Slide Lock Systems of Wisconsin, Inc.

– Durable Biospheres –

Kurt Haberman

Table of Contents

Executive Summary

COMPANY NAME: Slide Lock Systems of Wisconsin, Inc.

CORPORATION: “C” Corporation

FOUNDED: 1999

INDUSTRY: Biospheres **/** Modular Structure

SEEKING FUNDING: Above $10 M

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PROBLEM

Severe global disasters, both man-made and natural, continue to inflict high levels of death, illness, and injury on people, and equal damage to crops, infrastructures, and buildings, yet we are doing close to nothing to seriously address the problem. Two types of disasters that need for a cure include radiation releases from malfunctioning nuclear power plants and climate/weather disasters that are becoming more powerful and more frequent by the decade.

Globally, the Chernobyl nuclear power plant disaster resulted in $500–billion in property damage, 1.3-million deaths, and 780-million people contaminated from the Ukraine well into Scandinavia and central Europe. U.S. nuclear disasters were not quite as severe as Chernobyl, but their collective damage is still astonishing. The following table shows their effects individually.

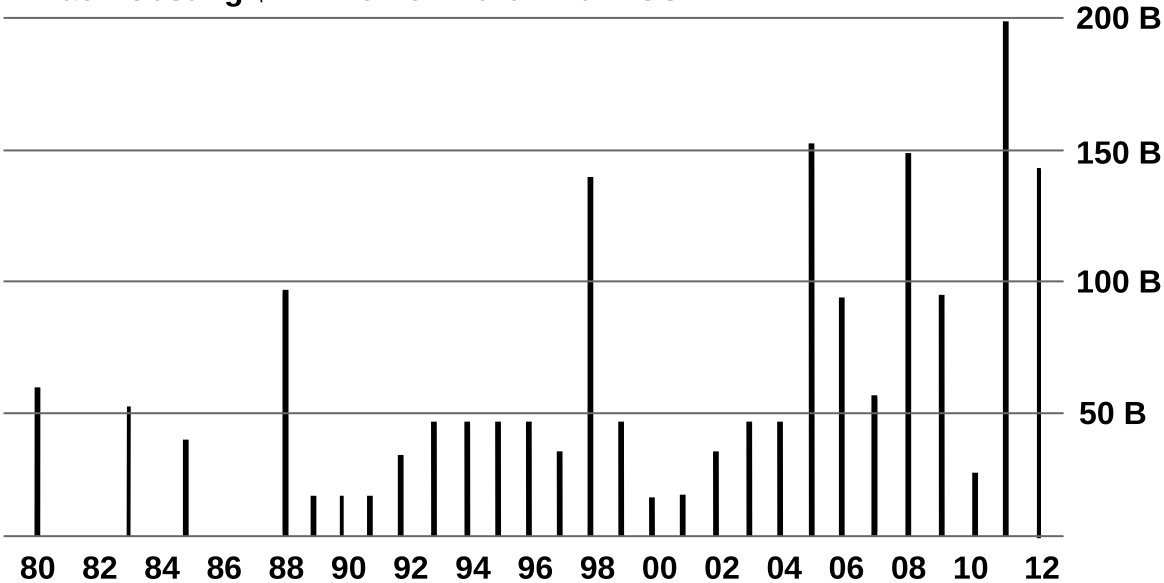
The Eight Costliest U.S. Nuclear Power Plant Disasters 1980–2012 in Decreasing Order of Overall Damage—2012 USD

Year – Power Plant – State – Cause of Incident	**Damage**	**Deaths**	**Sickness**
1980 Indian Point, NY – flooded water system	588 B	50 K	167 K
2011 San Onofre, CA – steam tube failure	427 B	62 K	52 K
2012 Limerick, PA – cooling system power loss	410 B	148 K	1.2 M
1999 Millstone, CT – steam leak	400 B	54 K	60 K
1991 Diablo Canyon, CA – burst coolant pipe	313 B	20 K	23 K
2012 Seabrook, NH – jammed valve	313 B	14 K	54 K
1995 Salem, NJ – faulty ventilation system	285 B	200 K	140 K
1982 Susquehanna, PA – electrical fire	224 B	88 K	107 K
Totals	**3 Trillion**	**636,000**	**1.2 Million**

According to the IMF, natural global disasters cost a total of $652-billion in the 1990s—15 times more than in the 1950s. Further, approximately 2.6-billion people were affected by global natural disasters over the past 10 years, compared to 1.6-billion over the previous decade.

From 1980 to 2012, the U.S. sustained 133 climate/weather disasters that cost $1-billion in damage or more, for a total economic loss of $875-billion. These same U.S. natural disasters also increased in number from just 1 in 1980 to a record-breaking high of 14 in 2011—the most for any year on record—for a total economic loss of $200-billion—see chart below.

Economic Losses from U.S. Climate/ Weather Disasters 1980–2012 —Each Costing $1-Billion or More—2011 USD



A good number of scientists feel that climate change is the cause of these growing disasters, which, in turn, would support the popular belief that our own fossil-fuel burning and ozone depletion are the causes. Either way, our atmosphere now has more heat and more moisture, which is exactly what disasters need for greater power and frequency—and most experts agree that this is just the beginning of these events—it is our future.

Such information can be a bit shocking, but the real problem is that overall human development on Earth has remained completely vulnerable to these disasters. Put simply, nothing has been changed to truly prepare ourselves for nuclear disasters or growing natural disasters, namely: hurricanes, tornado-outbreaks, heat-wave/drought, and river-floods.

- The annual number of global natural disasters has grown from fewer than 100 in 1975 to more than 400 in 2005.
- U.S. natural disasters killed 1,114 people in 2011—2x the 2010 annual average.
- In 2011, a record high of 99 major federal disasters were declared.
- 2011 was 6-times more destructive than 2010.
- From 1950 to 2011, midwest storms doubled in annual occurrence.
- **748** tornados appeared in April 2011—the most for any month of any year.
- On April 7, 2011, **226** tornados appeared—more than any single day on record.
- In early March 2012, **223** tornados appeared in the midwest and southeast —the most for any March on record.

1980–2012 U.S. Climate/Weather Disasters That Cost at Least $20-Billion

Year – Disaster – Affected Areas of U.S. Records & Extremes	Damage		Deaths	Illness & Injury
	Property	Crop		
1992 Hurricane Andrew—LA, FL	59	2	6,780	200
2004 Hurricane Ivan—AL, FL	20	1	52	67
2005 Hurricane Katrina—LA, MS, FL the costliest natural disaster in U.S. history	134	3	1,800	17,446
2005 Hurricane Wilma—FL	21	1	63	3,280
2008 Hurricane Ike—LA, TX	28	1	112	70
2012 Hurricane Sandy—Northeast Coast	60	2	191	60
Subtotals	**322**	**10**	**8,998**	**21,123**
1980 Heat Wave / Drought—Midwest, East	3	56	7,000	9,000
1988 Heat Wave / Drought—Midwest, East the costliest deadliest heat wave in U.S. history	5	81	15,000	7,000
2011 Heat Wave / Drought—South, Southwest	6	18	230	15,370
2012 Heat Wave / Drought—31 states the largest natural disaster area in U.S. history	2	77	10,000	8,000
Subtotals	**16**	**205**	**32,230**	**37,370**
1993 The Great Mississippi River Flood the costliest flood in U.S. history	27	8	50	522
2008 Mississippi & Missouri River Flood 11,000 evacuated – 4,000 homes destroyed	15	6	24	362
Subtotals	**42**	**14**	**74**	**884**
2011 358-Tornado Outbreak—MW, South, East the largest tornado outbreak in U.S. history	15	9	349	2,400
2011 242-Tornado Outbreak—MW, Southeast	14	7	177	1,300
Subtotals	**29**	**16**	**526**	**3,700**
Overall Totals	**437**	**245**	**41,888**	**70,097**
Combined Crop & Property Totals	**$ 672 Billion**			

1980–1994 Most-Extreme U.S. Geologic Disasters—2012 USD

Year – Disaster – Affected Areas – Records & Extremes	Damage	Deaths	Injury
1980 Mount St. Helens Eruption—Washington State the costliest deadliest eruption in U.S. history	2 B	57	20
1989 Loma Prieta Earthquake—San Francisco 12,000 people made homeless – Nimitz Freeway collapse	11 B	63	3,757
1994 Northridge Earthquake—Los Angeles the costliest earthquake in U.S. history	26 B	60	7,000
Totals	**39 B**	**180**	**10,777**

SOLUTION
In response to the increased damage potential of future U.S. disasters—as evident after 2011 and 2012—Slide Lock Systems designed a highly-durable, self-sustaining, domed biosphere—intended to protect indoor crops and human functions indefinitely through almost any disaster—except for a direct hit by a bomb or a meteorite. However, close hits at a safe distance just might be sustained.

The best operating definition of a biosphere is: "A self-sustaining environment where humans could survive for an indefinite perid of time on the food, oxygen, water, and light provided by the inner environment." The Slide Lock biosphere would fit this definition easily, since backup lights and grow-lamps would be used when sunlight is blocked by volcanic ash on the outer surface of the dome—such lights would have years of backup in storage.

