(1/5/16) Board Meeting
Salton Sea
Deadline: 12/30/15 by 12:00 noon

Agricultural Drainage Water Reuse at the Salton Sea

Land and Sea-based Environmental Management/Alternative Agriculture Pilot Projects

Prepared by:
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Project Description

The farmers and residents of Imperial Valley are facing some of the most challenging times in decades. Among the biggest issues are the:

- Reduced availability of imported freshwater resources for farming due to the historic California drought and changes in regional water policy,
- Unprocessed agricultural runoff that degrades the water quality of the Salton Sea,
- Drying up of the Salton Sea itself and the resulting impacts on wildlife and the local community through increased salinity of the Sea.

These issues create grave concerns for future livability in this region. Perhaps the most pressing issue for the region is that the evaporating Salton Sea exposes "playas" of former seabed that creates toxic dust when dry. According to the "Framework for a Smaller but More Sustainable Salton Sea":

> Addressing fugitive dust emissions can be accomplished in two key ways: 1. Shoreline pools and shallow water habitat (average depth of 2 feet), riparian habitat and wetlands can be constructed to keep playa areas covered with water and/or vegetation that also provides food and cover to shorebirds and other species that reside in or migrate through the Salton Sea area, thereby limiting fugitive dust emissions. 2. Exposed playa can be covered by a variety of renewable energy facilities, including but not limited to extensive photovoltaic arrays, solar gradient ponds, biofuel ponds (generally algae), and geothermal power plants. (IID, 2015)

Our proposed projects address these concerns with holistic solutions combining:

- Wetlands creation,
- Highly efficient land and sea-based farming and
- Solar and biofuel production,
- Mobile residential development and
- Land restoration to reduce dust issues on the playas.

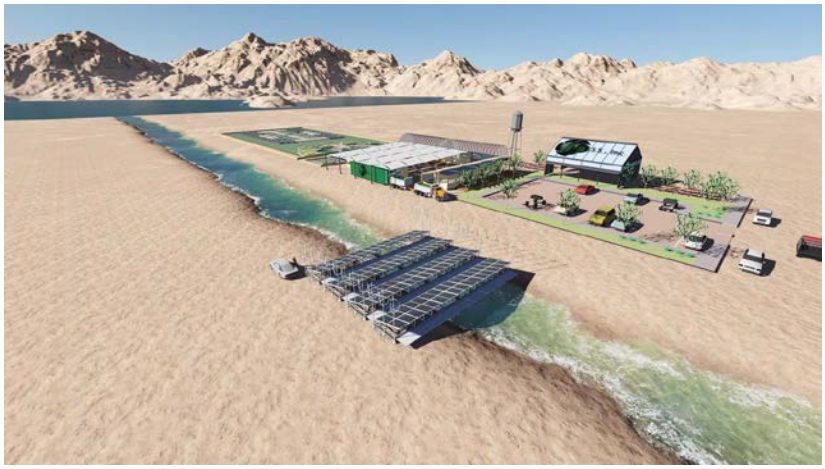
We propose to do this through the application of such innovative renewable energy and waste water treatment technologies as suggested by the "Framework" and described more fully below.

Proposed Project Site

Our proposed pilot agriculture/remediation projects focus on agricultural easements adjacent to the Alamo River at its influx into the southern end of the Salton Sea. This site is near ongoing wetlands development projects in the Sonny Bono Wildlife Refuge as well as geothermal energy projects. The specific location we propose is in the Red Hill Bay region adjacent to the town of Niland, where we have land access through agreements with the Imperial Irrigation District (IID). The Alamo River is currently highly polluted due to agricultural runoff. Our proposed projects would demonstrate how water can be biologically cleaned before entering the Salton Sea, while at the same time capturing nutrient resources for agriculture, land remediation, and habitat restoration and creation. At the same time, these projects would generate sufficient power

for themselves with surplus energy to sell to willing customers we have identified. AGESS seeks seed funding for three separate yet interconnected projects. These pilot projects are envisioned as a first step toward wider commercialization of these ideas.

Pilot Project #1: Rural Model

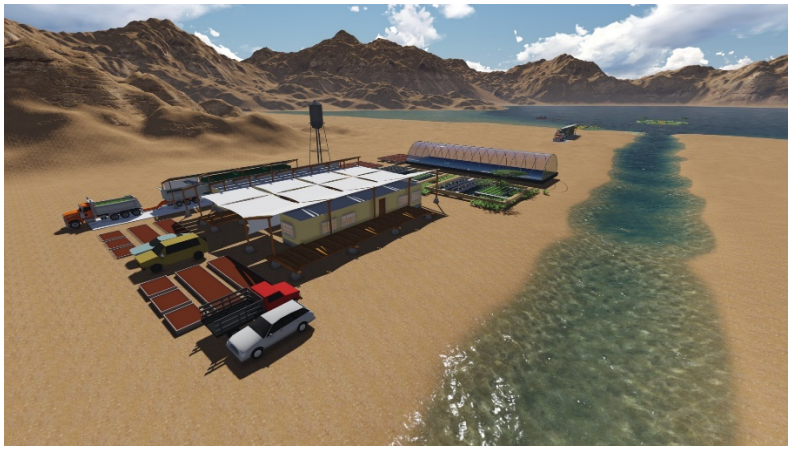


Land-based system on playas and other damaged agricultural land.

This system is designed to address the rehabilitation of playa landscapes around the Salton Sea. It can be scaled up to provide full remediation of the 12,000 acres of shoreline habitat as envisioned by the recently enacted California AB 1095 legislation. Technologies are combined in an ecosystem model to cleanse water, create renewable power and produce agricultural products at the same time. The resulting model is mobile if necessary. It is designed to create profitable enterprises while rehabilitating damaged landscapes through the production of biomass. This project:

- Focuses on algae production to remediate agricultural runoff.
- Includes solar and other regenerative power sources to support all power needs.
- Includes artificial wetlands and land-based sea water and freshwater farming prototypes.

Pilot Project #2: Residential Model

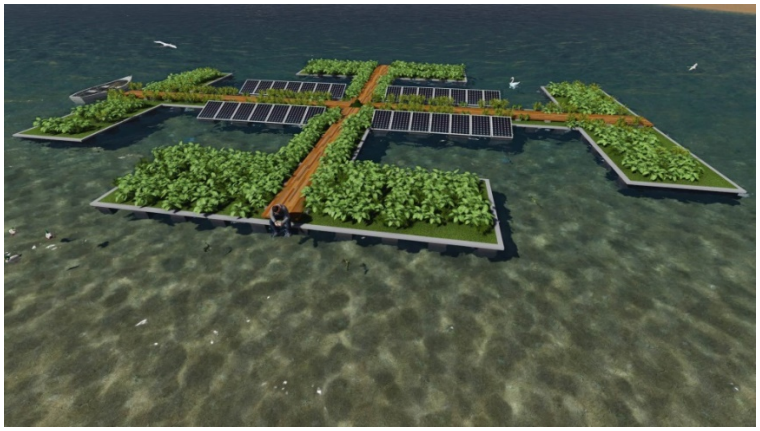


Residential model demonstrating fabric and solar shaded repurposed mobile units with integrated waste, food, and water systems

This project creates residential-scale community design for workers and farmers engaged in the jobs created by the rural model. This residential model is itself self-sustaining, regenerative of landscape, and produces its own power, water and food. It relies on rehabilitating and shading existing prefabricated mobile housing units that are available at very low cost. By allowing residences to be located adjacent to ongoing rehabilitation projects, worker transport needs are reduced. This project utilizes:

- Low-cost mobile residential units, rehabilitated for greater indoor air quality and energy performance.
- Innovative solar shading strategies to reduce cooling needs while creating needed energy.
- Multi-residential water and waste treatment to reduce residential impacts on the environment, while providing for local food production and landscape rehabilitation.
- All mobile construction so that residences can be located adjacent to agriculture/remediation projects and relocated as necessary.

