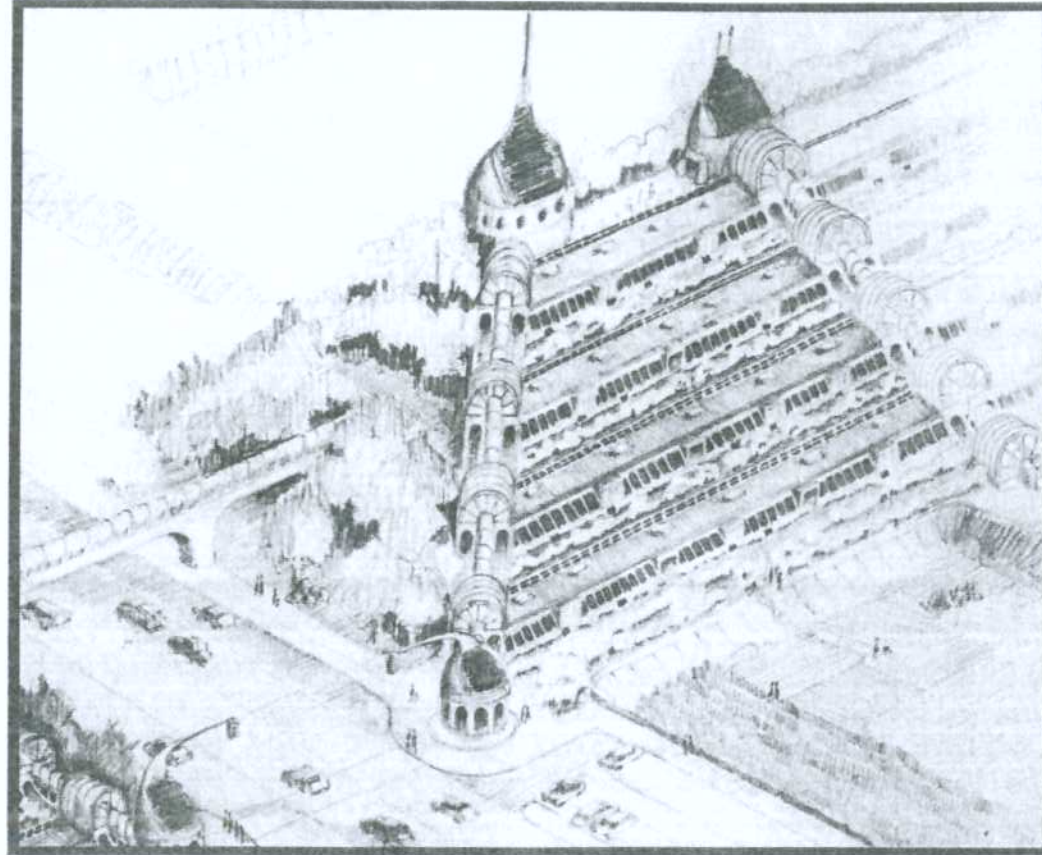


PART THREE
COMMUNITY AND URBAN CONCEPTS



EARTHSHIP COLONY

STAR LOG 3/7/93

WE HAVE SEEN AN INTERESTING PHENOMENON IN THE EVOLVING EARTHSHIP COMMUNITIES. AS WITH ANY GROUP OF HUMANS, THERE WAS (IN A CERTAIN EARTHSHIP COMMUNITY) THE USUAL INTRIGUE THAT CONCERNS ITSELF WITH ONE PERSON WHO DOES NOT PARTICULARLY MIX WELL WITH SOME OF THE OTHERS SOCIALLY. THEN THERE ARE AGE AND RACIAL DIFFERENCES WHICH TEND TO FORM SUB GROUPS WITHIN A COMMUNITY. IN GENERAL THERE ALWAYS SEEMS TO BE CERTAIN BARRIERS WHICH DETER CERTAIN PEOPLE FROM SPENDING MUCH TIME WITH OTHER PEOPLE. THESE BARRIERS RELATE TO PERSONALITY, IDEALS, AGE, RACE, SEX, ETC. THESE BARRIERS ARE TYPICAL OF HUMAN NATURE AND WHILE THEY SELDOM BRING ABOUT REAL CONFLICT, THEY DO INHIBIT UNRESTRAINED COMMUNITY BONDING. OFTEN A RELIGIOUS OR POLITICAL DOCTRINE WILL TRY TO OVERCOME THESE BARRIERS BUT EVEN IN THE MOST ARDENTLY DEFINED GROUPS THIS "INTERNAL INTRIGUE" STILL EXISTS. RARELY DOES SOMETHING COME ALONG SO POWERFUL THAT IT MELTS THE SOMETIMES NOT SO SUBTLE PERSONAL BARRIERS BETWEEN INDIVIDUALS WITHIN A GROUP.

WE OBSERVED ABOUT A DOZEN VARIED INDIVIDUALS OF VARIOUS AGES, RACES, SEXES, IDEALS AND HABITS THAT DID HAVE ONE (ALMOST RELIGIOUS) COMMON GROUND. THEY WERE ALL TRYING TO BUILD THEIR OWN EARTHSHIP "OUT OF POCKET" WITH NO MORTGAGE PAYMENT. NONE OF THEM HAD MUCH MONEY BUT THEY WERE ALL FAMILIAR WITH VARIOUS EARTHSHIP TECHNIQUES. SOME WERE PLASTERERS, SOME CARPENTERS, SOME STRONG, SOME WEAKER, SOME MORE INTELLECTUAL, OTHERS MORE BASIC WORKERS BUT THEY WERE ALL ATTEMPTING THE SAME THING (BUILDING AN EARTHSHIP) UNDER SIMILAR CIRCUMSTANCES IN THE SAME COMMUNITY.

A FEW BEGAN TRADING FOR WORK AND ONE THING LED TO ANOTHER AND LO WE SAW A BAND OF PEOPLE (WHO NORMALLY WOULD NOT BE PARTYING TOGETHER) ALL PLASTERING ONE PERSONS HOME. THEN WE WOULD SEE THEM ALL POUNDING TIRES ON ANOTHER PERSONS EARTHSHIP. THEN, DOING A FRONT FACE ON SOMEONE ELSE'S PROJECT. THEY SAW (WITHOUT SUPERVISION OR DIRECTION FROM ANY LEADER OR DOCTRINE) THAT HANDS ARE HANDS, WORK IS WORK, HELP IS HELP NO MATTER WHO IT IS FROM. THEY ALL NEEDED A HOME WHICH MEANT THEY ALL NEEDED EACH OTHER. THIS NEED DISINTEGRATED THE BARRIERS AND THE RESULT WAS A BAND OF BUILDERS - ONE FOR ALL AND ALL FOR ONE. THIS INITIAL BONDING WEAVES A LASTING COMMUNITY FABRIC.

8. COMMUNITIES

HERE IN THE LATE 20TH CENTURY, MANY PEOPLE ARE ATTEMPTING TO BAND TOGETHER AND START COMMUNITIES. THIS IS PROBABLY FROM A FEELING OF ABANDONMENT BY ALL EXISTING DOGMA, I.E. THE *AMERICAN DREAM*. THEIR EFFORTS TO PROVIDE FOR THEMSELVES AMENITIES THAT OUR BUREAUCRACY LADEN DEMOCRACY CAN'T, ARE ADMIRABLE BUT OFTEN FUTILE. SOLAR SURVIVAL ARCHITECTURE HAS THE EXPERIENCE OF FAILED ATTEMPTS AT COMMUNITY AS WELL AS TWO SUCCESSFUL COMMUNITY BIRTHS. IN THIS CHAPTER WE WOULD LIKE TO MAP OUT OUR UNIQUE APPROACH TO LAUNCHING A COMMUNITY VIA THE EARTHSHIP CONCEPT.

*We cannot "build" a tree that has life.
A beautiful tree grows from rich, fertile soil.*

*We cannot build a community that has life.
A community also grows from a rich, fertile soil.*

*We have to create fertile soil if we want to grow a good garden,
a beautiful tree, or a flourishing, healthy, community.*

Photographs by Pam Freund

Modern approaches to community living have tried to *physically create* the community. It has been hard for humans to achieve this just in terms of the actual structures. (Few of them, if any, have been really earth or human friendly.) The thread of collective human energy in a specific locale has rarely, if ever, been *consciously* woven into a tapestry of unbroken continuity. This thread must grow as the fibers of a tree are formed year after year in rich soil with lots of sun and water. We can create the *conditions* for a tree to grow, but a force beyond us grows the tree. It is the same for a community. We can create the *conditions* for the community - not the community itself. This knowledge alone increases the chances for a successful community manifold.

The Earthship concept (as presented in Volumes I, II, and III) **is a method of creating a fertile soil from which a community can grow.** We should not try to structure or build the community either physically, spiritually or emotionally any more than we should try to build a live tree. We can, however create the ideal conditions from which a community can grow and flourish. We are makers of soil. An unarguable phenomenon (some call it GOD) makes trees and communities.

Imagine hundreds of people in a certain area building their own earth friendly homes out of pocket. If these people all end up with an **independent** home that grows food year round with **no mortgage payment or utility bill**, they are going to experience a richer existence because much stress has been removed from their lives. This richer existence becomes a rich *psychic soil* from which a healthy community fabric can grow. Absence of

survival stress would result in more *time*. More time for people to experience the earth and each other. They would not be struggling so hard for survival. The state of mind and being of these people would be softer and richer than the hard edged shallow state of mind and being that stress from mere survival leaves us with. This is similar to hard, dry, dead soil as compared to rich fertile soil for growing plants. The hard dry soil is going to produce, at best, some thorny weeds. (we've got some pretty thorny humans out there.) The rich fertile soil will produce blossoms and fruit. All we need to do is create the proper psychic soil for a community - *not the community itself*. We are not capable of this. This is why we have not succeeded.

A typical development requires not only a land purchase but thousands and thousands of dollars up front to install sewer lines, power lines and water lines. This is called an *infrastructure*. Since an Earthship makes its own power and water and deals with its own sewage, an Earthship community requires no infrastructure. This immediately lowers the physical cost and stress to both humans and planet of "planting" a community. We encourage (with books and videos) people to build their own Earthships. We continue to evolve basic mechanical components and to simplify structural details toward this goal. This is beginning to work. We are seeing people build their own Earthships out of pocket. It is happening. This means that the actual physical development of a community of Earthships that needs no infrastructure could happen "by the people".

Co-
regi
p. 5
et
gov
pro
pro
L
also
worl
gree
loc
can
well
pu
p
br
bure
resu
O
thos
with
to
ou
from
ent
Ear
ne
Alth
forma
seir
ve.
We
Earth

Conventional real estate developments can be regulated by local governing bodies. Development projects are limited relative to the amount of electricity, water or sewage facilities that local governing bodies can afford to provide for that property. Earthship communities do not have this problem as the Earthship itself provides its own utilities. Conventional developments (subdivisions) also require an amazing amount of paper and legal work meant to protect potential home owners from greedy, careless developers. These limitations and legal bogs from the conventional approach to community make it almost impossible for a group of well meaning people (who just want a nice place to live) to put their own project together. When a group of people wanting to form a community face the legal bog and *infrastructure* on top of their own inner bureaucracy and disagreement, failure is often the result.

Our "REACH" type communities are set up to avoid these pitfalls. There is still paperwork but it deals with the important issues about how we want to live together and not about how we intend to tangle ourselves up in public utilities and protect ourselves from each other. Conventional stress breeds these entanglements. Self sufficient, independent Earthship dwellings can individually provide for needs it usually takes a corporation to tackle. Although our "model communities" are still in the formative stages, we are describing our methods for setting them up as these methods have already ventured where "wise men fear to tread".

We have observed people building their own Earthships out of pocket with no mortgage - *for the*

home. They did, however, have to get a mortgage to buy the land. The price of decent land has gotten out of control thanks to the realtors and developers in quest of money. In response to this we have developed the REACH (Rural Earthship Alternative Community Habitat) concept. This is a method of acquiring land together as a "club". Any club or organization has pitfalls in that a bureaucracy is inherent and we all know what a bureaucracy can do to us. I have talked to groups of 12 to 30 people who have been trying to start a community for years but can't all agree on the land, the rules, etc. The trick is for just one or two people to start it.

First the land is selected. If you have a climate with a winter you must select flat or south facing land preferably not in a valley with a water table close to the surface and definitely not the north slope of a mountain. You would want to choose an area that has at least eight or nine total inches of precipitation per year and over 250 sun days per year if possible. Beyond this there are no limits because you do not need to be close to power, sewers or a water source. In most cases this means you can go a little farther out from towns and get much cheaper and more beautiful land. Another financial stumbling block is that remote land usually means bad roads. People seem to worry about this more than they need to. Today's four wheel drive vehicles can go just about anywhere. We have launched two communities and both have extremely "bad" access but this has not hindered membership. **If you create someplace worth going to, a way to get there (a road) will happen.** The Earthship doesn't require a cement truck for foundations so a mere dirt path is the

beginning. The idea is to get started with no expenses up front.

The price of the land is then divided by the number of people the land can accommodate to arrive at a membership price taking into account the various density levels and costs which will be required to cut roads and otherwise make it possible for people to build there. The initiators fee is also built into this.

Communities evolve as a result of the people who live in them so it is possible for each community to take a very different form. The nature of the land has a significant bearing on the evolution of the community. For the "REACH" project we found a piece of steep mountain property backing onto national forest. It was beyond the reach of utility lines and steep enough to be considered unbuildable and in an area where nearby "usable" property sold for \$15,000 an acre. We got 55 acres for only \$1000 an acre because there were no utilities, no water, and steep terrain. Probably only 50 % of the 55 acres was buildable for south facing Earthships. This instantly determined "green belt" or park areas and building areas.

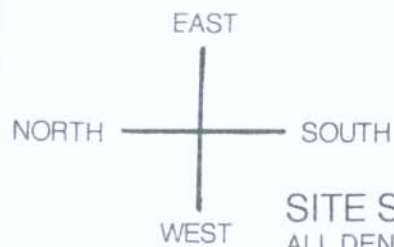
In the REACH community we now have crew members building their own homes near the Earthships they built for clients. Owner residents range in age from 21 to 70 and have such diverse occupations as artists, doctors, actors, builders, therapists, architects and even a realtor.

When we had generated enough interest in the concept to risk a down payment on the land, we bought it under the initiators name but filed the property description, Treatise, Land Users Code, Articles of Association, and By Laws under the REACH Land Users Association at the county court house. This in itself presents the intentions of the association to the public and to the court to assure that members will be treated as per these documents. The initiator would yield to the association in a matter of years. We found this method easier and faster than getting a large group of people to agree on a piece of land and a set of documents. One person with some advisors and consultants sets up the framework allowing for the association to evolve it as they choose after a certain period of time. For the first five to seven years, however, the initiator makes the decisions.

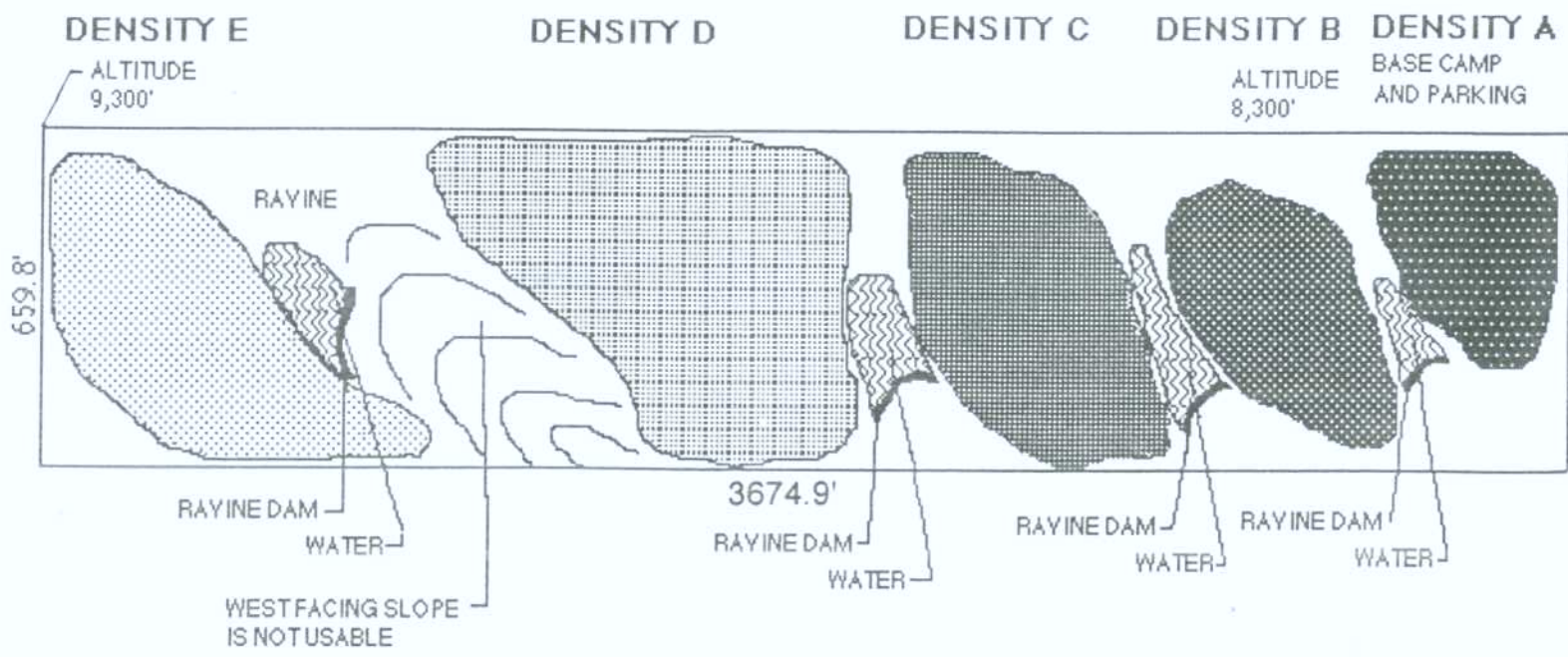
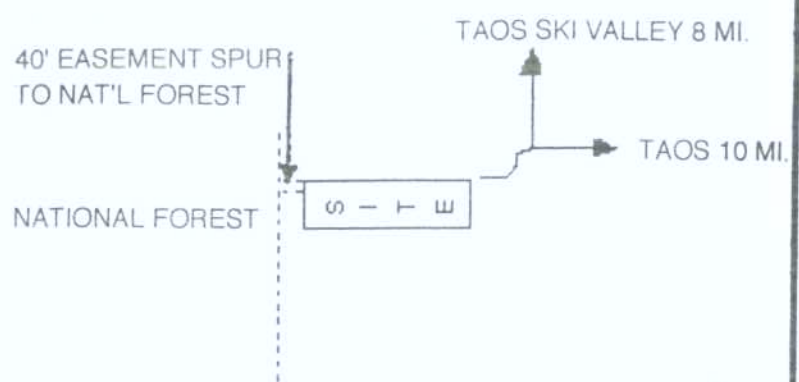
At REACH we began construction of Earthships the day we closed on the land - no infrastructure - no waiting. This brought tears to the eyes of some developers who had spent hundreds of thousands of dollars and many years putting in infrastructures for similar projects. People who had doubted the feasibility of the REACH project changed their minds and bought in. As news spread, the waiting list grew. If a spot became available (we also want to control growth) many people wanted it. It became evident that 55 acres on a mountainside would not be enough. When the waiting list reached 100 we started looking for more land.



LEVEL "A" AT R.E.A.C.H. NEAR TAOS, NEW MEXICO CIRCA 1993



SITE SCHEMATIC
 ALL DENSITY CLUSTERS BASED ON VISIONARY SKETCH. DENSITY E WOULD BE SUBJECT TO FURTHER STUDY CONSIDERING A MORE INDIVIDUALIZED BUILDING ARRANGEMENT



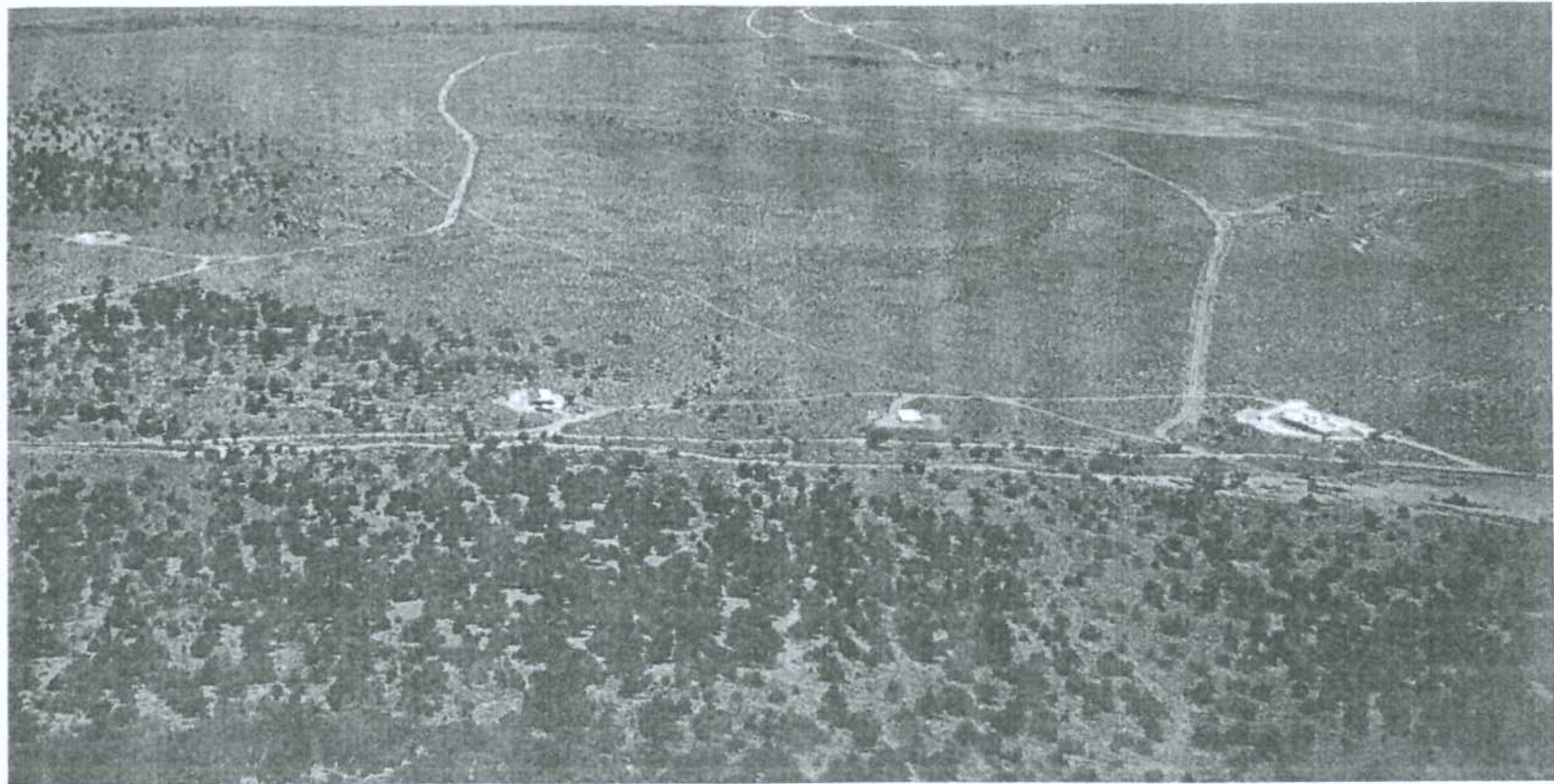
SCHEMATIC LOCATIONS OF VARIOUS DENSITY LEVELS AT REACH.

