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2003 Annual Report



Blueprint for the Future

## Introduction

If any phrase could aptly sum up the activities of the last year, it would be "preparing for the future." In this time of economic downturn, the King County Executive's direction for all County departments is to change the way they operate – to become more efficient, more productive, and more entrepreneurial.

What has this meant for the Solid Waste Division? The Executive's direction, coupled with changes in the solid waste industry as a whole and the King County regional system in particular, has wide-spread implications for the Division. Many of these changes have already been acted on, as discussed in this 2003 Annual Report. Some of the changes and conditions driving the Division are summarized below.

 In about 10 years, the Cedar Hills landfill will reach capacity and close, and the County will privatize waste disposal. In 1995, the King County Council passed Ordinance 11949, which established that

pased Ordinance 11949, William

Cedar Hills Regional Landfill

stablished that
once Cedar Hills
closes it will not
be replaced with
another landfill
in King County,
and the County
will pursue
waste export as
its long-term
disposal option.
When Cedar
Hills closes, the
County will

export more than one million tons of waste each year to a landfill outside of King County. The Division must begin to make significant changes to the aging transfer system to prepare for the transition to waste export well before the actual closure of Cedar Hills. This transition will require that the County secure intermodal capacity for the transport of wastes to a distant landfill. An intermodal facility is where solid wastes are transferred from trucks and containerized for rail lines or barges for waste export.

• In late 2002, in light of current budget shortfalls, the Executive evaluated the possible sale of the County's entire solid waste system - including Cedar Hills. While proceeds from the sale would serve some short-term budget needs, the Executive determined that ratepayers would be best served if the County were to maintain a public presence in the solid waste market. The public sector has broader goals and responsibilities than the private sector, such as providing for health and environmental protection and a wide range of other services that may not be cost effective for the private-sector to provide. The Division hired independent economists to examine private-sector competition in the solid waste industry as a whole, and in King County's regional market. Results of these analyses indicated that ratepayers will benefit from the County's continued regional presence in terms of rates and extent and quality of services. In light of this commitment, changes and efficiencies are being implemented throughout the Division to streamline operations and maintain low and stable customer rates.

• In late 2002, the Executive also determined that the Division should have been paying rent to the County general fund for the use of the Cedar Hills Regional Landfill property. The property was acquired from the State in 1992 and is, in fact, owned by the County and not the Division. An independent appraisal was used to determine what the Division will pay for rent beginning in 2004 for the past and future use of the property, at a rate of \$7 million per year with a 3% annual inflation escalation through 2028. This rental payment is also driving cost-saving measures that the Division has developed and, in some cases, begun to put into effect.

The process of preparing for a more efficient future has already begun. Employees have contributed many suggestions for making changes or improvements to work procedures, adding new revenue sources, or eliminating programs or services that are no longer needed. Many of these suggestions are being incorporated into the Division's 2004 plans and budgets.

Through these and other changes, the Division will continue to provide King County citizens with efficient and reliable regional solid waste handling and disposal services, at rates as low as reasonably possible. All of the changes will ensure that the Division remains a leader in waste reduction and recycling and sets an example of sound environmental stewardship.

## Waste Reduction And Recycling

The Waste Reduction and Recycling Section of the Division works to cost-effectively reduce the amount of material entering the waste stream. Its mission is to conserve resources, protect the environment, reduce the costs of solid waste management for King County residents, and strengthen the County's overall economy. To fulfill this mission, the section continues to broaden its focus and to convey to the public that waste reduction and recycling reaches far beyond curbside pick-up of glass, aluminum, and paper.

A number of the Division's noteworthy programs are detailed below.

## Residential Food Waste Recycling Pilot Program

Approximately 30-40% of King County's residential waste is composed of food waste, yard debris, soiled paper, and other compostable organic materials. Since Spring 2002, nearly 1,700 single-family households in Kirkland, Issaquah, Lake Forest Park, and Redmond have been participating in a pilot

program to recycle food waste and food-soiled paper. Participants are separating their organic waste from the rest of their garbage and putting it out with their yard waste. Their garbage hauler then collects and delivers the organic

wastes to a permitted facility

where it is composted.

The pilot project is testing two different collection schedules – the organic wastes are picked up once a week or once every other week, depending upon the neighborhood. The purpose of the project was to test the feasibility of collecting residential food waste, to assess the public's willingness to participate in food waste recycling, and to identify any public health issues. The initial phase of the pilot project ran from April 2002 through January 2003. Residents in the pilot area continue to separate food wastes.

Due to the program's popularity, both Kirkland and Redmond have incorporated food waste recycling into their new collection contracts with the hauling companies. The service will be offered citywide beginning in 2004. Issaquah and Bellevue will also be adding the service when their hauler contracts come up for renewal.

### **Computer Recovery Program**

The Computer Recovery Project has been providing the residents and small businesses of King County with reuse and recycling options for their used computer equipment since July 2000. It is a network of local computer repair and resale shops, nonprofit groups and computer retailers that have teamed up to offer multiple locations for donating, upgrading or recycling used computer equipment.

All network members have agreed to recycle broken computer monitors and televisions domestically and to avoid exporting overseas. Since computer monitors and televisions from commercial customers are no longer accepted for disposal at King County Transfer Stations, the Computer Recovery Program provides an environmentally sound

alternative. Despite
the success of this
program, disposal of
old printers, fax
machines, copiers,
televisions, and
computers continues
to be a problem inside
and outside of our borders.



The King County Solid Waste Division is also working to address electronic waste on a state and national level by promoting responsible product stewardship of these items. Product stewardship is a management strategy that means the entity that designs, produces, sells or uses a product takes responsibility for minimizing its environmental impact throughout all stages of the item's life cycle.

