



## III BEARS

### The Company

III Bears is an international company. We are a privately held company operating in intellectual property, design, engineering, consulting in the environmental fields of municipal solid waste, water, wastewater, green fuels, civil construction, green building, and socially responsible precious minerals.

Our work has led us to generate a group of experienced engineers and community planners with international design, social and economic background in indigenous design. This work has opened a large opportunity for development within our Global communities. With focus on culture and the sustainability.

While traveling internationally we have created business relationships in numerous countries, these relationships have open and expanded our thinking our insights into old ways which we add a current design.

We are identifying ways to support culture and existing ways of life while maintaining their cultural ways by simple lighting, access, and communications.

We have experienced a very diverse history with a unique and expansive view. A strong civil construction background has opened opportunities to specialized operations and projects. Large above ground water storage, distribution, fuel, projects. In the mid nineteen nineties we began a path of green research with municipal solid waste to product research which lead to a US patent filing and

receive patent in nineteen ninety-eight for multiple processing of municipal solid waste to product. Company has intellectual property rights over a unique methodology to Waste Management.

While living in Hawaii and very involved in the construction industry we have been asked to support ocean stabilization work. Many of the existing hotel and condominium developments are located within the shoreline and have experienced erosion, sea wall destruction and de stabilization. Within this work we have worked with engineering and developed and installed numerous revetment walls, existing wall stabilization, utilizing large boulders, precast wall sections, expanding subsections for emergency stabilizations.

Within this work we have experienced under water surveys and explorations. When reviewing the existing structure and failures we will have to review this underwater. We support a full crew of certified divers and offer underwater surveys.

Inclusive to this document is a compilation of our projects and focuses over the past twenty-five years with projects.

We thank you for interest in our company

## The Technology:

### Magnetic Generator (DMIG)

#### Introduction

The DMIG, provides access to an inexpensive, continuously available, and non-polluting method for generating electrical energy in a format that is applicable in both small and large-scale, fixed and portable, energy scenarios. The DMIG is currently available in several models with generation capacities starting at 20KW to 10MW respectively and is easily customizable to larger scales.

Flexibility and functionality are two key elements of the DMIG technology that make it ideal for many energy generation scenarios. The DIMG can be affixed to existing energy grids as a method to improve energy efficiency in urban areas or used to develop mini-grids in rural areas that lack access to energy. The DMIG can also function as a standalone energy source for mining companies, medical facilities, research centers, construction firms, as well as other industrial and commercial enterprises operating in both remote and urban locations.

#### Applications:

Utilities (grid and mini/micro-grid): The DMIG is the ideal technology to affix to existing energy grids as a method to improve energy efficiency, increase energy capacity, and to ensure reliable, clean, and continuous energy in urban areas.

The DMIG is also suitable for developing mini-grids in rural areas that lack access to reliable, clean, and efficient energy. III Bears is building strategic partnerships with utility providers that are suitable for adopting DMIG units into their energy mix or to have a complete DMIG power plant.

## Municipal Solid Waste

III Bears has generated a preliminary review of Municipal Solid Waste to electrical power and products. We have the international licensing rights to technologies, and we share the following.

We are looking for locations in countries looking to expand into the global economy and maintain their green living within the rain forest. Working within this current situation creates a great opportunity. Our systems are a unique blend of technology and science.

Our system is an enclosed system with technologies to meet and exceed all emissions standards internationally.

All MSW is mechanically separated into primary fractions, metal, plastic, glass with all remaining materials moving to a sizing and drying process prior to preparation for fuel.

All fractions are then processed for their individual resale position, metals are loaded and sold to metal recyclers, glass is crushed and packaged for re sale and the plastic is prepared for reprocessing into additional saleable items and or prepared for secondary market sales.

Fuel is used in a waste to steam system followed by steam turbines to electrical power.

## Process

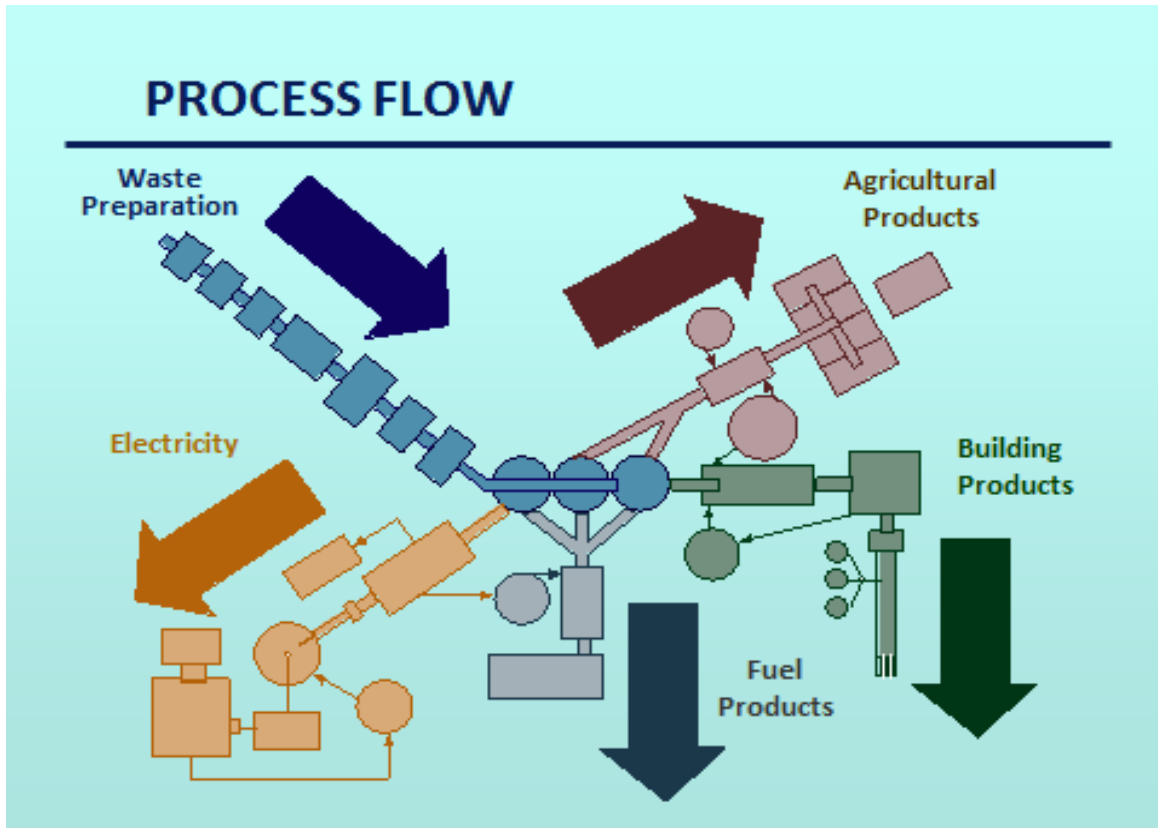
The III BEARS System is comprised of processes that address the entire waste stream and can also be custom designed to handle each user's specific needs. Each plant can be assembled using a combination of the components and scaled to meet the customer's particular waste stream content and product requirements.