At 320-feet in diameter and 146-feet in height, this facility of stainless-steel and high-impact glass is being presented as apartments or condominiums, but the facility could easily support a civic center, a medical clinic, offices, disaster-relief, science, education, tourism, or any combination of such functions. Whatever the function, outdoor conditions could be completely ignored as occupants go about their daily lives indoors.

As a residential facility, the biodome would provide 100 occupants with 48 double-units with support from dwarf fruit trees, hydroponic vegetables and grains, fresh fish, eggs, chicken, goat's milk, clean filtered water, and secured 24–7 access to the outdoors through top-level air-locks that maintain indoor autonomy.

The main-level park has a 100-foot-tall atrium and contains 3 types of oaks, 2 sugar maples, and a honeylocust, but only if the biosphere is located in certain areas of the U.S.—and only as an example of the tree sizes that will fit in the park with liberal open space to spare.

To minimize the cost of this biosphere without reducing it's volume or it's durability, the entirely double-curved convex-outward shape of the enclosure would use a minimal amount of structural material to enclose it's inner-volume, which results in optimal structural-efficiency.

BUSINESS MODEL
Recently, an indoor horticultural facility at the London Zoo cost an estimated $100 Million USD, but the facility only serves as a cluster of greenhouses, whereas the proposed biosphere would also serve as a self-sustaining, disaster-ready, multi-use facility with additional support systems. As a result, the total cost of this overall project could be higher than the facility at the London Zoo.

It is also envisioned that an initial outlay of funds would be required before biosphere planning and construction could begin. Such activities would consist of professional services, site excavation, the installation of wind and solar components, and the manufacture of biosphere structural components.

Regardless of these early-phase costs, this project would easily attract media organizations from around the world well before construction even begins––no matter where the facility is to be located. As a result, there would be quite a few opportunities for investors to capitalize on the project's well-known status.

For example, as a primary source of revenue, business tenants and corporate interests would pay big for the exposure and prestige that the biosphere would bring. Any rentals or sales that would generate therefrom would be backed by extensive waiting lists and would likely produce the vast majority of revenue coming from the biosphere. Such high-paying tenants might also consist of health professionals, legal representatives, research firms, science groups, and civic groups—both long-term and short-term.

As one of many possible secondary sources of revenue, high-cost year-round tours of the biodome could be conducted indefinitely. Such tours would be like magnets for tourists, biologists, botanists, and students, but would also accept any group or individual with an interest in the facility.

Another secondary source of revenue could be the continuous sale of fresh super-healthy fruits and vegetables, grains, beans, and animal feed—all from the biodome's highly-productive hydroponic systems and dwarf fruit-trees. Such produce would be in high demand during droughts that are affecting local farmers' livestock and crops, or grocery store chains looking for the healthiest produce they can get, or anyone looking for the freshness and quality of biosphere produce.

Once a model biodome has been built and is proven self-sustaining, demand for similar facilities would skyrocket. The business model is thus one for a long-range project, where investments would begin to return as soon as rentals or sales begin, and they would continue for the life of the biosphere, which could last indefinitely.

For savings, the proposed structure of this facility would save tremendously on materials and construction labor due to it's remarkably efficient shape and inner walls that serve as bracing structures and as dividers of open and enclosed bays. Additionally, the use of Slide Lock's interlocking panels, when investment-cast, would also bring in big returns every time a new biosphere is built, since they would all come with continually reusable molds—which would significantly reduce individual panel costs.

Market Analysis

MARKET SEGMENTATION / COMPETITORS

The market for durable biospheres has so far been unanswered. However, there is a market for bunkers, monolithic domes, geodesic domes, and other braced domes—but no truly self-sustaining biospheres.

Monolithic Domes are formed by spraying concrete onto a balloon shape that supports a grid of steel-reinforcement bars. The process happens quickly, but the resulting domes have a few drawbacks.

The main problem with monolithic domes is that reinforced-concrete has a far lower strength/weight ratio than steel—thus a steel structure can support a heavier load than a concrete structure that has the same weight—at about the same cost. Another problem is that balloon-supported construction limits the size of what can be built. Also, glass-filled metal-framed domes transmit far more sunlight than monolithic structures, which transmit little if any sunlight at all.

Monolithic Domes states that their residential domes are FEMA approved, but because they are limited in size, they are also fairly restricted to residential and commercial markets. Altogether, the disadvantages of these domes outweigh the advantages, especially when compared to clear metal-braced domes that can cover large areas more efficiently.

Geodesic Domes, like that of Spaceship Earth at Epcot Center, are structures of stainless-steel tubes and nodes that form an overall geometry of maximum strength and stiffness over all other frame geometries—except in spans exceeding 300-feet—where Lamella Domes take over, as in the proposed biodome and the Superdome—which has the largest span in the world.

Geodesics have other problems too, mainly because they employ both hexagons and pentagons at the simplest level. This leads to dissimilar non-equilateral triangles right from the start, and the more these triangles are subdivided, the more they add to the number of different-shaped pieces overall. Without doubt, such complexity would drive up the cost of a large geodesic significantly.

Buried Metal Bunkers Most people have heard the old quote: “An ounce of prevention is worth a pound of cure” —a smart truth, but the owner of Atlas Survival Shelters is more blunt, saying: “Better prepared than scared.”

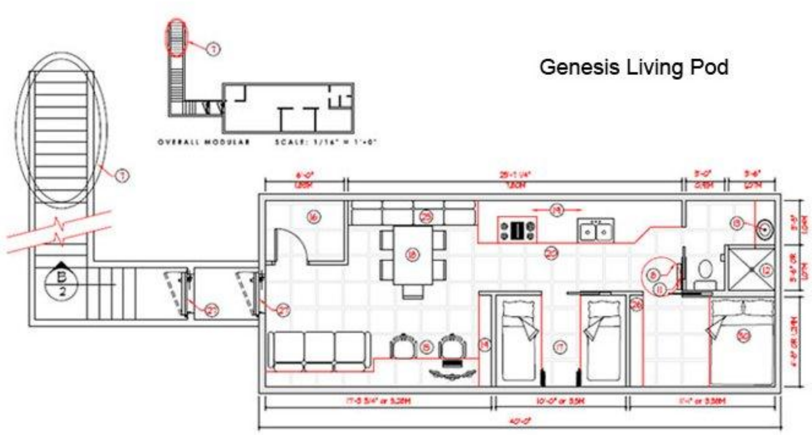
This company offers 10-foot x 32-foot tubes of corrugated metal buried 20-feet below ground with an access hatch above. The shelters start at $50,000 and come with 10 free acres of land, but so far, no shelters have been sold.

The shelters are a fairly good idea, but once again, long-term self-sufficiency through indoor crops is absent in the design. The units are also relatively tight on space and are void of natural light. Over time, such conditions can impact occupant psychology, which limits the amount of time occupants can spend riding out long-term events with prolonged after-effects.

Constructed between 1987 and 1991, **Biosphere 2** in Oracle, Arizona was an experiment in enclosed living where 8 occupants were to live for 2 years without exiting. The facility, occupied or not, has always been used to explore enclosed ecosystems, and continues to provide tours as well. This biosphere's main emphasis was on being self-sustaining, but not on resisting severe disasters.

The most significant lesson from this experiment was that curing concrete extracts oxygen from the air. As a result, CO_2 levels fluctuated extensively and most of the vertebrate species and all of the pollinating insects died. In the analysis, enclosed CO_2 had reacted with the curing concrete, forming calcium carbonate on it's surfaces, and thus taking oxygen from the overall ecosystem.

Single Genesis Living Pods can be purchased to suit small families offering a very high level of safety and security.



The Genesis Series—The World's Leading Pre-Fabricated Steel Shelter.
The Genesis units of Hardened Structures provide disaster-readiness well, but they do not support sustained living. The enclosing structure is also geologically

vulnerable in several areas. In essence, the Genesis design is a completely-buried family-sized shipping container with modular interior design. The system is said to be protective through a wide range of disasters, including 2012 scenarios.

The structures are supposed to be durable even in the most demanding scenarios, but the rectangular form being used is susceptible to bending, warping, and crimping under severe geologic loads, so siting the unit safely is important. Further, where the access tunnel connects with the pod there is another weak spot all along the connection depending on which direction the earth might move in.

The only price Hardened Structures provides on their website is for a pre-fab fallout shelter, about the size of a shipping container, for a family of 6, which sells for $38,000 but still does not support sustained living.

Survival Bunkers offer protection but do not offer sustained living. An ABC video on survival bunkers featured a remodeled bomb shelter in the Mohave Desert with perhaps 1,000 beds which is selling beds for adults at $50,000 each and $25,000 each for children. Another feature was a converted nuclear missile silo in Kansas, perhaps a couple dozen floors, where a full floor costs $1,750,000

According to an ABC feature on survival bunkers, a remodeled bomb shelter in the Mohave Desert has 1,000 beds selling at $50,000 for each adult, and $25,000 for each child—but there are no self-sustaining living accomodations. Another type of unit that was featured was a converted nuclear missile silo in Kansas with multiple levels and a full-floor cost of $1,750,000.