Pilot Project #3: In-Sea Model

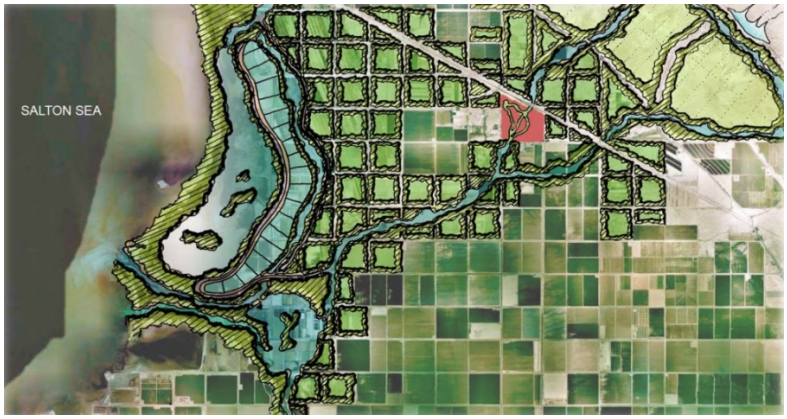


Utilizing proprietary technologies to utilize Salton Sea waters to support useful agriculture, energy production and habitat creation on the surface of the Sea itself

This model utilizes the Floating Island "Leviathan" and "Floating Dock" systems to provide agricultural and remediation opportunities on the surface of the Salton Sea. These systems can be very quickly installed and operational due to their prefabricated nature. The sea-based model helps support the land-based model for producing energy and biomass. It increases habitat surface for birds, fish and other wildlife. These units can also support human activity of various kinds, including recreation, farming, and (potentially) living. This model:

- Helps shade water to reduce evaporation.
- Creates useful products, habitat and environmental services.
- Utilizes existing waste stream products in its construction.

Future Commercial Expansion



Commercial expansion model demonstrating the financial feasibility and potential of a larger scale project, benefiting the community and environment.

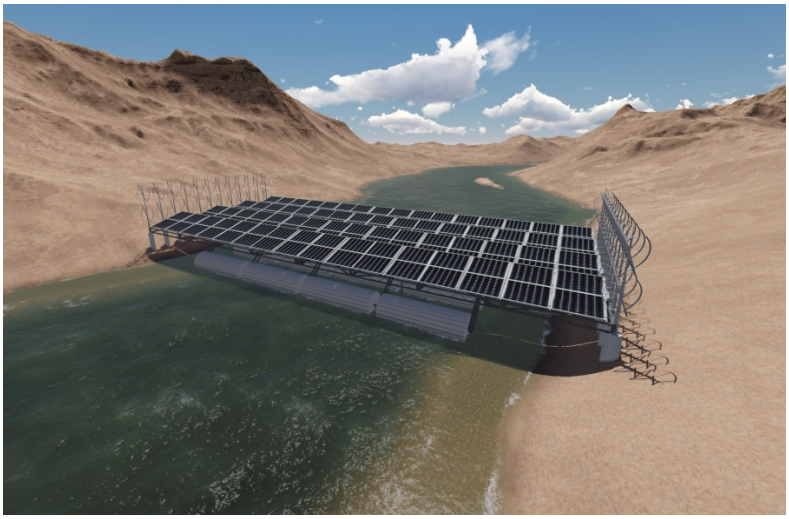
Through coordination with project partners, local, State and Federal government institutions, as well as other community stakeholders, AGESS envisions a rigorous ongoing monitoring of the proposed pilot projects to address issues and opportunities that arise from their operation. This invaluable data can inform next-level scaling of these technologies to address broad application throughout the Salton Sea region. It is planned that these projects will eventually become self-funding, indeed profitable, enabling the local economy to grow and prosper over time, while addressing the severe issues facing the region.

Timeline

	#1 Rural Model	#2 Residential Model	#3 Sea-based Model
Jan 2016	Planning and Permitting	Planning and Permitting	Planning and Permitting
Feb 2016	Planning and Permitting	Planning and Permitting	Planning and Permitting
Mar 2016	Site prep	Planning and Permitting	Planning and Permitting
	Milestone: Planning and Permitting complete		
Apr 2016	Install concrete intake and artificial wetlands	Install concrete intake	
May 2016	Install hydroelectric barrel generator and solar units		
June 2016	Install Algae cultivation and processing system	Site prep	
July 2016	Install seawater and freshwater farms	Install residential wetlands system	
	Milestone: Pilot Project #1: Rural Model Complete		
Aug 2016	Project monitoring and maintenance	Install residential units, shading and greenhouse	
Sep 2016	"	Install residential-scale aquaculture	Site prep
Oct 2016	"	Install floating island biohaven and solar farm	Install sea-based algae system
	Milestone: Pilot Project #2: Residential Model Complete		
Nov 2016	Project monitoring and maintenance	Project monitoring and maintenance	Install Floating Island "Leviathan" system and living dock
Dec 2016	"	"	Install floating solar farm
	Milestone: Pilot Project #3: Sea-based Model Complete		
Jan 2017	All projects complete Report	All projects complete Report	All projects complete Report
July 2017	Six month report	Six month report	Six month report
Dec 2017	12 month report	12 month report	12 month report
	Milestone: All Project Reporting Complete		

Overview of Proposed Technologies

1. **Hydroelectric power generators in conjunction with solar panels and vertical wind turbines** along the adjacent canal to power on site usage through renewable resources. This system is scalable and can be implemented at the pilot scale with future expansion possible along any length of water canal to reduce evaporation. This strategy has lower environmental impacts compared to alternative energy generation projects.



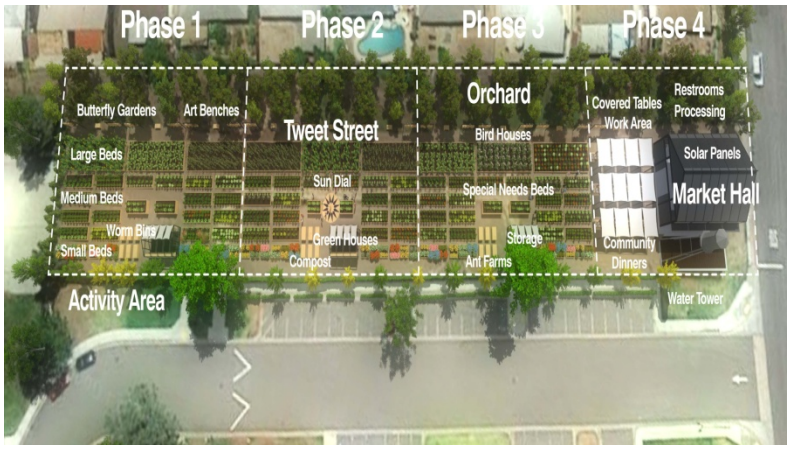
2. **Subitec algae cultivation and processing systems** are a cost-effective means of removing nutrients in water resources through the process of algae production. These panels will be set up as an organic filtration system with a multitude of beneficial byproducts; most importantly are biofuels and organic fertilizers for on-site organic farming operations.