## Waste to energy

All materials are processed within this system. Removal of ferrous metals is necessary. Remaining materials are sized and dried. If the system is a bio fuel site all MSW will be comingled with processed green waste and utilized for a fuel.

All fuel material is utilized to generate a steam; this steam is then utilized to power a steam turbine. Systems employed are proven technology with state of the art components and are fully time tested. This system is currently being introduced to emerging countries with the direction of allowing for fuel independence. You can generate the locations electrical requirements with on-site MSW and growing your own fuel.

*MSW flow process layout for unsorted municipal solid waste*



## Plastics Extrusion plant

This plant extrudes the waste output into a variety of useful items. Items can be extruded, cast, molded etc. Applications for which the material is ideal include exterior fencing, municipal street furniture, garden furniture and sheds, decking, and marine piling as the material has the following attributes:

- Can be used externally in place of natural timber without any treatment
- Emerges fully pre-shaped, avoiding the need for most subsequent preparation and machining
- Can be machined and worked with hand tools just like timber; It is rot proof and insect resistant
- Has fire resistance
- Reduces demand on natural timber
- Is very durable and comes without knots or splinters
- Retains fastenings (nails and screws) better than timber
- Is extremely cost-effective
- Can have its characteristics modified, e.g. color, and mechanical properties such as flexibility, strength, weight, UV light degradation etc.

## Dura-Build Process

*U.S. Patent No. 5,844,008*

In the Dura-Build process, the plastics and cellulose fiber recovered (after a drying process) is then mixed with MDI polymers and continuously extruded in a fashion similar to the way most modern plastic products are produced.

The mix is forced through a die or injected into a mold or pressed to produce the desired shape. Heat is produced in the primary and secondary shredder and is also achieved by use of polymers which, when added to the mix at the extrusion stage, cause rapid expansion.

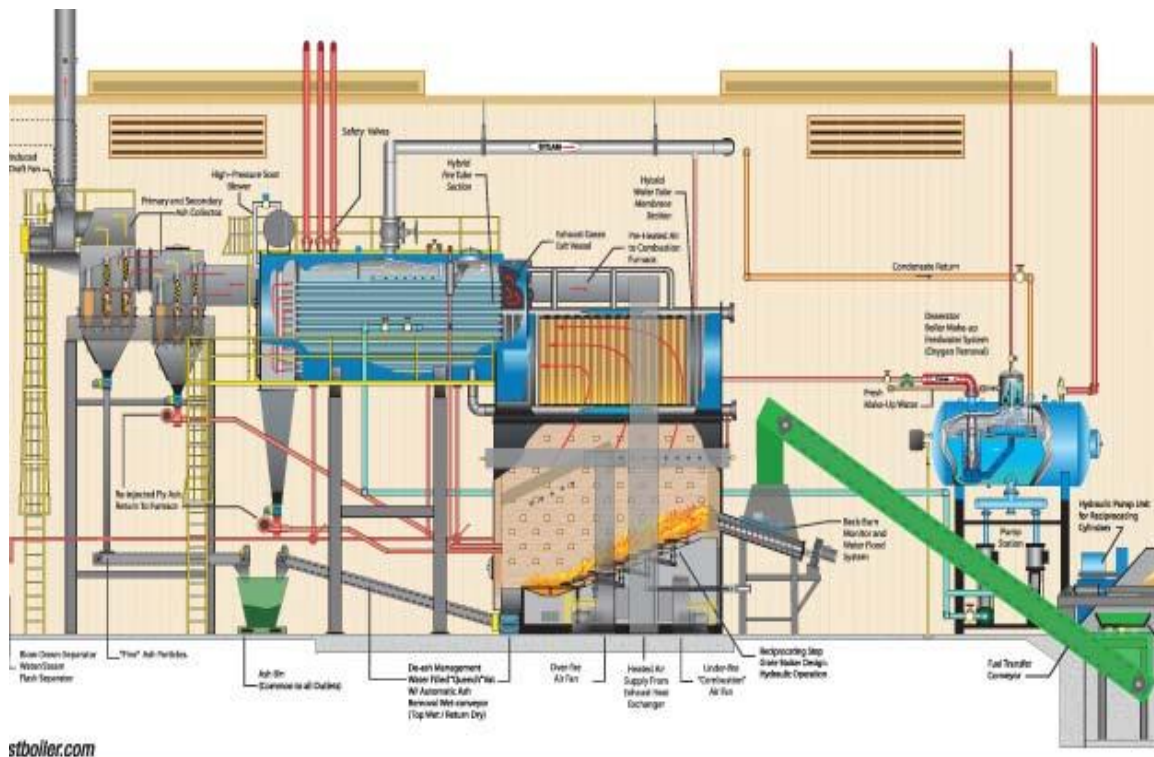
Since the entire mix is expanding rapidly within the confinement of the extrusion barrel or press, high pressure is produced with resulting high temperatures. The pressure and temperatures combine to destroy pathogens while encapsulating all particulates in the mix. During the mixing and extrusion process, other additives are injected to achieve desired product characteristics such as heat resistance and ultraviolet resistance as well as odorless, color and texture

qualities. Products of varying weight, density and strength can be produced to match any specifications.

MDI polymers have a unique bonding process. They seek out and react with both the moisture in the material and the hydroxyl groups which make up the fibre matrix. The result is not just a mechanical bond, but a tough, chemical bond which is extremely resistant to moisture, has low swelling characteristics and exceptionally high strength.

*III BEARS* identified these benefits in the early development of the System and has based its manufacturing technology on the use of MDI polymers as the most effective binding agent for high grade composite panels.

*GREEN ENERGY* system utilizing the green waste in a co-mingled system with Municipal Solid Waste



## Management Team

Together, the team brings significant years of highly diversified business experience to give our clients. This includes the benefit of a unique perspective, tremendous commitment and world-wide practical experience with the issues. In addition to our internal capability, we have strong relationships with our senior technical adviser who started the MSW recycling process in the early 1990s.

Our goal is to provide the most advanced waste management facilities available that can assist governments with exceeding their environmental targets, increase global recycling standards and reduce the levels of environmental damage. Through this we aim to lessen the impact upon the world's natural resources.

Our senior team currently consists of:

