

# CHAPTER 11

## SOLID WASTE MANAGEMENT SYSTEM

There are three separate solid waste management systems in Pierce County – the County/Cities and Towns System; the Tacoma/Ruston System; and the Fort Lewis/McChord Air Force Base System. Each has its own collection, disposal, and funding mechanisms. Chapters 4 through 10 examine the solid waste management systems by their key facilities, programs, and management functions. This chapter provides an overview of the systems as a whole, with an emphasis on how the recommendations of the Pierce County Solid Waste Advisory Committee (SWAC) provide a systematic means to meet changing needs over time. This chapter also provides a schedule of activities and associated initial and ongoing capital and administrative costs necessary to implement the SWAC’s recommendations.

### 11.1 Pierce County/Cities and Towns Management System

**System description:** The Pierce County system serves all of Pierce County except for Tacoma, Ruston, Fort Lewis and McChord Air Force Base. All the waste from this system is disposed according to the County’s disposal contract. Many of the changes which have occurred in the system were the direct result of implementing the

goals and recommendations contained in the 1989 Plan and the waste reduction and recycling amendments of 1992. These changes are fully described in the preceding chapters.

The principal focus of the 1989/1992 Plan and related accomplishments are summarized in the following:

**1989/92 Plan --- Waste Reduction and Recycling:** Establish policies and programs to promote waste reduction and recycling and meet the WRR goal of 50 %.

**Accomplishments:** A countywide 50% recycling rate was achieved in 1995. The public and private sectors improved special collection of recyclables; developed curbside recycling programs throughout the unincorporated county and in all cities and towns; created the curbside and drop-off yardwaste collection program; and developed strong and effective countywide public outreach and school education programs. Pierce County adopted procurement policies and employee recycling programs; and instituted a data collection program to measure the effects of the recycling strategies.

**1989/92 Plan --- Collection:** Through cooperative public/private efforts, ensure all residents have access to refuse collection service, and ensure compatibility of collection service with other elements of the solid waste system.

**Accomplishments:** Integrated single-family and multi-family recycling and collection programs; refuse and recycling collection service available across the county; many new alternatives for drop-off of recyclables exist.

**1989/92 Plan --- Processing:** Investigate solid waste processing technologies and develop programs/facilities which are consistent with statewide priorities, environmental and public health protection, and are cost-effective.

**Accomplishments:** Pierce County completed evaluation of numerous waste processing technologies including waste-to-energy and composting; solicited cost proposals for promising alternatives; and compared impacts of costs. The County decided to achieve material recovery/waste diversion through source separation recycling collection programs with reliance upon private processing and marketing of recyclables, and development of a County-owned yardwaste composting facility. Tacoma completed expansion of Steam Plant No. 2 and RDF facility and built a new drop-off recycling center. The private sector developed substantial processing and marketing capacity for many types of recyclables, particularly CDL and compostable organics.

**1989/92 Plan --- Transfer Capacity:** Provide convenient waste transfer locations with opportunities for recycling; utilize transfer facilities, long-haul, or waste export wherever and however appropriate to provide cost and operational efficiency to the waste disposal system.

**Accomplishments:** The County built the Purdy Transfer Station and modified existing transfer stations to meet recycling system needs. The private sector built a new transfer station at Hidden Valley and a intermodal facility for rail export out-of-county. Tacoma built a transfer station and a household hazardous waste collection facility which is available to all county residents.

**1989/92 Plan --- Landfilling:** Ensure sufficient disposal capacity for 20 years. Develop a strategy that promotes efficient use of landfill capacity; upgrade existing landfills; and construct new landfills in compliance with all regulations.

**Accomplishments:** The Purdy, McNeil Island, and Hidden Valley landfills were closed. Pierce County renegotiated the disposal contract with Land Recovery Inc., providing for continued disposal service and long-haul for County waste to 2011; and completed Phases I and II of a landfill siting study. The private sector completed siting and permitting of a private landfill and began construction. Tacoma began closure of a portion of the Tacoma Landfill.

**1989/92 Plan --- Special Wastes:** Provide guidelines and strategies for special waste handling that ensure proper disposal follows the State best management strategies as well as the state priorities.

**Accomplishments:** Private sector programs and facilities developed substantial capacity to meet special waste handling and disposal needs for CDL, woodwaste, petroleum contaminated soils, and other special wastes. The Tacoma-Pierce County Health Department (TPCHD), with coordination and funding provided by the Washington Department of Ecology, cleaned-up and closed the largest illegal tire piles. The Health Department adopted stringent infectious waste handling regulations.

**Interlocal agreements:** The County/Cities and Towns Management System is governed by policy recommendations contained within the Plan and Interlocal Agreements executed by Pierce County and each of 19 cities and towns.

In the late 1980's and early 1990s, the County and the cities and towns recognized that a long-term outlook was necessary in order to develop and finance waste reduction and recycling programs and to achieve the economies of scale which would result in a cost-effective waste disposal system. Because the Solid Waste Plan is updated every five years, the parties sought a longer-term solution and agreed to enter into 20-year Interlocal Agreements.

The Interlocal Agreement is the means through which the County, cities, and towns jointly agreed to:

- implement the Plan;
- work cooperatively to carry out the waste reduction and recycling policy recommendations contained within the Plan;
- commit to a twenty-year system for the management and disposal of solid waste in Pierce County; and
- meet or surpass applicable environmental standards with regard to the solid waste management system facilities by the cooperative management of an integrated solid waste system that will serve both the County and the cities and towns.