Enter at RE
 kins
 on
 land
 on p
 chos
 in th
 engi
 farm

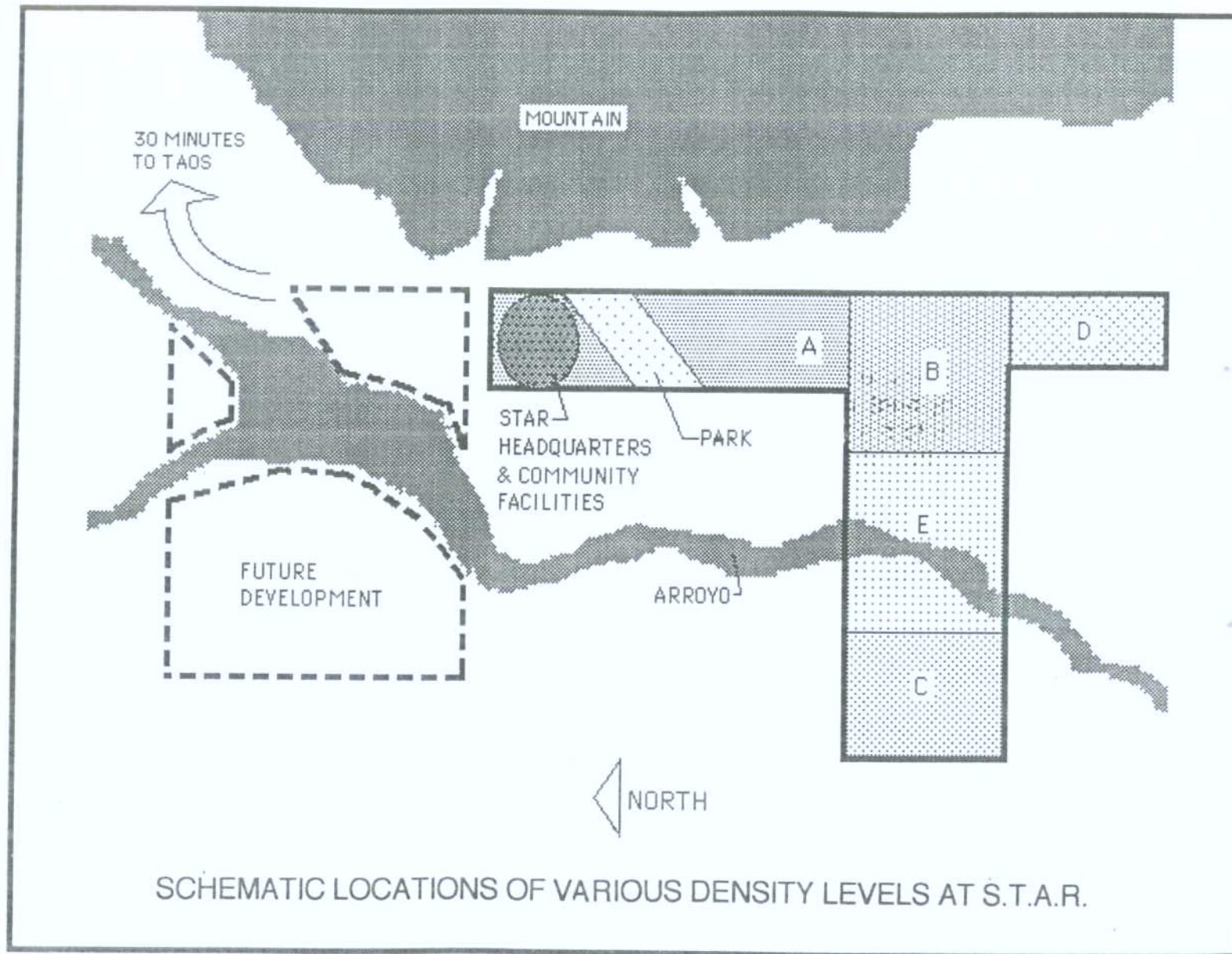
OVI

Energized by the seeming success of the Earthships at REACH - (on an extremely difficult site which taught us all kinds of new skills) and the hopes of a 100 more people on our side, we found 1000 acres of rolling mesa land for only \$150.00 an acre. This price was based on purchasing 1000 acres at a time. The land we chose for our star community had been abandoned in the 40's when a dam built by the army corps of engineers failed to make the over grazed property farmable.

It is bordered by national forest and two private interests, and once again, out of reach of public utilities. The east boundary is Tres Orejas mountain and a miniature gorge runs through it. Being mesa land it will be much easier to build on than our mountainside and with 1000 acres we have the opportunity to create a full scale community with parks, schools, shops and restaurants. It all depends on who lives there....



OVERVIEW OF S.T.A.R. NEAR CARSON, NEW MEXICO




Most raw land can be purchased on contract. Depending on acreage, a typical down payment can range from \$10,000 to \$50,000. We have seen many individuals pay this much for *one lot*. This down payment does have to be fronted by one person who will also sign for the payments which should be set up as annual installments. These payments (over the next few years) are paid by the membership fees. The person who takes the risk by fronting the money for the down payment and signing for the installments is the *initiator*. This person is basically "lord of the land" until the land is paid off and a board of directors takes over. The initiator puts in much more than money. It takes a lot of time and energy to do this. The initiator can build in payment for this work by calculating membership funds to pay for the land, do some road work, and pay the initiator a fee for initiating the project. This fee is a salary for time invested - not a profit. **There is no sale of or profit from the land.** This fact coupled with the fact that there is no infrastructure gives the project a buoyancy that launches it into orbit almost immediately. The dead weight of infrastructure expenses and greedy investors looking for profit demands a "Titan rocket" (thousands of dollars and stress) just to get off the ground.

It is an important point to remember that no land is sold. The land is owned by the Association and the members are the association. Memberships are priced relative to square footage of dwelling and variable density areas. These density areas were established in order to make the property affordable and appealing to different types of people. The areas of highest density were established as those with the lowest membership fee.

Example: 1000 square foot home in the *high density* area would be \$2.00 per square foot for a membership fee of \$2000. Homes can be as close as 50 feet.

1000 square foot home in the *low density* area would be \$10.00 per square foot for a membership fee of \$10,000. Homes can't be closer than 400 feet.

The next step is to form an **unincorporated land users association**. It must have a purpose. The following treatise is an example of the purpose of our R.E.A.C.H. (Rural Earthship Alternative Community Habitat) and STAR (Social Transformation Alternative Republic) communities.



RURAL EARTHSHIP ALTERNATIVE COMMUNITY HABITATS

TREATISE

OVER THE LAST TWENTY TWO YEARS SOLAR SURVIVAL ARCHITECTURE HAS DEVELOPED A MODULAR/CELLULAR METHOD OF BUILDING TOTALLY SELF-SUFFICIENT DWELLINGS USING BY-PRODUCTS OF TWENTIETH CENTURY CIVILIZATION AND NON-FOSSIL FORMS OF ENERGY. WE CALL THESE UNITS **EARTHSHIPS**. THEY HAVE PROVEN TO BE ACCESSIBLE AND DESIRABLE TO BOTH ENDS OF THE FINANCIAL STRATA. TWO BOOKS, EARTHSHIP VOLUME I, AND EARTHSHIP VOLUME II, ON HOW TO BUILD THESE UNITS HAVE BEEN WRITTEN AND A SMALL GROWING SCHOOL HAS BEEN FORMED FOR TEACHING THE TECHNIQUES TO ARCHITECTURAL STUDENTS, OWNER BUILDERS AND PROFESSIONAL BUILDERS. AN ARCHITECTURAL FIRM, A BUILDING COMPANY AND A PUBLISHING COMPANY HAVE ALSO EMERGED AROUND THE EARTHSHIP CONCEPT.

WE ARE NOW ESTABLISHING PROTOTYPE COMMUNITIES FOR THE PURPOSE OF DEMONSTRATING, EVOLVING AND PROMOTING A NONDESTRUCTIVE AND MORE INSPIRATIONAL METHOD OF LIVING THAT IS LESS STRESSFUL TO BOTH THE PEOPLE AND THE PLANET.

MAJOR OBJECTIVES ARE AS FOLLOWS:

- * TO **REDUCE** THE ECONOMIC AND INSTITUTIONAL BARRIERS BETWEEN HUMANS AND THEIR HABITAT.
- * TO **BEGIN REVERSING** THE OVERALL NEGATIVE EFFECT THAT CONVENTIONAL HUMAN HOUSING HAS ON THIS PLANET.
- * TO **CREATE** A LESS STRESSFUL PLANE OF EXISTENCE FOR HUMANS IN AN EFFORT TO REDUCE THE STRESS THAT THEY IN TURN PLACE ON THE PLANET AND EACH OTHER.
- * TO **INTERFACE** ECONOMICS AND ECOLOGY IN A WAY THAT IMMEDIATELY AND TANGIBLY AFFECTS CURRENT PRESSING PROBLEMS WITH LIFE ON EARTH.
- * TO **PROVIDE** A DIRECTION FOR THOSE WHO WANT TO LIVE IN PEACE WITH EACH OTHER AND THEIR ENVIRONMENT.
- * TO **EMPOWER** INDIVIDUALS WITH THE UNARGUABLE FORCES OF NATURE AS OPPOSED TO INCAPACITATING THEM WITH THE SMOTHERING FORCES OF POLITICS AND BUREAUCRACY.
- * TO **FIND AND DISTRIBUTE** THE APPROPRIATE SOIL FROM WHICH THE FLOWER OF HUMANITY CAN BLOSSOM.
- * TO **EVOLVE** HUMANITY INTO AN EARTHEN HARMONY ALREADY EXEMPLIFIED BY MORE EVOLVED STRUCTURES SUCH AS PLANTS, ANIMALS AND WATER.

We find it best not to have any spiritual, political, class, race or age overtones. The thing the members all have in common is the Earthship concept. This, in its own way, is both a spiritual and political cause and will in itself be the structure, common ground and fertile soil for the community to grow from.

Just as a grapevine is most effective if it has a trellis to guide its growth and lift its fruit up off the ground, so must a community have guidance for evolution. We have developed a **Land Users Code** for members of the community to follow. This code must first be developed by the initiator and must be allowed to evolve as members grow. It must respond to the members and the specific site, climate, and planet. This code should not get too detailed. It should basically address environmental and structure type issues. We set the initiator up as full director for a period of 5 to 7 years - usually until the land is paid off. This code simply makes clear to all members the intentions of the initiator. After 5 to 7 years (or when the land is paid off) the initiator appoints a board of directors made up of members of the community. The Land Users Code can be evolved both during the initiator's reign and later by the board of directors. Many issues such as recycling efforts, grounds keeping efforts, animals, noise, etc., will come up and must be democratically handled by all. These issues and their solutions unfold themselves as the community unfolds. Problems should be observed, then addressed. Different associations will deal with the same issues differently but all solutions will be coming from humans with a softer, less stressful state of mind. This state of mind is continuously nurtured by the Earthship concept.

Eventually community networks will form and ideas and mistakes will be shared. *The Land Users Code allows this evolution.* This saves on up front paperwork. Just as a farmer cannot predetermine every twist and turn of a grapevine, there is no way an initiator can come up with all the potential problems of a community *not to mention the solutions.* A basic direction is all that is required. A basic trellis - "just elevate and decide in the air". Following is the Star Land Users Code.



Star Land Users Code

APRIL 1993 EDITION

EXHIBIT F

MEMBERSHIP

Members will be provided with a membership certificate which will allow, define and locate the members lodging site. The price of a membership will be as per the current membership purchase form which is adjusted periodically by the initiator and/or the board of directors. Memberships are paid for in two payments. Half of the membership price is paid upon submitting of the membership application form. The final half of the membership fee will be due when members receive their certificates. Members cannot build until the membership fee is paid in full. *Members cannot build any more actual interior floor space than the square footage described on the membership certificate.* Members will then occupy thirty feet beyond the outside of the outside wall of their lodging due to typical burial of the Earthship design. Beyond this 30 feet, the member must get Association approval for any land use. Lodging site location and size will be defined by the membership certificate with a legal description of the STAR land for purposes of securing the member's investment.

All members accepted into the association are assumed to understand and be in agreement with the experimental nature of the **STAR** program. All members are also assumed to understand and be in agreement with the enforcements of these restrictions described in another paragraph of this document.

BUILDINGS

All permanent buildings of any kind will be based on the Earthship "U" module concept as described in the books Earthship Volume I, Earthship Volume II, and Earthship Volume III and while financed by the individual members, will be subject to the codes, articles, and bylaws of **STAR**. Variations will be subject to **STAR** approval specifically by the initiator or current board of directors. **No "Out Buildings" allowed.** If storage buildings are desired by members, they must acquire a membership with enough building square footage to accommodate such. Building square footage that is separate from the dwelling and used strictly for storage can be acquired at half the membership square footage price for the specific density area in question. The architectural nature of storage buildings must conform to the "Earthship" concept or approved building variations described in another paragraph of this document. Storage buildings can be unfinished on the inside. Open carports can be attached to the lodging or incorporated into the berm and will not affect membership price. Carports must be contained within 20'-0" of a non - buried exterior wall of lodging. Enclosed automobile garages count as storage space and are subject to the same definitions, restrictions and prices.

TWO STORY

Two story buildings are generally discouraged. Certain building locations however, may lend themselves to two story construction, based on the Earthship "U" module concept. Two story construction will be approved by **STAR** on request and on a limited basis. In no case shall more than 30% of floor space delineated on membership certificate be two story construction.

BUILDING VARIATIONS

STAR is not a forum for individual experimental projects. It is intended as a platform for the construction of a community and is governed by SSA. SSA is working in accordance with the

construction.

BUILDING VARIATIONS

STAR is not a forum for individual experimental projects. It is intended as a demonstration of concepts already tested and proven by SSA. SSA is working in cooperation with the New Mexico Construction Industries Division and will strictly enforce the uniform building code and the New Mexico tire building code as well as mechanical systems discussed in another portion of this document.

BUILDING PERMITS

No dwellings will be built without building permits from the New Mexico Construction Industries Division. At this time, the State of New Mexico requires an architect's and an engineer's stamp of approval on all tire construction. Solar Survival Architecture can be commissioned to provide these services and will advise members as to the most economical method to obtain permit drawings. **No building will be started without proof that a building permit has been applied for at the New Mexico Construction Industries Division. All buildings must be built exactly as per permitted drawings.**

CONSTRUCTION

STAR Architectural Staff will inspect buildings under construction to enforce restrictions of this document at their own discretion. Owners may secure supervision, consultation or guidance from SSA. Fees will be assessed as per the SSA fee schedule.

MECHANICAL SYSTEMS

No mechanical systems of any kind (power, water, or sewage) shall be started without a mechanical permit from STAR. As at the REACH project, **STAR** will apply for mechanical variances from the state of New Mexico. It is possible that **STAR** will be allowed certain variances from the State of New Mexico for purposes of research and development.

These variances are a privilege and **STAR** will fully cooperate with the State. Therefore, all power, sewage and water systems must either be designed by SSA or submitted to SSA for approval. All mechanical systems must be built exactly as per permitted and approved drawings.

POWER

No power grid electricity shall run on this land. All energy will be solar or wind produced independently by members under supervision of STAR and in accordance with New Mexico Building Codes. All electrical wiring shall be done by licensed electricians with appropriate electrical permits and inspections by local state officials.

SEWAGE

All sewage will be split into "grey" water and "black" water (see Earthship Volume II). Members will reuse grey water with guidance and approval of all systems from SSA and **STAR**. Compost or solar toilets will be required and will produce no "black" water. Dry Toilet systems must be certified by SSA. All decisions relative to sewage will be made and enforced by **STAR**. The idea is that there will be no sewage.

WATER

Roof water catches will be built into each dwelling by owners. These catches will feed individual cisterns from which the water will be pressurized for household use by solar pumps. Design of these catches must be approved by STAR. Members will install their individual catches and cisterns at their own expense under supervision of STAR. These catches will be designed so the catch water will be suitable for drinking. No wells will be allowed on the property at the time of this edition of the Star Land Users Code.

BUILDING APPEARANCE

All exterior finishes shall be color coded to **blend with surrounding foliage and/or earth** for purposes of lowering the overall impact of the architecture on the property. Earth and foliage colored stuccos are required. ALL other finishes are subject to STAR approval. Exterior Tire work shall not remain exposed for more than 2 years.

SITE APPEARANCE

All construction sites and home sites must be kept organized, neat and free from blowing debris, stacks of junk, garbage, etc. All construction sites are subject to STAR standards of neatness and organization. Once buildings are complete, storage must be kept inside. Members are advised to allow sufficient storage space in their original square foot delineation on their membership certificate to allow for projected storage, since **no exterior storage will be permitted**. Members are advised to allow a "U" module specifically for storage. This paragraph will be strictly enforced.

GARBAGE

STAR will immediately provide areas for tires and aluminum cans and bottles. All other garbage is the member's responsibility for removal to local dumps. STAR will eventually provide for total on site garbage disposal and reuse, however this is not an immediate priority for phase one activity.

PARKING

Parking at lodging sites will be permitted for 1 (only) vehicle per 500 s.f. of building space. No junk or dead cars permitted on STAR land.

SITE TRANSPORTATION

After buildings have been built and occupied the construction access roads will be retired and used only for maintenance and service access. Ground transportation around the STAR property and to dwellings will be designed in the future for minimum impact.

ROADS

No paved roads will be provided by STAR at this time. STAR will provide limited dirt road access to each building area for construction and moving in. These roads will be

maintained by the members who use them. Consider the roads to be primitive for the first few years and select your vehicles accordingly. **Automobile use will be restricted and**

enforced to defined roadways.
TREES AND LANDSCAPING

enforced to defined roadways.
TREES AND LANDSCAPING

No tree shall be cut or moved without approval by **STAR** and the member who moves trees and seedlings is responsible for their replanting elsewhere. No trees or landscaping will be permitted that cannot survive from catch water and/or swale systems.

ANIMALS

No livestock will be permitted in high density areas. Small livestock (chickens, geese, ducks etc) will be permitted in designated areas. Large livestock will be confined to one or more common livestock areas. Only one dog is allowed per membership under 2000 S.F. Memberships over 2000 S.F. can have 2 dogs. All A level memberships are limited to one dog. All dogs are the responsibility of their owners and are subject to community eviction if necessary. Any dog caught killing sheep from the neighboring ranch is subject to being shot.

ILLEGAL SUBSTANCES

Because the STAR property is land owned in common by all the members, any and all members of the association can be held responsible for any illegal activity on the property. There will be no growing of illegal substances on STAR land.

Therefore, STAR members are encouraged to dispose of any and all illegal substances found on common land which might incriminate the Members of the Association. STAR will not tolerate a member whose activities put the other members at risk.

ENFORCEMENT

Members, upon signing their membership acceptance form, document that they agree to and accept these restrictions and definitions presented as exhibit "F" on membership certificate.

The STAR Land Users Code will evolve as per the conditions we encounter in the first 5 to seven years. Members will be required to validate their Agreement to the SLUC updates by signing addendum's as they are issued. Refusal to sign a SLUC Update can result in membership nullification as noted below.

Failure to follow the restrictions and definitions of the SLUC will result in a notice by certified mail or courier. If the specific member still fails to respond to the satisfaction of STAR within two weeks, another certified notice will be sent. Failure to respond to this within two weeks will be met with an unbiased real estate appraisal of the member's lodging, and proceedings will begin for STAR to reimburse and remove the member in question based on current architectural value. Any member who has received a certified warning letter shall not be allowed on the board of directors for 4 years from the date of the certified letter. All members understand and agree to the above possibility with signing of the membership acceptance form. The purchase of a STAR membership is subject to the above restrictions and enforcements. STAR members fully understand and agree to these procedures upon signing of the membership acceptance form.

