



greenwaste
a brighter shade of green



zanker recycling
rethink. reinvent. renew.

2020 SUSTAINABILITY REPORT

**A FAMILY OF
COMPANIES
INNOVATING THE
WASTE LANDSCAPE
FOR OUR
COMMUNITIES
& OUR WORLD.**

florin perkins

greenwaste of palo alto
zanker recycling

zero waste energy development
greenwaste recovery

gwr watsonville office

gwr marina office

z-best composting



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2012

GreenWaste and Zanker publish Sustainability Report

The joint inaugural report set a baseline from which to measure future environmental impacts, while also detailing the history and impact of the family of companies.



2013

ZWED Anaerobic Digestion (AD) Facility Opens in San Jose

The ZWED AD Facility, a joint project of GreenWaste and Zanker, was the first large-scale commercial dry fermentation AD facility in the US when it opened in November 2013.



2014

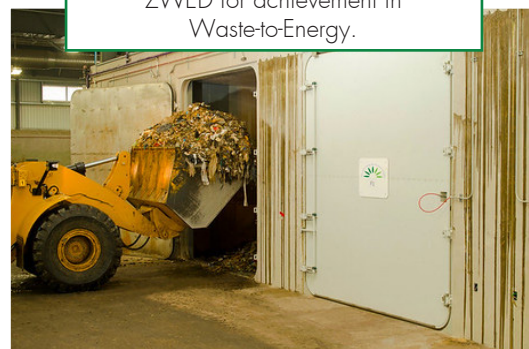
Zanker earns Project Developer of the Year Award

Climate Action Reserve recognized Zanker for its outstanding leadership. Zanker registered its Z-Best Food Waste Composting project with the Reserve, which prevents methane emissions.



ZWED Facility earns SWANA Excellence Award

The Solid Waste Association of North American (SWANA) recognized ZWED for achievement in Waste-to-Energy.



2015

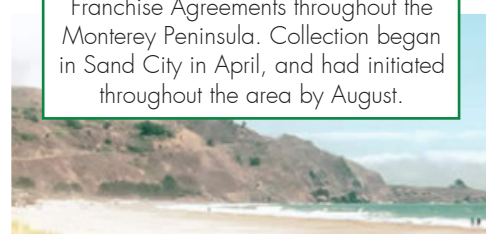
GreenWaste opens Single Stream Facility at MRF

The new facility, designed and installed by Bulk Handling Systems (BHS), significantly expanded GreenWaste's processing capabilities and increased diversion to up to 95%.



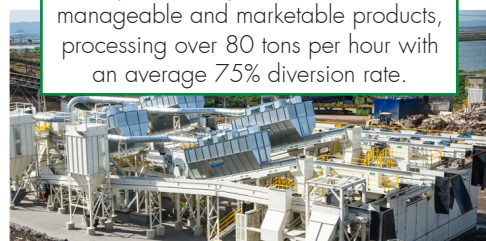
GreenWaste begins collection in seven Peninsula Cities

GreenWaste was awarded seven Franchise Agreements throughout the Monterey Peninsula. Collection began in Sand City in April, and had initiated throughout the area by August.



Zanker constructs a new demolition recycling operation

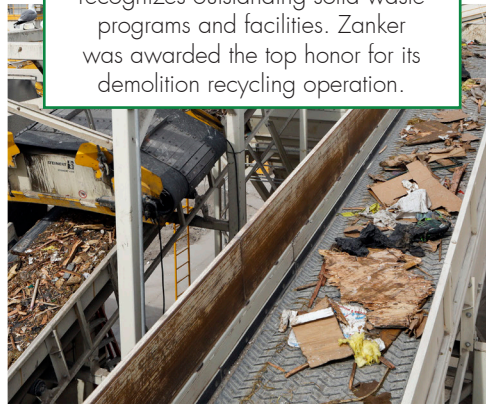
The operation separates materials into manageable and marketable products, processing over 80 tons per hour with an average 75% diversion rate.



2016

Zanker earns SWANA Recycling System Gold Award

SWANA's Excellence Award Program recognizes outstanding solid waste programs and facilities. Zanker was awarded the top honor for its demolition recycling operation.



Zanker launches Zanker Landscape Materials

Zanker Landscape Materials is the marketing arm of Zanker Recycling, and is responsible for the marketing of all the company's recycled products



2017

GreenWaste participates in San Jose flood clean up effort

A massive water surge flooded significant areas of San Jose. GreenWaste serviced over 500 damaged housing units via its emergency services contract.



GreenWaste MRF earns SWANA Excellence Award

SWANA's Excellence Award Program recognizes outstanding solid waste programs and facilities. The MRF was awarded the top honor for achievement in Recycling Systems.



Zanker installs Demolition Materials (DM) Reduction System

The DM Reduction system processes materials categorized as miscellaneous debris, bulky items, and residuals from Zanker's other operations.



