Concept Paper in response to the Request for Information from CT DEEP

On the Connecticut Materials Management Strategy (CMMS)

Submitted by

AB ECO PARK LLC

Its Members

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SANTA BARBARA DEVELOPMENT LLC

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TYPE OF SOLID WASTE FACILITY

The proposed facility has been designed and is at the beginning of the permit process. Our Waste Reclamation Facility (WRF) is an integrated interdependent approach which will result in **the first Carbon Negative Power Plant ever built. All of the technology discussed is currently in large scale operation elsewhere. Nothing we are proposing is untested. We are just the first ones to bring all of these technologies together in one place and use the synergies they create improve upon established processes.**

Compliance with the State Waste Management Hierarchy

What we propose is a Waste Reclamation Facility (WRF). This facility will handle solid waste produced in the State without the requirement of any new or additional source separation other than that which already exists. This facility is designed to:

1. Support Single Stream Recycling and accept waste from the Municipal Recycling Facilities (MRF) that currently goes to Landfill.

2. Directly accept organic waste into anaerobic digesters.

3. Directly accept crushed glass that has been source separated for recycling.

3. Support the CT DEEP's efforts to promote source reduction and reuse.

Conversion of Waste to Energy.

The facility will recover energy by converting the waste into a number of different fuels.

1. Resource Derived Fuel for the power plant consisting of cellulosic material, and non-recyclable inorganics;

2. Bio-Gas (Methane) will be upgraded to bio-CNG;

3. CO_2 upgraded to food/medical grade and sold as Liquid CO_2;

4. Waste water from the Municipal Solid Waste (MSW) collected and cleaned to a pristine distilled form.

5. Capture rain water in a storm management plan from roofs that will be stored in water tanks for use in cooling towers and in digesters.

6. Solar PV which will be used with the distilled water captured from the waste in a PEM system to create Green Hydrogen.

The WASTE RECLAMATION FACILITY (WRF)

The main facility will be a Mechanical Biological Treatment (MBT) Plant. The MSW will be deposited by trucks into a deep pit, which will have negative pressure to prevent odor from escaping. From that deep pit, the MSW will be picked up by crane and put through a bag opener and initial pre-sorting and shredding. The majority of the waste will then be put into a sealed vault where it will sit for a week while it dries, the water being drained off for further processing. The time in the sealed vault not only dries the waste but also kills the bacteria making sorting easier and cleaner. Once the waste is removed from the vault it is sent through a series of steps that separate the organic fraction from the non-organic waste.

The Non-Organic Fraction goes through a series of machines to be sorted. In so doing the ferrous, non-ferrous metals and #1 and #2 plastic, paper and cardboard as appropriate are removed for recycling.

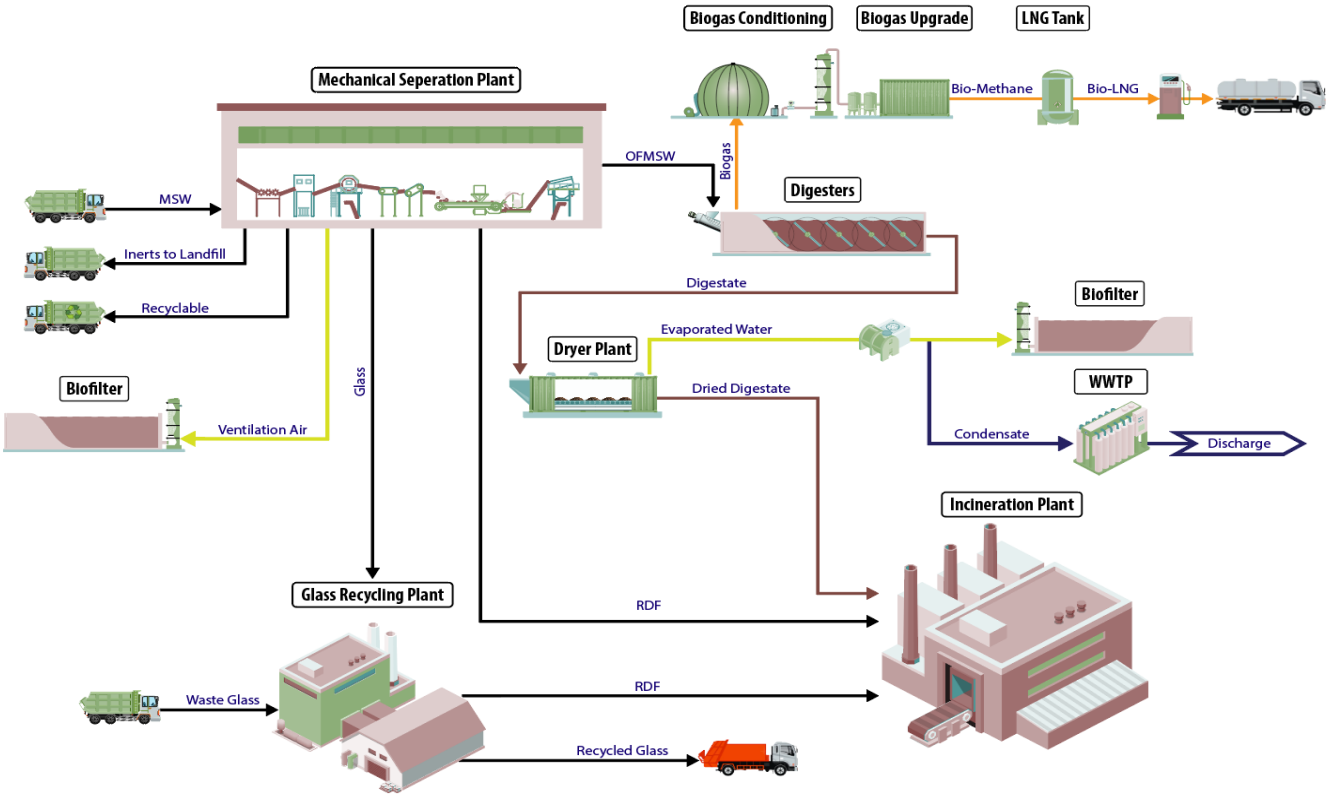
The organic fraction goes to a continuous feed anaerobic digestion system. Here the Organics will be digested, methane and CO2 captured. Ammonia and Sulphur stripped out during the process leaving only a dry digestate that is recycled into Resource Derived Fuel (RDF). The Methane is reformed into Bio-CNG and the CO2 upgraded to Food Grade liquid CO2 for beverages, medical or industrial use.