**Mark A. McMillan**

Founder, Chief Executive Officer of III BEARS USA

**Morris Ross**

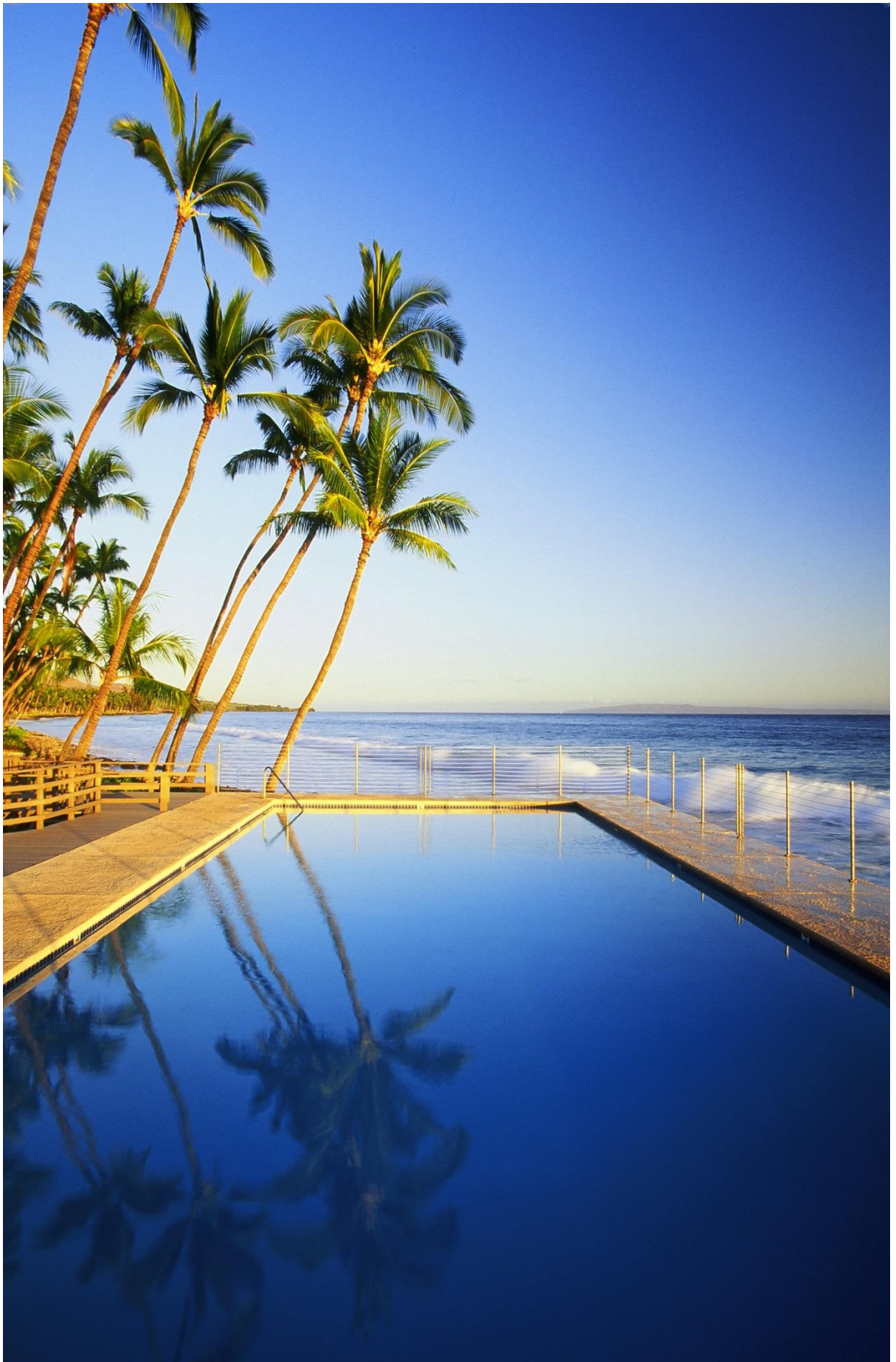
Accounting Market Development

Complete resumes are included in the back of this document.

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*Below is the Puamana resort in Maui, complete pool renovation and sea wall retro fit and stabilization.*







Patent work directly related to Mark McMillan and licensed to III BEARS for use within the company.

Patent awarded in 1998 to Mark McMillan.

Patent is a process patent that defines the processing of high volume Municipal Solid Waste. Separation systems identifying each fraction within the waste stream, categorizing and containing each fraction of the waste stream.

We then identify the sizing of each fraction and preparing for their individual next step. This will include the cleaning, sizing and compressing for resale.

Also the preparation for further solidification and or extrusion to a new and final product for distribution resale.

## NEW TECHNOLOGICAL SOLUTIONS FOR REDUCING LANDFILL WASTE

By Mark. A. McMillan, Thomas Black, Terence A. Cooper (Environmental Technology Associates, Inc.)

### 1. INTRODUCTION.

Solid waste disposal is an increasing problem for our society. The primary methods currently used for solid waste disposal are landfilling, incineration, conversion into refuse-derived fuels, and recycling. Except for recycling, these methods all have significant drawbacks that make them unacceptable on a long-term basis. Landfills produce noxious gases, take up space and become full. Incineration and conversion to fuel and energy produce pollutants which can be dangerous, largely due to incomplete combustion and production of toxic by-products such as heavy metals and dioxins, and are expensive.

Numerous efforts are being made to recycle waste materials, particularly plastics and paper, into commercially useful products. However, plastics recycling requires expensive or irksome segregation into different plastic types. Apart from the special cases of polyethylene terephthalate and high-density polyethylene bottles, there is often an uncertain market for the recyclates since it is difficult to guarantee their quality and properties, making them unsuitable for all but the least demanding applications, and they may sometimes be no cheaper than virgin materials. Paper recycling also has problems with de-inking and disposal of the removed inks and degradation of the paper properties such as color and fiber length.

Two innovative waste-to-product technologies that convert municipal solid waste (MSW) and discarded tires into profitable end products have recently been developed:

The “Dura-Build” technology first removes glass, plastic and metals from MSW and then converts the entire remainder waste stream, with separation or sorting of plastics or other components, using heat, steam and other sterilization treatments and continues processes, into a fine filler material with controlled moisture content. Glass is separated in density, vibration, pneumatically action screening systems

(i) This filler is then impregnated and encapsulated with reactive polymer-forming binders such as isocyanides systems to produce rigid thermoset composites and foamed structures for wood replacement applications, e.g. particle board, construction materials and other products, by compression molding, extrusion, foam molding or other processing methods. The final products incorporate high levels of the processed MSW-derived filler and provide both favorable economics and advantageous properties.

(ii) The “Tycon” technology first shreds and then thermally devulcanizes and depolymerizes discarded tires, at extremely high efficiency levels using controlled infra-red heating, into carbon black, fuel oil and fuel gas (directly convertible to energy) as well as recovering stainless steel from the tire carcass.

These technologies are described in more detail below.

## 2. “DURA-BUILD” TECHNOLOGY<sup>1</sup>.

The “Dura-Build” technology produces economic, useful, long-life building products from largely unsorted municipal solid waste (MSW) through ecologically safe means. Most other processes developed for the treatment of MSW concentrate on making products that are either densified or converted into a fibrous or particulate form, allowing them to be more easily separated from the commingled waste stream, to consume less landfill space, to combust more efficiently, or to be recycled as a separated product.<sup>2</sup> There has been very little previous emphasis on directly using MSW itself as a substrate material for the formulation and manufacture of recycled products without separation of the components.

In contrast, the “Dura-Build” technology treats and modifies the largely unseparated MSW material and reacts it with chemical solidification agents to produce environmentally stable thermoset composites which are useful for the manufacture of a variety of industrial and consumer products.

The “Dura-Build” process steps, described in more detail below, involve shredding and comminuting a total municipal solid waste (MSW) stream (after removal of only metal and glass) so that the particles contain a controlled amount of water, and then combining this feedstock with chemical binding agents during a shape-forming process to make the desired product. The exact nature of the formulations, reactive binding agents, and process conditions used can be adjusted to suit the exact composition of the particular waste stream being treated. This reacting thermoset material is thus converted in its entirety into environmentally stable products, for example by screw extrusion to produce composite die profiles, by using an expanding foam panel line or particle board line to produce composite panels, or by compression molding. This process provides a new, environmentally sound and emission-free method for making industrial and consumer products from recycled waste and alleviates the problems with current solid waste disposal methods described above. These products can be made quite economically since the process can be set up as part of municipal waste disposal facilities and the raw materials cost is greatly reduced, or can even become negative, because the “tipping fees” charged for the removal of household, commercial and industrial waste can be applied against it.