2018

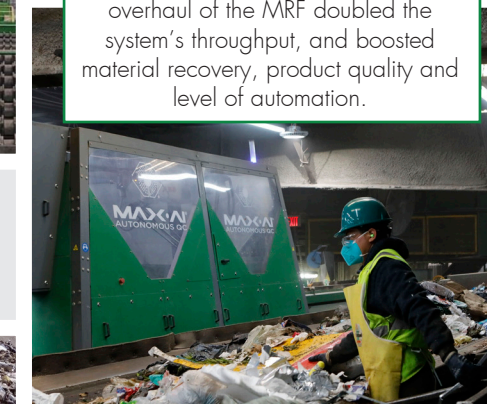
GreenWaste awarded Santa Cruz County Franchise Agreement

GreenWaste has been Santa Cruz County's hauler since 2008. With the new ten year Agreement, GreenWaste will service over 130,000 residents and businesses through March 2028.



GreenWaste opens 90-tph Mixed Waste MRF

By partnering again with BHS, an overhaul of the MRF doubled the system's throughput, and boosted material recovery, product quality and level of automation.



2019 & 2020

The content of this report will summarize the advancements that have taken place during calendar years 2019 and 2020, including:

- Dramatic shifts in our world:**
 - COVID-19
 - California Wildfires
- Technological advancements:**
 - MRF facility upgrade
 - Advanced C&D System installation
 - Fleet electrification
 - Novoloop plastic upcycling
- New and expanded Agreements:**
 - Palo Alto, Los Altos Hills, Woodside, Portola Valley, Atherton, San Jose, & more!

As the CEO of the GreenWaste/Zanker family of companies, I am very proud of our entire team, from customer service representatives to drivers and sorters. Collectively, this staff works every day to increase diversion from landfill, heighten the safety of our team members and community, and create a happy and healthy place to work.

From the beginning, the companies have focused on creatively finding ways to reduce material going into the ground. Our pioneering processing methodologies not only offset our emissions, but also inspire trust and excitement in our communities and workforce. I invite you to learn more about what we've recently accomplished, and our plan forward.

Tracy Adams
Tracy Adams, CEO

HOW TIME FLIES

In 2012, GreenWaste and Zanker unveiled the documentation of the companies' joint sustainability goals and progress. As the family of companies look toward the future, it is imperative to reflect on what milestones brought us to the current day. The last decade has seen advances in innovation, responses to changing times, and an expansion of our family of companies.

Sustainability has been interwoven with every business decision and strategic move forward since the inception of the companies, as evidenced through awards received and processing and collection agreements granted.

GREENWASTE AND ZANKER FAMILY OF COMPANIES RESPOND TO THE COVID-19 PANDEMIC

GreenWaste and Zanker met the COVID-19 pandemic head on by immediately prioritizing employee messaging to ensure all staff stayed safe. The companies met and surpassed all guidelines from the CDC and OSHA, and followed the Orders of regional Public Health Officials. Appropriate PPE was distributed to all on-site employees, and rapid tests were also made available.

To offer overarching support to employees, the companies made the commitment to not conduct any layoffs during the pandemic. The companies provided extra supplemental sick leave when it was not mandated in to make sure that ill employees stayed home. Further, all FSA participants were allowed to carry over all unused 2020 funds into 2021.

DRIVERS

Proper maintenance of equipment is a critical component of the daily work functions for equipment operators, and became even more vital during the pandemic. Truck cleanings were performed daily, and some operations hired supplemental staff to conduct enhanced cleaning of fleets.

The day-to-day process was altered for some equipment operators, including sending all drivers separately out to routes - a change in practice for many collection partners. Drivers were also reminded to maintain distance from customers, and greet residents from a safe distance.

MATERIALS SORTERS

Broad changes were made at all processing facilities to help ensure proper social distancing for employees, including installing plexiglass partitions between sorting stations, marking six-foot distances throughout trafficked areas, and tasking supervisors and safety managers with ensuring that all protocols were actively being followed.

As COVID-19 cases began to peak in California, management took more aggressive measures to manage potential outbreaks. In some cases, sorters were removed temporarily to reduce any risk of spreading the virus. These staff members were methodically and cautiously phased back in. Further, this staff all continued to receive their standard compensation without interruption throughout these precautionary measures.

OFFICE STAFF

Most office staff transitioned to a remote work environment over the course of one work week. Minimal staff members continued to function out of their standard office environment to ensure vital business functions could continue. Remote work allowances were provided to applicable staff to ensure their new work environment was properly supported. Management understood that this new office arrangement could prove challenging to parents and other employees working in a shared space, and did their best to offer resources and accommodate the needed flexibility.

CUSTOMERS

Standard curbside service went uninterrupted for all GreenWaste customers, and all Zanker Recycling operations remained open for business. Via company websites and social media, customers were educated about updated protocols for setting material out for collection or dropping material off at processing facilities.

In some of the communities served by GreenWaste, Clean Up Events in which residents drop off materials for GreenWaste to recycle or dispose are hosted. Throughout the pandemic, these services largely continued to be offered with social distancing modifications, in coordination with the partner jurisdictions.

COMMUNITY

GreenWaste and Zanker are members of the Resource Recovery Coalition of California (RRCC). Being part of this group allowed the GreenWaste/Zanker companies to participate in a network of resource sharing throughout the pandemic. Together, the member companies of RRCC provided a sense of routine for all Californians via the ongoing provision of an essential service. Furthermore, in partnership with RRCC, GreenWaste and Zanker donated PPE to the California Farmworker Foundation through a program with State Senator Anna Caballero.