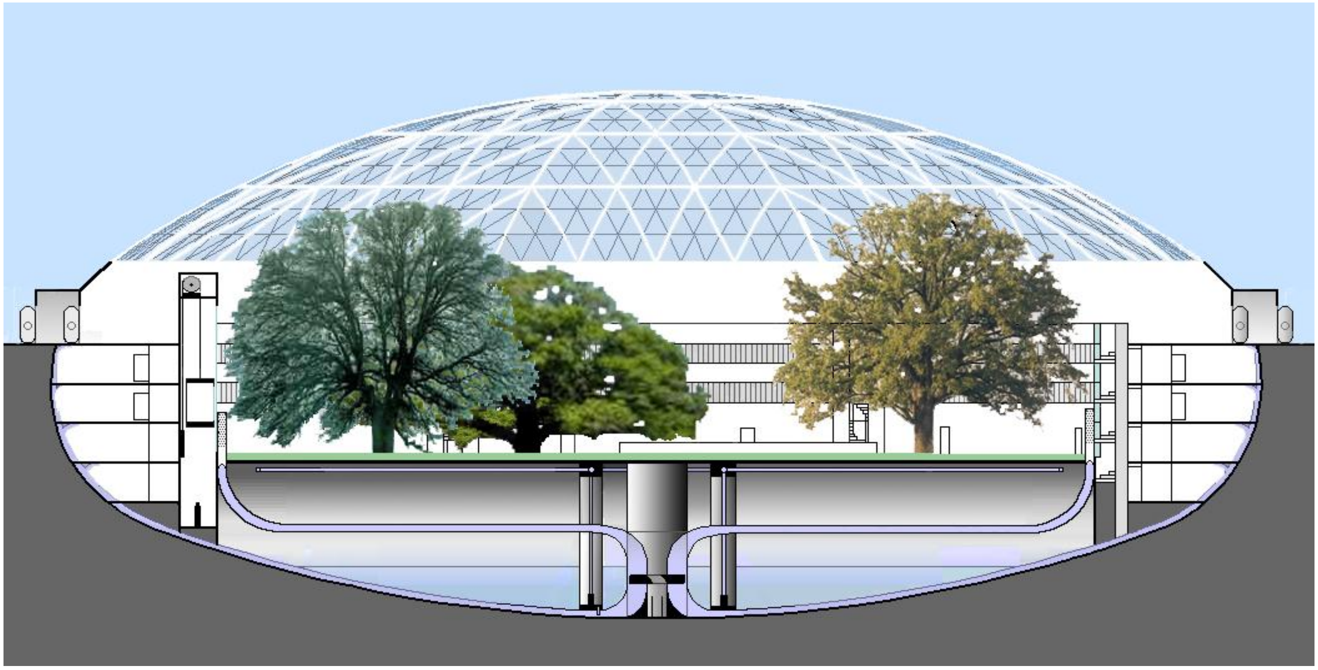
INDUSTRY ANALYSIS

In contrast with the above projects, Slide Lock's durable biosphere would offer many features that our competitors do not, such as: **1** an occupancy capacity of 100 persons, **2** an unpredictably-long service life due to high-durability, guaranteed food-production, pure water, and production of oxygen from plants and algae,
3 spaciousness of private units and atrium open space would rid the biosphere of the oppressive feeling of underground bunkers.

To date there are no biospheres that have proven to be completely self-sufficient. So there certainly are no working biospheres that are disaster-ready either.

Products / Services

DURABLE BIOSPHERES / MODULAR STRUCTURE—PAGES 9–18



Cut-Away View of the Proposed 320-Foot Self-Sustaining Biosphere | 48 feet |
Designed by Kurt Haberman

	Acres	Sq. Feet
Building Footprint	**1.8**	**80,425**
Total Interior Area	**4.3**	**186,396**
Biodome Levels:		
1 **Basement Ring**—secondary hydroponic systems, back-up batteries, electrical system controls, replacement furniture, spare parts, spare equipment and such	**0.4**	**17,341**
2 **Main-Level Park—**space for swimming, tanning, walking, fishing, games, picnics, relaxation, hobbies and such	**1.2**	**51,472**
Main-Level Ring—primary hydroponic systems, dwarf fruit-trees, chickens, goats, fish tanks, and biodome composting	**0.5**	**24,982**
3 **Lower Residential Ring—**1,326 square-foot single-units for two and/or 2,652 square-foot double-units for four	**0.6**	**31,824**
4 **Upper Residential Ring—**same as level 3	**0.6**	**31,824**
5 **Upper Concourse—**air-locks, exercise-equipment, walking and jogging tracks, lounging and socializing furniture arrangements	**0.5**	**28,953**

Note: The above cross-section and the biosphere plan on page 11 collectively show the trees at full maturity to show how they would fit in the biosphere after 100+ years of growth since being transplanted at low-maturity. To increase the probability of good health among trees, plants, and humans, all of the dome's window panes would be coated with a thin film of UV-blocking material.

The Enclosure **diameter** 320-feet **total height** 146-feet
The biodome enclosure is shaped by the following factors in order of importance:
1 The entire biodome enclosure is a single convex-outward surface to uniformly distribute and diminish sudden external loads on the shell from any angle, including severe loads generated by earthquakes, hurricanes, and tornadoes.
2 The enclosure surface-area is completely minimized to save on material costs, manufacturing costs, and material transport costs.
3 The airtight, leak-free, inverted-dome foundation blocks radon gas while retaining and diverting all biodome groundwater to the central sprinkler pumps.

The Atrium **diameter** 256-feet **total height** 100-feet
Like earth, this biodome's atmosphere would consist of 78% Nitrogen, 21% Oxygen, and 1% Trace Gases including Carbon Dioxide and Methane, which would naturally rise to the dome's apex where a simple spark would split the methane into Water-Vapor and Carbon-Dioxide. Due to daylight heat and the biodome air system, atrium air currents would mix gases together considerably.

Optimum Humidity For the physical health of the biodome occupants, indoor relative humidity would be consistently held between 45% and 55%. This prevents the formation of viruses such as cowpox, polio, influenza, measles, and herpes—bacteria such as mites and fungi—and conditions such as respiratory infections, allergic rhinitis, and asthma. Certain harmful chemical interactions and the production of ozone would also be minimized.

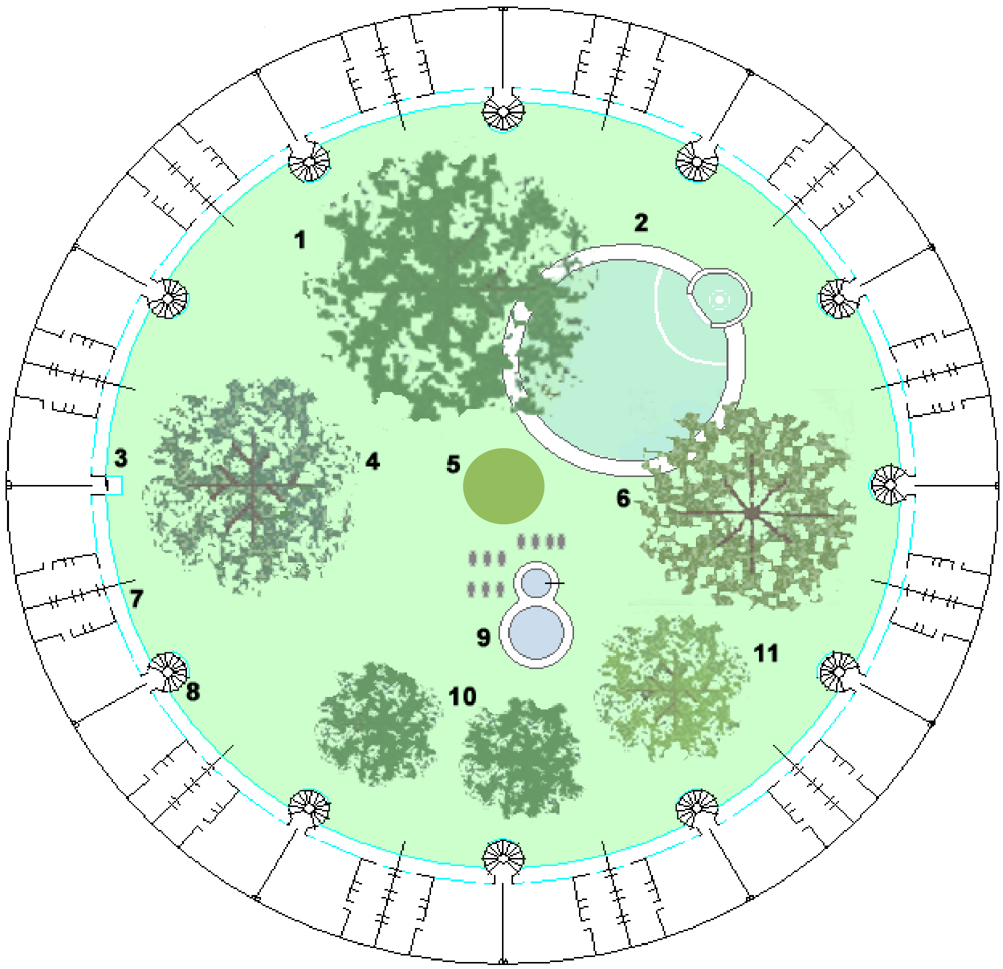
Earth-Tubes Earth-tubes are highly energy-efficient air systems that heat or cool a building's air to the region's annual average temperature year-round (*middle map - page 20)*. Replaceable UV-lamps would purify the system air by reflecting UV off the inner surfaces of the tubes all the way to their core.

