MOTHER
EARTH
CENTER
THE
MOTHER EARTH
CENTER

A Resource/Retail Center
for
Appropriate Alternative Energy
and
Alternative Lifestyles

6225 N. Keystone
Indianapolis, Indiana

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College of Architecture
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CREDITS

I would like to take this opportunity to thank the people that helped me to resolve the many conflicts that go along with any entrant in the Ball State (Five Year) Architecture Marathon.

First, to Allison for her endless love and support, and because there have been no more important lessons learned than the ones she taught me about myself and life. Second, to my Mother and Father for their support. Finally, thanks to Stan, The Mother Earth News, and, of course, thanks to the founders of Valencia Community College.
INTRODUCTION TO THE MOTHER EARTH CENTER

-A Resource/Retail Center for Appropriate Alternative Energy and Alternative Lifestyles.

The Mother Earth Center will concern itself with the problems of man and the environment on the residential scale of suburbia, while not forgetting how each piece fits into the whole environmental puzzle of the world. The Center will target a user group of suburban homeowners, but all people will be welcome to come and learn the many appropriate alternative solutions that can be seen for today's problems. It is for today's turned on people. These people are the creative ones who want to learn about alternative energy and lifestyles, to do more with less, and to apply these skills in the betterment of their lives and the earth.

Suburban dwellers are a powerful force in the consumer marketplace. I feel that a "grassroots movement" could be generated on this level of society with the help of The Mother Earth Center. This movement could transform the suburban development, which is now the ultimate expression of today's short-sighted consumerism, into a productive, visionary society. This new society could become great by the integration of appropriate technology and a well-cared for environment.

Each home has a hidden potential of environmentally sound production with out any drastic lifestyle changes for its owner. A small change in attitude can bring out a drastic improvement in the quality of the individual home and its detrimental consumer effects on the environment. The Mother Earth Center will be there to show them the means to this end.

The Facility will be designed to bring the maximum exposure of the appropriate alternatives available today that can improve the quality of the total environment as well as the individual home.
The center will be controlled by a spin-off group of Appropriate Technology sponsors from The Mother Earth News. It is a "for profit" venture that strives to make the environment better rather than its bank account bigger (alot like architects).
WHAT I DID THIS YEAR AND WHY

This year has been quite a learning experience for me. Looking back on it, I feel that my initial concept for my project was very strong and gave me a tremendous foundation to build upon. The year began with my mind ready, open, and enthusiastic.

During the year as I became more and more concerned about the direction that my Thesis was headed, I kept reevaluating my philosophical stand on many design fronts. This process of reevaluation not only produced many headaches, but, I feel, the correct direction for my Thesis. This small revelation was the idea of using Appropriate Technology for the individual design solution, while always keeping in mind that the project had to be integrated into itself as well as into the environment.

My reasons for choosing a Resource Center for Appropriate Alternative Energy and Alternative Lifestyles for my Thesis are that I firmly believe that the suburban homeowner needs a place to go that can help him fight back the high energy costs and assist in finding a better way to live in harmony with the environment. I also believe that a person can have fun in the expression of a better, more self-sufficient, self-actualizing lifestyle.
CONCERNS AND CRITICISMS OVER THE 3 QUARTERS

Fall 1982  Concern for:
-Environment
-High Ideals and Philosophy of The Mother Earth News
-Environmental Impact
-Program Finalization
-Site Zoning, Building Zoning
-Design Limitations, Deadlines

Problems occurred because of:
-Motivational Problems
-Philosophical Differences with The Mother Earth News

Winter 1982-83  Concern for:
-Environment
-Building Zoning, Expression, Integration
-Site Integration
-Resolution of Philosophical Problems
-Workable Energy Solution
-New Appropriate Technology Parti

Problems occurred because of:
-Motivational Problems
-Slow Decision Making Process
-Extreme Range of Objective Criticism From Final Jury
Spring 1983

Concern for:

- Environment
- Drawings and Design Communication
- Total Appropriate Design Package
- The Book and Presentations
- Time Limitations

Problems occurred because of:

- Extreme Motivational Problems
- My Unknown Future
MAIN BUILDING MAKE UP

1. Appropriate Alternative Energy Resource/Retail Center

**Space Requirements**

- Entrance transition: 900'
- Meeting space: 1800'
- Lobby: 500'
- A.A.E. Retail (indoor): 7200'
- A.A.E. Resource: 1200'
- Administration/Check out: 400'
- Storage/Loading: 5000'
- Circulation/Ramps

**Spacial Quality**

- All spaces will have human scale
- Materials shall be left in their natural state to enhance the spacial quality
- Systems will be exposed and interact with the spaces
- Spaces will explain how they work as well as how they are put together
- Natural lighting
- Natural ventilation
- Flexible retail space
- Warm and inviting
Retail Elements

- thermal mass
- greenhouses
- trombe walls
- selected surfaces
- photovoltaics
- greenhouses for heating input
- homemade solar collectors
- natural ventilation
- thermosiphon water heater
- earth heat exchange
- deciduous tree usage
- vines
- aesthetics of passive solar architecture
- hardware
- etc...