Division staff are working to develop consistent product stewardship solutions for electronic scrap though participation in both regional and national coalitions. Since April 2001, King County has been working with a variety of stakeholders to develop a voluntary national product stewardship system that includes a viable financing mechanism to maximize the collection, reuse and recycling of used electronic products. The specific products being addressed are televisions, computer monitors, central processing units and computer peripherals, such as printers and scanners. Discussions are now centered on a hybrid model that would initially be financed by an Advanced Recycling Fee, paid by the consumer, and later would be funded by an internalized cost system where manufacturers would pay for the recycling of their own products.

## Waste Reduction And Recycling

### Efforts to Reduce Mercury in the Environment

The health and environmental risks of mercury are a growing concern. Exposure to mercury can result in serious health

problems that affect the brain, kidney, liver and central nervous system. Through the Local Hazardous Waste Management Program (LHWMP), the Division is addressing mercury-related issues. One issue we have focused on is the ban on the sale of fever thermometers containing mercury. In March, the King County Board of Health unanimously approved such a ban. Other activities include:

- Coordinating the Northwest Product Stewardship Council's Mercury Sub-Committee. The Northwest Product Stewardship Council is a group of government agencies working with businesses and non-profit organizations to integrate product stewardship principles into the policy and economic structures of the Pacific Northwest;
- Working with industry to promote manufacturer take-back programs, such as the Thermostat Recycling Corporation (TRC) program that collects used thermostats; and
- Giving away more than 20,600 digital thermometers during LHWMP's Great Mercury Fever Thermometer Exchange in February 2003. Residents received a free digital thermometer when they dropped off a mercury fever thermometer at

46 participating pharmacies. The program collected more than 21,700 mercury fever thermometers, containing 24-28 pounds of mercury.

## Factoria Household Hazardous Waste Storage Locker

The Local Hazardous Waste Management
Program has been exploring different ways to provide
collection services to its customers. To that end, a
two year pilot project to collect household hazardous
waste at the Factoria Transfer Station began in
September 2002. The service is available Thursday
through Sunday. During the first four months of the
project, 78 tons were collected from 2,045 vehicles.
Residents can bring the same materials that are
accepted at the Wastemobile (pesticides, oil-based
paints, toxic cleaning products, fluorescent light
bulbs, automotive batteries, hobby chemicals,
thinners and solvents, automotive products, aerosols,
mercury-containing products, glues, adhesives,
propane tanks (5 gallon max), and latex paint).

This service has been very popular. It won a 2003 Achievement Award for Household Hazardous Waste Collection on a Limited Budget from the National Association of Counties.

### LinkUp

LinkUp helps to complete the recycling loop by helping manufacturers use more recycled materials in their products. LinkUp is a program that provides customized technical and marketing expertise at no cost to eligible manufacturers. The program expands the use and market for products made with recycled materials, which ultimately conserves natural resources and protects the environment.

In 2002, seven new businesses were welcomed into the program. These businesses manufacture products using scrap tires, recycled glass, urban

wood and plastic. Highlights of the program in 2002 include:

- Bedrock Industries, which manufactures stunning tiles from 100 percent recycled glass, was featured in some of the country's top home décor magazines, earning approximately \$40,000 in media-coverage value. This national exposure enabled the business to sign two East Coast distributors to carry its tile line.
- Nearly 100 government officials, contractors, purchasing agents and others attended a half-day workshop called "Building Roads with Recycled Materials" in March 2002. The workshop, sponsored by LinkUp and King County's Environmental Purchasing Program, was followed by a behind-the-scenes
- tour of Renton Concrete Recyclers, a LinkUp partner, which received several new sales accounts as a result of the exposure.
- Five of the area's largest architectural firms hosted brown-bag luncheons to introduce their staffs to the



## Waste Reduction And Recycling

environmentally friendly products manufactured by LinkUp partners. The "green products" presentations were enhanced with actual product samples and a leave-behind contact sheet.

 Urban Hardwoods, a business that harvests felled urban trees to make wood furniture and flooring, was featured in both the Seattle Post-Intelligencer and the Daily Journal of Commerce in November 2002. Because of these articles, the company was contacted by several local government agencies, including the Seattle Housing Authority which offered the owner more than 50 tons of trees cut down at the Rainier Vista public housing site.

## Sustainable development and the Executive's Green Building Initiative

Green or sustainable building takes into account the long-term impacts of a building or development on its occupants and the environment. It requires buildings and landscapes to incorporate energy efficiency, water conservation, waste minimization, pollution prevention, resource-efficient materials and indoor environmental quality.

### **Institutional and Commercial Building**

King County Executive Ron Sims signed the Green Building Initiative in November 2001. The Initiative calls for all King County construction projects to incorporate sustainable building in their planning, design and construction. The Initiative specifically names the Leadership in Energy and Environmental Design (LEED™) as the County's green building standard. The Solid Waste Division facilitates an inhouse "Green Team" that provides project teams with

expertise and advice on green building. Highlights of the 2002 achievements include:

- Launched the nation's first online LEED™
   Supplemental Tool <a href="http://dnr.metrokc.gov/swd/LEED/default.asp">http://dnr.metrokc.gov/swd/LEED/default.asp</a>.
- Created an online Green Building Reference Center http://dnr.metrokc.gov/wtd/library/green/index.htm.
- Conducted Eco-charettes (project-specific brainstorming sessions) to familiarize staff working on County building projects with LEED™ and green building techniques. Eco-charettes were held for the Harborview 401 Broadway project, the Central-Atlantic Base Expansion, Carnation Wastewater Treatment Plant, Brightwater, and 1<sup>st</sup> NE Transfer Station.
- Registered two projects with the US Green Building Council for LEED™ certification – the Regional Communications and Emergency Coordination Center in Renton and the King Street Center.

