REGIONAL SOLID WASTE MANAGEMENT PLAN

for the Portland, Oregon Metropolitan Area

October, 1988

Attachment A of Ordinance 88-266-~~A~~ B

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REGIONAL SOLID WASTE MANAGEMENT PLAN

PREFACE

The Solid Waste Management Plan reflects the region's vision for managing waste over the next twenty years. Its goal is to implement a solid waste system which is regionally balanced, cost effective, technologically feasible, environmentally sound and publicly acceptable.

The plan emphasizes the importance of following Oregon's hierarchy for waste management, which requires reducing, reusing, recycling and recovering energy from waste before landfilling. It also recognizes the need for local as well as regional solutions for solid waste management.

Finally, the plan defines the roles and responsibilities of cities, counties, Metro, the State Department of Environmental Quality and the private sector in managing the region's solid waste system.

Metro is a regional government serving over 1,000,000 residents in the urban areas of Clackamas, Multnomah and Washington counties. It has a twelve member council and an executive officer who are directly elected by the citizens in the district. Metro has responsibility for solid waste planning and disposal, operates the Washington Park Zoo, develops regional transportation and land use plans, and manages a regional exhibition and recreation commission.

SECTION I - INTRODUCTION

HISTORY AND BACKGROUND

In 1976, Congress passed the Resource Conservation and Recovery Act (RCRA) to address the problem of safely disposing of municipal and industrial waste. Subtitle D of this Act established federal standards for managing solid waste facilities and also established a program which encouraged states to develop and implement solid waste management plans. These plans were to promote environmentally sound disposal methods and emphasize the reuse of recoverable material and resource conservation. Oregon's solid waste management plan under Subtitle D was approved by the Environmental Protection Agency in 1982.

Oregon law (ORS 459.017) states that local governments have primary responsibility for local solid waste management planning. In the Portland tri-county area, Metro was designated the local government unit responsible for solid waste planning through Executive Orders issued by the Governor in 1977 and 1978. The planning area includes all of Clackamas, Multnomah and Washington Counties. State law (ORS 459.095) stipulates that the ordinances, orders, regulations and contracts of local governments in the planning area must be consistent with the solid waste management plan for the region.

THE PLANNING PROCESS

In July, 1987, the Metro Council initiated an update to the 1974 Solid Waste Management Plan (COR-MET). They invited cities, counties, solid waste industry representatives and citizens to participate in a regional partnership. Policy and Technical Committees, comprised of local elected officials, technicians and citizens, were established to help develop the new plan and to make recommendations to the Council. Two members of the Metro Council also served on the Policy Committee.

The goal of the planning process is to achieve consensus on solid waste policies that will guide the region for the next twenty years, and to design a system of facilities and programs that are acceptable to the local governments and citizens of the region. In addition, Metro wants a plan that will allow Metro and local governments to site needed facilities and implement management

programs. Like other governments throughout the nation, Metro has experienced difficulty in siting solid waste facilities because of community opposition.

In order to develop a program that will work, the Solid Waste Management Plan is adopted as a "functional plan," or one that sets out detailed information, policies and standards for a specific function of government, such as transportation, drainage or solid waste. Metro has statutory authority (ORS 268.390) to develop functional plans for areas and activities that have a significant impact upon the orderly and responsible development of the metropolitan area, and to recommend or require that the comprehensive land use plans of cities and counties in the region be consistent with the functional plan for solid waste.

PLAN FORMAT

The major components of the plan include 1) a Goal, Objectives and Policies; 2) a Waste Management section which describes programs such as Waste Reduction and Low-Grade Waste Management; 3) a Systems Design component which identifies facilities, collection and transportation elements necessary to carry out the regional plan. This section also addresses the environmental, economic and land use impacts of the proposed system; 4) an Implementation section which details specific mechanisms for implementing the system design and waste management programs; and finally 5) a section which describes the Planning Process to be used in plan development and implementation.

Each of these sections includes chapters which address particular subject areas. The document uses a consistent numbering system, so that readers can see the relationship between specific policies and the chapters which discuss how these policies can be implemented. The elements of the plan are not mutually exclusive, and many policies and chapters of the plan are interrelated. For example, rates can affect waste reduction programs and local government solutions can affect system design.

Finally, the plan includes a Glossary which defines terms and makes the document easier to use and understand. The plan is contained in a notebook so that it can be updated or amended. It is meant to be an action plan which is responsive to changing conditions, such as the introduction of innovative waste reduction technologies.

DRAFT
September 28, 1988

GOAL AND OBJECTIVES

INTRODUCTION

The following goal, objectives and policies serve as the foundation for the Solid Waste Management Plan. The Solid Waste Management Plan reflects the region's vision for managing solid waste over the next 20 years, and addresses such issues as waste reduction, hazardous waste, financing, rates, and solid waste facilities. The goal, objectives and policies are not mutually exclusive. That is, any decision regarding solid waste will need to be made with review of all applicable provisions of this policies chapter, as well as all applicable provisions of this plan.

GOAL

To develop and implement a Solid Waste Management Plan which achieves a regionally balanced, cost-effective, technologically feasible, environmentally sound and publicly acceptable solid waste system.

OBJECTIVES

To follow the state mandated hierarchy for waste management: reduce, reuse, recycle, recover energy, and landfill.

To be responsive to local solutions and promote a regional partnership.

To design interim and long-term systems of solid waste management based on regional policies.

To identify types and locational criteria for solid waste facilities.

To qualify the Solid Waste Management Plan as a functional plan under ORS 268.390, and to meet all other statutory requirements.

To achieve consistency between state mandated programs, the regional Solid Waste Management Plan and city and county comprehensive plans.

To promote public education and participation through plan development and implementation of the solid waste system.