The deeper and longer earth-tubes are, the greater their control over delivered air temperature and humidity. The 24 tubes of this biodome are 300-feet long end-to-end and are buried at 18-feet and 42-feet. The system is also close-looped to avoid bringing in hot or cold outside air.

The Groundwater Cycle When water drains downward from the main-level park through layers of mesh and various grades of gravel, the resulting water pools up at the central base of the biodome where it slowly infiltrates four, perforated, filtered, stainless-steel cylinders that purify the water with UV-light before it is pumped into the sprinkler system.

Biodome Plants and Trees Specific watering cycles and proper soils are essential to biodome trees and plants, but a facility's location would provide required daily sunshine (*bottom map - page 20*) and safe average annual lows as shown in the USDA Plant Hardiness Zones (*top map - page 20*).

As an example, this biodome's oak trees would do best in regions where 10 hours of average daily sunlight overlap Plant Hardiness Zone 8—the only zone that is common to all five tree specimens shown in the plan. In the case of this design, the resulting overlapping areas include parts of Texas, Arizona, and California. If the biodome was located outside Zone 8, the trees would be changed



Plan of the Biosphere Park and Rental Spaces Above | 48-feet | N

Key to the Plan:

1 Live Oak Detailed tree information is in the Appendix.
2 Oxygen-Pond 77-foot diameter, 6-foot depth. Phytoplankton, a blue-green algae, produces more Oxygen than any other source on earth. In this pond, Tilapia Fish eat the algae and return waste-nutrients for new algae to form.
3 Elevator 5-foot x 6-foot with windows—for handicapped and elderly units.
4 Blue Oak
5 Air-System Access Lid
6 Burr Oak
7 Structural Dividing Wall Interior biodome walls bear vertical loads and brace the perimeter wall against the sudden lateral loads of earthquakes and explosions.
8 Structural Stairs 11 cylinders serving all 5 levels
9 Pool/Jaccuzi Area 25-foot pool dia., 12-foot jaccuzi dia.—both with underwater UV-downlighting for safe continuous water-purification.
10 Southern Sugar Maples
11 Thornless Honeylocust

MODULAR STRUCTURE
As an option for biodome investors, Slide Lock's Structural Interlocking-Panel System has several advantages over conventional construction systems. The system is specifically designed to reduce construction times and labor costs without sacrificing the durability required for severe disasters. The primary advantage of this system is that it completely eliminates the time, labor, and money associated with bolting, welding, riveting, and fasteners of all kinds.

Versatile Shape Slide Lock panels can form single-walls, braced double-walls, and braced-floors, and they can be shaped as squares, triangles, rectangles, trapezoids, or parallelograms—all of which can be flat, single-curved, or double-curved—as long as the curved slide-joints follow arcs of circles—the only curve that will not jam.

Stainless Structure All panels in the biosphere structure are intended to be made of SS-316 stainless-steel. It has low cost, high-strength, high structural-efficiency, and excellent corrosion-resistance. In fact, SS-316 was used for the entire New Orleans Superdome and the entire St. Louis Gateway Arch. Here are some of this steel's most basic properties: **ultimate tensile strength** 190 ksi
weight 0.286 lbs./cu-in **strength/weight ratio** 664

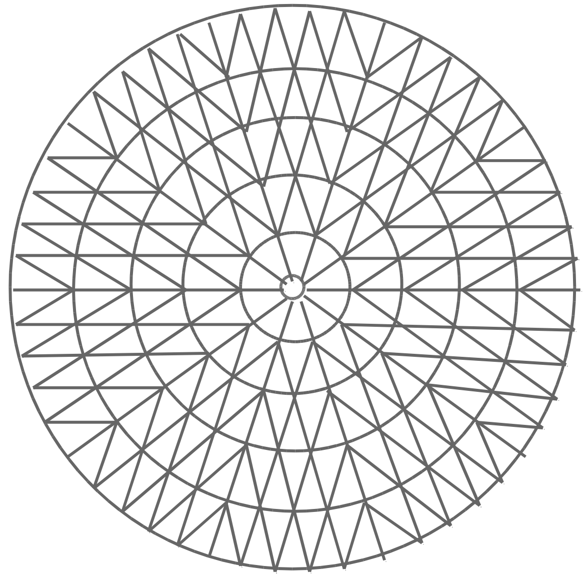
Panels of SS-316 would average 4-foot x 4-foot-square with 7-inch-wide interlocking sides that double as panel bracing. This results in a panel weight of 160-pounds, which results in a square-foot panel weight of only 10-pounds.
For a panel of such high-durability, this is very lightweight.

Precision Casting The panels of the interlock system are intended to be precision-cast. The method is so simple and effective that it has remained in use since early Egypt. Today, the process delivers high quantities, high production rates, a broad size range, unrivaled capacity for detail, and the highest dimensional accuracy in the metal-fabrication industry—within .005 and .001 inches per inch. This results in little to no costly tooling costs associated with multi-step forging, which makes the precision process highly cost-competitive.

Ease of Assembly To acquire smooth sliding for all panels, a single thin coat of solid lubricant/sealant is required, but only for one feature of an interlocking pair, which would cut lubricant costs by 50%. Teflon or an equivalent would allow for 50% compression of the coat thickness and becomes more slippery the more it is compressed. This would greatly speed up assembly of a structure that turns out completely airtight and water-tight.

This system allows for simultaneous panel placements throughout the biosphere structure, which results in an optimized construction pace. All wall panels would slide into place straight downward, and all floor panels would slide into place horizontally towards the enclosure.

Plan of the Clear, 320-Foot, UV-Blocking, Lamella Braced Dome



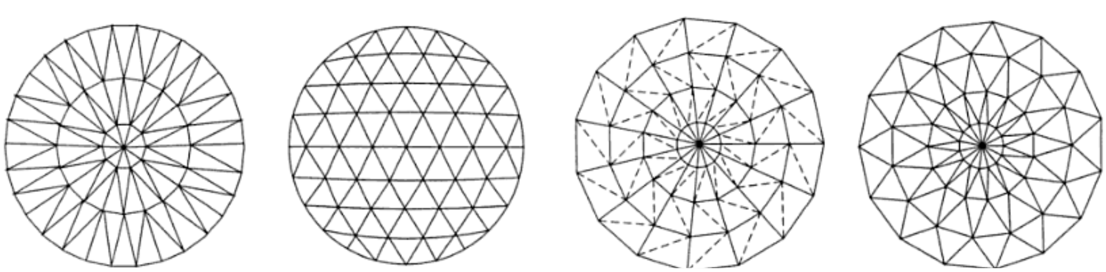
Shown at right, this biodome's lamella braced dome would have 100% stiffness like a geodesic and 70% of its strength, but lamellas also cost less than geodesics and are well-proven in long spans like the 642-foot span of the Louisiana Superdome—the largest in the world. For fast, airtight, leak-proof assembly, this dome would be built of 250, 16-ft x 32-ft, double-curved, interlocking, triangular modules.

During most phases of construction, several cranes would be in operation around the biosphere perimeter—placing pallets of panels wherever assembly is taking place. Other smaller cranes would be used to assist 4- to 6-person assembly groups stationed throughout the structure.

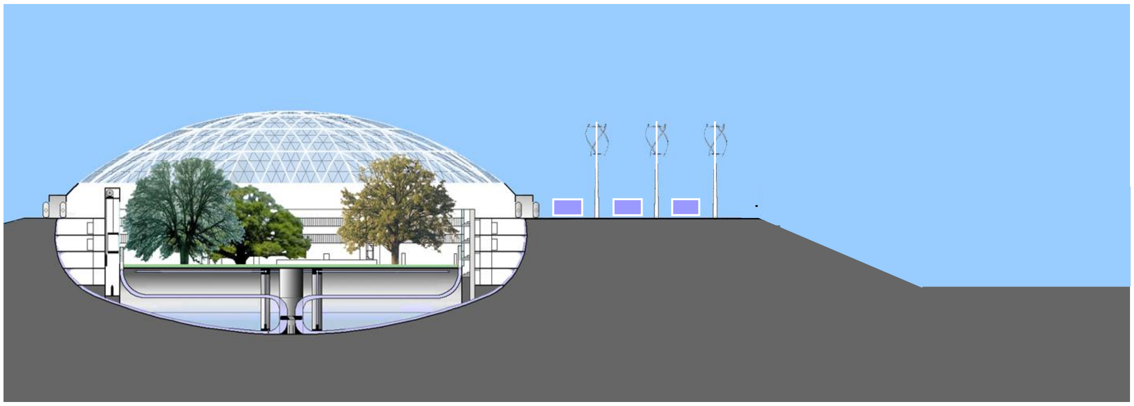
Each one of these modules would contain four composites of high-impact chemically-toughened glass combined with a non-yellowing, bullet-resistant interlayer that is 5x stronger and 100x more rigid than conventional laminates. Once this linterlayer is sealed inside two sheets of the toughened glass, the combination has these structural properties: **impact energy** 10 Joules **flexural strength** 150 ksi **edge compressive strength** 100 ksi **compressive strength** 108 ksi

To prevent broken glass from falling into the biodome in the rare event of dome damage, a thin hardcoat film is applied to the outer faces of each glass laminate composite in-shop. With a composite of this type, the dome frame and the clear glazing are formed together on-site as one procedure instead of two. For easy module placement and optimum structural-integrity, all modules would slide together in an outward downward direction.