As illustrated in Fig. 1, the MSW, comprising a mixture of cardboard, paper, glass, plastics, tinplate, steel, aluminum, food and yard waste, and other miscellaneous components is conveyed first through an electromagnetic separator, 12, to remove metals and glass, which can be separately recycled, Glass is separated in density, vibration, pneumatically action screening systems

. using largely automated processes. The resulting material is then moved, without any further sorting or removal of other components, to a primary shredder 14 and then a finer size reduction process 16. The primary shredder 14 preferably reduces the MSW initially to a particle size of about 5-8cm, 1/8 and these pieces are then further reduced to a particle size of generally about 3mm or less. The final particle size obtained is designed as needed to provide the properties required to make the intended final composite product.

The fine MSW particulate is then in a form which allows the water content to be controlled and made uniform, by further drying or addition of water. This facilitates the reaction between the MSW components and the reactive solidification agent such as a di-isocyanate system and allows the generation of a controlled degree of foam structure. The amount of water added to the MSW in this process depends on the original MSW composition but is

generally about 5-20% 5 – 10 % by volume. The reaction with the di-isocyanate formulation then converts the MSW into an environmentally stable thermoset composite with the desired foam structure and density. The final products can thus be considered as treated MSW bonded together with a polyurethane binder or as polyurethane-based composites highly filled with MSW.

The combination of heat, pressure and steam generated in the size reduction, extrusion and molding processes, together with the application of external heating as necessary and the action of the reactive isocyanate solidification agents, sterilizes the comminuted MSW material and can kill pathogens, yeasts and molds, thereby eliminating odors and bacteria. If required, biocides can be incorporated in the formulation and/or sterilization or fumigation step (using ozone or irradiation) added after the size-reduction operation. I used a heating system to control the moisture and sterilize the material this process also has the advantage that the formation of the cross-linked network composite encapsulates any toxic or liquid material in the MSW which would generally gradually leach out over time in a landfill.

Depending on the type of product being made, the reaction with the solidification agent can be performed in an extrusion process, a panel line process, a foam-molding process or a compression molding operation to provide the desired physical form to the composite products. The treated MSW material at the required water content is fed, for example, into an extruder and the solidification reagent injected at the 2-6% level by weight, depending on the di-isocyanate formulations used, the composition of the original MSW feedstock, and the processing and end product properties required. This is followed by a 3-30 sec reaction time for expansion, after which moisture is vented through a downstream vent port. The reacting product is then extruded into the final shape through a die or into a mold for final composite product formation

Preferred solidification agents are based on PMDI (polymeric diphenylmethane-4,4'-diisocyanate), but systems based on other isocyanates, such as MDI or TDI (2,4-tolylene diisocyanate), can also be used. The formulations can also incorporate diols, triols, polyols, other chain extenders, crosslinkers, surfactants, catalysts and accelerators. These formulations as designed and selected as required to wet and react with the MSW filler and to optimize the processing characteristics and product properties. Since the MSW filler generally contains a controlled amount of water, this water also reacts with the isocyanate system to generate some controllable degree of foaming, and there is an expansion in volume, generally less than 20%, depending on the end properties desired. This foaming action also facilitates the downstream molding process. The types and amounts of formulation components are adjusted together with the MSW level, particle size and water content, and process conditions, to give rapid polymerization to a stable cross-linked composite without the formation of toxic by-products and to provide the correct balance of strength, rigidity, impact properties, reaction rates, foam density, materials cost per unit volume and other properties as needed for particular end uses.

Other additives can be also be injected during the mixing and extrusion process to achieve desired characteristics such as heat, oxidation or ultraviolet resistance, flame retardance, and specific colors and textures to enable a wide range of high value-in-use products such as building panels, particle board, lumber, chipboard, brick, tile, pallets, roofing materials, molding, sound deadeners, ballast, rails, posts and fencing to be manufactured, depending on the market needs.

### Composite Properties.

Some property measurements made on MSW composites produced using a formulated

Sikafix one-part system is shown in Table 1. These 15.9mm (5/8") thick composite samples were made by compression molding and evaluated using test procedures in accordance with ASTM D1037-96 for particle panel materials.

Table 1. Composite Properties. §

|  |              |                    |
|--|--------------|--------------------|
| Thickness, mm (inch)                             | 17.0<br>0    | (0.670)<br>(51.800 |
| Density, g/cm <sup>3</sup> (lb/ft <sup>3</sup> ) | 0.83         | )<br>(36.000       |
| Internal bond strength, Mpa (psi)*               | 0.25<br>37.7 | )<br>(83.000       |
| Surface pull, kg (lb)**                          | 0            | )                  |
| Water absorption thickness swelling, %<br>***    | 0.70<br>22.3 |                    |
| Water absorption weight increase, % <sup>3</sup> | 0            |                    |

§ Averages for 6 samples. Testing performed by Teco Corporation Lab and Composites Division, Eugene OR.

\* Internal bond strength is measured on 50mm x 50mm blocks by adhering metal blocks to the specimens' planar faces and applying a tensile load to determine the ultimate load.

\*\* Surface pull is measured on 50mm x 50mm blocks by adhering on a 25mm diameter metal cylinder to a planar face and applying a tensile load to determine the ultimate load.

\*\*\* Water absorption properties are measured by placing in a soak tank at 18°C for 24 hours.

The "Dura-Build" process presents a dramatic improvement over traditional waste disposal methods (i.e., landfills, incineration and conventional recycling). It is essentially pollution-free and operator-safe and significantly advances the potential for economic re-use of resources to produce valuable products. This stands in marked contrast to current recycling methods which depend heavily on voluntary or expensive sorting of materials before processing and may produce recyclates or end products with no immediate market.

In the "Dura-Build" technology, the total mixed waste composed of virtually any material except glass and metals is shredded, combined with reactive binders and then converted either by standard screw extrusion into composite die profiles (e.g. to produce bricks, posts, rails, or architectural moldings) or using a standard expanding foam panel or particle board line or compression molding to produce composite panels (such as wall paneling). This process can generate a large demand for the secondary raw materials as well as an enhanced value for the shredded waste as it offers the potential to safely make economic, practical and useable building products and other materials.

Further work includes developing a broad range of urethane-based composite formulations to meet the property requirements for a wide selection of target applications and methods to maximize the allowable MSW level in each product type without compromising its structural properties. This development work will allow adaptation to a variety of end products with high value-in-use, such as building panels, particle board, lumber, chipboard, brick, tile, pallets, roofing materials, molding, sound deadeners, ballast, rails, posts and fencing. Other reactive composite-forming processes such as phenolic systems are also under investigation.

# GENERAL CONTRACTING EXPERIENCE

WE have been directly involved with General engineering contracting with in the USA state of Hawaii. Operating on various islands within the Hawaiian island chain.