Specifically, the County agreed to:

- prepare the solid waste management plan, the cost of which is financed by a portion of the disposal fees paid by waste collected from city residents and businesses;
- provide county-wide solid waste management services, including the designation of disposal sites; and
- take responsibility for managing transfer, processing, and disposal facilities, including the closure and post-closure responsibilities for landfills which handled

waste for the cities and towns and the unincorporated areas.

For their part, the cities and towns agreed to:

- adopt the County disposal system and authorize the County to designate sites for the disposal of all solid waste collected within the corporate limits of the cities or towns; and
- not divert solid waste collected with the cities or towns from the designated disposal sites, or from other elements of the County solid waste system, without prior County approval.

The current Interlocal Agreements took effect on June 21, 1993 and will be revised upon adoption of this Plan Update.

***Special wastes:*** The 1989 Plan included recommendations related to the proper handling and disposal of sewage sludge (biosolids), septage, inert and demolition waste, woodwaste, tires, dredging waste, and incinerator ash. This Plan Update addresses these and other special waste handling and disposal needs in the County, recognizing both the technological changes, State Best Management Practices (BMP's), and the adoption of new regulatory standards for incinerator ash.

Biosolids, dredge spoils, vector waste, and agricultural practices, while discussed in this Plan Update, do not fall solely within the authority of solid waste management planning. Per State regulations, surface water management, sewer, or other public works agencies, serve as the primary regulators of these wastes. However, because state regulations currently identify most of these as "wastes" and because some processing facilities for these wastes may require solid waste permits, Chapter 9 discusses the handling methods and types of

facilities to provide guidance for coordinated planning between municipal jurisdictions, the Tacoma-Pierce County Health Department, and the Washington Department of Ecology when these facilities are proposed in Pierce County.

The conditions with respect to special waste handling and disposal in Pierce County have changed substantially in the past decade and many of the recommendations in the 1989 plan are no longer relevant to the current situation. Most of the earlier recommendations focused on the need to provide additional municipally-owned disposal facilities for these wastes.

One of the most significant developments that has occurred with the handling of woodwaste, petroleum contaminated soils, waste oil, and construction, demolition, and landclearing debris (CDL) is the participation of the private sector in developing programs and facilities to provide special waste handling and disposal services. Substantial private sector capacity for recycling these materials now exists within Pierce County.

Tires remain a problem; although many illegal piles were cleaned-up and removed in the prior decade, state funding for clean-up has now ended. New piles are now starting.

Responding to the 1989 Plan discussion about the need for improved medical waste handling, the Tacoma-Pierce County Health Department adopted stringent infectious waste handling regulations. An updated description is also in Chapter 9.

***System update:*** As a result of the current planning process, new recommendations were developed to refine existing programs or redirect current efforts and services. In total, these new recommendations build upon the existing system and carry forward many of the goals, policies, and priorities of the 1989/92 system. The new recommendations can be summarized in the following categories: overall policy, waste reduction and recycling, collection, solid waste processing technologies, transfer systems, and landfilling. In addition, they focus on new administration and enforcement issues, taking into account financing limitations and the effects of the U.S. Supreme Court's and other courts' decisions impacting the legality of "flow control." These recommendations are summarized below.

#### *Overall policy approach*

- No major changes of direction for collection, transfer, or disposal.
- Continue to fund and develop public outreach and education.
- Continue inter-jurisdictional coordination system.
- Rely upon the private sector to provide recycling, composting, and other processing capacity.
- Ensure long-term disposal capacity and continue to evaluate out-of-county and in-county landfill disposal alternatives.
- Develop effective enforcement and public outreach programs to reduce litter/illegal dumping.
- Recognize that Tacoma will continue to use WTE facilities as part of its system.

#### *Waste reduction and recycling*

- Continue and expand existing public outreach and educational programs; provide adequate funding.
  - Explore opportunities to add recyclables to curbside collection programs.
  - Review and revise residential collection programs using strategies that keep participation rates high.
  - Develop new outreach programs for businesses and self-haulers.
  - Expand drop-off opportunities.
  - Provide source-separation of plastics, batteries, CDL, and woodwaste at transfer stations.
  - Encourage job-site source-separation of recyclable CDL.
  - Encourage expansion of private sector processing capacity.
  - Ensure up-to-date standards are adopted for composting facilities which incorporate design and siting requirements coordinated with State regulations, and which ensure public health and environmental issues are addressed.
  - Work to attract businesses which use recyclables to make products and promote the existing collection and recycling infrastructure.
  - Develop a county-wide program to increase diversion and recycling of foodwaste and compostable organics.
  - Ensure that all residents have access to refuse and recycling collection services which are compatible with other elements of the solid waste system.
  - Transfer stations should be operated/ sited to meet self-haul needs.
  - Continue, and revise as necessary, the Minimum Service Levels for single-family, multi-family, and yardwaste curbside recycling.
  - Continue to support haulers' rate requests to the WUTC to implement recycling programs consistent with the Plan.
  - Recognize Tacoma's role in collection within city limits.
- Solid waste processing technologies*
- Rely on private sector recycling processing or composting facilities for paper, yardwaste, CDL, foodwaste, plastics, and other recyclables.
  - Support the expansion of existing and the development of new private sector processing facilities.
  - Encourage the private sector to reserve processing capacity for Pierce County needs.
  - Pierce County should maintain its understanding of existing and new technologies and all available alternatives to in-county landfills. Pursue alternatives that enhance the existing waste reduction and recycling programs and that are protective of human health and the environment.
  - Work to achieve regulatory consistency and standards.
  - Continue to support Tacoma's Steam Plant and Resource Recovery Facility.