Outdoor plant at E.ON Hanse in Hamburg/Reitbrook

3. **Sea water farms** to utilize untreated seawater, or saline-comparable agricultural drainage water to achieve ornamental landscape and biofuel production, leaving fresh water supplies for drinking. This methodology greens otherwise non-arable land while creating microclimate and new wildlife habitat. Resulting lush vegetation reduces dissolved solids and contaminants, as it captures atmospheric carbon and deposits it in the soil.

Sea water and high salinity tolerant Salicornia Plant. Image courtesy of © planetarium.ru 2014

4. **Fresh water aquaculture and agriculture** will showcase alternatives to traditional farming systems. We will utilize polyculture practices to create our own organic fertilizers without discharge into adjacent waterways. The fresh water farm will also include hydroponic systems for lettuce and herb production which has been shown to reduce water usage by 80%.



Artists Representation of High Density Aquaculture and Agriculture Garden

5. **Nutrient treatment and selenium extraction** provided by Floating Islands West and Intrinsic Technologies Corporation. Leviathan units will process and extract nutrient pollution from upstream traditional farming systems. These units will create habitat for fish and birds while creating an opportunity to mitigate eutrophication from the water sources. Floating systems can easily be relocated to other areas of necessity. The 10,000

gallon per minute of treatment potential makes it an ideal candidate for the water quality degradation in the region. These planting systems will also be utilized in constructed wetlands and selenium extraction farms.

Floating Island leviathan technology ©Floating Islands West, LLC 2014

6. **Floating Solar Farms** (Floatvoltaic) energy production systems will be a primary source of power on site. These panels will be connected to the Leviathan unit structure. Excess energy will be sold back to the grid. Aquatic solar production is ideal for several reasons: First benefit would be the natural cooling provided by proximity to water which will increase energy output productivity. Secondly shade provided by solar panels reduces evaporation and reduces algae blooms.

Together these projects and associated technologies:

- ***Address IID, Imperial County and State*** environmental protection, human health, renewable energy production and job creation goals within a fiscally responsible framework.
- ***Support current "Framework" plans*** developed by IID and Imperial County for the Salton Sea region.
- ***Help remediate damaged landscapes*** through innovative agricultural and plant management techniques based on cleaning up degraded water resources, agricultural runoff, and sea-water based farming systems using bioremediation systems (developed by consulting partners Floating Islands West and H2O Futures).

- ***Reduce dust*** by creating artificial wetlands, rebuilding local soils and landscape through the use of salt tolerant plants, and covering susceptible soils with compost generated from waste treatment activities.
- ***Provide self-sustaining mobile housing*** for local farmworkers, including power, water, waste treatment and local food production.
- ***Create renewable power*** to cover all its needs, plus extra to sell through solar PV, biofuels, and barrel-generator hydro systems.
- ***Leverage existing land and/or in-kind resources*** (from the Imperial Irrigation District and AGESS).
- ***Support displaced farmers*** through new agricultural approaches that utilize degraded and saline water sources (using systems developed by consulting partners H2O Futures).
- ***Can be scaled up for commercialization*** in the Imperial Valley and elsewhere.
- ***Cleanse water*** while at the same time develop resources (algae, biomass, minerals, etc.) (using systems developed by consulting partners Subitec).
- ***Provide solutions that can be applied to agricultural and conservation easements*** throughout Imperial County, and which can help ***seed a new economy*** for the region.
- ***Improve environmental and human health*** by addressing toxins in the landscape.
- ***Help improve habitat*** for wildlife, especially birds and fish, especially in the Salton Sea.
- ***Provide jobs consistent with the region's agricultural character***, including: intensive freshwater and saltwater aquaculture, land and water remediation, landscaping and construction, and producing value-added products.
- ***Also provide jobs in the emerging energy sector.***
- ***Are designed to eventually become self-funding*** through strategic business strategies.
- ***Apply emerging technology*** from our consulting partners in a holistic strategy that multiplies benefits, while addressing multiple problems.
- ***Help build community*** through providing hope, jobs, and health.

Clients served:

- Disadvantaged communities
    - Children's health – asthma
    - Improves property values
- Displaced farmers
    - New jobs in innovative farming and energy productions sectors
- Imperial County, Imperial Irrigation District, State of California and other stakeholders
- Residents of Imperial Valley
    - More jobs, better environment, improved property values
- Population potentially impacted by environmental hazards
    - Southern California, Arizona, Mexico
- Populations of similar regions
    - Drought and water-stressed regions

Project Lead:

Alternative Generating Energies & Sustainable Solutions (AGESS, Inc.)

It is our mission at AGESS to provide professional project management services to implement alternate water, food and energy solutions. We work in the Imperial Valley and elsewhere to improve the environment and provide jobs. As a collaborative professional management team, we deploy existing technologies to treat nutrient overloading, support carbon sequestration through algae cultivation, and desalinate and clean water, while concurrently producing large quantities of alternative energy and creating new employment opportunities. Our goal is to utilize agricultural runoff and abundant sea water resources for food and fuel production in response to water shortages in California, the United States and around the world.

Our strategy is to create prototype projects which can be gradually scaled to commercial scale throughout the Imperial Valley and elsewhere. Our business model is to provide a robust return on investment of moneys invested into this work, so that the commercialization becomes self-funding through sales of products and services. We advocate for mobile and easily assembled solutions that are modular, use off the shelf technology, combining emerging technologies for efficient use of resource and are easily scalable. Knowing that business can be a powerful instigator of positive change, AGESS innovates upon extant funding mechanisms and business practices. AGESS currently works with a number of exciting entrepreneurs who have developed a range of viable solutions to water treatment, power production and agriculture that are applicable to this region.

AGESS is currently proposing a similar project for the San Joaquin River Delta and has other proposals to apply these ideas throughout California, United States and around the world.

Nathan White, Chief Executive Officer

Mr. White is an architectural designer, real estate developer, and construction advisor. With over fifteen years of education and practice, Mr. White has worked with several notable architecture firms and architect developers in San Diego, Orange County and Los Angeles. He has completed the development of a four-unit project in Mid-town San Diego. As the CEO, Co-Founder and Development Director of AGESS, he has been a driving force for providing education about environmental impact, especially water quality, on local economies. Mr. White graduated with a Master's from Woodbury's Master of Architecture in Real Estate Development. White also teaches Management and Finance at the NewSchool of Architecture + Design in San Diego.

