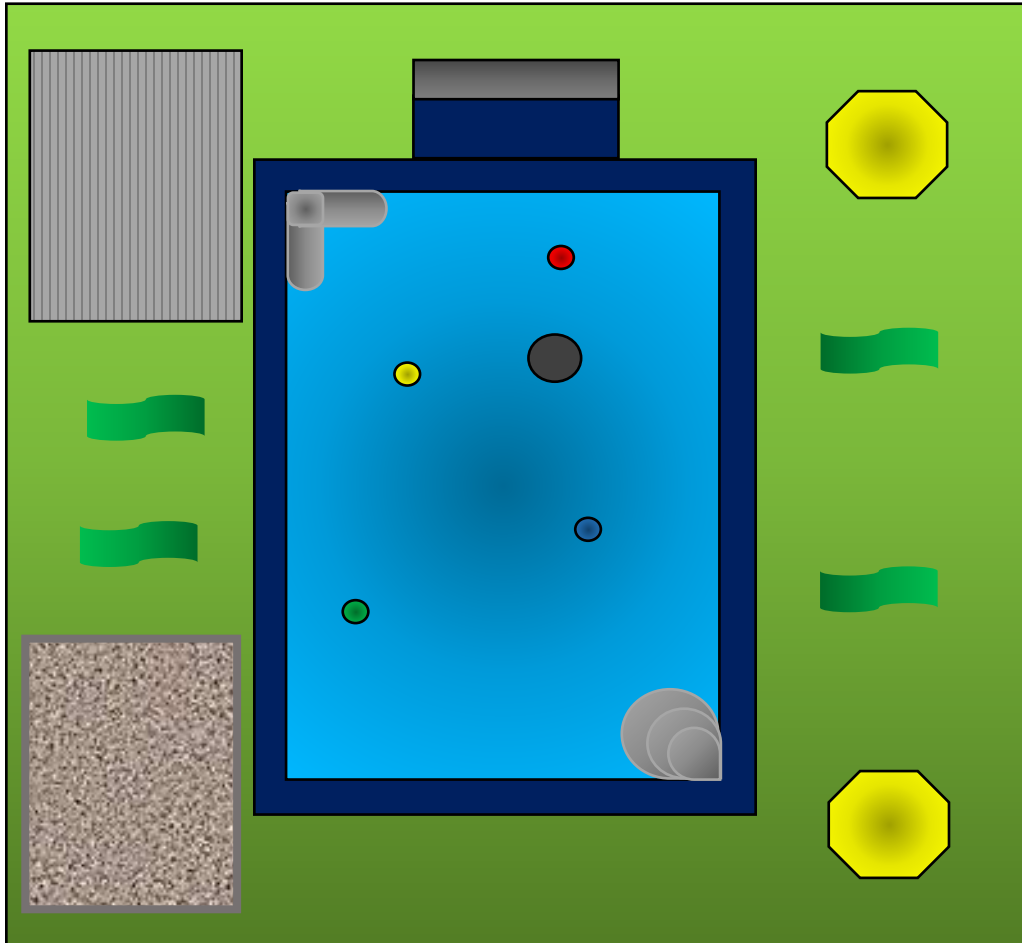


Ecology Pool

An Affordable Family Response to Limit Rising Waters of Global Warming

*William C. Patterson, Ph.D.
2017*



World-Preserving Green Pasture & Still Water Landscape for Home Life

Cool Textured Solar Panel Walkway and Solar Panel Cabana

Cabana Covers In-Ground Pool House

Textured Solar Walkway Covers Utility Lines Supporting Pool

Non-Corroding PVC Seating and Stairs

Moveable-Removable Comfort, Safety, and Relaxation Features

Utilities Invisibly Tracking Under Walkway to Port to Pool Through Seating & Stair Structure