*Solid waste collection:*

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### *Transfer facilities and systems*

- Continue refuse transfer and recycling collection services to rural residents.
- Investigate patterns of usage to determine future needs for transfer station capacity and review ownership options for new transfer stations.
- Ensure there is sufficient intermodal capacity to ship waste out-of-county.
- Encourage the private sector to reserve transfer capacity for Pierce County waste.
- Tacoma should continue to evaluate transfer needs.

### *Landfilling*

- If there is lack of in-county landfill capacity or if out-of-county disposal options are cost-effective, the County may contract for out-of-county disposal.
- County government should maintain Phase 1 of the Landfill Siting Study in conjunction with updates to the Plan.
- Efforts to site, develop, and operate new regional landfills, or expand existing landfills, or decisions to long-haul waste, must include assessments of: the effect on public health and safety; protection of the environment; forecasted needs; competition for disposal services; emergency needs; and the costs of alternatives.
- The expansions of MSW landfills located in unincorporated Pierce County shall undergo a permitting process with adequate public notice and opportunity for public comment.
- The Council shall require, to the extent allowed by law, that private MSW disposal companies located within unincorporated Pierce County reserve in-

county private MSW disposal capacity for waste generated within the solid waste management systems in Pierce County and the County should negotiate to reserve 20 years of disposal capacity in the private MSW in-county facility.

- No municipal solid waste landfills located within unincorporated Pierce County shall accept waste from outside Pierce County waste management systems without addressing the impacts of that action in the facility's conditional use and solid waste permits. The reviews of these permits shall be conducted as a public process, follow the applicable laws and regulations governing the conditional use permit and the solid waste handling permit, and the results of the review shall be reported at a Pierce County Council meeting.
- Nothing in the Plan specifically authorizes or specifically prohibits the importation of solid waste from outside the County solid waste management systems to MSW landfills in the County.
- Before approving the acceptance of MSW from outside the Pierce County solid waste management systems or before approving a substantial change in the design or operation of a municipal solid waste landfill within unincorporated Pierce County, the TPCHD shall give the public notice of the issue and provide the public an opportunity to be heard.
- Continue to make improvements at the City of Tacoma Landfill.
- To reduce the amount of waste going to the Tacoma Landfill, the City may implement long-haul disposal or use the 304<sup>th</sup> Street Landfill.

*Special waste streams:*

- Increase diversion of CDL. Support alternatives to encourage source-separation from commercial waste stream.
- Other County agencies and the Washington State Department of Transportation (DOT) should consider the need for siting a vector waste facility. Agencies need to resolve methods required to handle vector and street cleaning wastes.
- Find a funding means to clean-up tire piles and develop educational programs about proper disposal. Lobby Legislature for re-instatement of funding.
- Support / encourage composting of agricultural wastes and biosolids.
- Tacoma-Pierce County Health Department should evaluate the need to regulate medical waste from veterinarian sources and animal waste, other than manures, from other sources.

*Enforcement and administration*

- Continue existing coordinated systems.
- Maintain eligibility for existing funding mechanisms and seek new funding sources.
- Provide regular reports to County Council on disposal decisions by other jurisdictions, new approaches to waste management, and the current status of long-haul alternatives.
- Continue reliance upon interlocal agreements to provide “economies of scale.”
- Tacoma-Pierce County Health Department should increase public notice and involvement in the solid waste permit application review process.

- When an applicant applies for a Solid Waste Permit, the Tacoma-Pierce County Health Department shall notify the property owners of their responsibilities for cleaning up any waste left on the property.
- Agencies should identify illegal dumping problems; remove legal barriers; and develop coordinated prevention and enforcement programs.
- Support volunteer litter control programs.
- Local and State enforcement agencies should work together to develop effective code enforcement capabilities to address the handling and management of junk or abandoned vehicles.
- Pierce County and its cities and towns should develop adequate funding for illegal dumping enforcement programs and establish an illegal dumping abatement revolving fund.
- The County should identify and support initiatives or actions which legislative bodies could undertake which would assist the County and cities to achieve the goals of the Plan, including the authority to control the flow of waste.
- Pierce County should study and may form a Disposal or Collection District to help the County address illegal dumping issues.

## 11.2 Tacoma / Ruston Waste Management System

**System description:** Tacoma operates its own collection, processing, transfer, and disposal system through the Solid Waste Utility Division. Tacoma funds the activities of the Solid Waste Utility through user fees. The Town of Ruston operates and funds its own collection utility and has an interlocal agreement with Tacoma for waste disposal. Tacoma has chosen to be a joint participant in the Plan.

The collection programs currently provided by Tacoma include automated collection of MSW and curbside collection of yardwaste and recyclables. Tacoma also collects commercial and industrial waste with service for fork boxes and roll-off boxes, and recyclable material from small commercial businesses. Through the Solid Waste Utility, Tacoma provides disposal / transfer facilities for Tacoma's collection vehicles, commercial self-haulers, and residential self-haul customers.

Tacoma operates a waste processing facility to process MSW into fuel, an electricity generating steam plant to use the fuel, and MSW landfill. Tacoma provides opportunities for recycling at its main recycling center at the Tacoma Landfill and at various locations throughout the City, depending on the material.

