an object-oriented society<sup>3</sup>. As designers, our role involves the participation in this system as object generators. For this production it seems necessary to consume resources, and produce waste. Assuming the popular understanding of the relationship of American post-industrial society to the ecology to be correct - that we jeopardize both our own health as a species and the health of our planet in general by these practices - the choices we make as professional producers of goods may ease the consumption of resources and production of waste. How can we act, in arranging pre-existing or ready-made objects, to slake the thirst for ever more objects. Is it possible to create “new” objects out of old, can objects be made without the consumption of resources? This is an attempt to short circuit the need for new objects by directly addressing the deeper hunger for new meaning, for objects that speak to a changing world. This project is not an attempt to create a “sustainable” building, but rather a proposal that what we do with our objects is more important than what the objects are. Furthermore, it asserts that the manner in which an object has been used will forever mark and enrich that object.

By identifying disused, underused, or discarded objects and spaces as resources, designers may create a double richness in their products. The first richness is the limiting of resource consumption, or the re-identification of waste as a resource: a richness of efficiency or pragmatism. The second occupies the realm of the poetic, and involves an uncovering of history. The designer derives a physical expression from an object's history: a richness of meaning. Implicit in re-use is an adaptation or evolution of tradition, acknowledging the past and bringing it into the future rather than disposing of it.

This is a position that stands in opposition to a concept of discrete changes in the world, to revolutionary/modernist design that attempts to create without reference to precedent, or by creating a schism with the past. It is a strategy which attempts to use both precedent concepts as well as artifacts in a transformational process to address changing needs as opposed to addressing new needs. It is an attempt to recover the value of elements deemed useless in a culture that demands specialized and durable equipment for transitory desires.

However, adaptive reuse is revolutionary in its assumption that the objects that surround us do not speak to our present condition, that we must constantly change our physical world. This reuse is not a preservative strategy, but rather a perversive strategy. The old objects that enable new uses must be subverted, even contradicted, to at once appropriate the old meanings associated with them, but also transform them to serve new purposes. The old object is used to create its own critique. Again, this runs against the grain of the modernist ethos of the expression of truth in materials, where the form of a material must clearly define the purpose it fulfills. In reuse, there becomes a layering of meanings; a two faced meaning, one that acknowledges the past, and one that scorns it.

The problems addressed in this project are not necessarily those of “green architecture” or “green urbanism”. In outlining the extents of a problem exposed by a sweeping piece of national legislation, it seeks to understand how a particular mindset leads to a particular type of chronic urban decay. It addresses an impulse to dispose of that which is seen as polluted, to disguise or “bury” that which is offensive. The project attempts to use the means by which the problem came into being to create its own solution, to learn from the methods of a failed history.

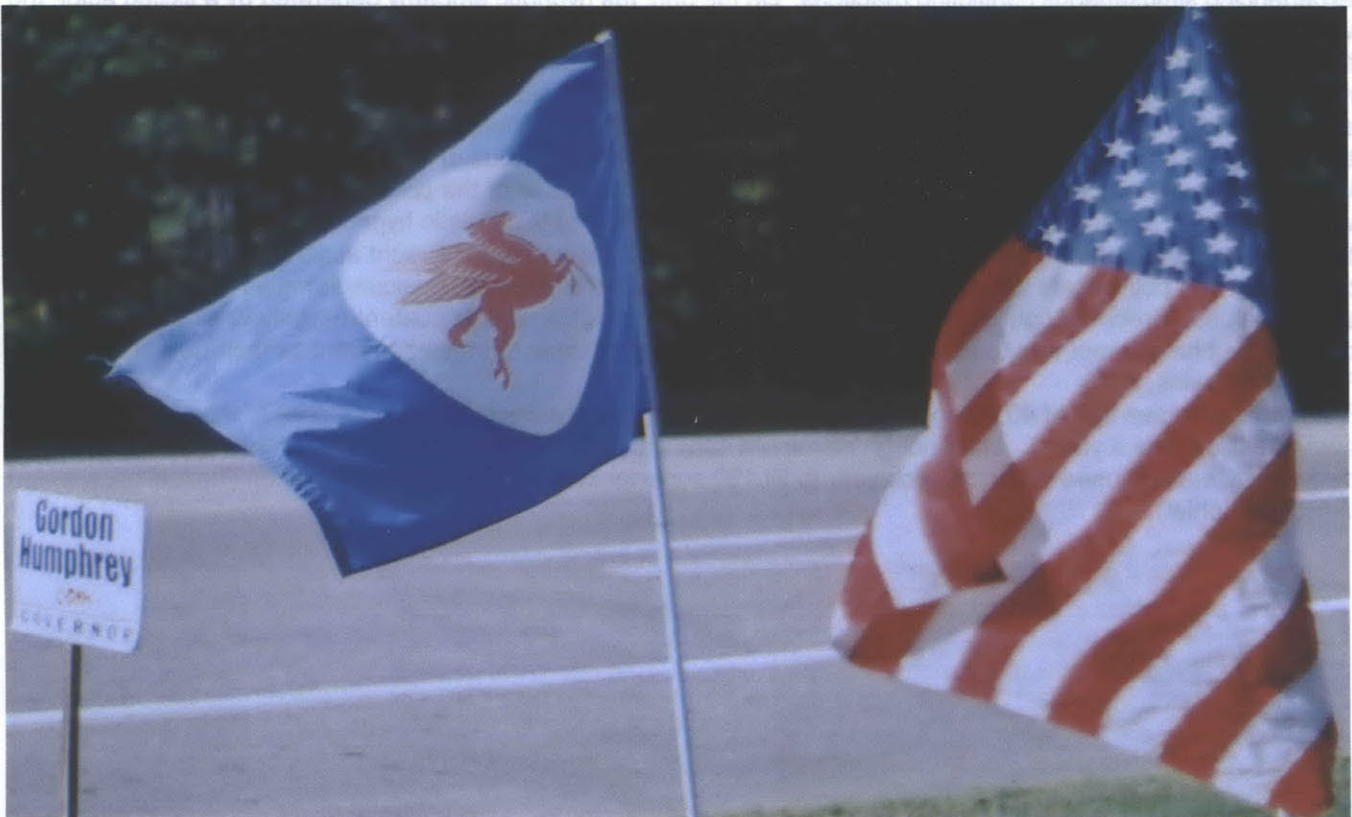
## Notes

<sup>1</sup> A non-architectural example: The theatrical director Bertolt Brecht had a habit of sending a clown onto stage to shadow the actions of the other characters. One instance has a woman giving a heart-felt description of having been raped, her terror, her humiliation, her pain; a speech that might move the audience to tears. The clown, trailing behind, pantomimes the actions, amplifying them to absurdity. The compositional result is remarkable, the viewer experiencing simultaneous conflicting reactions. On the one, the hypnotic empathy generated by a skilled actor, the vivid sense of unity with the feelings of another human being, solidarity. On the other, the complete awareness that this experience is not “reality”, or lived experience, but play, a theatrical experience, make believe. Central to the moral position of Brecht was that traditional theater itself was rapacious; the audience is violated by the calculated emotional manipulation of a skilled artist, the actor defiled by the abandonment of their own body to the control of the director. Brecht does not deny the transcendent quality of art, the value of full engagement of a consciousness in abstraction. Rather, he wished to create an awareness in the viewer of the potential (if not structural necessity) within art for the abuse of the audience. Brecht made apparent that this artistic hypnotism always carries ideology that is independent of the form, and if it is not apparent, it is a Trojan horse. Brecht asserts that those pieces that claim to be non-political are simply upholding the dominant values of the time, masquerading as eternal or “common sense” values. Brecht of course carried with his theater his own ideological content (largely what we call Marxist doctrine) but his attempt was to make the presence of this set of ideas to be as apparent as their deliverer.

<sup>2</sup> Hawkins/Lovins, pg23

<sup>3</sup> “Each year an average of 40,000 pounds of new materials are consumed for each American. Americans throw away 7 million cars a year . . . and enough aluminum cans annually to make 6,000 DC-10 airliners. Americans throw away enough used motor oil each year to fill 120 supertankers.” (EPA, office of Pollution Prevention, Waste pamphlet).

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## **Site** Abandoned Urban Gas Stations

The gasoline industry has emerged as a cultural icon central to the American psyche. For those of us whose early memories are rooted in the years immediately following World War II, the automobile, and the new landscapes oriented to the automobile, loomed large as youthful preoccupations. In automobility lay identity and a sense of future for our generation. For ones family and oneself the automobile spoke immediately of social status both through the mobility engendered and through the thing possessed. Part of the mystique of automobility was the use and care of the motorcar as machine and central to maintenance was the gasoline station. For males, especially, the neighborhood gasoline station - with its ringing bell announcing customers, its smell of gasoline and grease signifying technology, and its brisk socializing indicating community - constituted a very important social setting indeed.

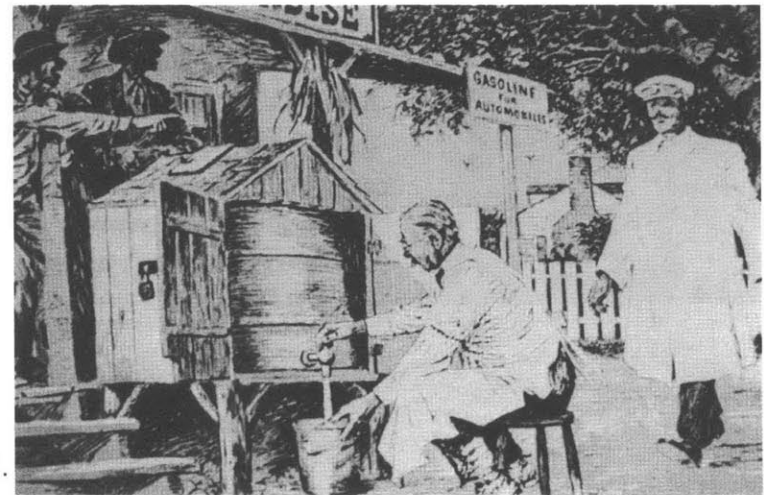
-from **The Gas Station in America**<sup>1</sup>

The supply of gasoline stations structures is so abundant that it is possible they will outlive our supply of gasoline.

-from **Fill'er Up**<sup>2</sup>

The Gas station is an American cultural icon. It is the architectural counterpart of that that supreme symbol of independence, innovation, and mobility: the car. Like the car, the gas station is a mass produced product, designed for a generic condition and distributed in a smooth blanket from coast to coast. Like any other durable product of mass production, the building type eventually outlives it's usefulness and becomes a mass produced waste. It is at this moment that there is an opportunity to re-designate this object as an available resource and recover it from the waste stream.

These stations are fertile areas for the investigation of the role of design in the recovery of discarded resources. The gas station is a capsule of cultural assumptions and values. Its physical structure is determined by an efficiency of use associated with the needs of the ultimate symbol of American values, the car. It is a vault of collective memory in a country that has both a short history and a shorter memory. The generic nature of the gas station triangle magnifies the importance of specific site investigations: solutions found for the individual plots can be applied or adapted easily to a multitude of similar sites. Because individuals rather than larger companies owned the majority of the plots, there is an element of uniqueness to each of the essentially repeating structures.



Filling apparatus from 1901.



## Rise of the Gas Station in America

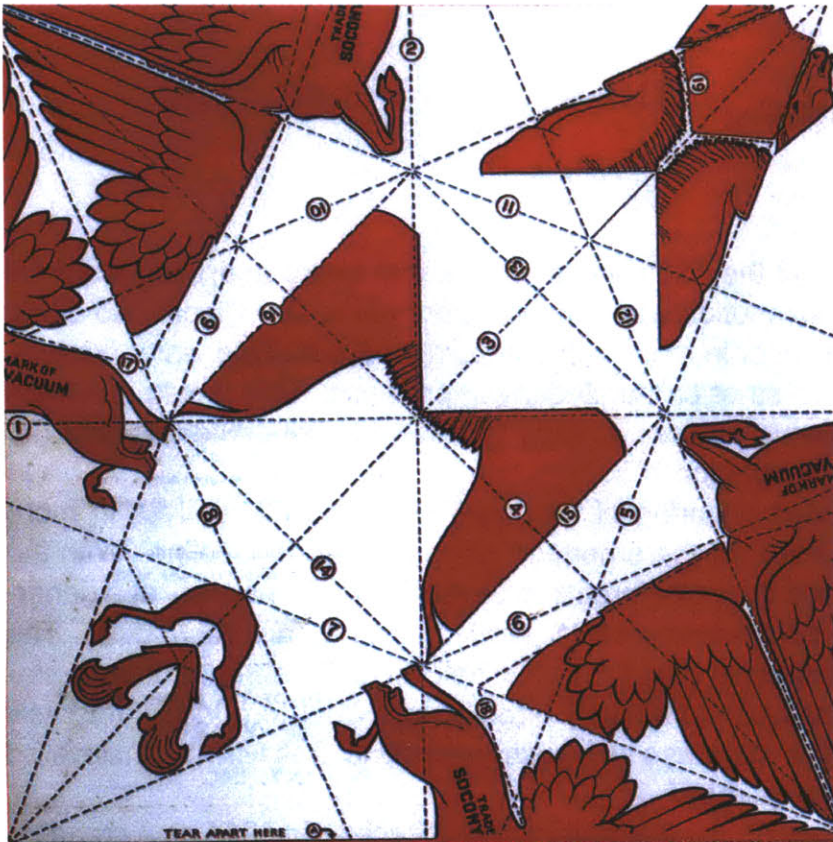
### Standard Oil and the early period of retailing

From the turn of the century until the 1911 anti-trust suit that broke apart Standard Oil into 32 competing entities, gasoline distribution was a largely informal affair. Dispensed either in buckets filled from above ground tanks or in makeshift pumps rigged out of old water heaters, gasoline was made available alongside other crude oil derived products. One would purchase kerosene for domestic lamps and heating devices, grease for carriage axils, and gasoline (for the still exotic automobile) at a single distributor.

After 1911, the regionally divided offspring of Standard Oil found themselves in more direct competition with smaller companies for the emerging niche market of gasoline. With the increased availability of automobiles and the rising profits to be gained in their supply of a generally homogeneous product, different companies vied for strategies to attract customers. The primary tool in this competition was the station itself. While Shell Oil had created a drive-in station in 1909, it was not until 1913 that Gulf Oil actually hired an architect to address this new programmatic needs of the industry. The response was hexagonal structures with a cantilevered canopy covering a series of stand-alone pumps.<sup>3</sup>

After Standard Oil of California created a standardized architecture in 1914 as a competitive measure against Shell Oil<sup>4</sup>, the gasoline station as a typology became established. The regional edges that defined the original territories of the Standard Oil Diaspora became blurred as each entity began to vie for patronage in ever-larger areas.

Depression era legislation aimed at equalizing competition between chain grocery stores and individually owned retailers created a tax on chain stores across the country.<sup>5</sup> The result for the gasoline industry was the evolution of franchised stations, individually leased retail outlets with a single product distributor. An individual would own and operate his own station, but would enter a contractual agreement to purchase all his products (including signage, and accessories) from a single distributor.



**HOW TO MAKE THE SOCONY-VACUUM PEGASUS FLAP HIS WINGS**

(Folding Time, 12 Minutes, 23 Seconds)

**IMPORTANT - Follow These Instructions Carefully. Fold Accurately and Crease the Paper Firmly on Dotted Lines as Directed.**

**FIG. 1**

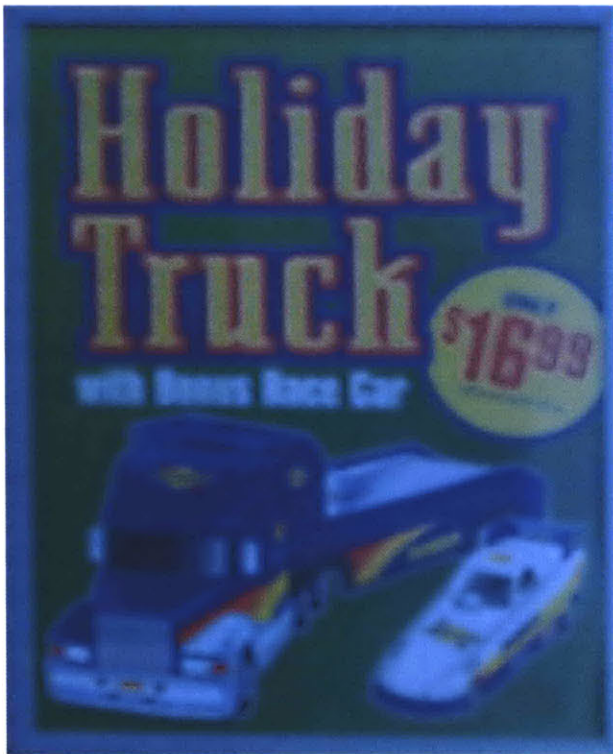
Place paper with lines and numbers face down. Crease forward on lines Nos. 1 and 2, Fig. No. 1. Repeat after each fold. Crease forward on lines Nos. 3 and 4, Fig. No. 2. Repeat.

**FIG. 2**

**FIG. 3**

**FIG. 4**

Crease forward on lines Nos. 5, 6, 7, 8, 9, 10, 11 and 12, Fig. No. 3. Repeat. Press in creased sides to form four-pointed star, Fig. No. 4.



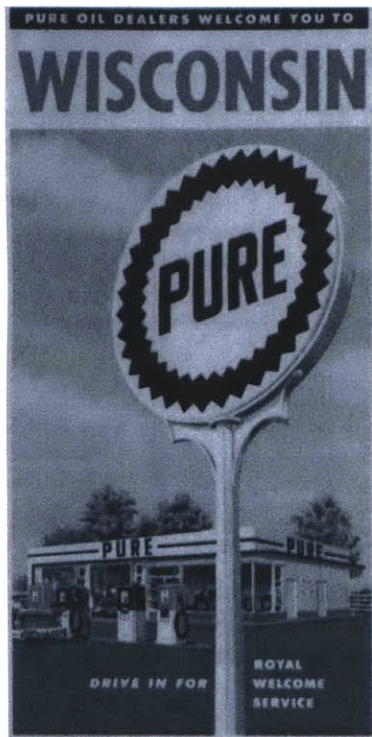
Sunoco Promotional Toy, 2000

Saconomy-Vacuum promotional toy, 1934



## Refinement of product independent marketing

Post World War Two developments saw the business of gasoline retailing evolve rapidly. The growth of the car manufacturing industry and the 1944 Federal Highway Aid Act allowed the business to fully mature as a high stakes competition. The means by which different companies attempted to distinguish largely indistinguishable products ranged from the use of additives and higher octane ratings, to the use of credit cards, free road maps, games, and prizes. The role of logos and branding was underlined by the 1956 launching of Mobil's new logo, the creation in the 1960's of Shell Oil's "controlled background" signage, and a 1956 article in the National Petroleum News emphasizing the importance of logos in the branding process<sup>6</sup>



Such devices for product differentiation only became more popular. "The gimmicks of gasoline retailing, driven by massive advertising budgets, made the marketing campaigns of previous decades pale in comparison. In 1955, the industry had spent \$42 million on driveway premiums, but by the late 1960's it was spending \$150 million on trading stamps alone."<sup>7</sup>

During the '70 and '80's, the major developments in gasoline marketing involved the widespread partnering of gasoline retailing with convenience stores and a rash of station closures following the OPEC oil embargo. Following the spike in oil prices created by the embargo in 1973, many companies shut down underperforming stations, and most independent dealers went out of business. Total station numbers dipped from 216,059 in 1970, to 158,540 in 1980, with the convenience store model emerging as a competitive tool among the surviving retailers.<sup>8</sup>

Pure roadmap, 1950's

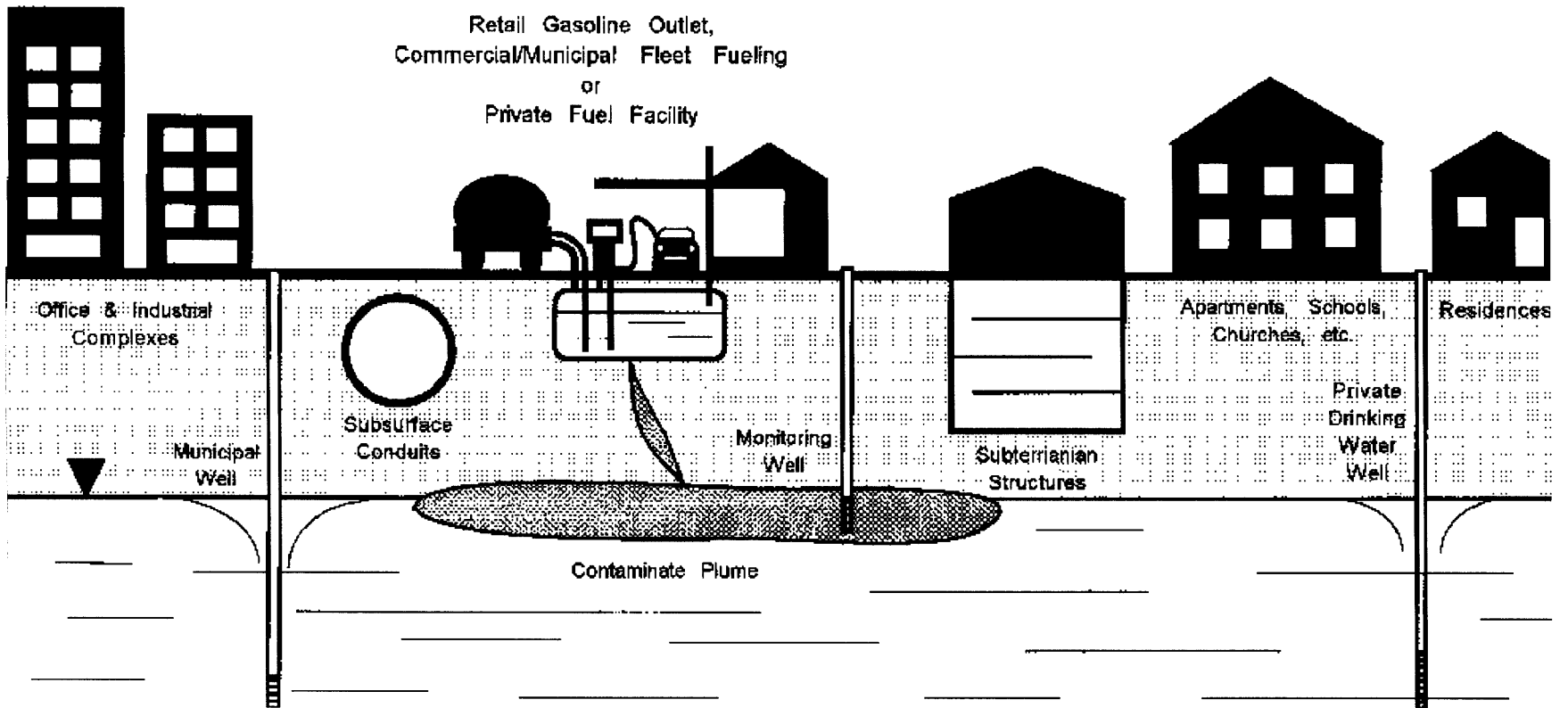


Diagram of underground fuel tank spill and accompanying plume of contamination

### Abandoned Urban Gas Stations:

a persistent blight / an unexploited opportunity

In December of 1988 rule 40 CFR Part 280 authored by the U.S. Environmental Protection Agency was passed requiring all automobile filling stations to upgrade their underground storage tanks. Larger stations did not have any difficulty fulfilling these requirements, but smaller - generally family run - businesses could not justify the thousands of dollars investment necessary to upgrade or replace the tanks. When the deadline for compliance with the legislation came on December 22<sup>nd</sup> of 1998, stations across the country were required to closed their pumps or face stiff fines.