Upon presentation of evidence of two certified letters two weeks apart, and with evidence of failure by said member to respond to the satisfaction of STAR ----- STAR can reimburse and remove the member without the member's signature as the members signature and acceptance of this removal condition is already on the acceptance form. In this event the

members certificate will be rendered nullified and void. The member's signature on the membership acceptance form stands toward the potential end described above. If this

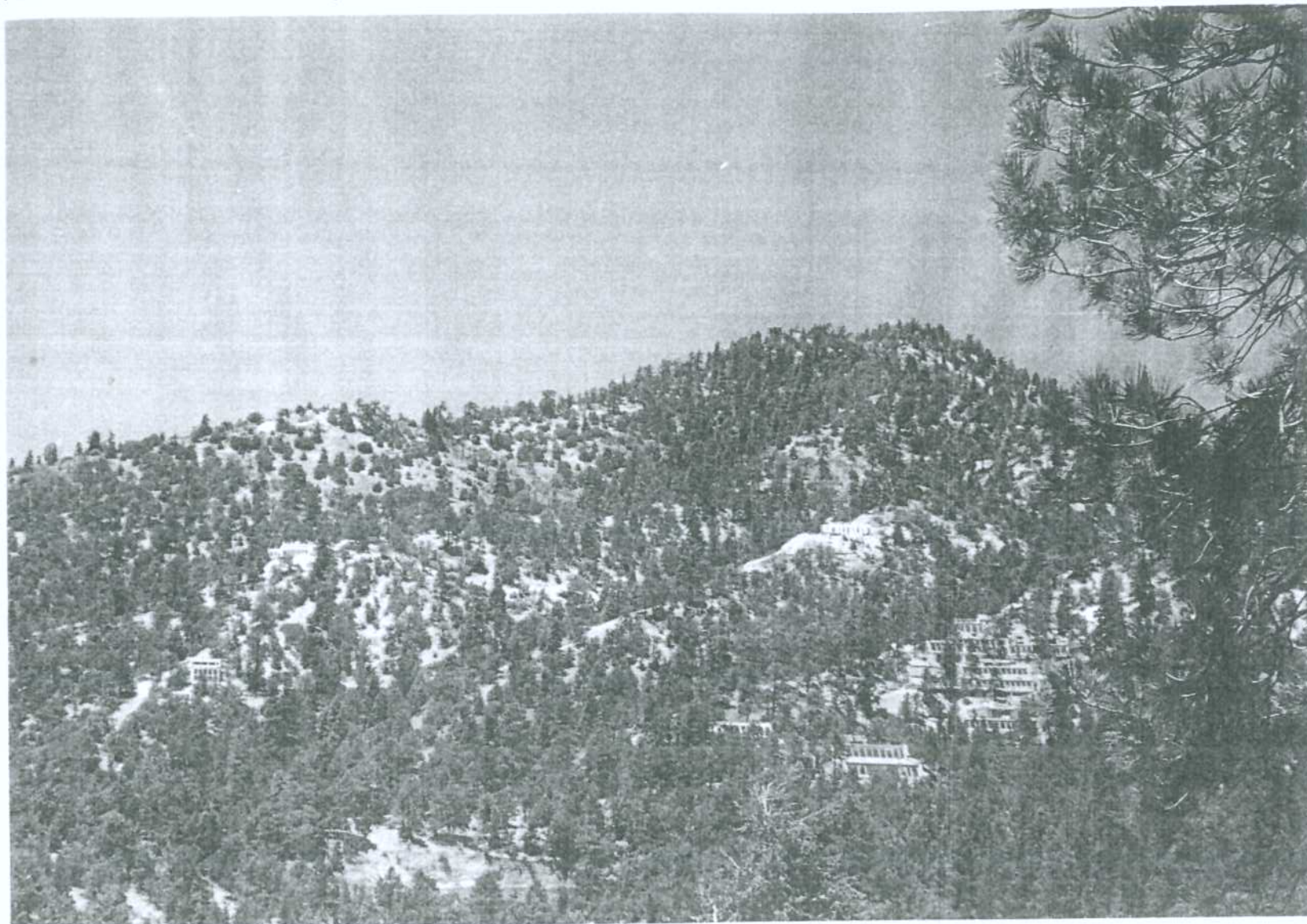
potential situation occurs, the member in question will be sent a membership nullification document and lodging reimbursement check by certified mail.

Clarification of STAR Obligations

The object of this endeavor is to make land available for **STAR** members to participate in the research and development of architectural, mechanical, environmental, sociological, economic, spiritual and ecological ideas as put forth in the books published by Solar Survival Press by Michael Reynolds - EARTHSHIP VOLUME I, EARTHSHIP VOLUME II, EARTHSHIP VOLUME III, and A COMING OF WIZARDS without a major real estate investment. This is not a condominium project nor a co-op nor a subdivision. It is a **non-profit unincorporated association**. The price of membership and resulting opportunity to build a lodging is very small. STAR is therefore not a maintenance agency or a care taker of the land. The people care for the land. STAR is simply an association formed so that many people can use the land to pursue a more mentally, physically, spiritually and ecologically healthy way of life on this planet Earth (as a family or club) under the direction of the STAR Land Users Codes.

In order to allow many to use the property, we set up Articles of Association and Bylaws exhibited on the

following pages. We used these same Articles and Bylaws for both the REACH and STAR communities.



OVERVIEW OF THE R.E.A.C.H. COMMUNITY CIRCA 1993

ARTICLES OF ASSOCIATION

In compliance with the requirements of Section 53-10-1-8 N.M.S.A. (1978), as amended, the undersigned, this day voluntarily forms a **non-profit unincorporated association** and does hereby certify:

ARTICLE I

The name of the association is SOCIAL TRANSFORMATION ALTERNATIVE REPUBLIC, hereafter called "Association" or "STAR."

ARTICLE II

The mailing address of the Association is in care of Michael Reynolds, at P.O. Box 1041, Taos NM 87571.

ARTICLE III

PURPOSES AND POWERS OF THE ASSOCIATION

This association does not contemplate financial gain or profit to the members thereof. The specific purposes for which it is formed are to:

A. Provide a "real life" setting for the research and development of architectural, mechanical, environmental, sociological, economic, spiritual and ecological ideas as put forth in the books by Michael Reynolds - EARTHSHIP VOLUME I, EARTHSHIP VOLUME II, EARTHSHIP VOLUME III and A COMING OF WIZARDS. This setting is to be contained in that certain real estate in Taos County, New Mexico, shown on Exhibits "A" & "B" attached hereto and incorporated herein by reference and to demonstrate a more mentally, physically, spiritually and ecologically healthy way of life on this planet within the above described property.

B. Pursue a method of making human lodging less stressful to acquire and operate with the goal of reducing the stress that current survival methods place on people and the planet. This method will involve teaching people to build absolutely self-sustaining Earthships (dwellings as described in the books EARTHSHIP VOLUME I, VOLUME II, and VOLUME III) for themselves. These dwellings will require no electrical power lines as they will make their own electricity. They will have no sewers as they will use composting or solar toilets and recycled grey-water systems. They will have no wells as they will have catch water systems from roof run-off. They will capture (with no outside energy) an interior space suitable for growing food year round. Code variances will be granted by the State of New Mexico to allow research and development in these directions on this project.

C. Demonstrate that eliminating mortgage payments and utility bills for people and discontinuing the extraction of fossils fuels from the planet will promote peace on and *with* the Earth. The long range effects of this on a larger scale could have a positive effect on crime, drug abuse, ecology, energy, homelessness, child abuse, and war. It is the opinion of this association that the current fundamental

approach to living by modern society is at the root of all of these problems and that the efforts of this association could shed light in the direction of change.

D. Evolve and demonstrate a legal model for the cooperation of people in the direction of a more ecologically sound and socially responsible way of life.

approach to living by modern society is at the root of all of these problems and that the efforts of this association could shed light in the direction of change.

D. Evolve and demonstrate a legal model for the non-profit acquisition and/or distribution of real estate for environmentally friendly, owner built housing as the marketing of real estate for financial gain has driven the cost of decent land out of reach for most citizens and thus rendered them at the mercy of mortgage companies, realtors and profit seeking conventional developers *to acquire a place to build a home*. In most cases conventional restrictions imparted by mortgage companies, realtors and developers whose concerns are resale and profit further the dilemma of expense and control and the citizens are channeled into a method of living that is extremely stressful to both them and the planet.

E. Present an alternative approach to human habitat that puts housing back within the grasp of the average citizen.

ARTICLE IV

POWERS OF THE ASSOCIATION

One membership in this Association shall be issued for each lodging site created within the real property described in Exhibits "A" & "B". It shall be mandatory for a land user to be a member of the Association. A copy of these Articles of Association and the Bylaws and the Star Land User's Code, "Exhibit F", shall be provided to land users at the time of membership. The Association shall have responsibility for maintenance of the following aspects of the development. The only assessments to be levied on the members will be real estate taxes and liability insurance. The Association shall have the power and authority to levy these assessments on the members and referred to herein all as is or will be more fully set forth in the Bylaws. And to:

Section A: Fix, levy, collect and enforce payment by any lawful means, charges or assessments necessary to cover the cost of real estate taxes and insurance on the property; pay all expenses in connection therewith, and pay all office and other expenses incident to the conduct of the business of the Association related to the collection and payment of real estate taxes and insurance, including all or any governmental charges levied or imposed against the property of the Association;

Section B: Acquire (by gift, purchase or otherwise), hold, improve, build upon, operate, maintain, convey, dedicate for public use or otherwise dispose of real or personal property in connections with affairs of the Association;

Section C: Have and to exercise all powers, rights and privileges which an association organized under the unincorporated association law of the State of New Mexico by law may now or hereafter have or exercise, except as otherwise provided herein.

STATE OF NEW MEXICO)

) ss.

COUNTY OF TAOS)

The foregoing instrument was acknowledged before me this _____ day of _____, 1993, by _____.

(SEAL)

_____ Notary Public

My commission expires: _____

BY-LAWS
OF
STAR LAND USER'S ASSOCIATION

ARTICLE I

NAME AND LOCATION

The name of the association is STAR LAND USER'S ASSOCIATION, here in after referred to as the "Association." It's mailing address is:

P.O. Box 1041, Taos, New Mexico 87571.

but meetings of the members and directors may be held at such places within the County of Taos, State of New Mexico, as may be designated by the Board of Directors.

ARTICLE II

DEFINITIONS

Section 1. "Association" shall mean and refer to STAR LAND USER'S ASSOCIATION.

Section 2. "Properties" shall mean and refer to that certain real property described on Exhibits "A" & "B" attached to the Articles of Association.

Section 3. "Lodging Site" shall mean and refer to any portion of land created from within the real property described on Exhibits "A" & "B" hereof, the use of which shall be governed by and subject to those terms contained in the STAR Land Users Code as it may be from time to time amended by the initiator or the Board of Directors. Use of a lodging site shall include membership in the Association and rights appurtenant thereto.

Section 4. "Member" shall mean and refer to the holder, whether one or more persons or entities, of a membership certificate to any lodging site created and described for use within the real property.

Section 5. "Members" shall mean and refer to every person or entity holding a membership in the Association.

ARTICLE III

MEMBERSHIP

Section 1. Every person or entity who is an owner of a Membership Certificate for the use of a lodging site within the real property shall be a member of the Association. The Association is the sole entity that owns the "properties" described in Article II Section 2. The members own their lodgings and other personal affects on the "properties". Membership shall be appurtenant to and may not be separated from the

use of any lodging site. Use of a lodging site and ownership of a Membership Certificate shall be the sole qualification for membership. In absence of a contrary agreement, voting rights shall be exercised by the named owner/owners of the Membership Certificate. A single Membership Certificate shall entitle the holder/holders to a single vote. One person may hold more than one Membership Certificate, thus entitling said person to more than one vote.

ARTICLE IV

MEETINGS OF MEMBERS

Section 1. Annual Meeting. The first annual meeting of the members shall be held within one (1) year from the date of filing the statement required by S 1 of the Uniform Association Act, and each subsequent regular annual meeting of the members shall be held within the same month of each year thereafter, on a set date, time and place to be fixed by the director with notices mailed to the members, at least thirty (30) days in advance.

Section 2. Special Meetings. Special meetings of the members may be called at any time by the initiator or by the director/directors, or upon written request of members who are entitled to vote.

Section 3. Quorum. The presence at the meeting of members entitled to cast, or of proxies entitled to cast, two-thirds (2/3) of the votes of membership shall constitute a quorum for any action except as otherwise provided in the Articles of Association, or these Bylaws. If, however, such quorum shall not be present or represented at any meeting, the members entitled to vote thereat shall have power to adjourn the meeting from time to time without notice other than announcement at the meeting, until a quorum as aforesaid shall be present or be represented.

Section 4. Proxies. At all meetings of members, each member may vote in person or by proxy. All proxies shall be in writing and filed with the board twenty-four (24) hours prior to the meeting. Every proxy shall be revocable and shall automatically cease upon elimination of the member from the association, as is possible, as described in the October 1992 edition of the STAR Land User's Code.

ARTICLE V

SELECTION OF TERM OF OFFICE OF DIRECTOR / CO-DIRECTORS

Section 1. The affairs of this association shall be managed by a single initiator/director, Michael Reynolds, the designer and founder of the concept, for the first seven years following the filing of this association.

Section 2. In the event of this director's death prior to the end of the seven (7) year term, a board of five directors shall be elected by the members as per Section 4.

Section 3. Number. Following the seven (7) year term of the single director, the affairs of this Association shall be managed by a board of Five (5) co-directors who

shall be members of the Association.

Section 4. Term of Office. The initiator shall appoint or (if necessary because of death) the members shall elect Five (5) co-directors for a term of Five (5) years, Four (4) years, Three (3) years, Two (2) years and One (1) year respectively and at every annual meeting thereafter, the members shall elect a director for a term of Five (5) years in order to provide a new director every year.

Section 5. Removal. Any co-director may be removed from the board, with or without cause, by a majority vote of the members of the Association. In the event of death, resignation or removal of a co-director, his successor shall be selected by the remaining members of the board and shall serve for the unexpired term of his predecessor.

Section 6. Compensation. No director or co-director shall receive compensation for any service he may render to the Association. However, any co-director may be reimbursed for his actual expenses incurred in the performance of his duties, or members may, by a two-thirds (2/3) vote, decide to reimburse director(s) or co-directors for exceptional services.

Section 7. Action Taken Without a Meeting. The director or co-directors shall have the right to take any action in the absence of a meeting which they could take at a meeting by obtaining the written approval of all the co-directors. Any action so approved shall have the same effect as though taken at a meeting of the co-directors.

Section 8. Indemnification. The initiator/director or members of the board of co-directors shall not be liable to the members for any mistake of judgment, negligence, or otherwise except in the event of willful misconduct or malfeasance. The Association shall indemnify and hold harmless the initiator/director and each of the members of the board of co-directors against all contractual liabilities to others arising out of contracts made by the director or board of co-directors on behalf of the Association and its members, and in connection with any acts performed pursuant to the Declaration of Covenants hereinbefore referred to unless such director or co-directors are adjudged guilty of willful misconduct or malfeasance in the performance of their duties as directors.

ARTICLE VI

POWERS AND DUTIES OF INITIATOR/DIRECTOR AND CO-DIRECTORS

Section 1. During the first seven years the single initiator/director will evolve and refine all aspects of this association including but not limited to bylaws, codes, architecture, mechanical systems, ground transportation, and legal model.

Section 2. Powers. The initiator/director and eventually the board of co-directors shall have the power to:

- a. Adopt and publish rules and regulations governing the use of the lodging sites in all aspects inclusive of regulation of design and construction of

buildings, and inclusive of dimension, materials, design, systems,

provisions of water, sewage and trash disposal, and of the entire tract of real property including process and time removal and the personal conduct

buildings, and inclusive of dimension, materials, design, systems, provisions of water, sewage and trash disposal, and of the entire tract of real property, parking, access and tree removal and the personal conduct of the members and their guests on roadways and easements;

- b. Fix, levy, collect and enforce payment of the tax and insurance assessments of the members of the Association. A distinction may be made in the assessments to be charged for an improved lodging Site or an unimproved lodging site; Taxes and insurance and related costs thereof are the only assessments placed on the members.
- c. Remove a member as described in the current STAR Land User's Code;
- d. Procure and maintain adequate liability and hazard insurance on property owned by the Association;
- e. Cause the members' solid waste to be collected;
- f. Cause the roadways and easements to be maintained; and
- g. Cause all taxes and insurance of the Association to be paid from assessment funds.
- h. Issue Membership Certificates;
- i. The initial director, by his signature hereby adopts the following :
 - 1. The STAR Land User's Code, as it now stands, and may evolve from time to time.
 - 2. Each member is responsible for the maintenance of his own lodging site.

ARTICLE VII

BOOKS AND RECORDS

After the initiator steps down and the board of directors is appointed, the books and records and papers of the Association shall at all times, during reasonable business hours, be subject to inspection by any member. The Articles of Association and the Bylaws of the Association shall be available for inspection by any member at the principal office of the Association, where copies may be purchased at a reasonable cost.

ARTICLE VIII

MISCELLANEOUS

Section 1. The fiscal year of the Association shall begin on the first day of January and end on the thirty-first day of December of every year, except that the first fiscal year shall begin on the date of filing of the statement required by S1 of the Uniform Association Act.

IN WITNESS THEREOF, I being the director of the STAR LAND USER'S ASSOCIATION, have hereunto set my hand this day of _____ 199

A of
aggr
com
and
(desic
from
huan
by m
busin
claw
man
out
surv
have
case

A co
the s
on
of
Any
woul
sam
gro
com
and
adve
prod
im
more
from
u
pro
that
hum
hum

A bunny rabbit is a soft, almost defenseless, non aggressive creature. However, if you trap it in a corner, fear and stress will make it attempt to claw and bite you. We believe human nature is basically (designed to be) soft and nonaggressive. This is evident from the physical structure and characteristics of the human body. However, fear and stress brought on by modern day living conditions can and has (the gun business will testify to this) turned human beings into clawing, biting creatures. This is why we have so many laws and policed enforcements necessary in our world today. **Remove the stress and survival related fear from the human and you have a soft, rather cosmic, adaptable being capable of enhancing the planet it lives on.**

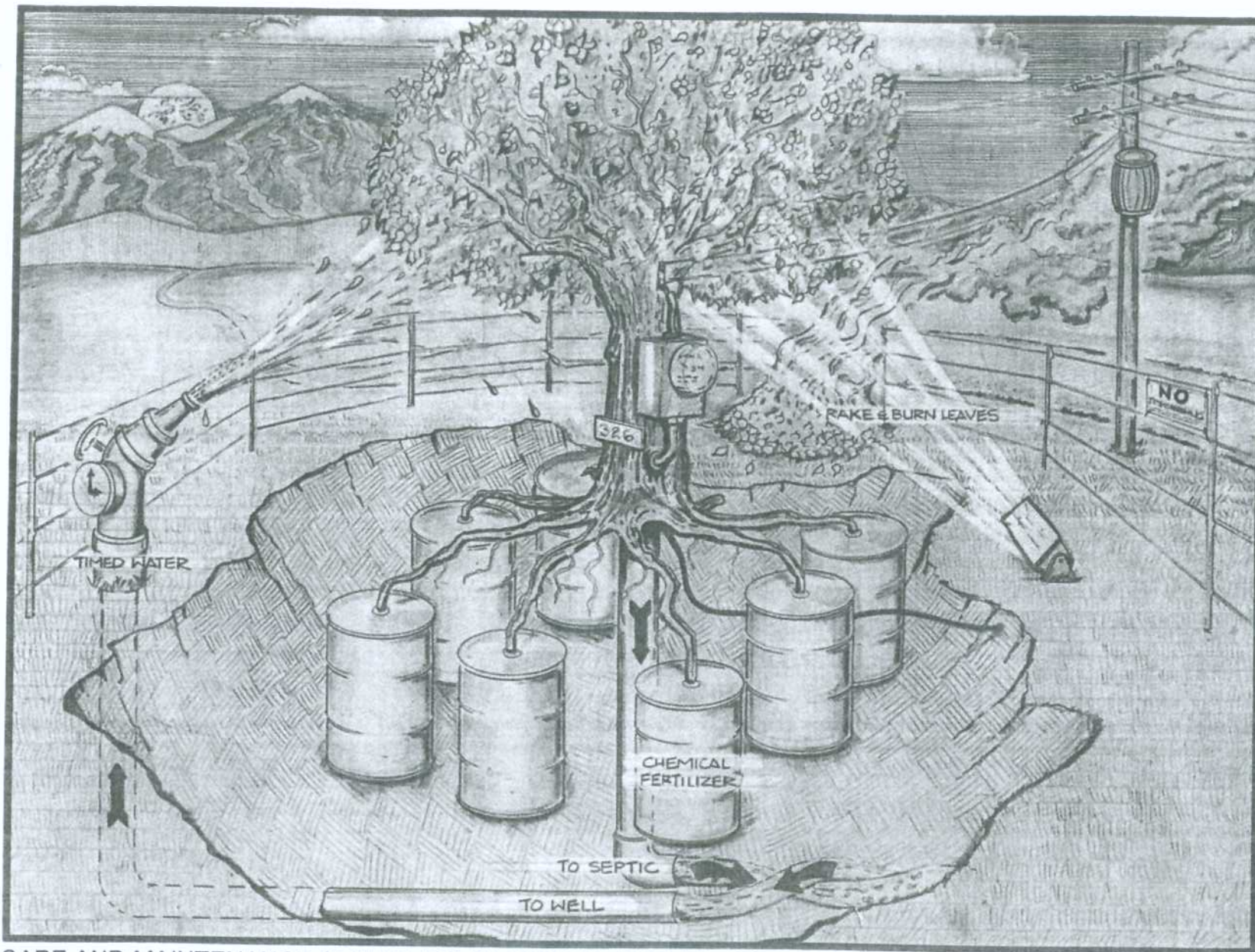
A community structure will evolve much the same as the structure of a tree evolves as it grows. Since no one in the modern world has ever lived without stress of survival we do not know what conditions will arise. Any attempt at a preconceived community structure would simply inhibit *natural manifestation* much the same as nailing limbs onto a tree would inhibit the growth of real limbs. The emergence of the community is an adventure - not without problems and dilemmas. Questions and directions in this adventure are dealt with as they come up. To try to predict and solve every problem in advance is futile, impossible, and ridiculous. We must only create a more whole, broader scoped, softer state of mind from which to deal with inevitable suburban and urban type dilemmas. The *fertile soil* concept provides a general direction of community evolution that will produce more of the *blossoms and fruit of humanity* than current, conventional clusters of human habitat allow.