The remaining fraction of non-recyclable inorganic materials in the waste will be used as Resource Derived Fuel (RDF). Together with the dry digestate it will make a dry, fluffy fuel that can be stored for up to two years. The RDF is a bio-fuel that will be burned in the Power Plant on site. There is no need for any other accelerant or fossil fuel to make it burn as is the case with our current mass burn incinerators. We looked into using the remaining cellulosic material as soil enhancement, but not only were there concerns of toxins being mixed in the waste, but it was also brought to our attention that the farm fields in Connecticut are getting too much Nitrogen from existing composting programs. Therefore, this material as compost would only exacerbate the problem.

The WRF will also include a Glass Recycling Plant. This plant will take all of the glass removed from the MBT Plant, along with a significant amount of MRF residue that currently goes to a landfill. We know from a similar REDWAVE plant in New Jersey that takes waste from New York City MRFs., that much of this waste is glass. All of the glass will be sorted by color and sold to bottle manufacturers as cullet. No glass will need to be landfilled. We will accept 800 tons per day at this facility, and anticipate generating about 600 tons of glass cullet every day.

The WRF will be built in two phases. The first Phase will include an MBT plant with a 1670 ton per day capacity (21 hours, 7 days a week, 330 days). The Glass plant will be part of this phase, which will have an 800 ton per day (21 hours, 7 days per week, 330 days) capacity. The power plant will also be built in two phases each with a 20MWh capacity.

Our goal is to reduce the amount of waste being landfilled by diverting 90% through a combination of recycling, composting, water reclamation and conversion to RDF. The Mass flow Chart below shows how the facility will recycle 90% or more of the waste stream.



NEW HAVEN MBT — MECHANICAL SEPARATION MASS BALANCE

Organic Fraction	Flow	620 ton/d
Leachate	Flow	42 ton/d
Residential Waste	Flow	758 ton/d
Evapo. (Shr.)	Flow	32 ton/d
ICI Waste	Flow	758 ton/d
RDF	Flow	568 ton/d
Ferrous Metals	Flow	15 ton/d
Non-Fe Metals	Flow	15 ton/d
Glass	Flow	18 ton/d
Foils	Flow	5 ton/d
Paper & Cardb.	Flow	27 ton/d
PET	Flow	12 ton/d
HDPE	Flow	12 ton/d
Inerts To Landfill	Flow	148 ton/d
Total Inlet	Flow	1515 ton/d
Total Outlet	Flow	1515 ton/d

NEW HAVEN MBT — BIOLOGICAL TREATMENT & THERMAL DRYING

Biogas	Flow	95 ton/d
Treated Water	Flow	217,1 ton/d
Organic Fraction	Flow	620 ton/d
Leachate	Flow	42 ton/d
Dried Digestate	Flow	331,3 ton/d
Service Water	Flow	0 ton/d
WWTP Conc.	Flow	18,9 ton/d
Total Inlet	Flow	662 ton/d
Total Outlet	Flow	662 ton/d