Since this time many of the sites have become desolate, fallow plots. Despite the bargains prices they offer to potential developers (considering their large street frontage in heavily trafficked areas) they remain underused due to two principle obstacles. 1. The fear of contaminated soil, regardless of it's reality, makes the land itself a huge legal liability and creates a stigma often making the plots fetch lower lease rates. 2. Small plot sizes makes large financial returns less probable, especially as weighed against possible soil remediation costs. Few models exist for developers and municipalities to draw on for the recovery of these sites and a vision for a second life is needed.

### The Problem(s)

The EPA initiated legislation mandated certain minimum safety standards for all underground fuel storage tanks to be met by December of 1998. The law specified that all tanks must have a certain level of corrosion resistance, protection against spills and overfills, and sensing devices in place to monitor the area around the tank for spills.

The legislation was a reaction against the negligence of tank maintenance that resulted in several extremely dangerous health conditions. Many tank operators, from homeowners, to farmers, to service station franchisers, had taken an "out of sight, out of mind" position regarding these tanks, negligently leaving them to corrode. The two potential results of this sort of leakage are ground water poisoning and, more dramatically, the buildup of explosive vapors in neighbor-

ing structures. Contamination of groundwater is the more prevalent and insidious problem, often going undetected for years.

The process of tank upgrade itself can be either a reconditioning of the tank, or it's complete removal. In the reconditioned situation, the tank is unearthed, scoured inside and out, and then relined with a corrosion resistant material with monitoring devices installed to detect leakage. In the case of complete replacement, the unearthed tank is sent to a special landfill capable of dealing with toxic waste, and a new corrosion resistant steel or fiberglass tank is put in its place. Each of these solutions also involves the installation of cathodic protections (electrical monitoring devices) and soil monitors.

The ten-year deadline specified by the EPA was designed to ease the hardship that the process of upgrading would cause. However, the cost of a single tank removal and replacement costs between \$10,000 and \$15,000 (although some sources quote as high as \$40,000 per tank)<sup>9</sup>, with most stations having at least two or three tanks.

Vic Silvernail, owner of Vic's Service on Main Street, pulled four tanks out of the ground and put a 15,000-gallon tank back in. "We had to make quite a financial investment in order to keep pumping gasoline," said Silvernail. "It'll take me 10 years to get this money back. When you're making 7 cents a gallon, whoop-de-do."<sup>10</sup>

It is perhaps not surprising that, by March of 1998, 800,000 non-compliant UST's remained to be upgraded<sup>11</sup>, and an inability of licensed excavation contractors to keep up with the sudden high demand became evident.

According to Mark Shaw, district manager for Tankology, the largest tank upgrading contractor in the country, his company has a backlog of "30 – 35" stations from Bakersfield to the Oregon border. His office, which covers six Western states plus Alaska with three service trucks, has a waiting list of 110 stations. "A lot of them will be closed until March," he said.<sup>12</sup>



The core fallacy of this situation, which a buried tank solution allows to continue, is an “out of sight/mind” condition regarding fuel tanks. When gas distribution first came into being, retailers stored tanks above ground in small shacks. The attendant would draw from the tank into a small bucket, pouring the fuel by way of a funnel into the vehicle. The smell, feel and danger of gasoline was supremely evident in this exposed system of distribution. By 1915, with increased sophistication both of the mechanisms of distribution as well as the marketing of the product, the tanks went underground and were represented by surface pumps<sup>13</sup>. Many of these first pumps, however, maintained a more evident relationship with the product stored out of site below. Glass reservoirs with gallon increments marking their capacity were filled to the desired level before being emptied into the waiting automobile<sup>14</sup>.

Ignorance is of course the handmaiden of fear, and it is the latter quality that engenders another cascade of problems. Many station owners who do not know the condition of the tank or the soil fear soil testing and the installation of monitoring wells. Confirmation of contamination will not only result in land devaluation, but the owner will potentially enter a nightmare of cleanup costs and a maze of legal liability. Many owners opt to simply shut down and enter a different line of work.

#### Persistence of Problem of shutdown and abandonment outside of EPA legislation

The extent and severity of the problem as punctuated by the 1988 EPA legislation is unmistakable:

At its Ninth Annual UST/LUST National Conference in March 1997, EPA announced that the number of tank closures had actually surpassed the number of active regulated tanks. Statistics released November 17, 1997 indicate 1,150,824 tanks have been retired from service, leaving 969,652 active regulated UST's. Most alarming, in March, the EPA estimated nearly 800,000 tanks still have not fully complied with the requirements of 40 CFR Part 280.<sup>15</sup>

However, the chronic problem of persistent dereliction of service stations is largely independent of this particular law. In his 1974 book What to do with an abandoned gas station, Kerth states that 10,000, to 12,000 service stations were being abandoned every year<sup>16</sup>. While he does not discuss the specific causes of dereliction, it was clearly outside of the particular situation of the EPA legislation that we have discussed. The persistence of abandoned stations from four and five decades previous to the time of writing allowed Jackle and Sculle ample material to do primary research on the evolution of station design in their 1994 book The Gas Station in America.

The problem of Service Station dereliction is both a ubiquitous and enduring one, this latest spike in shutdowns simply underlines the urgency of the problem. The generic problems of abandoned sites - whether gas related or otherwise - are the accumulation of garbage, facilitation of crime, and lowering of neighboring property values. The problem is compounded by the possible toxicity of the sites and the highly visible nature of these particular businesses.

There is a lack of vision for what to do with abandoned gas station sites. They are unglamorous, (potentially) poisoned, irregularly shaped, and generally occur in peripheral neighborhoods. This effectively removes them from most significant academic and professional discussion, as they have few apparent rewards in terms of beauty or financial return. However, the massive scale of the problem makes the potential for returns in both categories unmistakable. The design of a project that is not site specific, but rather typology specific, would have a potential application to sites harbouring over a million retired tanks. The cultural position of the gas station alone makes the site worthy of investigation, but the ubiquity of these particular sites makes their investigation a necessity.



## Notes

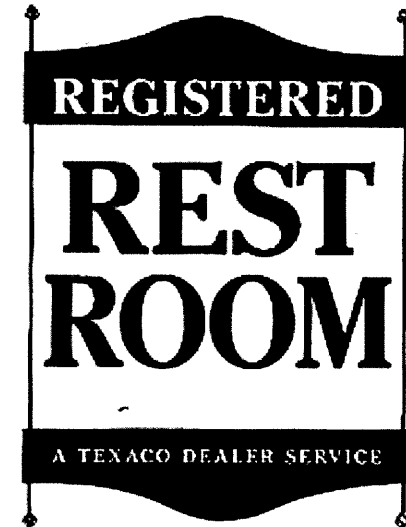
- <sup>1</sup> Jackle/Sculle, pg 3.
- <sup>2</sup> Vieyra, pg 92
- <sup>3</sup> Jackle/Sculle, pg132.
- <sup>4</sup> Jackle/Sculle, pg132.
- <sup>5</sup> Jackle/Sculle, pg 66
- <sup>6</sup> Schroeder, Richard C., "Brand Identification is Taking a Professional Look", in National Petroleum News 48, (November 1956): 90-93 as quoted in Jackle/Sculle. pg 43
- <sup>7</sup> Jackle/Sculle, pg 71
- <sup>8</sup> Jackle/Sculle, pg 77
- <sup>9</sup> Merced Sun-Star, January 10, 1999
- <sup>10</sup> Cooperstown News Bureau, December 24, 1998
- <sup>11</sup> Geyer, March 1998
- <sup>12</sup> Merced Sun-Star, January 10, 1999
- <sup>13</sup> Jackle/Sculle, pg 135
- <sup>14</sup> Sun Oil Co. (now Sunoco) even used this exposure as a marketing tool, adding blue dye to their "Blue Sunoco" gasoline as a means of product differentiation. (Jackle/Sculle, pg 56)
- <sup>15</sup> Geyer
- <sup>16</sup> Kerth, pg.1



Union 76's Sparkle Corps. Rest Room attendants, mid 1950's.

## Program

a public lavatory and wastewater treatment franchise



“The history of public facilities for personal hygiene is directly related to the history of urbanization”

-Alexander Kira,  
from The Bathroom

“In the 1930’s, Texaco offered the public ‘Registered Rest Rooms’ and maintained a fleet of white cars (“the White Patrol”) to oversee their cleanliness.”

-Jackle/Sculle  
from The Gas Station in America

“Probably no better tool for extracting money from tourists was ever devised than the Registered Rest Room.”

-Texaco Dealer Magazine, 1947  
as quoted in Margolies



Abandoned Gas Station as an  
improvised public toilet

The proposed reuse of the generic abandoned site is a public lavatory and waste water treatment facility. The program takes advantage of the strengths of the gas station - the management of unsightly but necessary goods - while underlining and inverting its failures - the polluting aspects of the distribution of hazardous goods.

Each site will be a place of transformation, where a waste product returns to a state of usefulness. The program will demonstrate the connectivity of seemingly oppositional ideas and objects. The buildings will explore the point of departure of use objects from the user, the point of transformation from use object to waste object. The programs will be repeatable, making it possible to envision the use of the same building type in other areas.

The Program is based on the creation of a for-profit entity referred to as "Move". This company will work in association with local and regional governments in the rehabilitation of the sites and the establishment of the semi-public amenity of networked restrooms and municipal wastewater treatment facilities. The use of a private company as a model is necessary to create the sense of identity that has worked so effectively for the gasoline industry. The use of branding and identity creation by the industry was successful in the establishment of trust and a sense of familiarity, two aspects even more necessary for a public toilet. While gas stations needed to identify themselves as distinct from other stations, the Move station must define itself as distinct from preconceived notions of public toilets as places of danger, filth, or banality.

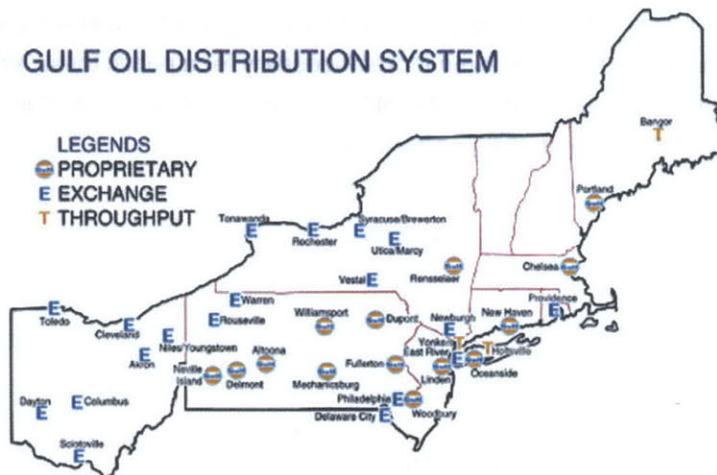


A gulf road map from the 1930's.

## Mandates for the Program:

Any comprehensive and widely applicable solution to this problem must address three key conditions: repeatability, remediation, and remembrance.

- Repeatability: The stations themselves are a mass produced product, placed in unique settings, but all falling generally into only a few constellations of variation. Any design strategy to address the situation must have an element of the economy of scale. The design methodology that is imbedded in the gasoline industry provides a rich, if not subtle, template to model an appropriate response to the abandoned sites. The extent of the application of the gasoline industry design methodology is not limited to a regional setting; often schemes are applied on a national scale. Any design response would do well to model itself on the site's historical design imperatives.



- Remediation: Whether a site is polluted or not, a generalized strategy must have an allowance for both the detection and cleanup of health hazards. More importantly, the program must account for any new pollutants it generates and avoid leaving them as a legacy.



Rehabilitation of a corroded fuel tank



- Remembrance: The preceding considerations hinge on a supposition that any response to the abandoned sites will consider the role that the sites played in their previous “lives”. It is imperative that the architectural response has a sense of implicit, if not overt, remembrance or reference to the precedent set by gas station design and the design of the industry itself.

## **Basic Program**

7,000- 8,500 square foot plot

Public Toilets and washing facilities, Wastewater treatment, Parking.

### Operation:

- Four commodes, four sinks
- Primary and Secondary wastewater treatment of Grey and Black water.  
(Possible that it becomes treatment for entire neighborhood.)
- Parking for 5 to 8 cars.
- Tertiary treatment accessed via trucking route.
- Open 6 AM to 10 PM (variable on region, weekends).

### Maintenance:

Electronic monitoring from central "hub" station.

Emergency maintenance from hub station.

Neighborhood docent for routine upkeep.

### Finance:

EPA Brownfields Tax incentive, Taxpayer Relief Act of 1997 (PL 105-34) will subsidize site assessment, investigation, and monitoring expenses, as well as operations and maintenance costs and state voluntary cleanup program oversight fees.

Initial Constructional expenses and major repairs will be part of a local municipality's waste water treatment budget.

Remainder of operational costs are covered by Move© Inc. Revenues are derived from the nominal entry fee, merchandise sales, and database building.

### Promotion:

Advertisement and informational materials distributed on building entry tickets

T-shirts, hats, and other accessories made available through website and mail in

Signage on building itself, as well as buses and tanker trucks



## Variations

Demonstrate flexible use, flexible design, and programmatic possibilities to answer questions of sustained daily occupancy, security, and enrichment of ideology to the point of absurdity.

### Programmatic:

- Coffee stand/juice bar/ice cream: Closer completion of cycle, consumption and excretion.  
Located within central enclosure of station. The coffee-stand accommodates three employees, as well as coffee-making equipment and a fridge for 24 tubs of ice cream.
- Gas Station: Closer identification with past, a transitional structure.  
Inclusion of lavatory “pod” on standard gas station yard.  
Bus Stop: Closer Connection with larger network, public amenity aspect.  
Semi-enclosed shelter, bus schedule information.

### Regional:

- Southwest: modification for desert climate.
- Euro-Move©: modification for cultural climate.







Detail of Living Machine,  
Smuggler's Notch , Vermont

## Technology

### Sewage Treatment Systems

There's nothing so over-rated as bad sex and nothing so under-rated as a good shit.

-Anonymous

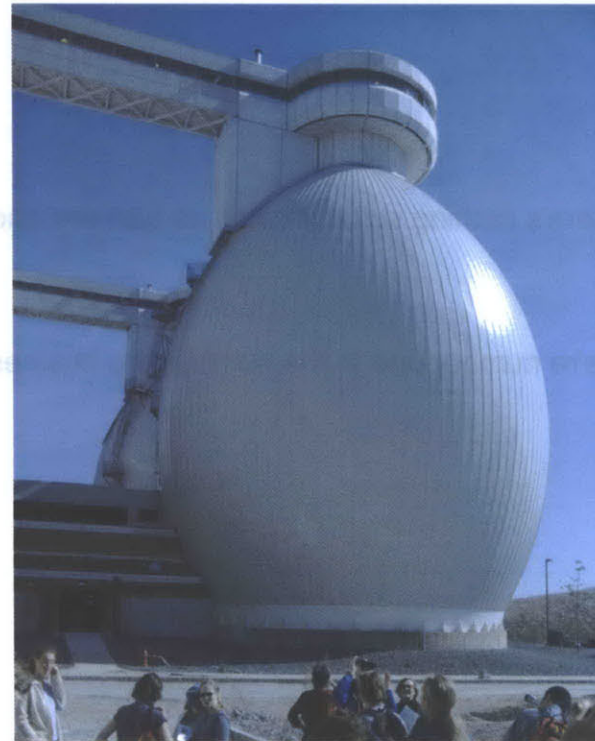
We're number one in the number two business.

-Walter

Tour guide for Deer Island  
Wastewater Treatment Facility

The modern notion of exposed processes assumes the value of an “industrial aesthetic”, the beauty inherent in mechanical operations. In attempting to expose the process of waste treatment, this proposal moves beyond this aesthetic to reclaim an older sense of pastoral beauty in industrial processes.

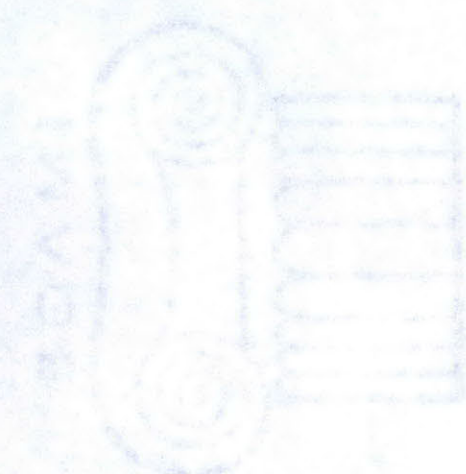
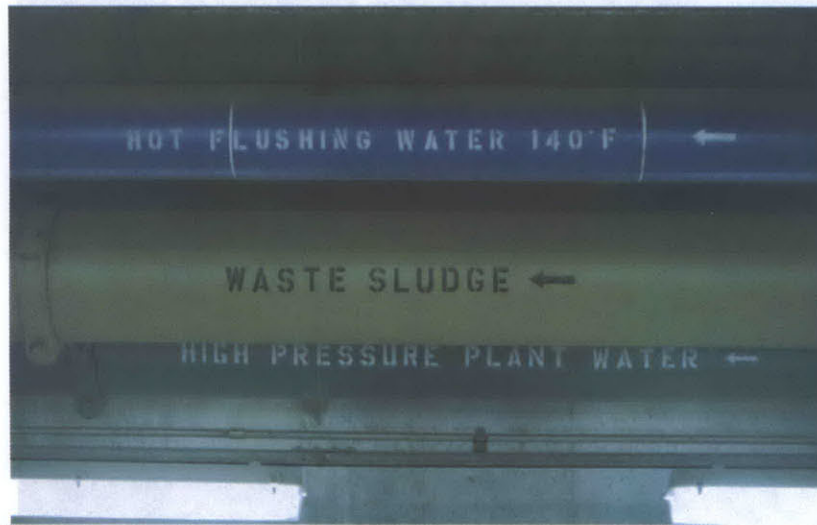
The existing technologies for large-scale waste treatment inadvertently present a graceful and noble image. The “egg” shape of sewage digesters on Deer Island, outside of Boston, MA, facilitate the mixing of the sludge they contain, but also create a striking silhouette. However, the sites themselves are carefully located away from any admiring eyes. The scale of these processing plants does not allow for an easy integration into any context and they remain monumental, isolated processes.



Sludge digester, Deer Island, Massachusetts

...the primary model for understanding sewage treatment is a purely textual display of information, rather than anything either demonstrative or otherwise visually explicit. This proposal attempts to create a process that is more spatially readable.

The primary model for understanding sewage treatment is a purely textual display of information, rather than anything either demonstrative or otherwise visually explicit. This proposal attempts to create a process that is more spatially readable.



Pumping on Deer Island

There are several alternatives to the standard treatment facility that take advantage of a smaller scale and visually accessible process. These methods replace the more chemically dependent aspects of the standard process with intensive plant based purification systems. “Off the shelf” systems include the Solar Aquatic Treatment Process, made by Solar Aquatic Systems, and Living Machines Inc.’s Living Machine. Along with other more site specifically developed systems, all of these processes essentially duplicate the filtration and degradation actions of wetland ecosystems.



Living Machine Wastewater Treatment Plant, Arizona.



This proposal will rely upon The Living Machine, as it is the most successful and diversely used of the available options. The system is currently in use for single households, small manufacturing operations, resort complexes generating 30,000 gallons of effluent a day, and whole rural municipalities, in climates as extreme as Arizona and Vermont. As a greenhouse based operation, the system places a premium on day lighting and the simultaneity of structure and landscape. Together, these qualities critique the waste stream status quo 1. with the necessity for transparency and 2. through integration with the environment by making landscape essential to the process.



Living Machine, Smuggler's Notch Ski Resort, Vermont.



There are relatively few instances where the architectural experience of the spaces within a Living Machine have been explored. Working with architects William McDonough and Partners, Living Machines Inc. created a system for Oberlin College's Environmental Research Facility, and several projects are underway in collaboration with the artist Michael Singer on infrastructure projects. However, neither of these projects attempts to expose the process in a public manner, rather they are targeted exposures to a select audience.



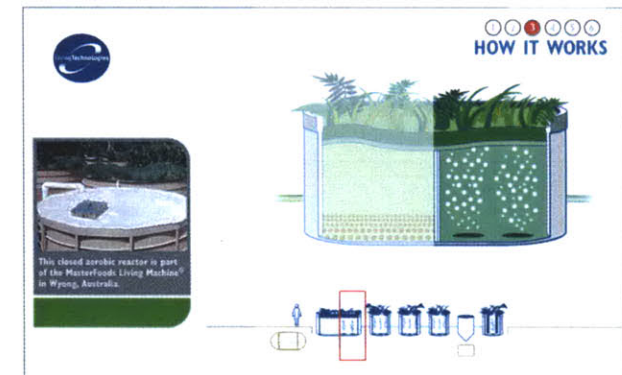
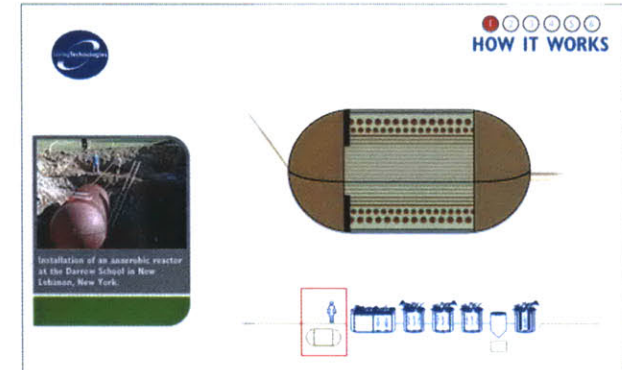
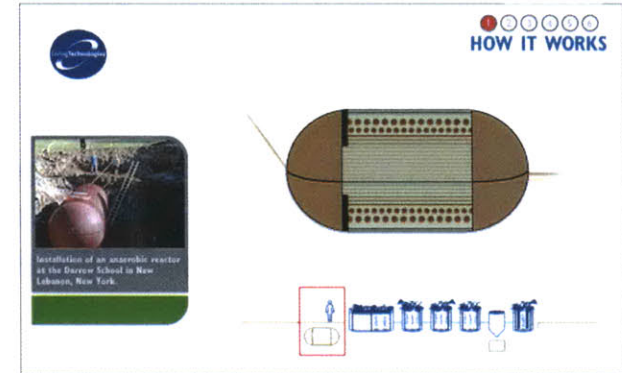
Fluidized Bed, Solar Aquatic  
Wastewater Treatment Plant in  
Ashfield, Massachusetts.