The Division partners with professional trade organizations including the Association of General Contractors (AGC), American Institute of Architects (AIA) and the US Green Building Council to promote green building to the private sector.

### **Residential Building**

On the residential side, the Division continued to partner with the Master Builder's Association, the Fannie Mae Foundation and Snohomish County to sponsor the Built Green™ Program. The Built Green™ program seeks to increase the market for green building by educating builders and homebuyers

about the benefits of building green. Since the program's inception in 2000, the number of Built Green™ units constructed in King County has increased from 36 to 1,491, representing over 11% of the new construction market. Characteristics of Built Green™ homes include:

- Energy saving features that can save as much as 50% off heating bills.
- Durable building materials that reduce maintenance costs.
- Healthier building options that can reduce the risk of asthma and other indoor problems.
- Building practices that improve water quality and contribute to the preservation of native salmon runs.
- Design elements that reduce waste and minimize the impact on our environment.

Built Green™ also won an award from the National Association of Home Builders (NAHB) for the Best New Program - New Green Building Program of the Year Award. The award was given based on the rapid expansion of the program, the comprehensiveness of its mission, and the excellent potential for future market penetration.



Several other Waste Reduction and Recycling programs received awards in the last year. Award winning programs not previously highlighted include:

2003 Achievement Awards from the National Association of Counties for the Contaminated Sites Management Program and the Rubber Stall Mat Program

Below and continued on the next page is a summary of programs and their outcomes:

Program Name	Intent of Program	Results					
Collection Programs							
TreeCycling	For two weekends, residents bring their Christmas trees to be recycled. The trees are turned into chips and mulch.	Over 57,100 trees were collected at the 12 drop-off sites located throughout the County.					
Curbside Recycling	Through an outreach campaign primarily focusing upon single and multifamily residents, the Solid Waste Division raises awareness of the fundamentals of recycling properly.	Single Family Households: 54,000 single family households received an educational brochure in the mail on the fundamentals of recycling.  Multi-family Households: An outreach program to multi-family complexes was able to increase the recycling participation rate in Rabanco territories of South King County. The initial participation rate was 47% and was increased to 73%. Approximately 60 tons of recyclables were diverted from the solid waste stream as a result of this program.					
Household Hazardous Wastemobile	The Wastemobile is a service of the LHWMP administered by the Solid Waste Division. The program enables residents to properly dispose of items such as pesticides, paints, cleaning products, and fluorescent light bulbs.	Collection: The Wastemobile served 42 events in 2002 and collected 879 tons of moderate risk waste from 19,191 cars.  Education: Education staff discussed waste reduction and safer alternatives with 16,500 (86%) of the visitors to the Wastemobile.					
Special Recycling Events	The Division and cities hold events to collect and recycle unwanted items including tires, wood, scrap metal, computers, televisions and refrigerators. As locations to hold events in unincorporated areas have decreased, cities have been serving unincorporated area residents at their events.	In 5 unincorporated area events, 529 tons were collected from 2,696 vehicles. In 50 city events, 2,545 tons were collected from 24,409 vehicles.					
Sustainable Building Programs							
Reusable Building Materials Exchange	The program provides an Internet-based exchange of used building materials for homeowners and contractors to post listings of used or surplus materials.	One of King County's most frequently visited Web sites, RBME receives approximately 3,000 visitors a month.					
Education and Outreach Program	Education and Outreach Programs						
Master Recycler/Composter (MRC)	The program trains volunteers on waste reduction, recycling and composting, in exchange for 40 hours of volunteer time in the community.	26 people completed the MRC training in 2002. MRCs donated more than 800 hours to the community.					

Program Name	Intent of Program	Results
Education and Outreach Program	ms (Continued)	
Northwest Natural Yard Days	Northwest Natural Yard Days promotes the benefits of natural yard care to King County residents by educating about practices such as mulch mowing, conserving water, using compost and organic slow-release fertilizer, and hand weeding. The Division and 32 other agencies partnered to provide discounts on natural yard care tools at retail stores throughout the month of April.	Residents purchased 65,188 bags of compost, 1,987 mowers, 2,072 soaker hoses, 2,447 weed pullers, 3,533 bags of organic fertilizer, 1,711 containers of insecticidal soap, and 624 water timers.
Assistance on School Projects	Schools get help designing and carrying out a resource conservation project.	5 schools received direct assistance and 2 additional schools received funding.
School Program	Young children learn the concepts of recycling and reducing waste through storytelling and drama.	The Preschool Program presented 240 storytelling sessions for 2,921 students.
	Resource conservation messages are taught through an assembly program, classroom workshops and formation of Green Teams.	The Elementary School Program presented assemblies to 54 schools for 22,633 students, 148 classroom workshops for 3,624 students and supported 43 registered Green Teams (1,099 students).
	Middle and high schools get classroom workshops based on the Department of Natural Resources and Parks' television show Natural Connections.	181 workshops were delivered to 23 schools, 6 YMCA's and 5,249 students.
Household Hazardous Waste (HHW) Teacher Training Program	Teachers learn to use the Hazards on the Homefront guide, and receive follow-up support through classroom presentations. Parents of young children also receive presentations about HHW.	<ul> <li>72 teachers were trained, reaching 6,500 kids with HHW messages.</li> <li>37 follow-up presentations were made to 1,100 kids.</li> <li>3 presentations were made to 29 parents of young children.</li> <li>73 staff from 15 King County school districts attended our Pesticide Right to Know Workshop, learning about developing an Integrated Pest Management approach to grounds and facilities management.</li> </ul>
Recycling Program Technical Assistance	Schools are provided assistance in setting up or improving recycling programs.	11 schools received assistance in identifying ways to improve recycling and waste reduction.
WasteBusters Program	Middle and high schools receive classroom workshops on recycling, waste reduction, and resource conservation.	270 workshops were delivered to 35 middle schools and 7,926 students. 33 workshops were delivered to 13 high schools and 778 students.
Small Farm Expo	Livestock and small farm owners are provided with tips and technical assistance about environmentally responsible farm management practices.	More than 1,000 people attended the event and the educational seminars.
Waste Free Holidays	The holiday program encourages people to give gifts of experience rather than "stuff" that creates unnecessary waste. Businesses participate by offering discounts on items such as tickets, lessons, meals and outdoor adventures.	The program's Web site received more than 11,975 visitors. Over 80 businesses participated.



