



Let us **REINVENT** the idea of the American Lawn as a **MOBILE LAWN**
 Now, let's **REIMAGINE** that mobile lawn as a thriving and productive

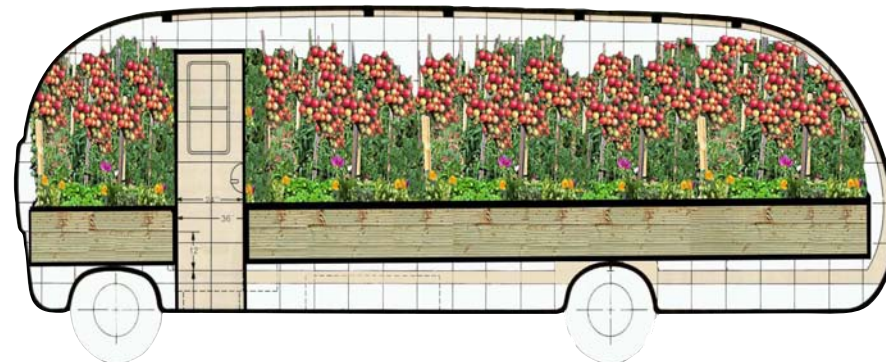
MOBILE MODULAR MICRO FARM

FarM³s is the process and act of converting the American Lawn into a mobile, crop producing mico-farm. FarM³s is a solution to an existent problem and a plan to implement. FarM³s responds to our current Federal Emergency Management Agency's protocol of using hundreds of thousands of individual mobile trailers to house people left destitute by natural disasters and evacuations.

FarM³s is a comprehensive system for the re-cycling, re-use, and profitable re-development of all FEMA trailers as well as all unwanted travel trailers from the commercial markets of North America, into profitable and productive mobile farm space for use in both urban and suburban environments. The FarM³s Program can be utilized not just as a solution for food production and green space needs in urban centers, but also as a part of the comprehensive FEMA response towards long-term provisions, regional recovery, and economic renewal of devastated communities.

The New American Frontier is the one covered in asphalt which we can make productive again with an immediate and dynamic solution, re-using and modifying material that has already been created, for spaces that have been left empty. The next wave of American Frontierism will not be a mass exodus from the cities to farms, but of farms to cities. These FarM³s transport the living natural environment to us, creating platforms that nurture and support a healthier way of life, more synergistically connected to nature.

FarM³s are vehicles for economic, social, nutritional, and environmental change.



Why Do It

- FarM³s revolutionizes our relationship with local organic food, access to green spaces, reclamation of dead zones in urban environments and in multiple specific suburban contexts.
- FarM³s create micro-economies suitable for supporting post catastrophic recovery efforts.
- FarM³s alleviate the reliance on imported agriculture, in any region of the country and can significantly reduce the negative impact of food miles, the distance food has to travel to reach the consumer.
- FarM³s are effective in areas where constant economic challenges and lack of access to healthy fresh food and green spaces weaken the fabric of the community.

THE ECONOMICS

Converting existent FEMA trailers, would prevent 3500 pounds x 102,000 Thousand Trailers= 357,000,000 Million pounds of contaminated waste from entering landfills.

In post-recovery periods, as in the case of New Orleans, almost 100% of the emergency trailers become, “scrap” or are resold, temporarily gutting the commercial travel trailer market (Spencer Hsu, Washington Post March 13, 2010) but eventually meeting the same fate as other used trailers and ending up in landfill.



Trailer waiting to be scrapped

The FarM³ Program takes into account all aspects of these issues and uses these “dead-end materials” to answer a host of concerns regarding the environment, organic food production, green spaces, community connectivity, and creates highly modifiable, highly mobile, and highly modular practical solutions for urban and suburban applications.



FEMA Storage Facility, New Orleans, LA



FEMA Storage Facility, Cumberland, MD

This issue predates FEMA in the wake of Hurricane Katrina. In 2000, James Surwilo, Regional Engineer for the Vermont Agency of Natural Resources’ Solid Waste Management Program outlined the many environmental concerns and potential recycling solutions for mobile homes and trailers. The program he instituted is a sound precedent and has proven to cost little and creates jobs.