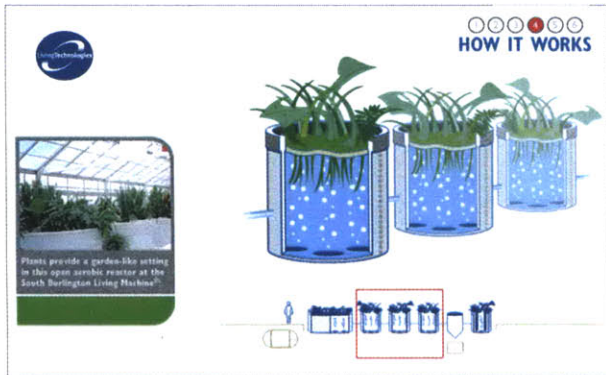
## The Living Machine<sup>1</sup>:

1. Wastewater flows from a client's facility into a basic anaerobic reactor, much like a septic tank but with features designed to enhance treatment. Without heating or mixing, this reactor acts as a primary sedimentation basin. Solids settle and anaerobic bacteria, which live without oxygen, feed on solids and wastes in the liquids. The reactor is covered and gases produced are passed through an activated carbon filter when necessary to control odor.

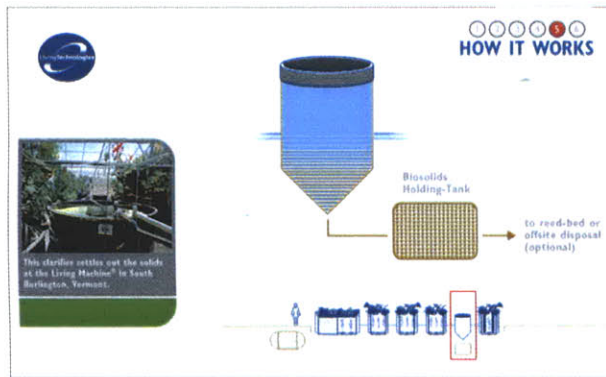
2. The anoxic reactor is home to a 'transition' ecology. A small amount of oxygen is introduced to the environment and the reactor is slightly mixed to enhance the growth of microorganisms that convert nitrogen to nitrogen gas. The reactor is mixed and has controlled aeration to keep the contents in the anoxic and prevent anaerobic conditions. The gas space over the reactor is vented through an odor control device, usually a planted biofilter.

3. The closed aerobic reactor is the first fully aerobic reactor in the Living Machine. Aerators in the bottom of the tanks bubble air throughout the tank, keeping everything mixed and providing oxygen for our waste-eating microorganisms. Gases from the closed aerobic tank are captured and passed through a biofilter that traps and degrades the odors. Generally, this biofilter sits directly over a portion of the reactor and is planted with appropriate vegetation to help control moisture levels in the filter material.





4. The open aerobic reactors represent the final process in the 'aerobic' portion of the Living Machine. The surfaces of these reactors are covered with vegetation supported by racks. The roots of the vegetation provide surfaces for the growth of attached microbial populations that assist in the wastewater treatment. The plants serve as habitat for beneficial insects and organisms that graze on microbial biomass.



5. In the clarifier, the microbial communities, and any remaining solids, are separated from the treated water. Calm, non-aerated, water allows the remaining biological solids to settle, then those solids are pumped back to the closed aerobic reactor (step 3) where they are broken down and metabolized further or are wasted to a holding vessel and removed for disposal.



6. Polishing filters do the final 'cleansing' of the wastewater. In these reactors wastewater is circulated through a combination of different habitats that are home to diverse communities of organisms that remove organic material and nutrients. When the wastewater is discharged from the polishing filters it is suitable for reuse or for disposal into surface waters or a reduced-area subsurface disposal system. Reuse options include landscape irrigation, toilet flushing and vehicle washing.

**notes**

<sup>1</sup>The following texts and diagrams are excerpted from the Living Machines Inc. website,  
<http://www.livingmachines.com>







## Process

### Linking History, Technology, and Theory

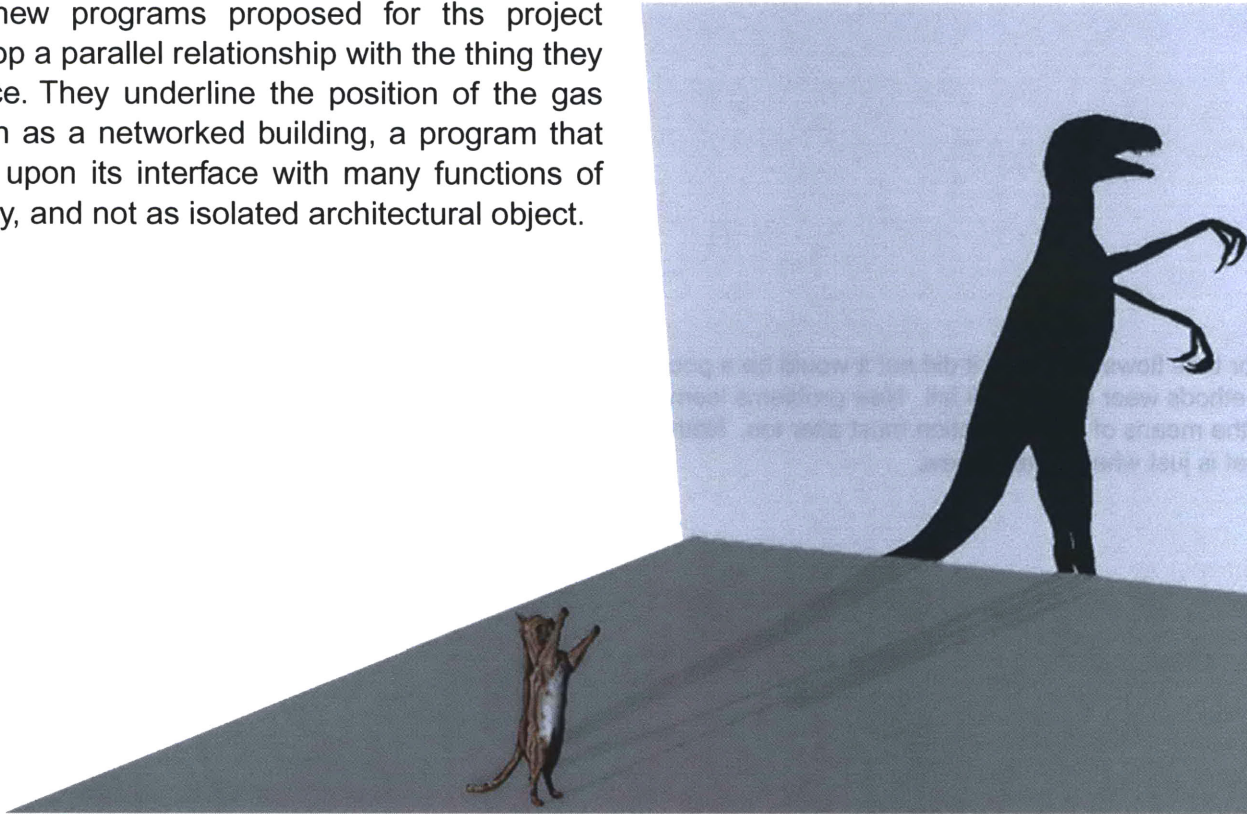
For time flows on, and if it did not it would be a poor look-out for those who have no golden tables to sit at. Methods wear out, stimuli fail. New problems loom up and demand new techniques. Reality alters; to represent it the means of representation must alter too. Nothing arises from nothing; the new springs from the old, but that is just what makes it new.

Bertolt Brecht  
from "The Popular and the Realistic"

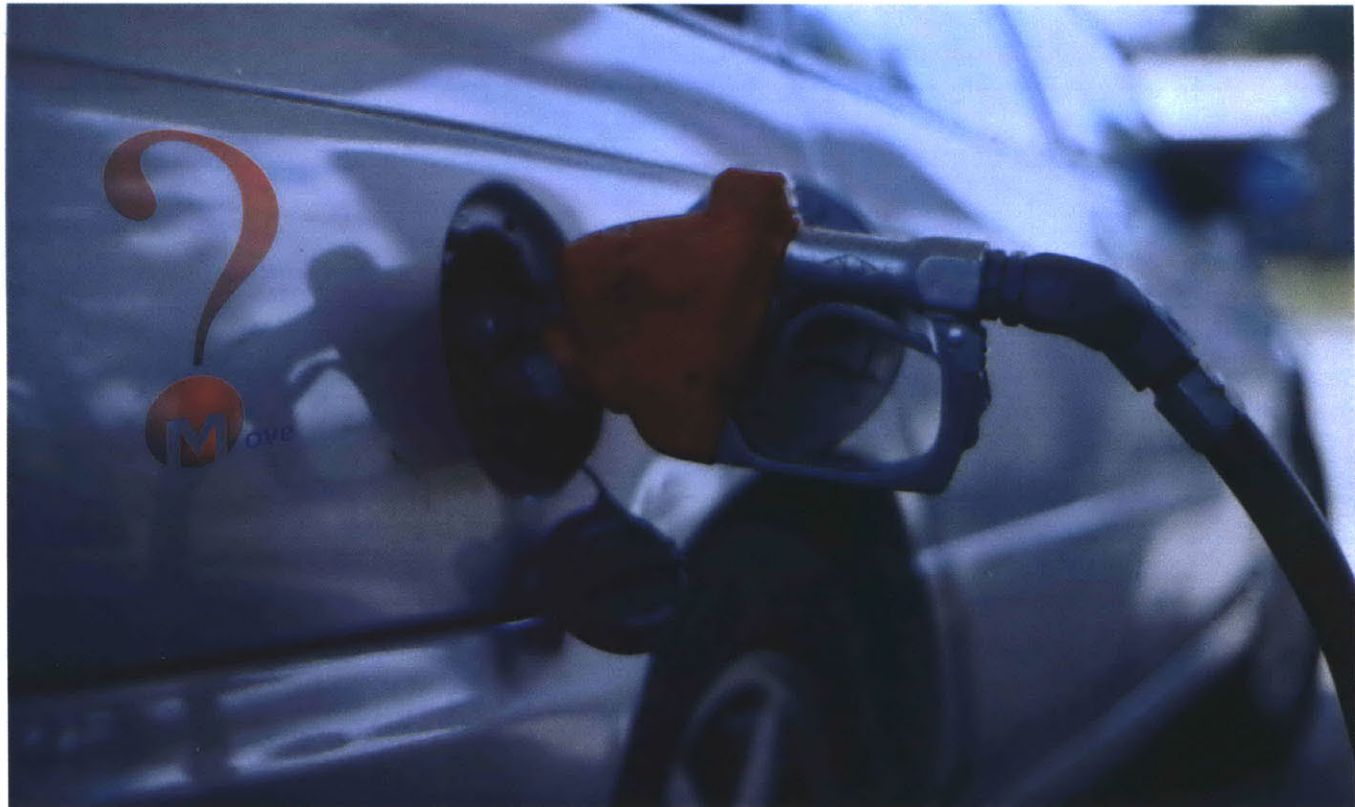
## Preliminary Research and Method

The architecture of Move was developed from a dialogue with previous site uses. This is both a critical stance and an attempt to co-opt the strengths of history. Primary to this endeavor was an understanding of the precedent object and the formulation of a theory that can account for the meaning and value of the object. This position is a diagrammatic set of relationships between objects and ideas that lead to a set of scalable design prerogatives. This position guides the process at all levels of the investigation: urban, architectural and detail. Each level of design is formed by the struggle between precedent and its critique. These decisions are modulated by the practicalities of building construction and the poetics of building occupancy.

The new programs proposed for this project develop a parallel relationship with the thing they replace. They underline the position of the gas station as a networked building, a program that relies upon its interface with many functions of society, and not as isolated architectural object.



The raw material and essence of the old building was gasoline. Gas was the connective tissue between the rather humble structure and a vast industry and culture of cars, lending the modest architecture an immense importance. However, the gas station dispenses an inefficiently used, polluting, non-renewable energy source, but itself produces nothing. While it is an intersection of an enormous industry and an individual, atomized end product, it supplies no transformative impulse, it is a passive structure. There is a missed opportunity in the traditional gas station, a chance to create a more meaningful interaction between the large and the small, international oil exploration/industrial production, and the personal/intimate space of the car interior. For many people the car is the only personal space they have.



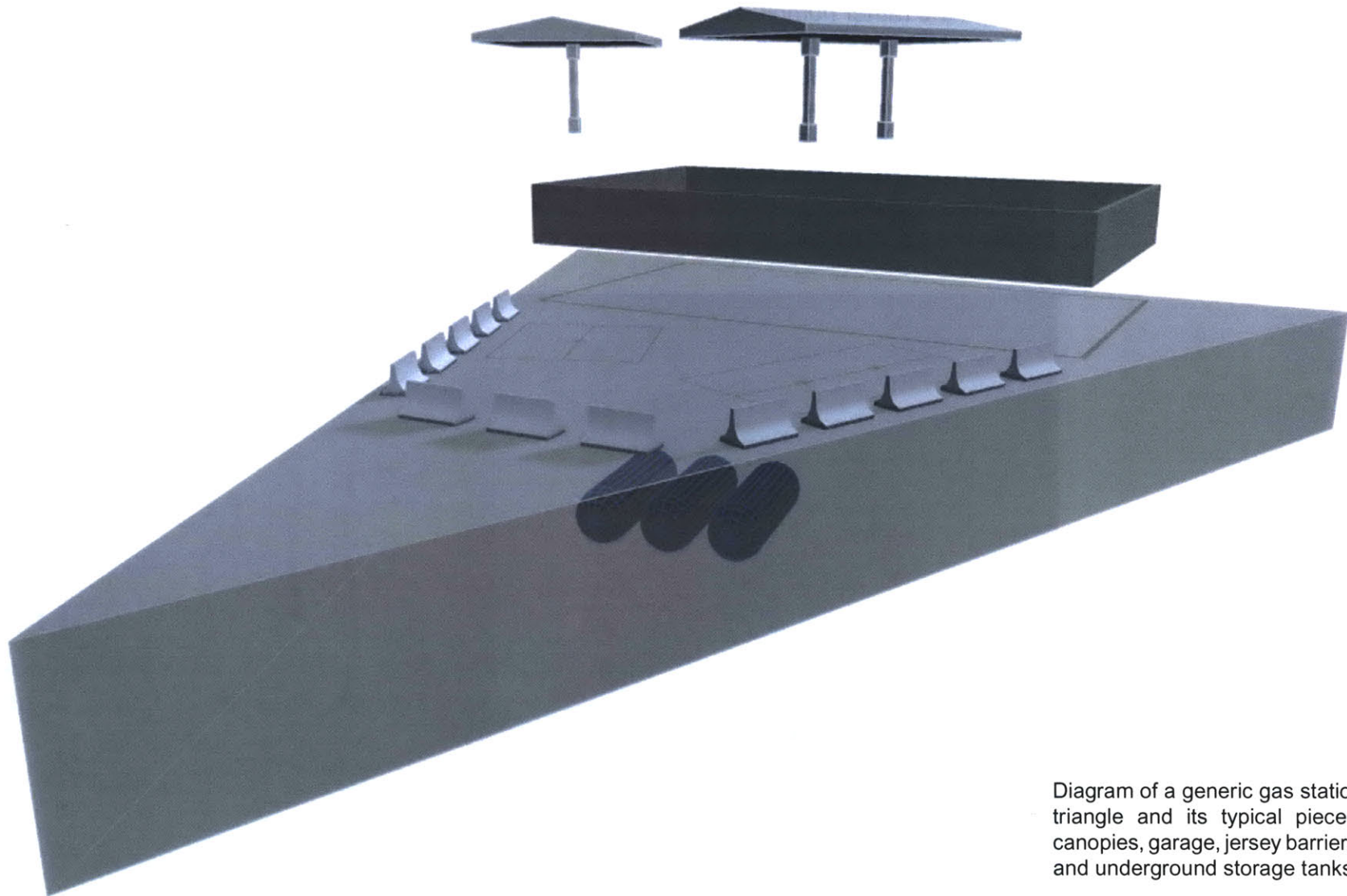
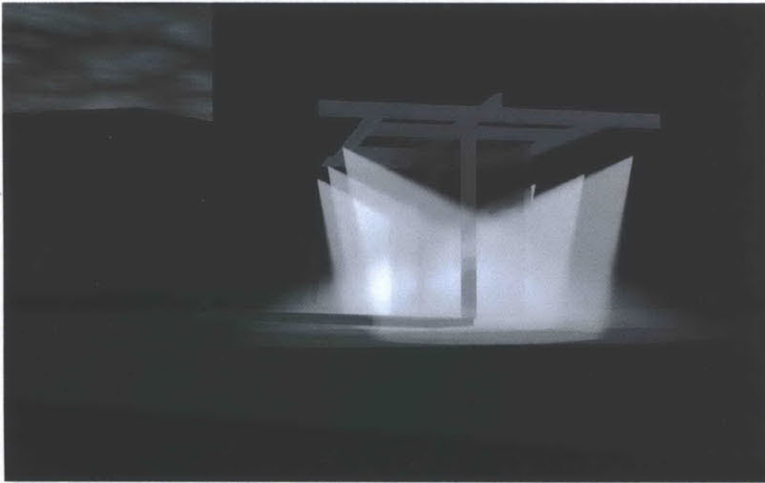
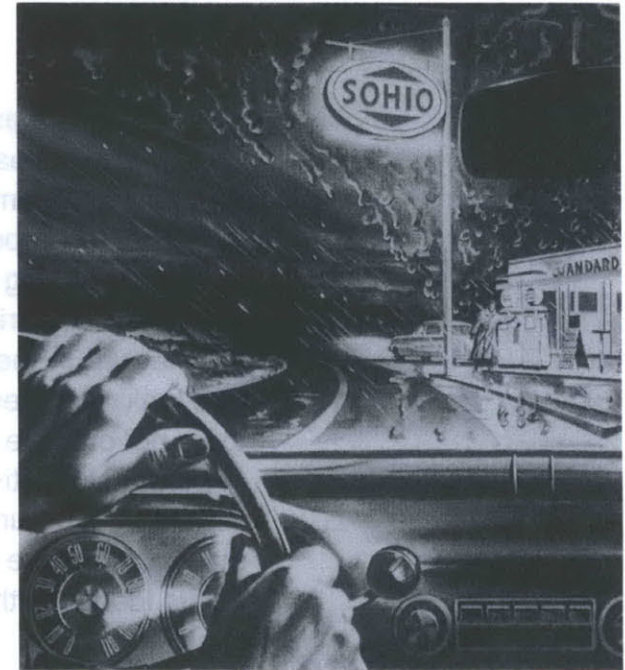


Diagram of a generic gas station triangle and its typical pieces: canopies, garage, jersey barriers, and underground storage tanks.

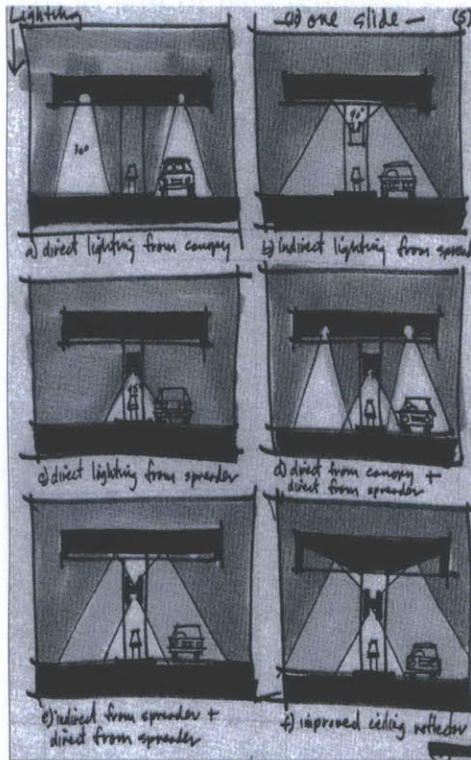
The original filling station was designed as a passive structure, one without expression of its deeper meaning. Its lack of expressive quality is, in fact, the source of the current environmental dilemma posed by these derelict sites. The leaking buried tanks, which disguise the essence of the building, return to be the uncontrolled undoing of the architecture. In this way the humble filling station is a model of human psychology, where all the formative elements of a person's experience will come to be expressed eventually. Those elements that have been submerged in the individual consciousness are not gone, but simply out of conscious control. The leaking underground tank is parallel to the "return of the repressed" which Freud understood to be not only the social undoing of the individual (the source of neurotic behavior), but the origin of personal creativity. In this case, the repressed can return as explosive fumes in neighborhood basements, groundwater contamination, and degradation of air quality. Secondary effects of the disused sites are their presence as eyesores and accumulators of illegally dumped waste. This thesis identifies this repressed, seemingly malignant element as the source of a new life for the sites.



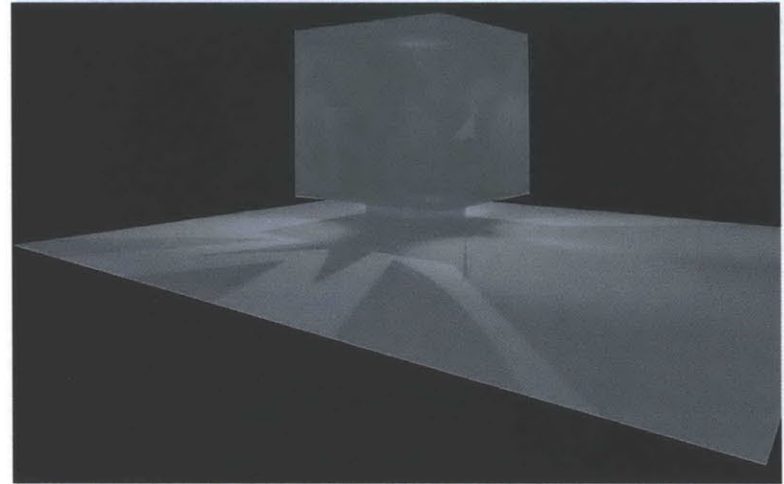
What associative networks can be called upon in dealing with these sites? What are the ranges of gas station iconography? What does a gas station do best, what does it do worst?