Strength and Stiffness Comparison of Four Braced Domes

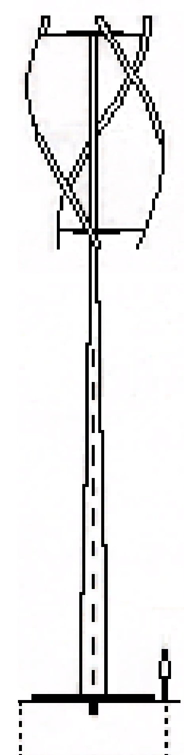


Lamella	**Geodesic**	**Schwedler**	**Lattice**
Strength **70**	Strength **100**	Strength **30**	Strength **50**
Stiffness **100**	Stiffness **100**	Stiffness **4**	Stiffness **54**



Cross-Section Through the Biodome Site Looking North Showing Wind and Solar Energy Sources and 500-Year Flood Barrier | 110 feet |

Off-the-Grid Power For this particular biodome, power is supplied by 3 vertical axis wind-turbines, 9 sun-tracking platforms with 9 solar-panels each, several banks of saltwater batteries for backup, and an automatic power regulation and conversion center located on the basement level of the biodome.

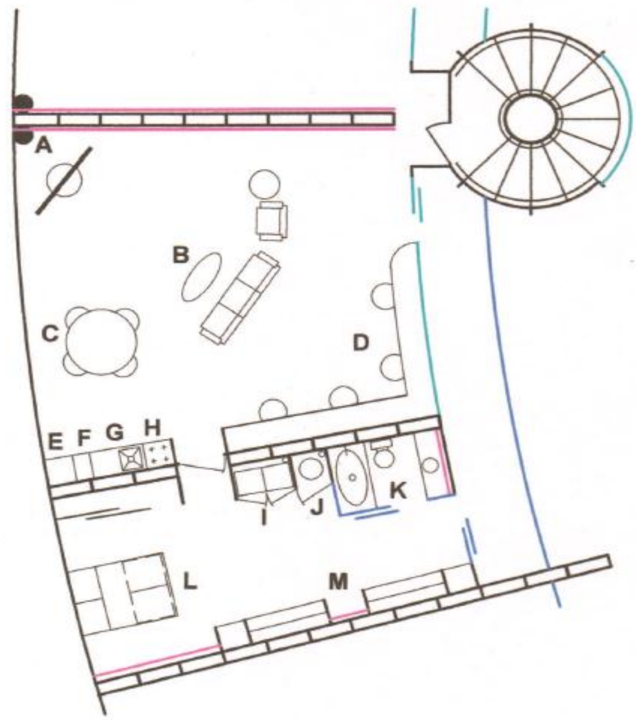


the qr5 vertical-axis wind-turbine

Wind-Turbines Wind is currently the most cost-effective method of generating off-the-grid electricity. The most recent advance in windpower is the qr5, a product of quiet*revolution* Ltd in the UK. The main advantage of the qr5 is that it is entirely free of noise and vibration—a first in the industry. Another advantage of this system is that, as with all vertical-axis turbines, generators sit on the ground for easy annual check-ups and minimized tower weight.

The qr5 provides renewable, off-the-grid, eco-safe power with an annual energy yield of 12,729 kilowatt-hours at average wind speeds of 14-mph and cut-off speeds of 55 mph—all at a low cost of 4 to 6 cents per kilowatt-hour. Full-height towers are 43-feet tall and have long system service-lives of 25-years.

The Solar Array Thanks to recent advances in materials, solar panel costs are expected to drop soon to 3.5 cents / kilowatt-hour--just below that of wind energy. Another advantage of solar panels is that they can take in solar-energy even on cloudy days—making them powerful and reliable supplements to windpower.



| 12-feet **|**

Floor Plan of the 1,326 Sq-Ft Residence for 1 or 2 Occupants – Showing Optional Connection to Adjacent Unit for an Occupancy of 3 or 4

——— Slide-locked, double-walled, stainless-steel bearing-walls and slide-locked, single-walled, stainless perimeter.

——— Full-walls, short-walls, and sliding doors of transparent chemically-toughened glass for views and daylighting

——— Floor-to-ceiling and counter-to-ceiling mirrors

A tapered air-delivery tube
B living area with flat-screen television
C five-foot dining table for four
D computer space for two with adjacent space for work or hobby
E refrigerator
F recyclable bin
G ultrasonic cleaning sink – compactor – replaceable UV-lamps and filters for composting and water-purifying – in-line water-heating
H electric oven and stove
I top-loading ultrasonic clothes-washer with adjacent, front-loading, under-counter clothes-dryer
J in-line water-heating with replaceable UV-lamp for water-purification
K restroom with composting-toilet
L queen-sized bed with end-loading drawers below
M centered floor-to-ceiling mirror

Biosphere Food Supply

Animal Produce With an abundant supply of nutrient-rich hydroponic animal-feed and an emphasis on animal health, survival, and reproduction, chickens would provide quality eggs and meat, goats would supply milk, and fish would provide fish-meat. All three would be kept in large, well-daylighted, well-stocked, glass-enclosed spaces in the main-level ring along with the hydroponic systems and the dwarf fruit-trees.

Hydroponic Produce The practice of growing vegetables, beans, grains, and animal-feed hydroponically has been on the rise for decades now. No doubt, this is due to the method's rapid production rates, its unusually large and healthy specimens, and its relatively inexpensive costs. The idea of hydroponics is simple—highly-nutrified pH-adjusted water circulates through water-absorbant seed-pouches entirely without soil.

In this biodome, dozens of hydroponic water troughs would be placed under long-life grow-lamps in several sections of the main-level ring to sustain a substantial healthy diet for all occupants and animals of the facility. As a long-term residential facility, biodome occupants would choose vegetables, grains, herbs, and nuts that they prefer from a list of 60 before moving in.

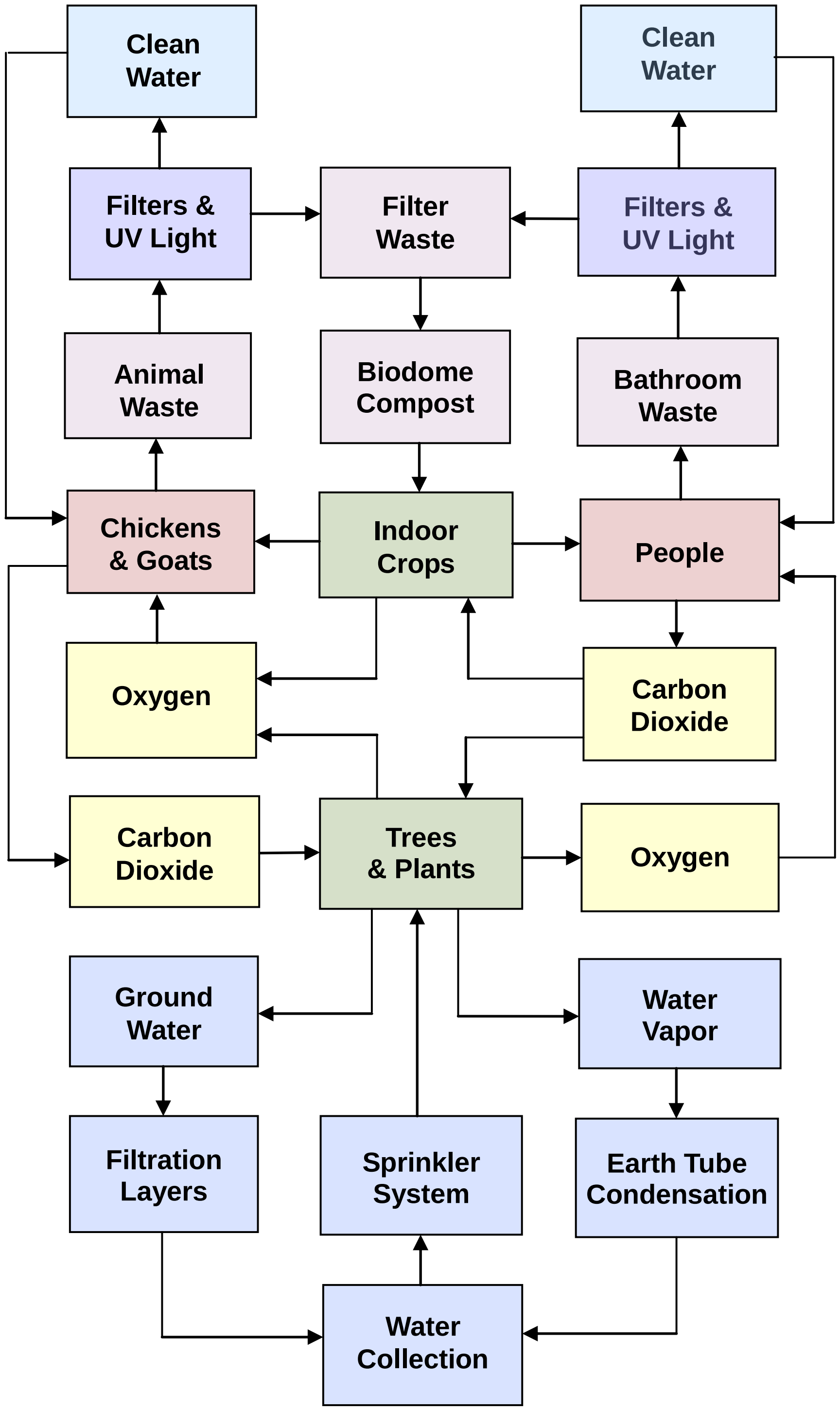
Dwarf Fruit-Tree Produce Dwarf trees reach mature heights of 6 to 8-feet and produce full-size fruit within 2 or 3 years of germination. They typically do best with full sun, daily misting, and elevated humidity. This would all be provided in several enclosed sections of the main-level ring—as-equipped with sun-lamps, misters, and regulated humidifiers.