"Just elevate and decide in the air".

The above is a phrase used by basketball players like Michael Jordan, who is famous for his "air born" tactics. The idea is just to get up in the air - then decide what to do after you get up there. Your options and view are both extremely enhanced from the "elevation". There are some wide scale problems we have on this planet. Rather than trying to solve the problems now, we must *elevate* our existence to a higher psychic plane, then try to solve problems after the enhancement of our options and views. This "elevation" has been attempted with drugs, meditation, magic, and religion but all of these seem to only have a temporary effect. *The method of living itself must also be the method of elevation.*

An independent Earthship community has the potential to elevate the overall general existence of its inhabitants.

The Earthship is a vessel that will allow us to explore new worlds. New worlds on our own planet. Imagine a hard packed, dry vacant lot. This is the "soil of stress" on which our current community and political concepts are built. Our views and options are reflected from this condition. Imagine that same vacant lot with rich tilled soil and lots of water. It would be a forest, a wonderland. This is the soil of *conscious evolution* from which our future community and political dreams can grow. The Earthship concept creates this soil. It allows us to *"decide in the air"*.



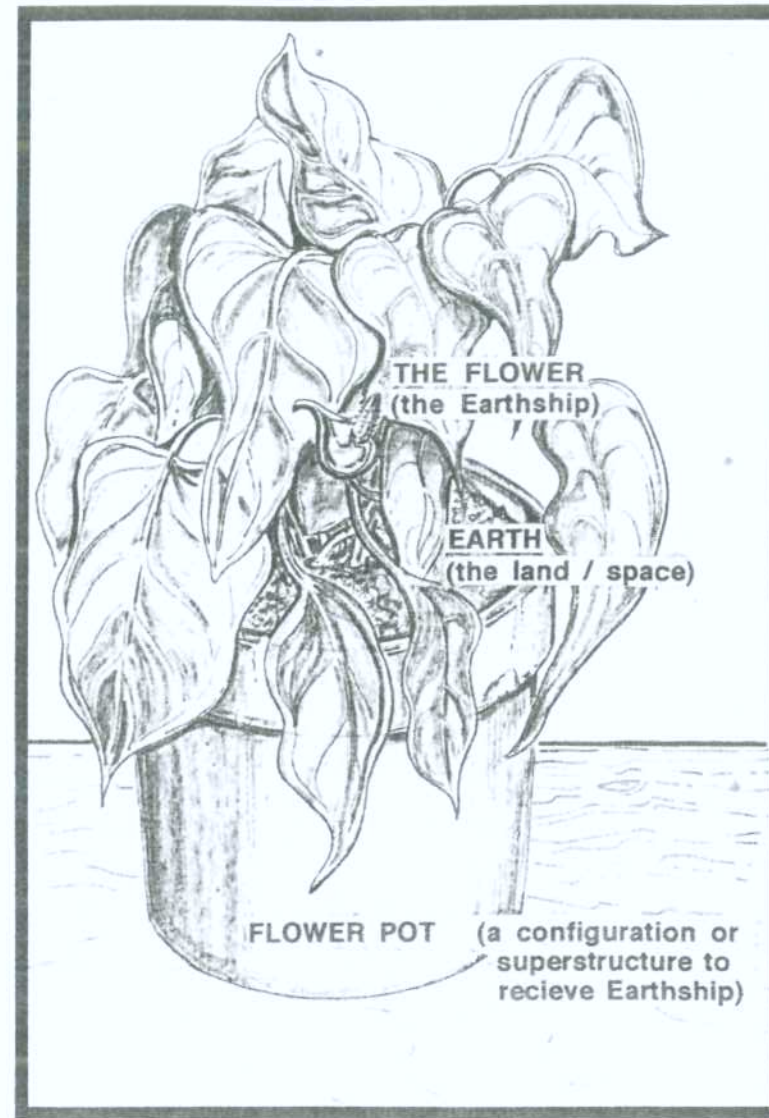
CARE AND MAINTENANCE OF NATURE BY HUMANS IN THE LATE 20TH CENTURY

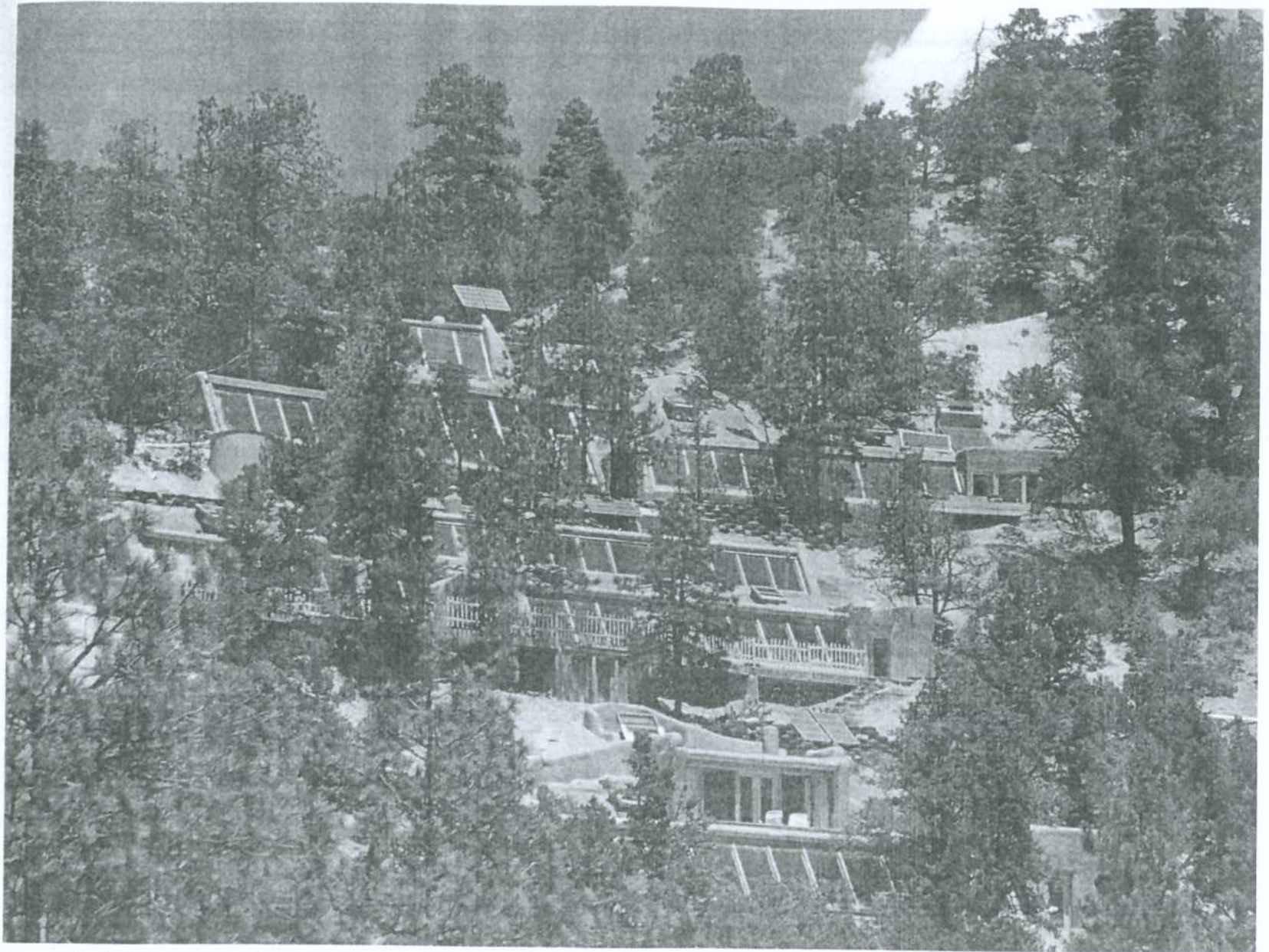
9. URBAN EARTHSHIPS - CITY APPLICATION

THE EARTHSHIP CONCEPT IS MATURING INTO A VERY REALISTIC METHOD OF ACQUIRING APPROPRIATE AND INSPIRATIONAL SHELTER ON THIS PLANET IN THE LATE 20TH CENTURY. WE HAVE TAKEN IT TO EUROPE, BOLIVIA, JAPAN AND CANADA AND WILL SOON BE GOING TO AUSTRALIA, NEW ZEALAND AND RUSSIA. IT WORKS FOR RURAL DWELLINGS EVERYWHERE. HOWEVER, HALF OF THE PEOPLE ALL OVER THE WORLD LIVE IN CITIES. WE HAVE CONSEQUENTLY HAD MANY REQUESTS FOR AN URBAN APPLICATION OF THESE CONCEPTS. EVEN THOUGH THE U.S. DOES HAVE ABUNDANT LANDS FOR EARTHSHIP DEVELOPMENT IN RURAL AREAS, WE HAVE CITIES THAT ARE DYING DUE TO SUBURBAN DEVELOPMENT BEING SO REMOVED FROM THE CITY CORE. THE "WASTELANDS" BETWEEN THE CITY CORE AND THE FARTHER AND FARTHER AWAY SUBURBS ARE PRIME AREAS FOR AN URBAN APPLICATION OF THE EARTHSHIP CONCEPT. THIS WOULD BRING DWELLINGS BACK CLOSER TO THE DYING CITY CORES AND REVITALIZE OUR EXISTING CITY GRIDS BEFORE THEY BECOME GHOST TOWNS OR ASPHALT JUNGLES. *CAN ONE BUILD ONES OWN EARTHSHIP IN A MAJOR CITY USING SOLAR ELECTRICITY, CATCH WATER, SOLAR TOILETS, RECYCLED AUTOMOBILE TIRE BUILDING BLOCKS, ETC?* THE ANSWER IS YES. THIS CHAPTER WILL EXPLORE HOW.

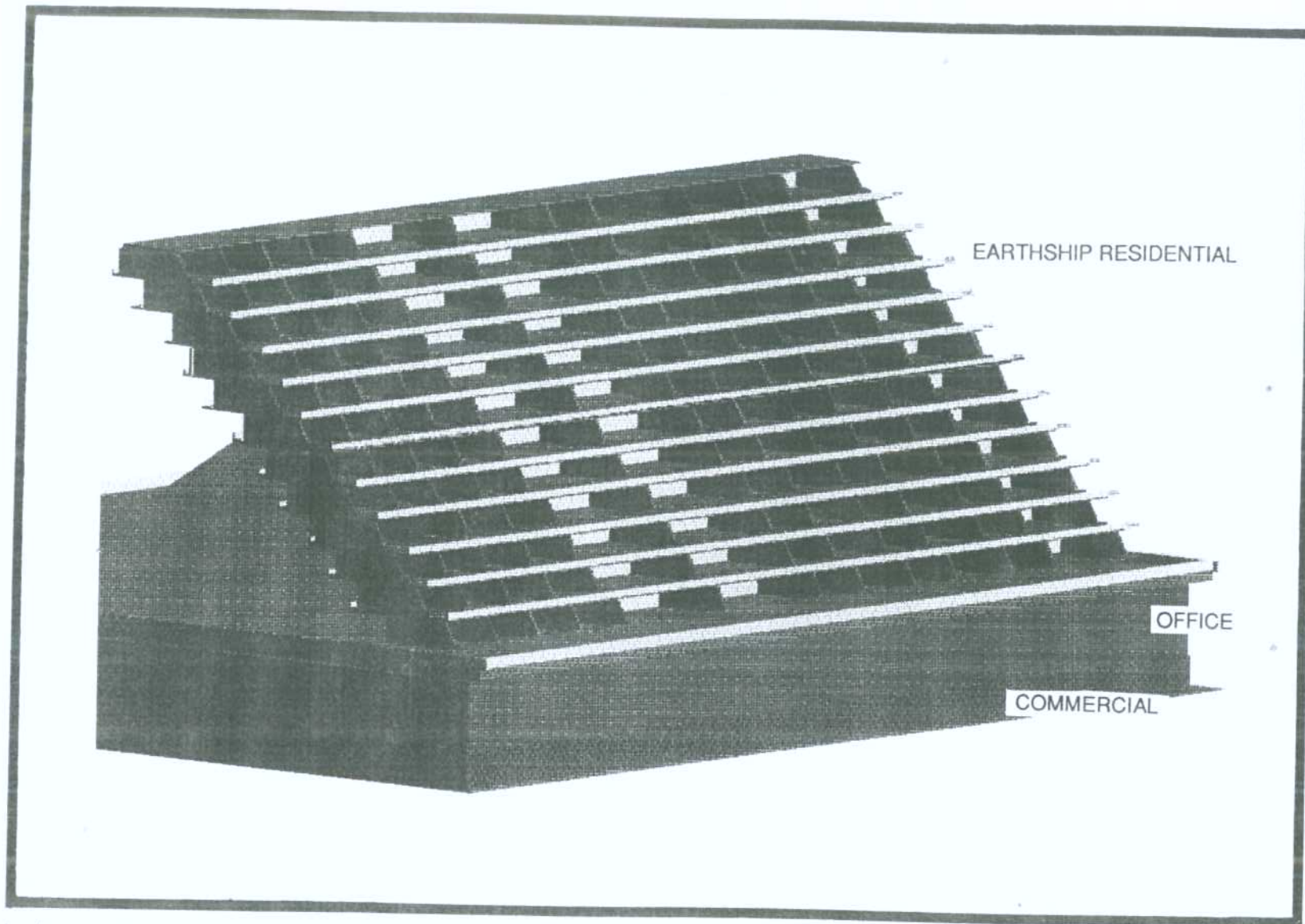
Graphics by Marty Remaly, Jonah Reynolds

In that there is not available land in urban areas (especially in Europe) for large amounts of Earthship developments, we must first devise a method of creating the "land" within the existing city fabric for such a concept. Think of a flower pot in a window. The typical city apartment has no yard to grow flowers, herbs, or vegetables because everything is paved. Consequently, people in the city get large and small flower pots and fill them with earth to grow things. *Earthships also need "earth" to enable them to "grow" in the city.* We must conceptually and physically find a way of creating land/space for the Earthship concept. It must be accommodated exactly like it is in rural areas. Cans, bottles, tires, etc. are more easily available in the cities than the rural areas. All of the utility systems in most cities are in trouble. Water is sometimes rationed in many major cities and is often bad. Electricity is expensive and usually a step away from "black out". Sewers are the worst and usually end up in what was once a river. Yet people still come to cities for jobs, opportunities, culture, etc. The materials for the Earthship concept are more available in the cities and the need for the independent vessel is also more explicit in the city. Imagine living in the city with your own independent power, water and sewage. Imagine low income housing projects; warm and well lit (at no cost to the tenant) and full of plants that produce food. **Imagine the city fathers getting an additional tax base with no additional utilities needed to support it.** The key issue here is the land - the *flower pot*. What kind of "flower pot" will allow Earthships to grow in the city?



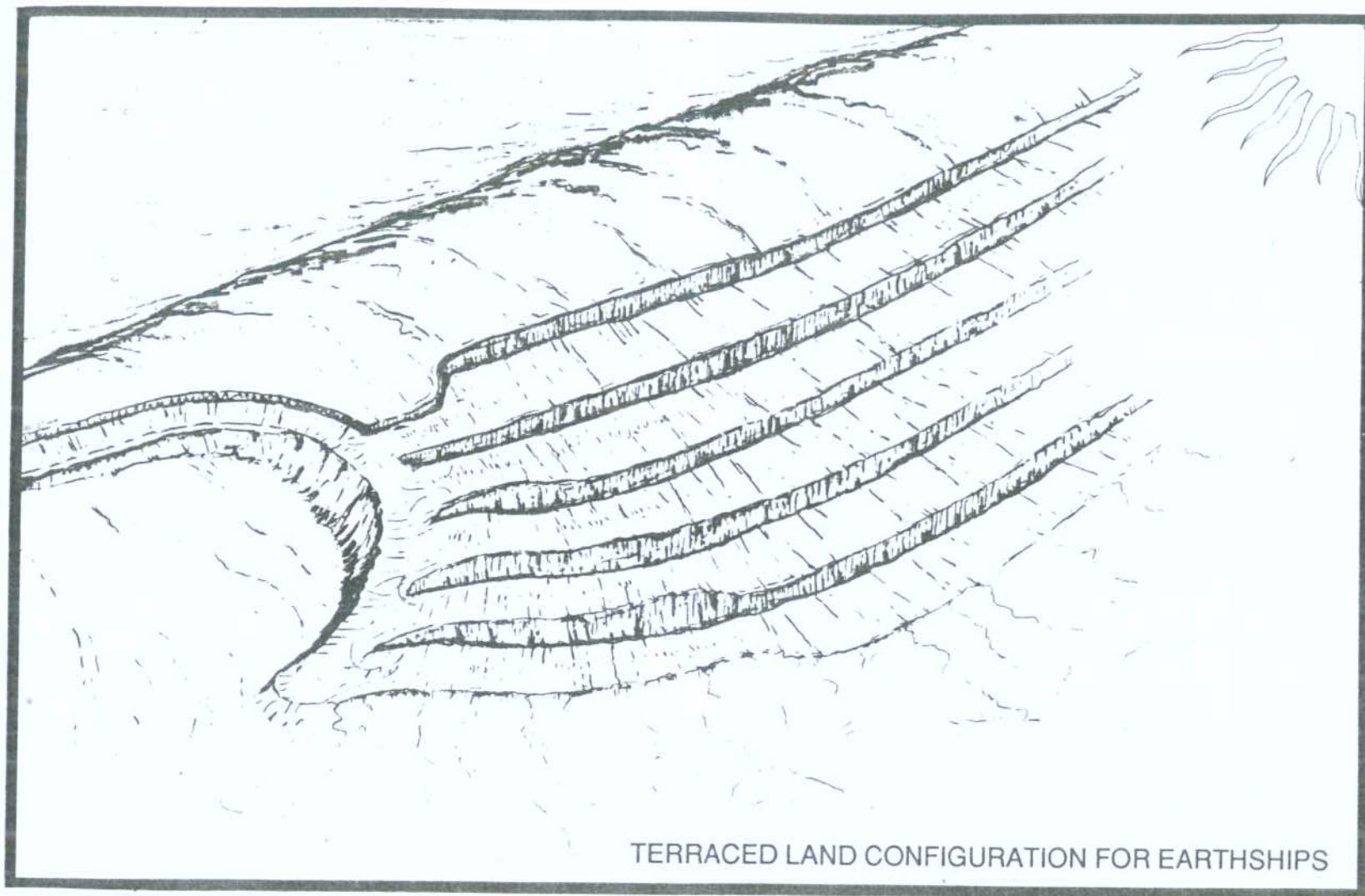


The REACH community illustrates a dense application of Earthships on a very steep slope of a mountain.



A city application can be modeled after the already existing successful rural mountain application. The idea would be to *create the "mountain"* as a **super-**

structure built of concrete much the same way a conventional parking garage is built. This concept would apply to the areas close to the city core.



TERRACED LAND CONFIGURATION FOR EARTHSHIPS

Another approach is to *create a mountain* (or hill) out of compacted earth thus creating a south facing slope on which to build Earthships. Practical application of this method would involve less density and slope than the previously suggested concrete

super structure and would therefore be used a little farther from the city core. Either of these "man made mountain slopes" (south facing of course) can be developed with the Earthship concept very similar to a real mountain slope such as at REACH (page 165).

Potential home owners in such a project would purchase the use of a volume of square footage in the super structure or man made hill and build (or fill in) their own Earthship type home with its own electrical system, water system, sewage system, etc. Existing city systems are all over taxed and antiquated anyway so this self sufficient housing concept should be welcomed in any existing city. The concrete superstructure approach would involve one or many existing city blocks. The "man made hill" could also be fit into the existing city grid.