SOLID WASTE MANAGEMENT POLICIES

WASTE MANAGEMENT

1.0 WASTE REDUCTION POLICY

THE SOLID WASTE MANAGEMENT SYSTEM SHALL ACHIEVE IN AN ENVIRONMENTALLY SAFE MANNER THE MAXIMUM FEASIBLE REDUCTION OF SOLID WASTE BEING LANDFILLED, IN ACCORD WITH THE STATE HIERARCHY UNDER ORS 459.015, AND THROUGH THE COOPERATIVE EFFORTS OF METRO, THE CITIES AND COUNTIES, AND THE COMMUNITY.

1.1 Metro shall set annual waste reduction goals to achieve the maximum feasible reduction based on an evaluation of: a) the amount of waste which is recoverable, b) the available technical methods, and c) the acceptable cost for recovery.

1.2 The annual goals will include evaluation of local participation rates and will provide a consistent method of data gathering and distribution of waste reduction information.

1.3 Metro shall support a higher system cost for waste reduction techniques over landfilling based on the state hierarchy (ORS 459.015) in order to accomplish the maximum feasible reduction of waste to the extent it is determined to be environmentally safe, technically and economically feasible.

1.4 An integrated system of waste reduction techniques shall be developed with emphasis on source separation, not to preclude the need for other forms of recovery such as post collection material recovery.

1.5 Metro, the Cities and Counties shall assure a provision for public education and promotion for waste reduction.

BACKGROUND

ORS 459.015 (2) (a) provides for management of the solid waste system in accordance with the hierarchy to the extent that waste reduction programs and facilities are technically and economically feasible. In 1986, the Metro Council adopted a waste reduction program which stated that it is considered possible to recover up to 52 percent of the waste stream through reduction, reuse and recycling. The program further provides for a yearly evaluation of waste reduction programs to determine appropriate goals for waste reduction.

In accordance with the state hierarchy (ORS 459.015), it is appropriate for the region to pay more for programs and facilities which keep waste out of the landfill.

This means that whatever the cost per ton for landfilling, it is appropriate for the region to be willing to pay more than that per ton for programs and facilities which keep waste out of the landfill. Paying for recovery facilities may in part be offset by increasing the total disposal system cost.

Source separation of recyclables has been the primary means of achieving waste reduction in the region. In 1987, about 25 percent of the region's waste was recycled--mostly by source separation techniques. In order to obtain higher levels of recovery, other waste reduction techniques will need to be further developed such as post-collection material recovery. It has been demonstrated that post-collection recovery and source separation can co-exist in an integrated system of solid waste management. Therefore, in accordance with ORS 459.165, the plan will continue to emphasize source separation, but it will be necessary to develop other non-source separation techniques in order to achieve greater levels of recovery.

2.0 HAZARDOUS WASTE POLICY

HAZARDOUS WASTES SHALL BE KEPT OUT OF THE SOLID WASTE STREAM.

2.1 Solutions to managing the proper disposal of household hazardous wastes, conditionally exempt hazardous wastes, and hospital wastes shall be developed as a component of the Solid Waste Management Plan.

2.2 Metro shall not knowingly accept for solid waste disposal or processing any hazardous materials at solid waste facilities.

BACKGROUND

In general, any waste which is ignitable, corrosive, reactive, or toxic is considered hazardous waste. Generators producing 220

pounds or more per month of a regulated hazardous waste are required to register with the DEQ and are regulated by state and federal hazardous waste regulations. However, generators producing less than 220 pounds per month of hazardous waste are conditionally exempt and are not regulated. It is uncertain where these hazardous wastes are disposed. Metro does not knowingly accept for disposal or processing any hazardous waste materials at solid waste facilities, but small quantities of unregulated hazardous materials do enter the solid waste stream.

Household wastes are not classified as hazardous wastes by law. However, many typical wastes such as some household cleaners, some types of paint and some auto and furniture polish exhibit hazardous characteristics.

It is desirable to ensure safe disposal and processing of solid waste by also keeping these household hazardous wastes out of the mixed waste stream. Metro currently provides two events every year for regional collection of household hazardous wastes. However, Metro does not have the authority to actively manage hazardous materials produced by conditionally exempt generators. The Solid Waste Management Plan will need to include regional solutions for managing these materials more effectively to ensure they are properly disposed of.

3.0 LOW-GRADE WASTE POLICY

SOLUTIONS TO LOW-GRADE WASTE MANAGEMENT SHALL BE DEVELOPED AS A COMPONENT OF THE SOLID WASTE MANAGEMENT PLAN.

3.1 An integrated system for managing low-grade waste shall be developed which is based upon management techniques resulting from waste substream assessment.

3.2 Metro shall ensure that there is adequate capacity for disposal of low-grade wastes. Low-grade waste facilities shall be planned and located so that they are compatible with other elements of the solid waste disposal system.

BACKGROUND

Approximately 21 percent of the total waste generated (1987) in the region is considered low-grade waste. Low-grade waste has recently been defined as a uniform material which can be safely disposed at a facility which does not contain all the environmental controls of a general purpose landfill. Such materials as treated sludges, demolition de-

bris, rocks, asbestos, and contaminated soil are considered low-grade wastes.

Historically, solutions to managing this component of the waste stream have been developed by the private sector. Three privately owned and operated limited purpose landfills in the region accept most of these kinds of wastes. Low-grade wastes such as asbestos and sludges are properly disposed of at the St. Johns Landfill.

With the closure of the St. Johns Landfill in early 1991 and the region's largest limited purpose landfill (Killingsworth Fast Disposal) in early 1989, new solutions to managing this component of the waste stream need to be developed. It will not be feasible to transport sludges, demolition debris, and rocks through a transfer station for compaction and transport over 100 miles to the new Arlington landfill. Solutions for low-grade waste need to be online by early 1991. Therefore, it will be necessary for Metro to take a more active role in assuring that adequate disposal facilities for low-grade wastes exists.