## **Environmental Stewardship**

As part of the EAP effort, the Division is phasing in a number of changes to its vehicle fleet, from passenger cars to landfill bulldozers, to reduce or

eliminate discharges to air and reduce fuel use. Whenever possible, the Division has begun replacing full-size pickup trucks with smaller pickup trucks that consume less fuel. Since November 2002, the Division has been using only ultra low-sulfur fuel in all our diesel equipment and vehicles, from water pumps to bulldozers. Using ultra low-sulfur fuel reduces emissions by about 10%. In addition, the Division is retrofitting on-road diesel transfer trucks with emissions reduction devices.

To save on fuel and vehicle maintenance, the Division embarked on an anti-idling campaign for trucks and heavy equipment. The "myth of idling" is the general perception that it is better to let a truck engine idle than to turn the engine off and re-start it. An expert from NC Machinery, one of our suppliers, presented data to truck drivers and other Division staff to dispel this myth. For example, the U.S. Department of Energy estimates that idling a diesel truck during a half-hour lunch period uses about 264 gallons of fuel annually and contributes to engine wear. This and other facts about engine idling were communicated via our internal newsletter and employee training, encouraging drivers and heavy vehicle operators to turn off their engines when not in use. Through this effort, we estimate that vehicle idling has been reduced by about 50%. One of the

first objectives of the EAP team was to reduce water usage at Division facilities. Overall, water use was reduced by about 1.1 million gallons in 2002. The reductions were achieved primarily by changing simple water use practices – for example, instead of cleaning transfer tipping floors and roads using spray hoses, surfaces were swept or cleaned with street sweepers. Landscaping and irrigation practices were also modified. At all facilities, any new plantings are done with native vegetation that requires little or no additional irrigation.

The EAP team also measured reductions in electricity use. In 2002, the Division reduced electricity use at the transfer stations by 8.6%. The reductions were achieved partly by installing more energy-efficient lamps and photosensitive fixtures that turn on at dusk and off at dawn. The EAP team also encouraged all staff to look at their own habits and turn off lights when not needed. Lighting needs at all facilities were re-evaluated to balance safety with energy efficiency.

Another EAP goal was to reduce hazardous waste generation and minimize hazardous product use. In response, the shop replaced all four solvent-based parts washers with aqueous-based washers.

The Division has made significant commitments to reduce, reuse, and recycle at all of its facilities. The Division's two largest facilities, the King Street Center and the Cedar Hills Regional Landfill, recycle more than 50% of the waste they generate. Through the efforts of the County's WasteWise Program, the Division's King Street Center achieved a 62% recycling rate in 2002 by expanding recycling to

In 1999, the Division initiated the Environmental Awareness Program (EAP). The overarching goal was to establish an employee-driven program that would guide day-to-day operational decisions and actions that can affect the environment. Fifteen employees ioined the EAP team from the various sections of the Division. The diversity of the team brings many perspectives and specialized expertise to the task of developing a comprehensive Environmental Management System (EMS), which documents our environmental practices in all aspects of operation. The program is built upon the framework of the International Organization for Standardization, Environmental Management Systems Specifications, or ISO 14001. From the front lines to the management team, Division employees have been involved in developing and implementing the EMS. To date, the results have included reduced air emissions from Division vehicles; decreased water and energy usage system-wide; and increased recycling.

The EAP team established an Environmental Policy for the Division, set up objectives and targets affecting each section of the Division, organized our environmental legal and regulatory requirements into a tracking system, and has nearly completed a comprehensive on-line procedures manual.



## **Environmental Stewardship**

include film plastics, as well as cardboard, aluminum, paper, polystyrene peanuts, batteries, and other established products.

In the past year, the Cedar Hills Regional Landfill has implemented creative approaches to recycling, which increase the use of recycled materials. Based on an innovative idea from equipment operators at the landfill, the Division began recovering rock and cover material used on the landfill surface. Garbage is added to the landfill in layers. Rock is used to build a roadbed on the working face of the landfill for heavy equipment and trucks. In the past, the rock has been buried under the garbage as the garbage is added to the landfill. Now, instead of burying the rock, equipment operators scoop up the rock roadbed material, sift it from the dirt, and then reuse it as roadbed for the next layer. In the first month of the project, operators dug up 10,250 cubic yards of

material from the roadbed and screened out 4,250 cubic yards of reusable rock. The savings to the Division by not having to buy rock from a quarry was \$55,000. Not only does this recovery operation save money, but it will also save space in the landfill, since the rock will no longer be buried along with the garbage.