NEW HAVEN MBT — INTEGRATED PLANT MASS BALANCE

Biogas	Flow	95 ton/d
Treated Water	Flow	217 ton/d
Residential Waste	Flow	758 ton/d
Evaporation (Shr.)	Flow	32 ton/d
ICI Waste	Flow	758 ton/d
RDF	Flow	568 ton/d
Spare	Flow	0 ton/d
Dried Digestate	Flow	350 ton/d
Service Water	Flow	0 ton/d
Recycables	Flow	105 ton/d
Inerts To Landfill	Flow	148 ton/d
Total Inlet	Flow	1515 ton/d
Total Outlet	Flow	1515 ton/d

Envrion. Friendly		344 ton/d
	Ratio	23%
Econom. Friendly		918 ton/d
	Ratio	61%
Econom. Friendly		105 ton/d
	Ratio	7%
Landfill Disposal		148 ton/d
	Ratio	10%
Total Ratio		100%

These are estimates based upon the 2015 Connecticut Waste Characterization Study. The actual recycling rates may vary, but this also does not factor in large items estimated to be 84 TPD such as mattresses, furniture and appliances that make their way into the waste stream. These variables make this calculation difficult and results in to an underestimation of the amount recycled.

OUR NEEDS AND THE LAND REQUIRED

We already have a 90-acre site under contract. We are also seeking to acquire an additional 12 acres of land from AMTRAK. Failing that our second phase will be reduced in size and scope by one-third to one-half. Our site in North Haven is situated between the New Haven Dump / New Haven Regional Recycling Facility to the South, and the Target Shopping Center on Universal Drive in North Haven to the North. To the West is the Amtrak rail yard and beyond that the Quinnipiac River Marsh. To the East a 100 acre plus freight yard which houses the largest Construction and Demolition Transfer Station in the State. This location is the center of Connecticut located within 1 hour of 95% of the State's population. Its access is directly off I-91 at Exit 8 in New Haven, but the plant itself will be in North Haven outside of any Environmental Justice Zone. The access to this parcel will be Exit 8 off of I-91, local access from State Route 17 and Route 80, I-95 to the South and by freight train on site. The access road to the facility is controlled by the Circle of Life Rail Yard. The owner of which is a partner in this proposal.

Most importantly, the 80 (plus or minus) acres of this site that lies in North Haven is located in an Infrastructure Improvement District. This means it is an independent municipality within the borders of North Haven. This does not mean we can ignore North Haven Zoning or Taxation, rather it means we can operate as an independent subdivision with taxing and bonding powers. The name of the District is the Cedar Hills Infrastructure Improvement District. (CHIID)

Utility connections will be minimal. The water, sewer, gas and electric will be brought in from Eagle Crossing Road in North Haven. Additional power will be connected to High Power Lines located on the other side of the Quinnipiac River alongside the AMTRAK line. This will be done to feed the grid if it becomes necessary, and also to access power when needed for startup. We will need to run a gas pipeline from the facility to the Center of North Haven to provide a link to the Algonquin Gas Pipeline. This will be used to supply gas to the Pipeline. Fiber Optic will be brought in from CT Route 17 to provide the ability to build a Data Center on site.

FEEDSTOCK

The facility will require no special feedstock. It is designed to handle MSW and MRF Waste as defined in the 2015 Characterization study. No additional Source Separation is required. The tonnage requirements for successful operation will start at 50% of maximum and go to 100% over time. The variation is to be certain the facility is running efficiently. The facility is financially viable at 50 to 75% of its capacity. Our tipping fee will be set at $85.00 per ton for MSW and $70.00 for MRF residue and source separated organics. At this time, we do not anticipate accepting Single Stream. Single Stream **MRF waste** will be put directly into the Glass Recycling Facility.

OUTPUTS

Our outputs will be many. Once both phases are in operation we anticipate generating:

1. 80,000 gallons of Distilled Water per day recovered from Waste
2. Roof Top water collection to water towers holding approximately 2 million gallons of water to be used in Cooling towers, anaerobic digestion and for Hydroponic system.
3. Baled Recyclables and glass cullet will be sent to end users in rail road freight cars. Future plans include adding smelters to melt metal and aluminum down into billets using electric furnaces. Billets to be sold to local end users at reduced costs to encourage metal manufacturers to grow in Connecticut.
4. Natural gas will be used to power garbage trucks and school busses. This will reduce pollution and **save the municipalities $7 to 10 million a year.**
5. Power from PV will be utilized to produce Green Hydrogen using PEM system with distilled water. Initially this will produce an equivalent of 1,000 gallons of diesel per day. This can be used to power trucks or school busses reducing pollution and saving the Towns money.
6. We can increase the amount of Green Hydrogen being produced as demand grows
7. We will provide a filling station for both Natural Gas and Hydrogen.
8. We will be generating between 20MWh (first phase) and 40 MWhs from our RDF (Once both Phases are operational) and have PV creating at least 2.5 MWh.
9. We will also have a Controlled Environment Agriculture structure for Hydroponic farming. The plan is to have a multi-story facility of 1 million square feet and an additional 250,000 square feet of traditional green house space, as well as a commercial fishery, learning labs and a welcome center. This grow facility is designed to utilize as much of the carbon dioxide generated by the facility not used elsewhere as possible. The facility will get its power on-site and use excess heat from the power plant to maintain its temperature. We have invited UCONN agriculture and aquaculture to join us in this endeavor.