Pool Decor & Services

Floating LED Décor

Floating Robo-Skimmer

Robo Bottom Sweeper

Green Space Furnishings

Umbrella Table & Chair

Sun Lounger

Solar Sand Box/Artificial Beach

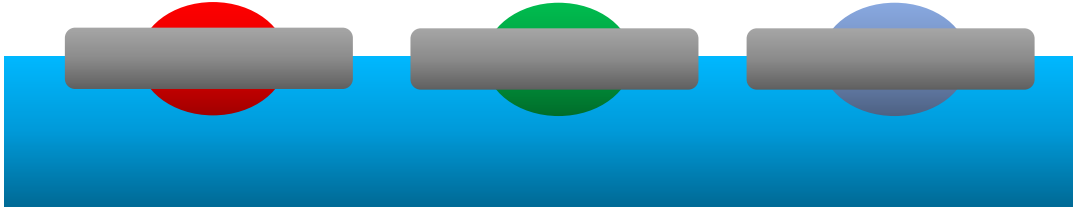
Solar Hot Water Patio

Eco Pool Accessories

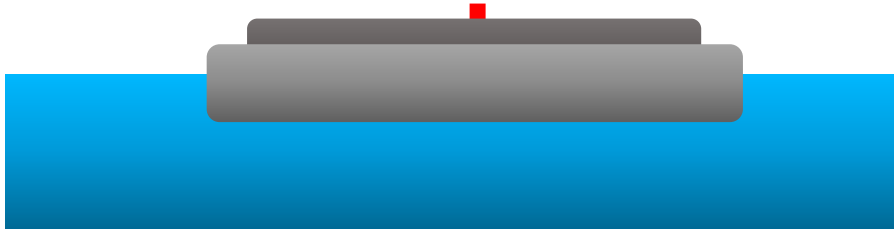
Floating Multi-Color Solar Powered LED “Lily Pads”

Point-of Light Décor for Pool Surface and Diffuse Bottom Illumination

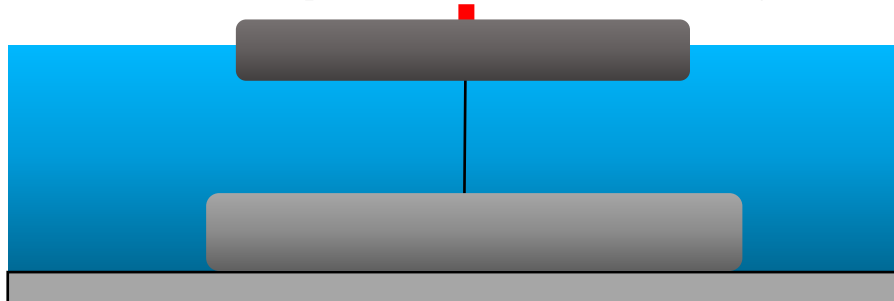
Random Path Equi-Distancing Circling Training Length & Width Traversing
Move Quietly by Pumping Water Illuminate Pool without Mounting/Penetrating Pool Wall



Robo Surface Skimmer



Robo Bottom Sweeper w/ Surface Solar Panel Re-Charge Follower



Solar Powered Automated Pool Surface Skimmer & Bottom Sweeper

Savings: Continuous Year-Round Pool Maintenance While Sun Shines

Rarely Have to Empty & Refill Pool for Maintenance

Automatically Skims Water Surface & Cleans Pool Floor

Savings: Eliminates Need for Pool-Integrated Skimming System

Savings: Eliminates Pool-Boy Labor for Pool Bottom Cleanliness

Quiet Operation (Softly Water-Pumps Its Way Around)