Aaron A. Borja, Chief Operating Officer

Mr. Borja is a designer and project Manager with more than ten years of building experience in project management and construction documents. He has created construction documents and

developments for projects ranging from small home additions to 80,000 square foot hotels. With a specialized focus on community development in conjunction with general operations and working in education, investment, and clean-tech sectors, Mr. Borja has played key roles in development and deployment of digital learning and networking platforms. Mr. Borja graduated with a Bachelor of Architecture from Cal Poly Pomona, and was awarded a Master's Degree from Woodbury Master of Architecture in Real Estate Development program.

David Forney, Chief Technical Consultant
David Forney earned his PhD from the mechanical engineering department at the Massachusetts Institute of Technology (MIT). He has authored 4 peer-reviewed articles on organic matter decomposition.

Consulting Partner Organizations:

AGESS has developed close working agreements with the following companies and organizations in order to utilize their technologies and services in support of this and other projects. All of our partners have tested their technologies extensively and have applied them in various projects around the world. Our unique approach is to combine them all into a fully-functioning system, managed with a clear vision of return on investment, job creation, and scalability of success. Our partners include:

Intrinsyx Technologies Corporation

Intrinsyx Technologies Corporation is an award-winning systems engineering and science research company. Intrinsyx has an exceptional reputation for providing effective software, hardware, network, and database solutions for flight, ground, communications, and enterprise systems, and for developing and deploying systems engineering and software solutions for space systems and payloads. The company has been supporting Space Biosciences research on the International Space Station and small spacecraft missions for its entire history.

Eco-Media Compass

Eco-Media Compass believse everyone has an important part to play in taking care of our environment. Their goal is to connect with as many people possible about important environmental issues and inspire action through music, art, science and community. The work focuses on facilitating dynamic collaborations through interactive educational events and popular media. In only a few years, they've managed to change thousands of minds for the benefit of the

region using social media, dynamic community events, music videos, documentaries, art, photography, education and activism. With a large social media following and a growing industry network they are able to effectively share solutions in a creatively engaging manner while emphasizing the region's promising potential and the importance of fully restoring the Salton Sea for future generations.

Subitec- Algae Cultivations Systems

Subitec specializes in the cultivation of algae for multiple uses. For example clean energy can be produced from algae biomass in form of biodiesel. It can also serve as dietary supplement for humans. But perhaps most important, it is an indispensable feed source in aquaculture farming systems and therefore serves the nourishment of mankind in the future. Cultivation of the resource would not compete with other agricultural resources, provides five to tenfold higher surface area productivity, utilizes nutrients efficiently (with Subitec´s enclosed system), utilizes CO2 directly from industrial processes, and has five to ten times higher CO2 binding capacity than terrestrial plants.

Aquion Energy- Salt Water Battery Storage

Aquion's energy storage technology is based on the idea that, in order to meet the challenges of the world's growing energy needs and increase the use of renewable power, we need large-scale energy storage systems that are high performance, safe, sustainable and cost-effective. Aqueous Hybrid Ion (AHI™) chemistry, is a unique saltwater electrolyte battery technology.

Floating Islands West, LLC.

Floating Islands West, LLC is the West Coast manufacturer and distribution center for BioHaven® Floating Islands. These products (made largely from recycled materials) provide an innovative approach to world water and habitat issues by providing a full range of services, including island design, co-design, installation and training.

H20 Futures: Landscape Architecture Consultants

With decades of experience, H_2O Futures revolutionizes water availability. Their unique design approach and proprietary methods leverage systems have sustained ecologies on Earth for 3.5 billion years. They capture and clean existing wastewater, storm water, and/or seawater for reuse. Thus, land – whether urban or rural – becomes greener, more robust and more profitable.

EcoloBlue, Inc.

EcoloBlue believes that everyone on earth deserves pure, affordable and sustainable water. They have pioneered the most technologically advanced, and most sustainable Atmospheric Water Generators (AWG's) in the world. EcoloBlue distributes its products in over fifteen countries. EcoloBlue is the leader in the home/office market with over 10,000 customers in the US alone, and produces potable water at an industrial scale in several countries.

Nag Inc. -Geo-Spatial Engineering

Established in 1991, Nag, Inc. (NAG) is a geospatial visualization consulting firm specializing in the development of products and services that enable real time intelligent mapping of actionable events viewable through an easy to use geospatial visualization interface. NAG currently supports bi-coastal operations within the United States, with offices in Los Angeles, CA and the Washington DC Metro area. Specialized versions of their products and services are available for U.S. Federal, State, Regional, and Local Governments agencies throughout the nation.

Blue Nomad Foundation

The Blue Nomad Foundation (BNF) is a California-based non-profit organization passionate about environmental consciousness, advancing scientific research, and developing innovative economically sustainable technologies to help address some of the most important challenges

facing the planet. The long-term vision is to take solutions applied in California to the rest of the world, motivating environmental cleanup through sustainable business models, including for this project algae cultivation systems.

Red Horse- Environmental Permit Consultants

Redhorse has expertise in energy, environmental, technology, and intelligence services. We are a Small Business Administration 8(a) program participant and a service-disabled veteran-owned small business. Redhorse uses technology and information management approaches, coupled with our experience, to deliver creative solutions to complex problems. We network resources into functional teams that leverage our collective expertise, lessons learned, best management practices, and sustainable business solutions.

Sustainable Solutions

Sustainable Solutions helps organizations reduce costs, while conserving valuable natural resources, through intelligent compost management systems. We identify ways to effectively manage organic waste streams and assist in achieving Zero Waste goals.

Descriptions of similar projects:

Arcata Water Treatment Plant

The City of Arcata was faced with the need to expand their existing water plant at great cost to the City. After studying various options, the City integrated artificial wetlands and other biological remediation techniques into their wastewater treatment strategy. This strategy allowed Arcata to not only radically reduce the investment needed into the water plant, but created new wildlife habitat. In fact the wetlands have become so beautiful and rich with wildlife, they have become a major tourist attraction. AGESS proposes to utilize similar strategies with similar co-benefits expected from our activities. http://www2.humboldt.edu/arcatamarsh/overview.html

Seawater farming in Eritrea

One of our main partnering organization, H2O Futures, developed an innovative sea-water farming system in the Country of Eritrea in 1990. Once operational, this innovative project utilized sea water from the Red Sea to support sea-water based farming of Salicornia (a salt tolerant plant also known as Pickleweed), mangrove trees, shrimp and fish. These products were

sold at high profit to European markets, and the plants were used to support local livestock production. Before it was unfortunately discontinued due to political turmoil, this project employed over 800 people with minimal material investments.
https://www.youtube.com/watch?v=Kbqbb72L6fU#t=45

Additional Background Information (from IID and Imperial County Framework document):

The lands at the southern part of the Salton Sea within Imperial County that will be exposed due to the reduction in sea elevations are ideally suited to renewable energy development, primarily solar and geothermal, but also including more "cutting-edge" technologies, such as biofuels based on algae.

It is estimated that moving water – primarily through the Central Valley Project and the State Water Project – consumes approximately 19 percent of California's total energy use.