The Division has made a commitment to renewable energy sources. King County

is developing a new energy resource from the gas produced at the Cedar Hills Regional Landfill. All of the garbage generated in King County – except for Seattle's waste - ends up at Cedar Hills. That's almost a million tons of garbage per year. As the garbage decomposes, it produces about 11 million cubic feet of landfill gas per day. Landfill gas is made up of 50 to 60% methane, 40 to 50% carbon dioxide, and less than 1% hydrogen, oxygen, nitrogen and other trace gases. Right now, the gas at Cedar Hills is collected and consumed in a high-temperature flare. The County has entered into an agreement to sell the LFG to a private company that will use the gas to generate electricity. When built, the generation plant will be the fourth largest landfill gas-to-energy facility in the nation. This project is an example of the beneficial use of a waste product - turning methane gas into a green resource that produces energy.

### **Brownfields**

The Brownfields Program provides technical and financial assistance in environmental assessment and cleanup to businesses, nonprofit organizations, and municipalities. The program is entirely funded through grants from the federal Environmental Protection Agency. Since 1999, the Brownfields Program has conducted 49 assessments on 252 acres, resulting in more than \$9.4 million in private-sector investment in cleanup and redevelopment. In the last year, the County provided assistance on a number of

projects, including the following:

- City of Auburn Site The site is located in downtown Auburn adjacent to the new Sounder rail station/transit center. The site consists of a number of small parcels with multiple uses, including auto repairs and auto body painting. The City wants to promote the renovation of the block into housing and commercial space; however, suspected contamination has hindered acquisition and redevelopment by public or private interests. In 2002, the Brownfields Program conducted a Phase 1 Assessment on the site, including research on historical uses and current site conditions. A Phase 2 Assessment to sample soils and ground water will be conducted in the coming year with funds provided by the Brownfields Program. Once the site is thoroughly assessed, cleanup and redevelopment can occur.
- Rainier Court Development This eight-acre blighted block is being cleaned up and redeveloped by SouthEast Effective Development (SEED), a community development corporation in Rainier Valley. SEED is cleaning up the site and building a mixed-use housing and commercial development. The Brownfields Program has conducted Phase 1 and 2 Assessments on the site and is in the process of loaning SEED \$440,000 from its Brownfields Cleanup Revolving Loan Fund to clean up the site prior to construction. The project will result in up to 500 new housing units and up to 150 new, permanent jobs in this inner-city neighborhood.



## **Environmental Stewardship**

### **Illegal Dumping Task Force**

In the Final 2001 Comprehensive Solid Waste Management Plan, the Division made a commitment to reconvene the Illegal Dumping Task Force to improve coordination among County agencies, the cities, and other public agencies responsible for litter cleanup, education, and prevention.

The Task Force reconvened in March 2003. Participants include staff from the Department of Transportation, Public Health – Seattle & King County, the Department of Natural Resources and Parks, the Department of Development & Environmental Services, the Prosecuting Attorney's Office, and the Sheriff's Office.

The goal of the task force is to produce a set of recommendations for the Executive's Office on how county agencies can pool their resources to work together more effectively, provide better customer

service to county residents, and improve working conditions for inspectors. The recommendations are expected in early 2004.

### **Community Litter Cleanup Program**

The Division's Community Litter Cleanup Program cleans litter and illegal dumpsites on public lands and waterways in King County. In 2002, approximately \$31,000 in grant money from the Department of Ecology was spent with an additional investment from the Division of \$18,800. The Division money paid for staff salary and benefits, and disposal and recycling fees.

In 2002, crews cleaned up approximately 65 tons of debris from 49 sites. About 50 percent of the debris was recycled – items included tires, appliances, and junk vehicles.



The Junk Vehicle program is designed to help King County residents with the process of removing an abandoned "junk" vehicle from their property. Division staff inspect the vehicle to determine whether it meets the criteria in order for it to be considered "junk". At least three of the following conditions must be met:

- It is three years or older;
- It is extensively damaged:
- It is apparently inoperable; or
- The "fair market value" is equal only to the approximate value of the scrap in it.

Since June 2002, the Division has helped residents obtain title to 1,370 vehicles so they could be removed from their property. In addition, information was provided on how to remove vehicles that didn't fit the junk vehicle criteria (1,000 vehicles).



## **Facility Improvements**

The Solid Waste Division operates the County's transfer and disposal system. There are 8 transfer stations, 2 rural drop boxes, and 1 regional landfill. Spending on facility improvements this year has focused primarily on safety, maintenance, and preparation for eventual waste export.

The Division is looking at the closure of the Cedar Hills Regional Landfill when it reaches its permitted capacity in about 2012. At that time, the current proposed plan is to export waste from an intermodal facility by rail to an out-of-county landfill. The Division is currently evaluating possible sites for

an intermodal facility that will economize the transfer of garbage from hauling trucks to rail cars or possibly barges.

Area 5 at Cedar Hills landfill is the current active refuse area for the County's garbage. Preparations are in progress to place interim final cover over existing areas that have reached their permitted capacity. In 2002 and 2003, construction of Area 6, the next active refuse area at Cedar Hills, has been underway.

Site-specific improvements at the transfer stations include:

• Bow Lake Transfer Station: The Division is beginning a 5-year project to redevelop the Bow Lake site near the Sea-Tac Airport. The primary goals are to add areas for recycling, including yard waste, and prepare the site for the

installation of two waste compactors to economize waste export from the site.

- Factoria Transfer Station: Another on-going project is safety improvements at Factoria. A new modular scalehouse was needed to improve workplace conditions and to improve the efficiency of processing vehicles through the site.
- Renton Transfer Station: The Division just chose a contractor to replace the scalehouse and the roof of the transfer building, and modify the parking area at Renton. The roof of the station will be higher for the larger trucks and have better lighting, and there will be fewer roof columns for customers to navigate around. The parking lot modifications will ensure proper drainage of storm and sewer runoff from the site.
- First Northeast Transfer Station: In 2002 a
   citizen's advisory committee was formed to help
   develop the Facility Master Plan Update for
   improvements at this station. In addition, public
   meetings were held to discuss alternatives for the
   site design. The Final Draft Facility Master Plan
   Update and Environmental Checklist were
   completed in March 2003 and adopted by the
   Council in July.