Our engineers at Langan tell us they expect this facility to be Carbon Negative. **This calculation does not include:**

1. Removing 80 Tractor Trailers every day from our highways that will not be driving to Pennsylvania with MSW;

2. Garbage trucks and school busses that can be converted to CNG or electric rather than burning diesel giving children asthma.

3. Green Hydrogen we will produce and make available for Connecticut.

The residual materials that are not suitable for incineration as RDF in the power plant will be utilized as best as possible. The Ceramics, Stones and Porcelain (CSP) will be crushed and used as aggregate. Fly ash and bottom ash will go to cement block manufacturers, and the balance of

what is left will likely go to landfill unless there is an end user that can be found. **This will result in at least a 90% diversion from landfill**.

To summarize, this facility will emit no CO2 or Methane from the digestion process. It will capture and utilize more CO2 than it emits. It will provide Green Hydrogen and Green Natural Gas to the State along with Green Power to help build economic stability while protecting the environment.

Community Benefits:

We have committed to New Haven to interview candidates from their workforce program first before looking to other applicants. We will work with the School Bus Company that services New Haven and uses lots adjacent to this site to store its busses. We are already in discussion with the bus company with regards to powering the new busses to be deployed in the next few years. We have committed to saving them money for whatever fuel they chose to use- which will benefit New Haven residents both financially and environmentally.

We have committed to the UCONN Agriculture and Aquaculture Department to invite their students to help make our Controlled Environment Agriculture and Fish Farm facility state of the art, and in return allow them to use it as a teaching facility. We also plan to offer paid internships for UCONN students, all at no cost to UCONN.

Since this facility will be the first to integrate all of these existing technologies in one place, we will build a welcome center in the Controlled Environment Agriculture facility for visitors to learn about what can be done with MSW and recycling in a Waste Reclamation Facility.

HOST TOWN BENEFITS

We will save taxpayers millions of dollars in tipping fees and fuel costs all while increasing the amount of taxes paid to our host communities and making their air cleaner with fewer trucks and busses burning diesel fuel. Our facility will be an economic driver for New Haven and the surrounding communities. We expect to employ about 200 people.

The host communities will receive the benefit of a significant amount of property taxes as we do not seek any tax abatement. The host communities will also receive the benefit of less expensive electricity to anyone bordering on the property through a micro-grid. This can include the New Haven Recycling Facility and the North Haven Sewage Treatment Plant. We do not anticipate selling excess power to the grid, but rather use the power generated on site to power electric hungry industries that currently exist on our borders and future users that currently cannot afford to locate in Connecticut due to the high cost of electricity. We have reserved a 60,000 square foot pad for a 60,000 to 120,000 Sq. foot Data Center on the New Haven side of this parcel that will provide jobs and significant tax revenue to New Haven. We also have a 100,000 square foot pad reserved for future expansion in North Haven. We can add new industry and support the old, all while reducing the strain on our electric grid.

New Haven is adjacent to our proposed site and is an environmental justice community. The needs of the community must be addressed in a manner that addresses the concerns which the residents have over pollution and how it affects them, especially the children in that community. Our plan removes toxic fumes from diesel fuel consuming school and public busses. It removes those same toxins from garbage trucks operating in the City. We will work with New Haven to find more ways we can reduce the emissions generated by large vehicles that use the city streets every day. As our host communities, New Haven and North Haven will have priority in this regard. We will also prioritize Hamden and East Haven as our nearest neighbors with regards to providing fuel that we will produce. We will keep our prices below the equivalent market rate for diesel to save them money.

We understand from UCONN that there is a desire to require, or at least encourage restaurants to source separate Oyster shells to be utilized to grow and protect our Oyster Beds in Connecticut. Most of these are in New Haven and the surrounding shoreline. We have a location at our site which is State-owned land that can be utilized for this purpose. As this is a goal of the Aquaculture Department at UCONN, we would be happy to work with them to develop this as a storage location. The weight of the shells would also decrease the cost of the MSW taken from seafood restaurants significantly. The logistics of this would need to be coordinated with UCONN and the State of Connecticut, but we would cooperate in any way we can to promote an economic driver for the State.