It is believed that the most efficient means of managing low-grade wastes are by finding solutions to each kind of waste separately. For example, developing a management program for asbestos separately from developing a management program for treated sludges. This waste substream assessment and resulting management techniques for all low-grade wastes is a priority in the plan.

4.0 ILLEGAL DUMPING POLICY

SOLUTIONS TO THE PROBLEMS OF ILLEGAL DUMPING AND TO OTHER ADVERSE IMPACTS CAUSED BY CHANGES IN THE WASTE MANAGEMENT SYSTEM SHALL BE DEVELOPED COOPERATIVELY BY DEQ, METRO, THE CITIES AND COUNTIES.

BACKGROUND

Historically, illegal dumping of garbage has occurred throughout the region. Garbage collection is not mandatory, therefore the public has the opportunity to choose how they wish to dispose of their garbage. Most citizens can afford the cost of disposal by having weekly garbage service or by hauling their garbage to a proper disposal facility. However, the regions cost of disposal is expected to triple by 1990. This large increase in the cost of disposal may cause more people to illegally dispose of their garbage. The plan will need to address this issue of illegal dumping.

SOLID WASTE SYSTEM

5.0 FACILITIES POLICY

THE SOLID WASTE SYSTEM SHALL BE AN INTEGRATED SYSTEM OF FACILITIES DESIGNED TO ACCOMMODATE THE MANAGEMENT OF WASTE BASED ON THE STATE HIERARCHY.

5.1 The solid waste system shall support a uniform level of service throughout the region.

5.2 Solid waste facilities shall be designed to be reliable, adaptable and to function in a cost-effective manner.

5.3 Local solid waste solutions shall be integrated into the solid waste management system to the extent they are compatible with the system and meet all other plan provisions.

5.4 Those technologies and programs which increase regional solid waste management efficiency or reduce the dependency on landfilling shall be employed whenever feasible.

5.5 An end use plan for new landfills will be developed and a funding method determined.

BACKGROUND

The state hierarchy (ORS 459.015) will guide the design of a regional system of facilities for managing solid waste. This provides for an integrated system of facilities which are designed to reduce the amount of waste going to the landfill. It is envisioned that in the near future nearly all the region's waste will be processed, picked through or composted prior to transferring the residuals to a final disposal site. This integrated system will include transfer stations, a depot, material recovery centers, lumber recovery centers, yard debris processing centers, mixed waste composting facilities, low-grade waste facilities, hazardous waste facilities, landfills, and perhaps energy recovery facilities.

The system of facilities will need to provide reliable service to the citizens of the region. Further, the facilities will need to be designed so that, to the extent feasible they are adaptable to technology and program changes and will increase solid waste management efficiency. Metro's experience with retrofitting

the Metro South Station with material recovery processing and, in the near future--compacting capabilities to transport waste to the Arlington landfill, is illustrative of the need to assure adaptability in facility design.

6.0 COLLECTION POLICY

LOCAL GOVERNMENTS SHALL BE RESPONSIBLE FOR ASSURING THAT COLLECTION OF SOLID WASTE AND RECYCLABLES IS CONDUCTED IN A COST EFFICIENT AND RELIABLE MANNER.

6.1 **Metro, the Cities, the Counties, solid waste industry, and citizens shall develop waste generation and collection practices which reduce the amount of undesirable contaminants in wastes from which materials can be recovered.**

6.2 **Local governments shall be responsible for implementing regional solid waste management programs in which a change in local collection methods is necessary, (e.g., collection of recyclables, yard debris).**

BACKGROUND

The cities and counties are responsible for solid waste collection in the region. They have the authority to cause necessary changes in local collection methods to assure that programs such as curbside collection of recyclables are carried out in an efficient and reliable manner.

7.0 TRANSPORTATION POLICY

THE SOLID WASTE TRANSPORTATION SYSTEM SHALL BE COST-EFFECTIVE, RELIABLE AND READILY ADAPTABLE TO ALTERNATIVE MODES OF TRANSPORTATION.

7.1 **City and county land use and transportation plans shall be considered in the solid waste transportation system design.**

7.2 **Solid Waste transport services shall be secured from the private sector.**

BACKGROUND

The solid waste transportation system begins at the point the transfer vehicle takes waste from the transfer station for final disposal or processing and energy recovery. This system needs to be operational on a continuous basis

to assure proper handling and disposal of refuse. Therefore, an efficient transportation system will be one which is adaptable to alternative modes of transportation such as barge, rail and truck.

Historically, the private sector has proven to be the most cost-effective and efficient in providing transport services. Thus, solid waste transport services shall be secured from the private sector.

In designing transport routes, consideration should be given to local plan provisions to ensure compatibility between solid waste transport and local transportation issues.

8.0 SYSTEM DESIGN CONSIDERATIONS POLICY

THE SOLID WASTE SYSTEM DESIGN SHALL CONSIDER THE POTENTIAL ADVERSE ENVIRONMENTAL, ECONOMIC AND LAND USE IMPACTS AND THE NEED FOR ADEQUATE MITIGATION.

8.1 Environment. The design of the solid waste system shall strive to protect environmental quality through the selection of sites, facility design standards and operational standards.

8.2 Economic. The design of the solid waste system shall support the economic development of the region by recognizing potential economic impacts during the planning, siting and permitting of the solid waste system and its components.

8.3 Land Use. The design of the solid waste management system shall strive to ensure compatibility with adjacent land uses.

8.4 Mitigation. Adequate mitigation will be provided for adverse environmental, economic and land use impacts directly related to the siting of a solid waste disposal site. A balanced program of appropriate measures shall be imposed jointly by Metro and the local jurisdiction.

BACKGROUND

Historically, locating solid waste facilities has been a difficult task to accomplish. Concerns in siting facilities include environmental quality, impacts on economic development, and compatibility with adjacent land uses. An

adequate mitigation package will be provided for these impacts in siting facilities. This will involve Metro working with local governments to develop appropriate mitigation measures such as litter pickup, buffers, landscaping, and pleasing facility design.