Dwarf fruit trees produce 88 different fruits—22 types of apples, 10 types of peaches, 12 types of pears, 7 types of plums, 4 types of nectarines, 5 types of apricots, 11 types of cherries, plus 17 others. Not all fruit trees would be grown in this biodome, but the numerous favorites selected by occupants certainly would—especially health-oriented fruits and highly-productive space-savers.

Biosphere Recycling and Cleaning

Recycling Food would always be taken to the point of consumption without ever being packaged and unpackaged, and food containers would always be reusable or recyclable. Items such as paper napkins would be replaced by cotton napkins. Paper and wood products would not exist in this biodome so that potential fire is eliminated.

Cleaning The only types of cleaning solutions used in a biodome would be citrus-based cleaners, because they can clean just as effectively as other cleaners without harming a biosphere environment. Ultrasound and UV-light would be used together in all biodome sinks to remove food particles on dishes and to kill off bacteria.

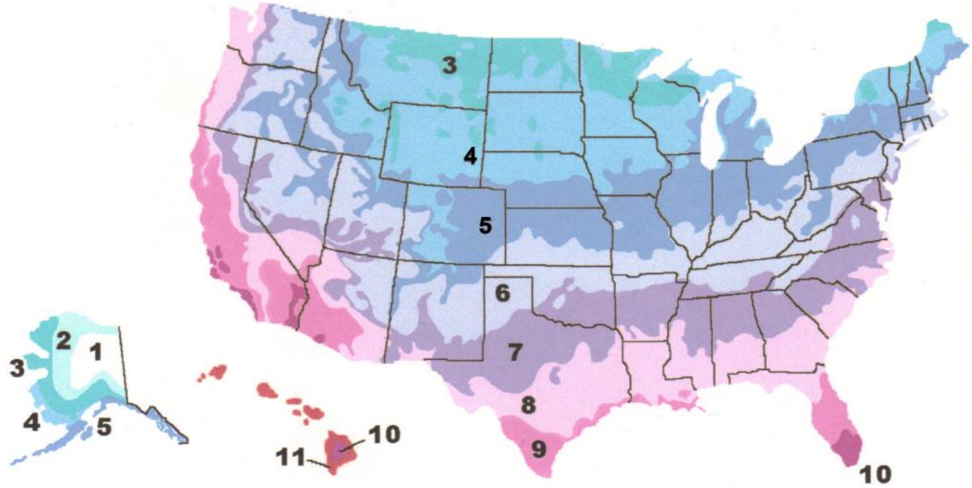


Flow Chart of Essential Biodome Processes and Components By Kurt Haberman

AVERAGE ANNUAL LOWS AND THE USDA PLANT HARDINESS ZONES

FARRENHEIT SCALE

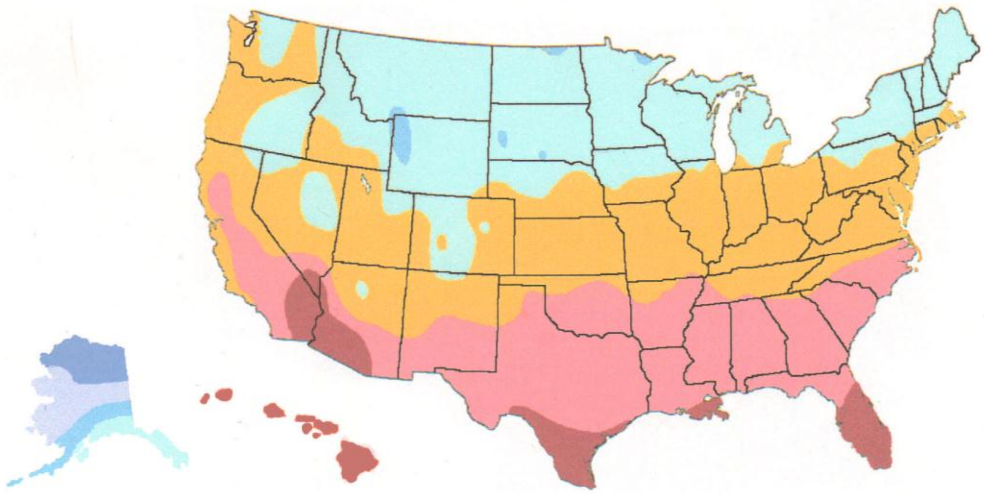
ZONE 1	--60 TO --50
ZONE 2	--50 TO --40
ZONE 3	--40 TO --30
ZONE 4	--30 TO --20
ZONE 5	--20 TO --10
ZONE 6	--10 TO 0
ZONE 7	0 TO +10
ZONE 8	+10 TO +20
ZONE 9	+20 TO +30
ZONE 10	+30 TO +40
ZONE 11	+40 ---->



AVERAGE ANNUAL TEMPERATURES AND THE BIODOME EARTH-TUBE EFFECT

FARRENHEIT SCALE

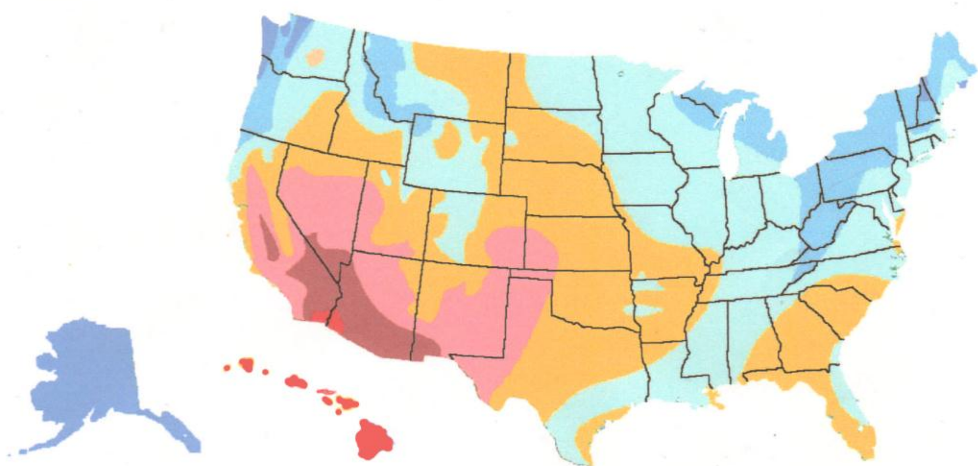
10 -- 20
20 -- 30
30 -- 40
40 -- 50
50 -- 60
60 -- 70
70 -- 80



AVERAGE DAILY SUNSHINE

HOURS PER DAY

4 -- 5
5 -- 7
7 -- 8
8 -- 9
9 -- 10
10 -- 11
11+



Concept Model of a 600-Foot Biodome with a 5.7-Acre Park, 2 Concourses, and 2 Residential Levels

Designed and Built by Kurt Haberman
Sept. 1999 – April 2000
Scale: 1/8” = 1'-0” **Diameter:** 6-Feet

BIOSPHERE DESIGN AND CONSULTATION
Slide Lock Systems is dedicated to designing durable biospheres and modular structures for any client willing to pay the appropriate fees, which would include a retainer fee and designer fees. Such fees would be based on project size and Slide Lock's skill in biosphere design. Likewise, a retainer fee and consulting fees would apply to consultation regarding a design.

Slide Lock's President has been developing the durable biosphere concept on and off for 24 years, but did not put up a website until about 2003, and so far, there have only been those who want free help with an academic project and those who want free services and free information. Regardless, Slide Lock remains prepared for the first actual clients that come along.

Marketing Plan

SLIDE LOCK QUALITY

Most products are judged favorable when they deliver high-quality at an affordable price. Such quality usually consists of how much function an item posesses, it's user-friendly qualities, it's durability, and it's service life, among others. According to such a definition, Slide Lock's proposed biosphere and optional modular panels are both of very high quality and could be advertised favorably as such, which would result in continuing revenue for years to come.

INTERNET UTILIZATION

Niche Durable biospheres are a one-of-a-kind product that would preserve life through durability, autonomy, and longevity. Through various partnerships, we would be able to keep our costs down and our customers' satisfaction high. As multi-use facilities, our biospheres would provide services to dozens of interests and clients, and we are looking forward to building self-sustaining facilities for future clients.

Strategy By providing a product unparallelled by any other, we are ensuring the safety and future of the human race and the sustainability of life as we know it. We will be able to thwart the most destructive acts of nature with our building materials and our methods.