WHO ARE THE DEVELOPERS

The Developer's experience in this field consists of trash collection and disposal, running the State's largest C & D transfer station, trucking and heavy equipment operation. Together with operating the State's largest outdoor warehouse. The second part of the development team has 35 years of legal experience in commercial real estate, contracts and governmental experience. Both developers have run successful businesses for over 30 years.

The development team includes experts from the developer and manufacturer of the proposed technology. The MBT and the Glass Recycling Facility are designed by a Company called Redwave from Austria. I have attached a map of their projects around the United States some of which have been in operation for over a decade. I have visited a number of their facilities in Germany and seen how well they function. They will install, test, maintain, and train on the operation of the facilities. Their US base is in Atlanta, GA.

Our Architect is Svigals + Partners LLP based in New Haven , CT. Svigals has designed many public buildings for the State of Connecticut and has worked with many of our team in the past.

Our Power Plant is based on an RDF plant in West Palm Beach Florida, using technology provided by Babcock and Wilcox, and will be designed by Vanderweil Engineering. That plant has been in successful operation for over a decade.

Our General Contractor will be Whiting Turner, who have overseen the development of many various projects all over the country.

Our Civil Engineer is Langan Construction, who have also overseen many large projects all over the country.

Our Environmental consultant is EKI Environment and Water.

Information on the experience of the Development Team is attached.

FINANCING

This project will be financed through the issuance of Municipal Bonds issued by the Cedar Hills Infrastructure Improvement District. The owner of the project will be AB ECO Park LLC. Its ownership is described in the attached schedule. We will be asking for a 10-year commitment from the participating Municipalities. We anticipate forming a Regional Municipal compact which will be called the Cedar Hills Reclamation Authority (CHRA). Participating Municipalities will be asked to join as part of the agreement. The CHRA would require that participating communities maintain flow control in their communities and direct all MSW to the Cedar Hills Waste Reclamation Facility. (CHWRF) In return the participating Communities will be guaranteed a rate of $85.00 per ton for MSW and $70.00 per ton for their single stream MRF waste and organics that originated in their communities for the duration of the contract. We will be seeking designation as a Class II REC which we will sell unbundled from the power generation.

We do not anticipate the need for any offtake agreements for electricity. We expect that most if not all of our generated power will be utilized in a micro-grid on site. As previously mentioned we do anticipate the need to run a gas pipeline from our site to the Algonquin Pipeline in the center of North Haven to handle our offtake of bio-gas which will generate a significant income stream. We anticipate the generation of 67,070 Nft3/hr of Bio-CNG for each phase of operation. We anticipate building 2 phases which will generate a total of 134,140 Nft3/hr. We will have an on-site filling station for vehicles and tankers as an additional income stream.

Our timeframe for completion of the project is as follows:

1. Open as a Mechanical Treatment (MT) /transfer station accepting 1,650 tons per day by June 2024.
2. First Phase of operation with a fully operational Mechanical Biological Treatment Plant (MBT) and 800 ton per day glass plant open by July 2025.
3. Initial Power Plant open by July 2026.
4. Second Phase MBT operational by July 2026
5. Second phase power plant open by July 2027.

PERFORMANCE GUARANTEES

The technology has performance guarantees which are related to throughput as well as overall sorting/processing quality. The performance of the machinery depends on the quality of the input material. The input material and the design of the facility are based on the 2015 CT DEEP Waste Characterization Study. For example, if the expectation is 2 tons per hour of PET a typical value for performance guaranty would be recovery of somewhere between 92% and 98% depending on the overall system setup and the moisture content of the input. Having the MT Plant open as a Transfer Station first has the added advantage of allowing us to adjust the final design of the facility based upon actual waste composition and not having to rely solely on a 2015 study.

ANAEROBIC DIGESTION

Anaerobic Digesters as a separate stand-alone facility are not required with this design. We encourage the inclusion of organic waste in the MSW. There is no need to source separate, but we will have the ability to accept source separated organics. We will provide a lower tipping fee for this purpose equivalent to that of MRF waste or $70.00 per ton. We will digest the organics and recover the methane and CO2 as part of the overall process.

We will produce methane which will be reformed into high grade bio-Natural Gas. The majority of it will be sold to the pipeline and to power trucks in place of diesel fuel. We suggest that the State provide the Towns with financial incentives to convert their garbage trucks to run on CNG or Hydrogen. We are considering requiring all municipalities who join in our regional municipal Trash District (Cedar Hills Reclamation Authority), CHRA to utilize natural gas or Hydrogen to fuel their trucks.