Some of the most significant actions taken by the City of Tacoma and Ruston since the adoption of the 1989/1992 Plan include:

- Completion of the Tacoma Steam Plant No. 2 modifications and operation of that facility as an electricity generating plant since 1991.
- Started production of RDF for use at the Steam Plant No. 2 and the diversion of

MSW to outside landfills to maintain capacity of Tacoma's landfill.

- Implementation of an award-winning curbside collection program for residential recyclables and yardwaste.
- Development and operation of the Recycling Center located at the Tacoma Landfill.
- Development and operation of the Household Hazardous Waste facility at the Tacoma Landfill and implementation of an interlocal agreement with Pierce County to best utilize this resource.
- Implementation of new collection services to improve efficiency, provide the customer with more recycling and garbage collection options, and increase recycling rates and participation.
- Closure of the unlined areas of the Tacoma Landfill and implementation of programs and systems to address environmental issues.
- Ruston has also implemented a curbside recycling system.

**System update:** As a result of the current planning process, new or revised recommendations were developed to refine existing programs or redirect current efforts and services. In total, these new recommendations build upon the existing system and carry forward many of the goals, policies, and priorities of Tacoma and the Plan's current system.

Overall, many of the goals, policies, and recommendations that apply to the Pierce County system, also apply to the City of Tacoma as described in the Plan. In addition to those recommendations, the following recommendations are specific to the City of Tacoma.

### *Waste reduction and recycling*

- Continue and expand the Tacoma waste reduction and recycling recommendations as indicated in Chapter 4, which relate to land use, building and site design, school education programs, public outreach programs, waste reduction, curbside collection, and yardwaste collection.

### *Solid waste collection*

- The City will continue to provide solid waste collection and disposal services within the corporate city limits, and shall determine service level rates through the Tacoma City Council process.

### *Solid waste processing*

- Continue to evaluate the need for organic waste processing or composting facilities. Proceed with the development of such facilities should the evaluation identify that a facility is needed.
- Continue to operate Steam Plan No. 2 under its current permits. If the evaluation currently under way identifies possible improvements in fuel uses (or types of fuels used), permits or operations, pursue necessary permitting changes to implement those improvements.
- Continue to operate the existing Resource Recovery Facility and improve or expand the facility as needed to supply Steam Plant No. 2 with sufficient fuel.
- If Steam Plant No. 2 is permanently closed, Tacoma may investigate using the Resource Recovery Facility to extract other usable recyclable materials.

### *Transfer facilities and systems*

- Evaluate the need for additional or expanded transfer facilities and export options for solid waste. Implement as necessary.

### *Landfilling*

- Continue improvements to the Tacoma Landfill and evaluate available options to obtain additional capacity.

### **11.3 Fort Lewis / McChord Air Force Base Management System**

Fort Lewis and McChord Air Force Base jointly use the Fort Lewis disposal system with separate but coordinated collection systems for solid waste. Management and planning for the two military bases is independent of the County through the *Solid Waste Management Plan for the Fort Lewis Military Reservation*. That plan is currently being updated and Fort Lewis is looking at new ways to reduce or recycle the waste it is generating to meet Federal directives.

Discussion about the military system is included within this Plan so that it may act as an “umbrella document” for the military to coordinate with the local communities on public outreach and education, recycling objectives, and with the Tacoma-Pierce County Health Department on the siting of solid waste facilities.

Since 1989, a number of significant changes have occurred in the Fort Lewis / McChord AFB system:

- Expansion of the Fort Lewis Landfill and closure of the old fill areas.
- Construction of a solid waste transfer station at the Fort Lewis Landfill.
- Implementation of long-haul and disposal of Fort Lewis and McChord wastes to a remote landfill site.
- Implementation of curbside pickup and the development of a recycling center and other extensive waste reduction and recycling programs on McChord AFB.

The current long range approach is to rely entirely on long haul for waste not otherwise diverted from disposal or recycling.

## 11.4 Implementation Schedule

Implementation of the SWAC's recommendations will require completion of a wide range of activities, some of which are short-term, needing to be addressed prior to the next five-year update; others long-term, to be dealt with over the next 20 years; and some continuous from year-to-year. These activities are identified in Table 11.1.

The Table is presented in four parts in a two-page spread format which means the reader should follow the rows across two pages. The table lists projects or activities down the left column. Estimated costs for years 2000 through 2005 are listed across the top, along with funding sources, and if anything is planned to occur during the years 2006 – 2020.

The first four pages are about the responsibilities of the Pierce County Solid Waste Division to implement the proposed recommendations. These are labeled as **11.1-A and 11.1-B.**

The next two pages are about the responsibilities assigned to the Tacoma-Pierce County Health Department to implement the new recommendations and are labeled **11.1-C.**

The responsibilities of the City of Tacoma are found on the last two pages which are labeled **11.1-D.**