CALIFORNIA WILDFIRES

The companies' service areas and communities were devastated by the wildfires that plagued the state in the summer of 2020.

The CZU and SCU Lightning complex fires affected customers in Santa Cruz, San Mateo and Santa Clara Counties. Santa Cruz County customers were most heavily impacted, with a number of customers losing their homes.

GreenWaste and Zanker leadership reached out to employees to let them know that they were available to provide comfort and support for both the communities we serve and for all employees. The Human Resources team also made themselves very accessible to any employee in need and connected staff with resources to get through the challenging time.

Air quality was a high concern for operations staff. A close eye was kept on the Air Quality Index to ensure staff did not go into the field in an unsafe environment. Road closures unfortunately prevented GreenWaste drivers from reaching some customers' homes. Information was provided on company websites to notify customers of road closures that may affect them.

During this tragedy, the companies donated in the name of the employees to the Community Foundation of Santa Cruz County. After the fires, GreenWaste provided debris boxes for CalFire cleanup efforts. These debris boxes were dropped at staging areas, emergency service provider camps and evacuation centers.

This wildfire season highlighted the importance of services like the Defensible Space Fuel Reduction Monthly Drop Off in Los Altos Hills, in which yard trimmings material is managed and processed by GreenWaste.

GreenWaste and Zanker will continue to explore approaches to working with the community on fire prevention activities.



SENATE BILL 1383

In 2016, Governor Brown set methane emissions reduction targets for California via SB 1383, requiring a 75% reduction in disposal of organic waste by 2025. GreenWaste and Zanker heavily participated in the rulemaking process for these regulations, with the Director of CalRecycle visiting the GreenWaste MRF to better understand the unique processing of organics that takes place.

GreenWaste and Zanker facilities receive both mixed-organics and source-separated organics, and the facilities work in tandem to achieve the organics diversion thresholds. The same year the regulations were signed, Z-Best and ZWED were already diverting a collective 296,497 tons of organics. In 2020, ZWED's Anerobic Digester and Z-Best's windrows processed over 500,000 tons of organic material, avoiding an estimated 334,143 MtCO₂e from entering our atmosphere.

The companies are now preparing for implementation. As such, SB 1383 compliance measures were woven into all processing agreements signed in 2020. Further, organics processing capacity will be expanded in a continued effort to combat the climate crisis.

NATIONAL SWORD

China has historically been the largest consumer of recycled commodities throughout the US, importing approximately 13 million tons of paper and 776,000 tons of plastic from the US annually. In 2018, China imposed a number of restrictions on imported recyclables under a policy entitled "National Sword," creating zero tolerance for a number of problem materials. Other Southeast Asian countries quickly followed suit, and it has become increasingly difficult and expensive to export recyclable material.

GreenWaste has always performed far better than industry standards in maintaining low contamination rates. In reaction to ever heightening standards brought on by National Sword, the GreenWaste MRF added staff to the sorting line and slowed down throughput. GreenWaste installed millions of dollars in equipment and significantly increased labor to ensure higher-than-industry diversion in these challenging times. The adaptive nature of the MRF separates GreenWaste from the competition because solutions to combat new challenges can predominantly be conducted in-house.

LEADING BY EXAMPLE

GreenWaste and Zanker have stepped up their efforts to keep tabs on the group's collective carbon footprint. Staff within multiple arms of the companies have now been trained on proper emissions data management, guided by The Climate Registry's reporting program, allowing for regular and ongoing understanding of the companies' environmental impact.

Beyond the innate nature of the companies' approach to waste management and the focus on keeping materials out of the landfill, the companies also strive to address environmental issues more broadly.

ENERGY PRODUCTION

GreenWaste and Zanker are proud to produce renewable energy. In 2020, at the GreenWaste Materials Recovery Facility, GreenWaste corporate office and Zanker Materials Processing Facility, solar panels collectively produced over 325 MWh, helping offset energy usage onsite and also sending energy back to the PG&E grid. Meanwhile, 4,219 MWh were produced through the anaerobic digestion of organic waste at Zero Waste Energy Development. Altogether, the energy produced by the family of companies could power over 580 homes for a year.



GREEN BUSINESS

The GreenWaste Recovery corporate office has been Green Business Certified since 2011. A new recertification process is underway, coinciding with the occupancy of the new corporate office. This effort provides the opportunity to up the ante and strengthen the company's commitment to the environment as part of day-to-day operations.

Meanwhile, the Zanker main office was certified in 2013, and the GreenWaste Watsonville office was certified in 2018, and plans for further certification are being developed.

EFFICIENT FLEETS

GreenWaste and Zanker are dedicated to reducing emissions from operations through both technology and ongoing improvements to operating practices.