“Properly getting rid of obsolete mobile homes is a difficult challenge. Metal recycling facilities typically don’t accept them because of their low metal content, and landfills also don’t welcome mobile homes because of their bulkiness and low density. As a result, many older trailers have been abandoned or illegally disposed. At an average weight of eight tons each, this represents up to 120,000 tons of waste -- or resources -- needing to be managed.

A study recently completed by the Vermont Agency of Natural Resources, the town of Bristol and the Manufactured Housing Institute indicates that more than one-third of some damaged or destroyed mobile homes can be salvaged or recycled.

THE ENVIRONMENTALS

If we are indeed in a time of environmental transition in the earth’s environment, we can expect to see more radical shifting in weather patterns. As such, we must prepare our communities for more natural disasters. FEMA will no doubt continue in its approach to disaster control, in the manufacture of mobile homes to be used on a temporary basis. It is clear that the thousands of acres covered in abandoned trailers will expand as FEMA adds freshly used and discarded trailers to the pile.

We can intervene, appropriate and re-function these structures.

Many news agencies have reported about the contamination of the FEMA trailers used in the aftermath of Katrina with Formaldehyde, a known cancer-causing agent. When the Center for Disease Control and FEMA conducted their own tests on trailers four years after their manufacture, they found levels were still 5-40 times higher than the EPA allows for close contact with humans (Eugene Robinson, Washington Post March 16, 2010).

For the 102,000 abandoned, contaminated trailers from Katrina, I have devised a very careful conversion process that ensures no waste and a safe transformation of infected trailer to clean growing space.

The only way to safely handle this material is to remove it from the trailers and repurpose it for building materials that will only be used outdoors for use as boardwalks, fencing, or other applications where the formaldehyde can off-gas safely and naturally over time. Any alternative to avert this material from landfill should be undertaken.

Congress has passed legislation preventing these trailers from being used as living spaces for people, so it is likely that they will end up as scrap unless a viable alternative for all unwanted trailers is enacted. As James Surwilo, pointed out, the amount of reusable, recyclable material from these trailers is marginal which is why the trailers are fated for landfills (James Surwillo, “Mobile Home Recycling” November 6, 2000).

The study determined that between 20 and 37 percent of damaged mobile homes, by weight, can be salvaged for reuse or recycled. Each mobile home in the study required between 79 and 97 person-hours to dismantle.

As with most recycling programs, mobile home deconstruction is not a moneymaker, but neither is it overwhelmingly expensive. It is an environmentally sound waste management practice that should encouraged. Widespread salvaging of mobile homes would enhance blighted areas, conserve natural resources, preserve landfill space, create a legitimate option to mismanagement, abandonment or illegal disposal and provide jobs and economic opportunity.”



How To Do It

REPURPOSE

The existing architecture of travel trailers allows perfect opportunities for repurposing. Travel trailers provide a workable structure for making a productive miniature farm. The intervention is simple. It involves a system of removal, the reuse of existing plumbing lines for watering and drainage, the creation of larger skylights, and finally the construction of raised planter beds.

The conversion is efficient, easy, cost effective, environmentally sound, and requires very little expertise or special training. I am drawing on my experience converting a travel trailer into a traveling park. This award-winning project is documented and has proven a successful way to re-function these abandoned structures in a way that maximizes use and minimizes waste.



In this typical FEMA trailer interior, the couch, cabinetry, wood, and reffridgerator can be removed and repurposed elsewhere in the community.

- ❑ In specific detail regarding the trailers used after Hurricane Katrina, conversion requires the removal of all wood and particleboard materials such as flooring, doors and cabinetry, to be re-used in outdoor applications where they can off-gas safely.
- ❑ All work should be done according to existing EPA or LEED standards for environmental safety, whichever is more stringent.
- ❑ Remove all metal appliances and furniture for sale as scrap steel and as donation to local charities.
- ❑ Installation of skylights.
- ❑ Build raised, lined planter beds which drain into the existing plumbing/drainage system of the trailer.