Promotion Upon the completion and launching of the prototype site, the biosphere project will market itself through online and on-the ground schemes. The secondary market would be focused on those that are seeking multiple locations and/or multi-year planning, budgeting, and collaboration.

Email Marketing Email marketing consists of placing ads in emails sent out by other businesses as well as reaching out to a vast groups of potential clients through mass email campaigns. Email also serves as a primary way to alert a user base of upcoming promotions and special services.

Social Networking Sites Biosphere project promotion will create profiles on today’s most popular social networking sites, such as Facebook, LinkedIn, and Twitter. Social networking sites are a paramount way to spread awareness of the durable biosphere concept and it's current construction status. Interested businesses would rapidly become part of an ever-expanding group of potential clients. This awareness will ultimately generate new visitors to the website and spur word of mouth referrals.

Social Media Optimization (SMO) Social Media Optimization consists of social media activity with the goal of sending unique visitors to website content. The Company’s SMO would include promotional activities in social media as well as social media features such as RSS feeds, social news, and sharing buttons.

Online Marketing and Search Engine Marketing (SEM) SEM is a collection of online marketing strategies aimed at improving a website’s ranking on the search results of today’s most popular search engines, such as Google, Yahoo!, and Bing. SEM campaigns typically include the following strategies:

Search engine optimization (SEO) SEO is considered by most online marketers to be the cornerstone of any successful SEM campaign. This form of marketing uses unpaid tactics to improve a site's search engine ranking. Effective SEO entails the creation and regular maintenance of a website using contextual language and proper HTML coding techniques, such as using keywords throughout the site and design. This would call the site naturally from a search engine.

Paid placement Paid placement includes the terms Pay Per Click (PPC) and Cost Per Click (CPC). PPC refers to advertisers paying websites to host their ads, with payment occurring only when the ads are clicked. CPC refers to the amount of money advertisers pay search engines for each click.

Contextual advertising This form of "smart advertising" displays ads in a reserved space to online viewers depending on the content surrounding the ad. For example, if a user is checking his or her email and several subject lines include content relating to tutoring or academic subjects, the reserved ad space would display an advertisement for the company.

Paid inclusion Paid inclusion is a form of search engine marketing in which the advertiser pays the search engine to be placed in its search index. These are often referred to as sponsored listings, appearing above all the natural results of the search.

Website An optimized website will ensure proper search-engine placement and saturation due to proper site structure, page layout, clear and easy navigation, and targeted keywords embedded throughout the site. As an online venture, the company site itself will be an important marketing asset. Along with utilizing SEM, we will prove to be easily navigable and highly informative, serving as a platform to generate new business.

Sales Forecast / Strategy

SALES FORECAST / STRATEGY

Slide Lock Systems of Wisconsin, Inc. intends to deploy funding received to maximize the opportunity to build the world's first successful biodome. The growth and profitability of the company will follow a natural progression of manufacture and production of small, medium, and large units as demand grows. Based on the success of the first unit, substantial growth and income will result.

Slide Lock understands that it must create and maintain a professional presence and brand identity to ensure completion of its objectives. A thorough marketing campaign will be carried out as the company upholds its mission of helping maintain the lives of the human race. The company will remain knowledgeable of the competitive landscape and continually work to build upon its operational advantages.

LONG-RANGE STRATEGY

Slide Lock Systems Inc. intends to deploy funding received to maximize the opportunity to build the world's first successful biodome. The growth and profitability of this project will follow a natural progression of manufacture and production of small, medium and large units as demand grows. Based on the success of the first unit, substantial growth and income will result.

CUSTOMER BASE

Customer Base The current increase in the market for survival bunkers shows a great hunger for security in the event of catastrophe among those portions of the populace able to afford this protection. The first biosphere, the prototype, will incur expenses that mass production will not have to bear. To recoup these expenses, the first customer base should be considered to be the wealthy, with a potential drop in price to market to the middle class as the initial investments are recouped. Eventually, providing biodomes to the lower classes, even the homeless, could be considered as a charitable gesture, a public relations move.

Millionaires Per a 2011 article, there are estimated to be 237,000 millionaires in the US alone. If just 1% of these millionares would be interested in a durable self-sustaining biosphere for long-term safety against threats such as nuclear fallout, geologic disasters, climate disasters, and weather disasters—assuming a growth rate on this interest group—the customer pool for new projects would be phenomenal—and this doesn't even include the customer pool that exists internationally.

INCENTIVES

There would be dozens of incentives that are already inherent in the biosphere design that would encourage customers to purchase or rent biosphere space, including, but not limited to: safety, autonomy, guaranteed food production, leisure, and personal health. Incentive examples that are not inherent in the biosphere might include rental or sales deals granted to the first 50 tenants, or paid participation in advertising commercials that are produced inside the biosphere.

MARKETING STRATEGY

Marketing Campaigns A marketing emphasis on our increasingly insecure world should be central to this campaign. The marketing emphasis should include a focus on sustainability, the ability of the community to feed itself while living in a pleasant and spacious enclosed environment. Images of children milking goats, collecting eggs, and harvesting fish from the oxygen pond should be included in any campaign.

Management Summary

SLIDE LOCK TEAM

Kurt Haberman – President / Designer
Mr. Haberman has several years of architectural experience and education, including 1 year in the College of Architecture at Georgia Tech, 2 years in the apprenticeship program at Taliesin East and Taliesin West, and 2½ years in the School of Architecture at Arizona State University.

While in the program at Taliesin, Kurt gained a good bit of practical training with Taliesin Associated Architects, including 1 year on The 1987 Renovation of The Arizona Biltmore Hotel from start to end—acquiring on-site experience with contractors and consultants through the duration of activities there.

Mr. Haberman holds a U.S. patent on one of his interlocking panel systems, US 6,216,410 B1, granted April 17, 2001, and is the sole owner of the patent––having several other schemes that would work equally well as structure.

Mr. Haberman comes from a family of academic achievers—a sister with a PhD at Yale, and an aunt, uncle, and cousin with careers at universities. His grandfather, Elmer Horstman, was chief engineer of steam-turbines at Allis-Chalmers in Milwaukee during WW II and was one of 17 experts in their field that were sent to Germany to help rebuild after the war by then President Truman.

Nancy Lieder – Secretary / Treasurer

Ms. Lieder has several years in corporate management and funding, along with significant background in computer systems. Nancy serves to help the company stay grounded and focused with her realistic approach to building successful businesses.

PERSONNEL PLAN

As initial funding is secured, additional employees may be hired by Slide Lock Systems—depending on need. Outsourcing and contractors may also be used to help with prototype development. Joint venture and business partners will be relied on to complete the biosphere as required. Any new Slide Lock employees will be recruited for their experience and talents, but also for their passion for the company's mission. Industry standard salaries and benefits will apply.

BIOSPHERE PROJECT

Slide Lock Systems of Wisconsin, Inc. is a small, closely-held design company in startup mode and as such does not have staff or personnel. Despite international interest in the President's domed biosphere designs from places as diverse as Qatar, South Africa, and Madison Avenue in New York City, the company has not accrued any profits to date.

Due to health concerns, the management team of Slide Lock wishes for the company to remain in a consulting capacity during development of any biosphere prototypes, optional panel-system configurations, or any future sales of the two technologies.

As principal on the original interlocking-panel patent, Mr. Haberman would expect to earn royalties if indeed that specific interlocking system is used for any part of the proposed structure. Drawings of the invention have been withheld from this presentation due to their proprietary nature. However, Slide Lock will gladly show the material to interested investors that would be willing to sign confidential disclosure agreements. Slide Lock also looks forward to panel-system licensing agreements, franchise agreements, and so forth.

Funding would thus be primarily for the biosphere project. Permission to use the designs would be licensed to the investors. Ongoing consulting on the development of biospheres would be on a contractual basis.

Biosphere project employees and others employed as consultants would not be employees of Slide Lock. Outsourcing and contractors will be utilized to help develop the first biosphere prototype and to oversee construction to it's completion. Joint venture and business partners will be relied upon as needed.

Board of Directors The board should be assembled by the investors, or the board could consist of the investors themselves. Mr. Haberman and Ms. Lieder could be in attendance as needed. Due to health conditions that make travel difficult if not impossible, both would attend any board meetings via video conferencing using the Internet.

Design Consultant Mr. Haberman is familiar with almost all aspects of biosphere development, and would therefore be available for consulting on a wide range of issues under contract with the Board of Directors.

BIOSPHERE TEAM

Technical Planning Firms Biosphere planning would require the hiring of the following licensed technical professionals on an hourly basis:
– Bookkeeper, to report on investor funds and expenditures;
– Architect, primarily to produce architectural drawings and specs, but also to approve and compile those of other licensed consulting firms.
– Structural Engineers;
– Electrical Engineers;
– Mechanical Engineers;
– Civil Engineers;
– Landscape Architects;
– Interior Designers;
– Horticulture Specialists.

General Contractor This firm would be secured for the duration of the project through bidding procedures and contracts, primarily to provide quality assurance and timely completion of all sub-contractor construction work. The General Contractor is generally regarded as the manager of all on-site activities throughout the construction phase.