In addition, stationary packers were replaced at the Bow Lake, Houghton, Factoria, Renton, First Northeast, and Algona transfer stations. These packers are designed to compact (or tamp down) loads of garbage packed in trailers that are trucked to the landfill. Replacement of these packers will result in less down time at the site for repairs, thus providing better, more consistent customer service.

# Planning For The Future

### **Waste Export**

King County Ordinance 12378 directs the Solid Waste Division "to monitor and analyze conditions impacting the appropriateness, feasibility, and timing of waste export on a continuous basis, and to regularly report to the Council on such conditions." The Final 2001 Comprehensive Solid Waste Management Plan states that the County will export waste outside of King County when the Cedar Hills Regional Landfill closes. It also directs the Division to begin preparing now for the eventual implementation of waste export so that the transition will be smooth and efficient.

Waste export is the long-haul transport of solid waste to an out-of-County landfill for disposal. An intermodal facility is the location where cargo, in this case solid waste, is transferred from one mode of transportation to another. Within the Northwest, the most common form of long-haul waste transport is from solid waste trucks to trains. Sealed containers of waste are lifted off the transfer trucks and placed on railcars. The containers are transported to a landfill and emptied, and then hauled back to the intermodal site.

In gathering information for the development of the Waste Export Implementation and Coordination Plan, the Division began to look at issues such as long-haul transport (by rail), intermodal capacity and system reliability. This information led to the development of the Business Case for a County-Owned Intermodal Facility: Promoting Competition in Solid Waste Disposal, which was submitted to the Executive in June 2003. The document presents a



business case for increasing competition for the future disposal of the County's solid waste. It proposes that the County own and operate an intermodal facility to export and dispose waste after the landfill reaches capacity and closes. A publicly owned facility would 1) ensure that waste transfer and disposal costs are kept low by promoting competitive choices among solid waste firms, 2) enhance system reliability, and 3) maintain consistency with other County policy directives for waste disposal, reduction, and recycling. It is also consistent with the County's mandated responsibility of being accountable for regional waste disposal services.

During the process of looking at potential sites where an intermodal facility could be located, the Division found a site that was ideally located in an industrial area with access to both rail and barge. In order to keep an option to purchase the property, the County negotiated an agreement for the Fisher Mill site on Harbor Island. Just recently, the Council voted to approve the purchase of the property. A comprehensive site study and environmental impact statement is still required, however, to determine if there are other suitable sites that could be used for an intermodal facility.

The Division's ownership of the Fisher Mill site does not guarantee that it will be developed into an intermodal facility. Rather, it preserves an option for the County while other intermodal options are also being considered. The Council has directed the Division to look at a number of different intermodal options in preparation for exporting our waste after Cedar Hills closes.

Some of the options we will be examining for securing intermodal capacity include:

- contracting with a locally owned firm that is not connected to any of the private haulers.
- contracting for existing intermodal capacity owned by the railroads.
- developing a public/private partnership to provide capacity.
- providing intermodal capacity through a publicly owned and operated facility.

Ultimately, the goal is to provide the lowest possible waste export costs for our ratepayers while also ensuring that our daily waste export needs are met.

The business case and purchase of the Fisher Mill property are the initial pieces of the Division's planning effort for implementing waste export. Information

gathered for these efforts will be used as the Division prepares the Waste Export Implementation and Coordination Plan.

# **Solid Waste Projections**

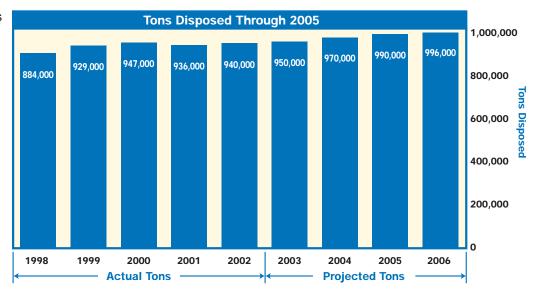
Forecasts of the volumes of solid waste generated each year are a critical tool for Division planning.

## Planning For The Future

They are necessary for long-range planning of transfer and disposal systems, preparing annual budgets, setting disposal rates, and measuring the effectiveness of waste reduction and recycling programs.

The Division uses an econometric model to forecast future waste tonnage. The model relates historical data on recycling and disposal with data on demographics, such as population, per capita income, employment, and other variables.

In 2002, 939,000 tons of solid waste was disposed in the Cedar Hills Regional Landfill, which is nearly 3,000 tons more than in 2001 (0.3% increase). There was a 1.13% increase in population (14,000 people) during the same period. Because of the continuing economic downturn, people tended to spend less and therefore generated less garbage. The forecast for the region is for a modest increase in population and garbage generation over the coming years.



## **Appendix**

The following appendix tables provide 2002 Solid Waste reference data.