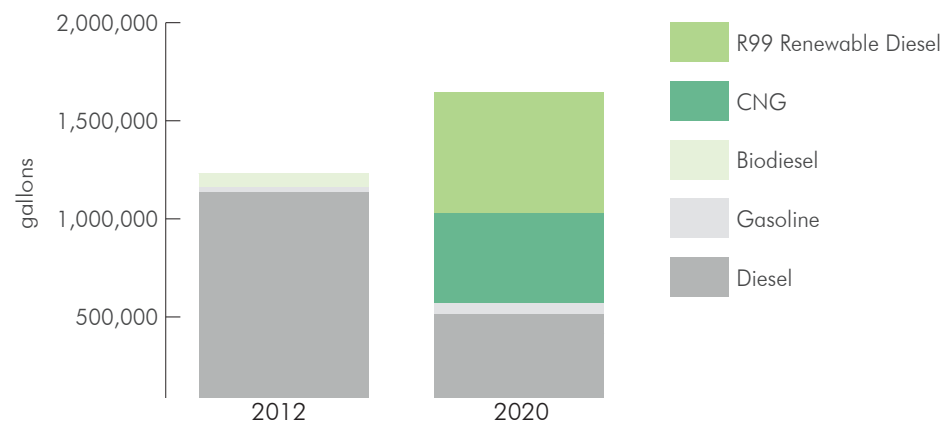
Developing and utilizing the most efficient routes reduces the carbon footprint of operations, saves resources, and provides for consistent and timely service for customers. GreenWaste utilizes RouteSmart Technologies to optimize routing. Vehicle sizes and types are also carefully chosen to maximize collection productivity and minimize environmental impacts. Notwithstanding these efforts, mobile emissions accounted for 99% of GreenWaste Recovery's operational emissions in 2020, highlighting the importance of continual improvement.



FUEL DIVERSIFICATION

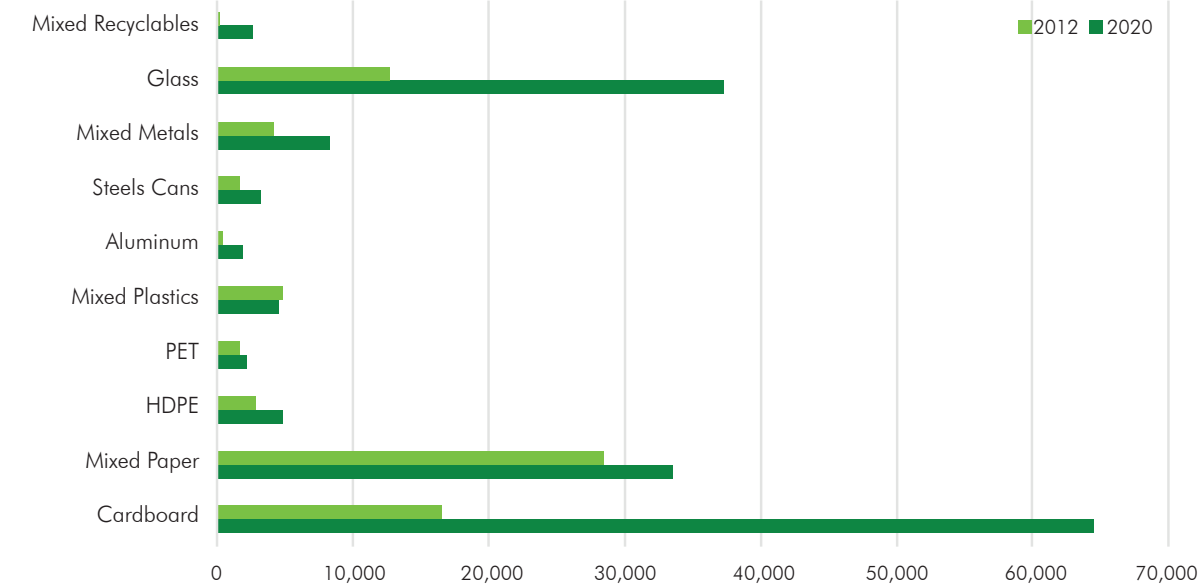
During last decade, company fleets have been transitioning from diesel and gasoline, to now predominately CNG and R99 Renewable Diesel. During this time, GreenWaste's overall fleet has increased significantly through expansion into seven new service areas, adding nearly 50 additional trucks to the overall operation. While this growth did increase direct mobile emissions by 23%, fossil fuel emissions have decreased by 22% since 2012.

Today, some operations are pursuing zero emission fleets. GreenWaste of Palo Alto now has a total of four zero emission vehicles. Meanwhile, the Materials Recovery Facility utilizes two electric forklifts and two electric scissor lifts.



RECYCLABLES MARKETS

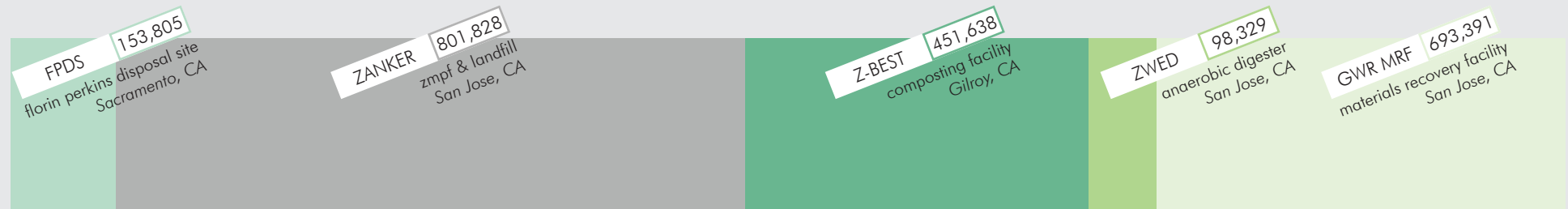
In the last several years, recyclable commodities and their markets have changed drastically. People are not getting as many newspapers as they used to, but shipping has increased cardboard waste exponentially. GreenWaste alters processing and marketing to adapt to the current environment.