IID is coordinating with CDFW and the USFWS regarding the construction of drainage channels to connect otherwise-isolated pupfish populations and the construction and management of low-salinity pools at the mouths of the New and Alamo Rivers to provide habitat for the pupfish populations.

Some of the fresher water flowing from the Imperial and Coachella Valleys toward the Salton Sea would be diverted and conveyed into a series of shallow and deep ponds on the newly exposed playa. Circulation between these ponds would principally use gravity to cascade water from ponds on the upper playa to those lower-exposed playa. The new pond habitat would allow fish to survive the harsh conditions of summer heat and winter chills in the deeper ponds and provide a greater abundance of forage for piscivorus birds. The near marine conditions of the new ponds would also support other ecosystem components.

The U.S. Bureau of Land Management has designated the region surrounding the Salton Sea as the West Chocolate Mountains Renewable Energy Evaluation Area, citing its ideal location for new solar and geothermal development.

Specifically, in terms of controlling fugitive dust emissions and protecting the ecosystem, IID and the county, working with the Air Resources Board, the Imperial County Air Pollution Control District and the South Coast Air Quality Management District, the Department of Fish & Wildlife, the U.S. Fish & Wildlife Service, a number of environmental groups (notably, the Pacific Institute, Defenders of Wildlife, the Audubon Society and the Sierra Club), can and should take the lead roles.

Project Budget Pilot Project #1: Rural Model

Qty	Part No.	Description	Unit Price ($)	Ext Price ($)
AGESS: Management				1.00
25%		Deposit: Project Management Fees	$5,000	$1,250
25%		Completion of Construction PM Fee		$1,250
25%		6 Months Post Completion PM Fee		$1,250
25%		12 Months Post Completion PM Fee		$1,250
		Subtotal		**$5,000**
Construction: Site Hard Cost				1.00
1		1. Install Concrete Intake Structure at Alamo River	$5,000	$5,000
4	SP-1	3. Geo Tube Material: Artificial Wetlands retaining systems. 50 linear feet x 5' depth	$4,500	$18,000
		Subtotal:		**$23,000**
Hydro Electric Barrel Generator				1.00
1		Barrel Fabrication	$2,500	$2,500
2		Powdered Coated Frames	$2,500	$5,000
4	SP-1	Concrete Foundation	$500	$2,000
1		DC to AC power invertor	$1,000	$1,000
		Subtotal:		**$9,500**
Solar Panel Unit				1.00
10		Solar panels	$750	$7,500
1		Aquion Energy: Salt Water Battery	$1,000	$1,000
1		DC to AC power invertor	$1,000	$1,000
		Subtotal		**$9,500**

Subitec- Algae Cultivation			1/4 Size Unit	0.25
1	1		$12,500	$12,500
		001 28 L FPA Reactor Basic Configuration FPA reactor with 28 L volume in water bath with mounting rack and basic tubing		
1	2	Media Cart 30L volume, on wheels with tubing	$2,550	$2,550
1	3	Hose Pump	$1,500	$1,500
1	4	Control System Gaseous Media by MFC separate for each reactor	$4,350	$4,350
1	5	Control System Temperature Cooling unit, refrigerating capacity 2.5 KW	$4,900	$4,900
1	6	Control System Temperature Heating system in water bath	$1,100	$1,100
1	7	Dry Substance Measurement by integrated probe	$6,200	$6,200
1	8	CO2 Measurement by integrated probe	$3,000	$3,000
1	9	Automatization via PLC incl. control cabinet	$4,900	$4,900
1	10	PC-based Data Visualization	$750	$750
1	11	Data Visualization on Panel b/w	$850	$850
		Subtotal		**$10,650**
Algae Extraction				1.00
1	WWJ-1	Eco-Pond: Rescue Water Wagon Jr. Dewatering System	$3,000	$3,000
1	ER 4000	Solar panel Aeration	$2,250	$2,250
1	EP-H	Eco-Pond: Surface Skimmer "Hippo"	$2,500	$2,500
		Subtotal		**$7,750**
Algae Processing				1.00
1		Enclosed facility: Shipping Container	$2,500	$2,500
1		Shading of Shipping Container	$2,000	$2,000
		Subtotal		**$4,500**
H20 Futures: Sea Water Farms				
1000		Salt Water: Wet lands and Aquaculture	$10	$10,000

1000		Salt Water: Agricultural Construction	$10	$10,000
1		Management Fees	10%	$2,000
		Subtotal		**$22,000**
Fresh Water Farms				
500		Aquaculture Systems	$8	$4,000
500		Agricultural Systems	$8	$4,000
		Subtotal		**$8,000**
		Total Funding Requested:		**$99,900**

Project Budget: Pilot Project #2: Residential Model

Qty	Part No.	Description	Unit Price ($)	Ext Price ($)
AGESS: Management				1.00
25%		Deposit: Project Management Fees	$5,000	$1,250
25%		Completion of Construction PM Fee		$1,250
25%		6 Months Post Completion PM Fee		$1,250
25%		12 Months Post Completion PM Fee		$1,250
		Subtotal		**$5,000**
Construction: Site Hard Cost				1.00
1		Install Concrete Intake Structure at Alamo River	$5,000	$5,000
1		Heavy Earth Moving Equipment: Backhoe to construct shallow Artificial Wetlands.	$10,000	$10,000
2	SP-1	Geo Tube Material: Artificial Wetlands retaining systems. 50 linear feet x 5' depth	$4,500	$9,000
1		Enclosed facility: Shipping Container	$2,500	$2,500
1		Shading of Shipping Container	$2,000	$2,000
2		Mobile Residential Unit	$2,000	$4,000
2		Rehabilitation of Mobile Unit	$4,000	$8.000
1		Shading of Mobile Units	$4,000	$4,000
1		Greenhouse and Shadehouse	$8,000	$8,000
		Subtotal:		**$54,500**

Algae Farm				1.00
2	P-100	Fabricate Algae proliferators (AP)	$1,000	$2,000
4		Floating Docs	$850	$3,400
		Subtotal		**$5,400**
H20 Futures: Sea Water Farms				
500		Wet Lands and Aquaculture Creation	$10	$5,000
500		Salt Water Agricultural Construction	$10	$5,000
			10%	$1,000
		Subtotal		**$11,000**
Floating Islands West: Bio Haven Modules				1.00
	Standard Bio-haven			
20	FIW-2	12 Modules 40 sq. ft.	$32	$640
1	FIW-5	Anchor	$1,000	$1,000
1	FIW-6	Plants	$1,000	$1,000
1	FIW-7	Planting & Install	$1,000	$1,000
1	FIW-8	Maintenance 1 year	$1,000	$1,000
1		Shipping Freight	$500	$500
		Subtotal		**$5,140**
	Floating Solar Farms			1.00
10		Solar panels	$850	$8,500
10		Floating Docs	$850	$8,500
1		Aquion Energy: Salt Water Battery	$1,000	$1,000
		Subtotal		**$18,000**
		Residential Typology Funding Requested:		**$99,040**

Project Budget: Pilot Project #3: In-Sea Model

Qty	Part No.	Description	Unit Price ($)	Ext Price ($)
AGESS: Management				1.00
25%		Deposit: Project Management Fees	$5,000	$1,250

