APPENDIX C

FORECASTING SOLID WASTE DISPOSAL

APPENDIX C – FORECASTING SOLID WASTE DISPOSAL

Variables: An econometric model is used by the County to forecast the future amount of solid waste to be disposed. This model includes the following variables:

- Number of people living in the service area
- Number of jobs and structure of the job market (service sector jobs vs. manufacturing jobs)
- Household size in persons per household
- Per capita income (in real terms)
- Disposal fees (inflation adjusted)
- Ban on CDL

Geographic boundaries: The geographic boundary for the forecast is King County, excluding Seattle and Milton, and including all of Bothell (part of Snohomish County).

Data sources: The data source for population, employment, and household size (first three bullets above) is the Puget Sound Regional Council (PSRC) "small area forecast." PSRC worked in close cooperation with the counties and cities to develop those numbers for the forecast period. For economic variables, data used are provided by Dick Conway and Associates, Seattle. Historical tonnage and transaction data are collected and maintained by the Solid Waste Division and are the most accurate numbers available for forecasting purposes. These data include each transaction by date, time, type of garbage, fees and taxes paid, and type of payment.

Methodology: The econometric model, based on a regression equation, uses information about the relationship between the variables mentioned above and the amount of garbage disposed. The future amount disposed for the forecasting period is estimated based on the projections for population, employment, household size, real income, and tip fees. The mean value of the lower and upper range is used as the projected amount disposed; the confidence interval of this forecast is 95%.

Recycling and Generation: The amount of tons recycled is provided by haulers (for the curbside recycling) and by a survey performed annually by the Washington State Department of Ecology. Those numbers are estimates and fluctuate considerably from year to year. As a result, the amount of garbage generated is also only an estimate with a wider margin of error.

Forecasting steps: The forecasting begins with developing the "baseline scenario." This scenario takes into consideration current and new policies as far as impacts and the implementation schedules are known.

Another step in the forecasting process is to consider all known events that might impact tonnage, such as temporary transfer closures or changes in recycling programs. Then a short-term budget tonnage forecast is developed and used to form a short-term financial forecast. As new information is available the numbers are updated.

The short-term tonnage forecast used for the adopted budget compared to actual tons:

Year	Budget Forecast	Actual Tonnage	% Difference
1995	819,000	822,585	0.4%
1996	839,000	817,602	-2.6%
1997	833,000	872,577	4.8%
1998	837,000	883,722	5.6%
1999	852,000	929,306	9.1%
2000	920,000	947,174	3.0%
2001	965,000	936,310	-3.0%
2002	950,000	939,489	-1.1%
2003	950,000	978,837	3.0%
2004	955,000	1,006,163	5.4%
Average			**2.5%**

For other planning purposes, a long-term forecast is developed and maintained. The same data sources are used but the horizon is expanded out to 25 years depending on the information available.

2001 Solid Waste Plan Forecast and Actual Tons Disposed
New Forecast for 2005 – 2030 (as of September 2005)

Year	Comp Plan 2001 Forecast	Actual Tonnage	% Difference	New 2005 Forecast
2001	963,000	936,500	-2.8%	
2002	978,000	939,500	-4.1%	
2003	990,000	978,836	-1.1%	
2004	1,000,000	1,006,163	0.6%	
2005	1,007,000	990,000	-1.7%	990,000
2006	1,014,000			976,700
2007	1,029,000			1,020,800
2008	1,048,000			1,050,800
2009	1,068,000			1,080,800
2010	1,092,000			1,115,200
2011	1,100,000			1,133,800
2012	1,101,000			1,160,200
2013	1,113,000			1,178,800
2014	1,117,000			1,210,200
2015	1,122,000			1,242,100
2016	1,133,000			1,264,900
2017	1,146,000			1,295,700
2018	1,159,000			1,327,700
2019	1,176,000			1,353,800
2020	1,194,000			1,388,500
2021				1,402,500
2022				1,436,400
2023				1,442,300
2024				1,478,500
2025				1,515,900
2026				1,524,400
2027				1,563,400
2028				1,588,100
2029				1,628,700
2030				1,670,300