GreenWaste has also been impacted by, and has responded to evolving markets due to National Sword. The economics of recycling creates a complicated web that commodities move through before they are turned into a new product. GreenWaste wants to have confidence in the final disposition of recovered recyclables. There is greater transparency when materials are handled domestically, and therefore GreenWaste will continue to prioritize domestic markets, and forge partnerships to create alternative markets.

MATERIALS MANAGEMENT

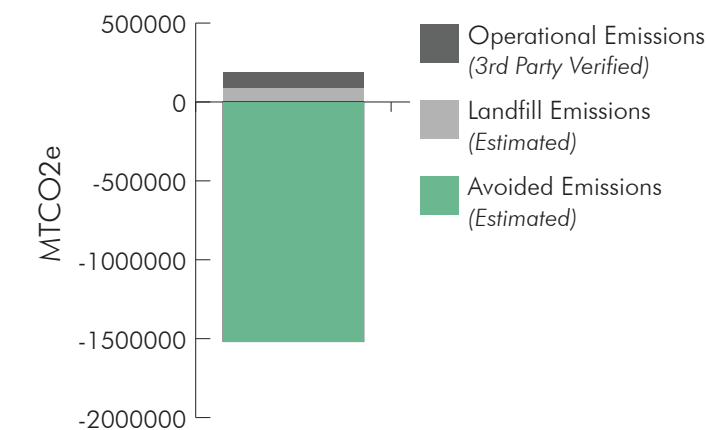
In 2020, the companies managed 2,198,99 tons of inbound material. Altogether, the facilities process over 30 material types, including C&D, garbage, recyclables, food waste, yard trimmings, and more, with materials moving between the facilities for further handling. The companies offer significant material recovery and processing solutions throughout the Bay Area and beyond.



AVOIDED EMISSIONS VIA MATERIAL PROCESSING

GreenWaste and Zanker provide greenhouse gas benefits by 1) precluding the inherent emissions in acquiring virgin resources, and 2) preventing materials from producing methane in landfills.

For 2020, the companies calculated their Net-Zero ratio by comparing operational and landfill-associated emissions with those emissions avoided through material recovery and processing. Collectively, the companies have a Net-Zero ratio of eight (8). This means that for every metric ton of CO₂e emitted by operations, the companies avoid an average of 8 metric tons of CO₂e. The companies will continue to reach for higher diversion while minimizing their carbon footprint.



RECOGNIZING THE TEAM

Employees are the companies' most important asset.

Material would go uncollected without Drivers, service needs would go unattended without Customers Service Representatives, and waste sorting information would be buried without Outreach and Communications teams. Company leadership is grateful for every staff member's contributions, and the Human Resources team, as well as every manager and supervisor, strive to make every employee understand their value.

INTERNAL NEWSLETTER

One unified internal newsletter is distributed throughout the GreenWaste/Zanker family of companies, providing a quarterly opportunity for all staff to get on the same page and gain access to the latest employee resources. The newsletters also spotlight staff from different arms of the companies, highlighting recent accomplishments and new members of the team.

"SECRET CHEERLEADER"

With remote work in place in 2020, it was important to ensure that all staff continued to feel like part of the team. During a virtual Spirit Week, a "Virtual Cheerleader" day was held, in which staff was encouraged to anonymously complement a colleague. The outpouring of appreciation was moving.

"Thank you for always shining your light so bright. You're a joy to work with and inspire me every day."

SEE YOU LATER!

The year 2020 brought with it the bittersweet retirements of two long-term company family members.

Barry Cristina, Human Resources Manager and an employee since 2004. At his core, Mr. Cristina served as the heart of the companies, providing a listening ear for all.

Monte Overall, Shop Manager and employee since 1997. Monte knew GreenWaste collection vehicles inside and out, and his MacGyver-like skills will continue to be unmatched.

HEALTH & SAFETY

It is the policy of the family of companies to establish a safety culture that demonstrates leadership's firm commitment to employee safety and health as an integral part of conducting business.

EMPLOYEE HEALTH

GreenWaste and Zanker prioritize health, hosting multiple health fairs every year to provide access to resources for all employees. Annually, a nurse is also brought onsite to administer the seasonal flu shot. In 2020, despite the chaos of the pandemic, flu shots were again administered onsite, with 224 employees signing up to receive the vaccine. Employees who were not onsite were heavily encouraged to receive their flu shot and were given ample vaccine resources.

ROAD SAFETY

More than a quarter of the GreenWaste and Zanker workforce is on the road every day, and therefore safe vehicles and road safety are of utmost importance. Safety equipment on vehicles varies by service area, to best fit that unique operation.

- Eyevide Cameras provide live feed cameras for claims, damages, and accidents.

- Safety Vision Cameras provide multiple vantage points for forward, back up, hopper, curb view and blind spot view.

- Two Way Radios remain critical for Mayday alerts and alternative route options.