*Solar Survival Architecture has been working for almost a quarter of a century toward developing a self sufficient, earth friendly housing concept that is easily accessible (in terms of skill, money and materials) to the majority of the people on the planet. After many years of prototypes, the **Earthship** concept was born in the late 1980's and has proven and continues to prove itself as a vessel that will sail independent of existing housing dogma. The **Earthship** is built from used automobile tires rammed with earth and laid into load bearing thermal mass walls. Because these walls are close to 3'-0" thick, they are already wider than the required foundation for such a wall. Thus the walls are a monolith which is foundation, load bearing structure, and temperature control through tremendous mass. These walls can be built by unskilled people with earth from their own construction site and free used automobile tires from their community. These structural and thermal concepts have been in use now for over twenty years. Solar Survival Architecture has produced a "how to" manual on this subject - Earthship Volume I. A more thorough*

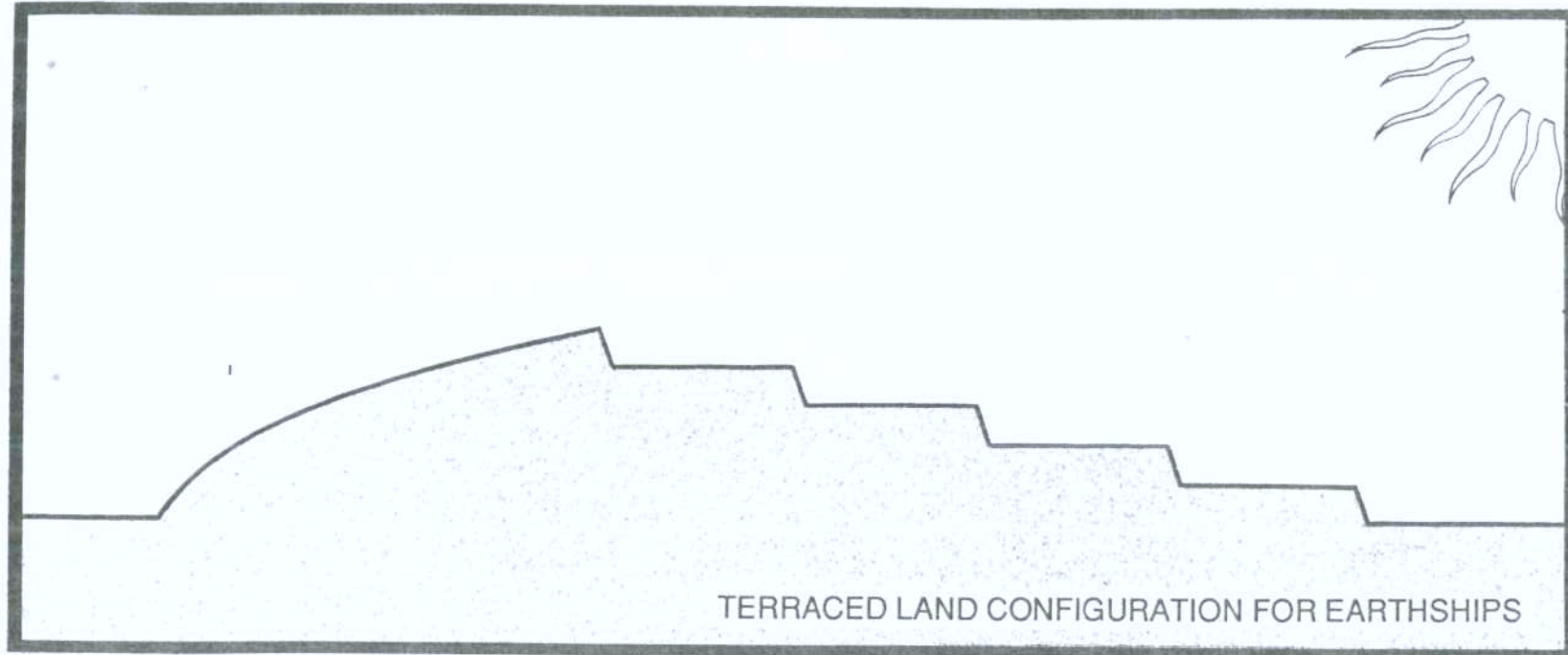
presentation of these building concepts is presented in Chapters 1-4 of that book.

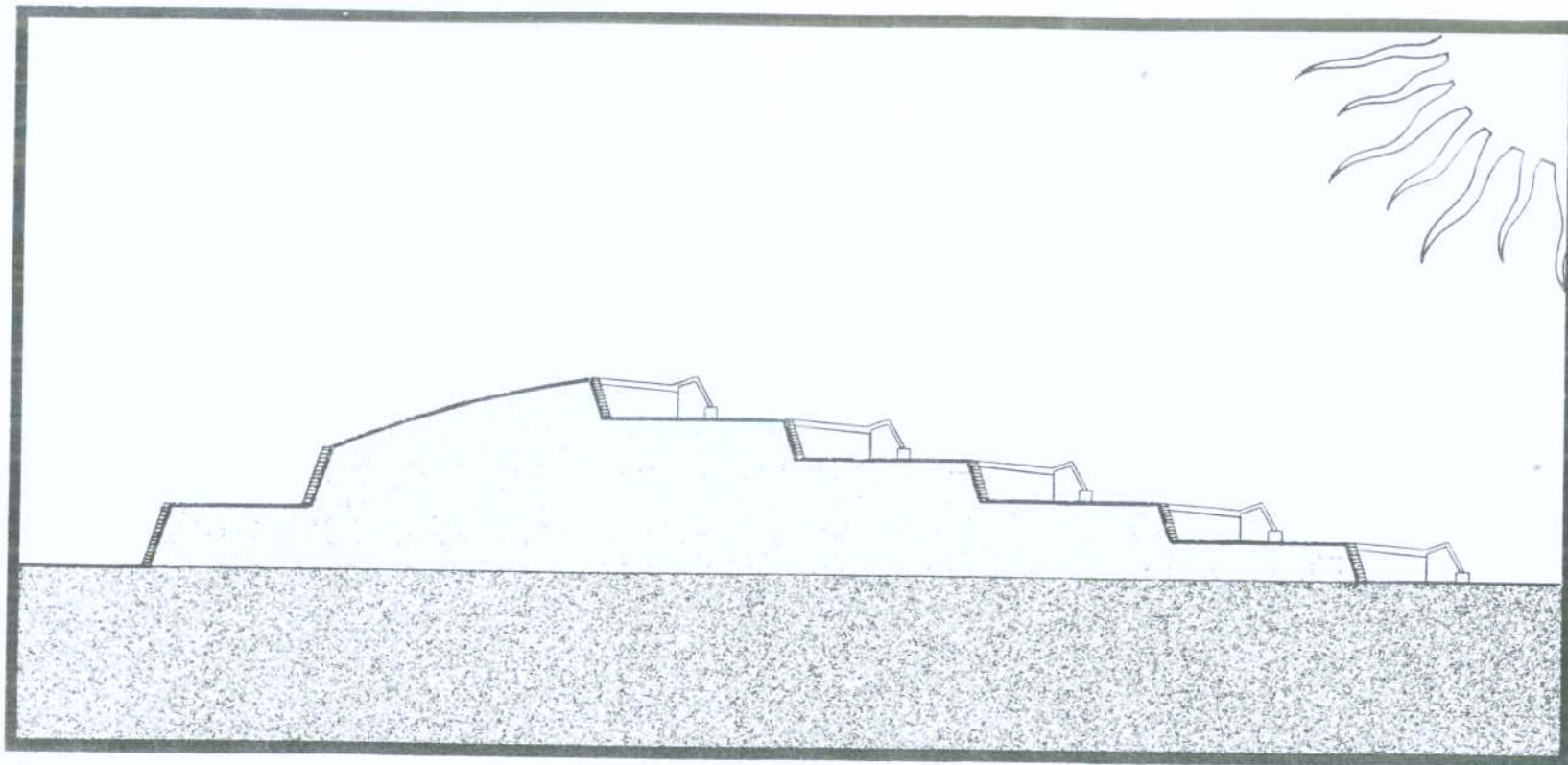
*After the structural and thermal aspects of the **Earthship** were evolved enough to be used on a wide scale globally, Solar Survival Architecture challenged every aspect of the mechanical systems in conventional housing. The result was Earthship Vol. II and Earthship Vol. III. Through these manuals, water, power, and sewage were all approached from different perspectives. At this point, the **Earthship** home built anywhere on the planet out of automobile tires rammed with earth can stand alone and independent of all centralized utility systems. These buildings heat and cool themselves. They provide their own water and electricity and deal with their own sewage. They grow significant quantities of food and can be built by relatively unskilled people on an "out of pocket" basis. They have become (and continue to become) more available to people all over the planet. For those who want to have their homes built for them, SSA has trained licensee's to spread out over the planet and guide people through the process or completely do it for them. Generic architectural drawings have been developed for building permits, bank loans, and construction. **The Earthship movement is in place and growing at many levels.** The **Earthship** program not only effectively uses large quantities of automobile tires but also uses aluminum cans and bottles (see *Earthship Vol. I*) and seriously effects other major global problems such as energy, housing, recycling, water, sewage, etc. We feel that if all inhabitants of the planet, both urban and rural, were to have access to inspirational, earth friendly accommodations, the world would be a better place.*

THE "LAND BUILD" CONCEPT

The automobile makers began seriously making automobiles in the early 1900's. At some point automobiles were recognized as a "fact" of our age and tax dollars and political input were directed toward highways to further enhance the usefulness of the *automobile concept*. We see a parallel here. **Just as the highways have "paved the way" for automobile evolution - there is a method of "paving the way" for the Earthship evolution.** Highways for automobiles require tremendous tax dollar allotments, i.e. budgets for

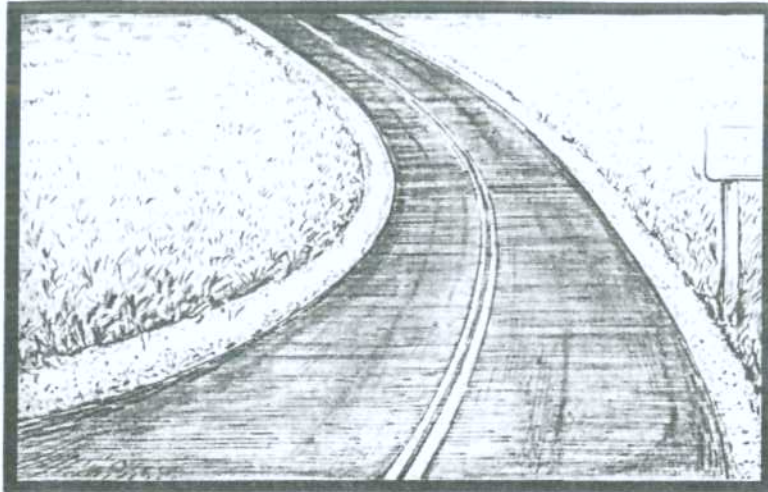
their emergence into our world. The "pathways" for **Earthships** also require a budget. This budget already exists in every community, in every state. The **Earthship** "pathways" would simply require the *redirection of this existing budget*. This redirection would both fulfill the original use of the particular budget and create (in the process) "pathways" or ideal conditions for **Earthship** development. There is a perfect site for the construction of a High Performance Generic **Earthship**. There is also a perfect site for a whole complex of them. In section that perfect site would be as follows.





This configuration would accommodate a colony of **Earthships** that step up the hill as shown above. If this land configuration were available in urban areas

it would invite the application of urban **Earthships** by both individuals and developers.



The configuration above makes it much easier to drive an automobile. As a matter of fact, this configuration has influenced the very development and evolution of the automobile. Now, how do we cause the ideal **Earthship** land configuration to "happen" in every city and town like highways and roads have happened?

In these times trying to get a new budget for anything with the tax payers money is difficult. Too much money has to be used to support the bureaucratic dinosaur. Thus trying to get government funding for building an Earthship land configuration would be futile. However, what if the redirection of an *already existing budget* were to produce this configuration *while at the same time still doing what the budget was originally intended to do*? This is the kind of "force finding" it will take to get us through the future.

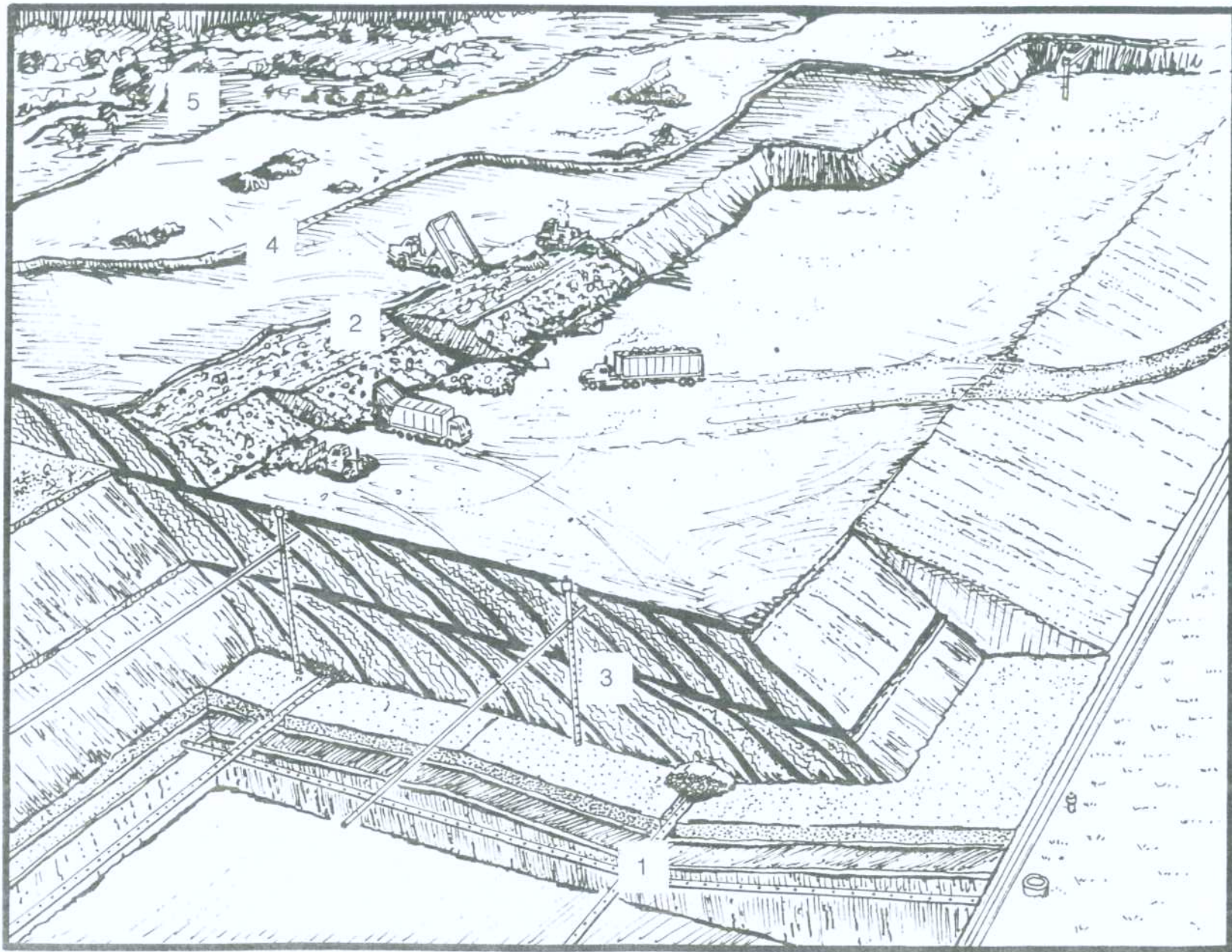
There are many inefficient forces in our "civilized" world that can be "sharpened" and "focused" better to

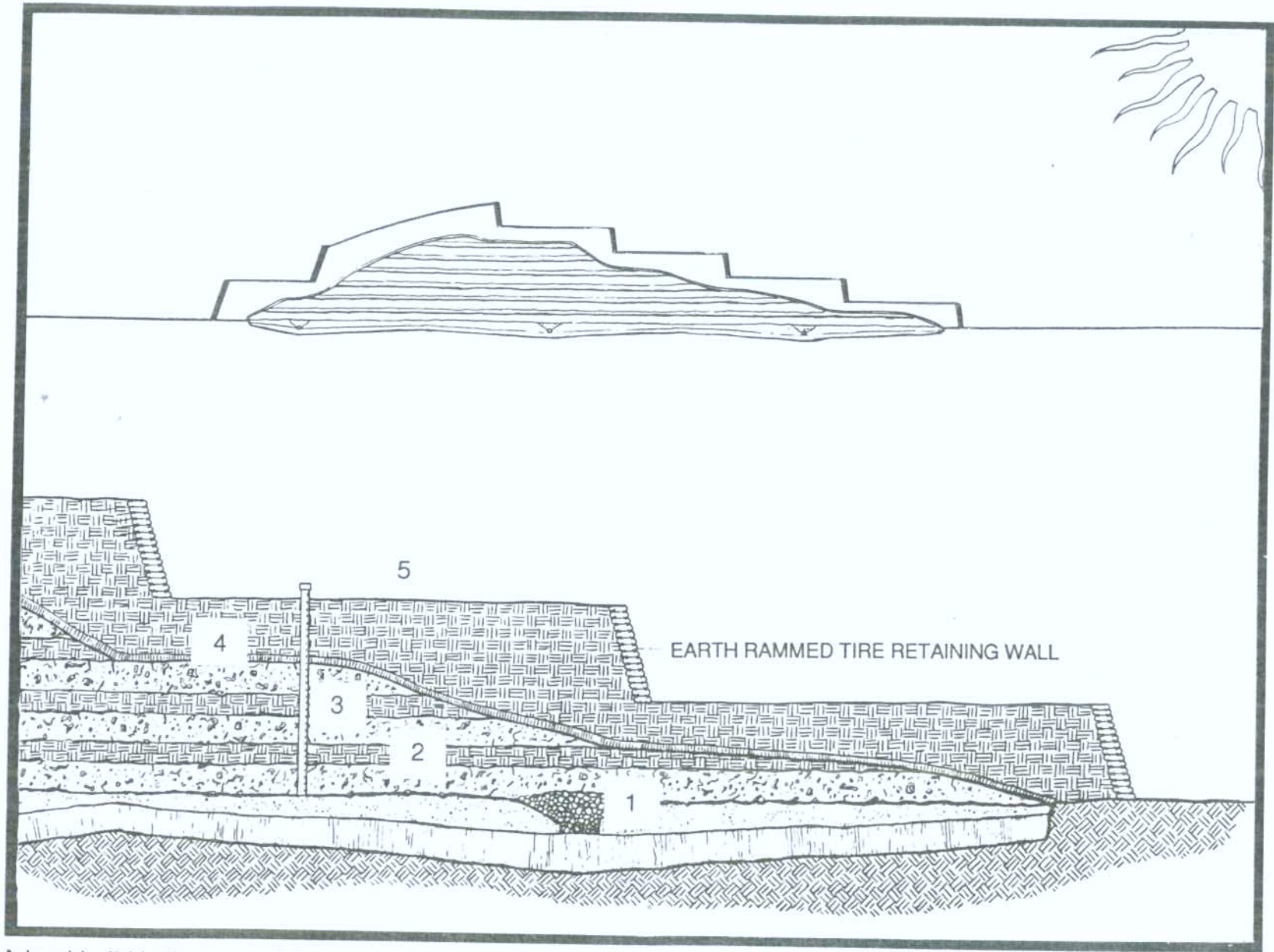
yield more. Our pompous traditions and dogmas are really the things that inhibit our natural evolution. *Tradition and dogma are products of intelligence. When looked at with a broad scope through a large window of time, intelligence begins to look like an "adolescent type" phase that humankind must go through to evolve. Let's hope we make it through this phase soon. The trees and the plants have been able to maneuver **beyond intelligence** on their way to unity with the planet. Imagine if trees and plants had dogmas and egos, there would be **war in every garden.***

Every town and city has a budget for a land fill or other method of garbage disposal. Any independent company can bid for the disposal of the garbage from that municipality. The "budget" is the amount of money the city currently spends on waste management at a specific land fill site not including the actual pick up and transportation of the garbage. Based on existing "phenomena", this is apparently enough to purchase or lease land, dig monstrous holes and bury the garbage with heavy equipment and labor. Now let us say that we use this existing phenomenon to create a "land build" rather than a "land fill". A normal land fill involves a giant pit filled with layers of garbage and layers of earth as shown on the following page.