The quantity of organic waste anaerobically digested in each of the two phases is estimated to be 683 tons per day. Once processed and dried this will result in an estimated 331 tons per day of cellulosic digestate to be utilized as Resource Derived Fuel. (RDF)

The quality of the feedstock to the digesters will be controlled by the MBT plant. Contaminates will be removed in that process. Organics that are source-separated prior to arrival at the facility can be put directly into the digesters. An RFP should be coordinated with the municipalities to insure the quality of the feedstock, and to provide for a reduced tipping fee. Requirements to obtain a lower tipping fee for source-separated organics must be part of any RFP. Requirements will include a minimum of non-organic contaminants, and compliance would be determined by examining the incoming feedstock to insure general compliance with the Agreement.

This facility does not anticipate utilizing the natural gas produced for the production of electricity except as a reserve power source using emergency generators. We will utilize a small portion of the bio-CNG on site for a thermal dryer, sell some to fuel vehicles, provide for local CNG services to fill tankers, and sell the balance to the pipeline. In addition to the Class II REC, we do ask for carbon offsets for the Bio-CNG we will be producing and also that our RDF be considered a renewable resource and also be given an offset. This will provide the WRF the

ability to sell its carbon credits in the open marketplace, helping to maintain the tipping fee over the course of the contract.

Any policy developed by the State must insure that Renewable Natural Gas from anaerobic digesters receives a fair market price from distribution to the natural gas pipeline, and that any such pipeline be mandated to accept Bio-Gas of a set quality. This will also insure a steady income stream to the project.

MUNICIPAL REGIONAL TRASH AUTHORITY

The Waste Reclamation Facility should have a preferred procurement status, as it will be a Municipal Authority that will invite municipalities to join under interlocal agreements. It will be named the Cedar Hills Reclamation Authority (CHRA) and act under the Auspices of the Cedar Hills Infrastructure Improvement District. As proposed, this facility is the most economical way to dispose of the State's solid waste. It does not require source separating anything that we are not already handling. We encourage Single Stream Recycling as it is currently being done. While the MBT can handle most fractions of the waste stream, the removal of most recyclables makes the MBT work more effectively. There are always going to be recyclables in the waste stream, **however, we prefer as much as possible be source separated by the existing MRF's through Single Stream Collection.**

REGIONAL BENEFITS

The proposed facility will provide the region with a reliable disposal option for its solid waste, and will give our State the stability it needs in terms of solid waste disposal as to cost and an assurance of a location for its disposal. The MBT provides a reliable fuel supply in the form of RDF for the power plant and in the form of Natural Gas for the pipeline and local users, low cost electricity and Green Hydrogen to fuel vehicles. These fuels can and will be made available on site for the trucking of solid waste. While this plant will be centrally located within 1 hour of most of the State, it would be optimal to have plants be within 30 minutes of every municipality. We plan to propose future sites for additional appropriately sized plants to handle the balance of Connecticut's MSW as the older burn plants close.

THE DEVELOPER

AB Eco Park Owners & Operators

Chief Executive Officer

William V. Gambardella – Lifelong North Haven resident

- Former CT State Representative
- Former North Haven Treasurer
- Attorney – 35 Years of Private Practice

Chief Transportation Officer

Andrew F. Anastasio, Jr – North Haven resident Lifelong New Haven County

- CEO – The Anastasio Group, LLC – trucking, trash removal & recycling.
- Owner of 100-acre adjacent freight yard and transfer station.