SAFETY METRICS

The companies are committed to ongoing prevention of accidents and injuries. In order to better calibrate where we stand today, and to share with our employees and our stakeholders the positive news of improvement, Human Resources staff has focused on refining data collection and reporting mechanisms relative to incidents, injuries, illnesses, and workers compensation.

In 2020, the companies' Modification Factors ranged from 0.66 to 0.81, signifying that, across the board, the companies' safety records are better than the national average. These MOD rates have improved over the past three years, and by tracking incidents, implementing return-to-work programs, reporting injuries in a timely manner, and expanding safety goals, the companies are aiming for continued progress.



A NEW OFFICE TO BRING US TOGETHER... (EVENTUALLY)

GreenWaste opened a new corporate office building for all San Jose-based administrative staff in late 2020.

The improvement of the space was in the works for a couple of years, and GreenWaste was thrilled to open its doors, despite the soft-launch due to the pandemic. GreenWaste looks forward to the opportunities this new office space will bring as a result of bringing administrative staff closer in proximity to collection and processing operations. The offices, fleet yard and processing facility now all essentially function as a large campus, folding collaboration into the built environment.

INCLUSION & TALENT DEVELOPMENT

GENDER

Women on Executive Team	14%
Women in Director Positions	67%
Women in Management Positions	38%
Women in Supervisory Positions	15%
Female Share of Total Workforce	16%

ON-THE-JOB TRAINING

The joint companies believe in investing in their employees by providing cross training to interested employees. All applicable staff also undergo anti-bullying and harassment training, safety training and First Aid & CPR training.

LANGUAGE ACCESSIBILITY

Communication is key to inclusion. As such, all Human Resources staff is bilingual for ease of access and understanding for all employees.

EMPLOYEE RETENTION

COMPANY/LOCATION	YEAR EST.	AVERAGE SERVICE YEARS
Zanker	1986	11.5
GreenWaste (San Jose)	1992	14
Z-Best	1997	8
Florin Perkins	2006	4
GreenWaste (MRF)	2008	5.5
GreenWaste (Watsonville)	2008	9
GreenWaste of Palo Alto	2008	9
ZWED	2014	8
GreenWaste (Marina)	2015	4.5
GW Debris	2017	14



AGREEMENT EXTENSIONS & NEW JURISDICTIONS

GreenWaste and Zanker aim to create long-term partnerships via their collection and processing agreements. In 2019 and 2020, the following agreements were established or extended:

	TERM	COLLECTION	PROCESSING	RESIDENTIAL	COMMERCIAL
City of Palo Alto (GWPA)	Extended to June 30, 2026	✓	Recyclables, Compostables	17,920	1,864
Town of Los Altos Hills	July 1, 2019 to June 30, 2034	✓	Recyclables, Mixed Compostable & Yard Trimmings	2,887	9
Town of Portola Valley	January 1, 2020 to December 31, 2029	✓	Recyclables, Mixed Compostable & Yard Trimmings	1,514	31
Town of Woodside	January 1, 2020 to December 31, 2029	✓	Recyclables, Mixed Compostable & Yard Trimmings	1,880	24
County of Santa Clara (S)	Extended to June 30, 2025	✓	Recyclables	4,758	295
City of Santa Clara	January 1, 2021 to June 30, 2036	n/a	Garbage (2021), Recyclables (2022)	15k tons MSW	36k tons MSW
Town of Atherton	January 1, 2021 to December 31, 2040	✓	Recyclables, Mixed Compostable & Yard Trimmings	2,353	11
City of San Jose	Extended to June 30, 2036	✓	Recyclables, Solid Waste & Yard Trimmings	220,181	n/a
City of Berkeley	Extended to June 30, 2022	n/a	Construction and Demolition Materials	12,844 tons C&D	
County of Santa Clara	February 1, 2020 to January 31, 2025	n/a	Miscellaneous Debris	305 tons misc.	

WASTE EDUCATION & CUSTOMER OUTREACH

With new Agreements come exciting new programs. It is vital that our customers understand the expanded suite of services and feel included in the program rollout.

MOVING FOOD WASTE

A critical waste sorting change program change was rolled out in Portola Valley, Woodside, Los Altos Hills and Atherton: organics moved from the Green Cart to the Gray Cart. This modification was both a proactive response to SB 1383 regulations, and a measure to elevate the processing approach used for all collected materials. GreenWaste led in-person and virtual workshops and office hours to explain the changes.

EXPANDED CLEAN UP DAY

GreenWaste of Palo Alto's reinvented Clean Up Day program was designed to give residents convenient reuse and recycling options for items that are otherwise difficult to manage, such as furniture and construction debris. To ensure effective participation, staff developed a web-based service day lookup tool as well as direct-mail notifications. Details are also shared with residents through newsletters, bill inserts, and social media.



LUNCH @ LANDFILL

Zanker, situated adjacent to the Alviso neighborhood, has hosted “Lunch @ Landfill” quarterly events since 1997.

These event provide the opportunity for community leaders, government staff and local Alviso community residents to learn more about the Zanker Recycling facilities, and further weaves Zanker into the fabric of the local community.

With social distancing in place in 2020, only one event was held, during the first quarter of the year. Local San Jose businesses, La Jaliscience Gourmet Mexican Food and Nox Cookies, prepared the meal.