IMPLEMENTATION

9.0 FRANCHISING, CONTRACTING, LICENSING POLICY FOR SOLID WASTE FACILITIES

THE SOLID WASTE MANAGEMENT PLAN SHALL INCLUDE METHODS FOR REGULATORY CONTROL OF SOLID WASTE FACILITIES. SUCH REGULATORY METHODS MAY INCLUDE A SYSTEM OF FRANCHISING, CONTRACTING AND/OR LICENSING TO ENSURE THAT NEEDED DISPOSAL FACILITIES ARE PROVIDED AND ARE OPERATED IN AN ACCEPTABLE MANNER.

BACKGROUND

Metro is responsible for ensuring that solid waste is managed in a proper and cost-efficient manner. It is crucial for Metro to be able to regulate the flow of waste through the system of facilities. To continue to provide private ownership of various solid waste facilities, a system of franchising, contracting or licensing must exist. Currently, Metro uses both contracting and franchising to assure regulator control over privately owned facilities. The plan will evaluate and possibly expand Metro's regulatory means in this area. ORS 459 allows Metro to franchise, contract, license, build or operate solid waste facilities for the District.

10.0 FINANCING POLICY

THE SOLID WASTE MANAGEMENT PLAN SHALL INCLUDE METHODS OF FINANCING THE SOLID WASTE SYSTEM.

10.1 Metro may assist in the financing of solid waste facilities in part by allocating waste volumes to various facilities.

BACKGROUND

An integrated system of programs and facilities for managing solid waste in the region will need to be financed. The plan will include an evaluation of appropriate financing methods including grants, loans, taxes,rates etc. Further, the private financing of solid waste facilities may require assurance of waste flows to such facilities. Metro has the authority (ORS 268.316 (3) and (4)) to direct waste from the source to specific solid waste facilities. All these methods of financing will be evaluated in the plan.

11.0 RATE STRUCTURE POLICY

THE SOLID WASTE SYSTEM SHALL BE DEVELOPED TO ACHIEVE STABLE, EQUITABLE AND PREDICTABLE SOLID WASTE SYSTEM COSTS AND RATES.

11.1 While the base rate will remain uniform throughout the region, local solid waste management options may affect local rates.

11.2 Metro shall provide financial support for source separation programs, to produce high-grade select loads and to carry out other waste reduction programs.

11.3 In establishing financial support for waste reduction programs, Metro shall consider cost effectiveness, legal, technical and economic feasibility.

BACKGROUND

Metro establishes solid waste rates for the region in accordance with ORS Chapter 268. Specifically, Metro collects user charges to pay for services and the planning, construction and maintenance of facilities, equipment and improvements. Metro's solid waste system is a user fee service for regional ratepayers and will be managed as such by charging separate rates to commercial and the residential self-hauler. Consequently, disposal rates are based on the cost of providing disposal and management services.

Disposal costs will rise dramatically from 1988 to 1991 at which time they will level off. This increase in rates is due primarily to the cost of post-closure care and maintenance of the St. Johns Landfill, cost of sending waste to the new regional landfill in Arlington and putting on-line new facilities to reduce waste going to the landfill.

A major issue in determining appropriate rate policies for the region is who should pay for which level of service. That is, should the entire region pay for regional facilities or should only the users of regional facilities pay for them? If it is determined that everybody should pay for the regional facilities, then the policy in 11.1 applies. This means that when facilities come on-line they will, in part, be subsidized by fees collected in other parts of the region. Further, this implies that the low rates historically enjoyed by some facilities will increase greatly to come in line with those charged at the St. Johns Landfill and the Metro South Station.

An alternative to uniform rates would be to have a system of varied rates whereby each facility is paid for by the users of the facility. This kind of "cost-of-service" system would

require Metro to use its flow control authority to ensure that commercial haulers and the residential self-haulers use each facility so it can be financed. This kind of system may be difficult to enforce on the residential self-hauler and certainly would require a region-wide accounting system for all commercial haulers to ensure that they use the properly designated facilities.

Also of importance in establishing rates is providing continued financial support for waste reduction programs. In accordance with policy 11.2 and 11.3, Metro will support waste reduction techniques which lower the total amount of material for final disposal. This means, for example, that Metro may charge a hauler less to dispose of loads which are of high-grade materials at a material recovery center than to dispose of mixed waste loads for transfer and final disposal. Another example may be that Metro may purchase curbside collection containers for haulers in order to increase participation in source separation.

In providing financial incentives for those who recycle, the cost of final disposal will increase. To the extent feasible, this increased cost should be paid by those who are not participating in recycling.

Note: Section 12 (Community Enhancement Policy) was not included in the passage of Ord. NO. 88-266B. It was later added by the passage of ORD NO. 88-273.

12.0 COMMUNITY ENHANCEMENT POLICY

METRO SHALL PROVIDE THE HOST CITY OR COUNTY OF A SOLID WASTE "DISPOSAL SITE," AS DEFINED BY ORS 459.280(1) AND (2), WITH A HOST FEE TO BE USED FOR THE PURPOSES OF COMMUNITY ENHANCEMENT.

(Note: The following should be located in the Implementation section:

The host fee paid to the host city or county for a publicly owned disposal site within the region shall be $.50 per ton.

The host fee paid to the host city or county for a privately owned disposal site within the region shall be $.50 per ton minus the property taxes levied by the host jurisdiction.)

12.1 Host fees will be paid on a per ton volume of non-source separated waste entering the disposal site.

12.2 The host fee paid to a city or county for privately owned and operated disposal sites will be reduced by an amount equal to the property taxes assessed by the host jurisdiction.

12.3 A citizen committee will be appointed, by the city or county receiving the host fee, to advise how the fee should be allocated as part of a community enhancement program (ORS 459.290). The Metro Councilor or his or her designee of that district shall be appointed to the citizen committee.

