

MICHAEL P. VICTORINO  
Mayor

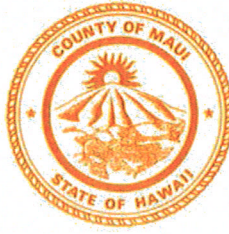
ERIC A. NAKAGAWA, P.E.  
Director

SHAYNE R. AGAWA, P.E.  
Deputy Director

MICHAEL P. RATTE  
Solid Waste Division

SCOTT R. ROLLINS, P.E.  
Wastewater Reclamation Division

TAMARA L. FARNSWORTH  
Environmental Protection &  
Sustainability Division



**COUNTY OF MAUI  
DEPARTMENT OF  
ENVIRONMENTAL MANAGEMENT**  
2050 MAIN STREET, SUITE 2B  
WAILUKU, MAUI, HAWAII 96793

April 23, 2021

Honorable Michael P. Victorino  
Mayor, County of Maui  
200 South High Street  
Wailuku, HI 96793

**APPROVED FOR TRANSMITTAL**

Michael P. Viti 4/24/21  
Mayor Date

For Transmittal to:

Honorable Kelly T. King, Chair  
Climate Action, Resilience and Environment Committee  
Maui County Council  
200 South High Street  
Wailuku, HI 96793

Dear Committee Chair King:

**SUBJECT: GLASS RECOVERY PROGRAM (CONTRACT 5330; MAUI DISPOSAL CO., INC) (CARE-45)**

This is in response to your March 30, 2021 communication regarding the use of recycled glass.

- 1. Identify the specific markets or end uses for the glass recycled through this program, including whether the product can be used in road paving materials.**

According to records provided by the grantee, Advanced Disposal Fee (ADF) glass recycled in this program is shipped to Strategic Materials in the continental United States and recycled into new products. While it is possible for glass to be used in paving materials, please see the attached letter to the Department of Health from the Hawaii Asphalt Paving Industry Executive Director, Jon M. Young, regarding the subject. They find that use of glass in asphalt is not ideal because it does not "stick" to other aggregate materials and also because it reduces the recyclability of the asphalt after use. With few other local options, the glass processors generally choose to ship glass to offshore markets.

The Recycling Section has promoted various demonstration projects including the use of crushed glass in the UH Maui College parking lot. In County Solid Waste Projects, glass cullet was used at the entrance facility at Central Maui Landfill. Glass aggregate was also used at some of the recycling center facilities when they were opened. We are also learning more about the use of recovered glass for pipe bedding in construction projects.

OFFICE OF THE  
COUNTY COUNCIL

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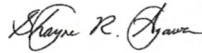


**2. If the use of recycled glass in road paving materials has been discontinued, please indicate why it is no longer being used for this purpose.**

Please refer to the attached letter for an explanation as to why recovered glass is not widely used for paving materials. Currently, Central Maui Landfill accepts non-ADF and non-HI-5 glass from haulers at a reduced rate to be used as a levelling layer for municipal solid waste disposal. The glass that is recycled through the grant in question would not be allowed for this type of use; however, it is one way that glass can be re-used locally.

Thank you for the opportunity to provide you with information on this matter. Should you have any questions or concerns, please feel free to transmit them to the Department of Environmental Management via transmittal through the Office of the Mayor.

Sincerely,



Digitally signed by Shayne R. Agawa  
DN: cn=Shayne R. Agawa, o=Deputy  
Director of DEM, ou=County of Maui,  
email=shayne.agawa@co.maui.hi.us,  
c=US  
Date: 2021.04.26 09:38:46 -10'00'

**ERIC A. NAKAGAWA, P.E.**  
Director of Environmental Management





August 1, 2017

Darren J. Park, Ph.D.  
Coordinator  
Office of Solid Waste Management  
Solid and Hazardous Waste Branch  
Environmental Management Division  
Hawaii State Department of Health  
919 Ala Moana Boulevard, Suite 212  
Honolulu, Hawaii 96814

Dear Mr. Park:

**Subject:** Use Glass Cullet in Asphalt Pavements in Hawaii.

It is the position of the Hawaii Asphalt Paving Industry [HAPI] recycled glass cullet should not be used in asphalt pavements.

Our position is based on our concurrence with a couple of the findings in the report titled "Sustainable Pavement Solutions for Oahu" dated February 2, 2011 which states:

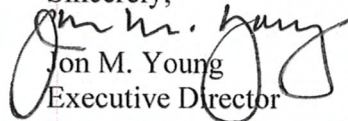
*"Glass cullet can make HMA worse. Its effect on HMA qualities is generally neutral to slightly negative. In rather simplistic terms, the problem is that asphalt does not stick to glass. Therefore, asphalt properties that rely on this "sticking" are generally not as good. Some of this can be overcome using an anti-strip additive but there may still be some negative consequences.*

*Glass cullet in HMA limits recycling options. Glass cullet is not allowed in the surface course of HDOT or Honolulu mixes. This can effectively prevent RAP (reclaimed asphalt pavement) used at all in the surface course unless the exclusion of glass cullet in the surface course is relaxed. Currently, this exclusion is not always relaxed. What this amounts to is a specification that requires including a waste product in new material that effectively excludes that material from being recycled.*

*The HMA industry often touts RAP as one of, if not the most, recycled materials in the U.S. One estimate, that is almost always quoted, states that 80% of HMA is recycled (Bloomquist et al. 1993)."*

Please contact us if you have any questions.

Sincerely,

  
Jon M. Young  
Executive Director