NEW WEBSITE & VIRTUAL TOOLS

GreenWaste conducted a full website reboot in 2020. The new site features a streamlined design, improved functionality, and easy access to information by specific service area.

The home page hosts an easy service area lookup tool, allowing customers to quickly access the service information that applies to their home or business. The update also provides an improved mobile experience and a comprehensive support page with quick links to bill pay, service request forms and other helpful resources.

Along with the site came a new virtual learning experience with the digital launch of the new GreenWaste children’s book, *Captain GreenWaste and the Waste Avengers*. A book reading is accompanied by a vocabulary sheet, a video showing how the book was illustrated, and activity books.



INVESTING IN OUR COMMUNITY

SPONSORSHIP/DONATION	
Community Foundation of Santa Cruz	2020
Wild and Scenic Film Festival	2019
National Zero Waste Conference	2019
San Jose Veggie Fest	2019
San Jose Day	2019
Rescape California	2019
Nature Valley Inspiration	2019 & on
Salvation Army	2019
Greenerbuilder	2019 & on
Environment Research Education Fdn.	2015 & on
Coyote Creek Clean Up	2015 & on
Acterra Environmental Business Awards	2005 & on
+ many more through the years!	

COMMITTEES/MEMBERSHIPS	
Women in Solid Waste and Recycling	2019 & on
Latina Coalition	2019 & on
Solid Waste Association of North America	2016 & on
Boys and Girls Club Silicon Valley	2016 & on
California Compost Coalition	2010 & on
Sustainable Schools Committee, Palo Alto	2009 & on
Rotary Club of San Jose	2004 & on
Construction & Demolition Recycling Assn.	2000 & on
Northern California Recycling Association	2000 & on
Resource Recovery Coalition of California	1998 & on
California Resource Recovery Association	1989 & on
Technical Advisory Committees, various	various
+ many more through the years!	

VOLUNTEERISM/PARTICIPATION	
Gamble Garden, Festival of Trees Auction	2020
Second Harvest Food Bank, Thanksgiving	2019
Monterey Bay Aquarium, Blue Whale	2018/19
Sacred Heart Clothing Drive	2018 & on
Creek/Coastal Clean Up	2018 & on
Cristo Rey, Corporate Work Study	2017 & on
CityTeam San Jose, supporter	2016 & on
Santa Visits Alviso, supporter	1990 & on



CITY OF PALO ALTO, BYD & GREENWASTE OF PALO ALTO ELECTRIC WASTE TRUCK PROGRAM

In late 2017, GreenWaste of Palo Alto debuted the world’s first full-sized all-electric side-loading refuse truck, manufactured by BYD.

The prototype vehicle was cutting edge for all parties involved – GreenWaste of Palo Alto (GWPA), the City of Palo Alto, and BYD. In January of 2019, the GWPA contract with the City of Palo Alto was extended by City Council, opening the door to further expansion of the electric vehicle program. GWPA now has four all-electric vehicles in operation with hopes to run the entire residential garbage fleet with 100% electric vehicles in the future.

- FULLY AUTOMATED SIDE LOADER: Residential garbage collection | 295 kWh battery capacity, 50 miles per charge
- REAR LOADER: Residential Clean Up Day program | 295 kWh battery capacity, 65 miles per charge
- FLATBED: Bin and cart deliveries | 221 kWh battery capacity, 120 miles per charge
- WASH TRUCK: Bin and cart washes | 221 kWh battery capacity, 120 miles per charge

Public-private partnerships are integral to bringing about lasting progress. GWPA looks forward to continuing to work with the City of Palo Alto to expand its fleet electrification, including advancing the infrastructure for proper and efficient charging of the expanding electric fleet.



left to right
Scott Scholz, General Manager of GreenWaste of Palo Alto
Marc Berman, California State Assemblymember



left to right
Miranda Wang, Co-founder & CEO of Novoloop
Emily Hanson, CSO of GreenWaste

CITY OF SAN JOSE, NOVOLOOP & GREENWASTE RECOVERY UPCYCLING PLASTIC WASTE

GreenWaste partnered with the City of San José to support young pioneers striving for a solution for hard-to-recycle plastics.

Novoloop is a startup developing advanced technologies to transform difficult-to-recycle plastics. The technology turns plastics into renewable chemicals that can be used to make paints and coatings, automotive parts, apparel and even fragrances. Novoloop targets plastics that are often landfilled because they are contaminated with organic material, recycling markets are limited or don’t exist, or when mechanical sorting isn’t efficient or economical.

In San Jose, all residential waste, including garbage, recyclables and yard trimmings, is hauled to the GreenWaste MRF, and in 2018, Novoloop partnered with the City and GreenWaste to develop their technology through a pilot program.

The pilot program completed the final development phase in early 2020. GreenWaste hopes to work with Novoloop to develop a plastics processing facility at the GreenWaste MRF property sometime in the near future, a project that could one day eliminate a large chunk of San Jose’s plastic waste.

PROCESSING FACILITY PARTNERSHIPS

Integral to the companies' success is the continual adaptation of processing facilities to meet current market needs. By maintaining relationships with industry partners, the companies will remain on the cutting edge.

MRF UPGRADE BULK HANDLING SYSTEMS

Bulk Handling Systems (BHS) is an industry leader in designing recycling systems, and a partner that GreenWaste and Zanker have collaborated with on many projects throughout the years. GreenWaste and BHS recently upgraded both the MSW Facility (2018) and Recycling Facility (2019) in San Jose.