BACKGROUND

ORS 459.280 (1) and (2) definition of disposal site includes landfills, transfer stations, and resource recovery facilities.

The idea of providing host fees for solid waste facilities was initiated in the region in 1985 and again in 1987 by the state legislature when they allocated a total of $1.00 per ton of waste going into the St. Johns Landfill to the community adjacent to the landfill. The purpose of the host fee is to finance community enhancement programs in the area.

The money collected from host fees will allow communities to do such things as provide job outreach programs for young people, put up new street lights, establish historical viewpoints or information kiosks about the community, fund new community business programs, etc. Payment for mitigation of impacts from a solid waste facility such as necessary street improvements, landscaping and litter patrol will be included in the financing of the facility, and are incorporated into the plan policies under section 8.0.

13.0 FACILITY OWNERSHIP POLICY

SOLID WASTE FACILITIES MAY BE PUBLICLY OR PRIVATELY OWNED, DEPENDING UPON WHICH BEST SERVES THE PUBLIC INTEREST. A DECISION ON OWNERSHIP OF A FACILITY SHALL BE MADE BY METRO, CASE-BY-CASE, AND BASED UPON ESTABLISHED CRITERIA.

(Note: The following criteria should be located in the Solid Waste System section.

The criteria to be applied to a public or private facility decision are:

a. to compare the anticipated capital and operating costs;
b. to adhere to the waste reduction policies;
c. to best achieve implementation of the solid waste management plan;
d. to be compatible with existing facilities and programs;
e. to adjust to changing circumstances which may require capital improvements, new methods of operation or similar factors;
f. to be environmentally acceptable;

g. to provide ease of access by the public and collection industry, where applicable;

h. to avoid vertical integration (monopoly) of the solid waste business;

i. to demonstrate ease of facility management, including fee collection equity, periodic review, rate changes, flow control and related operational changes;

j. to provide appropriate mitigation and/or enhancement measures deemed appropriate to the host jurisdiction.

The nature and scale of the subject facility shall be considered in determining how to apply the criteria.

13.1 Recycling drop centers shall be privately owned unless a need for such additional facilities is identified and can best be fulfilled by a city or county as determined by that city or county.

13.2 Facilities which serve only one collector and exclude the public shall be privately owned.

BACKGROUND

The regional solid waste system has always been an integrated system of both private and publicly owned facilities. Policy 13.0 would provide a means to evaluate both private and public options in establishing new facilities. The purpose of such an evaluation would be to ensure that the public interest is met by choosing the best ownership option for providing solid waste service to the citizens of the region.

Currently, local recycling drop centers are all privately owned. Policy 13.1 would allow these drop centers to continue being privately owned. Further, this policy would allow cities and counties to establish recycling drop centers if the cities and counties determined that such additional drop centers were needed and weren't being provided by the private sector. This policy further gives the cities and counties the responsibility of providing this kind of solid waste service in their jurisdictions in accordance with ORS 459.165.

14.0 UNIFIED WORK PROGRAMS POLICY

THE SOLID WASTE MANAGEMENT PLAN SHALL INCLUDE ANNUAL WORK PROGRAMS WHICH IDENTIFY ROLES, RESPONSIBILITIES AND TIME FRAMES IN WHICH METRO, THE CITIES AND COUNTIES SHALL IMPLEMENT THE PLAN.

BACKGROUND

The solid waste management plan will identify how the region's waste shall be managed. Carrying out the plan programs and siting facilities will need to be done cooperatively by Metro, the cities and counties. This coordinated effort in implementing all aspects of the plan can be achieved by including a general work program in the plan which identifies the roles, responsibilities and general time frames in which Metro, the cities and counties shall implement the plan.

15.0 PUBLIC INVOLVEMENT AND EDUCATION POLICY

METRO, THE CITIES AND COUNTIES SHALL PROMOTE PUBLIC INFORMATION, EDUCATION AND PARTICIPATION IN DEVELOPING AND IMPLEMENTING THE SOLID WASTE MANAGEMENT PLAN.

16.0 LOCAL GOVERNMENT SOLUTIONS POLICY

THE IMPLEMENTATION OF THE SOLID WASTE MANAGEMENT PLAN SHALL GIVE PRIORITY TO SOLUTIONS DEVELOPED AT THE LOCAL LEVEL THAT ARE CONSISTENT WITH ALL PLAN POLICIES.

16.1 Each local government shall exercise its responsibilities for solid waste solutions in its area, in ways consistent with the regional plan.

16.2 Each city and county shall provide appropriate zoning for planned solid waste facilities or enter into intergovernmental agreements with others to assure such zoning.

BACKGROUND

Local Solutions:

The 1987 update to the Solid Waste Management Plan is premised upon developing a regional cooperative decision-making process in finding solutions to solid waste issues in the region. In achieving this, a policy committee comprised of local government officials, Metro Councilors, the Metro Executive Officer, a Port of Portland official and the Director of the Department of Environmental Quality has been established to debate solid waste plan issues and make recommendations of action to the Metro Council. Further, a technical committee comprised of local government solid waste technicians, land use planners, citizens and solid waste industry representatives has been established to assist the policy committee in developing and recommending technical solutions on solid waste to the Metro Council. Of particular importance in actively carrying out the regional partnership is the incorporation of local solid waste management solutions in the plan. Cities and counties have the responsibility for solid waste collection of refuse and recyclables. In doing so, local governments have the ability to

effectively design efficient local systems for carrying out regional solid waste programs such as recycling. Further, cities and counties, working closely with local haulers, may desire to develop "subregional" solid waste facility options which best suit the needs and desires of the local industry and citizens. Such local and subregional solutions need to be incorporated into the regional plan to the extent that they are compatible with and achieve the objectives of the overall solid waste system.

Further, local governments are responsible for administering local land use provisions. LCDC Goal 11 requires that cities and counties provide for solid waste disposal sites. Therefore, as the regional plan is developed, and facilities determined, local governments will need to assist in the siting of those facilities by providing appropriate zoning.