Size & Function Like Home Carpet RoomBa

Blinking LED Signals When Full

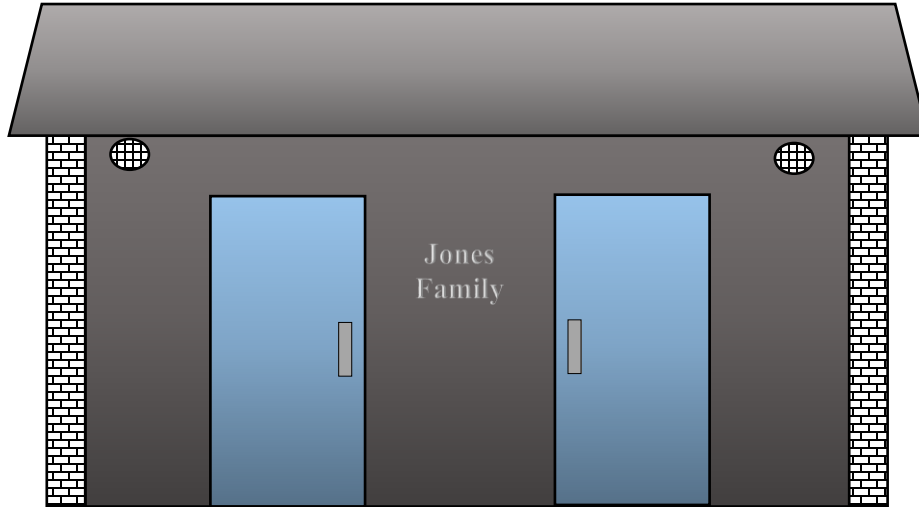
LED Light Strands for Pool Corners & Bottom Edges

Attractively Outline Underwater Boundaries of Pool In White or Colored Lights

Better Perception of Underwater Dimensions Increases Safety

Connect Strands Via Utility Space Under Solar Walkway

Modular Solar Cabana
Convenient & Dignified Privacy for Guests & Family
Situated Atop In-Ground Pool House
Year-Round Swimming Step-Saver



Exterior

No-Paint Brick Corner Pillars
No-Paint Solar Panel Gable Roof & Vertical Walls
Lockable No-Paint Diffuse Plastic or Glass Doors w/ Stainless Door-Pulls
Natural Light w/ Privacy Know At-a-Glance When Occupied or Available
Durable Metal Family Name Plaque

Interior

LED Lighting
Towels & Face Cloths
Stocked Vanity w/ Sink, Drawer, Cabinet, Mirror
Hair Dryer
Mini Clothes Closet w/ Hangers
Portable Heater
Chemical Toilet
Stocked Mini Refrigerator
Indoor/Outdoor Grass Carpet
Parent PA & Music Player Ports to Outside Speakers

Modular In-Ground Pool House

Permanent Maintenance-Free Underground Structure Hides Pool Support Equipment



3" Concrete Wall Set In 6" Gravel with 3" Foam Board (R15) Lateral Insulation
Invisible Noise & Equipment Box Instrumental to a Beautiful, Uncluttered, Quiet Back Yard

Solar Panel Hatch Entry Situates Behind Cabana

Ladder Descent

Instant-On LED Lighting

Eco Pool Modular Equipment

Water Well Head

Water Pump

Sump Pump

Air Pump (Water Aeration)

Water Heater (Warm Pool Year-Round)

Emergency Power Generator (House & Pool)

House & Pool Water Purification

Drink Pure & Swim Pure From Your Own Well

Water Filter (Carbon)

Ion Exchange Purification

Reverse Osmosis Purification

Back-Up Chemicals & Filters

Laptop Computer Process Control: Totally Automate Purification Management

Key Eco Pool Principles:

Locate Strategic Pure Water Reserve at Every Home

Reducing Pool Maintenance Burden Promotes Pool Ownership

More Families Build & Continuously Use a Home Pool

Drinking Water National Security Enhanced

Eco Pool Contains Ten-Year Emergency Supply of Family Drinking Water

Center Drinking Water Treatment at the Home

More Economical Than Further Extending City Underground Water Main & Treatment Network

Vital Control Reverts to User as More Industrial & Disease Toxins Enter the U.S. Waste Stream & Ground Water

