8. SOLID WASTE (SW)

The solid waste measures discussed below will achieve an estimated 23,149 CO$_2$e metric ton reduction in GHG by 2015. This represents 19 percent of the total reductions in this Action Plan.

Renewable energy projects which use the emissions from landfills are discussed in the Renewable Energy Goal measure (EN-2).

SW-1. Methane Capture at Landfills: This measure includes enhanced methane collection systems at two landfills: Skunk Creek and SR-85. The GHG impact from this measure is based on the incremental improvement for the methane collection efficiency which goes beyond the industry standard.

Skunk Creek Landfill was closed in December 2005. In 2006, the final cap was installed and the methane collection system was expanded – resulting in increased methane collection efficiency from a baseline of 50 percent in 2005 to 85 percent. This exceeds the 75 percent methane collection rate that is used as the industry standard default value from EPA models. This incremental increase from 75 to 85 percent efficiency in the landfill methane system provides the basis for the GHG reduction achieved by this measure. The improved efficiency from 50 percent to 75 percent is included in the 2015 Forecast for the No Action scenario.

The SR-85 Landfill opened in January 2006 as the Skunk Creek Landfill closed. The methane collection system is designed to achieve an estimated 90 percent methane capture rate. This exceeds the 75 percent methane capture rate that is used as the industry standard default value in EPA models. This incremental increase from 75 to 90 percent efficiency provides the basis for the GHG reduction achieved by this measure.

- **Cost Information:** Assumes no incremental cost for the continued installation and operation of the methane collection system at the SR-85 landfill and operation of the expanded system at the Skunk Creek Landfill.

- **Greenhouse Gas Reduction Potential by 2015:** 21,432 metric tons CO$_2$e.

- **Assumption:** The GHG reduction from this measure includes the improved methane recovery at two landfills:

  Skunk Creek: Emissions reductions are based on improved methane collection efficiency from the industry standard of 75 percent to the 85 percent achieved by improvements to the system completed in 2006, as discussed above.
SR-85: Emissions reductions are based on the incremental improvement in the methane collection efficiency from the industry standard of 75 percent to the 90 percent achieved by the system at this new landfill, as discussed above.

SW-2. Green-Waste Mulching & Recycling: Mulching and recycling programs divert waste from landfills and reduce the volume of organic materials that generate methane emissions. The city provides green waste mulching services through a contractor at the 27th Avenue Transfer Station where 15,616 U.S. tons of green waste were mulched in 2005. The mulching services contract includes funding for up to 25,000 U.S. tons annually and this level is expected to be reached in 2009 and continue through 2015.

The city also provides citywide residential curbside recycling services for the collection of glass, metal, plastic, cardboard, and paper. This program was initiated in the early 1990s. The program is not included as a GHG reduction measure because the curbside recycling collection rates are expected to remain generally consistent through 2015.

- **Greenhouse Gas Reduction Potential by 2015:** 1,717 metric tons CO₂e.

- **Assumptions:** This measure assumes that green waste mulching will increase from 15,616 U.S. tons in 2005 to 25,000 U.S. tons in 2009 and continue at that level through 2015 (an increase of 9,384 tons per year).