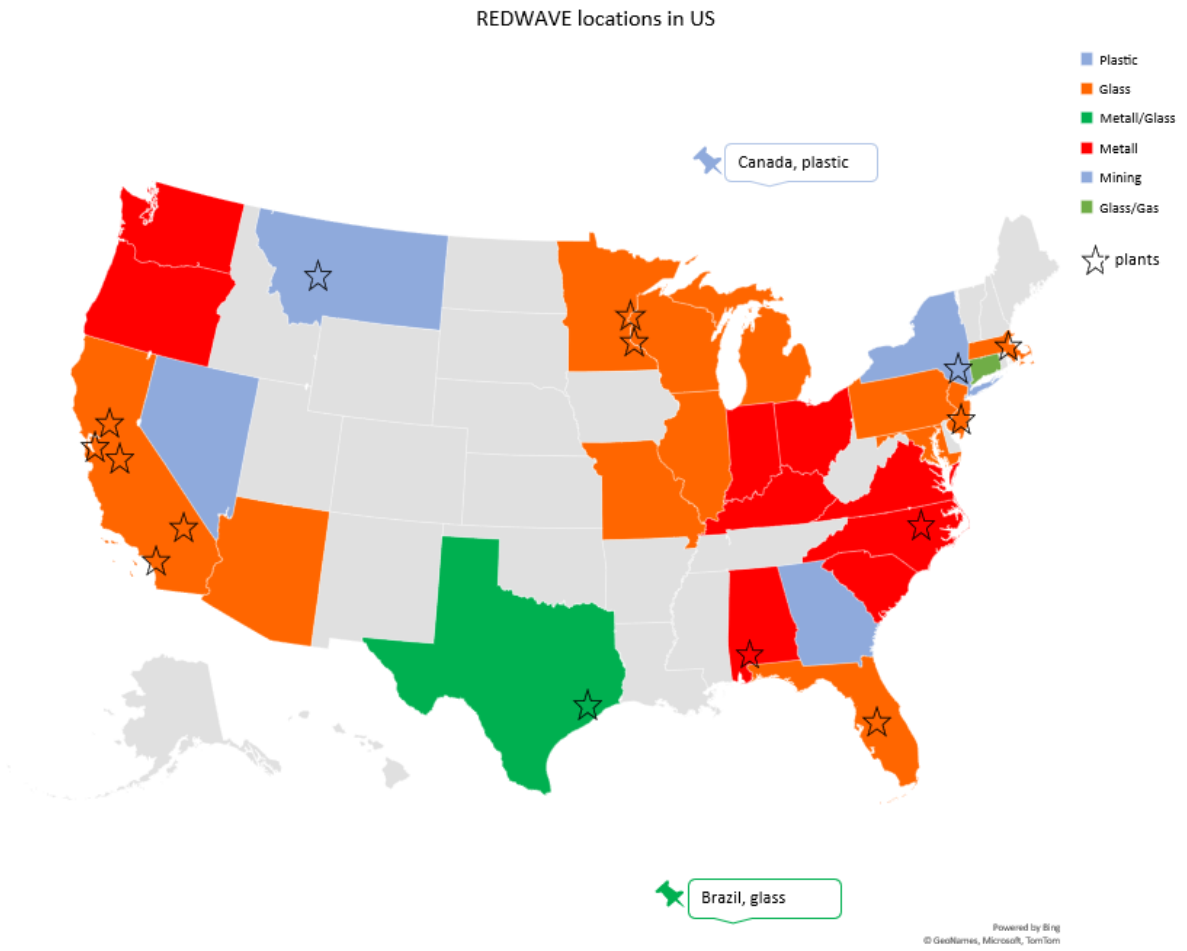
REDWAVE- **Plant and equipment design**

RECYCLING & WASTE TREATMENT SOLUTIONS

"Founded in 1997 as a plant builder in Austria, REDWAVE has established its reputation as a single source partner in the recycling and waste solutions sectors. Our team is united by a passion to provide profitable technology for waste treatment solutions while allowing our customers to be pioneers in the industry and take responsibility for an efficient circular economy. Our turn-key waste processing plants, combine automated, mechanical processing and sorting technologies to convert waste materials to high-quality secondary fuels. At the same time, our sensor-based sorting technology also achieves the maximum yield of usable recycled materials such as metals, plastics, glass and minerals. REDWAVE is not only the leader in X-ray fluorescence sorting technology, but it was also commissioned to design and install facilities worldwide, including the World's largest MBT plant in China. 25+ years of experience enables

us to develop customized solutions for our customers as an all-in-one-Supplier. REDWAVE has subsidiary offices in the USA, Germany, Singapore and China.

The map shows projects that Redwave has completed in the United States.



ARCHITECT

SVIGALS + PARTNER

With nearly 40 years of experience, Svigals + Partners is an industry leader in science, Technology, and health care design. We specialize in creating highly technical spaces that nourish creative and innovative discovery.

Highlighted Projects

1. Bio-Science Complex at the University of Connecticut consisting of the multidisciplinary Agricultural and Biotechnology Laboratory, research greenhouses and advanced technology laboratory.

2. Bio-Haven Pharmaceuticals;

3. PepsiCo Research and Development

WHITING TURNER- Construction Manager

4,300 plus professionals nationwide with expertise in Industrial processing, manufacturing and warehouse buildings, transportation, Data Center, healthcare, office and headquarters, science and technology.

Whiting Turner is on the cutting edge of resiliency in energy together with the ability to design for cost cutting and better efficiency. They have overseen the construction of power plants, Solar Farms and waste to energy facilities.

LANGAN ENGINEERING – Civil Engineering and Environmental permitting

Langan provides expert land development engineering and environmental consulting services for major developers, renewable energy producers, energy companies, corporations, healthcare systems, colleges/universities, and large infrastructure programs throughout the U.S. and around the world. Our employees collaborate seamlessly among 40+ offices and gain valuable hands-on experience that fosters career growth. Langan culture is entrepreneurial from advancing innovative technical solutions, to participating in robust training and knowledge sharing, to making progressive change within the communities we live and work.