17.0 PLAN DEVELOPMENT AND AMENDMENT POLICY

THE SOLID WASTE MANAGEMENT PLAN SHALL BE DEVELOPED AND AMENDED THROUGH A REGIONAL COOPERATIVE PROCESS BETWEEN METRO, THE CITIES, THE COUNTIES, SOLID WASTE INDUSTRY REPRESENTATIVES, CITIZENS AND OTHER AFFECTED PARTIES.

17.1 The Solid Waste Management Plan shall include a process for developing and amending the plan, and shall define the roles and responsibilities of Metro, the cities, the counties, solid waste industry representatives, citizens and other affected parties.

17.2 The Solid Waste Management Plan shall be consistent with existing Metro policies for managing solid waste.

17.3 Amendments to existing plan policies may occur during the planning process whenever a need is demonstrated.

18.0 PLAN CONSISTENCY POLICY

THE SOLID WASTE MANAGEMENT PLAN SHALL BE RECOGNIZED THROUGH CITY AND COUNTY COMPREHENSIVE PLAN POLICIES AND ORDINANCES GOVERNING THE SITING, PERMIT REVIEW, AND DEVELOPMENT STANDARDS FOR SOLID WASTE FACILITIES.

18.1 The Solid Waste Management Plan shall provide standards for the siting of facilities. The model standards can be incorporated into local comprehensive plans in order to achieve compliance with the regional plan.

BACKGROUND

Facility Locations:

The integrated system of solid waste facilities will include yard debris processing centers, material recovery centers, transfer stations, landfills, low-grade waste facilities, hazardous waste facilities, lumber recovery centers, mixed waste composting facilities and possibly energy recovery facility(ies). The plan will provide performance standards to be used in the siting of different types of solid waste facilities. The performance standards will be based on facility type and will be developed in close coordination with local government land use provisions.

Consistency:

The Solid Waste Management Plan will be developed to provide consistency between the above stated local, regional and state programs and responsibilities in an overall effort to efficiently manage solid waste in the region.

Metro's enabling legislation, and subsequent action through a Governor's Executive Order, gives it legal direction to develop solid waste plans for the three-county area, set rates, control the flow of solid waste, and franchise, contract or license, build or operate solid waste facilities for the District as necessary or desirable for an effective and environmentally sound solid waste disposal system. ORS 459.165 mandates that all local governments with a population of 4,000 or more provide collection at least once a month of source-separated recyclable material. ORS 459.015 requires that Metro develop a regional plan to manage waste in accordance with the hierarchy of reduce, reuse, recycle, recover energy and landfill. The Land Conservation and Development Commission (LCDC) Goal 11 (Public Facilities and Services) states that "to meet current and long-range needs, a provision for solid waste disposal sites, including sites for inert waste, shall be included in each plan."

SECTION III - WASTE MANAGEMENT

INTRODUCTION

The Waste Management section of the plan deals with specific methods and techniques for managing solid waste.

The Waste Reduction Chapter develops specific programs to reuse, reduce, recycle and recover energy from waste before it is landfilled, in accordance with the state hierarchy. Other chapters describe how to manage specific components of the waste stream, such as hazardous or low grade waste.

The Hazardous Waste Chapter analyzes hospital wastes; household hazardous waste, such as solvents and insecticides; and small quantity generators, such as dry cleaners or automotive repair shops, that are exempt from state regulation. The Low Grade Waste Chapter analyzes how to manage inert materials like demolition debris, contaminated soil and rocks.

The final chapter in this section addresses the issue of Illegal Dumping, including the extent to which this is occurring in the region and its impact on effective solid waste management.

Waste Reduction Policies

1.0 The Solid Waste Management System shall achieve in an environmentally safe manner the maximum feasible reduction of solid waste being landfilled, in accord with the state hierarchy under ORS 459.015, and through the cooperative efforts of Metro, the cities and counties, and the community.

1.1 Metro shall set annual waste reduction goals to achieve the maximum feasible reduction based on an evaluation of: a) the amount of waste which is recoverable, b) the available technical methods, and c) the acceptable cost for recovery.

1.2 The annual goals will include evaluation of local participation rates and will provide a consistent method of data gathering and distribution of waste reduction information.

1.3 Metro shall support a higher system cost for waste reduction techniques over landfilling based on the state hierarchy (ORS 459.015) in order to accomplish the maximum feasible reduction of waste to the extent it is determined to be environmentally safe, technically and economically feasible.

1.4 An integrated system of waste reduction techniques shall be developed with emphasis on source separation, not to preclude the need for other forms of recovery such as post collection material recovery.

1.5 Metro, the cities and counties shall assure a provision for public education and promotion for waste reduction.

CHAPTER 1 - WASTE REDUCTION

The 1986 Waste Reduction Program is hereby adopted as the Waste Reduction Chapter of the Regional Solid Waste Management Plan. The Waste Reduction Chapter consists of the following documents:

I. Solid Waste Reduction Final Report

II. Work Plan

III. Public Education Plan

Hazardous Waste Policies

2.0 Hazardous wastes shall be kept out of the solid waste stream.

2.1 Solutions to managing the proper disposal of household hazardous wastes, conditionally exempt hazardous wastes, and hospital wastes shall be developed as a component of the Solid Waste Management Plan.

2.2 Metro shall not knowingly accept for solid waste disposal or processing any hazardous materials at solid waste facilities.

CHAPTER 2 - HAZARDOUS WASTE

PURPOSE

The purpose of this chapter is to assess the impact and possible recycling and disposal options for household hazardous wastes, conditionally exempt generators of hazardous wastes, and hospital wastes.

BACKGROUND

Metro's enabling legislation does not provide legal authority for management of hazardous waste. Establishment of alternative disposal locations or methods is believed to be outside the scope of Metro's authority. However, Metro can undertake programs to prevent disposal of improper material at its sites.

