



The Western Placer Waste Management Authority MaxDiverter™ v1 MRF – EcoHub’s Reference Facility

To see a video of the operating Roseville, CA facility, please control/click:
<https://qxe.258.myftpupload.com/>

In early 2002, Mr. George Gitschel, then CEO of Rose Waste Systems, Inc. and now CEO of EcoHub, first conceptualized the idea of using modified Single Stream Recycling Disc Screens in mixed waste MRF applications. His theory was that these types of screens, if fed properly, could possibly facilitate the separation of two-dimensional and three-dimensional items. Mr. Gitschel theorized that this concept would dramatically improve recovery, while significantly reducing costs. It is noteworthy that Mr. Gitschel was heavily involved with the development of Single Stream Recycling Systems, during their infancy, in the early 1990’s. He has spent the last 40 years designing, integrating and building some of the most innovative recycling systems in the industry.

Mr. Gitschel’s relationship with Nortech LLC (a partnership involving Wastech, Norcal Waste Systems – now Recology, and John F. Sexton Company), the contract operator of the Western Placer Waste Management Authority’s MRF, began in 1995. He initially replaced the facility’s single-ram baler with a two-ram baler. Then, he added additional FE and NF recovery equipment. He designed and installed a fines recovery system and other advanced recovery and processing components. He also supplied a mobile compost screen system and advanced windrow turner.

In mid-2003, Mr. Gitschel ran his mixed waste MRF disc screen theory by Mr. Wayne Trehwhitt, the President of Nortech. As it happened, the operating contract was coming up for renewal in 2005 and Nortech needed an edge to improve recovery and operations going into the RFP process. Mr. Trehwhitt thought that the idea was interesting, but he was very skeptical that it would actually work. Mr. Gitschel had just received an order for an advanced Single Stream MRF for a large independent waste disposal and recycling company located in Southern California, EDCO Disposal. Mr. Gitschel was granted permission to conduct a 25-ton test run of garbage (sourced from the Placer County MRF) in January of 2004. The test was a tremendous success and culminated in Mr. Gitschel’s design of a complete plant addition to the Placer County MRF. Mr. Gitschel worked with his supplier, Machinex Industries (Quebec, Canada), and won the facility equipment supply bid.

In January 2007, Mr. Gitschel’s team completed the installation of the most advanced and unique mixed waste MRF in the USA for the Western Placer Waste Management Authority. The older existing mixed waste MRF and its building were left intact and operating during the new building construction and the new equipment installation. All major tie-ins between the new and the old system were made during the evening or on the weekends, so the plant shut down was a mere 9 days, despite almost 1 year of building construction and new equipment installation. All tolled, the major mixed waste MRF addition (150 Tons per Hour of Capacity) included; (2) Walking Floor In-feed Systems, (2) Large Trommel Screens (now 4), Bag Breaker, (91) Conveyors, (14) Rubber Disc Screens, (3) Electro Magnets, (3) Eddy Current Separators, Diverters, Shuttle Conveyors, (3) Transfer Trailer Load Out Systems, (20) Automated Walking Floor Bunkers, 200 HP 2 Ram Baler, (2) Back Scraping Drums, Platforms, Controls, Structure, Engineering and Integration. Approximate value = \$20,000,000.00.



The net results of this highly innovative approach and system exceeded everyone's expectations. The recovery and diversion were more than doubled, while the second processing shift was eliminated. The facility was commissioned in January 2007. It is located in Roseville, CA. The facility takes in unsorted residential and commercial MSW from Western Placer County (no curbside recycling) in the WPWMA's "One Big Bin" Program (MSW and recyclables in one bin and source separated green waste in a second bin.) The hourly capacity is 150 tons and daily permitted capacity is 2,500 tons, but daily inbound MSW has been averaging 850 tons per day. The tipping fee is approximately \$75 per ton. There are no conversion technologies on the mixed waste MRF site, at this time.

However, despite all of these efforts, there was still a high amount of the inbound MSW going to the adjacent landfill. Mr. Gitschel knew that he could do better. This was an excellent leap, but it was nowhere near what could really be achieved. Mr. Gitschel has dramatically improved this original design concept, to make his new system significantly more efficient and operationally cost effective. Mr. Gitschel's new multi-patented MaxDiverter™ v2 sorting and recovery system adds density separation, advanced screening, shredding, AI robotic sorting and optical sorting technologies to the v1 system in a 70-90 step mechanical process. The addition of these technologies eliminates manual sorting and enables the fully automated system to mechanically separate and recover every material grade/feedstock contained in mixed solid waste. The MaxDiverter™ is covered by unprecedented performance guarantees and can deliver 100% recovery and diversion. The MaxDiverter™ v1 qualifies as a "High Diversion Organics Processing Facility" as required by California's SB 1383 Regulations. All of the MaxDiverter equipment and technologies have been commercially operating for decades.





WPWMA Integrated Facility Including Mixed Waste MRF, Composting, C&D Processing and Landfill



Building Exterior of MRF



Raw MSW on Tip Floor



Raw MSW on Tip Floor



One of Five 30' Long by 8' Diameter Trommel Separators (10" cut)



**Two of 10 Specialty Disc Screens That Separate Cans, Bottles and Fines
From Large Paper**



One of Two 3-Way Polishing Screens separating 2" Minus Fines, 3-Dimensional Items (Containers), and 2-Dimensional Items (Paper and Plastic Film). Screen in Back of Photo.



3-Dimensional Material Lines Where Containers Are Removed With Manual Sorting (Plastic & Glass), Cross Belt Magnets (Ferrous), and Eddy Current Separators (Aluminum Cans and Mixed Non-Ferrous)

**Plant could upgrade to Optical Sorting for Plastic and Glass Container Recovery*



Small Fiber Manual Sorting Line (QC or Sorting)



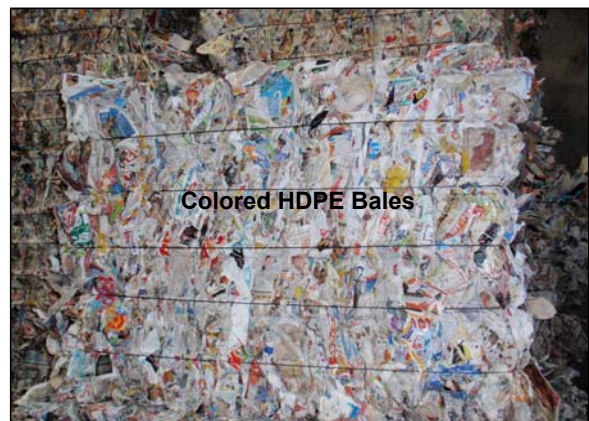
Aluminum Can (UBC) Bales



UBCs & Other Mixed Non-Ferrous Bales



Cardboard (OCC) Bales



Colored HDPE Bales



Mixed Paper Bales

Newspaper Bales



Natural HDPE Bales



3/8" Minus Fines for Alternative Daily Cover





Separated Glass Bottles

Carpet Padding Bales



E-Waste



Mixed Ferrous Metal



Mixed #3 - #7 Plastic Bales



Household Hazardous Waste - Aerosol Cans





Electric Motors

Batteries



Separated PETE to Baier



Separated Mixed Non-Ferrous



Compost Windrows from Separated Wood and Green Waste