25%		Completion of Construction PM Fee		$1,250
25%		6 Months Post Completion PM Fee		$1,250
25%		12 Months Post Completion PM Fee		$1,250
		Subtotal		**$5,000**
Algae Farm				1.00
5	P-100	Fabricate Algae proliferators (AP)	$1,000	$5,000
5	B-3	Floating photo bioreactors (PBR)	$1,000	$5,000
		Subtotal		**$10,000**
Algae Extract				1.00
1	WWJ-1	Eco-Pond: Rescue Water Wagon Jr. Dewatering System	$3,000	$3,000
1	ER 4000	Solar panel Aeration	$2,000	$2,000
1	EP-H	Eco-Pond: Surface Skimmer "Hippo"	$2,500	$2,500
		Subtotal		**$7,500**
Algae Process				1.00
1		Enclosed facility: Shipping Container	$2,000	$2,000
1		Shading of Shipping Container	$2,000	$2,000
		Subtotal		**$4,000**
Floating Islands West: Leviathan				1.00
	Standard Leviathan Structure			
40	FIW-2	12 Modules 40 sq. ft.	$30	$1,200
1	FIW-3	3 Horsepower airlift pump & line with hose	$3,500	$3,500
4	FIW-4	Structural Skeleton	$3,500	$14,000
	Additional Costs			
1	FIW-5	Anchor	$2,500	$2,500
1	FIW-6	Plants	$3,000	$3,000
1	FIW-7	Planting & Install	$4,000	$4,000
1	FIW-8	Maintenance 1 year	$2,500	$2,500
0	FIW-9	Optional bird netting	$2,000	$0
1		Shipping Freight	$2,000	$2,000
		Subtotal		**$32,700**
Floating Islands West: Living Dock				1.00

	Standard Dock Structure:			
40	FIW-2	Biohaven: 12 Modules 40 sq. ft.	$32	$1,280
4	FIW-4	Structural Skeleton	$2,500	$10,000
	Additional Costs			
1	FIW-5	Anchor	$2,500	$2,500
1	FIW-6	Plants	$3,000	$3,000
1	FIW-7	Planting & Install	$4,000	$4,000
1	FIW-8	Maintenance 1 year	$2,500	$2,500
1		Shipping Freight	$2,000	$2,000
		Subtotal		**$25,280**
Floating Solar Farms				1.00
10		1. Solar panels	$850	$8,500
10		2. Floating Docs	$800	$8,000
2		3. Aquion Energy: Salt Water Battery	$1,000	$2,000
1		DC to AC power invertor	$1,000	$1,000
		Subtotal		**$19,500**
		In Sea Funding Requested:		**$99,980**

In-Kind Contributions

Qty	Part No.	Description	Unit Price ($)	Ext Price ($)
		Construction (Project Soft Costs): AGESS		
1		1. Development Coordination Services	$5,000	$5,000
1		2. Project development, specific planning, architectural services	$5,000	$5,000
1		3. Mechanical, Civil, Plumbing, & Electrical, Engineering drawings	$5,000	$5,000
1		4. Construction Document & Construction Permitting	$10,000	$10,000
1		5. Coordination work to date	$10,000	$10,000
1		6. Grant Application	$2,000	$2,000
20		7. Travel Time & Expenses	$200	$4,000
		Subtotal:		$41,000
Land Lease:				
40		1. Acquiring long-term lease: Refuge staff administrative time 40 hrs. @ $54/hr.	$54	$2,160
20		IID staff time 20 hrs. @ $54/hr.	$54	$1,080
		Subtotal:		$3,240

Project Administration: IID

1	1. Flow of administrative functions: Preparation of invoices, record keeping. 40 hrs @ $22.5/hr and 40 hrs @ $54/hr	$12,500	$12,500
1	2. Reporting: Documenting summaries of accomplishments, milestones. 40 hrs @ $54/hr.	$10,000	$10,000
	3. Project quality control	$10,000	$10,000
	Subtotal:		$22,500

Planning, Environmental Documentation: IID

120	1. Environmental documentation: Researching, investigating, writing.	$44	$5,280
60	2. Permitting: Researching, writing.	$44	$2,640
	Subtotal:		$7,920

Environmental Compliance: IID

1	1. Environmental Compliance:	$10,000	$10,000
	Subtotal:		$10,000

Monitoring:
IID

1	1.Pesticides: Analysis Alamo R. RHB site sediments	$2,000	$2,000
1	2. Selenium Analyses and Invertebrate Speciation: Quarterly SE Analysis (water, sediment, corixids, benthic inverts, gambusia) for two years.	$5,000	$5,000
1	3.Bird and Fish surveys: FWS Staff time	$2,000	$2,000
	Subtotal:		$9,000

AGESS, Inc.	Contributions	$41,000
Imperial Irrigation District (IID):	Contributions	$52,660
In-Kind Funding Match Provided:		**$93,660**
Total Seed Fund Sought:		**$298,920**
Total Project Budget:		**$392,580**

Letters of Support

IID

A century of service.

www.iid.com

06 June, 2014

Nathan White
Development Director
AGESS, Inc.
640 W Beech St.
Suite #4
San Diego, CA 92101

RE: Project support letter.

Dear Nathan.

The IID is pleased to provide this letter in support of the AGESS, Inc. proposal to the Salton Sea Authority. The combination of economic and environmental sustainability provided by your project proposal is an exciting prospect.

The IID has long been a proponent of Salton Sea restoration and recognizes that innovative approaches may well be part of the solution to the complex problem of implementing a successful restoration program. Your approach has the potential to provide some of the economic development that will be key to developing a viable financial model to fund Salton Sea restoration.

We appreciate the effort your team has contributed in the development of the project proposal and in taking the time to present it to us. IID will continue to support this and like projects at the Salton Sea as the State moves forward with Salton Sea restoration.

Bruce Wilcox
Manager – Environmental Programs
IID

Salton Sea Authority

June 10, 2014

Nathan White
Development Director
AGESS, Inc.
640 W Beech St. Suite #4
San Diego, CA 92101

Dear Members of AGESS, Inc.

The Salton Sea Authority is pleased to provide this letter in support of the AGESS, Inc. project proposal for the Salton Sea as outlined at the SSA TAC meeting on May 14, 2014. The combination of economic and environmental sustainability provided by your project proposal is an exciting prospect.

The Salton Sea Authority recognizes that innovative approaches may well be the solution to the complex problem of implementing a successful restoration program. Your approach has the potential to provide some of the economic development that will be key to developing a viable financial model to fund Salton Sea restoration. We appreciate the effort your team has contributed in the development of the project proposal and in taking the time to present it to us. Salton Sea Authority will continue to support this and like projects at the Salton Sea as we move forward with Salton Sea restoration.