Promotes Habitation of Under-Developed Remote Areas, Leveling Population Density

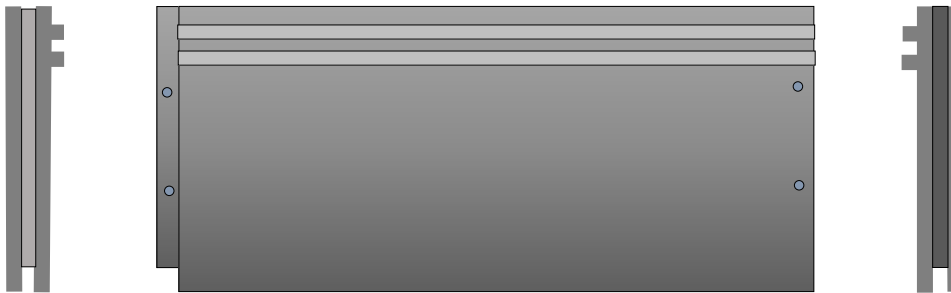
Harmonizes with Furnishing Citizens Larger Lots for Home-Based Food Support

Smooth No-Leak No-Paint Eco Pool Panels for Wall & Bottom
4' x 8' x 5" Pre-Fab Steel-Reinforced Sealed-Concrete Construction Units
Tongue-In-Groove Joints Latex/Silicone Sealant Integral Stainless Steel Lock Bolts

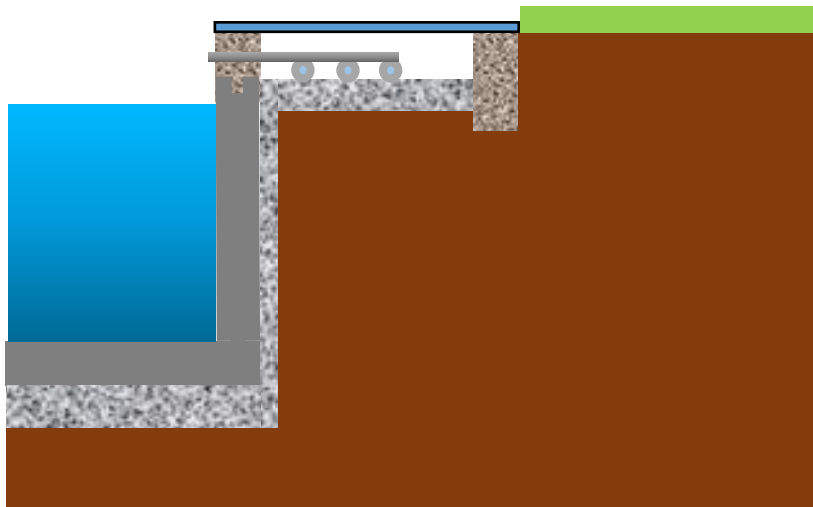
Wall Unit



Bottom Edge Unit Double Seal Joint



Pool Wall & Bottom Hidden Water & Air Utility Space [Liftable Cool Walk-On Solar Panel](#)



Clear-Sealed Concrete Pool Interior Does Not Require Paint-Repaint Maintenance
Concrete Reflects Less Under Water Appears Like Nature Pond, Lake, Stream, or River
Underwater LED Lamps & Strands Wired From Utility Space Brighten Pool

Eco Pool Family Activities

Christian Baptism
Birthday Party
Swim Lessons
Cam-Record Underwater & Surface Swim Shows
Bathing Suit & Costumes Beauty Pageants
Seafood Party & Live Seafood Party
Learn Seafood Preparation & Cooking
Family Cookouts
Family Reunions & Picnics
Bible Studies In-or-Near Water or On-the-Green
Water Exercise
SCUBA Training
Snorkeling
Swim Meets
Cold Weather Swim Party
Race or Test Model Sailboats, Power Boats, and Submarines
Build & Test One-Man Sub
Study or Train Aquatic Pets
Aquatic Life-Saving & Safety Seminars
Aquatic Life Studies & Award Certificates