<b>Table 11.1-A PROPOSED IMPLEMENTATION SCHEDULE</b> based on the Solid Waste Advisory Committee's Recommendations						
Programs, Activities, or Projects	SHORT-TERM					
	2000	2001	2002	2003	2004	2005
<b>PIERCE COUNTY SOLID WASTE DIVISION RESPONSIBILITIES <sup>1</sup></b> (on behalf of 19 cities and towns and the unincorporated areas)						
<b>STUDIES to be completed</b>						
1) Transfer Station Needs Study	\$20,000					
2) Study need for intermodal facility						
3) Update Solid Waste Plan						
4) Update the <i>Phase I Landfill Siting Study</i>	\$60,000	\$62,000	\$64,000	\$66,000	\$68,000	\$145,000
5) Waste Characterization Audit						
6) Evaluate landfill alternatives						
<b>CAPITAL PROJECTS</b>						
7) Modify Transfer Stations for Source-Separation	\$50,000	Unknown until Transfer Station Needs Study completed				
8) Maintain Transfer Station Capacity	Ongoing requirement					
<b>ADMINISTRATIVE ACTIONS AND REGULATORY PROGRAMS to be coordinated with other agencies</b>	\$1.086 million	\$1.118 million	\$1.130 million	\$1.164 million	\$1.199 million	\$1.232 million
9) Maintain and update disposal contracts	Ongoing requirement					
10) Evaluate new technology alternatives	Ongoing requirement					
11) Evaluate funding mechanisms and system impacts	Ongoing requirement					
12) Maintain Interlocal Agreements and coordinate services with cities and towns	Ongoing requirement					
13) Semi-annual overview reports to County Council	Ongoing requirement					
14) Revise local development regulations	Complete when State revises WAC 173-304					
15) Upgrade compost facility standards	Complete when State revises WAC 173-304					
16) Implement State's outside storage container standards for commercial & industrial development	Complete in coordination with other public outreach programs					
<sup>1</sup> See APPENDIX J -- WUTC Cost Assessment for a complete cost analysis of the Pierce County system.						

<b>Table 11.1-A PROPOSED IMPLEMENTATION SCHEDULE</b> <b>based on the Solid Waste Advisory Committee's Recommendations</b>		
<b>FUNDING for proposed Programs, Activities, or Projects</b>		<b>LONG -TERM</b>
<b>Six-year Total</b>	<b>Sources <sup>2</sup></b>	<b>2006-2020</b>
<b>PIERCE COUNTY SOLID WASTE DIVISION RESPONSIBILITIES</b> <b>(on behalf of 19 cities and towns and the unincorporated area)</b>		
<b>STUDIES to be completed</b>		
1) \$20,000	CAC component of tipping fee	
	CAC component of tipping fee	2) Future cost to be determined
3), 4), 5) & 6) \$465,000	CAC component of tipping fee Grants – Coordinated Prevention Grants	
<b>CAPITAL PROJECTS</b>		
7) \$50,000	CAC component of tipping fee	Future cost to be determined
8) -----	CAC component of tipping fee, Bonds	Future cost to be determined
<b>ADMINISTRATIVE ACTIONS AND REGULATORY PROGRAMS</b> <b>to be coordinated with other agencies</b>		
9) through 16) \$6,929,000	CAC component of tipping fee ( Solid Waste Administration )	9) Ongoing requirement Future cost to be determined
		10) Ongoing requirement Future cost to be determined
		11) Ongoing requirement Future cost to be determined
		12) Ongoing requirement Future cost to be determined
		13) Ongoing requirement Future cost to be determined
		14) Ongoing requirement Future cost to be determined
		15) As needed Future cost to be determined
<b>Sub-total: \$7,464,000</b>		16) Completed

<sup>2</sup>For a complete list of all funding mechanisms see Figures 10.4 and 10.5 and discussion in Chapter 10.  
CAC --- County Administrative Cost component from the tipping fee.  
Grants --- Primarily the Coordination Prevention Grants awarded by the Washington Department of Ecology.  
Bonds --- Long term General Obligations Bonds issued by the County and repaid through tipping fees.  
Transfers --- A portion of the CAC from the tipping fee transferred to the Health Department.

**Table 11.1-B PROPOSED IMPLEMENTATION SCHEDULE  
based on the Solid Waste Advisory Committee's Recommendations**

Programs, Activities, or Projects	SHORT-TERM					
	2000	2001	2002	2003	2004	2005
<b>PIERCE COUNTY SOLID WASTE DIVISION RESPONSIBILITIES  (on behalf of 19 cities and towns and the unincorporated areas)</b>						
<b>WASTE REDUCTION AND RECYCLING  PROGRAMS for Pierce County system</b>	\$715,000	\$735,000	\$756,000	\$778,000	\$800,000	\$746,000
17) Expand and refine existing programs and outreach activities - single-family curbside program - multi-family public outreach program - procurement policies - in-house collection program - data monitoring - school education program - yardwaste and home composting - beneficial uses of compost - general WRR public outreach programs, including: exhibits, brochures, multi-media activities, and workshops	Timing of programs to be determined in annual budget process by County Executive and County Council					
18) Evaluate expansion of collection programs and public outreach efforts for plastics, foodwaste, batteries, CDL, paper, and compostable organics.						
19) Evaluate impacts and feasibility of landfill bans on recycling						
20) New at-home composting public outreach program						
21) New drop-off site program						
22) New business community outreach program						
23) New public outreach about job-site recycling						
24) New economic development outreach program						
25) Evaluate variable collection / disposal rates						
26) New industrial generators outreach program						
27) Expand and revise household hazardous waste collection and outreach program.	\$193,000	\$199,000	\$205,000	\$211,000	\$217,000	\$223,000