Resource Elements

- Appropriate A.E. Books (in print)
- Appropriate A.E. Magazines (in print)
- A.A.E. Books
- A.A.E. Magazines
- Integrated retail/resource display
Retail Elements

- storage mediums
- fana
- integrated systems
- hardware
- homemade active solar collectors
- etc...

Resource Elements

- Active Solar Books (in print)
- Solar Energy Magazines (in print)
- Active Solar Books
- Solar Energy Magazines
- Integrated Retail/Resource Display

As you can see from these outlines, this part of The Mother Earth Center will deal with solutions to today's energy problems. The Resource/Retail spaces will be integrated together to form a handy tool for our concerned customers. Each type of Renewable Energy Source will be covered with displays, publications, and ongoing demonstrations of the separate advantages of each. The concept of appropriate alternatives will be consistently highlighted beginning with the concept of the basic, well-insulated house. The Center will have a large backup of do-it-yourself confidence builders and step-by-step procedure manuals.

Some of the special features included in The Energy Resource/Retail Center will be a Heliodon for teaching about the sun, a backup wood-burning, heating system, and, of course, the passively heated south wall. The Energy Resource/Retail Center will also include an outdoor display and experimentation area upon the roof. The retail goods will range from weather stripping and caulk to solar
collectors and wind powered electric generators. The management will strive to have the widest variety of sound financial and environmental energy solutions.
2. Alternative Lifestyle Resource/Retail Center

**Space Requirements**

- A.L. Retail (indoor) 13,500'
- A.L. Resource 1200'
- Administration/Information 400'
- Circulation
- Restrooms

**Retail Elements**

- organic gardening
- food preservation
- recycling
- use of wood stoves
- hydroponics
- integration of solar
- greenhouses
- home wine making
- home beer making
- home business
- wood working
- water purification
- home repair
- crafts
- weaving
- home renovation
- ventilation
- air cleaners
- domes
- natural foods
- tree growing
- composting
- ecology
- energy savings
- cold frames
- fruit preserves
- permaculture
Resource Elements

- Alternative Lifestyle Books (in print)
- A.L. Magazines (in print)
- Alternative Lifestyle Books
- Alternative Lifestyle Magazines
- Integrated Retail/Resource Displays

The Alternative Lifestyle Center is to be a clearing house for the many environmentally sound alternatives we have to today's consumer problems, excluding only energy from its scope. As you can see from the previous suggested outline of retail material, the center will provide quite a diversified shopping environment for its customers. The Lifestyle Center, like the Energy Center, will be run as a "for profit" entity. Its major purpose will be to encourage the vast number of suburban dwellers that need a little push in the right direction towards a more productive life.

Each Alternative System will be displayed with all the printed literature to help each individual understand the pros and cons of the different Alternatives. No hard selling salesmen will be used to sway the consumer. The Mother Earth Center employees will act as qualified guides that suggest products or systems only when asked.

The varied nature of Alternative Lifestyles make the likelihood of anyone knowing them all ridiculous. The Mother Earth Center will showcase a wide variety of Alternatives that mostly involve environmental awareness at the suburban scale.

The Alternative Lifestyle Center will be dedicated to educating and motivating the suburban dwellers into believing in themselves. If this is done, the future can only be better.
3. The Culmination Area

**Space Requirements**

- Bedroom (3 persons)
- Bathroom
- Living Room
- Kitchen
- Storage
- Studio Area
- Display Area

The Culmination Area will be the finale of The Mother Earth Center. Its purpose is to bring together all the separate elements displayed in the Energy and Lifestyle Centers and to integrate them into a living, working space. The Culmination Area will not only display how these systems can affect our lives for the better but also an experimental, living laboratory.

The Culmination Area will house three apprentices of The Mother Earth Center. These individuals will be learning skills that will help them live up to their strong commitment to the environment. Some of their duties will be to interact with the energy systems in the Center, to maintain the changing displays, and to improve community development programs.

The Culmination Area, I believe, is the gem of my Center. Without it, the complex would be just a set of disjoint pieces with no set of directions for assembly.
BUILDING PHASE CONSTRUCTION

The Mother Earth Center Complex will be built in three phases. These phases will be begun upon the stability of the previous phase.

Phase One  The Mother Earth Center

A. Appropriate Alternative Energy Resource/Retail Center
B. Alternative Lifestyle Resource/Retail Center
C. Culmination Living-Working Space

-A, B, C integrate with the site to become The Mother Earth Center

Phase Two  The Renovated Suburban House

A. A duplicate house plan from east side adjacent to the Mother Earth Center Site
B. Renovated Surrounding Yard

-This house and yard will be a demonstration of what can be done with an actual suburban house to improve its productivity and lessen its environmental impact.