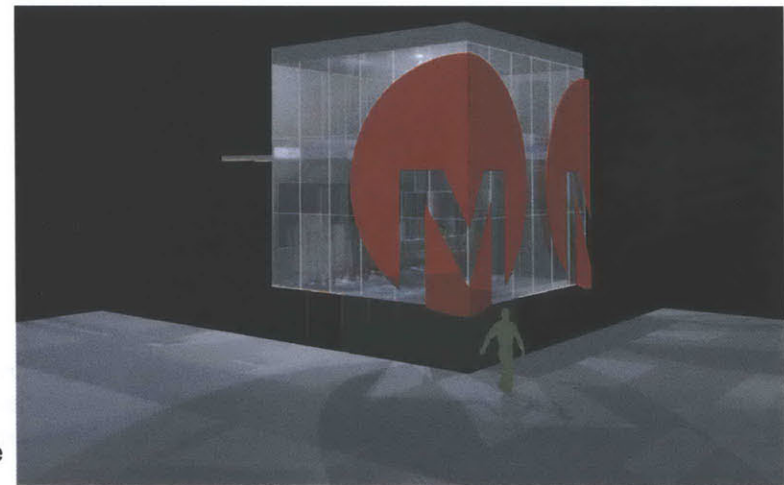
## Precedent



Lighting Studies For Exxon



Why is it important to have these places, what is lost in their disappearance. Why do they exist as they do? What must be expressed, what is secondary?



Lighting studies for Move



Up-ended, monumental gas tanks

Psychology/Theory: What are the underpinnings of our notions of waste, what generic reactions can designers expect from direct confrontations with resurrected garbage, what is assumed in the concept of waste, what is the inverse of waste? When and how does the perception of a thing as a resource shift to that of rubbish? What is the difference between a discarded object and a discarded system?



Wastewater before and after the clarifying process of a living machine. Each bottle is still far below drinking quality, but one has the appearance of purity.

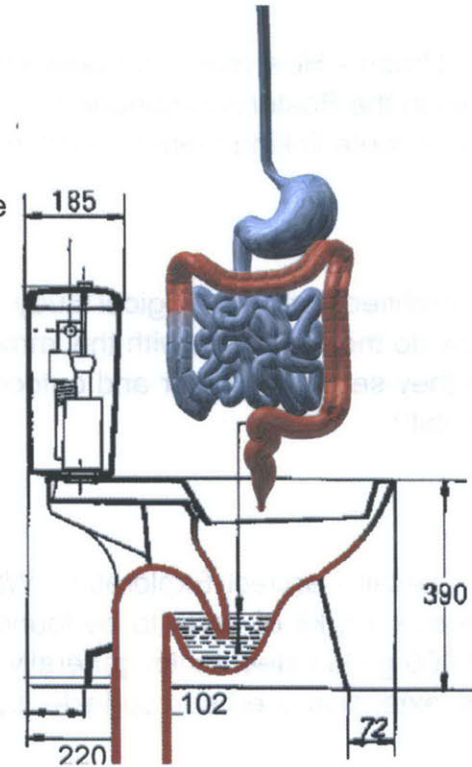


## Program

How can programming be employed as a both a productive and critical response to history, ideology, and site?



Locker room in Definitions Fitness center, New York. Architects Thanhauser and Esterson.



Secondary: application to the site

Urban - How many of these sites were created at the deadline for upgrading? How many exist in the Boston/Cambridge for investigation? What are their commonalities and differences? Can a route linking them be explored?

Architectural - Typological study: what are the existing precedents for corner site geometries? How do they interface with the immediate surroundings socially, spatially, and as objects? How do they separate indoor and outdoor, do they? What differences based on orientation do they exhibit?

Detail - artifact Exploration. What are the structural, spatial, and aesthetic possibilities of the existing kit of parts to be found on the site: wide flange steel supported canopy, multiple 10,000 gallon steel tanks generally a masonry box garage, ten to twenty concrete Jersey Barriers, extensive overhead sprinkler systems, etc.



Possible reconfigurations of a 10,000 gallon steel tank.

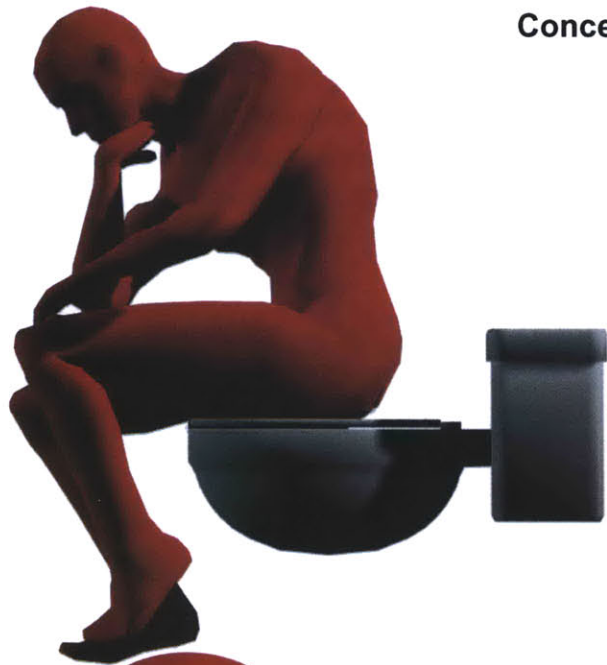
## Tertiary

Remediation - What health hazards are associated with the sites and what technologies exist for cleanup. Do the clean up procedures imply certain concurrent uses?

Real Estate - Many of these sites occupy prime retail locations, along nodal points of heavily used roadways with two or more fronts onto traffic. However, they are also potential quagmires of litigation, containing at least the possibility of contaminated soil, and a known quantity of toxic waste, the tanks themselves. In some cases the owner is resistant to putting the plots on the market - most potential purchasers would require a soil test and owners would often rather not know what is below the surface. For many developers the suspicion of contamination is enough of a reason not to invest in a plot of land.



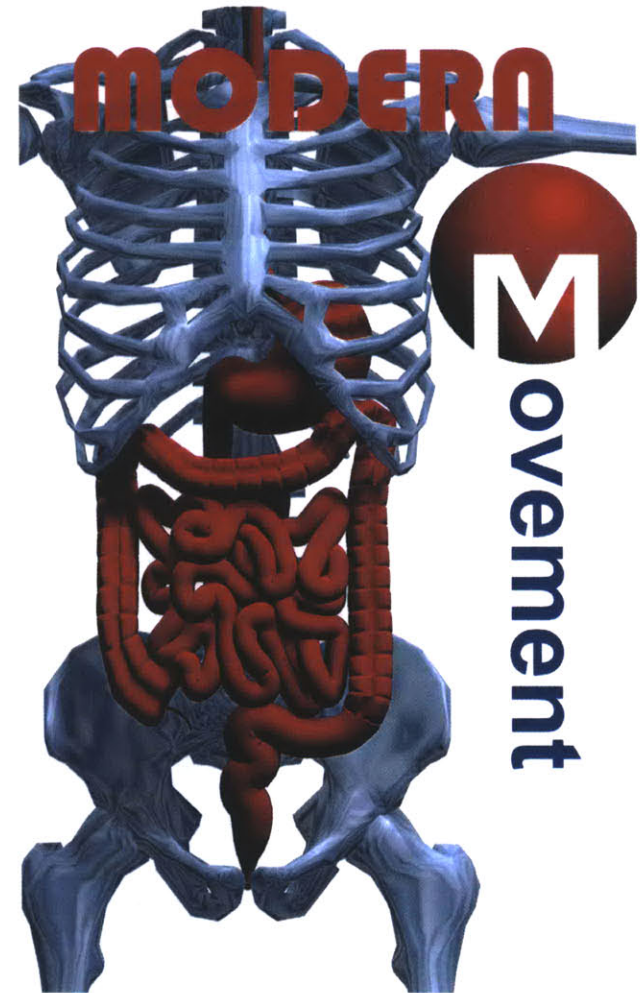
Resurfacing the interior of a corroded fuel tank.



**Conceptual Models**

waste=food  
inversion of opposites  
actual versus perceived  
glorification of the inglorious

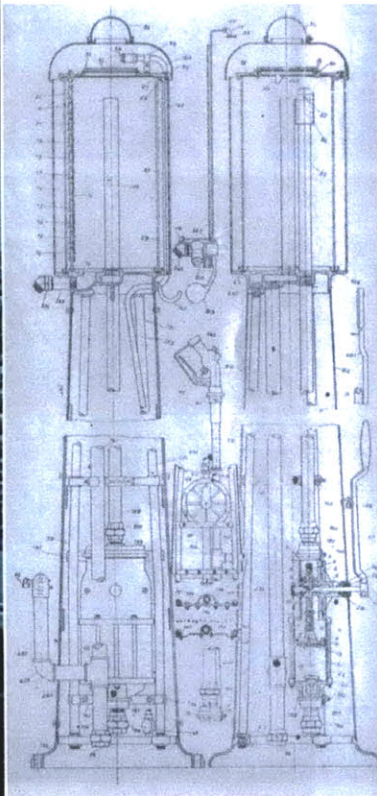
**M**ove



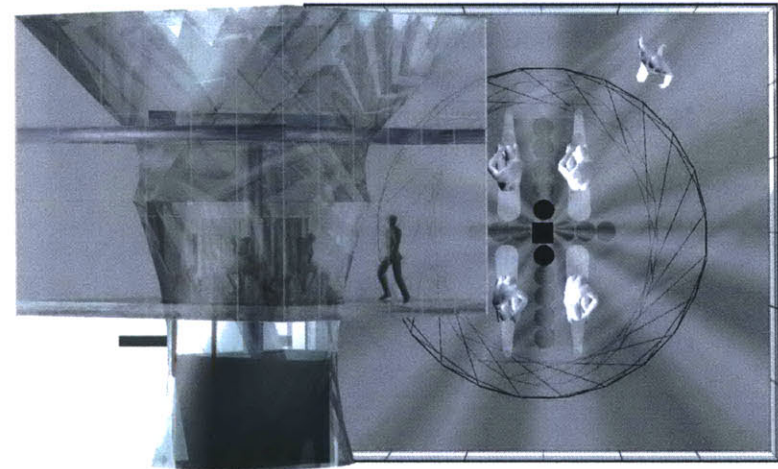
## Spatial Relationships

movement/use/occupancy following process  
privacy and public, violations and obedience

What must be visible, what must remain hidden?



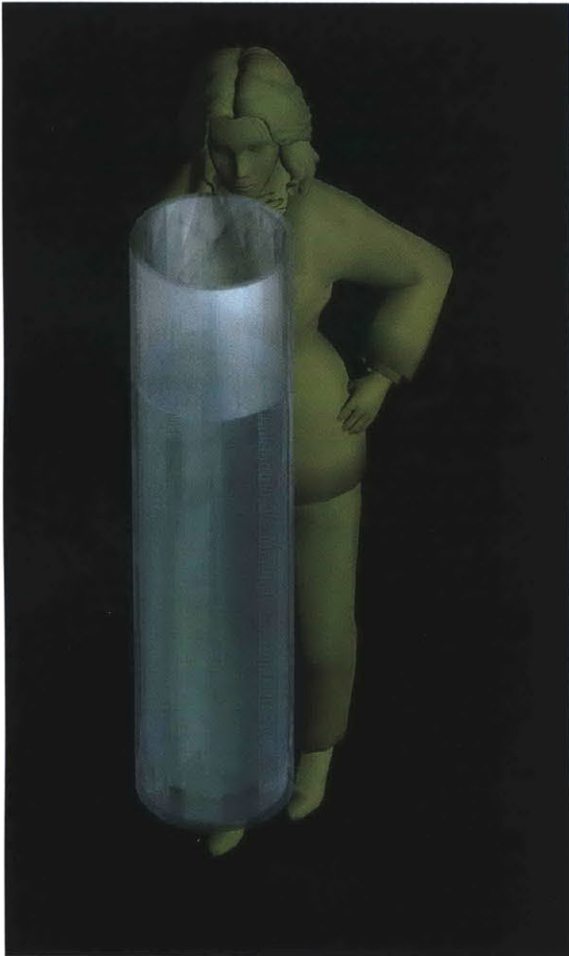
Wayne Company visible pump,  
1928,



Move station transparency studies

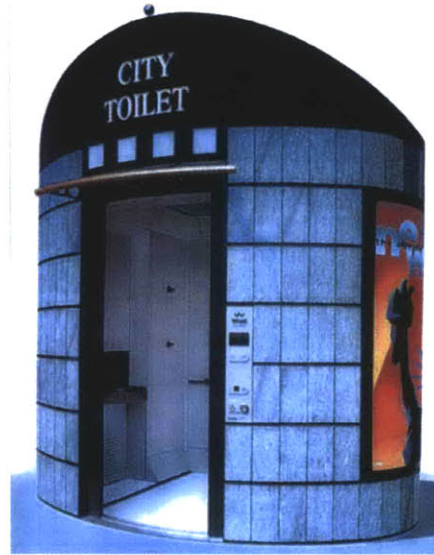
## Tectonic Principles

closed/open form  
industrial/organic form  
Is complete opacity necessary?



Material studies

Public Toilets in New York and Paris



## Franchise Precedents

ease of approach

identity Creation

ease of identification

generation of trust/security/familiarity











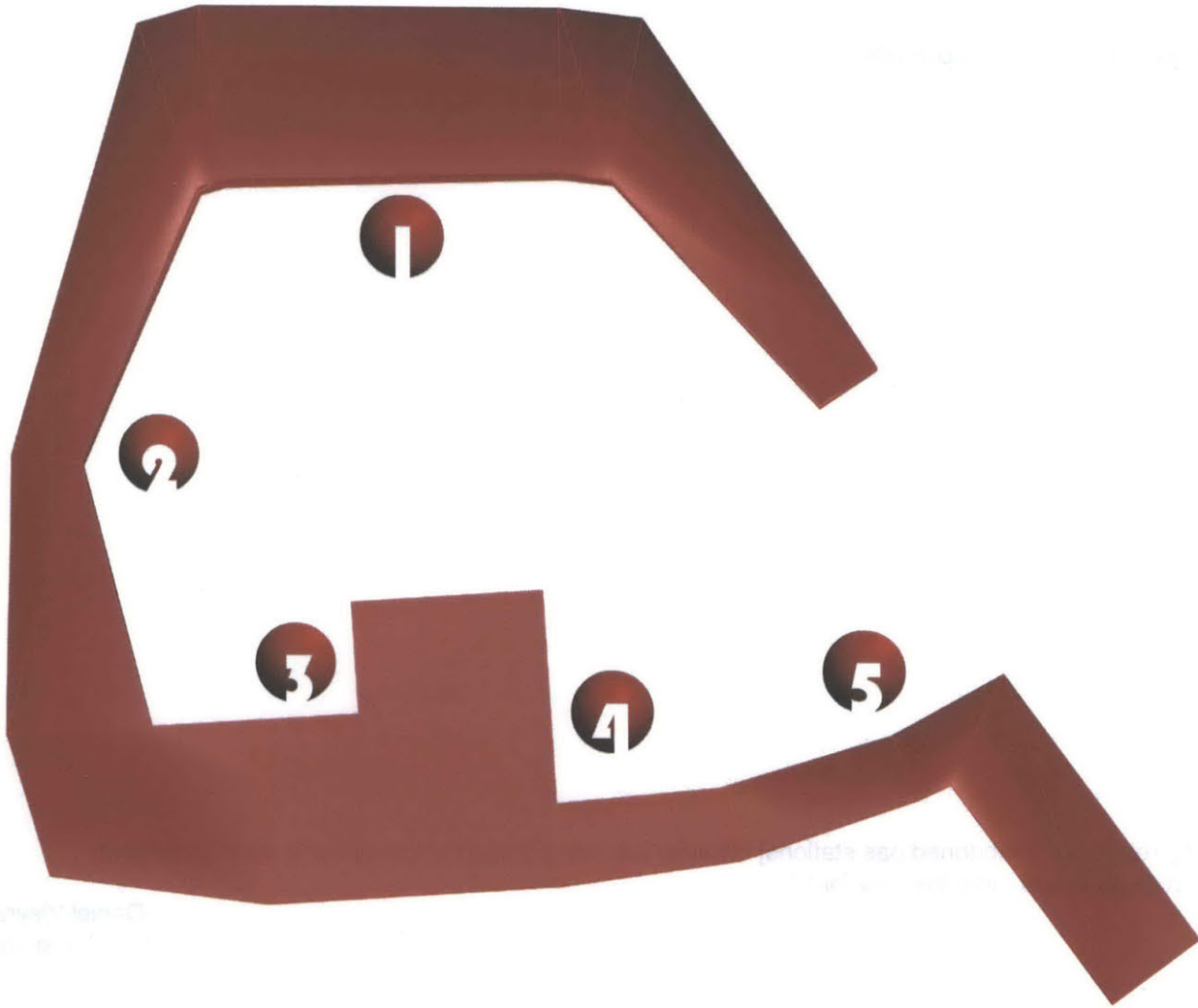
The essence of a derelict station:  
the canopy, a porous boundary,  
and a sunken history

## **Design**

### Generic and Specific Proposals

“Successful rebirth [of abandoned gas stations] involves the incorporation of the station’s most prominent characteristic - its image - into the new form”

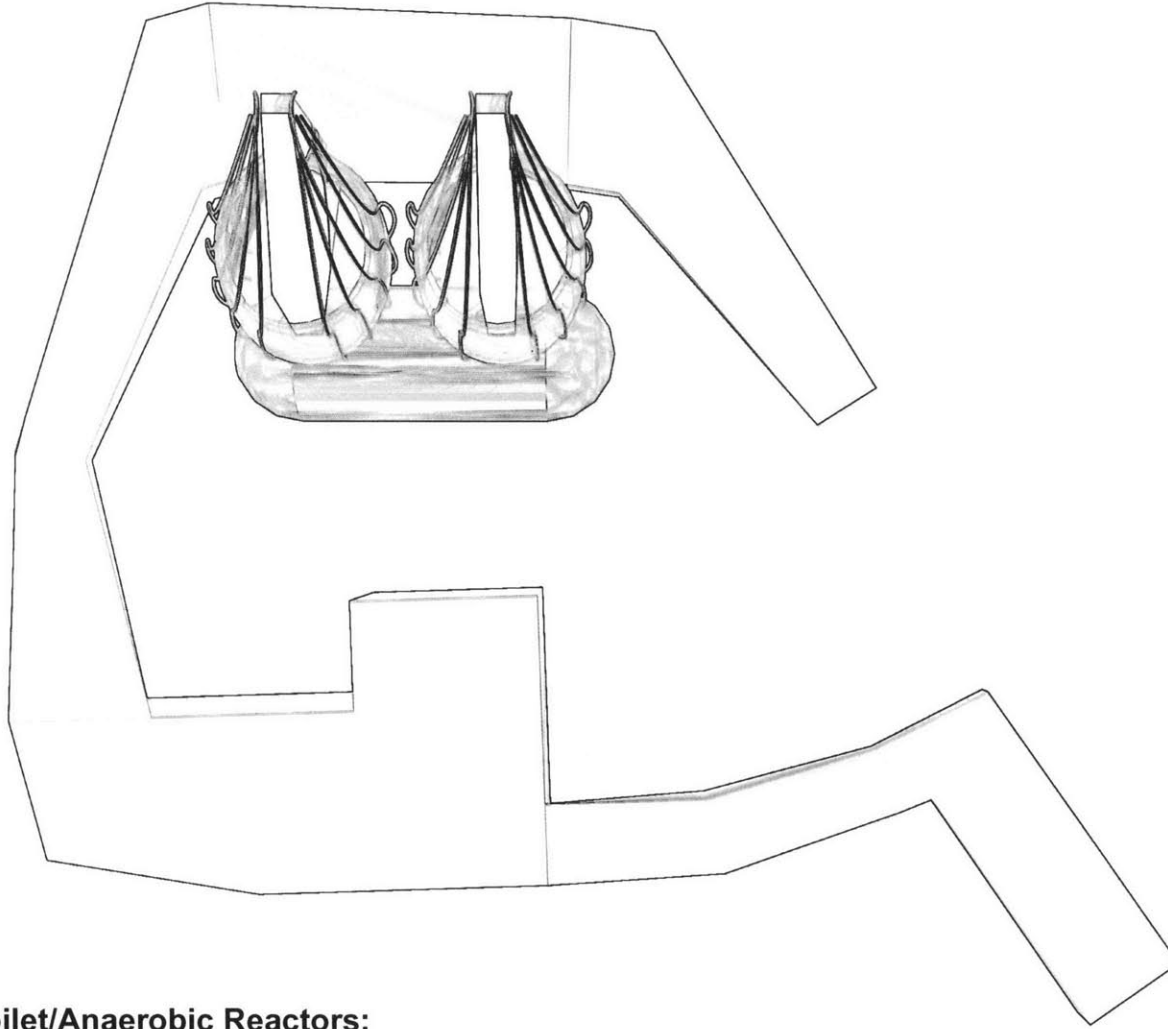
-Daniel Vieyra  
from Fill'er Up



Architectural Function/Process Facilitation:

**The repeating structure:**

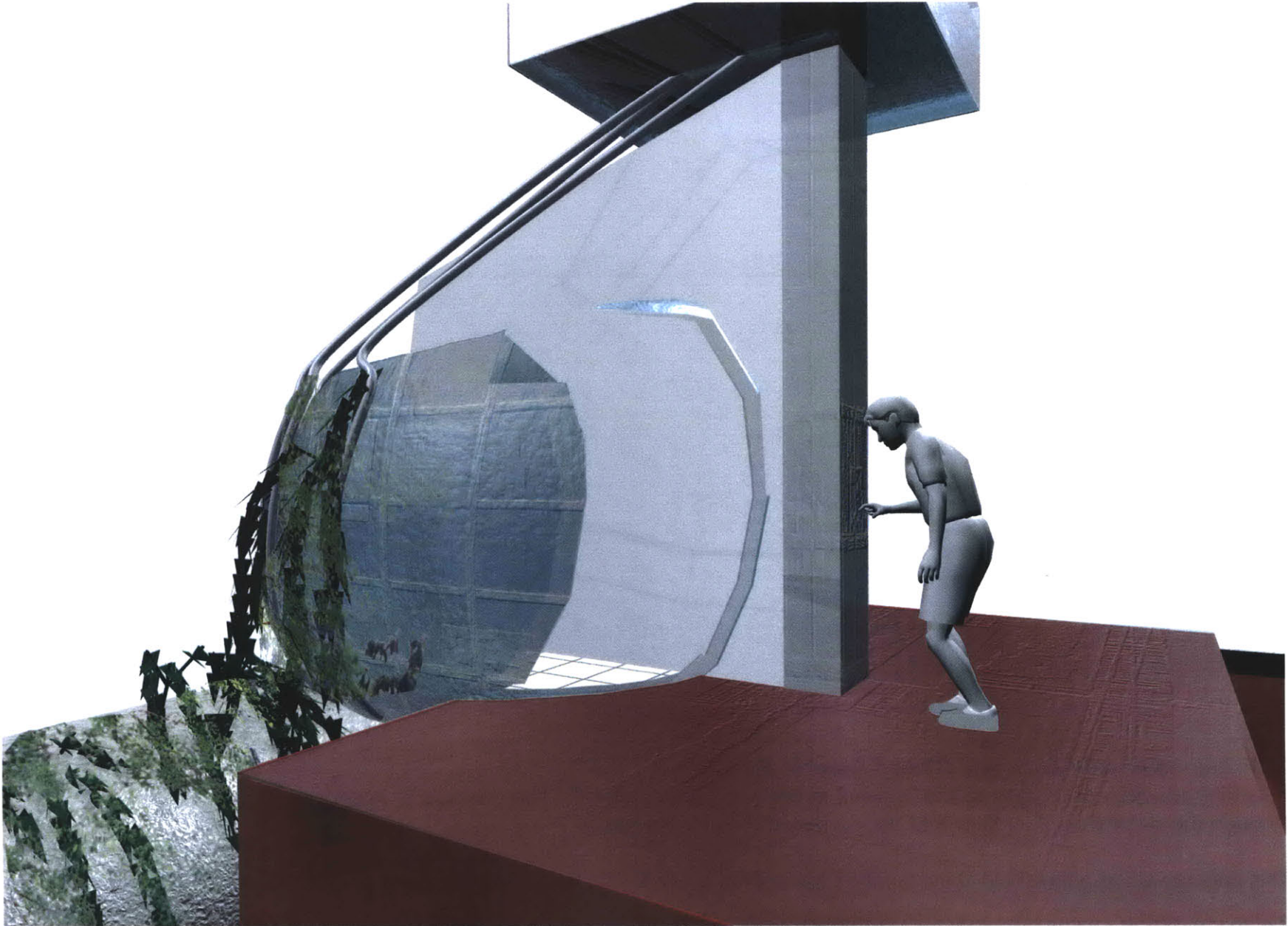
The Move© station may be generically diagramed. The principle organizational characteristic is the flow of wastewater within the site that is delineated by a sloping path. This element links the discrete phases of sewage processing and serves as the main circulation area. Each portion of the system has a distinct architectural characteristic, allowing a varied spatial experience of the process as a whole.