<b>Table 11.1-B PROPOSED IMPLEMENTATION SCHEDULE</b> based on the Solid Waste Advisory Committee's Recommendations		
<b>FUNDING for proposed Programs, Activities, or Projects</b>		<b>LONG -TERM</b>
<b>Six-Year Total</b>	<b>Sources</b>	<b>2006-2020</b>
<b>PIERCE COUNTY SOLID WASTE DIVISION RESPONSIBILITIES</b> (on behalf of 19 cities and towns and the unincorporated areas)		
<b>WASTE REDUCTION AND RECYCLING PROGRAMS for Pierce County system</b>		
<p><b>17) through 26)</b></p> <p>\$4,530,000</p>	<p>CAC component of tipping fee (1. Public Information, Education, and Outreach for Waste Reduction and Recycling Programs 2. Recycling Data Collection Programs 3. In-House Recycling Programs to Pierce County Employees)</p> <p>Grants – Coordinated Prevention Grants (CPG)</p>	<p><b>17) through 26)</b> Programs to be evaluated annually and every five years. Status to be determined. Future cost unknown.</p>
<p><b>27)</b>      \$1,248,000</p>	<p>CAC component of tipping fee (Household Hazardous Waste Management) Grants – Coordinated Prevention Grant (CPG)</p>	<p><b>27)</b> Ongoing requirement Future costs to be determined</p>

<b>TOTAL for Pierce County:</b> <b>\$13,242, 000</b>	
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<b>Table 11.1-C PROPOSED IMPLEMENTATION SCHEDULE</b> based on the Solid Waste Advisory Committee's Recommendations						
<b>Programs, Activities, or Projects</b>	<b>SHORT-TERM</b>					
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
<b>TACOMA-PIERCE COUNTY HEALTH DEPARTMENT</b>	\$448,000	\$461,000	\$475,000	\$489,000	\$504,000	\$518,000
28) Work with State and other agencies on vector waste facility standards.	Ongoing requirement					
29) Assess veterinarian medical waste handling methods.	Timing to be determined					
30) Revise public review process for Solid Waste Permits.	To be completed					
31) Notify landowners of closure requirements.	Ongoing requirement					
32) Evaluate need for financial assurance requirements for solid waste facilities.	Ongoing requirement					
<b>ALL ENFORCEMENT AGENCIES --- Tacoma-Pierce County Health Department, Cities and Towns, and Pierce County</b>						
33) Enforce program for illegal tire piles.	Ongoing requirement Funding sources to be identified					
34) Increase and coordinate enforcement capabilities for illegal dumping	Ongoing requirement Extent of activities must be identified to determine cost					
35) Develop adequate funding to support illegal dumping enforcement programs.	Identify funding sources and allocate		To be determined			
36) Develop coordinated program to share information and provide public outreach activities about illegal dumping.	Ongoing requirement Extent of activities must be identified to determine cost					
<b>ALL SEWER AGENCIES</b>						
37) Investigate accepting septage at Chambers Creek Wastewater Treatment Plant --- Pierce County Public Works and Utilities.	Incorporate within sewer planning functions					
38) Consider biosolids composting	Incorporate within sewer planning functions					

<b>Table 11.1-C PROPOSED IMPLEMENTATION SCHEDULE</b> <b>based on the Solid Waste Advisory Committee's Recommendations</b>		
<b>FUNDING for proposed Programs, Activities, or Projects</b>		<b>LONG -TERM</b>
<b>Six –Year Total</b>	<b>Sources</b>	<b>2006-2020</b>
<b>TACOMA-PIERCE COUNTY HEALTH DEPARTMENT</b>		
<b>28) through 32)</b>  <b>TOTAL: \$2,895,000</b>	Transfers – a portion of the CAC component from the tipping fee	<b>28)</b> Completed
		<b>29)</b> Completed
		<b>30)</b> Ongoing requirement Future cost to be determined
		<b>31)</b> Ongoing requirement Future cost to be determined
		<b>32)</b> Completed
<b>ALL ENFORCEMENT AGENCIES ---</b>		
<b>Tacoma-Pierce County Health Department, Cities and Towns, and Pierce County</b>		
<b>33)</b> To be determined	Funding source lost in 2000. New source to be identified	<b>33)</b> Ongoing requirement Future cost to be determined
<b>34)</b> Extent of activities must be identified to determine cost	Funding source lost in 2000 New source to be identified	<b>34)</b> Ongoing requirement Future cost to be determined
<b>35)</b> Amount to be determined	Funding sources to be identified	<b>35)</b> Ongoing requirement. Future cost to be determined
<b>36)</b> Extent of activities must be identified to determine cost	Funding sources to be identified	<b>36)</b> Ongoing requirement. Future cost to be determined
<b>ALL SEWER AGENCIES</b>		
<b>37)</b> Amount to be determined	Pierce County Utility planning budget	<b>37)</b> Completed
<b>38)</b> Amount to be determined	Sewer Utilities' planning budget	<b>38)</b> Completed

<b>Table 11.1-D PROPOSED IMPLEMENTATION SCHEDULE based on the Solid Waste Advisory Committee's Recommendations</b>						
<b>Programs, Activities, or Projects</b>	<b>SHORT-TERM</b>					
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
<b>CITY OF TACOMA SOLID WASTE UTILITY</b>	\$30.8 million	\$38.7 million	\$32.7 million	\$33.7 million	\$34.7 million	\$35.7 million
<b>39)</b> Continue to provide solid waste collection and disposal services	Ongoing requirement					
<b>40)</b> Evaluate the need for organic waste processing or composting facilities; proceed with the development of such facilities if needed.	Timing is unknown until Facilities Plan and needs assessment is completed.					
<b>41)</b> Operate Steam Plant No. 2 under its current permits, or pursue needed changes to permits.	Ongoing requirement					
<b>42)</b> Operate the existing Resource Recovery Facility and improve or expand the facility as needed.	Ongoing requirement					
<b>43)</b> Investigate using the Resource Recovery Facility to extract other usable or recyclable materials, if needed.	This recommendation depends on the outcome of the Steam Plant and Resource Recovery Facility upgrade.					
<b>44)</b> Evaluate the need for additional or expanded transfer facilities and export options for solid waste.	Ongoing requirement					
<b>45)</b> Continue improvements to the Tacoma Landfill and evaluate available options to obtain additional capacity.	Ongoing requirement					