Second hand trailer



Interior before conversion



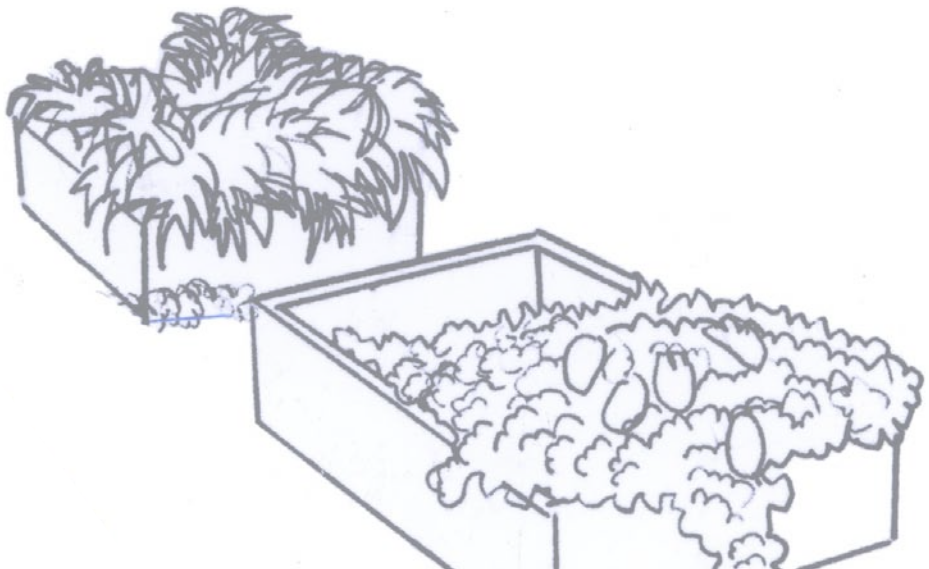
After furniture and appliances are removed, planter beds are built