Sincerely,

Roger Shintaku, P.E.
General Manager
Salton Sea Authority

44-199 Monroe Street, Suite C, Indio, CA 92201
760.863.2695 ~ 760.863.2696
info@saltonsea.ca.gov ~ www.saltonsea.ca.gov

IMPERIAL IRRIGATION DISTRICT
RESOLUTION NO. 8-2015

WHEREAS, Imperial Irrigation District has long been committed to supporting restoration efforts at the Salton Sea; and

WHEREAS, Algae Generating Energies at the Salton Sea, a firm committed to the development of innovative technologies to promote Salton Sea restoration and sustainable aquaculture development at the Salton Sea has agreed to partner with IID on a grant application to the Department of Water Resources Drainage Grant Application; and

WHEREAS, the Department of Water Resources grant application process requires a board resolution supporting the application; and

WHEREAS, the IID Board of Directors was presented with an informational item at its January 27, 2015 meeting that detailed the submittal of an IID and AGESS, Inc. grant application for the Department of Water Resources Drainage Reuse Grant Program.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE IMPERIAL IRRIGATION DISTRICT that it supports the IID and AGESS, Inc., Department of Water Resources Drainage Reuse Grant Program application.

PASSED AND ADOPTED this 24th day of March 2015.

IMPERIAL IRRIGATION DISTRICT

Stephen W. Benson
President

Gloria A. Rivera
Secretary

IMPERIAL IRRIGATION DISTRICT
ORGANIZED JULY 26, 1911
EL CENTRO, CALIFORNIA

RAUL RUIZ, M.D.
36TH DISTRICT, CALIFORNIA

1319 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
P: (202) 225-5330
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http://ruiz.house.gov

Congress of the United States
House of Representatives
Washington, DC 20515–0536

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PALM SPRINGS, CA 92262
P: (760) 424-8888
F: (760) 424-8993

445 EAST FLORIDA AVENUE
HEMET, CA 92543
P: (951) 765-2304
F: (951) 765-3784

45691 MONROE STREET, SUITE 2
INDIO, CA 92201
P: (760) 989-4111
F: (760) 289-7234

September 21, 2014

Nathan White
Development Director
AGESS, Inc.
640 W Beech St. Suite #4
San Diego, CA 92101

Dear Mr. White,

As the Representative of California's 36th Congressional District, I am pleased to provide this letter of support for your research oriented operation along your determination to restore the Salton Sea. It is my understanding that AGESS, Inc. is knowledgeable of the nutrient pollution in the Salton Sea and is gearing towards a long term solution for a clean and safe environment in the Coachella Valley.

AGESS, Inc.'s efforts of restoring the Salton Sea through High Bio Density modules and Algae Well Systems is admirable. The use of such technology presents an innovative and mindful approach with a unique cost and benefit analysis. In addition, your use of this technology aims to have a cost effective purpose that will further save current investments on equipment and operational costs of power plants while preventing harmful chemicals to be released into the air.

As the Congressional Representative for the 36th District and a Coachella Valley native, I understand the intricacies involved with the Salton Sea Restoration. This restoration is crucial to our environmental and public wellness of Coachella Valley. Cleaning up California's largest lake is a significant step in all of California's environmental wellbeing. Your combined efforts, expertise and insight are appreciated. Best of luck in furthering your goals and efforts to alleviate the nutrient pollution we see today.

Sincerely,

Raul Ruiz, M.D.
Member of Congress (CA-36)

WASHINGTON OFFICE
1605 LONGWORTH
WASHINGTON, D.C. 20515
(202) 225-8045
FAX: (202) 225-9073

CHULA VISTA OFFICE
333 F STREET, SUITE A
CHULA VISTA, CA 91910
(619) 422-5963
FAX: (619) 422-7290

EL CENTRO OFFICE
380 NORTH 8TH STREET, #14
EL CENTRO, CA 92243
(760) 355-8800
FAX: (760) 321-9664

VARGAS.HOUSE.GOV

Congress of the United States
House of Representatives
Juan Vargas
51st District, California

COMMITTEE ON FOREIGN AFFAIRS
MIDDLE EAST AND NORTH AFRICA
TERRORISM, NONPROLIFERATION, AND TRADE

COMMITTEE ON AGRICULTURE
GENERAL FARM COMMODITIES AND
RISK MANAGEMENT

HORTICULTURE, RESEARCH, BIOTECHNOLOGY
AND FOREIGN AGRICULTURE

COMMITTEE ON HOUSE ADMINISTRATION

JOINT COMMITTEE ON PRINTING

February 13, 2015

Ms. Maggie Dutton, Grant Program Administrator
California Department of Water Resources
Division of Integrated Regional Water Management
South Central Region Office
3374 East Shields Ave
Fresno, CA 93726

RE: Imperial Irrigation District Grant Proposal – Drainage Reuse Grant Program

Dear Ms. Dutton:

I am writing to introduce you to the Imperial Irrigation District's (IID) proposal for a Drainage Reuse Grant Program project. IID, which is located in my district, is submitting the aforementioned proposal, in partnership with Agess, Inc. and the Salton Sea Authority (SSA), to revitalize the Salton Sea through algal and other aquaculture processes.

If approved, the grant-funded project would provide the opportunity to evaluate an algae pilot treatment program to remove nutrients, reduce selenium concentrations and decrease salinity in agricultural return flow water. The project will also evaluate algaewell and High Density Photo Bioreactor technology to cultivate algae in enclosed environments at the Salton Sea. The project would be located on currently exposed Salton Sea playa land owned by IID. The high nutrient content will be a valuable feed source for our algae cultivation systems and cover exposed lakebed thus reducing the potential for particulate matter emissions for that area.

This project will help revitalize the Salton Sea while developing methods to reuse drainage water, optimize irrigation methods for source reduction, investigate salt tolerant plant species, analyzes market opportunities for harvested salts, and develop drainage treatment and salt separation technologies.

I respectfully urge you to give IID's grant proposal full and fair consideration on its merits in compliance with all applicable laws and regulations. If you have any questions, please contact Rebecca Terrazas-Baxter of my staff at (760) 355-8800.

Sincerely,

Juan Vargas

JUAN VARGAS
Member of Congress

NAG

Nag, Inc.

Wells Fargo Center, 25th Floor • 355 South Grand Avenue, Suite # 2450 • Los Angeles • California 90071
Phone: (213) 625-7636 • Web: http://nag.co

May 23, 2014

The Torres Martinez Desert Cahuilla Indians
66725 Martinez Rd,
Thermal, CA 92274

The Salton Sea Authority
44-199 Monroe Street, Suite C
Indio, California 92201

RE: Salton Sea Project Proposal

Dear Sir/Madam:

I enjoyed talking with Nathan White about your proposed project. As CEO of NAG Inc., I am supportive of the Salton Sea Project proposed by Agess, Inc. and its partners. The nature of the algae well technology and Salton sea restoration efforts concept, as proposed or as some variant thereof, would likely be of interest to our participation. Should the Project be approved, we look forward to collaborating with them to achieve the outcomes since there may be potential opportunities for our scientists and engineers to support you in the field of geospatial technologies relating to water quality, water conservation, and hydrology. Our firm has over 22 years of public sector experience: http://nag.co/Clients.php that would be of value to the project.

Should funding be approved, we provisionally agree to participate in design and engineering phases, sufficient to assure that our objectives and infrastructure are upheld, particularly the flow-through seawater system.

Thank you for including us among the stakeholders.

Sincerely,
Nag, Inc.