Project Manager This individual would act as an intermediary between all parties taking part in biosphere development. Such development would include site selection, manufacturing, construction, interior design, horticultural development, and public relations, among several other activities.

This individual may require staff, and would be under contract with the Board of Directors. Such employees would be recruited for their experience and talents, but also because of their passion for the company's mission. Industry standard salaries and benefits would apply.

Once all plans for the project have been completed and approved and construction is ready to start, the Project Manager would need to:
– employ existing steel-fabrication companies;
– purchase sufficient metal for the dome shell and the radial structural walls;
– purchase a site;
– employ the previously-described General Contractor to oversee construction of the project from site excavation to dome completion;
– oversee the installment of the off-the-grid solar and wind power sources;
– employ a nursery to plant trees and gardens in the facility's park;
– oversee the installment of furnishings, appliances, and equipment that relate to the chosen function(s) of the biosphere facility.

Real Estate Agent Site selection carries many requirements, since future sales to high-income tenants would require that the site be situated in a desirable locale, as determined by Investors, The Board of Directors, and any technical consultants that would apply.

The site should also be located to minimize potential damage from a natural disaster, be it weather-related, climate-related, or geology-related. The location should be rural enough to avoid big city activities, yet close enough to a big city that the site provides access to shopping and entertainment. Further, the biosphere should be in a location where building codes are not so restrictive that a biosphere could not be erected.

Investment-Casting Company As discussed previously, if Slide Lock's interlocking panel system is agreed upon by Investors, one could expect the greatest results from Investment-Casting due to its affordability, its mass-production capacity, and the most accurate precision in the metal-fabrication industry. Investment casting is not a crude process. It has been with mankind since the early days of Egypt for casting jewelry and coins. So expertise and a work history is required. After panels are manufactured they would be delivered to the site.

Interior Designer This individual would be responsible for wall and floor coverings, furniture, and adapting to different clientel needs as the project progresses. A consistent look and feel should be determined and adopted so the biospheres do not develop a cluttered look.

Horticultural Specialist The primary responsibilities of the horticulture team would consist of selecting and populating the biosphere park with plant and tree species that are compatible with the host USDA Hardiness Zone.

Public Relations Firm In anticipation of mass production, this firm would be responsible for announcing and publicizing prototype development as well as advertising to potential tenants of the biosphere that can easily afford to purchase or rent enclosed bays on the facility perimeter. This arrangement would very likely attract potential biosphere tenants on an international level.

Summary of Financial Plan

STAGED FINANCING

Slide Lock Systems Inc. is currently researching and developing an estimate of future financial performance. As with any long-range projection, accuracy is based on reasonable estimates of return on investment and past performance. The Company believes basic estimates will be available in the very near future, as investments, grants, and funding become available and the plan can be completed. Further details will be discussed and reviewed with interested investors or groups. The Biodome Project must, by necessity, be divided into the Planning phase, the Prototype phase, and the Mass-Production phase.

PLANNING PHASE

Professional Fees

Calculating the professional fees needed to secure an approved plan prior to construction would require securing bids from various architectural firms. These fees would be a one-time expense, since future biospheres would utilize the same plans. This is a start-up cost.

Developing plans for construction of the prototype biosphere would include hiring consultants and specialists included in the Management Summary. Such costs can be estimated as a percentage of the total cost of the facility, which would likely be between 8-12% of the total cost of the facility.

Slide Lock Systems would also serve as a paid consultant during the project. However, payment for previous work performed would constitute the bulk of overall payment to the President/Designer and the Secretary/Treasurer.

Site Selection Before project construction can proceed, a licensed Architect must approve the plan to ensure it meets building codes in the planned biosphere location. Selection of a good site is intrinsic in the Planning Stage. Land costs can vary greatly, and the location also impacts construction costs. Since the initial biosphere may very likely be used as a marketing tool, this aspect of the long-range plan should be taken into consideration when determining the site.

An absolute minimum of 3 acres would be required for a 320-foot biodome so that several construction cranes can surround the 1.8-acre footprint of the structure. The optimal sites for disaster-avoidance would be rural, on high ground, and away from coastlines. Thus, the cost of the sites may be relatively minor.

CONSTRUCTION PHASE

Construction costs for the multi-story perimeter and the central park can be estimated. The square footage in the initial plan being offered by Slide Lock Systems comes to a total of 186,396 square-feet. Per 2011 figures, construction costs vary by state within the U.S. from $231 for New York City to $131 in Winston-Salem, NC.

These costs do not include general contractor overhead, nor do they include the cost of furnishing the structures. However, these costs include items that are affixed to the structure, such as plumbing or elevators. For the most common office building size, two to four stories tall, the spread is largely due to the local costs of labor.

Assuming a median cost of $181 per square foot, construction of the interior would cost $55,777,865. This would vary by location, ranging from $71,186,115 in New York City to $40,369,615 in Winston-Salem, N.C. A cost breakdown could be presented with options—near populated areas or in remote areas.

Cost of Metal As a whole, stainless-steels and alloys are in a completely different class than common durable materials. In each property that follows, there could be dozens of steels and alloys that exceed normal bounds.

Such properties would consist of hot-strength, tensile-strength, compressive-strength, flexural-strength, impact-strength, rupture-strength, corrosion-resistance, endurance, toughness, stiffness, hardness, wear-resistance, and radiation-resistance. Along with fair cost, these properties drove Slide Lock Systems to favor stainless-steels and alloys. With precision-casting, 4-ft x 4-ft panels weighing 160 pounds could easily be cast at an average thickness of 3/16".

Nov. 21, 2012 Metal Prices – from LME, Investment-Mine, and Kitco

Stainless-Steel & Metals	2012 Price (US$/lb)	Corrosion Resistance	Strength-Weight-Ratio	Density (lbs/cu.in)	Softening (deg-F)
Cast Aluminum	0.57	Excellent	1,725	.097	1,220
Chromium	1.10	Excellent	463	.259	3,465
Cobalt	10.48	Fair	417	.321	2,723
Copper	3.50	Excellent	391	.322	1,983
Cast Iron	0.10	Poor	1,090	.280	1,500
Nickel	6.75	Excellent	399	.321	2,651
SS-316	1.00	Excellent	664	.286	1,500
Titanium	1.50	Excellent	1,147	.164	3,024
Tungsten	20.00	Fair	182	.697	6,191

Using density and price from this table with the total surface area of the biosphere structure, a close estimate of the structural cost can be performed. The calculation below is for the cost of SS316 only and excludes casting and labor costs.

Structural Surface-Areas in Square-Feet

Upper Dome ….................................60,320
Inverted-Dome Foundation …............56,000
Perimeter Toroid …............................80,400
Floors …..134,924
Internal Bracing/Dividing Walls.........115,200
Stairwells 23,976
Total 470,820

Volume of Material

(total sq-feet x 144 sq-inches per sq-ft) = 67,798,080 square-inches
(square inches x average thickness of 0.25 inches) = **16.9-million cubic inches**

SS316 Overall Weight

(volume x density = weight) 0.286 lbs/in3 x (volume) = **4.8-million pounds**

SS316 Total Cost

(pounds x $1.00 per pound) = **$ 4.85-million USD**

PROFITABILITY

The greatest profits for investors will clearly come from high-revenue rentals and sales of biosphere space, especially when mass production of future biospheres begins. To maximize profits from future projects, the use of previously-established casting molds would greatly facilitate construction—thereby increasing profit margins tremendously. However, precise costs and timelines cannot be established at present until the plans are completed.

Appendix


Live Oak

Tree Type: perennial **Hardiness Zones:** 8-11 **Maximum Height:** 60 feet **Maximum Spread:** 100 feet **Solar Preference:** full sun **Soil Preference:** Podsoil is best but adapts to almost any soil. **Fruit:** Acorn appears at about 20 years. A favorite of squirrels, jays, quail, wood ducks, wild turkeys, and such.

Blue Oak

Tree Type: perennial **Hardiness Zones:** 3-9
Maximum Height: 75 feet **Maximum Spread:** 80 feet
Solar Preference: full sun **Soil Preference:** good in hot dry climates, does not survive in most watered lawns
Fruit: acorns **Flowers:** catkins **Foliage:** bluish-green

Burr Oak

Tree Type: deciduous **Hardiness Zones:** 3-8 **Maximum Height:** 70-80 feet **Maximum Spread:** 70-80 feet
Solar Preference: full sun **Soil Preference:** widely adaptable where other oaks may fail. **Flowers:** yellow and green but insignificant **Foliage:** green

Southern Sugar Maple

Tree Type: deciduous **Hardiness Zones:** 6-9 **Maximum Height:** 25-50 feet **Maximum Spread:** 25-35 feet **Solar Preference:** partial shade to full sun **Soil Preference:** Moist but well-drained soil with a pH of 6.1 to 7.5. Dislikes dry compact soil. Sandy, clay, or loamy. Low drought tolerance. **Fruit:** brown and green seeds **Flowers:** red blooms in Spring

Thornless Honeylocust

Tree Type: deciduous **Maximum Height:** 30-70 feet **Maximum Spread:** 50 feet **Solar Preference:** full sun and partial shade **Soil Preference:** Adapts to a wide range of soils. Drought tolerant **Flower:** yellow with a pleasant fragrance resulting in long pods containing an edible honey-like substance **Foliage:** green