<b>Table 11.1-D PROPOSED IMPLEMENTATION SCHEDULE</b> based on the Solid Waste Advisory Committee's Recommendations		
<b>FUNDING for proposed Programs, Activities or Projects</b>		<b>LONG -TERM</b>
<b>Six-Year Total</b>	<b>Sources</b>	<b>2006-2020</b>
<b>CITY OF TACOMA SOLID WASTE UTILITY</b>		
<p><b>39) through 45)</b> <b>TOTAL: \$206,300,000</b></p>	<p>Solid Waste Collection fees; Tipping Fees at the Tacoma Landfill, Ecology CPG Grants, Revenue Bonds</p>	<p><b>39) through 45)</b> Ongoing activities. Future cost unknown</p>

## **11.5. System Implementation Costs**

RCW 70.95.090(3)(d) requires “a plan for financing both capital costs and operational expenditures for the proposed solid waste management system.” This section outlines the cost of implementing the recommendations to be carried out by the Pierce County Solid Waste Division, the Tacoma-Pierce County Health Department, and the Tacoma Solid Waste Utility.

Rather than presenting a year-by-year estimate, this section estimates the total that would be spent on the recommendations over the planning period. The reason for this is simple logistics. This Plan Update does not recommend that actions be carried out in a given year because that decision is rightfully made by the County Council and the County Executive during the annual budget process, or by the Board of Health, or the Tacoma City Council during their budget processes.

Chapter 10 of this Plan Update introduced the financing structures in place to fund solid waste programs. The discussion throughout this section assumes that the funding mechanisms identified within Chapter 10 remain in place. Any major change in funding mechanisms or sources would be addressed through an amendment or subsequent update to the Plan.

<b>Table 11.2 Prognosis for Selected Funding Mechanisms for the Pierce County / Cities and Towns system</b> (See Tables 10.4 and 10.5, Chapter 10)	
<b>Collection Fees</b>	The major portion of the cost of recycling and yardwaste collection programs are passed on to customers in the form of user collection fees. This Plan Update has not identified any instability in this funding source, nor has it identified specific, new programs that would impact user collection fees. Adding new commodities to recycling programs however could result in increased fees.
<b>Facility Tipping Fees</b>	This Plan Update has not identified new programs which would need to be directly funded out of the tipping fee. <sup>1</sup>
<b>Tipping Fee Surcharges</b>	Many of the recommendations contained within this Plan Update are to be accomplished through the efforts of the Solid Waste Division. The major source of funding for the Division <sup>2</sup> is a component of the tipping fee. If proposed programs require an expansion of the Division's services, the CAC may need to increase. Note, however, that the CAC is capped at 10 percent of the base rate (the tipping fee minus the CAC). In 1999, this CAC equates to 8.2 percent of the base rate, thus only limited increases are possible.
<b>Inter-jurisdictional Transfers</b>	Some of the recommendations contained with this Plan Update would impact the work of the Tacoma-Pierce County Health Department. If Health Department funding diminishes, or if proposed programs require an expansion of the Department's services, local jurisdictions may be asked to contribute more of the Health Department's operations. Given the limits on the CAC (which serves as the source of this funding), it is questionable whether the Division could support increased Health Department functions. The County would need to explore other options.
<b>Bond Financing</b>	None of the recommendations anticipate that the County would utilize bonds.
<b>Grants</b>	Many of the program recommendations contained within the Plan Update may be eligible for grant funding. When grants are available and consistent with this Plan, grants will be sought. If grant funds diminish over time, the Division will need to explore replacement funding mechanisms

<sup>1</sup> It is anticipated, however, that the solid waste tipping fee would continue to support the waste transfer system, recycling opportunities at transfer sites, recycling bin acquisition, and the County's yardwaste composting programs.

<sup>2</sup> The County Administrative Cost (CAC)

### **11.5.1 Pierce County Solid Waste Division**

This section is arranged to closely parallel the Implementation Schedule presented in Table 11.1. Please refer to the Implementation Schedule and each substantive chapter for specifics on the alternatives and recommendations. All costs are in 1999 dollars and do not account for future inflation. (For additional information, please refer to Appendix J –The Washington Utilities and Transportation Commission Cost Assessment.)

***Solid Waste Division studies:*** The SWAC recommends that the Solid Waste Division undertake a series of studies of the solid waste management system. These costs would be funded by the Solid Waste Division of the Pierce County Public Works and Utilities Department through its existing funding resources, primarily the County Administrative Cost Component of the tipping fee. Approximately \$465,000 would be needed to accomplish the recommended tasks.

- The Solid Waste Division has already proposed \$20,000 in its Year 2000 budget to fund a consultant to study the County’s transfer system.
- The trans-shipment or intermodal facility study, scheduled as a “long-term” project, would likely cost out similarly to the transfer station study proposed for the Year 2000.
- A Solid Waste Plan Update similar in scope to this Update would cost approximately \$180,000.
- A Waste Characterization Audit modeled after the 1995 audit would cost approximately \$225,000.

***Capital projects:*** This Plan Update recommends two capital projects. To complete enhancements at the Prairie Ridge Residential Transfer Station, the Solid Waste Division budgeted \$200,000 in FY 1999 and \$50,000 in FY 2000. Changes at other transfer stations will not be planned or budgeted until the Division undertakes its Transfer Station Needs Study (see above).