Phase Three  The Model House

A. Newly Designed House for The Mother Earth Center's Director and his family

-This house will be entirely equipped with the widest range of Appropriate Systems that can be designed into a new house at any residential scale.
SITE DESIGN OUTLINE

Site Data

A) Site type
   - a combination of commercial and residential.

B) Location
   - the building project will be located at 6225 North Keystone. It is half way between the ever expanding north suburban area of Indianapolis and the downtown. Keystone Avenue is a major circulation artery in the north eastern section of Indianapolis. My site is typical of the Keystone corridor. Its western exposure is to the six lanes of Keystone (commercial) and the two lanes of Tacoma (residential) on the east.

C) Quality
   - some of the existing features on the site include deciduous trees, the possibilities for a water feature, commercial access, commercial zoning, good drainage, large, buildable area.

D) Selection Criteria
   - potential
   - size, buildable area
   - location
   - commercial zoning
   - advertising through traffic volume
Site Program

A) Building Parti
-integration of energy conscious architecture with the common sense philosophies of Appropriate Technology and the highest level of expression of architecture I can reach.

E) Site Parti
-the site will function as the designed link between the typical commercial environment of Keystone and the extraordinary experience of The Mother Earth Center. The site will be respected in all phases of the development of my design. I wish to develop the site into a space that shows the positive alternatives of production rather than destruction of our landscape.

C) Preservation Priorities
-visual access from Keystone
-residential character of east side
-commercial character of west side
-solar input
-trees
-possible water feature
-percolation of water
-etc...

D) Maintenance Philosophy
-user interaction
-teaching organic gardening, wood production
-site wood production
-site grape production
-low or no maintainance grounds
E) Site Improvements
- evergreen for wind breaks
- grape vines
- fast growing poplars
- water feature with plants
- organic garden
- flowers along Keystone
- pavers for parking area

F) Access Requirements
- Keystone two-way entrance/exit
- service entrance from east
- one-way exit onto Tacoma
- driveway to the model house

G) Easement Requirements
- strict easement waved due to the many site amenities included in the program

H) Parking
- the parking will be in the angled layout
- supply room for sixty (60) cars
- quality pavers
- adjacent to MEC and the renovated house

I) Pedestrian Circulation
- connect parking and three phases of the project
- integrated with the site
- chances for learning along the way
ENERGY SYSTEMS

A large force in my design of The Mother Earth Center has been energy and environmental systems.

After finally deciding on a workable passive solar energy system, my task seemed much more manageable. The system I chose was a hybrid system of vertical solar louvers that will allow the penetration of the sun's rays in the morning for direct gain and as the sun moves in the sky, it will allow the thermal mass to store the sun's heat and use it as indirect gain.

This system will be very practical, I believe, in many ways. First, it allows passive gain as well as an opportunity for views out of the interior spaces. Second, it integrates well with the volumetric expression of my natural ventilation elements. Third, it breaks up the building mass and gives identity to its facades. The interior bay system created by the vertical solar louvers also integrates well with the back up wood space heating stoves.

My backup wood burning stoves will be used during extensive periods of cold temperatures and low solar input. The stoves will be manned by the Center's apprentices. They will be used to heat the spaces in two ways: by direct radiation into the surrounding air and by a fan that draws the hot air from the stoves by forcing it out of the duct work downward into the spaces. This duct work is also connected to the solar wall and draws heat off of them in exactly the same manner.

I am very proud of the final product of my energy design process. My goal of systems integration, I feel, was reached.
CONCEPTUAL DESIGN PROCESS

During this year, I have tried to put my design process under the control of a system of checks and balances. This control has directed me towards the most appropriate design solutions I could find to my unique design problems.

My design solutions were weighed and balanced against the environmental costs that they entailed. This back and forth design process was quite a challenge throughout the year but reinforced my parti and final product.

After the whole process of trial and error, the word appropriate still rang true as THE WORD.
MY FUTURE IN DESIGN AFTER THE CAP

At this time, it is very difficult to predict where the experiences that I have had at the College of Architecture and Planning and during my Thesis Year will lead. I can say that with much confidence design will be more than just an eight to five job for me. I have just completed a project that was part of my waking life for more than 36 weeks and my mind will take a lifetime to get it out.

The most important lesson I have learned though is that only hard work and a strong, deep rooted goal can produce anything that I can be proud of. Especially needed is hard work, and that hard work must be self-motivated.

Design will always be a large part of my life, and my strong concerns for the environment will be its directing force.
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CONCLUSION

My Thesis experience has been quite a mixture of good and bad days. The good days, I must say, did outweigh the bad ones. I feel that most of my problems occurred because I forgot to be my own best friend. This is an important law that I needed to abide by sooner.

In conclusion, I can say that I am pleased with my resolution of the philosophical questions I raised this year and the amount of my personal and professional growth that occurred when the smoke finally cleared from the battle field of my mind.

Thanks, of course, to everyone's Mother: Mother Earth.
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