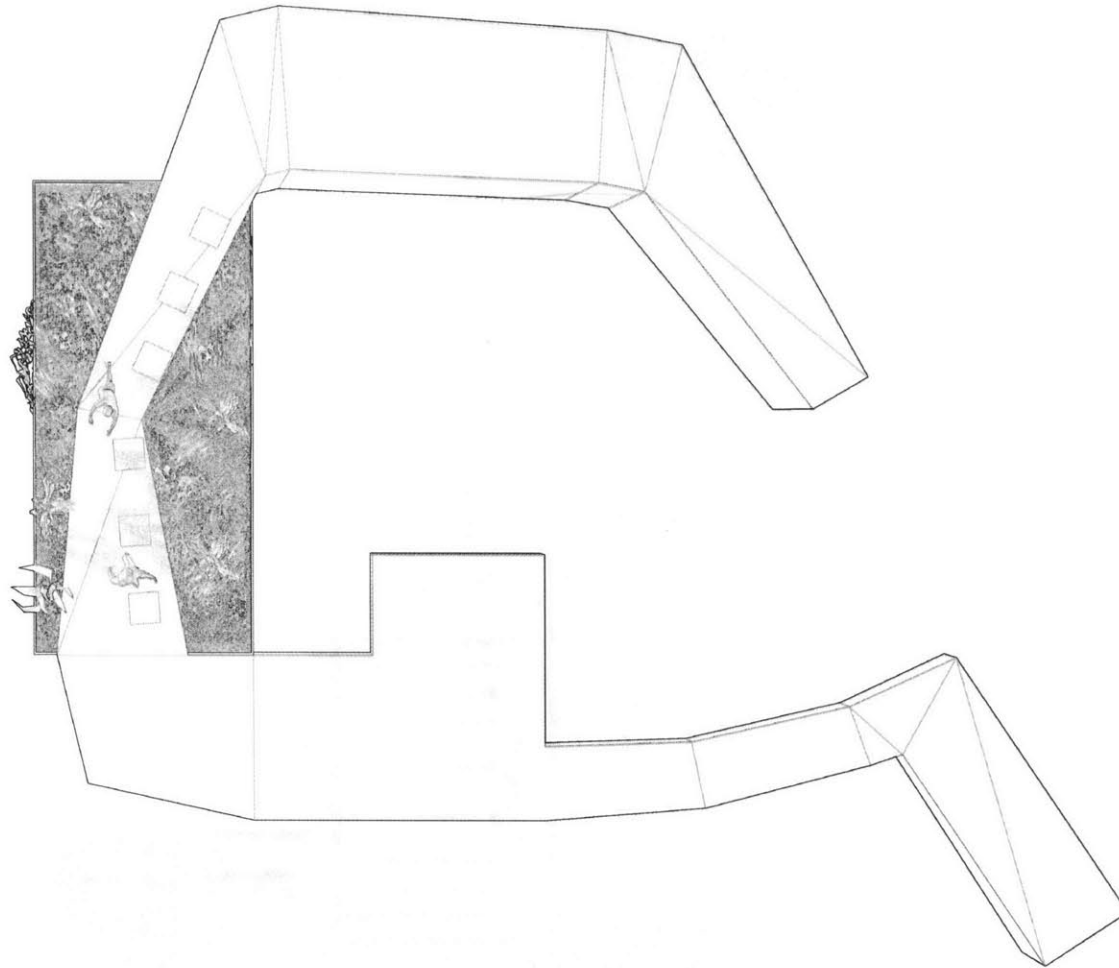


### **1. Toilet/Anaerobic Reactors:**

Threshold/Depositing of effluent. Toilets transfer wastewater into an exhumed gasoline storage tank.

A place of rest and thought. Entrance is gained through a vending machine where reading materials are also dispensed (see Marketing, the cards).



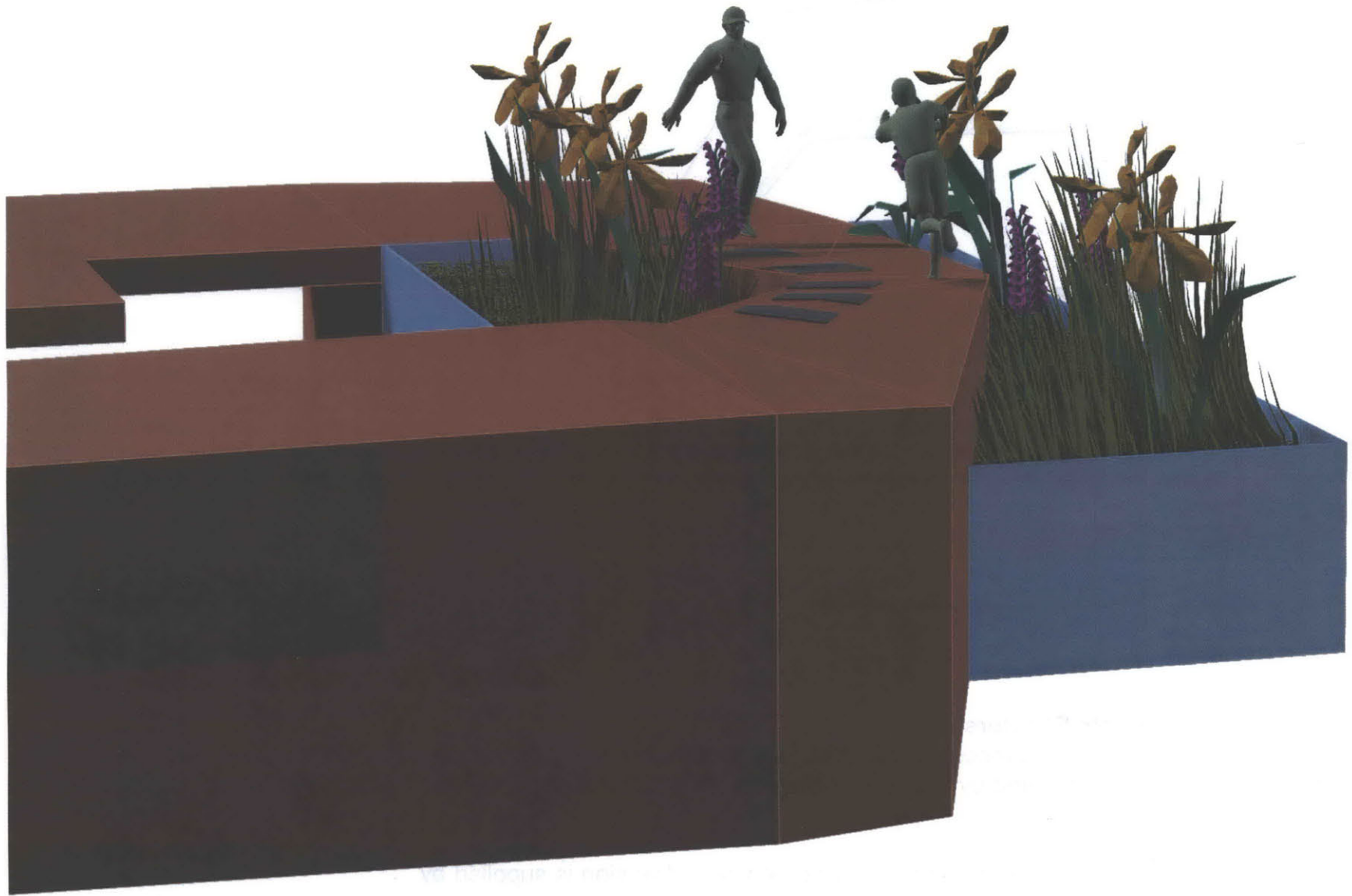


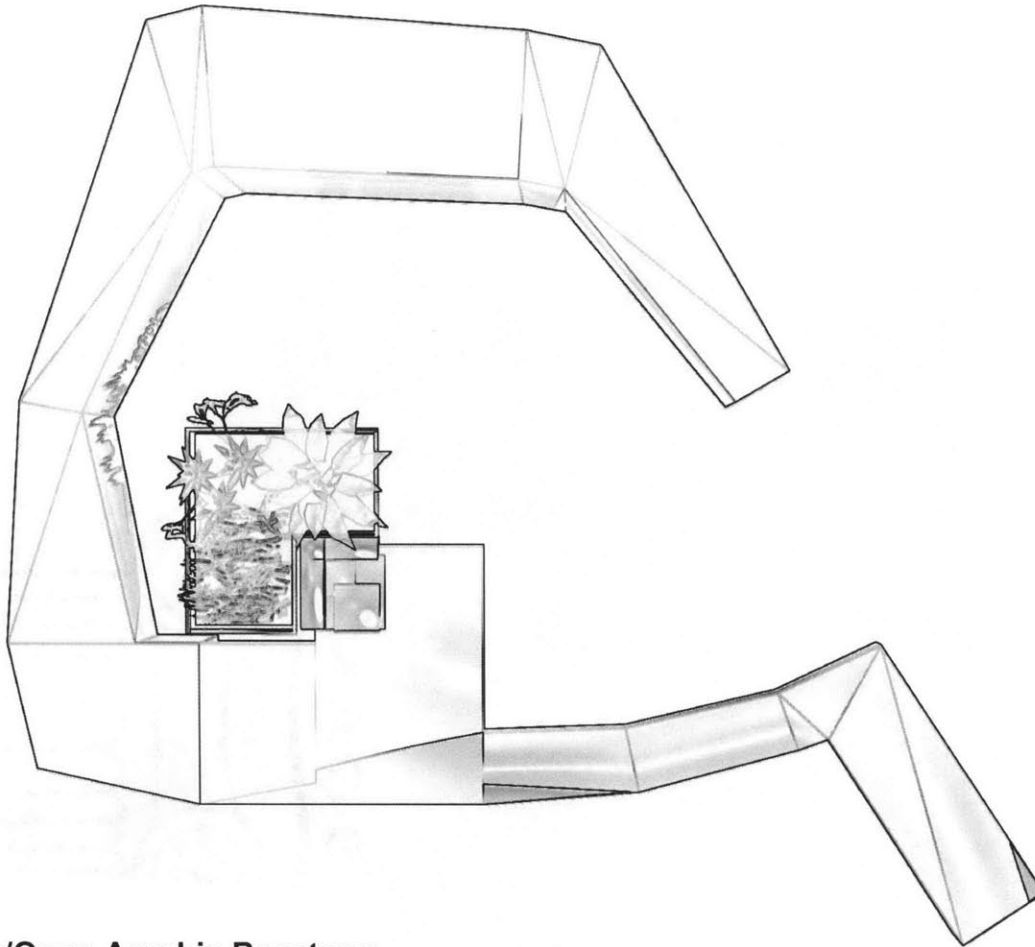
## **2. Entrance/Anoxic Zone and Closed Aerobic Reactors:**

Initial introduction of oxygen to the effluent in a closed environment. The process is apparent through the extensive plant filter that deodorizes the escaping gases.

This area serves as a threshold to the facility, a transitional space for the visitor and the waste stream.





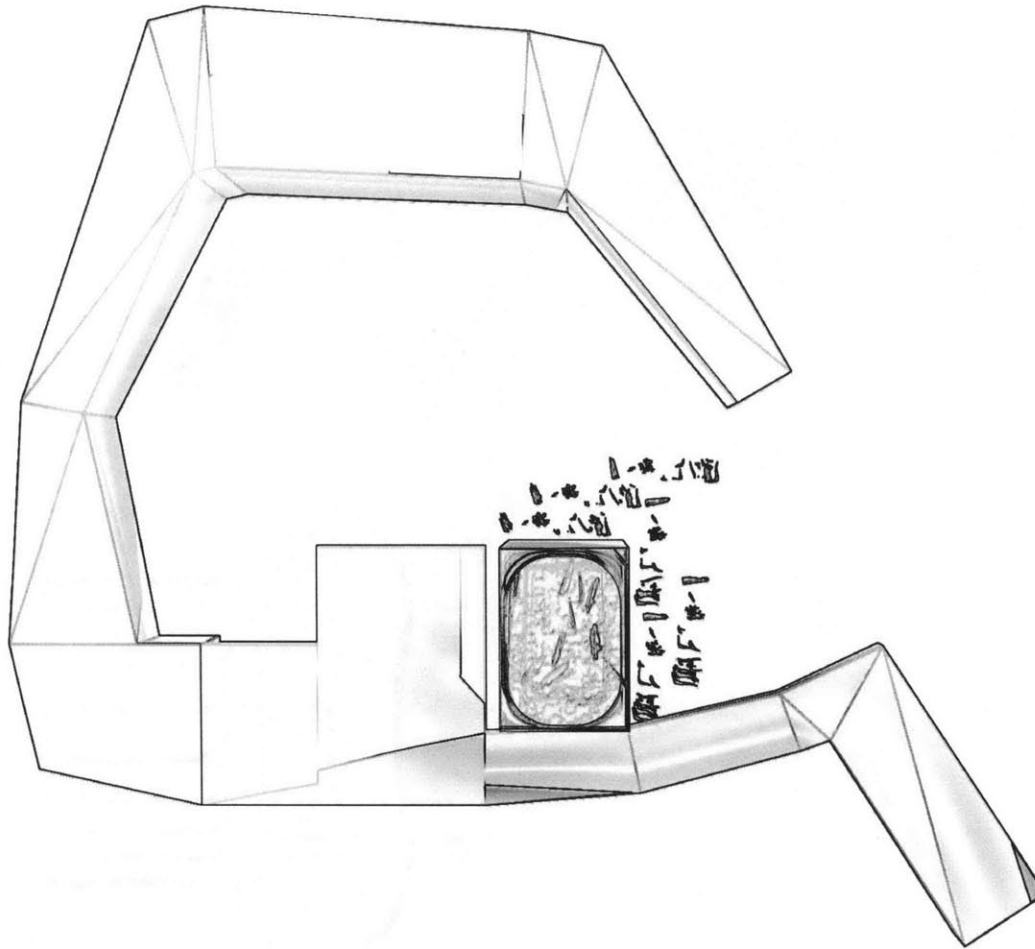


### **3. Seating/Open Aerobic Reactors:**

First open air exposure of the processed effluent. Most of the offending odors of the wastewater have been eliminated by this time, reducing it to a rich fertilizer for exotic plants.

Like section 1, this is a place to sit and rest. Here, however, diversion is supplied by the process itself.



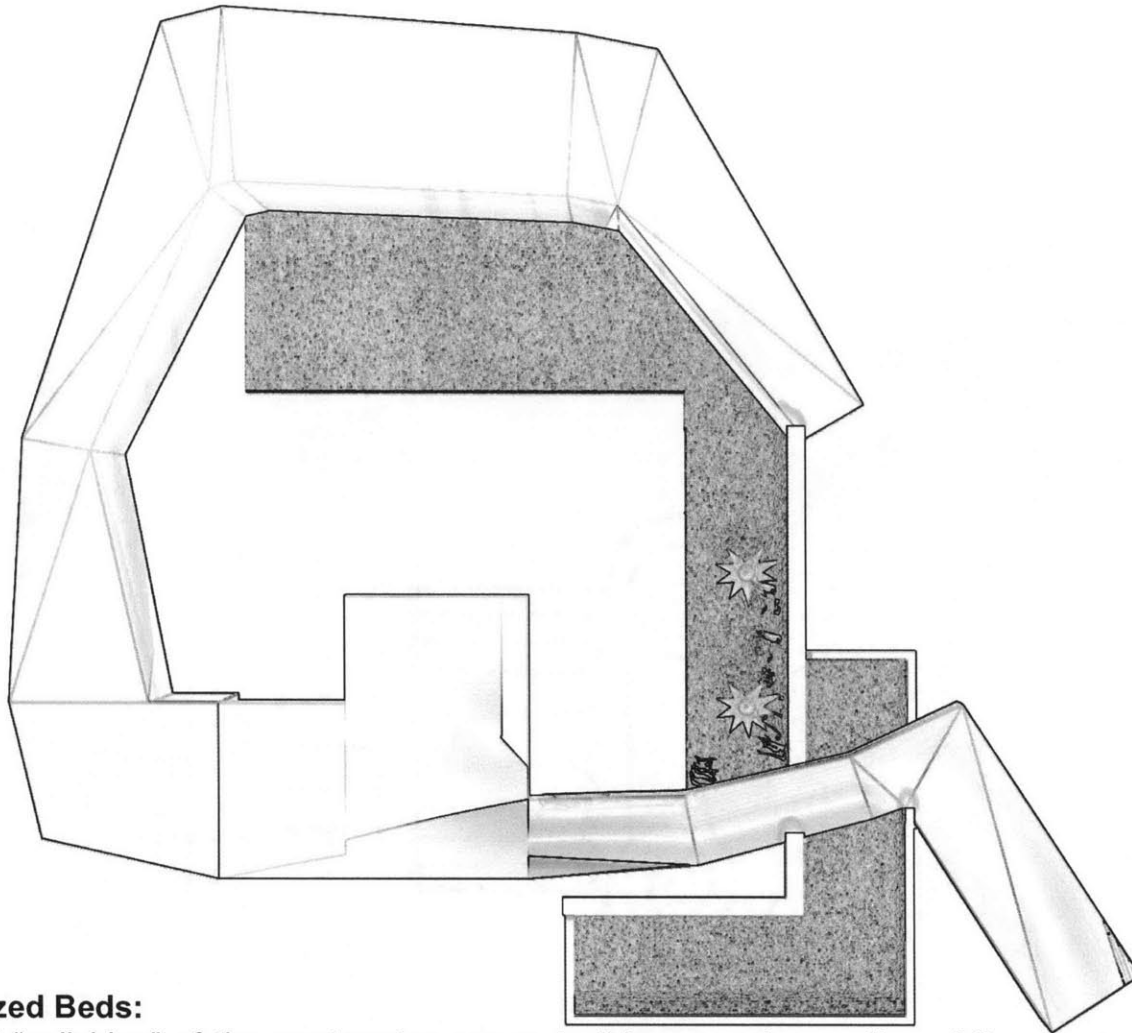


#### 4. Clarifying Tank:

Fish and plants break down the remaining small particles, larger biosolids settle out of the water and are returned to the the Anaerobic Tank.

Perhaps the simplest part of the process, this portion is the most gratifying as the waters emerge for the first time in a clear and apparently pure state.