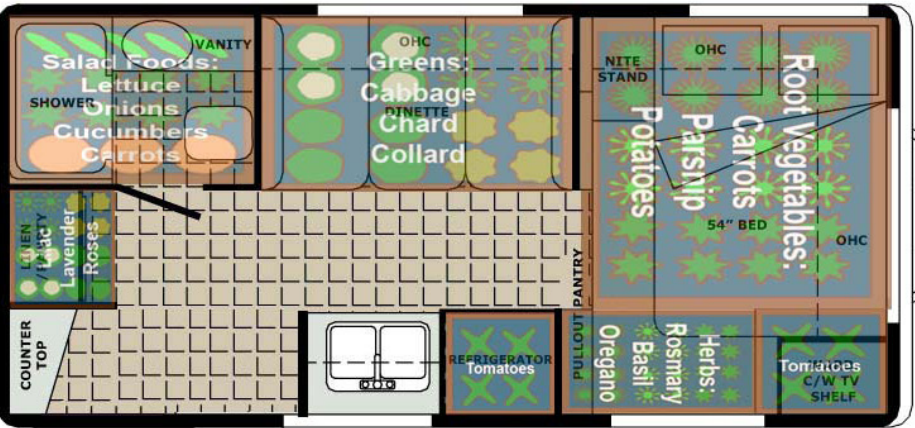
Finished mobile public park

How To Build It

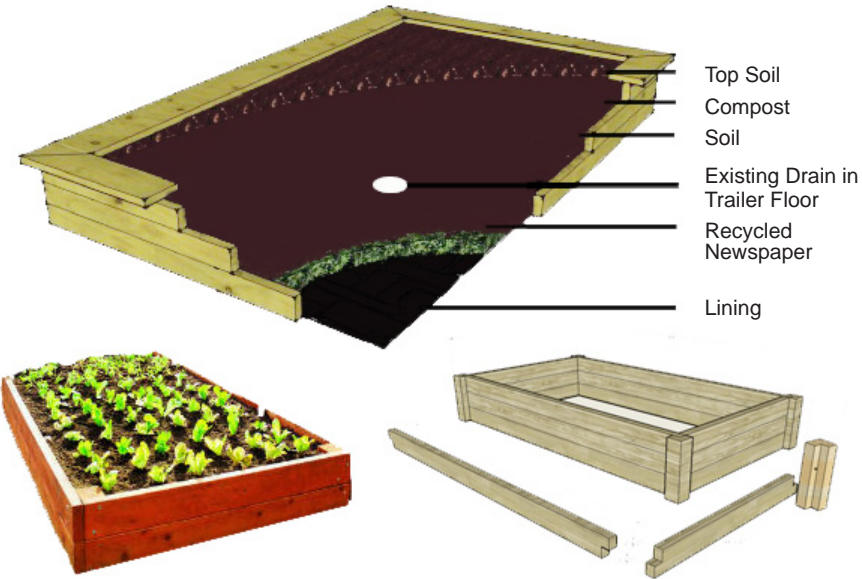
A raised bed is an easy way to maximize growth in limited space. Raised beds can overcome soil drainage issues and compaction problems as well as mitigate weed growth. They provide specialized growing conditions for specific plants; or enhance accessibility for gardeners who find bending difficult or for disabled gardeners. These planter beds are strong, highly flexible and can be customized to fit into any space.



Each FarM³ candidate works with a FarM³ professional to convert their own trailer, gaining usefull skills in basic construction, garden design, permaculture techniques and food harvesting.



A good example of a standard vegetable garden layout customized to fit the space available.



Where To Do It

RECLAIM

Any solution should be compliant with what already exists. In an ideal world, there would be no asphalt covering viable green space. Realistically, the most ideal solutions are able to interface with our existing infrastructure, which FarM³s does by placing viable growing space on top of paved surface, thereby reclaiming this space.

Asphalt will form the New American Frontier, which FarM³s reactive and make productive again. Using the known FEMA numbers, 102,000 trailers x the mean average 175 square feet per trailer= 17,850,000 million square feet of productive farm space potential. The impact is exponential because of these fluid, mobile structures that can be moved anywhere at anytime.

Because FarM³s are mobile, they answer a host of issues and concerns pertaining to the overly developed urban environment. The scale and mobility of FarM³s allow them to be moved into heavily urbanized areas where access to nature and organic local food is limited.



Unused paved spaces like this one exist all over America. Similar spaces include: Big Box Retail Parking Lots, Mall Parking Lots, Strip Malls, Foreclosed Businesses, Abandoned Property, Paved Public Squares, Suburban Cul-de-sacs, Fair Grounds, Auditorium Parking Lots, Civic Center Parking Lots

It turns out that Americans are paving more space than ever. This was evidenced by a 2005 study by researchers from Purdue University.

“Parking lots can be bad for the environment for many obvious reasons. Increasing need for more parking lots may indicate that more cars are on the road, which means that more gas is being consumed and more pollutants exhausted into the air. More pavement means less green space, thereby reducing the number of trees and plants that serve as natural “air cleaners” by absorbing carbon dioxide in the air and releasing oxygen.

Another negative effect of parking lots is called the urban heat island. The asphalt or concrete in parking lots more readily absorbs and retains the heat from the sun’s rays than the surrounding ground. This in turn raises surrounding temperatures, affecting what is called the “urban growing season.”



Linked together, individual FarM³s become Mobile FarM³r’s Markets and Compost Centers.

Ideally, every citizen should have at least one FarM³ within walking distance and at least one FarM³r’s Market within biking distance.

- FarM³s can be parked in empty lots as well as regular parking spots in the street.
- FarM³s are “Street Friendly” and comply with the urban environment as-is.
- FarM³s can be moved whenever that space is needed for another purpose.
- FarM³s can be linked together in any configuration.



A FarM³ feels right at home in this NASA generated landscape

- Public Gardens
- Ecology Centers for Schools
- Mushroom/Exotic Fungi FarM³s
- Mobile Seed and Sprout Bank FarM³s
- Fruit Preserves and Mobile Cannery FarM³s
- Exotic Flowers and Specialty Plants FarM³s
- Mobile Permaculture Teaching Centers

How To Manage It

MICRO-CREDIT

FarM³s are distributed through a highly successful business format which promises to empower individuals and communities, known as The Grameen Bank micro-credit model.