Our experience is related to heavy excavation, water piping and storage, Wastewater and sewerage piping, septic systems, and drainage-leach systems.

Metal building installation and retrofit, systems and design.

Fuel storage, above ground double wall fuel storage, underground double wall storage, double wall containment piping, delivery systems, sensor and leak detection systems.

Ocean defense walls, selection of ocean revetment walls, defense walls, retro fitting of existing wall and associated soil stabilization, systems for environmental ocean effects on sand regeneration.

Green technology home systems, larger school building and residential building systems.

Below is a list of our projects for review

Project review after twenty-five-year program of Hawaii projects

**FIRST WIND; General maintenance;** Monitoring and maintenance of Maui, Hawaii first wind farm. This project was started in 2006 after installation. Over the past six years we have been directly involved in on-site road maintenance, metal building installation, retention walls, leak catchment systems for on-site transformers, switch station soil stabilization.

**ELENKI Residence;** 1,800 sq ft private residence Molokai, Hawaii

**UMAMOTO Residence;** 1,800 sq ft private GREEN TECHNOLOGY residence complete turn key. Molokai, Hawaii

**CRIVELLO Residence;** Complete 1,800 sq ft GREEN TECHNOLOGY residence in place complete. Molokai, Hawaii

**OLD LAHAINA LUAU;** New kitchen & restaurant, including all excavation, water, sewer, storm drain systems, parking lot grading.

**BUNZEL Residence;** 3,400 sq ft complete turnkey GREEN TECHNOLOGY residence in Makawao,

**Hale O Kaula Church;** Installation of fire line, water tanks, excavation & grading for new basement, parking, roadways.

**UPC WINDMILLS;** Soil stabilization, slope grading, road grading, water tank installation, retaining wall



installations.

**LANIKEHA Clubhouse;** Installation of the club house for the new 200 acre subdivision above the Kaanapali golf course



***PRE CAST BRIDGE INSTALLATION OMIPIO RAOD MAUI HAWAII***

**SACCO Residence;** Estate Development for the Sacco Family, complete grading and rock wall building, terracing and shaping. Kula, Maui

**GENKI SUSHI;** in the Maui Mall includes the install of the grease interceptor for the onsite kitchen.

**WAILE TOWN CENTER;** Mass excavation for entire site, building pad prep for two commercial buildings, installation of water, septic, and drainage systems, all base and pave for new parking lot.

**MAUI PREPATORY ACDAMEY;** new prep school on the west side of Maui, based on the old Maui Land and Pine dormitory site. Complete installation of water, sewer, electric trenching, parking base and paving.

**Monsanto Temporary Offices:** Installation of new entrance road, electrical trenching, pad preparation for temporary trailers.

**DOUGLAS ESTATE Development:** Site grading and shaping for new estate and custom home, septic system, road building, rock walls.



**SEABURY HALL:** Demolition of old senior building.

**612 FRONT STREET:** Demolition of existing parking lot, building pad prep, all utility trenching and backfilling, and new parking lot prep

**DORVINE LEIS PLACE:** All grading and compaction at the entrance and installation of the premier place sign



### ***MONROE SEA WALL***

**MACKIE SUBDIVISION:** Installation of Water line including all trenching, backfilling, compaction, pressure testing, and chlorination of line, installation of all utilities to subdivision and construction of new driveway, and new dry stack rock wall

**KAAHUMANU CENTER:** Excavation at wheel chair ramp, emergency status caused by weather problems

**BAILEY RESIDENCE:** Slab prep for pool house and installation of 6" water line including fire hydrant and all tie-ins.



**WALSH- YOUNG Residence:** Installation of new drainage system, Installation of septic system including a leach field, new concrete driveway, and footings for new retaining wall

**AVIS RENT A CAR:** Remove and replace the top pre case ring for two utility boxes in the return lane, includes the removal of existing tops, clean and place new tops, backfill and compact, asphalt paving around new tops.

*Below is Mass Excavation at Wailea Town Center*



**STARBUCKS Pukalani:** Installation of condensation drain line for air conditioner

**SEABURY HALL Phase 2:** Building Pad prep and access roads for new middle school building, installation of a new fire system detector check and precast concrete box, and prep for new parking lot

**CENTRAL MAUI SELF STORAGE:** Installation of water system fireline double detector check box, parking lot prep, and on site improvements

**KAHOOLAWE BOAT HOUSE:** Clear out Keawe trees, all mass excavation for building pad and access road tying in new boathouse to Kehei boat ramp, and water service including tie-in under south Kehei road BJ **FURNITURE:** Installation of new detector check including tie-ins, remove and replace parking lot

**MACC - MAUI ARTS AND CULTURAL CENTER:** Building pad prep, structural excavation for all footings including walls and building, demo existing curb and replace, install paved turn around, install one dry well, and trenching for all utilities

**DOLLAR RENT A CAR:** Install dry well including all trenching and installation of drainage system, clearing of all vegetation, and spread of filter fabric to minimize weed growth, and base and pave parking lot.

**PIILANI Gardens:** Mass excavation for all building pads and parking lot, all rough landscaping, trenching and installation of all under slab utilities including sewer, drain, water, electric, and phone, and base and pave parking lot.

**TESORO:** All grading and trenching for industrial fuel rack at Kahului tank farms bulk fueling facility, new driveway approach, propane tank relocation, base and pave new parking lot, and removal of concrete berm

**DORCY RESIDENCE;** Site grading, demolition of existing house and foundation work for new house, 2000 lf of 8" water line in county road, electrical conduit, gas line, sewer line and leach field, road grading and building,

**BMW MAUI;** Site grading, utility trenching, wall foundations and footings, building slab preparation, Parking lot rock base grading .

**POLLET RESIDENCE;** Site preparation for 8,000 sq ft residence at the plantation estates golf course Maui.

**GRAND WAILEA RESORT ;** Removal of existing walkways and grading ,shaping for new pool canopy area.

**TOSCO CARL'S JR;** Excavation for two 8,000 gallon fuel tanks, site grading for the installation of the new Carl's JR in Maalea, trenching, foundation preparation for building, parking lot preparation for paving, utility trenching.



**STATE OF HAWAII KULA HOSPITAL, INSTALLATION OF TWO 300,000 GALLONS ABOVE GROUND WATER STORAGE TANKS**

**HAGGAI INSTITUTE;** Removal of existing asphalt parking lot, Installation of one soccer field and basketball court, concrete curbing and asphalt paving.

**ONEIL ANDERSON RESIDENCE;** Site excavation, excavate approx one thousand cubic yards of material and grade for ten thousand sq ft personal residence, drain system, utility trenching, rock base at drive way entrance.

**CARLOS SANTANA RESIDENCE;** Site building preparation, water, sewer, driveway grading, solid rock removal.

**KAHANA RIDGE LOTS;** Five building pads, mass excavation and site finish grade for residential building.

**PAKANI SUBDIVISION;** Clear and grub, mass excavation, rough and finish grade for new asphalt road and existing road widening, sidewalks, curb and gutter, water, sewer and drain

**WAIOHULI - KEOKEA HOMESTEADS;** Clear and grub, rough grade and finish grade, concrete road,

water line and pressure reducing valve with concrete enclosure.