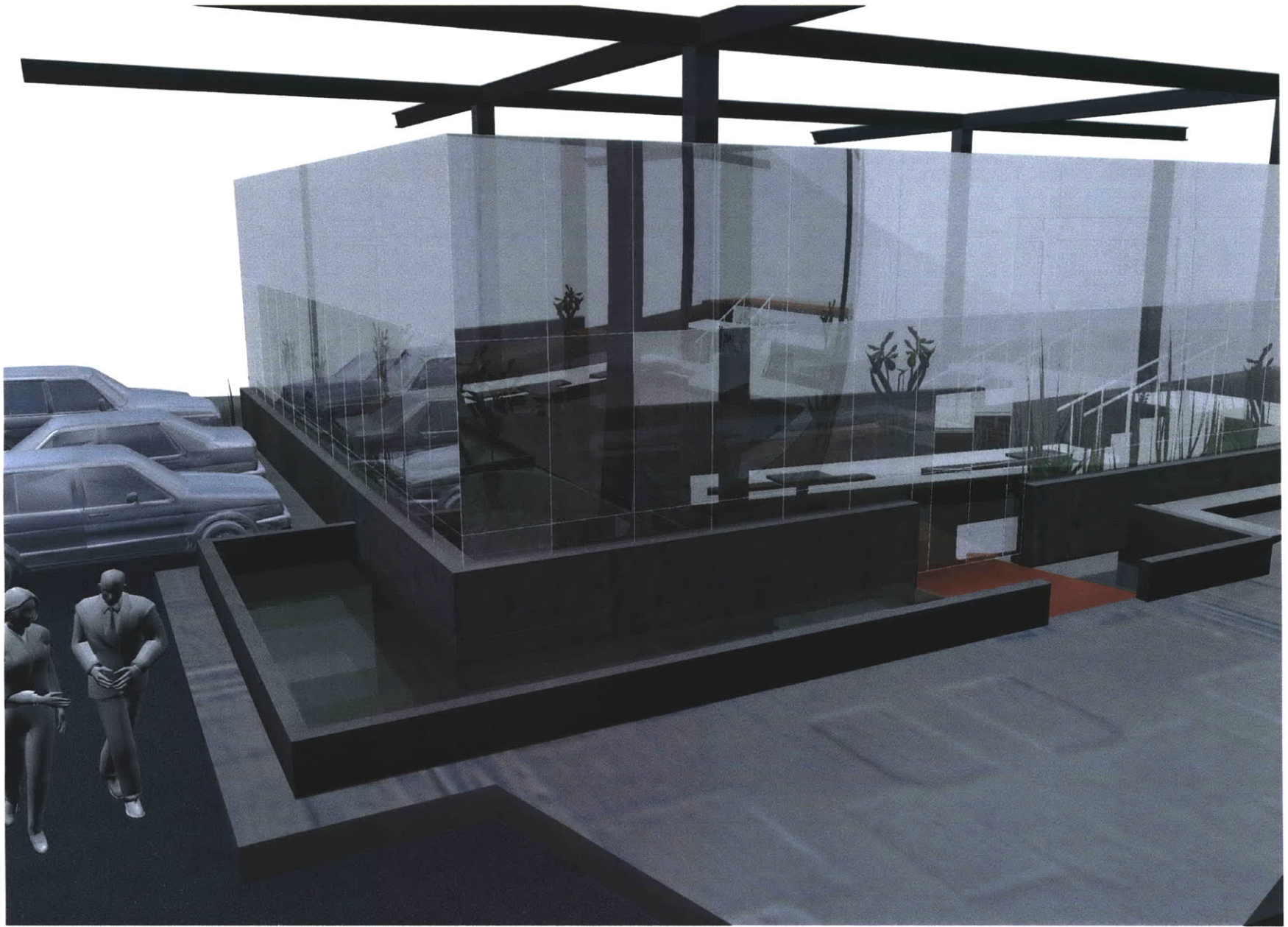




**5. Fluidized Beds:**

The final “polishing” of the wastewater occurs in this expansive section of the process. By completion of this stage all hazardous substances have been removed and the water is drinking-quality.

The water is returned to stage 1 of the process and is recycled for toilet flushing.







## A Specific Instance

A portion of a major artery in an American urban area was chosen for a prototypical design of the generic condition. In Massachusetts, along several miles of Massachusetts Avenue, from Roxbury, through Boston and Cambridge to Arlington, there are presently three abandoned service stations. In addition to these sites, four operational stations were identified for the location of smaller Move sub-stations. The street itself is a major intersection of local and regional car traffic, as well as several bus routes and pedestrian movements.



# The Basic Move<sup>©</sup> Station



Illumination structure and signage



Greenhouse Enclosure



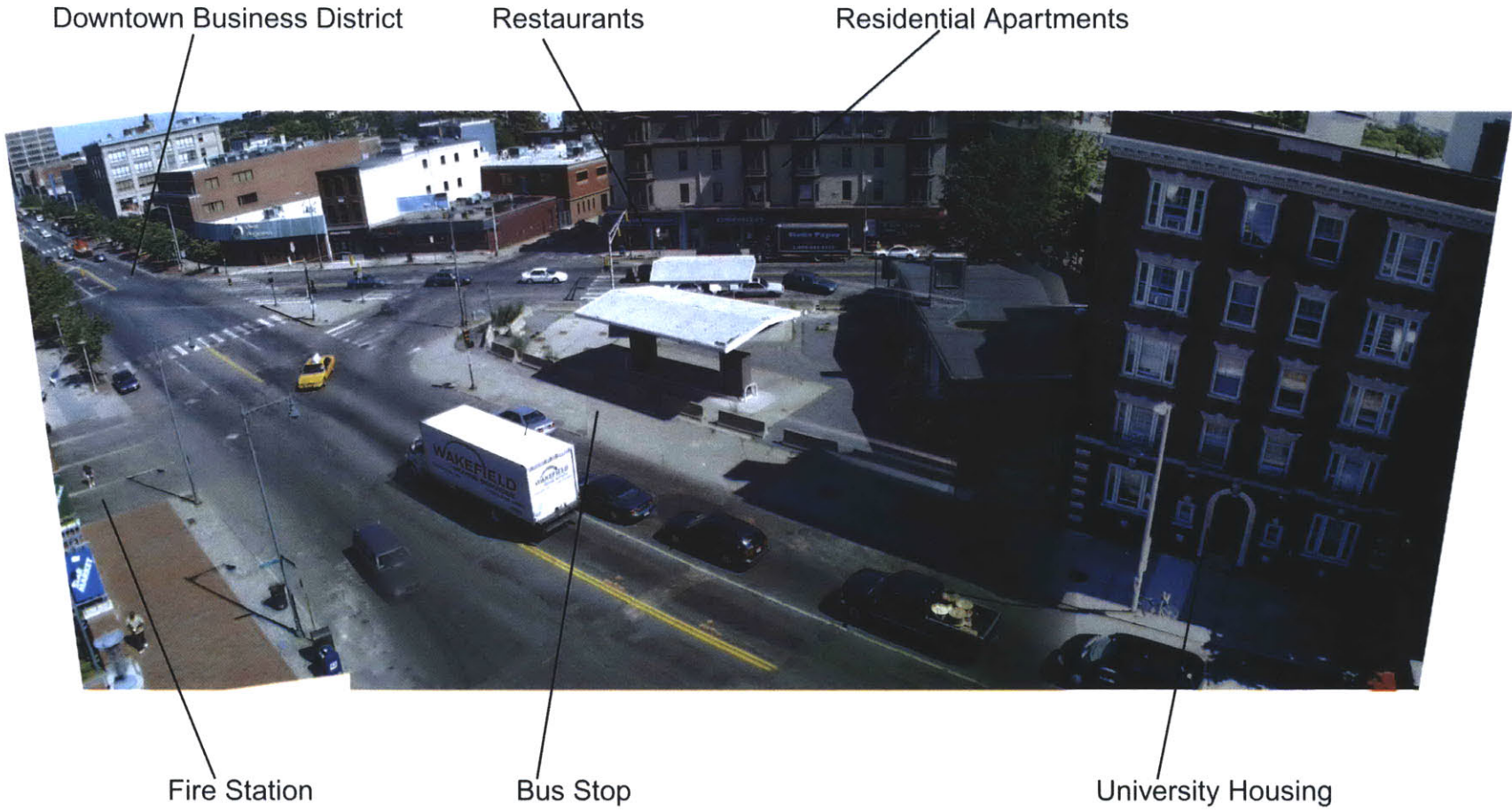
Living Machine



Path



Each disused site occupies between 5,000 and 7,000 square feet, sufficient to receive the basic program of the Move© station.

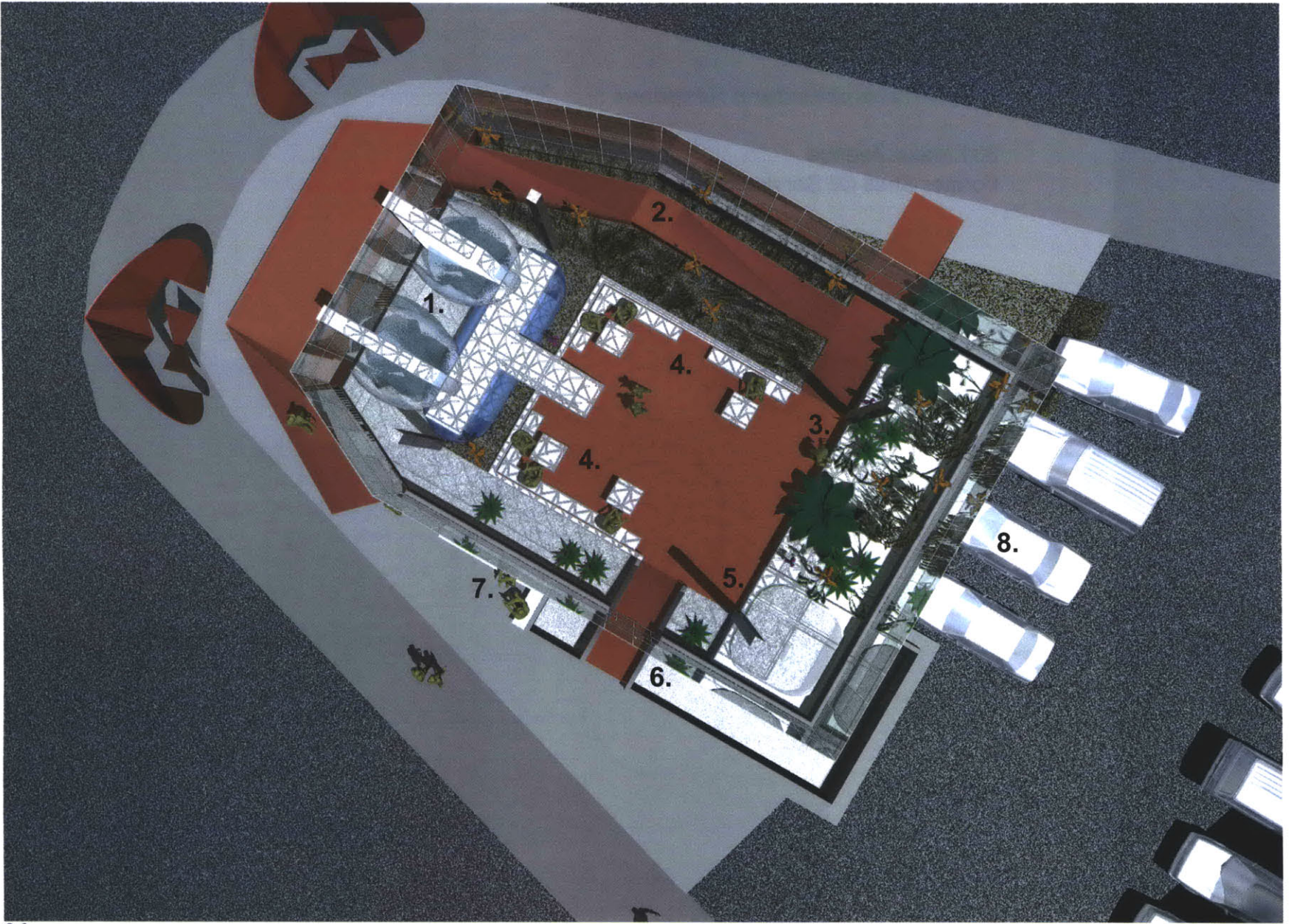




## A Specific Architectural Response

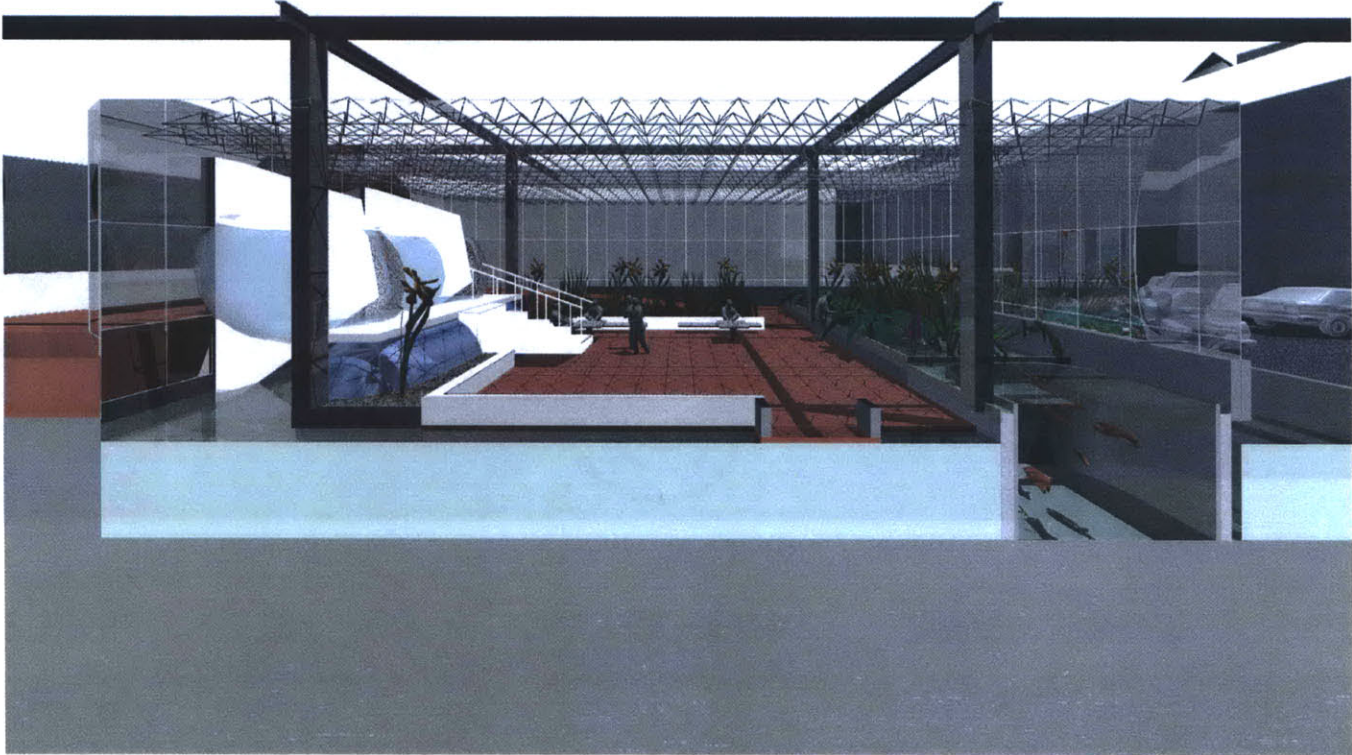
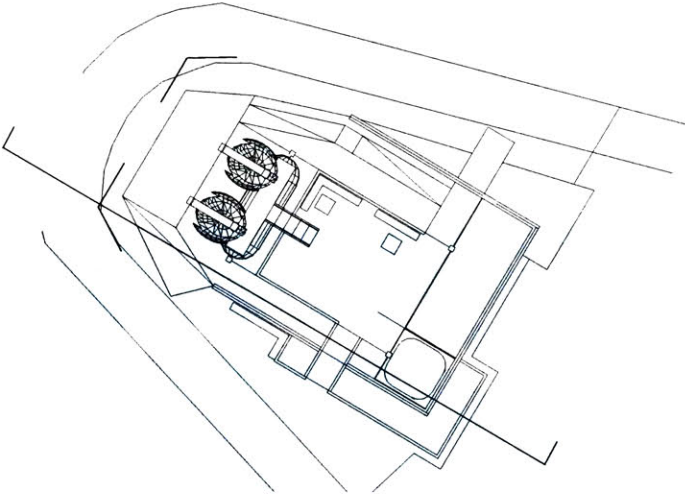
331 Mass. Avenue  
Former Shell Oil Service Station.

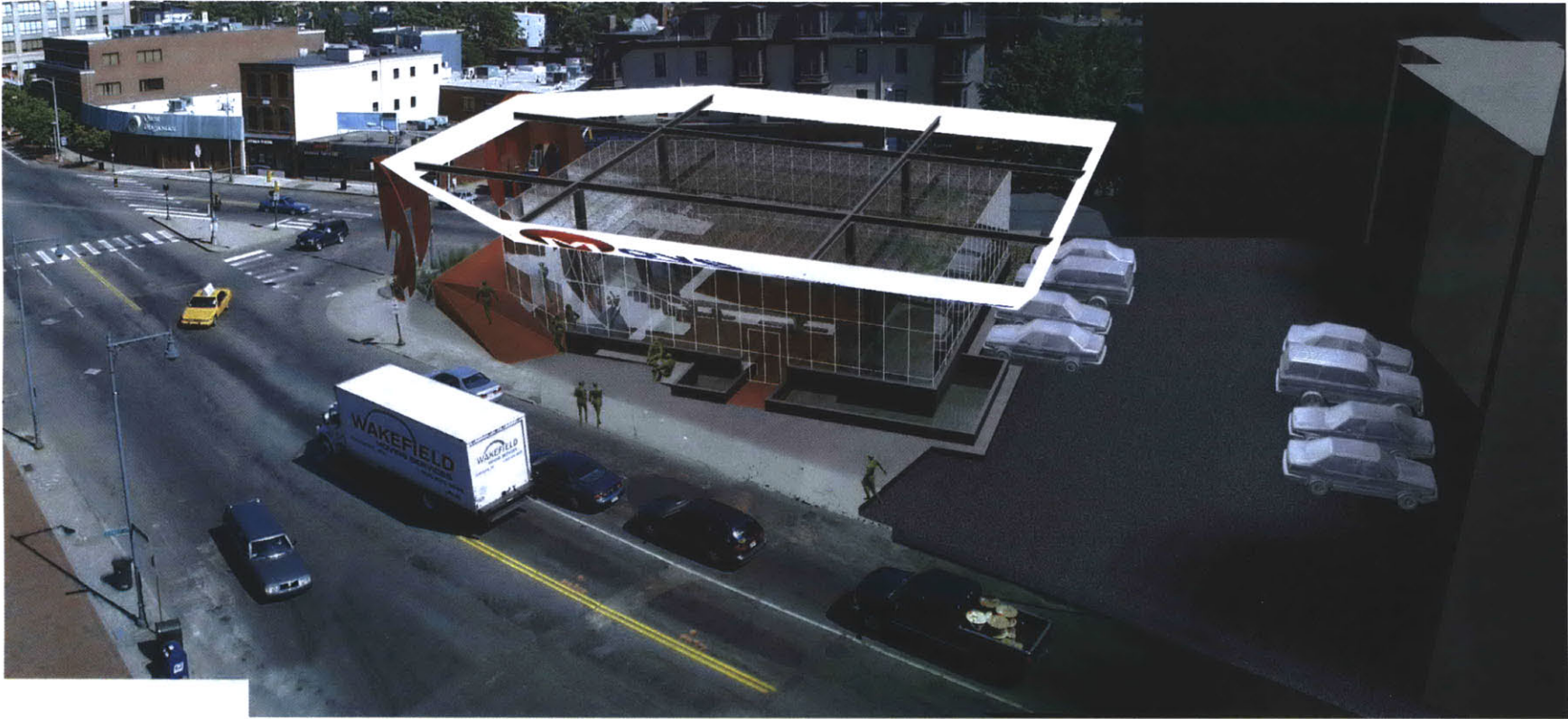




**Program Elements:**

- 1. Toilet Stalls and Anaerobic Reactor
- 2. Anoxic Zone and Closed Aerobic Reactor
- 3. Open Aerobic
- 4. Seating Area
- 5. Clarifying Tank
- 6. Fluidized Bed
- 7. Bus Stop
- 8. Parking Area

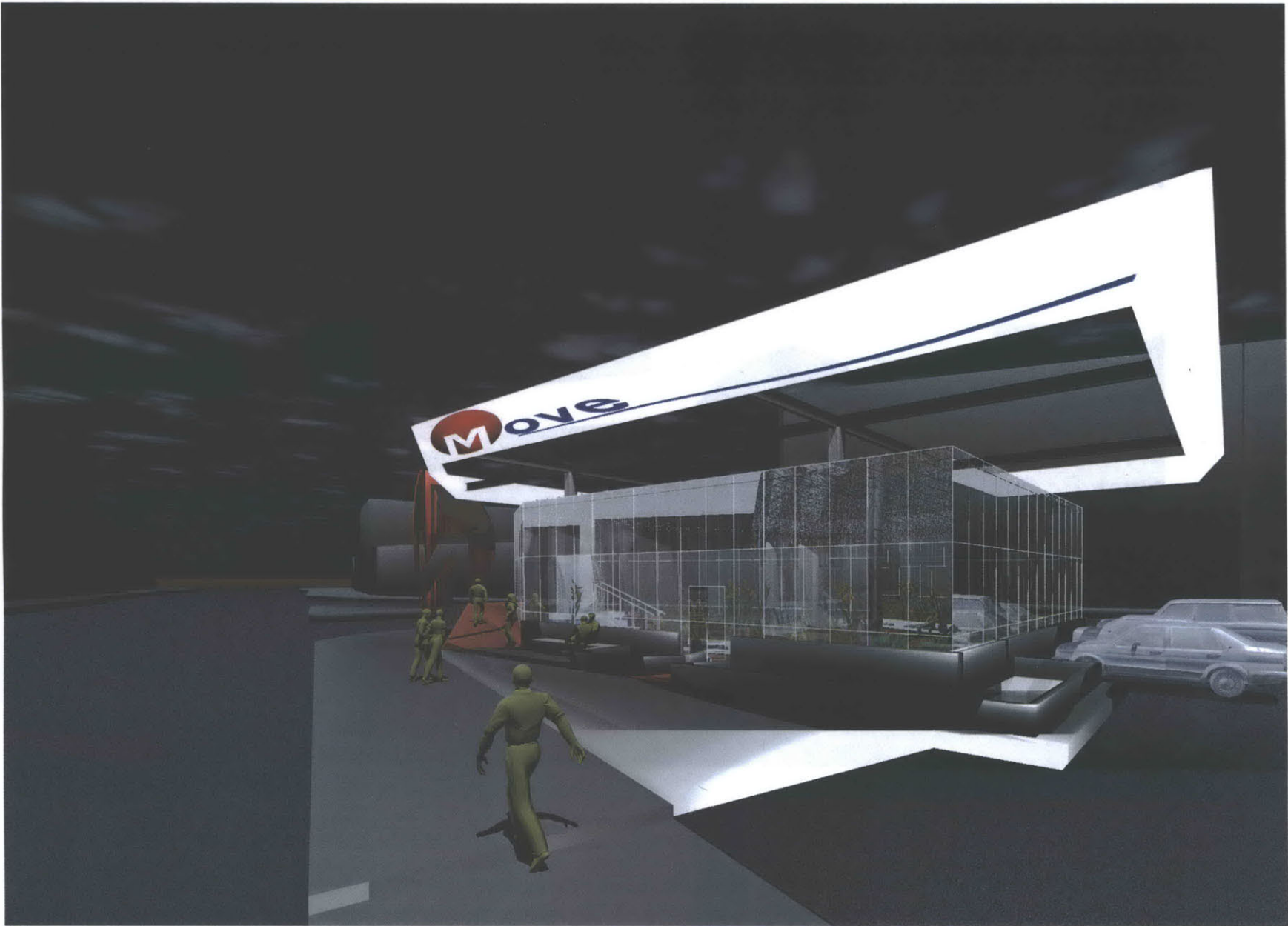






One of the lessons learned from early gas stations was the ability of transparency to create a sense of familiarity or trust in a product. The glass topped gas pumps typical of the first half of the century allowed the consumer to inspect the product before committing to putting it into their car. Similarly, the Move station allows the passerby to inspect the facilities before committing to entry. This aspect is essential for the creation of a sense of security in a place as prone to stigma and fear as a public toilet.