Improvements to modify transfer stations to provide for additional source-separation may occur. Improvement costs would need to be offset by operational savings. No additional commitment of County resources would be necessary to accomplish the recommended tasks.

***Administrative actions for Pierce County system:*** The day-to-day administration of the Pierce County Solid Waste Management System is funded by the County Administrative Cost component of the tipping fee. This Plan Update does not recommend administrative programs over and above those already accomplished by the Division within its existing resources. On an annual basis, the Division spends approximately \$1.2 million on administrative functions.

***Waste reduction and recycling programs:*** This Plan Update recommends a number of refinements or enhancements to existing waste reduction and recycling programs, particularly the public outreach and education programs offered by the Division. Annually, the Division commits between \$700,000 and \$800,000 to the County’s waste reduction and recycling programs. A portion of those costs are funded through the State of Washington’s Coordinated Prevention Grants Program.

If the Solid Waste Division continues its historic practice, the Division would seek to add the proposed programs to the existing

array of programs by staging the enhancements over a number of years using the existing funds. Certain aspects would be emphasized in each year.

As the Division continues to explore the efficacy of adding new commodities to the recycling system, there may be an impact on recycling collection costs. Any cost increases would be borne by curbside recycling customers through higher collection user fees.

***Regulatory programs to be coordinated with other agencies and municipalities:***

Another of the Division's continuing tasks is to work with other regulatory agencies to ensure that regulations promote waste reduction and recycling and other sound and cost-effective waste management practices. The Plan Update recommendations in this area can be melded into existing operations without additional cost.

## **11.5.2 Tacoma-Pierce County Health Department**

The Source Protection / Waste Management Program of the Tacoma-Pierce County Health Department relies heavily on an inter-fund transfer from the Solid Waste Division. In recent years, the Solid Waste Division contribution to the Health Department has been approximately \$450,000. All of this comes from the County Administrative Cost component of the tipping fee. Given the limits on this cost component, further increase in the amount the Solid Waste Division contributes to the Health Department may be limited.

In order to accomplish the tasks recommended in the Plan Update, the Health Department will need to explore additional funding options. These could include re-prioritization of workload and budgets as a management tool, raising permit fees, seeking out new sources of grant funding, or seeking greater financial assistance from the County general fund or its member cities.

This Plan Update also recommends increased enforcement against illegal dumping. The enforcement programs currently undertaken by the Health Department are not funded through the Solid Waste Division's contribution. Rather, other Health Department funding sources pay for this program. Enhancements to the enforcement program are the responsibility of the Health Department and will need to be funded by the Health Department.

### 11.5.3. City of Tacoma

Ongoing costs for operation and maintenance of all of Tacoma's programs are financed through user fees. Tacoma sets rates for collection of residential, commercial and industrial wastes. Tipping fees at the Tacoma transfer / disposal site are also assessed to self-haul customers. These fees pay for a majority of Tacoma's expenses beyond operation and maintenance costs, including debt service and capital. Grants are used to supplement the user fees for such activities as recycling coordination, hazardous waste business inspections, and other related activities. Revenues from agreements and partnerships are used to cover costs associated with those agreements and may cover capital costs if a partnership is formed to operate Steam Plant No. 2. Bonds may be used to fund large capital facilities improvements.

**Studies and evaluations:** The studies and evaluations described in the Plan for City of Tacoma have been assigned to existing staff of the Solid Waste Utility or Utility Services Engineering. The existing funding mechanism and process will be sufficient to fund these activities, and no impact to Tacoma's overall rate structure is anticipated as a result of conducting the studies or evaluations.

**Capital projects:** The scope and cost of Tacoma's planned capital facility efforts will depend on the ultimate fate of Steam Plant No. 2. Assuming the Plant will operate with upgrades provides the highest capital costs estimates for the Tacoma system. This will result in facility upgrades to Steam Plant No. 2, Tacoma's Resource Recovery Facility, and the transfer facilities at the Tacoma site.

The following provides a summary of the facility upgrades and the costs associated with those upgrades.

- **Steam Plant No. 2:** To increase the economic viability of Steam Plant No. 2, over 7.5 million dollars of improvements have been identified. This one-time expenditure for capital improvements will not be funded by the City of Tacoma's Solid Waste Utility. If Steam Plant No. 2 is to remain in operation, it will be operated as a partnership between the City of Tacoma Public Works Department and a private company. The terms of the agreement will state that the additional capital expenditures will be the responsibility of the private entity. The private entity will be able to market the power for their benefit. With this arrangement, there is no impact to Tacoma's overall rate structure as a result of these capital expenditures.
- **Resource Recovery:** To maximize the volume and improve the quality of the fuel produced for Steam Plant No. 2, upgrades to Tacoma's Resource Recovery Facility have been identified. Included with the plans for the Resource Recovery improvements is the funding for the improvements to the Transfer and Compaction facilities. The cost of the improvements identified have been estimated at 4.5 million dollars. The funding source for the improvements to the Resource Recovery Facility will be funded from the capital facilities budget of the Tacoma Solid Waste Utility. With this arrangement, there is no impact to Tacoma's planned rate structure as a result of these capital expenditures.

### 11.5.4 Fort Lewis / McChord Air Force Base

The military system is funded through the Department of Defense and implementation programs are not tied to either the Pierce County SWAC's recommendations or to any County funding source.