SUMMARY

Programs for managing household hazardous waste entails implementation of household collection events, inclusion of hazardous waste categories in waste composition studies, and a process to provide agency response to inquiries from the general public regarding recycling and disposal of household hazardous waste.

Programs for conditionally exempt generators of hazardous waste entails Metro coordinating a committee to develop solutions for proper disposal and recycling of conditionally exempt generators of hazardous waste. The committee would be charged with identifying existing recycling and disposal options, developing a method to disseminate this information, and determining if additional recycling and disposal options are needed in the Metro region.

Programs for managing hospital wastes have not yet been developed. Metro will address the proper management of hospital waste in future updates of the Hazardous Waste Chapter of the Solid Waste Management Plan.

HOUSEHOLD HAZARDOUS WASTE PROGRAMS

Pilot Project for Household Collection Event:

Metro shall financially assist, if necessary, a local jurisdiction or group of jurisdictions in implementing a collection event. The pilot project service area will target both the suburban areas and major cities. Funding of the pilot project would be a one-time event to serve as a model to other jurisdictions and to raise awareness of the household hazardous waste issues. Metro would work with a selected jurisdiction to coordinate the collection event and would write a request for proposal for a hazardous waste transporter and disposal consultant if a free service cannot be solicited. The local jurisdiction will be responsible for selecting a site, securing assistance from an ambulance and bomb squad, and distributing of flyers and posters. Metro public affairs staff will assist with promotion and education for the collection event and be responsible for radio and T.V. promotion. The promotion and education campaign for collection events will include information on use of non-hazardous materials and recycling opportunities for household wastes, as well as publicizing the collection event. The pilot project will be evaluated to assist in determining appropriate funding sources and the need for future collection events.

Long-Term Funding of Household Collection Events:

Household collection events have been identified as an appropriate mechanism to collect, recycle and dispose of household items such as garden pesticides, non-water based paints, and household cleaners, etc. Metro, in cooperation with other affected agencies will pursue funding to provide a regular schedule of collection events for the public.

Metro will also evaluate long-term strategies on how best to collect household hazardous waste. Several options are:

- o Collection events
- o Permanent sites
- o Special area of transfer stations
- o Door to door pick-up service

Waste Characterization Study:

As part of the Waste Characterization Study, categories for hazardous waste will be included. The addition of a hazardous waste category will provide specific data on the amount of hazardous waste in the Metro area waste stream.

Resource Directory:

A resource directory will be produced in response to the need for a widely available, uniform source of information on proper disposal methods for the large number of agencies that receive inquiries from the general public on household hazardous waste. Disposal recommendations and endorsements from respective organizations will need to be obtained. The directory will be targeted for government agency staff people, public interest groups, health professionals and product manufacturers or retailers.

The directory will provide information on the most appropriate disposal method for household hazardous waste, the use of non-hazardous products, recycling opportunities, and procedures for emergency situations.

CONDITIONALLY EXEMPT GENERATOR PROGRAM

Metro shall coordinate a committee to develop solutions for proper disposal and recycling of conditionally exempt generator hazardous waste.

The committee will investigate available information on the number and types of conditionally exempt generators in the Metro area from a variety of sources (DEQ, sewer districts, fire districts, and hazardous waste transporters and disposal companies). The committee will cooperatively develop a resource document to provide information on existing disposal and recycling options for conditionally exempt generators in the Metro area. The committee will also determine the appropriate method for distributing the information to small businesses.

The committee will assess whether additional recycling and disposal options are needed for the Metro area. If additional options are needed, the committee will be responsible for recommending implementation strategies. Metro's role in this project will be to lead and coordinate the discussions to develop solutions for conditionally exempt generators of hazardous waste. Metro, along with other participants will be requested to provide staff and resources to implement programs. At this time, Metro is not designated as the agency responsible for implementation of any programs, nor is Metro being asked to solely provide staff work to gather information and develop this plan.

HOSPITAL WASTES

Metro shall work cooperatively with DEQ, local governments, haulers and generators to develop solutions for the proper

handling and disposal of hospital wastes. Metro, through the Solid Waste Management Plan, will identify the sources, amounts, and types of hospital wastes within the region. Metro will analyze this information and determine what options are needed to safely manage hospital waste.

Low-Grade Waste Policies

3.0 Solutions to low-grade waste management shall be developed as a component of the solid waste management plan.

3.1 An integrated system for managing low-grade waste shall be developed which is based upon management techniques resulting from waste substream assessment.

3.2 Metro shall ensure that there is adequate capacity for disposal of low-grade wastes. Low-grade waste facilities shall be planned and located so that they are compatible with other elements of the solid waste system.

CHAPTER 3 - LOW-GRADE WASTE

Chapter 3, Low-Grade Waste, has not yet been developed. It will be completed during future updates of the Solid Waste Management Plan.

Illegal Dumping Policy

4.0 Solutions to the problems of illegal dumping and to other adverse impacts caused by changes in the waste management system shall be developed cooperatively by DEQ, Metro, and cities and counties.

CHAPTER 4 - ILLEGAL DUMPING

Chapter 8, Illegal Dumping, has not yet been developed. It will be completed during future updates of the Solid Waste Management Plan. A survey of illegal dumping sites in the Metro area is listed in the Appendix.

SECTION IV - SOLID WASTE SYSTEM

INTRODUCTION

The Solid Waste System section of the plan looks into the types and arrangement of facilities that are necessary to meet the goal, objectives and policies of the Solid Waste Management Plan. The Facilities Chapter looks at a wide range of facilities including landfills, transfer stations, material recovery centers, yard debris processing centers, low grade waste facilities, hazardous waste facilities, lumber recovery centers, mixed waste composters and possibly energy recovery facilities.

In addition to determining what configuration of facilities is most appropriate for the region, the System Design Considerations Chapter evaluates the impacts of specific facilities on land use, economic development and the environment, and proposes suitable mitigation of these impacts.