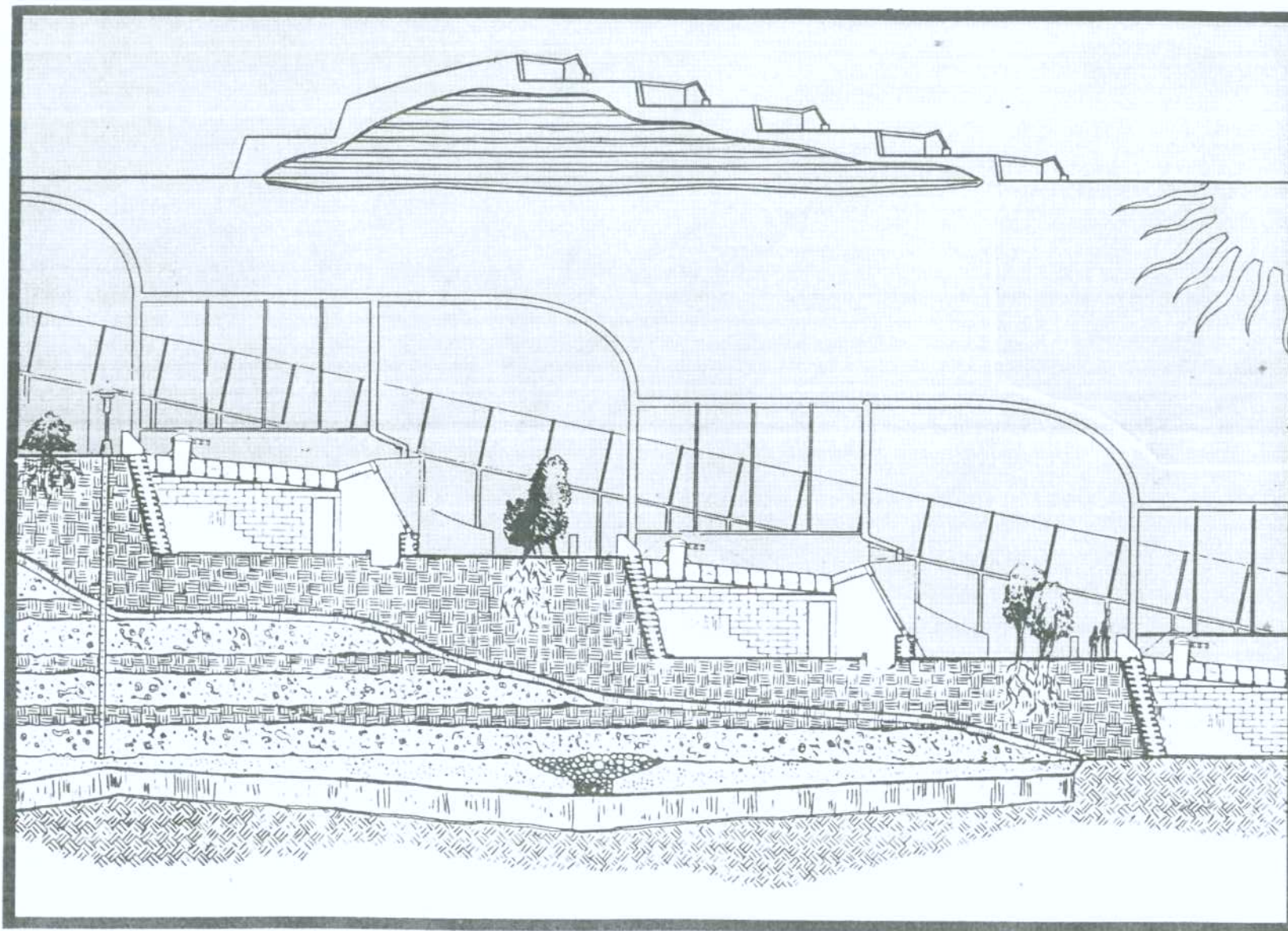
Land fill description of next two diagrams:

1. Perforated pipes collect leachate that has percolated through the trash and channels it to a treatment center
2. Unloaded and pushed into place and covered daily
3. Pipes collect methane gas
4. Impermeable clay seals landfill after it has reached capacity
5. Structures can eventually be built on top of the final layer of soil

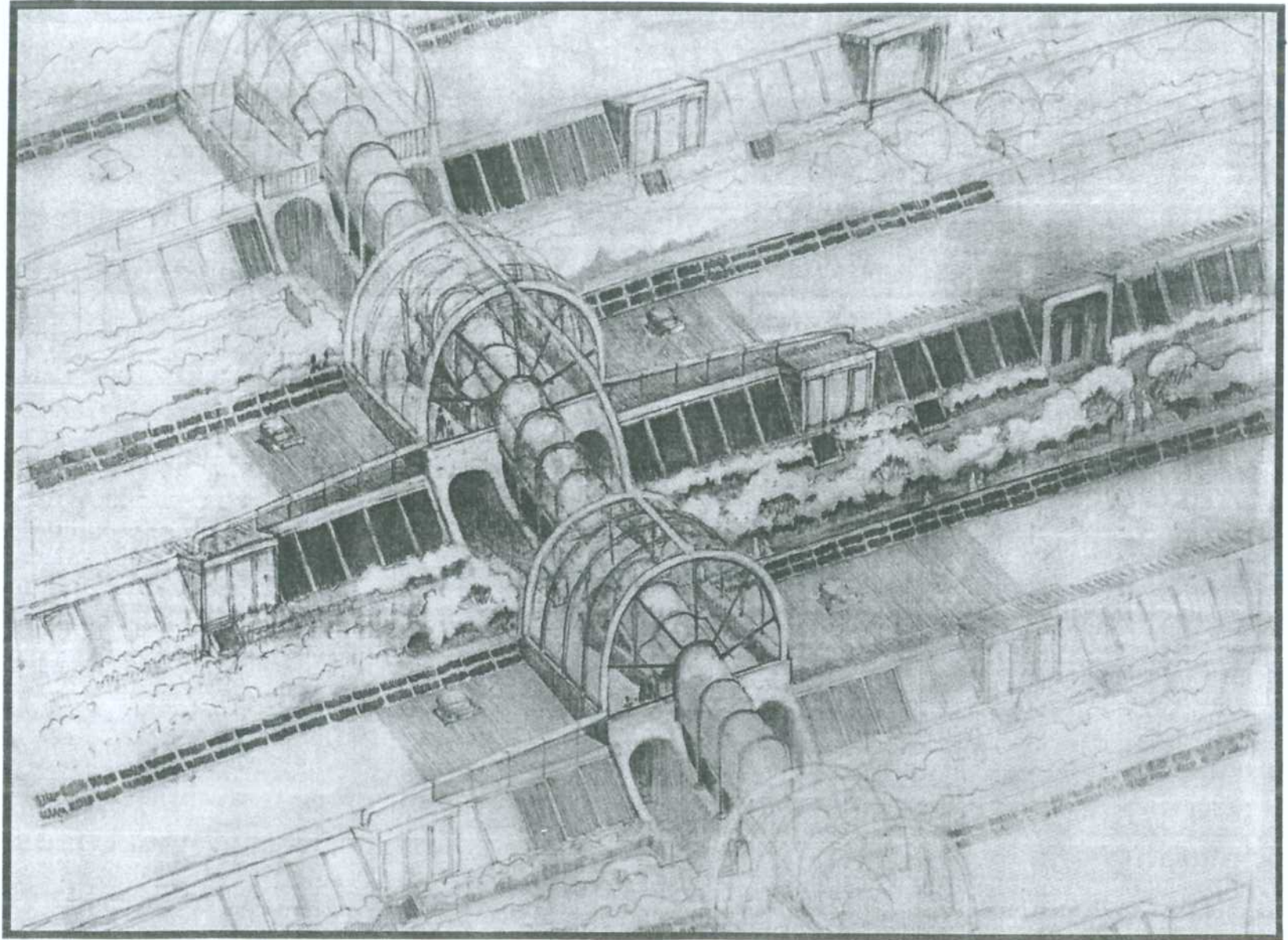




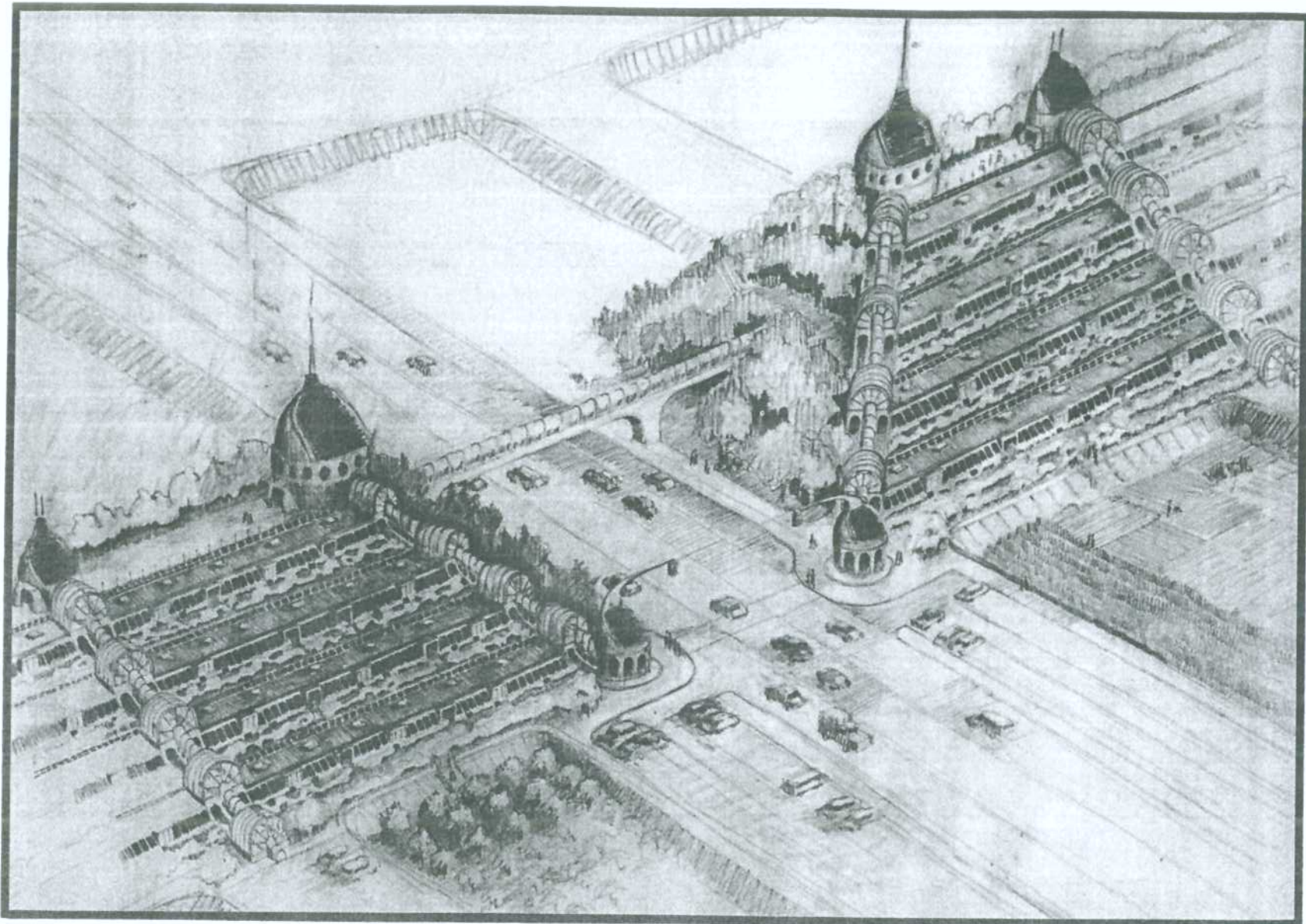
A land build is the same thing only it is on top of the existing grade rather than below.



The south side of the **land build** could be used for: **Earthship** lodgings. An example of a **land build** in use is shown above.



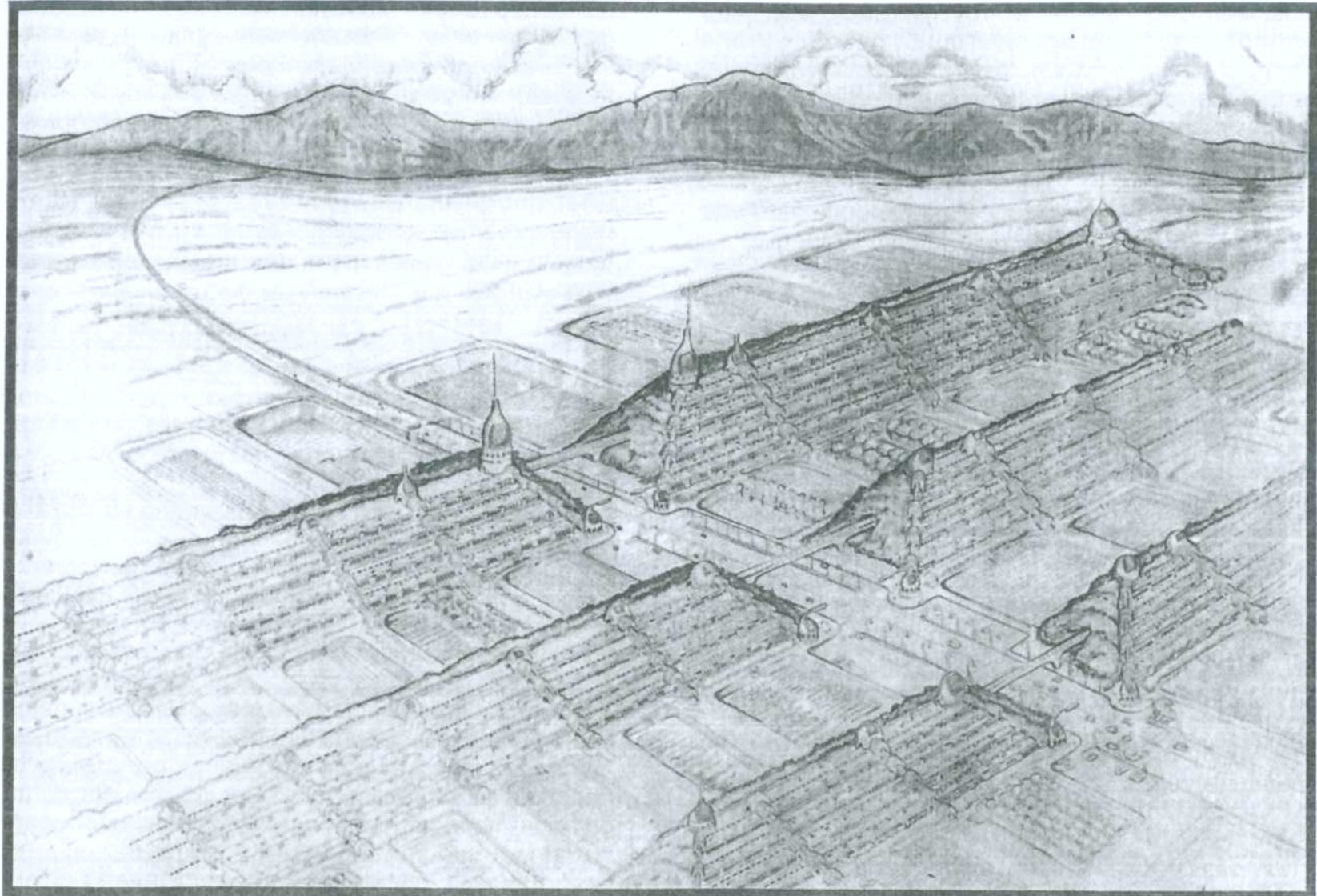
This is an over view of a land build Earthship colony.



Land builds can spawn colonies of Earthships built into the perfect land configuration

Whole cities can be shaped out of flat lands. We could shape the terrain to suit the needs of the future in an effort to align with existing human influenced

and natural phenomenon. Below an example- a land build city created in the flat lands of Texas from El Paso's garbage.



Garbage is a phenomenon of our age. We can't change that overnight, yet we need an overnight solution. *We must therefore use a force that is already at hand - we only need to redirect it.* **Use the existing garbage force, budgets, and economics to make a "land build"**. In the northern hemisphere we could manifest south facing terrain for ideal **Earthship** developments via the waste management avenues that already exist. Soon, cities grow from their own garbage.

Let us dream here for a moment on how this "land build" could emerge.

*The first occupants are workers on the site; i.e as soon as Earthship shelter of any kind is available, it is used by the construction workers for temporary offices, workshops and bunk type housing. This reduces construction costs and co-ordination. On site temporary housing is a good attraction for student and learner types and free housing is trade for lower cash pay. We have already begun to use this approach in our REACH and STAR communities and it works. Now, low income housing evolves out of this situation. The main reason the lodgings are low income is because we expect a psychological garbage stigma or "vibe" to be present initially which will discourage higher income tenants from initiating this type of project at first. We have experience at this because **we have been building with garbage for over twenty years.** Of course, we have millionaires building garbage houses now so we know the garbage "vibe" fades quickly when performance and livability set in. As the "garbage vibe" fades and the strong, durable, embracing architecture begins to prevail, a softness begins to*

emerge as plants and human input do their part. Then low income people suddenly realize they have a higher income market for their homes. The Earthship neighborhood evolves into a very desirable place. It blooms. This results in the lower income people (who actually "wore out" the garbage vibe from the land build) having the opportunity to capitalize on a "buy low - sell high" situation. They in effect would be the pioneers of this new frontier in human habitat thus creating opportunity for themselves and a harmonious earth friendly future for others.

After more than twenty years of design and development evolving the **Earthship** we always have in mind the "easiest" terrain for an **Earthship** development.



If a "land build" were to create this terrain, it would be like paving the way for a community of **Earthships** much the same way as a highway paves the way for motorists to travel on. This would mean that the garbage management budget (a significant one) for any

metropolitan area would (with the same stroke) be the budget for zone preparation for off the grid **Earthship** housing. The generic **Earthship** design would fit into this **land build** perfectly. **We are talking about a living system which is the by product of our present condition.** We would be like the trees dropping leaves that rot and make soil for the baby trees to grow in. We drop our garbage (and our dogma) and a new breed of housing springs forth from the environment. This housing changes the face of the earth both physically and spiritually.

Now lets look at the more dense urban application near the city core.

LAND ASSEMBLAGE SUPER STRUCTURE

The cities must accommodate half of the housing units for the next decade. Many city cores in America are decaying while their suburbs are flourishing and devouring vast quantities of energy, water and what is left of the countrysides. We could contribute to the retardation of suburban sprawl and the conservation of remaining lands by taking advantage of the great potential of the city core for human housing.

This can be done by means of planned dwelling increases within the city providing Earth friendly accommodations attractive to all human beings.

Physically attractive - it must provide physical comfort and pleasure for the human body. This must include comfortable exposure to the elements as well as shelter from them.

Mentally attractive - It must not impose a way of thinking or reacting on an individual. It must allow

his/her mind to function freely and individually. It must be an asset to mental health rather than a detriment to it. Housing can and has effected the mental attitude of whole communities.

Financially attractive - it must be capable of adapting to the poor person's pocketbook as well as allowing the wealthy people to utilize theirs.

Environmentally attractive - it must accommodate the Earthship concept in the city as fully as it is used in rural areas. If the rural Earthship vessel were compared to an environmentally friendly automobile - an urban superstructure would be a "parking lot" for environmentally friendly vessels.

PROPOSALS

1. We are proposing a lodging scheme that will provide the suburban amenities such as: an exterior yard, auto parking near the unit, freedom to individualize one's own unit, psychological distance from the city and community identity. These *suburban amenities* would be coupled with proximity to and involvement in the *amenities of the existing central business district* such as: central business district entertainment, shopping, employment, cultural activities, religious centers, and civic activities. This concept would bring together the best of both types of life (urban & rural) in a city housing scheme that is totally an expression of the people and planet - **green architecture in the city.**

2. We are proposing a lodging scheme that could be placed in the heart of a city without interrupting the commercial conduct of that city. The commercial potential of an existing square block near the city core is too valuable to be replaced with

a residential complex. At the same time, however, the commercial potential of a city core would be greatly increased if a residential complex were there to make use of it. As with the land build this would create a tax base with no new utility obligation on the municipality.

As it is now, the existing residential areas are providing their own commercial facilities in our suburbs. These suburban "cities" compete with and weaken our existing city cores. As a result our city cores are losing their strength symbolically and physically. This is especially true in medium sized cities such as Albuquerque, Louisville and Indianapolis. For this reason we are proposing a "**residential blanket**" over a typically structured commercial complex in the city core. This commercial complex would be of a similar concept to that of existing city floor commercial facilities, thus aligning with the existing fabric of the city core and at the same time providing the people needed to make it prosper. The dwellers within the **residential blanket** would be within arms reach of the central business district amenities. The concept of the **residential blanket** would be such that it would provide individual dwelling amenities heretofore found only in the suburbs.

3. We are proposing a lodging scheme that is adaptable to any income bracket in any city. The scheme would be capable of providing for many different income brackets simultaneously in mass or singularly. All classes of people must be considered in order to fully revitalize our cities.

Even though incomes vary, the basic needs for physically and mentally healthy, inspirational accommodations are the same for all human beings. These needs would become the conceptual foundation for a framework into which low, medium and high income dwelling types could be injected. **Inspirational accommodations should be available to all.** This will do more toward changing our planet than any platform of any political party.

4. We are proposing a lodging scheme that would use the same concept to produce a different type of complex in every city. The people (and the climate) would be the variables which bring about this difference.

The ideas and attitudes of people vary in different parts of the country. Climate varies in different parts of the country. Lodging should reflect these ideas attitudes, and climatic differences. Lodging should be an expression of people and planet. As it is today people are becoming an expression of their poor quality housing and the planet is tragically not even being considered.