**MACINNESS PROPERTY;** Clear and grub, mass excavation, haul, place, and compact 17,000 cy imported fill, grade entrance road and house grade.

**MAUI POLICE DEPARTMENT - FIRING RANGE;** Clear and grub, rough grade, finish grade, concrete slab, asphalt slab, cmu walls and firing stands, cmu building, gravel parking and road.

**LAHAINALIUNA HIGH SCHOOL;** Clear and grub, demolition of building slab, installation of septic tank and sewer system. water system, and drainage and road widening.

**ROCK RESIDENCE:** Clear and grub, mass excavation, rough and finish grade for road, repair existing road, asphalt paving, electrical, water, sewer, drain, construct concrete footings, walls, stairs, slabs, and walks.

**GORDON SUBDIVISION:** Clear and grub, mass excavation, rough and finish grade for road, repair existing road, asphalt paving, electrical, water, sewer, drain.

**WAIIEHU LOW INCOME APARTMENTS PRESENT;** Clear and grub, mass excavation, rough and finish grade for road and building sites, water, sewer, and drain systems.

**NAPILI SHORES CONDOMINIUM;** Install two reduced pressure backflow preventers and two water meter assemblies; tie into existing system including partial demolition. Provide fiberglass anti-vandalism enclosure for backflow preventers.

**MONTESSORI SCHOOL; GREEN TECHNOLOGY** Clear and grub, mass excavation, rough grade, finish grade for parking and buildings, concrete slabs and footings, asphalt paving, hollow tile block columns, retaining walls, building framing, roofing and finish carpentry landscaping, complete turn-key school project.

**TOMA GARAGE;** Remove three underground fuel storage tanks, installation of one split compartment (3000/3000 Gal) underground fuel tank, two blender dispensers, new piping, electrical, asphalt, and concrete. Install oil/water separator and dry well.

**MAUI SODA AND ICE WORKS;** Remove four underground fuel storage tanks, installation of three aboveground fuel tanks, one 500 Gal, one 1000 Gal, one 2000 Gal, leak monitoring system, integral dispensers, piping, electrical, concrete.

**CARTER PROPERTY:** Abandon in-place one underground fuel storage tank, install one 500 Gal aboveground fuel storage tank, piping, electrical, concrete.

**KALAMA INTERMEDIATE SCHOOL - NEW 8 CLASSROOM BUILDING "Q" ;** Clear and grub, rough grade, finish grade for parking and buildings, excavation, installation and backfill for water, sewer, and drain system, installation of waste treatment plant and leach fields, structural excavation and backfill.

**KANA'I A NALU CONDOMINIUM;** Repair seawall and add back-up reinforced concrete wall, remove





### ***MONTESSORI SCHOOL MAUI***

**MAKENA RESORT GOLF COURSE MAINTENANCE FACILITY:** Clear and grub, rough grade, finish grade for parking and buildings, furnish and assemble metal buildings.

**KIHEI ELEMENTARY SCHOOL-RELOCATION OF PORTABLE CLASSROOMS;** Engineer and design framework to raise (lift existing structure off their foundation and relocate ) structures and transport to new location. Build stairs, handicap ramps and skirting. Provide electrical hook-ups, form and pour concrete sidewalks.

**WAILUKU COUNTY BASEYARD;** Install three 2000-Gal aboveground fuel storage tanks, key- lock security system, leak monitoring system, integral dispensers, piping, electrical, concrete, grounding system.

**PACIFIC SHORES;** Excavate for and construct 300lf retaining wall.

**MAUI NEWS – DEMOLITION;** Demolition of concrete and metal buildings, restore site and associated electrical.

**DOLDER SUBDIVISION;** Install 360 linear feet of 8” D.I. water line, one double lateral, two tie-ins to existing and one standpipe. Base and pave driveway.

**B.F.I. ;**Clear and grub, base and pave new parking lot, install storm drain system with two di inlets.

**SUGAR COVE SEA WALL:** Excavate for, haul, and place boulders to construct a 580 line

**MONROE SEA WALL:** Excavate for, haul, and place boulders to construct a 130 linear foot revetment wall.

**KJHEI PUMP STATIONS 3,4, & 5 ;** Remove three underground storage tanks, soil remediation, prepare pads for above ground tanks, install bollard erect wheelchair ramp and landing, including concrete walk for field office.

**KALAMA PARK SUBSURFACE IRRIGATION;** Install subgrade emitter irrigation tubing, approximately 70,000 linear feet, supply pipe, pumps, filters and controls. First application in the state using 100% wastewater.

**PAPAUA PLACE SEWER;** Install new sewer line in Papaua Place connected to a new sewer manhole in lower Honoapiilani Highway. Remove existing sewer line.

**MAUI PINE WATER METERS;** Install lateral to three concrete meter boxes and 6" backflow preventer, trench and asphalt patch across Pulehu Road.

**PUKALANI ELEMENTARY SCHOOL;** Install sewer line and two sewer manholes, trench and patch across paved highway.

**KULA HOSPITAL-REPLACE WATER STORAGE TANK;** Demolish existing steel water tank; assemble new 300,000-gallon bolted steel water tank, associated piping, and concrete foundation.

**IAO INTERMEDIATE SCHOOL:** Installation of drainage downspout and underground piping to allow proper disposal of rain water run-off.

**GAS EXPRESS - AZEKA PLACE;** Demolish attendants booth and associated concrete island, construct new island and renovate existing islands, replace six dispensers, upgrade piping at dispensers and tank pumps, reroute vent piping, add air/water station, card reader, and register, upgrade electrical system, system test and calibration.

**WAIKAPU GOLF COURSES - NORTH MAINTENANCE BLDG;** Interior construction of maintenance building consisting of employee's lounge, locker room, offices, shop area, poison control room and storage areas. Included finished cabinetry and compressed air system. Approximately 3,000 Sq.Ft.

**153 ALAMAI-IA TANK REMOVAL;** Clean and dispose of one 4,000 Gal and one 1,800 Gal underground fuel storage tank, backfill and concrete resurfacing, tank removal notification, soil sample analysis, closure report, certification of proper tank disposal.

**HYATT REGENCY MAUI BEACH CENTER ;** Clear & grub, demolish concrete walls and wooden building, off-site sewer line.

**KALAMA PARK COMFORT STATION/PARKING IMPROVEMENTS-COUNTY OF MAUI ;** Construct 550 square foot comfort station with maintenance room, install new 2-1/2" copper water supply, install new sewer main complete with manholes, construct new asphalt entry and parking area complete with area lighting, sidewalk, and striping, landscape entire site complete with trees and irrigation system.

**KAHEKILI HIGHWAY PAVING-COUNTY OF MAUI;** Grade approx three miles , rock base, and asphalt paving, catch basin modification.

**KANAHA POND IMPROVEMENTS-DEPARTMENT OF LAND AND NATURAL RESOURCES;** Excavate and

install culvert system for Bird Sanctuary, restore pond.

**WAIKAPU GOLF COURSE FUEL TANKS;** Grade, base and pour concrete pads, install four 1,000 gallon above ground fuel tanks with remote dispensers, level and leak monitor system, install underground double-wall piping, bollards, key lock security system, electrical, lighting.