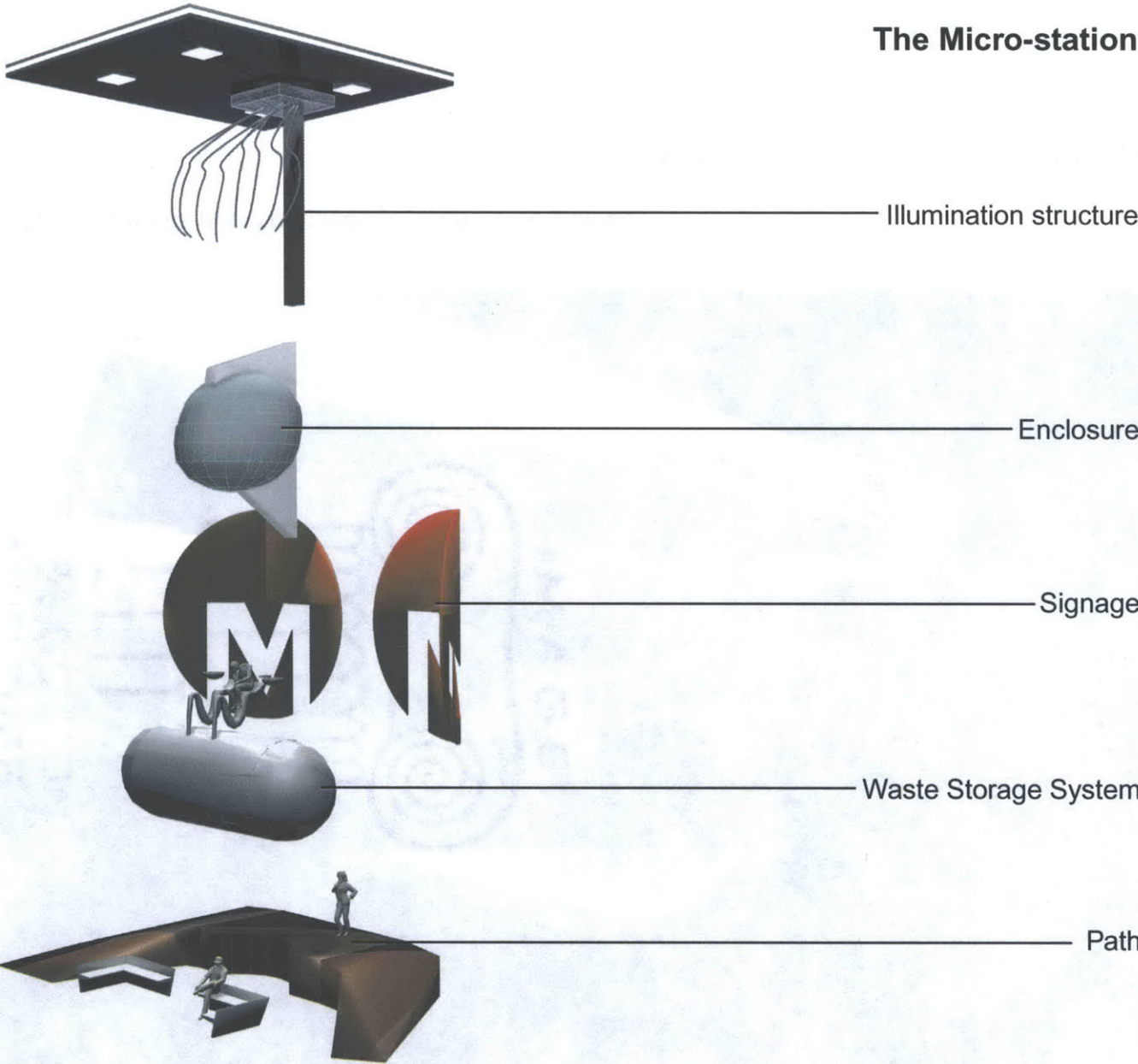


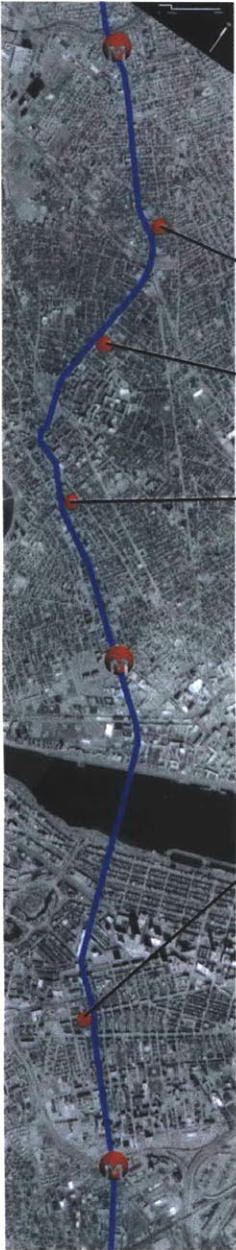
The stations must have both a strong visual presence in the daytime,

as well as a sense of sanctuary and security at night.



# The Micro-station



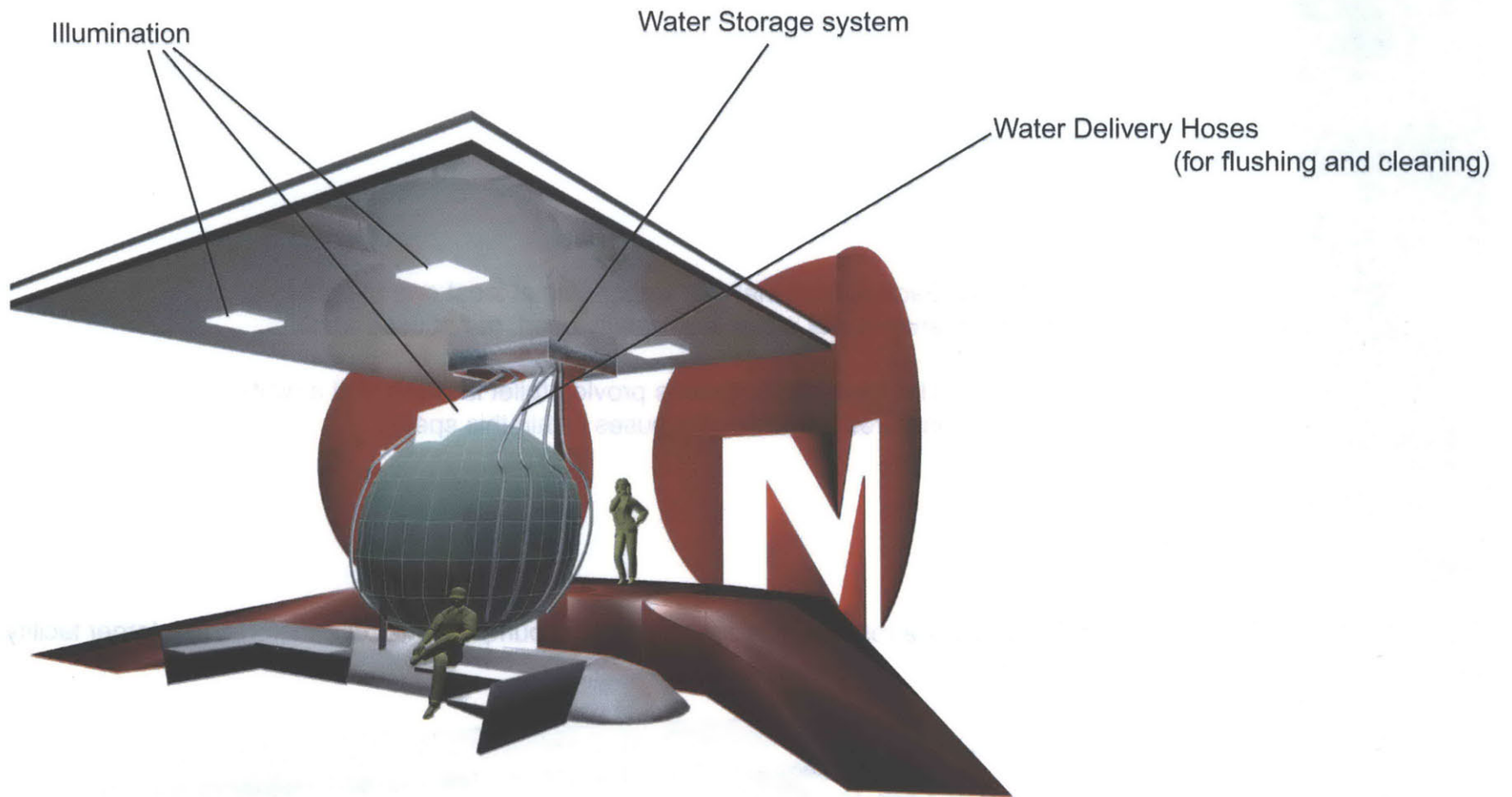


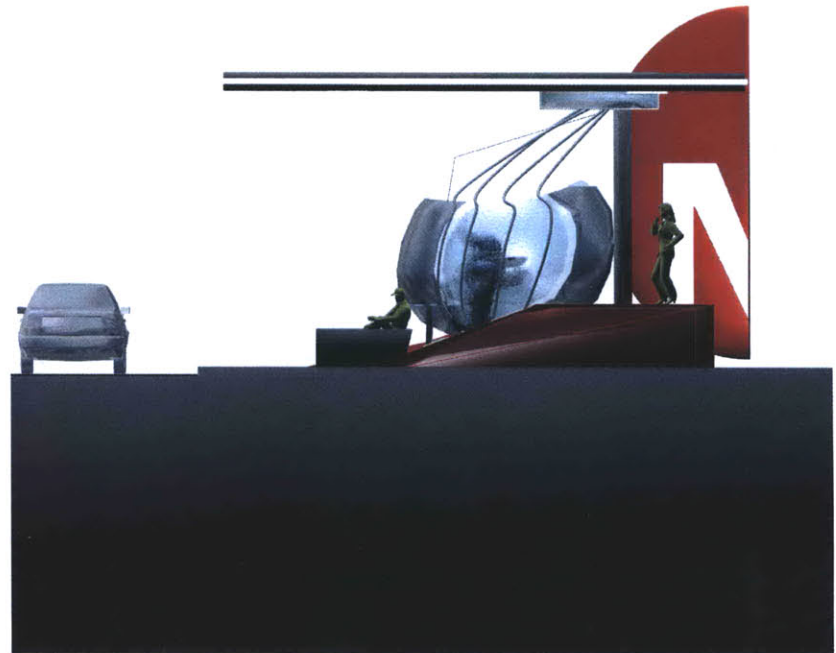
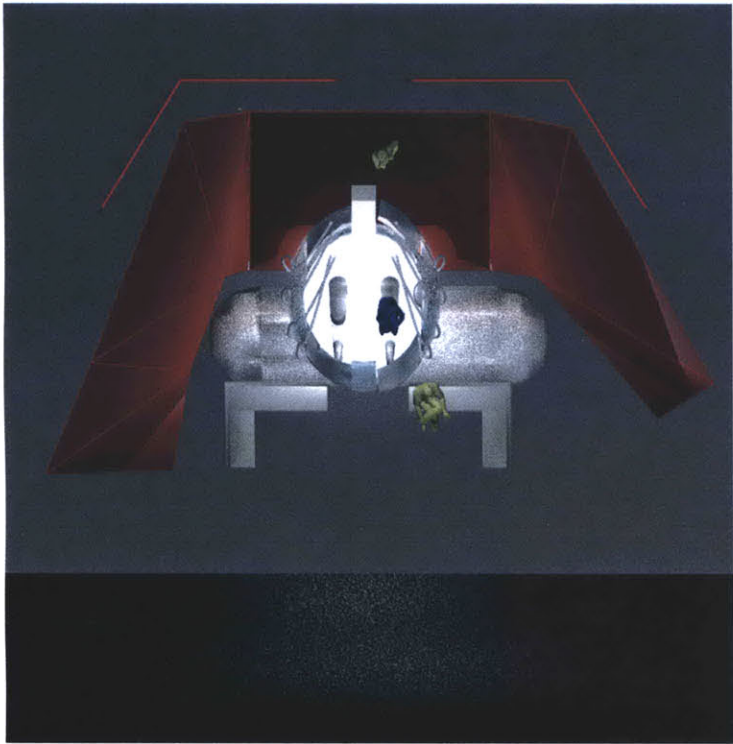
Each operational gas station has at least one marginal area that is either inefficiently used, or not used at all.

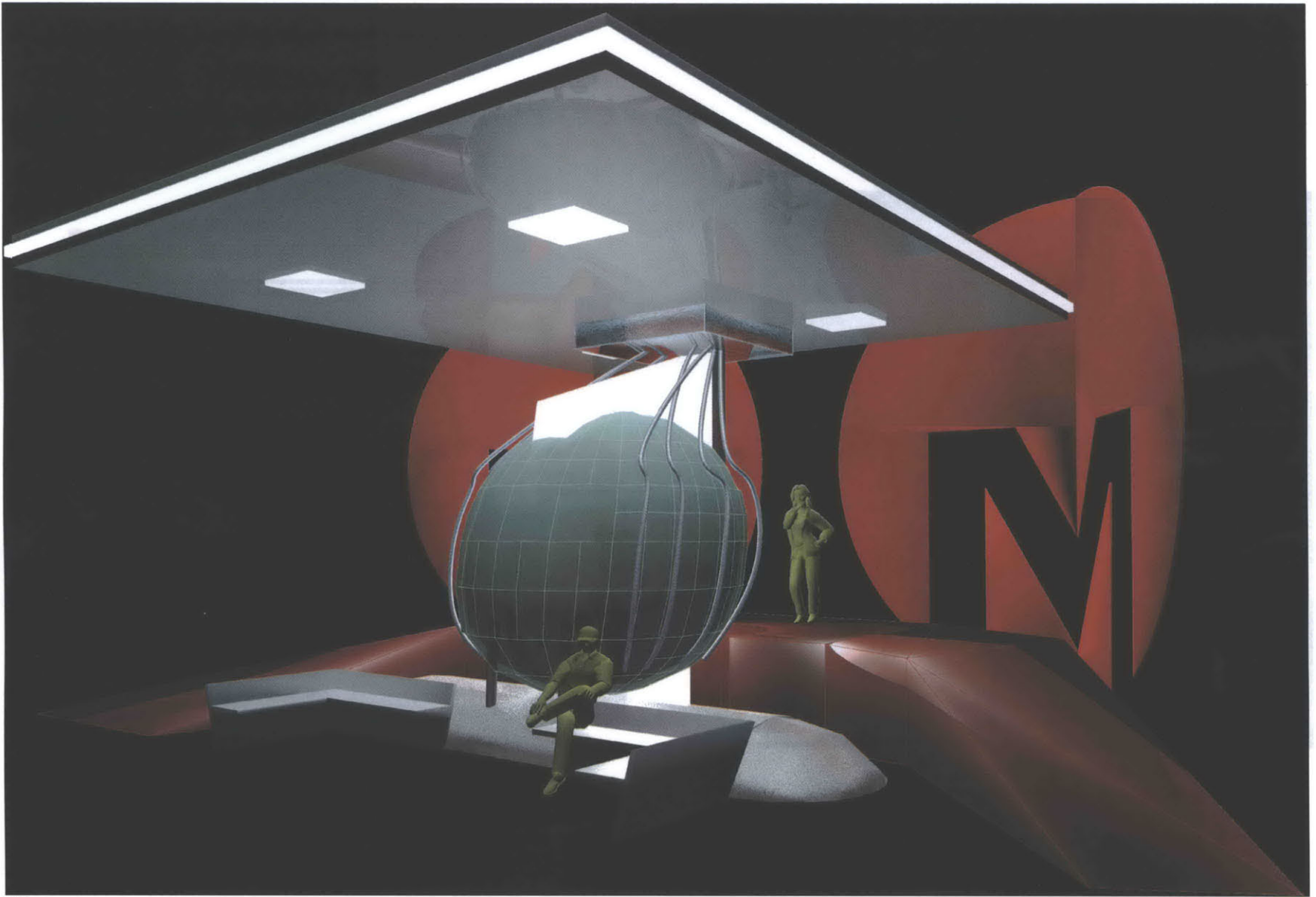
The New Micro-stations provide toilet facilities and a waiting area for commuter buses within this space.

Effluent is stored in a restored fuel tank until being pumped out and transferred to a larger facility for processing.





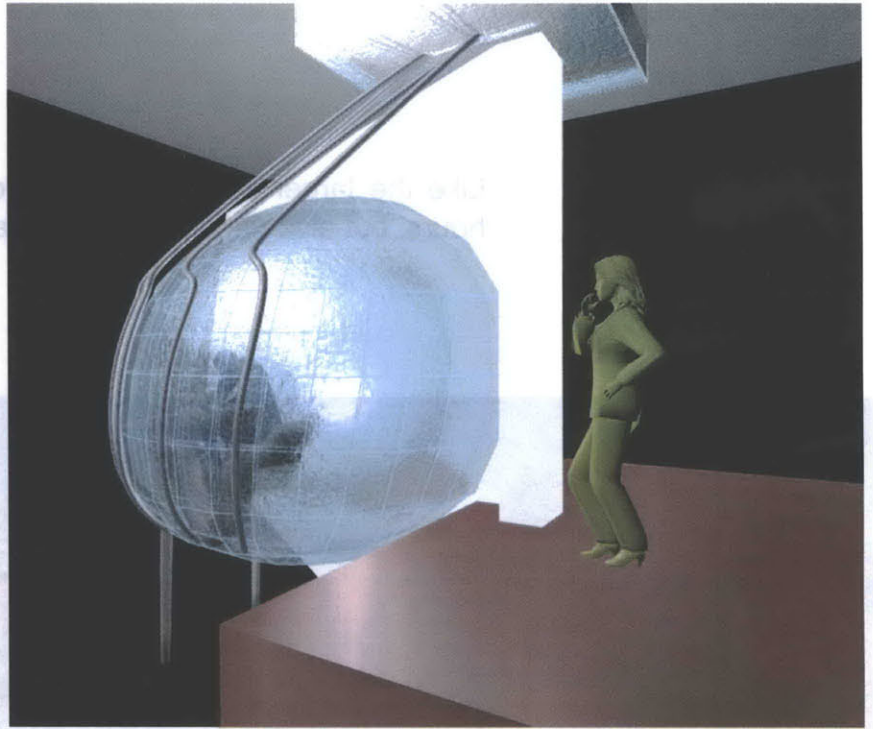
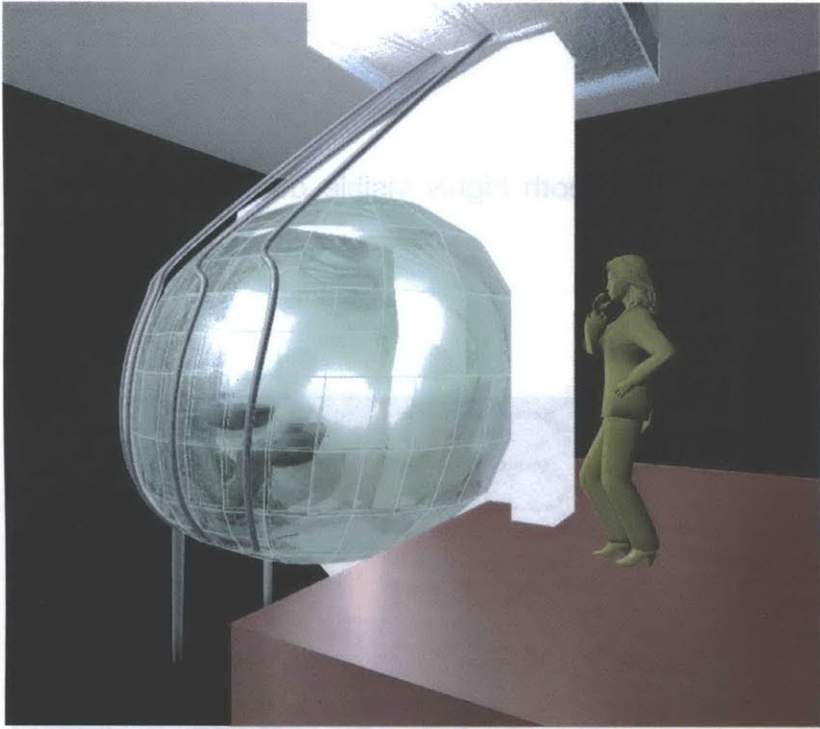






Like the larger stations, the Micro-Stations must be both highly visible during busy daytime hours, but also define a safe space at night.





The pods containing the toilets are made of etched glass to allow for different levels of opacity.

When occupied, the glass is nearly opaque, allowing only the faintest traces of form to be discernible through the enclosure.

When an occupant is finished, the pod enters a self cleaning mode, much like a dishwasher. The effect of water on the fogged glass is to temporarily smooth over the rough surface and allow for greater transparency. After being blown dry, the pod returns to its nearly opaque state for more private use.

This variability allows for several situations:

- The occupant is invited to inspect the facilities before committing to their use, much like the older glass gas pumps allowed the consumer to inspect the product before putting it into the car.
- The sense of complete isolation from the outside world and the lack of security created by other public toilets is avoided by limiting (not eliminating) visibility.
- The backlit sphere of the pod becomes a recognizable icon from the level of the street.