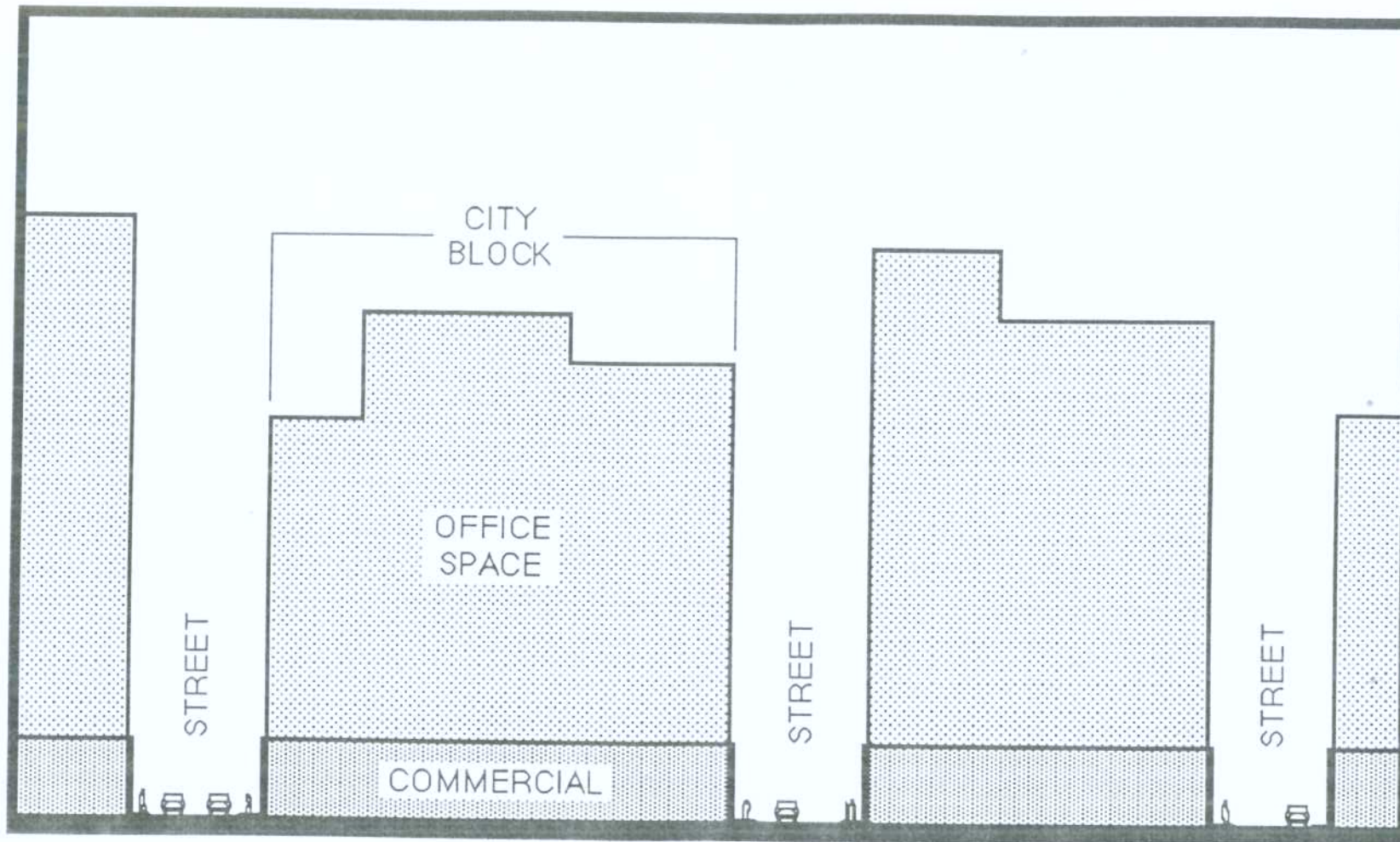
In most high density lodging schemes today the total design of the complex is so tied down by the architect and investors that their ideas, attitudes and financial motives are imposed upon the tenants and the environment. To solve the large-scale urban housing problems of today, **an environmentally functional and humanely aesthetic "breed" of inspirational dwelling accommodations must be developed.** These accommodations must allow for the financial, psychological, and

physical differences in human beings with the existing activities of the planet being their common denominator. A super structure would supply the physical and functional needs (building sites, vehicular and pedestrian access ways, etc.) for a residential community in a way which advocates a peaceful coexistence of all races, creeds and classes in the same intra-city community in harmony with the planet. Thus the super structure would accommodate any approach to **Earthship** dwellings be it owner-builder or developer produced. It should be capable of handling many types (high/low income) of housing simultaneously or individually depending on the need of the city. We have found in our rural communities (REACH and STAR) that a community needs both high and low income people to conveniently function. The high income people usually need the wage workers to build, maintain and caretake their units for them. The lower income wage workers usually need higher income people to provide these jobs for them. An example of how this could work in an urban higher density community is as follows: *A "high roller" buys a volume of building space in the "urban mountain". The high roller buys enough for his own unit plus some rental or investment units. He then builds for and rents to the wage workers or better still subsidizes their building of their own units near him. This way the high roller has a hand in selecting the wage worker types to help maintain and caretake his/her compound. This same scenario can also happen by chance. We have seen this happen in the REACH and STAR communities.*

5. We are proposing a super structure within the city that simply increases the usable land area by

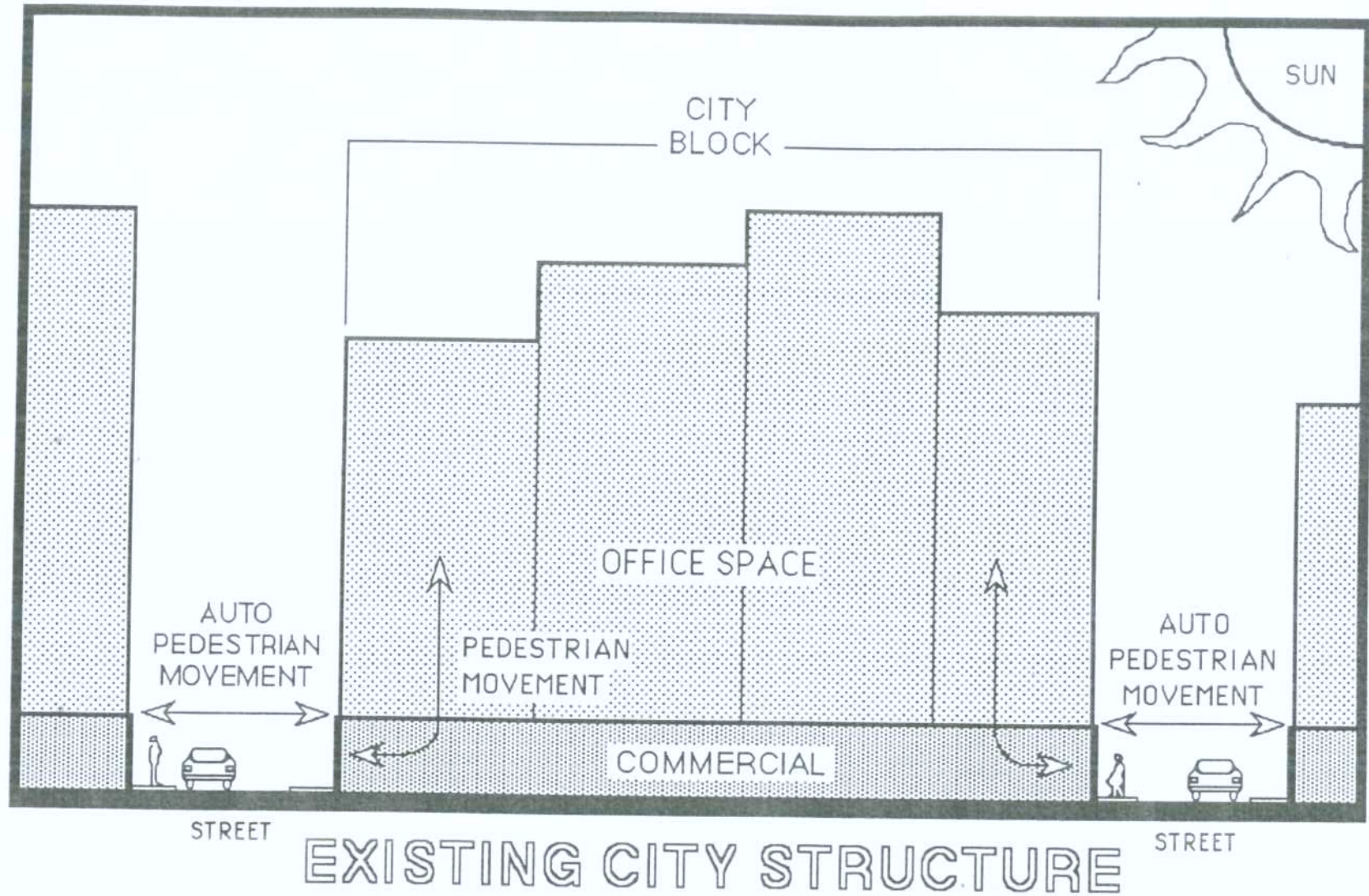
creating land areas stacked or overlapped above ground. They would be assembled in such a way so they would still receive sunlight, rain, breezes, etc. The super structure would provide the necessary auto/pedestrian access ways as the suburban developments do. Into this super structure low, medium, or high income dwelling types could be injected. The potential to build an Earthship independent of existing over-taxed utilities would now exist in the city. They could be singularly built, totally individual homes with the same freedoms of building that a rural or suburban site offers. However, if the need be to meet a demand and provide for the poor, mass produced economy units could be injected. These would be required to meet certain specifications but would still allow individual freedom within and without. This is similar to the same highway providing for a BMW or a Chevy Nova.

This structure would be a "**land assemblage**" superstructure and could be re-used by different "vessels" in the same way as land itself or highways. The superstructure would be designed with the permanence of raw land.



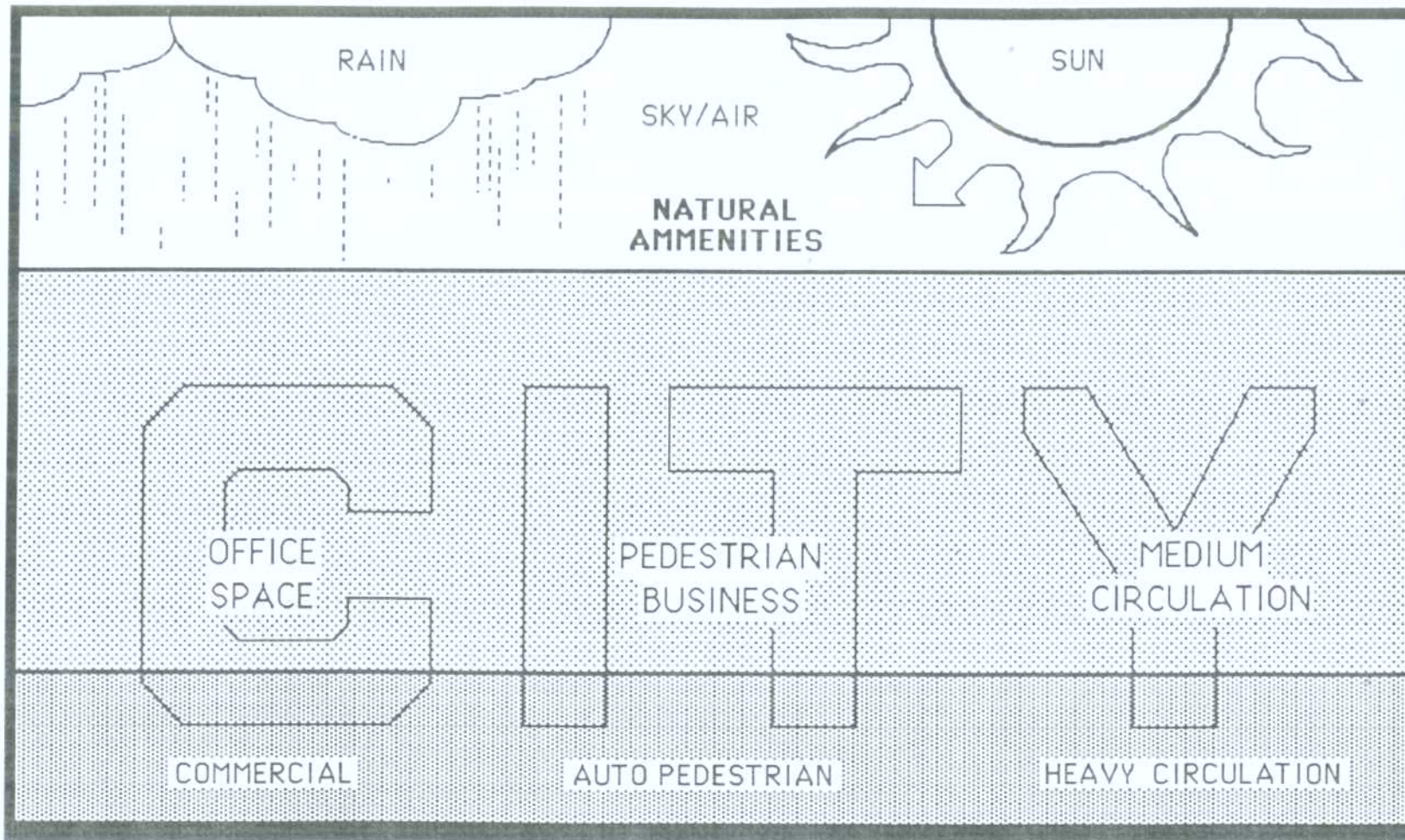
EXISTING CITY STRUCTURE

Where in the city can people live without interrupting the existing city structure? The existing city structure has a cohesive and commercial value to the city; it can not be conveniently interrupted.



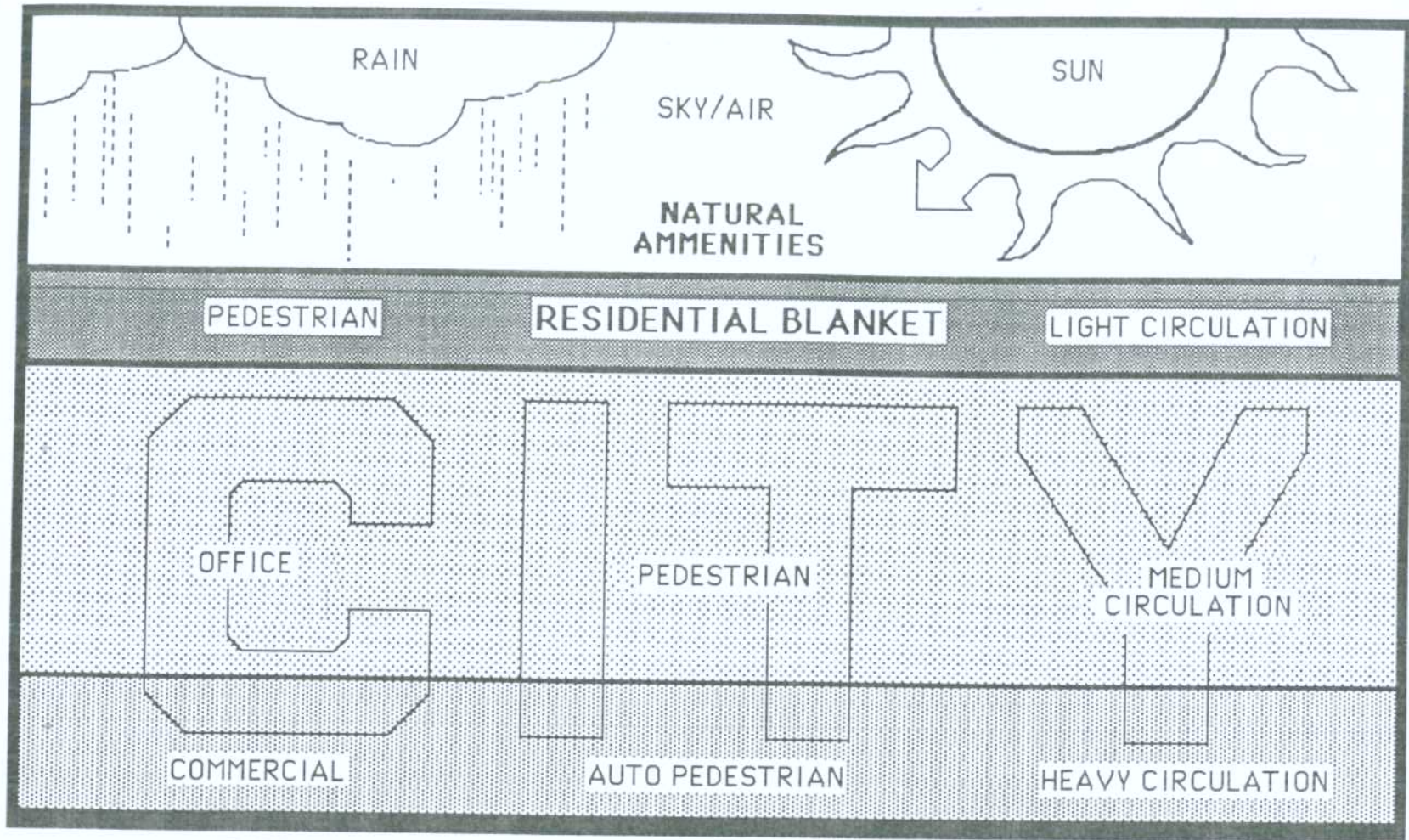
EXISTING CITY STRUCTURE

What part of the city has the most to offer toward a pleasant residential environment for people? One part of the city answers both questions.



CITY STRUCTURE ABSTRACTION

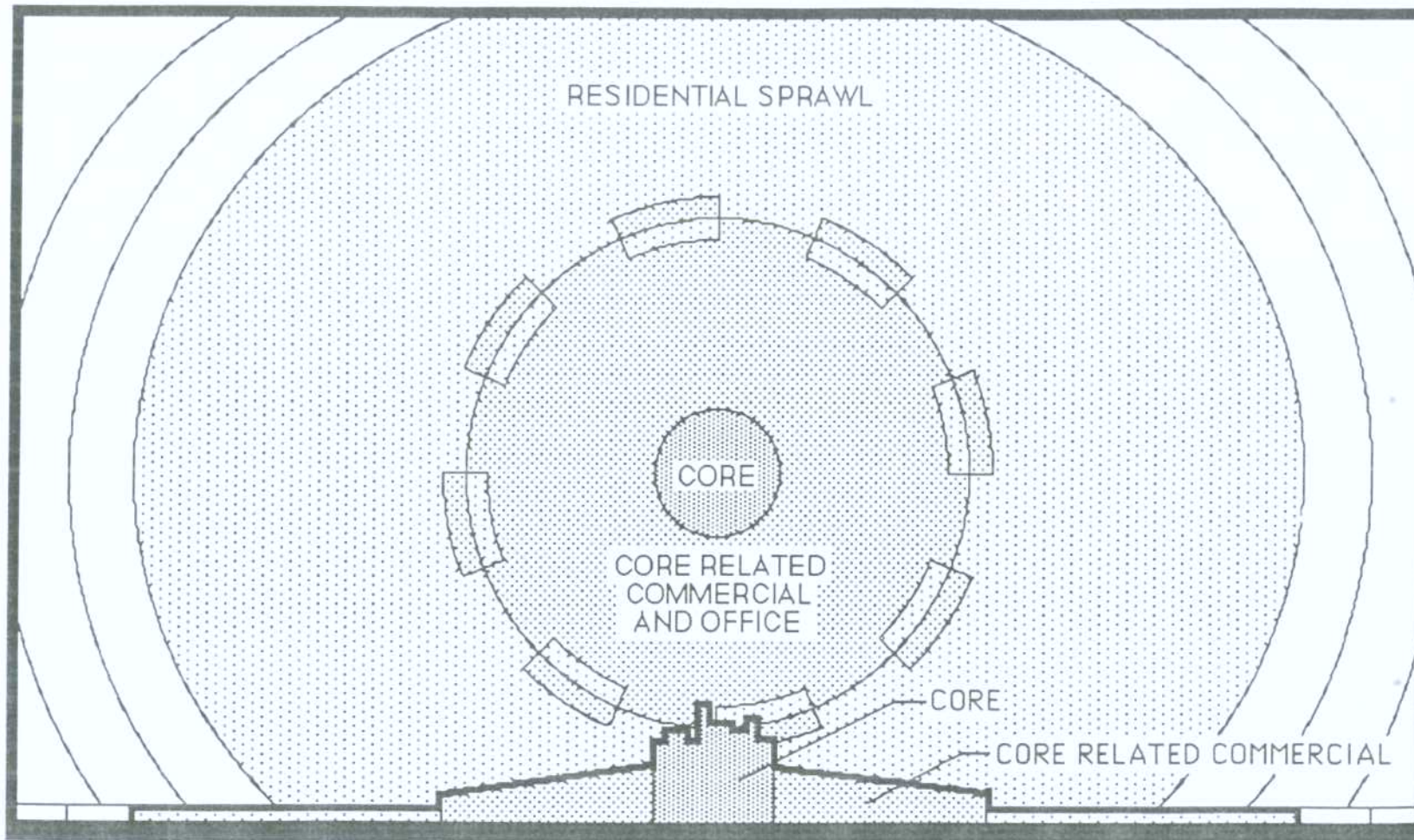
An abstract view of the city emphasizes the part of the city that is wasted - the part of the city that offers more usable area than the entire city floor - the part of the city that could be utilized without affecting the existing conduct of the city - the part of the city that has potential for a pleasant and healthy residential environment.



CITY STRUCTURE ABSTRACTION

WITH APPLICATION OF RESIDENTIAL BLANKET

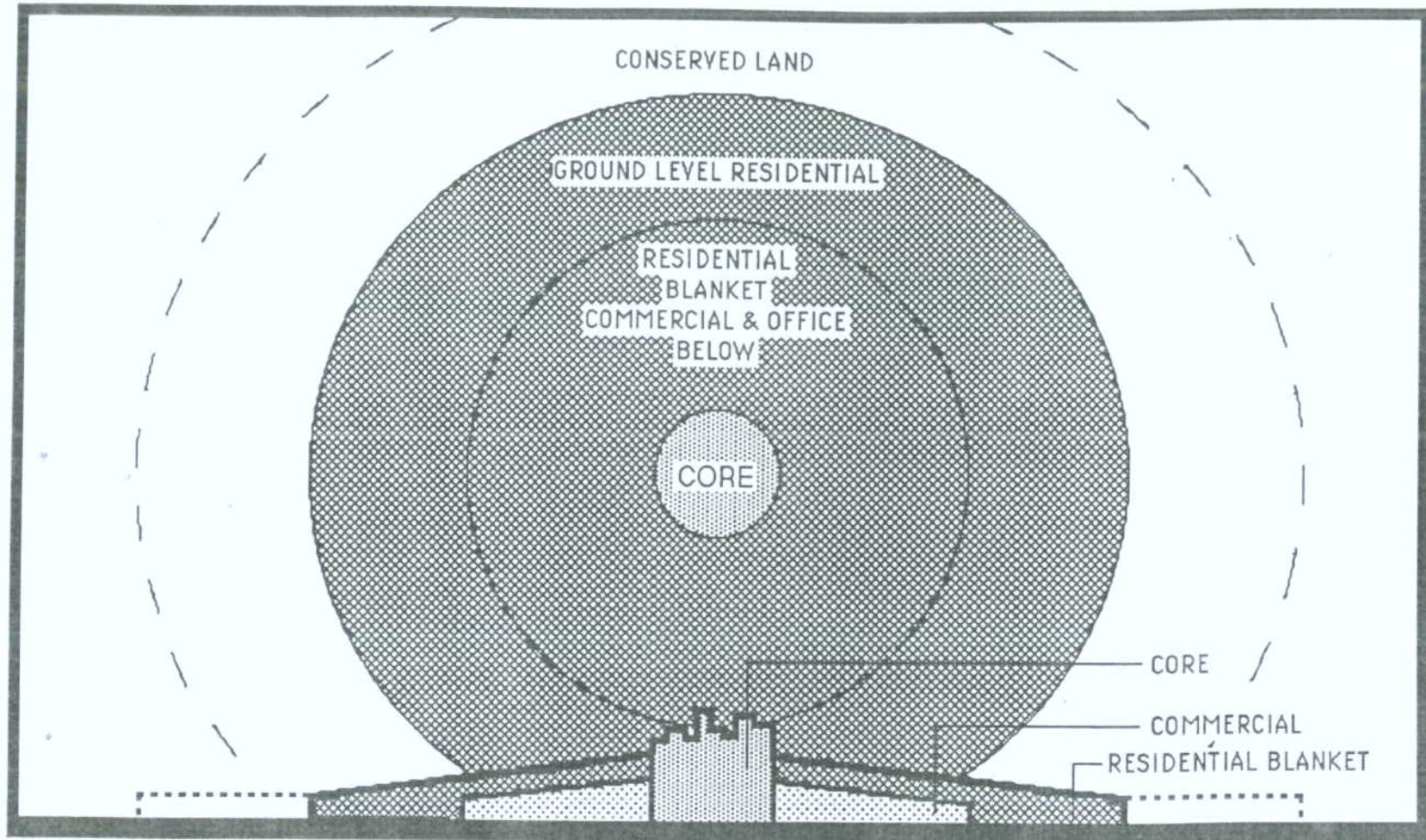
People belong on top of the city: to take advantage of exposure to the natural amenities, to be removed from the intense activity of the city floor, and to take advantage of the view, sky, sun and air. The **residential blanket** does not interrupt the existing conduct of the city:



CITY ABSTRACTION

PLAN AND SECTION OF TYPICAL CITY

Because of the sprawling structure of existing residential areas around our cities, almost as much land is eaten up by suburban streets as by housing. This consumes much more land and consequently puts people farther from the city core.