The Grameen Bank Project (Grameen means “rural” or “village” in the Bangla language) came into operation with several important goals, one of which was to create opportunities for self-employment for the vast multitude within the fold of an organizational format, which they can understand and manage by themselves. This changes the age-old circle of “low income, low saving & low investment”, into a circle of “low income, injection of credit, investment, more income, more savings, more investment, more income.

HUMANITY FOR HABITAT

Community Gardens in NY provide examples for organizing individuals and communities around shared green spaces. These systems dovetail perfectly with the model established by Habitat for Humanity and would inform how FarM³s are established, distributed, and managed.

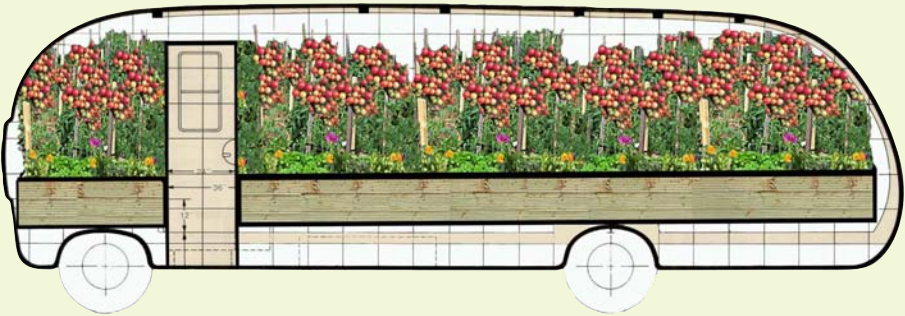
The FarM³ Program’s, “Humanity for Habitat” structural organization, pairs volunteering professionals and alumni of the FarM³s program with new FarM³r candidates and groups who convert their own trailers. Trailers are free to all not-for-profit groups.

POTENTIAL FUNDING PARTNERS

- EPA
- FEMA
- Home Depot
- Sears
- Target
- Buckminster Fuller Foundation
- Charles Lindberg Foundation
- Ted.com
- U.S. Green Building Council
- Park Foundation
- Bloomberg Foundation

GROUPS THAT BENEFIT FROM FARM3S

- Youth Groups
- Religious Organizations
- Public and Private Schools
- Civic Organizations
- Not for Profit Organizations
- Small Business Owners
- Senior Citizen Groups
- Pedestrians/Consumers
- Individuals
- Communities at Large
- Corporations seeking community outreach
- Corporations seeking charitable gifts



FarM³s Achieve

FARM³S MOTIVATE

The American “can-do spirit” has always been seen as one of our historical virtues. This spirit can be tapped and harnessed for solutions to the multi-faceted problem of: food production, the need for fresh organic food available everywhere, the need for green spaces in urban environments, reduction of the carbon footprint, the mitigation of smog and heat island effects in cities.

We can use FarM³s to teach children about where our food comes from, the importance of environmental stewardship, the importance of a healthy diet, and issues concerning over urbanization.



Kids learning organic farming techniques at Brook Park, Brook Avenue, Bronx, NY

- Offset fresh food scarcity in economically challenged areas
- Teach sustainability
- Teach organic food production and urban permaculture
- Support Youth
- Create a new social fabric for communities based on natural health, food wealth, and environmental stewardship
- Provide an alternative source of food in times of natural disasters and catastrophes
- Help create micro-economies to support communities post-disaster
- Divert tons of waste from landfill
- Reduce contamination levels in landfill by diverting that material for appropriate reuse
- Provide recycled and reclaimed materials from all trailers for reuse by the community or by charitable donation
- Reduce Food Miles
- Reduce Carbon Footprint
- Reduce Heat Island Effect in cities
- Symbolizes a triumph over the emergency response failures during and after Hurricane Katrina

FarM³s are accessible via phone applications, utilizing GPS tracking to show all registered FarM³s in a set radius

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