The upgrades brought about an extremely advanced waste sorting system, uniquely handling predominantly residential waste, expanding processing capabilities, and increasing the overall efficiency of MRF operations. The advancements included the incorporation of BHS's Max-AI® technology, a breakthrough artificial intelligence that identifies materials, makes intelligent decisions and directs equipment such as robotic sorters.

Z-BEST EXPANSION ENGINEERED COMPOST SYSTEMS

To support implementation of SB 1383, Zanker is expanding its Z-Best facility to accommodate higher volumes of processed solid waste. An Engineered Compost Systems’ (ECS) bunker-style aerated static pile composting system will be installed.

ECS is an industry leader and has been designing composting operations since 1999. The ECS system will double Z-Best’s capacity to compost processed solid waste. An application to increase the permitted capacity to 2,750 tons per day was submitted in 2017, and Z-Best expects construction to begin in mid-2022.

ADVANCED C&D OPERATION RCI

In order to further advance diversion rates attained at the Zanker Material Processing Facility (ZMPF), in 2019 Zanker constructed an advanced construction and demolition (C&D) debris system. The system operates 20+ hours per day and can process around 40 tons of C&D waste per hour, attaining diversion rates in excess of 81%.

It is imperative that diversion rates attained for the debris processed through this system are accurately and reliably reported. Zanker first achieved certification by the Recycling Certification Institute (RCI) in 2015, and the new system was immediately enrolled in this third-party certification program upon operation. Zanker's participation in the RCI program transparently illustrates the success of Zanker processing systems.

CARPET AMERICA RECOVERY EFFORT

Used carpet is among the top ten materials in California landfills, with more than 350 million pounds discarded each year. The mission of Carpet America Recovery Effort (CARE) is to advance market-based solutions that increase landfill diversion and recycling of post-consumer carpet, and encourage design for recyclability.

In partnership with CARE, GreenWaste began carpet recycling in San Jose in 2012, and in 2014, Zanker's Florin Perkins facility in Sacramento began collecting post-consumer carpet. While Zanker's San Jose facilities have also accepted segregated carpet for recycling for years, as of 2020, the facility is now also officially a CARE partner, and is accepting carpet for recycling at a reduced rate.

Carpet can be recycled into useful products, including new carpet, carpet padding, and insulation. CARE is working steadfastly to build a network of drop-off locations throughout the state to collect used carpet for recycling, and GreenWaste and Zanker are thrilled to be program partners.



OUR ENVIRONMENT

GreenWaste and Zanker will achieve an increasingly brighter shade of green by advancing environmentally conscious programs and strategies.

OBJECTIVES

NEAR TERM:

Obtain Green Business Certification for administrative offices, including GreenWaste corporate, ZWED and Florin Perkins.

Update Environmentally Preferable Purchasing Policy (EPPP) and establish committee to further efforts. Track progress against policies.

MID TERM:

Create effective water tracking system. Reduce overall water usage and assess for opportunities to increase recycled water/reuse programs.

LONG TERM:

Increase usage of alternative fuel sources for mobile and stationary equipment, including meeting Advanced Clean Fleets Regulations.

Reduce emissions associated with operating facilities and fleets.

REDUCE
GREENHOUSE GAS EMISSIONS
REUSE
WATER WHERE FEASIBLE
RECYCLE
FOR US & FOR OUR COMMUNITY

OUR EMPLOYEES

GreenWaste and Zanker will continue to invest in employees' safety, inclusion, and professional development.

OBJECTIVES

NEAR TERM:

Standardize safety plans, policies and programs.

Enhance and encourage tools for centralized Human Resources communication and resources.

MID TERM:

Foster growth and development within the next generation of company employees.

Instill the companies' sustainability values in all employees.

LONG TERM:

Measure and enhance overall employee engagement.



OUR COMMUNITIES

GreenWaste and Zanker will contribute to the local community by sponsoring, volunteering and participating in local events, while educating about waste reduction and management.

OBJECTIVES

NEAR TERM:

Expand digital communication and programming, including virtual education, resources, social media, and email distributions.

Develop workforce volunteer goals and monitoring mechanisms.

MID TERM:

Formalize relationship with an ocean/waterway-related entity to capitalize on nexus between waste management and ocean plastic issues.

LONG TERM:

Inspire feeling of cooperation and involvement in the communities served by the family of companies.



OUR PARTNERS

GreenWaste and Zanker will engage with non-profit, public and private partners in order foster our common values of safety, community, sustainability and innovation.

OBJECTIVES

NEAR TERM:

Continue to take meetings with innovative technology entities, and adopt technologies and partnerships as appropriate.

MID TERM:

Advance expansion of GreenWaste of Palo Alto electric fleet in partnership with the City of Palo Alto, including broadened charging infrastructure.

LONG TERM:

Partner with public and private entities to expand processing capacity through new and expanded facilities.

EXPAND
EXISTING PARTNERSHIPS
& FORGE
NEW PARTNERSHIPS



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GreenWaste and Zanker have successfully reported and third-party verified their annual greenhouse gas inventory, and are recognized with Climate Registered Gold™ status.