Langan provides an integrated mix of engineering and environmental consulting services in support of the energy and renewables industry, land development projects, and corporate real estate portfolios. Our clients include developers, property owners, public agencies, corporations, institutions, and energy companies around the world.

Highlighted Projects

- University of Miami- Centennial Village- Coral Gables Florida
- JFK International Airport, Terminal 6, New York, New York
- Yale- Peabody Museum of Natural History, New Haven, CT
- Columbia University, Know Hall Geothermal Design

New Jersey Meadowlands Commission 1A Landfill Solar Array

VANDERWEIL ENGINEERING- Power plant design and construction

Vanderweil Engineers was founded in 1950 by Raimund Vanderweil, an Austrian immigrant with a mechanical engineering degree and several years of experience in mechanical contracting, engineering design, and heat transfer R&D. Today, we are a full-service engineering firm specializing in MEP and technology services for a wide variety of buildings, sustainable design, commissioning services, as well as central heating and chiller plants, power generation, and electrical transmission and distribution lines. With a staff of 450 located across ten offices, we are proud to be one of the largest independently-owned engineering firms in the country.

- **Highlighted Projects**

- MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CENTRAL PLANT UPGRADE PROJECT
- CITY OF LOS ANGELES HYPERION COMBINED HEAT & POWER PLANT
- PENTAIR PLC, STEAM VALVE TEST FACILITY
- BUSINESS BAY EXECUTIVE TOWERS, EMPOWER DISTRICT COOLING PLANT
- MEDICAL AREA TOTAL ENERGY PLANT
- MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CENTRAL HEATING COOLING AND COGENERATION PLANT
- NEW YORK UNIVERSITY, COGENERATION PLANT
- YALE SCHOOL OF MEDICINE, STERLING COGENERATION POWER PLANT
- MARINE CORPS AIR GROUND COMBAT CENTER

BABCOCK and WILCOX- Vendor and Manufacturer for Power Plant

Mass-Burn or Refuse-Derived Fuel (RDF)

B&W provides two options when using waste as a combustion fuel. Mass burning municipal solid waste (MSW) uses the refuse in its as-received, unprepared state. The second technique uses prepared refuse, or refuse-derived fuel (RDF), where the as-received refuse is first separated, classified and reclaimed in various ways to yield salable or otherwise recyclable products. The remaining material is prepared for firing in the boiler.

- More than 650 installations utilizing B&W technology in more than 30 countries
- Flexible designs to accommodate various capacities, fuel compositions and steam requirements
- Experience as both a supplier to and operator of WtE facilities
- Environmental equipment solutions for a wide range of emissions

Emissions Control

B&W is an innovator and industry leader in providing advanced air emissions control and energy recovery equipment and technologies for power plants and industrial processes. Engineered solutions control a wide range of pollutants and emissions, such as acid mists and gases including hydrogen chloride (HCl) and sulfur oxides (SOx), particulates, nitrogen oxides (NOx), carbon monoxide (CO), mercury, and other hazardous air pollutants (HAPs).

UNIVERSITY OF CONNECTICUT

We have asked UCONN's school of Agriculture and Aquaculture to help us design and operate our Controlled Environment Agriculture facility and commercial fishery as a learning lab. This will be at no cost to UCONN. We will provide paid internships for UCONN students as well as learning labs and classroom space. We anticipate this being a collaborative process.

EKI ENVIRONMENT & WATER **Lead LEP- TIMOTHY MYJAK**

Brownfields Redevelopment
EKI has assisted public, private-sector, and non-profit clients with acquisition and redevelopment of environmentally impaired properties or brownfields. EKI has devised remedial strategies that have allowed reuse of such properties as former canneries, oil refineries, foundries, military facilities, manufactured gas plants, federal Superfund sites, bulk fuel storage facilities, and petrochemical manufacturing operations.

Knowledge of pertinent environmental regulations and an understanding of the intended reuse are essential in assisting clients with the acquisition and redevelopment of contaminated properties. EKI is experienced in the use of purchase and sales contracts, state prospective purchaser agreements, and environmental insurance products to allocate agreed-upon environmental responsibilities among the parties involved in the transaction. For many properties, EKI has identified cost-effective approaches for ongoing environmental responsibilities through the implementation of risk management plans. Such plans typically indicate limited remedial activities, the land use controls to be taken to mitigate residual risks to human health and the environment, describe protocols for future subsurface activities at the property, and specify provisions to ensure long-term compliance with the plan.

Highlighted Projects

- Remediation of a Former Industrial Area Along City's Waterfront
  Richmond, CA

  Soil & Groundwater Remediation for Brownfield Redevelopment of Former Metal Fabrication Site San Fernando Valley

  Redevelopment of Former Orchard Property into a Neighborhood Park
  Sunnyvale, CA

  Cleanup for Redevelopment of Former Industrial Property
  Emeryville, CA