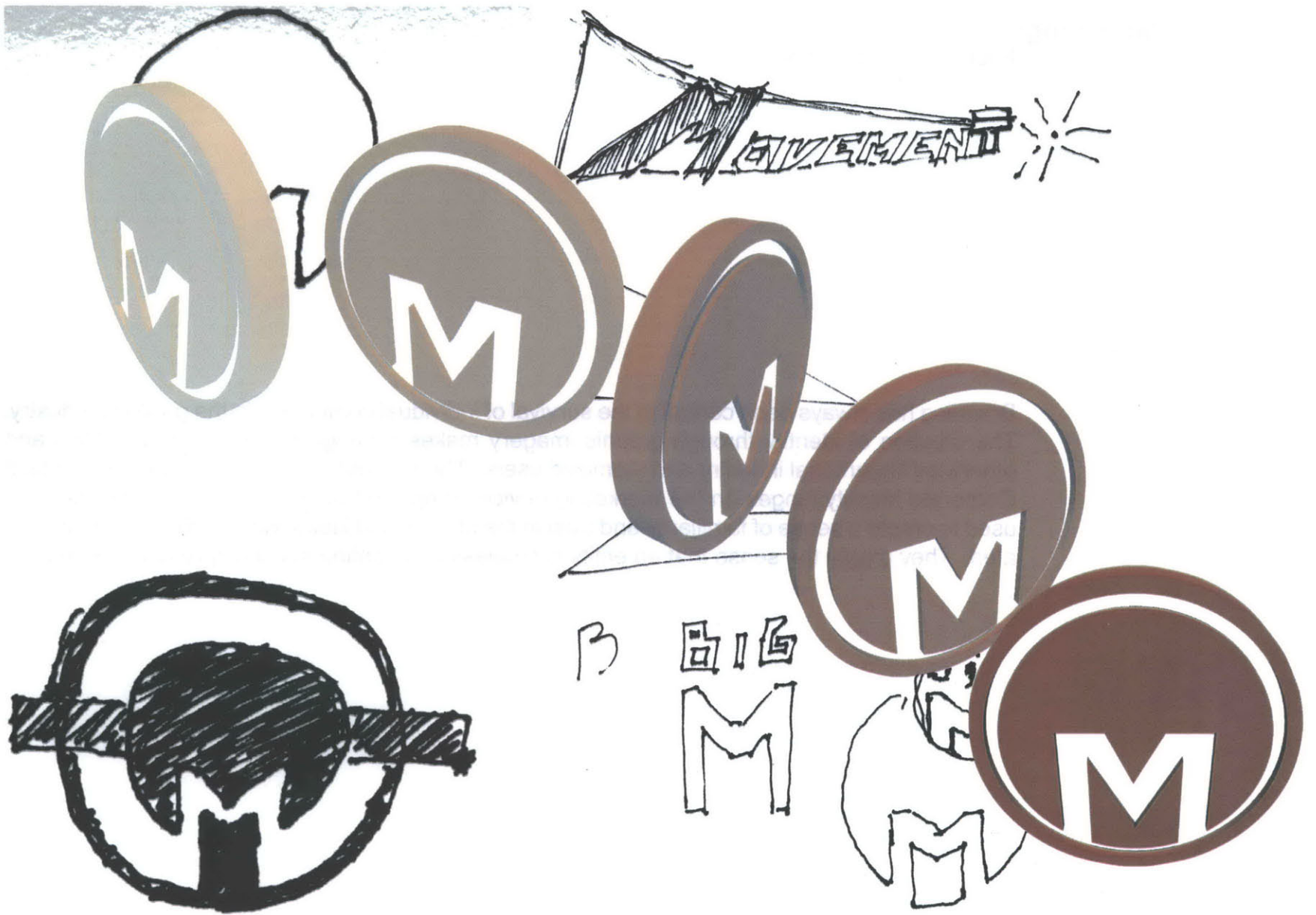






**Marketing:**  
Fabrication of Presence

Branding has always been central to the survival of individual companies in the gasoline industry. The creation of identity through graphic imagery makes a bridge between an enormous and otherwise impersonal industry and atomized users. The formation of a recognizable and distinct Corporate identity hinges on the marketing devices employed by an entity. These devices are used to create a sense of familiarity and trust in the objects and ideas with which they are associated. They create the sense that an entity is timeless and continuous; omnipresent, like the air.





## The Logo

A logo must have:

- Legibility (instant recognition and impression)
- Impact (single impression with immediate appeal)
- Simplicity (easy understanding)
- Distinction (recall and remembrance)
- Adaptability (facile reproduction in any size or medium)

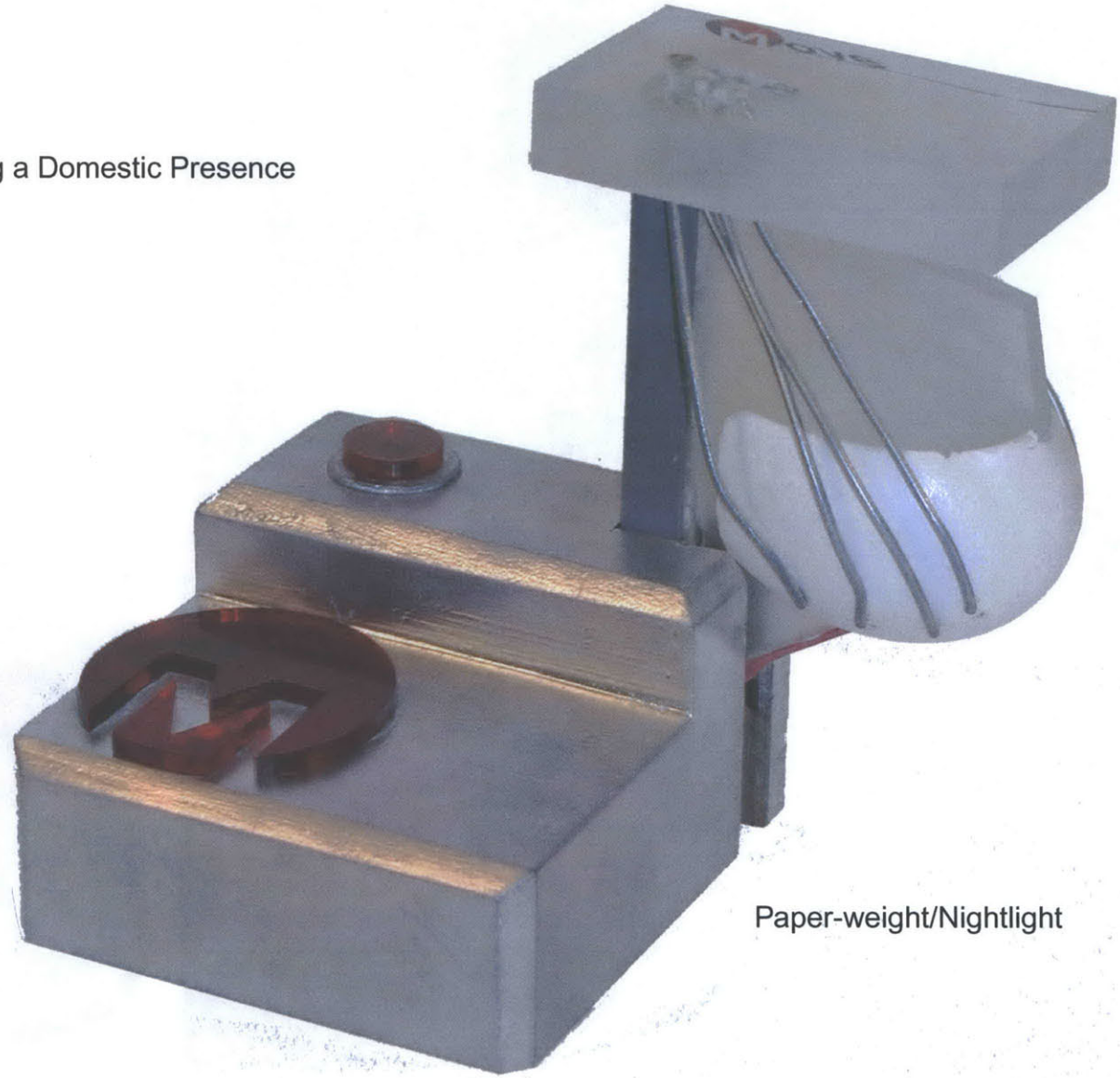
- Richard Schroeder  
“Brand Identification is Taking a Professional Look”  
in National Petroleum News  
November 1956





## Products

Creating a Domestic Presence



Paper-weight/Nightlight



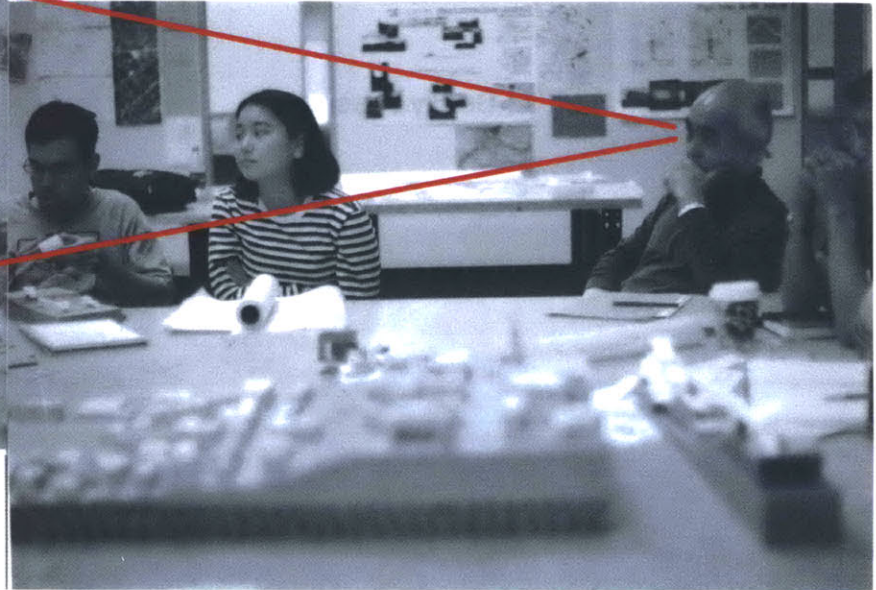
## Apparel

### Bodily Presence





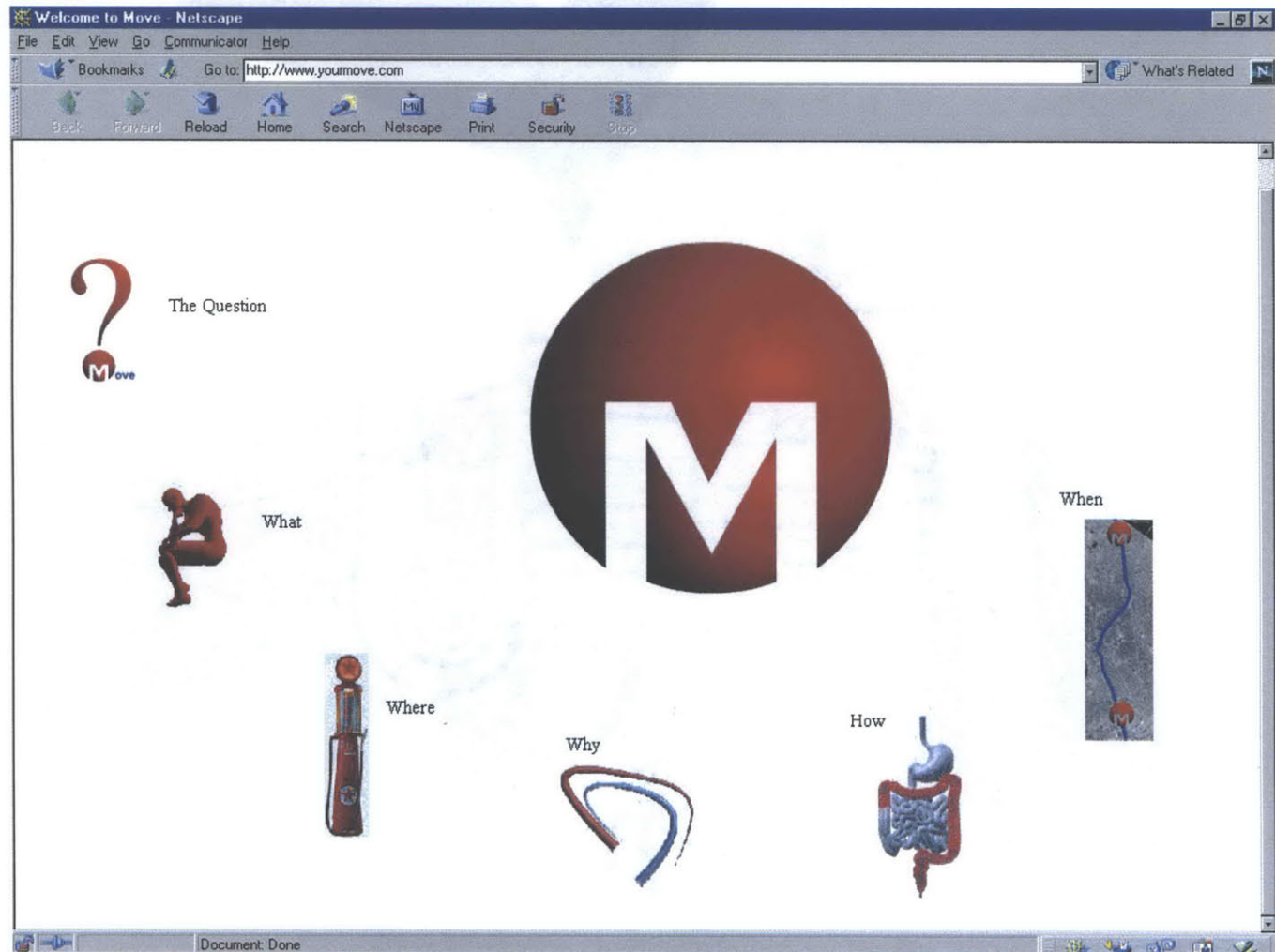
Personal Presence



Street Presence

# Distribution

## Web Presence





**Move** 58. Move™ on the Move

Unfortunately, even the highly effective Living Machine sewage treatment process cannot digest everything. A residual sludge must be periodically removed and transported to a specialized processing station. However, like other aspects of the Move™ stations, the trucks will take the opportunity to increase the company's name brand recognition.

**Move** 12. Icon

The gas/don industry has a long history of product differentiation based more on engineering than difference in their usable product.



## **The Move© Collector's Cards**

Creating a Cultural Presence

2.5"x4", numbered sequentially, each containing an image dealing with the Move© network and an explanation of the image on the back of the card.

In order to enter a toilet, a new card must be obtained.

The cards are distributed from machines located at the entrances of toilets, before bus stops, and within each station's seating area.

Cards are obtained either by paying a nominal fee (say \$0.50), or inserting a card that has been bought previously. In this way, the toilets are available to those who are short on funds but retain a single card between uses.

If you have a large bill, you are given change in the form of Move© coins, which in turn may be redeemed for more cards.

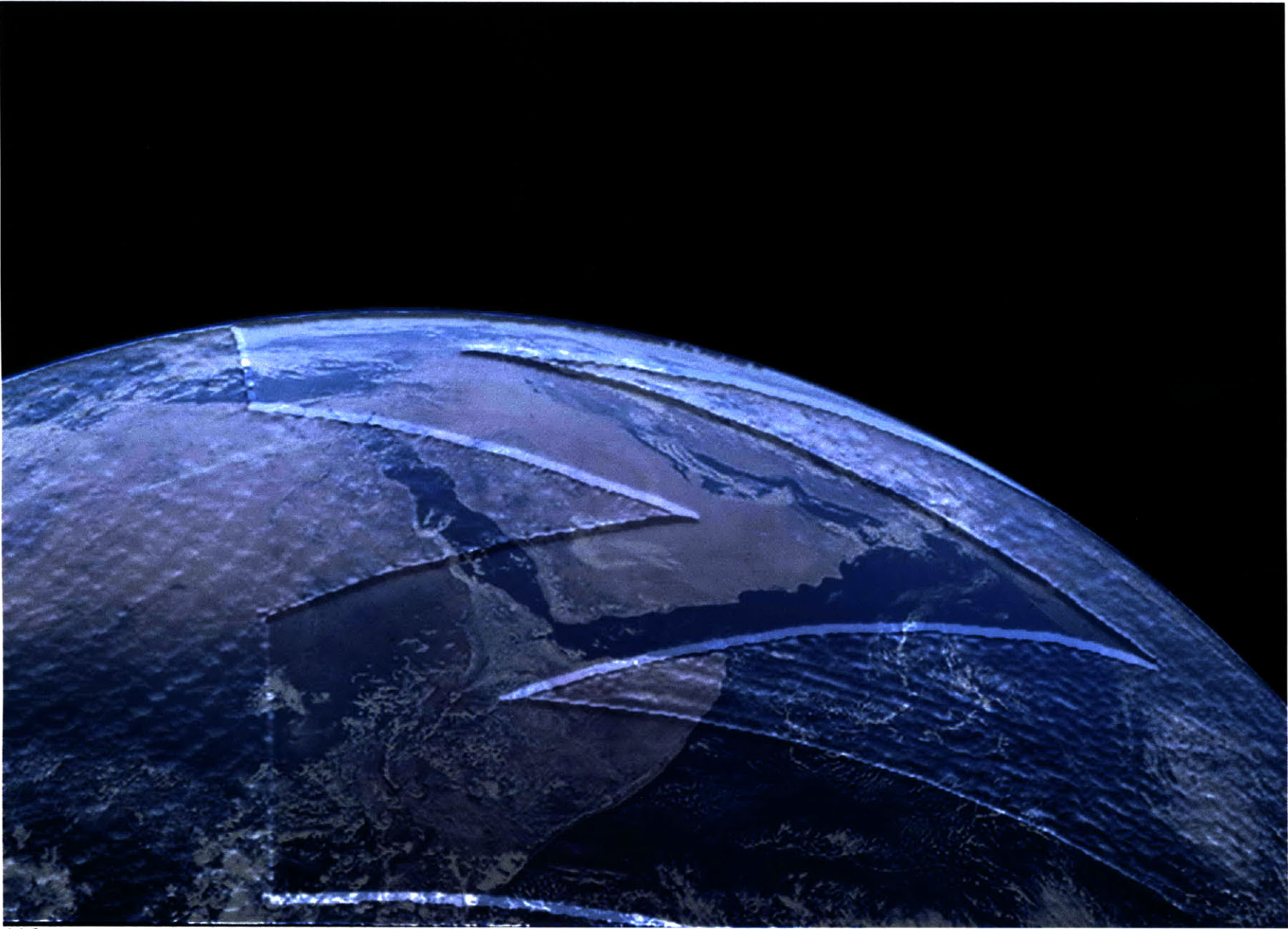
Accumulated cards are redeemable for valuable merchandise, such as toy trucks, paper-weights, T-shirts, hats, etc.

The card distributors are located next to areas of immanent rest: benches, toilets, and bus loading areas.

Cards may also be bought at designated third party retailers, in packages of five, with two sticks of bubble gum.







## Conclusions

### Next Moves

With 40,000 filling stations worldwide, as against 40,000 MacDonalds fast food outlets, the Shell [Oil] group is actually the world's largest retailer.

-The Last Modern Project, in World Architecture, n. 26, pg 82-87, 1993.

The current proposal has described a small prototypical instance of the project. The project must further explore two directions: the expansion of the project to a larger context, and the refinement of the individual parts

The development of the Move concept must involve the expansion of the network. By following the model of the gasoline industry, any station around the world would be identical. However, due to programmatic and cultural needs, it is necessary that such an expansion would involve variations on the theme, rather than simple replication. Because of the greenhouse component of the Living Machines Technology, regional variations would exist in different climates. The Arizona Move Station would presumably not have a glass enclosure, or a very different variety of plant life.

Furthermore, the current design is based on a generic American mind set, one that favors a garishness perhaps inappropriate in other cultural climates. American automobility has always favored a bright and loud atmosphere, one that screams out from the roadside to the gigantic cars and roads characteristic of this country. A "Euro-Move" might involve a more toned down image, in keeping with the generally smaller roads and cars typical of European cities.

Programmatic variations also present a rich set of possibilities, again mirroring the development of the gasoline retailing industry. The possibility of partnerships with food service, as seen in combination gas station/convenience marts expands the role of the stations as an urban amenity. This sort of partnership would also reinforce the sense of a "closed loop" or the connection between consumable resources and waste resources.

In dealing with the specifics of the generic building's construction, there is still a need for a more fully realized remediation strategy. The possibility exists in each of these sites for the clean up of polluted soils and the enrichment of the architectural experience by making aspects of this process apparent to the visitor. This remediation might be realized as a part of the construction process, wherein the soil is treated during excavation, or as an ongoing aspect of the newly operating building. Any concept of site cleanup should also deal with the incorporation of existing materials on-site rather than their export to a landfill to simply become someone else's waste.

Rather than concentrating on the technical issues involved with sustainable building design or waste management, this project has dealt with the psychological problems that lie at the root of wasting in America. The role of stigma in wasting is enormous: wasting is something we all do, but we generally find it too embarrassing to examine. The issue is not how to stop wasting, but rather to deal with waste and its consequences. Fear and shame interfere with our dealing properly with these products, which create an independence of actual threats and perceived threats. The solution proposed by this project is to look the problem in the eye, to deal with waste in the most personal and potentially embarrassing situation, and ennoble it.

As a design project, this has been an exploration of how architecture can become a carrier of meaning. The intention has been to create an overt manifestation of an ideology by foregrounding the independence of form and content. Conceptually and actually, this has been an attempt to present people with a pile of shit, and convince them that it is gold. One model for this is the contemporary propaganda network of mass marketing, a set of systems that successfully convince consumers that one set of products is superior to an essentially identical set of alternate choices. The project short circuits the cynicism of such systems by making the goal of the project a public amenity rather than the creation of private wealth or power.





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## Illustrations

all photographs and illustrations are  
from the author unless listed below

- 4 **Fill'er Up**
- 6 **Pump and Circumstance**
- 16 **Fill'er Up**
- 18 **Pump and Circumstance**, Sacony- Vacuum promotional toy
- 19 **Fill'er Up**, Shell Station with Controlled Background
- 19 **The Gas Station in America**, Pure Sign
- 20 Environmental Protection Agency, <http://www.epa.nsw.gov.au>
- 23 Primary Petronalia, [www.oldgas.com](http://www.oldgas.com)
- 26 **Pump and Circumstance**
- 27 Primary Petronalia
- 29 **Pump and Circumstance**
- 30 Gulf Oil, [www.gulfoil.com](http://www.gulfoil.com)
- 31 EPA
- 40 Greg Russell
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- 54 **The Gas Station in America**, 1952 Sohio company annual report
- 55 *ibid.*, Lighting Studies For Exxon
- 57 **Stud**, fitness center
- 59 EPA
- 61 **Pump and Circumstance**, pump drawing
- 61 Primary Petronalia, pump photo
- 62 Municipal Art Society of New York, public toilets
- 63 **Fill'er Up**, Texaco promotional, credit Richard Gutman