Swapan Nag, CEO

H2O FUTURES

REGENERATIVE DESIGN | LIVING INFRASTRUCTURE

May, 13th 2014

AGESS, Inc.
640 W. Beech St. Suite #4
San Diego, CA 92101

RE: Salton Sea Project Proposal

To whom it may concern,

As a registered Landscape Architect, licensed Architect, and CEO of H20 futures, I am supportive of the project being proposed at the Salton Sea by AGESS, Inc. The scope of work proposed aligns precisely with our experience. We look forward to participating, in advisory capacity, throughout the development and implementation phases of the project. We would also highly value an opportunity of collaborating with AGESS, Inc. on multiple levels to achieve positive outcomes. If the project is approved, it will offer an opportunity for our specialists to lend support in the areas of: landscape architecture; aquaculture; hydrology; cultural resources (including interpretation, education and public outreach); sustainable infrastructure and nature-driven water filtration technologies.

H20 Futures has over 30 years of experience in this arena, planning, designing and building similar projects around the world. The environmental engineering feat proposed by AGESS, Inc. is formidable, requiring vast collaboration that we fully support. We look forward to seeing their effort come to fruition.

On behalf of all those creating positive change, thank you for your consideration.

Sincerely,

Ned Daugherty, CEO
H20 Futures

2845 Nimitz Boulevard, Suite i | San Diego, CA 92106 | P / F: 001.619.225.2337 | WWW.H2OFUTURES.NET

Floating Islands West LLC
...for solutions above & below the waterline

"For Solutions Above & Below the Waterline"
5001 Neilson Rd, Mokelumne Hill, CA 95245
Mailing: PO Box 467, Mokelumne Hill, CA 95245
Visit us online at: www.floatingislandswest.com
Office: (866) 798-7086 & (209) 286-1445

Wednesday, January 21, 2015

AGESS, Inc.
3777 Florida St.
San Diego, CA 92104

RE: Salton Sea Pilot Project

Dear Members of AGESS, Inc.

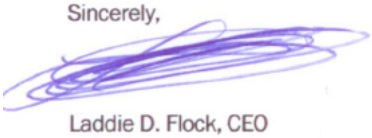
As CEO, and representative of Floating Islands West, I'm pleased to provide this letter in support of the AGESS, Inc. proposal for a pilot project and commercial expansion at the Salton Sea. The combination of economic and environmental sustainability provided by your project proposal is an exciting prospect.

Nutrient removal and salinity restabilization are essential to remediate the ailments of the Sea. Over the past hundred years these levels have been steadily increasing. AGESS' unique approach to addressing these issues with reusing of agricultural drainage is truly unique and our office would like to give our support to ensure the pilot project can test these systems for a comprehensive revitalization strategy.

Our company, Floating Islands West, has long been a proponent of Salton Sea restoration and recognizes that a combination of innovative approaches may well be the solution to the complex problem of implementing a successful restoration program. The AGESS approach has the potential to provide some of the economic development that will be key elements to implementing a viable financial model to fund Salton Sea restoration. We appreciate the effort your team has contributed in the development of the project proposal, and in taking the time to present it to us. Our office will continue to support this and like projects at the Salton Sea as the State moves forward with Salton Sea Restoration.

We would be happy to provide AGESS, Inc any technical data needed in regards to our product; in doing so, AGESS would act as a management firm that will aid in installation, maintenance and operation of the Leviathan system for nutrient removal and aquatic revitalization at the Salton Sea and other areas affected by nutrient overloading.

Sincerely,



Laddie D. Flock, CEO
Floating Islands West, LLC
Direct: 209.772.1442
Office: 209.286.1445
Email: laddie@floatingislandswest.com

WindStream Technologies

AGESS, inc.
3777 Florida St.
San Diego, CA 92103

Dear Nathan White and members of AGESS, Inc.,

WindStream Technologies, Inc. is pleased to provide this letter in support of the AGESS, Inc. for environmental revitalization and professional global climate management aspirations. The combination of economic and environmental sustainability provided by your project proposal is in line with our companies' core objectives. The WindStream Technologies, Inc. mission is to develop environmentally and economically sustainable technologies that use solar and wind resources in complimentary relationships to reduce cost and increase production efficiency. We see that AGESS, Inc. shares these goals and agree that we have a mutually beneficial working relationship.

WindStream Technologies, Inc. immediate priority is to utilize the integration of hybrid renewable energy generation on a micro and macro scale as is the goal of the AGESS team. Our global strategy is to use our SolarMill® system in areas where energy is expensive, or where the grid is inconsistent or non-existent. We at WindStream Technologies, Inc. feel that our continued development of electronic devices, sensors and hybrid wind and solar systems can significantly assist in the automation and commercial scale expansion of renewable power production; ultimately resulting in the full alternative energy grid in partnership with companies such as AGESS, inc.

AGESS approach has the potential to provide some of the economic development that will be key to developing a viable financial model to fund a Salton Sea restoration by coordination and implementation of several complementary systems. WindStream Technologies, Inc. is pleased to support this and similar projects which as the micro and macro energy and environmental situation becomes more urgent our collaboration efforts become more of a necessity.

Our team is pleased to provide any and all necessary technical data for AGESS, inc. to act as a 'professional project management' firm that will aid in installation, maintenance and operation of WindStream Technologies, Inc. in the southern California region.

Regards,

Daniel C. Harris

Executive Vice President

BLUE NOMAD FOUNDATION

January 15th, 2015

AGESS, inc.
3777 Florida St.
San Diego, CA 92103

Dear Members of AGESS, Inc.,

The Blue Nomad Foundation (BNF) is pleased to provide this letter in support of the AGESS, Inc. proposal to the Salton Sea Authority. The combination of economic and environmental sustainability provided by your project proposal is in line with our core objectives. The Blue Nomad Foundation's mission is to foster scientific research and develop environmentally and economically sustainable technologies that use algae biomass to bioremediate polluted water, manufacture biodegradable biopolymers and other high value algae derivatives.

BNF's immediate priority is to address the critical needs of Imperial County, California where the Salton Sea is an unmitigated environmental disaster. Our long term vision is to take the solutions we apply in California to the rest of the world. BNF will advocate global awareness and adoption of successfully developed technologies through open-source licensing of the intellectual property developed through its research. Our hope is to motivate farmers throughout the world to adopt environmentally sustainable technologies that will reclaim polluted sources of water and non-arable land, at the same time as helping their local economies and industries.

We at BNF feel that our continued development of electronic devices and sensors can significantly assist in the automation and commercial scale expansion of algae cultivation and ultimately the full remediation effort in partnership with companies such as AGESS, inc.

AGESS approach has the potential to provide some of the economic development that will be key to developing a viable financial model to fund a Salton Sea restoration by coordination and implementation of several complementary systems. BNF will continue to support this and similar projects at the Salton Sea as the situation becomes more urgent.

Our team is pleased to provide any and all necessary technical data for AGESS, inc. to act as a management firm that will aid in installation, maintenance and operation of BNF technology focused on algal system for nutrient removal and aquatic revitalization at the Salton Sea and other areas affected by eutrophication.

Regards,

Cameron Clarke
Founder, Blue Nomad Foundation