## Table A-1. 2002 Estimated Population and 2000 Housing Data<sup>(1)</sup>

Jurisdiction	Population	Single Family Units	Multi- Family Units	Mobile Home
Unincorporated	351,675	106,420	20,328	9,258
Incorporated	851,825	192,545	140,644	10,876
Total	1,203,500	298,965	160,972	20,134

<sup>(1)</sup> Sources: 2002 King County Annual Growth Report, 2000 U.S. Census, WA State Office of Financial Management

## Table A-2. Estimated Single-Family (1-4 units) Curbside Collection–Service Subscribers

Area	Curbside Garbage and Recycling <sup>(2)</sup>	Curbside Yard Waste
Unincorporated	87,989	39,989
Incorporated	182,907	109,761
Total	270,896	149,750

(2) All garbage customers have also been counted as recycling customers

## Table A-3. Estimated Single-Family (1-4 units) Curbside Collection–Average Pounds/Month

Area	Pounds Per Household Per Month Garbage Recycling Yard Waste					
Unincorporated	135	65	115			
Incorporated	130	54	110			
Average	133	60	113			

Table A-4. 2	002 Esti	mated C	urbside	Resider	ntial and	d Non-R	esident	ial Recy	cling To	nnage <sup>(1)</sup>
Туре	Mixed Paper	News Print	Card- board	Glass	Tin & Steel	Alum.	Plastic	Polycoate Paper	d Yard Waste	Total
Residential										
Unincorp.	18,435	6,972	2,020	6,163	955	444	821	20	27,711	63,541
Incorp.	28,639	17,473	3,448	7,965	5,150	689	1,798	8	72,442	137,612
Subtotal	47,074	24,445	5,468	14,128	6,105	1,133	2,619	28	100,153	201,153
Non-Reside	ntial (2)									
Unincorp.	3,267	320	632	284	145	21	671	2	570	5,912
Incorp.	16,685	1,572	18,962	1,550	516	217	305	313	8,167	48,287
Subtotal	19,952	1,892	19,594	1,834	661	238	976	315	8,737	54,199
<b>Grand Total</b>	67,026	26,337	25,062	15,962	6,766	1,371	3,595	343	108,890	255,352

<sup>(1)</sup> Some of the recycling data has been estimated because all data for 2002 has not been reported yet. (2) Non-residential data includes data submitted to the County by the commercial haulers. It does not include recycling numbers from independent haulers and, therefore, may be under-reported.

Table A-5. 2002 Transfer Station and Dropbox Refuse Tonnage Disposed							
Facility	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total		
Factoria	25,312	22,886	25,704	22,312	96,214		
Houghton	38,132	40,885	42,384	39,529	160,931		
Renton	15,063	14,199	14,649	13,025	56,935		
Algona	31,971	35,911	28,984	16,005	112,871		
Bow Lake	29,087	33,926 4	4,818	46,067	153,898		
First Northeast	12,933	16,057	16,285	13,243	58,518		
Enumclaw	5,147	6,331	9,096	11,090	31,664		
Vashon	2,046	2,278	2,425	1,948	8,697		
Cedar Falls Dropbox	841	1,205	1,264	927	4,237		
Skykomish(1)	122	149	181	165	617		
Total	160,532	173,677	185,609	164,147	683,965		
• ( )	160,532	173,677	185,609	164,147			

<sup>(1)</sup> Skykomish dropbox refuse is delivered to the Houghton transfer station and is included in figures for Houghton

Table A-6. 2002 Total Tonnage Disposed							
System Origin	1st Qtr.	2nd Qtr.	3rd Qtr	4th Qtr.	Total		
Transfer System	160,531	173,677	185,610	164,147	683,965		
Cedar Hills Regional Direct	53,806	62,917	61,552	60,015	238,290		
Cedar Hills Other Waste	4,180	4,123	4,222	4,708	17,233		
Total Cedar Hills Disposal	218,517	240,717	251,384	228,870	939,488		
Yard Waste Recycled	150	466	411	216	1,243		

Table A-7. 2002 Transfer Station Disposal by Customer Type						
Transfer Station — SELF HAUL CUSTOMERS — — COLLECTION COMPANIE  Tons Disposed % of Total Tons Disposed % of Total						
Factoria	30,321	31%	66,214	69%		
Houghton	33,482	21%	127,270	79%		
Renton	16,047	28%	40,573	72%		
Algona	24,522	22%	88,304	78%		
Bow Lake	36,279	24%	116,245	76%		
First NE	33,751	57%	25,717	43%		
Enumclaw	13,409	42%	18,453	58%		
Vashon	5,755	68%	2,684	32%		
Cedar Falls Drop Box	4,434	100%	0	0%		
Skykomish	350	69%	154	31%		
Total	198,350	29%	485,615	71%		

Table A-8. 2002 Transfer Station Transactions by Customer Type							
	<ul><li>SELF HAUL C Transactions</li></ul>	USTOMERS — % of Total	— COLLECTION CO Transactions	OMPANIES — % of Total			
Factoria	105,635	90%	11,387	10%			
Houghton	114,949	83%	23,771	17%			
Renton	69,239	91%	6,667	9%			
Algona	100,662	87%	15,588	13%			
Bow Lake	125,012	83%	25,120	17%			
First Northeast	119,410	96%	4,708	4%			
Enumclaw	55,550	95%	3,015	5%			
Vashon	23,775	98%	530	2%			
Cedar Falls Drop Box	21,366	100%	0	0%			
Skykomish	2,092		369				
Total	735,598	89%	90,786	11%			

## **Appendix**

Table A-9.	2002 Trans	fer Station	and Drop-box	Recycling	Tonnage
Site	Mixed Paper	Newspaper	Cardboard	T-A-P-G <sup>(2)</sup>	Total
Facility	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total
Factoria	25,312	22,886	25,704	22,312	96,214
Houghton	38,132	40,885	42,384	39,529	160,931
Renton	15,063	14,199	14,649	13,025	56,935
Algona	31,971	35,911	28,984	16,005	112,871
Bow Lake	29,087	33,926	44,818	46,067	153,898
First Northeas	t 12,933	16,057	16,285	13,243	58,518
Enumclaw	5,147	6,331	9,096	11,090	31,664
Vashon	2,046	2,278	2,425	1,948	8,697
Cedar Falls Dr	opbox 841	1,205	1,264	927	4,237
Skykomish <sup>(1)</sup>	122	149	181	165	617
Total	160,532	173,677	185,609	164,147	683,965