Eco Pool Optional Special Constructions

Position Removable Aluminum Risers Underwater at One End for Safe Baby Pool Depth
Build a Removable Clear Glass or Plastic Walkway Span 6" Under Surface to "Walk on Water"
Install Food-Fish, Gold-Fish, Study-Fish Aquarium on Pedestal in Pool to Observe & Harvest Fish
Construct Underwater Plant Garden with Integrated Illumination
Install Horizontal Walk-Over Solar Hot Water Panel Patio for Heating Pool Water Year Round
Build Adjacent Solar Hot Water Sand Box or Artificial Beach
Build Sand Sculptures Beach Sunning Simulate Seashore Interweave HW Tubes for Pool Heating

Eco Pool Costs & Benefits

Average Price of Home Pool In U.S.A. 30' x 12' x 3.5' = \$15,000
Average Price/Ft3 of Home Pool in U.S.A. \$12 Average Price/Gal of Home Pool in U.S.A. \$2
Estimated Price of Generic Eco Pool 32' x 16' x 4' = \$25,000
Higher First-Cost Lower Term-Cost Because of Greater Permanence
Typical Home Pool Life 15 Years or \$1,000/Year
Eco Pool Life Expectancy Increase 4X or \$400/Year
Less Operating Cost Because of Maintenance Economies
Solar-Electric Services Solar-Hot Water Services Year-Round No-Refill, No-Repaint Operation
Automated Maintenance Continuously Purified Water No Chlorine Expense
Nation Incurs Less Climate & Inundation Damage Expense (Moderates Global Warming & Sea Rise)
Wide Adoption Improves National Water Quality and Health
Improve Family Quality of Life, Contact Time, and Solidarity
Less Divorce, Husbandless Women, Fatherless Children, Runaways
Promote Better Stewardship of Earth's Aquatic Assets
Plumb to Cool Adjacent House at Less Expense than Standard Air-Conditioning
Families Trained in Swimming are Unlikely to Drown, Better Able to Save Potential Drowning Victims
On-Site Reservoir for Home Fire-Fighting, Water Contamination Emergencies, Drought Relief

Novel Ways to Economize Pool Construction

Automated Pool Excavation

*Homeowner Can Rent Robotic Excavator & Save Labor Expense
Pool Contractors Can Use Robotic Excavators to Lower Price & Increase Demand*

Explosive Pool Excavation

*Expert Placement of Small Explosive Charges Can Dig Pool in Seconds
(Similar Concept to Demolishing Tall Building by Implosion in Crowded Urban Setting)*

Concrete Pool Panel Standardization

Pre-Fab Concrete Pool Walls & Floors Can Be Local Year-Round Garage-Based Home Business

Solarized Walkway, Patio, Cabana, and Sand Box Standardization

*Locally Fabricate No-Slip Textured Solar Panels as Year-Round Garaged-Based Home Business
Locally Fabricate Hidden-Frame Architectural Solar Panels as Year-Round Garaged-Based Home Business
Locally Fabricate Al Serpentine HW Tube Buried in Sand Box as Year-Round Garaged-Based Home Business*

Standardize Subterranean Pool House

*Pre-Fab Pool House & Fixtures to Quickly & Smoothly Install Within Excavation Space
Can be Year-Round Local Garage-Based Business*

Plumb Pool as Heat Sink for Nearly Free House Air-Conditioning

Same Plumbing Warms Pool Water for More Comfortable Swimming

Mate Eco Pool with a Pad or Crawl-Space Home

*GES Millennial Home is a Single-Story Safety Home without Basement
Basements are Load-Bearing Structures Vulnerable to Expensive Repairs During House Lifetime
Basement Failures Lower Residence Value
Eco Pool is a Natural, Value-Increasing Complement to the GES Millennial Home
Basement Savings Subsidizes Pool Expense, Brings Property Value Appreciation
Expense of a GES Millennial Home with Pool Similar to a Traditional Home with Basement
Eco Pool + GES Millennial Home Footprint Also Saves Landscape Maintenance Expense*