**318 NANILOA TANK REMOVAL ;** Clean, remove, and dispose of one underground fuel storage tank, backfill and resurface, removal notification, soil sample analysis, closure report, certification of proper tank disposal.

**LANAI BASEYARD IMPROVEMENTS-COUNTY OF MAUI;** Grade and pave parking lot, add perimeter fencing, and electrical improvements to existing building; office improvements, employee lounge, shower room, storage room, and mezzanine storage.

**HYATT REGENCY MAUI BRIDGE;** Clear and grub, grade, construct coffer dam, excavate and rock base for footings.

**LAHAINA COUNTY BASEYARD FUEL TANKS-COUNTY OF MAUI ;** Grade, base, form, and pour concrete pads, install two 1,000 gallon above ground fuel tanks with integral dispensers, electrical, bollards, fire extinguisher.





## SEABURY HALL PHASE II

**OLD CANNERY FUEL TANK REMOVAL AND LEAK DETECTION SYSTEM;** Clean, remove, and dispose of two underground fuel storage tanks, backfill and removal notification, soil sample analysis, closure report, proper tank disposal

**OMNI THEATER:** Excavate and install sump drain system for flood control grade and restore parking area.

**SEABURY HALL FREEZER PAD;** Grade, base and concrete pad, 12'x14', for walk-in freezer.

**MAUI COURT APARTMENTS:** Install site utilities for new 217 unit apartment complex including storm 1,200 lf drain system with pre-cast drain inlets, 3,400 lf 12" fire line complete with fire hydrants, 6" water supply line including meters and connections with chlorination and county tap, sanitary sewer system complete with street tie-in.

**74 LONO TANK REMOVAL;** Clean, remove, and dispose of one underground fuel storage tank, backfill and resurface, removal notification, soil sample analysis, closure report, proper tank disposal certification.

**MAUI MEMORIAL HOSPITAL-DEPT. OF ACCOUNTING & GENERAL SERVICES;** Install new 12" and 8"

waterlines with extensive metering system, restore street and landscape.

**KIHEI LDS CHURCH;** Replace existing waterline with a 12" line, 16"x12" line tap, connect to existing fire hydrant, new service lateral.

**MAUI MARRIOTT FUEL TANKS:** Remove, clean, and dispose of existing underground storage tank, install new aboveground storage tank, piping to new day tank, all required documentation.

**REX TIRE TANK REMOVAL:** Remove, clean, and dispose of one underground fuel storage tank with required documentation, resurface to suit.

**HYATT REGENCY MAUI TENNIS/PARKING FACILITY;** All site work, clear and grub, mass excavation, rough grade, sewer, drain, water, grading and paving parking lot and roads, curb and gutter, base and finish surfacing for 6 tennis courts, tennis court painting and equipment installation, rock grade for walkway.

**UPCOUNTRY COMMUNITY CENTER-COUNTY OF MAUI;** On-site sewer, domestic water, storm drain, excavate and grade for building pads, retaining walls, grade and pave parking area and entry road, install concrete curb and gutter.

**HONOKAHUA WELL "B" PHASE IT-COUNTY OF MAUI ;**Excavate for and install 8" water line through 120' deep gulch from existing 12" line to pump at Well "B", with 8" and 4" drain connection tie-ins. Reinforced concrete jacket at bottom of gulch, pressure test and chlorination.

**PRISON STREET SIDEWALK-COUNTY OF MAUI;** Grade, sand base and install 2,600 s.f of 4" concrete sidewalk, 2 concrete driveways, an 1 wheelchair ramp.

**FRONT STREET DRAINAGE-COUNTY OF MAUI;** Excavate for and install trench drain system, install 8" D.I. pipe and catch basin alteration in roadway, and A/C pavement restoration.

**HALE KAI SEA WALL;** Excavate and repair existing seawall. Install environmental filter fabric (weep) drain system, backfill, and compact.

**HAIKU ROAD WATER LATERAL:** Excavate for and install 2 Type "D" water laterals and 2" back flow preventers, backfill, and compact.

**MAUI INTER-CONTINENTAL WAILEA;** Structure demolition, sewer system, storm drain, excavation, and trenching.

**AMFAC/JMB;** Remove 5 underground tanks and install 2 aboveground tanks (4,000 gallon and 1,000 gallon) with fueling island dispensers, tank gauging, and monitoring system.

**KAPALUA LAND COMPANY;** Aboveground tank cleaning.

**MAUI GRAND HOTEL;** On-site sewer, domestic water, fire line, storm drain, base and paving, off-site 12" water main laterals, fire hydrants, retaining walls, sidewalks, and tennis courts.

**KULA VACUUM COOLING PLANT-DEPT. OF ACCOUNTING & GENERAL SERVICES;** Site grading, poured-in place retaining walls, slabs, asphalt paving, and off-site water main line.

**WELLS STREET TENNIS COURT-COUNTY OF MAUI;** Complete storm drain system with catch basins, and



drop inlets.

**NAPILI FIRE STATION-COUNTY OF MAUI;** All site work, sewer, water main, grading and paving sidewalk, curb and gutter, aboveground fueling with tank mounted dispenser system.

**YMCA ;** Haul fill material, compact and finish grade for pad, trench and backfill for footings and utilities, and concrete curbing at parking lot.

**MAUI LAND & PINEAPPLE FRESH FRUIT;** Excavate old road, rough grade, compact, and finish grade for new road.

**MAUI LAND & PINEAPPLE BASKETBALL COURT;** Clean existing court, apply 2 seal coats, 3 color coats, and striping for basketball and volleyball courts.

**NA PALI CONSTRUCTION LOT CLEANING;** Clear and grub lots, and haul to dump site.



## **HYATT TENNIS CENTER MAUI**

**CALASA SERVICE STATION;** Excavate site to remove 500 gallon and 2,000 gallon underground storage tanks and replace with 2,000 gallon and 5,000 gallon double wall tanks. Install double wall underground pipe, leak detection and monitoring systems on tanks.

**KIKUYAMA TEXACO;** Excavate for footings, set rebar, and pour concrete pad for heavy duty vacuum unit, and trench for electrical conduits.

**CLINICAL LABORATORIES;** Clear and grub, grade site and approaches. Provide and install sewer line, water line, and storm drain. Grade, fill, and pave parking lot.

**MAUI LAND AND PINE SEASONAL DORMITORY;** Construction of a 7,200 square foot housing facility; a complete turnkey project including extensive off-site water and sewer.



**PAIA FIRE STATION-COUNTY OF MAUI;** Demolition of existing cesspool; backfill and compact to grade, water main, and sewer tie-in.

**YMCA;** Clear and grade site, lay rock base for off-site parking lot, provide sewer line to building, water line to meter and fire hydrant in place. Base grading for curb, gutter, sidewalk, approaches, and off-site road widening.

**HC&S PAIA FUEL TANK;** Aboveground gasoline tank retrofit.

**MAUI PINE TELONE TANK BUILDING;** Construction of a 1,600 square foot steel building; a complete turnkey project from site preparation to the final setting of two 12,000 gallon steel tanks.

**BALDWIN DORMITORY;** Complete renovation of Maui Pine Baldwin Dormitory facilities including plumbing, electrical, decks, roofs, walls, floors, and a commercial kitchen.