<sup>(1)</sup> Skykomish dropbox refuse is delivered to the Houghton transfer station and is included in figures for Houghton (2) T-A-P-G = Tin, Aluminum, Plastic, Glass

Table A-11. 2002 Program Inquiries by Type									
Phone Inquiries	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total				
Composting/Recycling	1,254	1,463	1,692	1,302	5,711				
City of Seattle referrals	509	525	557	427	2,018				
Special Collection Events	42	429	265	127	863				
Complaints	14	2	18	8	42				
Hauler Complaints	44	21	44	8	117				
Customer Service*	2,754	3,625	4,172	3,653	14,204				
TreeCycling	279	0	0	241	520				
NW Natural Yard Days Events	27	87	172	0	286				
Compost Bin Event	0	16	2	0	18				
Computer Recovery Project	101	96	122	250	569				
Junk Vehicles	29	42	98	51	220				
Total	5,053	6,306	7,142	6,067	24,568				
Home Page Inquiries (e-mail)	231	266	233	225	955				

<sup>\*</sup>Customer Service includes inquiries such as: directions to transfer stations, rates, hours, acceptance of materials, how to get collection service, what hauler serves a particular area, etc

Table /	A-10. Total Ref	use Tonnag	e Disposed,	1980-2002	
Year	Rural Landfills	Transfer Stations	Cedar Hills Reg. Direct	Cedar Hills Other Waste	Total Disposed
1980	54,827	460,577	218,560	35,756	769,720
1981	44,280	509,680	244,417	50,755	849,132
1982	33,890	519,931	213,715	24,943	792,479
1983	32,318	498,643	206,691	9,566	747,218
1984	33,649	527,522	256,459	10,512	828,142
1985	36,862	568,342	268,795	13,592	887,591
1986	39,053	624,247	272,485	22,345	958,130
1987	36,979	681,472	595,058	28,165	1,341,674
1988	38,655	667,651	556,247	39,954	1,302,507
1989	41,614	712,156	476,602	55,462	1,285,834
1990	44,290	848,439	483,950	58,105	1,432,869
1991	28,553	814,919	258,319	53,014	1,181,969
1992	23,656	770,448	119,340	21,317	933,489
1993	21,020	716,437	144,973	24,740	901,217
1994	10,288	633,408	150,400	22,422	814,384
1995	7,388	642,498	146,024	26,610	822,520
1996	7,766	594,736	190,790	23,740	817,602
1997	8,110	607,256	229,007	24,448	872,384
1998	8,228	626,874	226,617	22,005	883,724
1999	3,949	692,921	214,422	18,015	929,307
2000	0	711,565	216,169	19,440	947,174
2001	0	696,664	222,664	16,982	936,506
2002	0	683,965	238,290	17,233	939,488

## **Appendix**

### Chart A-1 Education Expenditure Revenue Waste Reduction Disposal fees......\$4,607,403 Haz. waste sur-charge....\$3,310,600 Technical and financial \$8,178,593 & Recycling and assistance 21 FTEs Uninc. household fees.....\$260,590 Mod. Risk Waste Collection services Solid Waste Division Actual Revenues and Expenditure Revenue Operate and maintain active Expenditures. Update for Disposal fees.....\$17,244,339 Landfill & closed landfills \$18,419,601 Interest.....\$1,175,262 year ending 12/31/2002 **Operations** Landfill and equip. 43 FTEs replacement transfer Expenditure Revenue Operate transfer facilities Disposal fees.....\$8.311.429 **Transfer Station** Collect fees \$8,402,090 Rent.....\$90,661 **Operations** Monitor waste 90 FTEs Equip. replacement transfer Manager/ Administration Expenditure Revenue Transport garbage to landfill Disposal fees.....\$5,610,569 **Transportation** \$5,610,569 Haul leachate & maintenance material **Operations** 64 FTEs Equip. replacement transfer Expenditure Revenue Maintain facilities and Disposal fees......\$7,369,395 Maintenance equipment \$7,398,396 Ecology Grants.....\$29.001 **Operations** Procure and control 60 FTFs inventory Expenditure Revenue Maintenance planning for Disposal fees.....\$1,427,802 **Operations** operations functions \$1.427.802 Administration 11 FTEs Expenditure Revenue Plan & execute capital Disposal fees.....\$7,639,848 Capital projects \$8.442.509 CDL fees<sup>(2)</sup>.....\$704,228 Environmental monitoring Facilities (1) 39 FTEs DOLE Grants.....\$98,433 Operations support Summary of 2002 Actual Activity Expenditure Revenue Disposal fees..... ..\$6.738.741 2002 Total Revenues......\$79.741.564 \$6,738,741 Debt Fund Balance Added......\$ 2.501.538 Service 0 FTEs 2002 Total Operating Expenditures ......\$77,240,026 Expenditure Revenue Develop comprehensive 2002 Total Employees......389 FTEs Disposal fees.....\$1,236,129 Planning & plans, analyze programs \$1,429,222 Grants.....\$193,093 Public involvement **Communications** 13 FTEs (1) Operating portion only of capital facilities budget; does not include debtfinanced design/construction costs. Expenditure Revenue (2) Supports Construction, Demolition and Manage fiscal functions Disposal fees.....\$9.643.965 Landclearing Program costs in Administer customer service \$11,192,503 Administration Interest.....\$717,472 Engineering Section. Personnel functions 48 FTEs & Fiscal Services Parks Reimbursement..... ..\$367.148 Payroll

## Acknowledgements

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Ron Sims

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Kathy Lambert Larry Phillips
Dwight Pelz Rob McKenna
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