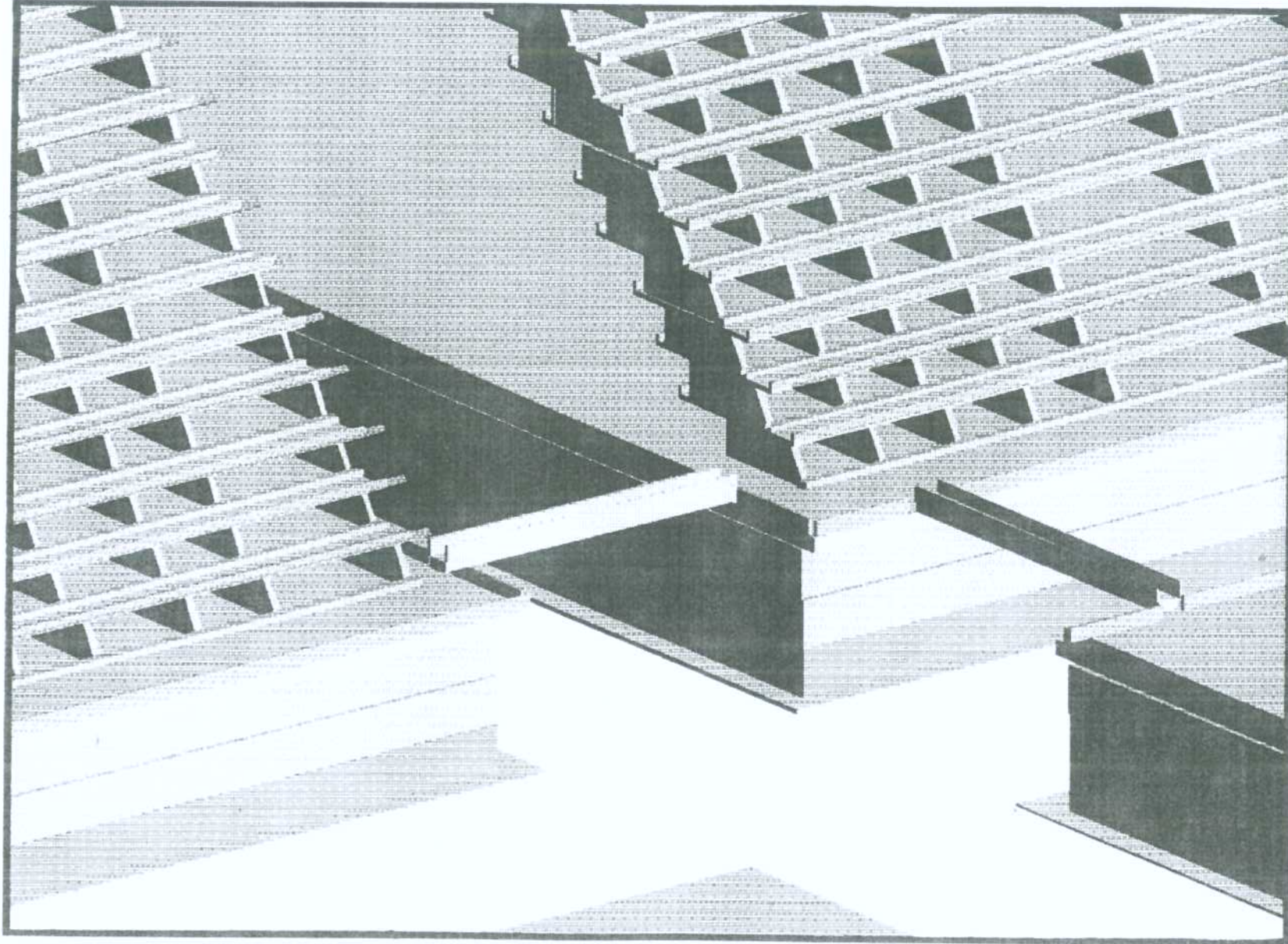


CITY ABSTRACTION

PLAN AND SECTION SHOWING CONSERVING EFFECTS OF RESIDENTIAL BLANKET

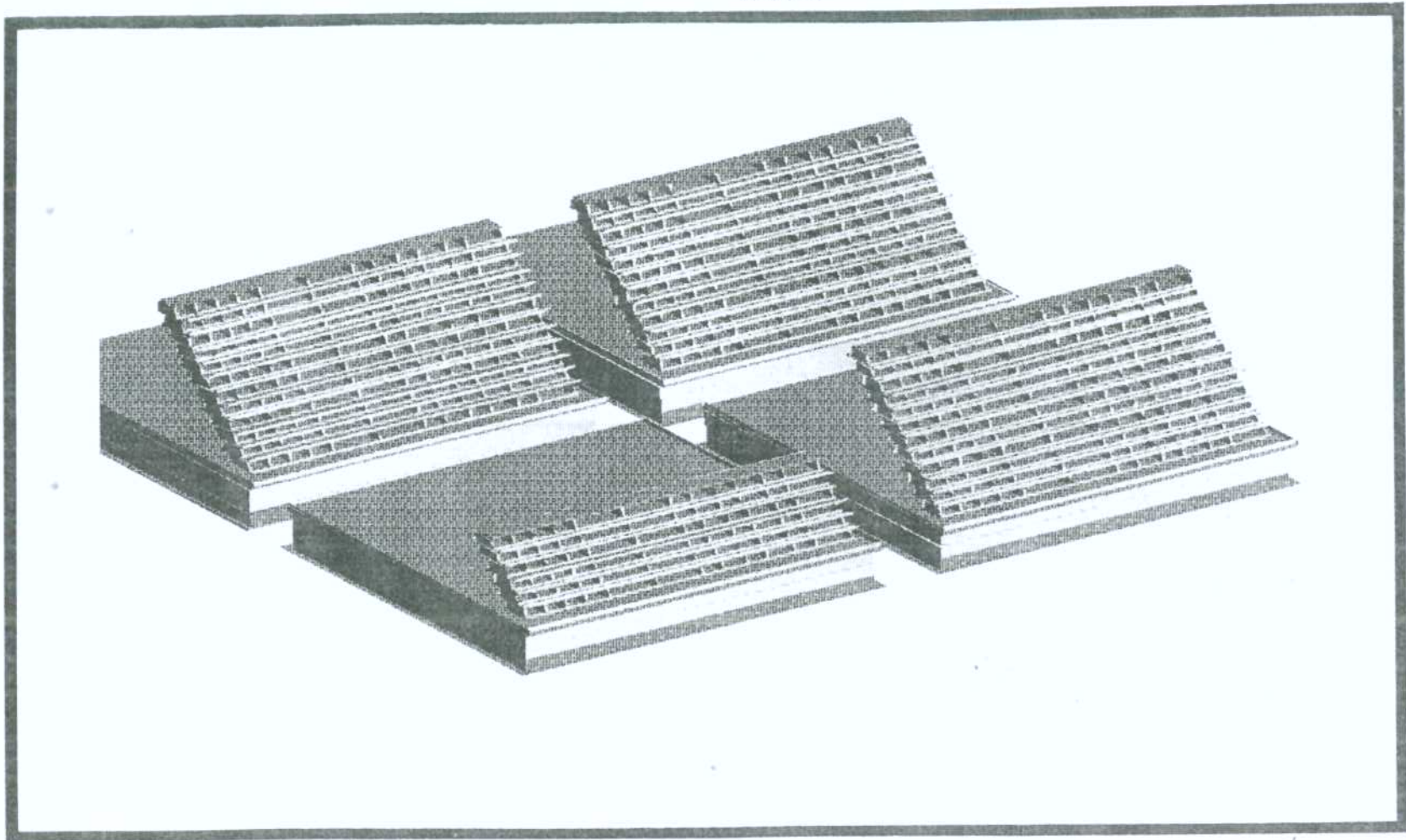
The same amount of housing units offering the same amenities can be blanketed over the commercial and office space. The stepped and overlapped system which can be used has a condensing affect. With this type of blanket system, a great amount of land can be conserved which would otherwise be used for suburban sprawl. The city is revitalized as people are able to live closer to and make use of the existing facilities of the city core.

The previous proposals would constitute a concept for a land assemblage super structure right in the heart of the city, into which independent **Earthship** type dwellings would be injected.



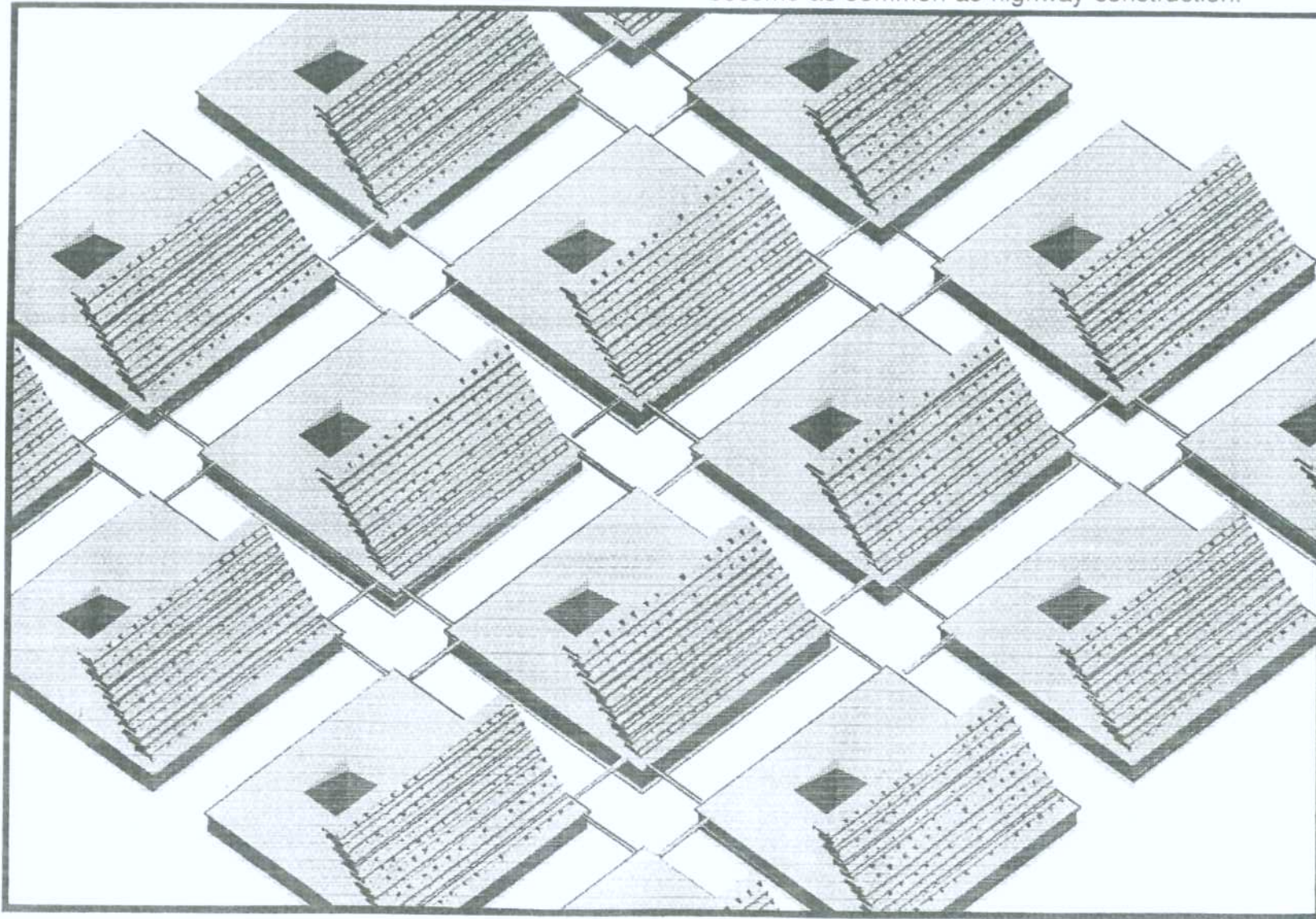
The super structure would be placed in the city but its nature would be such that it would offer the coveted amenities of suburban life. It would simplify the initial construction of units in that two surfaces of volume would already be present (top and bottom). Structural support and auto/pedestrian access would be immediately available at each site. The definition of

the unit itself (based on rural Earthship systems, components and technique) would be all that is required. If this scheme were used on a large-scale in several cities the *original superstructure* or various forms of it could be identically repeated in every city without being monotonous or stereotyped as the Earthship dwelling infill would make each superstructure one of a kind.



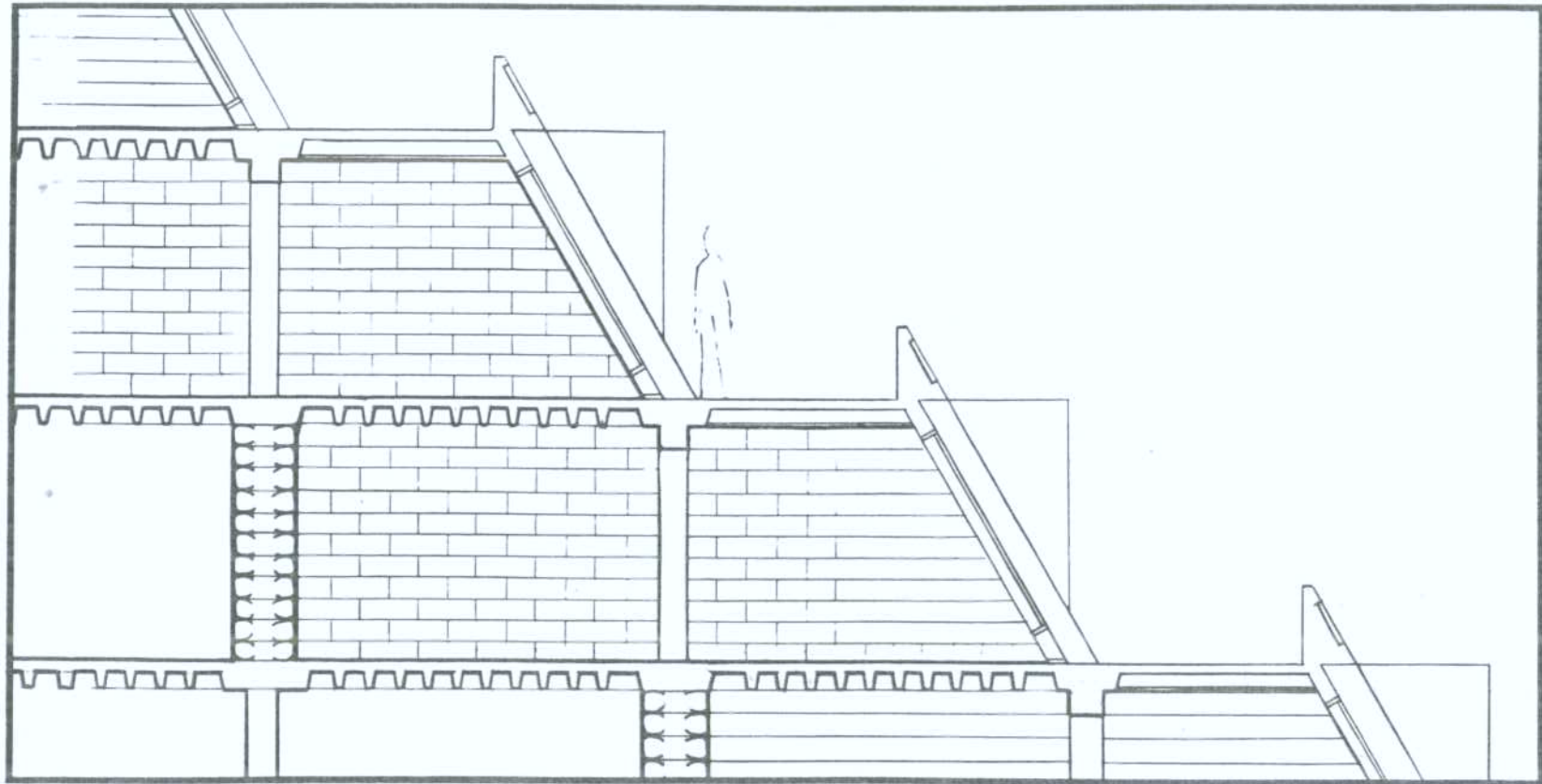
The type and character of the dwellings that are injected into the residential blanket would determine the final appearance of each intra-city community.

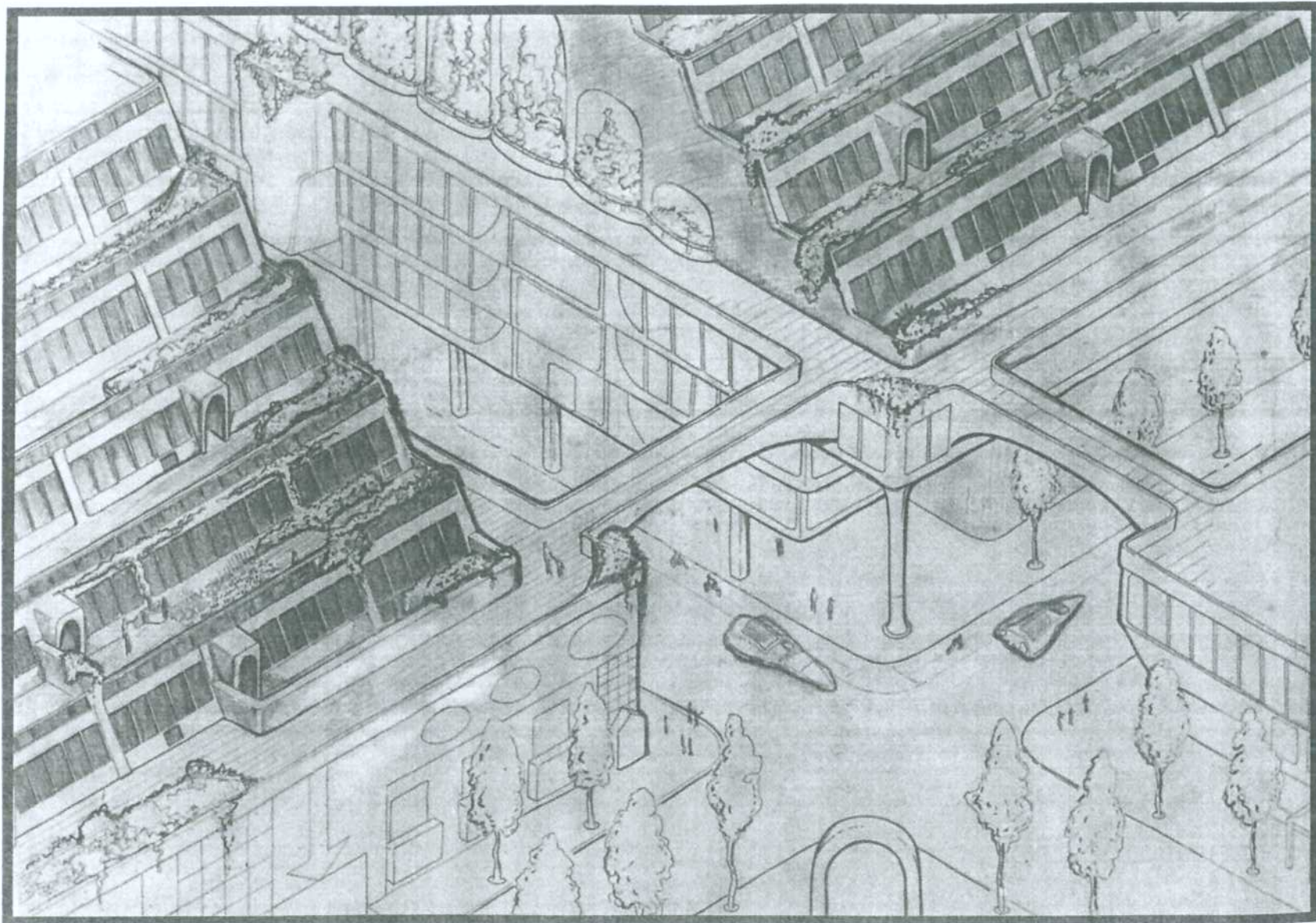
Thus every city could have its own identical series of "land assemblage" plans and specifications. The construction of the "land assemblage" would become as common as highway construction.



Earthship dwelling elements or components would be mass produced to specifications relating to the "land assemblage" superstructure just as autos are mass produced to specifications relating to our highways. Techniques would evolve unique to this situation but the results would be the same as rural Earthships - independent earth and user friendly dwellings.

In addition to residential sites being sold or leased individually, "land parcels" from the residential blanket (or the commercial volumes below) could be sold or leased in any quantity to private developers. This concept simply increases the permanent re-usable land area available to sell or lease to the public in an existing city block. The permanent and re-usable qualities of the "land assemblage" would insure its eventual cost return.





EARTHSHIP SUPER-STRUCTURE NEAR CITY CORE.

PART FOUR
1993 NEW DIRECTIONS