**MAUI PINE CANNERY LEAK DETECTION SYSTEM;** Installation of leak detectors, control panels, and vapor monitoring wells at underground tank locations.

**CANNERY TANK REMOVAL;** Removal of fuel tank at Maui Pine Cannery. Notify, clean, and certify removal.

**BALDWIN DORMITORY TANKS;** Removal of fuel tanks at Baldwin Dormitory.

**MEL ANDRADE RESIDENCE;** Site prep, grading, and laying base for concrete pad.

**HC&S (DOZER RENTAL);** Clearing and grading of mud ponds.

**CHRIS HECHT;** Survey, clear and grub, trench and install water lines, grade for and pave driveway, provide irrigation system to pasture, rock and concrete retaining wall, and blasting of large boulders.

**MAUI PINE TANK SLAB;** Install containment slab and walls for telone tanks, piping, trenching, and excavation.

**LAHAINALUNA ROAD WIDENING-COUNTY OF MAUI;** Excavate existing rock wall and street section. New hollow tile block wall and backfill

**65 NAPILI WAY;** Site demolition and cleaning, grading, and backfill. Install storm drain, catch basin, sewer, water line and water meter, pour concrete curb, gutter, and sidewalk. Pave new parking lot, build retaining wall and rock wall.

**DAN DRIESSCHE RESIDENCE;** Ocean revetment wall, excavation and placing filter fabric, placing, and fitting rock from to 3 tons and backfill.

**UWE SCHULTZ RESIDENCE;** Sewer connection to Lower Honoapiilani Road, 6" PVC to main, base, and pave.

**PIKAKE CONDOMINIUMS;** Install filter fabric system for existing wall, dead man system, site grading, and irrigation.

**KANAI A NALU SEA WALL;** Rebuild existing seawall and reinforce entire wall (poured-in place concrete, rebar, epoxy drilling to back of wall), and filter fabric for drainage.

**MAUI PINE (BASE AND PAVE);** Excavation, rock placing, grading, and paving at various locations.

**ISLAND SANDS CONDOMINIUMS;** Clean exposed rebar and concrete patch.

**MAUI PINE (CHIP SEAL);** Construct Road approximately 4,000 l.f., base, oil, and chips.

**CHRONICLE CABLEVISION;** Install one fire hydrant, base, and pave.



**EIGHT UNIT CLUSTER E MAUI KAMAOLE**

**IPIKULA RESIDENCE;** Site prep, slabs, water line, and sewer.

**WAIELIU GOLF COURSE-COUNTY OF MAUI;** Install one 10,000 gallon overflow cesspool, base, and pave.

**HALEKAPA RESIDENCE;** Site prep, slabs, hollow tile block house, sewer, and water lines.

**PAIA TANKS;** Removal of two 1,000 gallon fuel tanks, backfill, base, and pave.

**PULNOA RESIDENCE;** Clear and grub, site grading, install 5x8 box culvert, slabs, driveways, sewer, and water

**HALEAKALA SCHOOL:** Road construction (base and pave), install fire hydrant, and main line tap.

**MAUI OIL;** Installation of two (2) Trusco Super Tanks (12,000 and 8,000 gallon) including: Tank

monitoring and auto card dispensing system, Shoring and pumping, all trenching, site prep, installation of sewer treatment plant and leach field, fire hydrant and tap, base, an pave parking lot.



*Maui Oil project. This installation was under water and required sheeting around all sides to support the installation. Utilizing a water pump to accommodate the water level in the containment area at all time.*

*Installation of two Trusco super tanks; These tanks are steel inner tank with a fiber glass outer tank allowing for a protection from any water to the steel containment tank.*

*Within the annulus section between the two tanks there is a series of leak detections sensors which are monitored through an system within the office. All distribution line are also double wall and include leak sensor systems*

# PERSONAL RESUME

Mark A. McMillan  
P.O. Box 1203  
Kula, Maui, Hawaii 96790

III BEARS Inc;

Founder of III BEARS Inc, responsible for the engineering, production, marketing environmental concepts and Conversion systems, DMIG and ConVerTec systems integration, Focus on global environmental concerns, benefits of these system on Education, Financial, Environmental, Self-sustaining solutions.

Native American Indian, of the Metis tribe of Canada, relocated to Hawaii from California in 1985. Lifelong surfer, snow skier, scuba diver, four children.

International representative of DMIG "Digital Magnetic Induction Generator" electrical power systems, For the past six years, my prime objective has been in monitoring the certification and implementation of DMIG technology and its distribution. Positioned for distribution and installation of these new high volume power systems. DMIG, provides access to an inexpensive, continuously available, and non-polluting method for generating electrical energy in a format that is applicable in both small and large-scale, fixed, and portable, energy scenarios. The DMIG is currently available in several models with generation capacities starting at 50KW to 10MW.

Engineer of the ConVerTec system for recycling MSW municipal solid waste into usable products; In 1996 began testing conceptual processes whereby a mixture of refined shredded waste and polymer binders forced through a die or injected into a mold or pressed and subjected to heat and pressure could create marketable products, such as construction materials. Work resulted in his obtaining a patent for the "Process for Treating Municipal Solid Waste" (U.S. Patent No. 5,844,008) in December 1998, additional filing in 2013 Pat # 13/951,261 on advanced claims for processing MSW. This process forms the "Dura Build" process, which is one of the contributing components of the ConVerTec system.

Developing the Dura-Build process, Mr. McMillan integrated and implemented the testing and verification of the end products produced by the tire conversion ("Devulcanizer") process, patented

(PAT# 5,437,237) to a California company, which is the “Tycon” process component that can be incorporated in the ConVerTec system. Engineered the design and described the process flow procedures for the conversion plants, which utilize the ConVerTec technology.

General Engineering Contractor;

International logistics and supervising of construction projects.

Building Highways & roads, bridge, and concrete buildings.

Construction of ocean sea walls, retaining walls and shoreline revetments. Prefabricated steel Building, water storage tanks.

Construction of wastewater plants and pump stations.

Installation of underground and aboveground fuel storage tanks, fuel testing, soil testing and remediation of contaminated and hazardous soil.

Mass Excavation, grading, and infrastructure work.

#### Special Presentations

Wall Mart corporate office private presentation and special invite to ecofriendly corporate expo, at corporate headquarters a presentation to all corporate officers on innovative waste processing technology in support of Wall Mart green innovative recycling goals.

Global Plastics Environmental Conference , Presented white paper at the, Society of Plastics Engineers, Atlanta GA, 2 March 2006. M. A. McMillan, M. B. Johnston, T. A. Cooper, T. H. Black and L. A. Bergeron, “New Technological Solutions for Reducing Landfill Waste”, Atlanta GA, Mar 2006

Site evaluations, meeting and collaborating with governmental officials and local engineering companies, assessments of existing landfills in Tokyo, Japan, Galway Bay Ireland, Dublin Ireland, London, Britain, Abu Dhabi, U.A.E. Muscat, Oman, Utah, Hawaii, California, Florida, USA. , Beijing China, Rio, Brazil, Puebla & La Paz Mexico, Sea of Cortez, Ecuador, Galapagos Islands, Guyana, French Guyana, Suriname South America, Tanzania, Uganda, Africa, Canada.