The remaining chapters in this section examine the collection and transport of waste which are also an integral part of the solid waste system.

Facilities Policies

5.0 The solid waste system shall be an integrated system of facilities designed to accommodate the management of waste based on the state hierarchy.

5.1 The solid waste system shall support a uniform level of service throughout the region.

5.2 Solid waste facilities shall be designed to be reliable, adaptable, and to function in a cost effective manner.

5.3 Local solid waste solutions shall be integrated into the solid waste management system to the extent they are compatible with the system and meet all other plan provisions.

5.4 Those technologies and programs which increase regional solid waste management efficiency or reduce the dependency on landfilling shall be employed whenever feasible.

5.5 An end use plan for new landfills will be developed and a funding method determined.

CHAPTER 5 - FACILITIES

PURPOSE

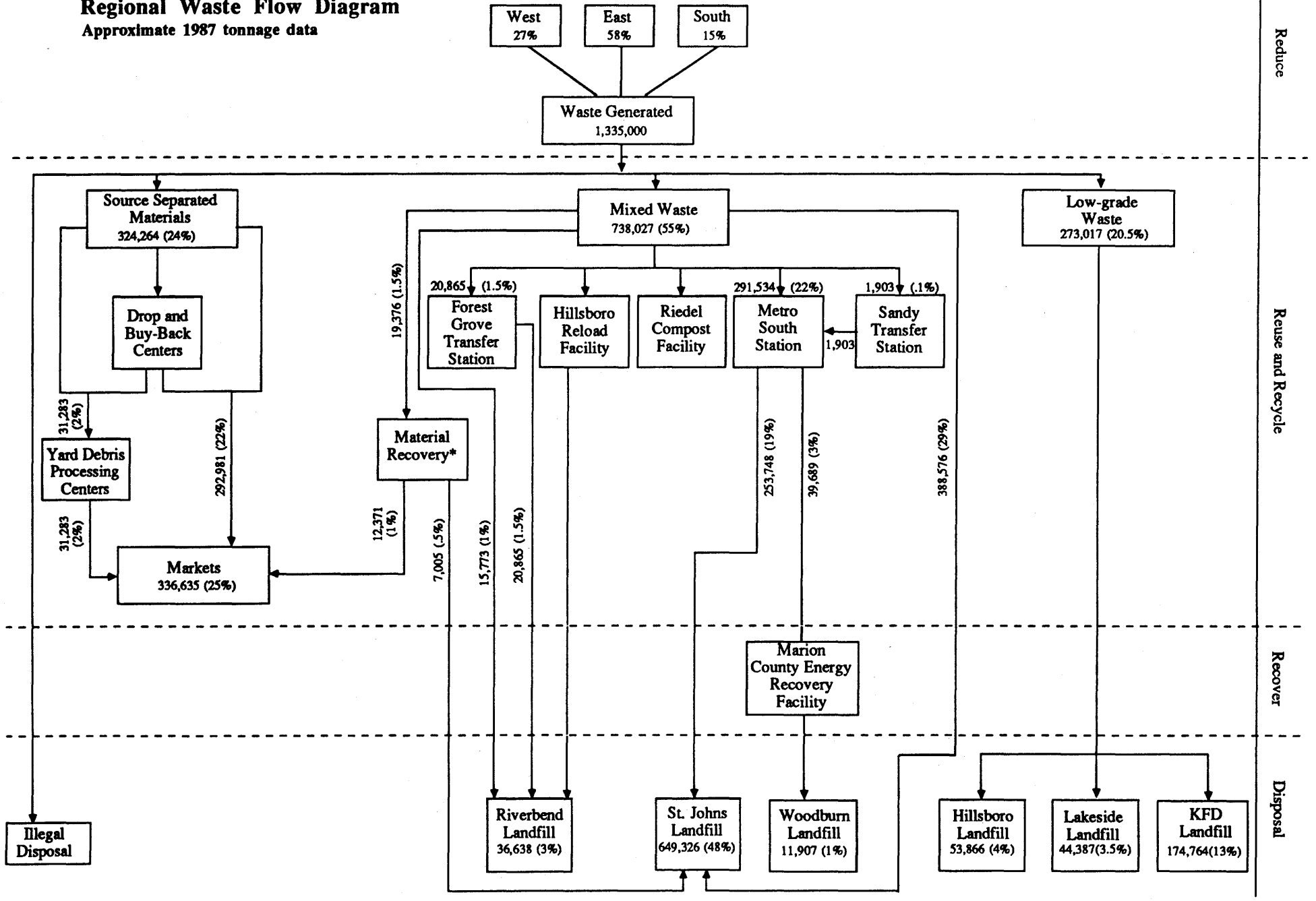
The purpose of this chapter is to determine need for specific types of solid waste facilities in order to provide an orderly and efficient regional solid waste system. The facilities chapter is divided into subchapters, each identifing key facilities for current and long range needs.

CURRENT SOLID WASTE SYSTEM

The current system of solid waste facilities operating within the tri-county region is illustrated by the following regional waste flow diagram. A more detailed description of the solid waste system is contained within the Inventory, an appendix to this Plan.

Regional Waste Flow Diagram

Approximate 1987 tonnage data



* Includes Oregon Processing and Recovery Center, East County Recycling, Marine Drop Box, Metro South Station

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GENERAL PURPOSE LANDFILL

PURPOSE

The purpose of this landfill chapter is to determine the need for general purpose landfill capacity as an integral component of the region's solid waste management system. Further, this document shall be used to establish findings of compatibility with the solid waste management plan for any proposed landfill where waste from the tri-county area is to be disposed.

Limited purpose landfills are not addressed within this chapter except as noted in their general role within a solid waste system. Limited purpose landfills are to be addressed in future updates of the Facilities Chapter of the Solid Waste Management Plan.

BACKGROUND

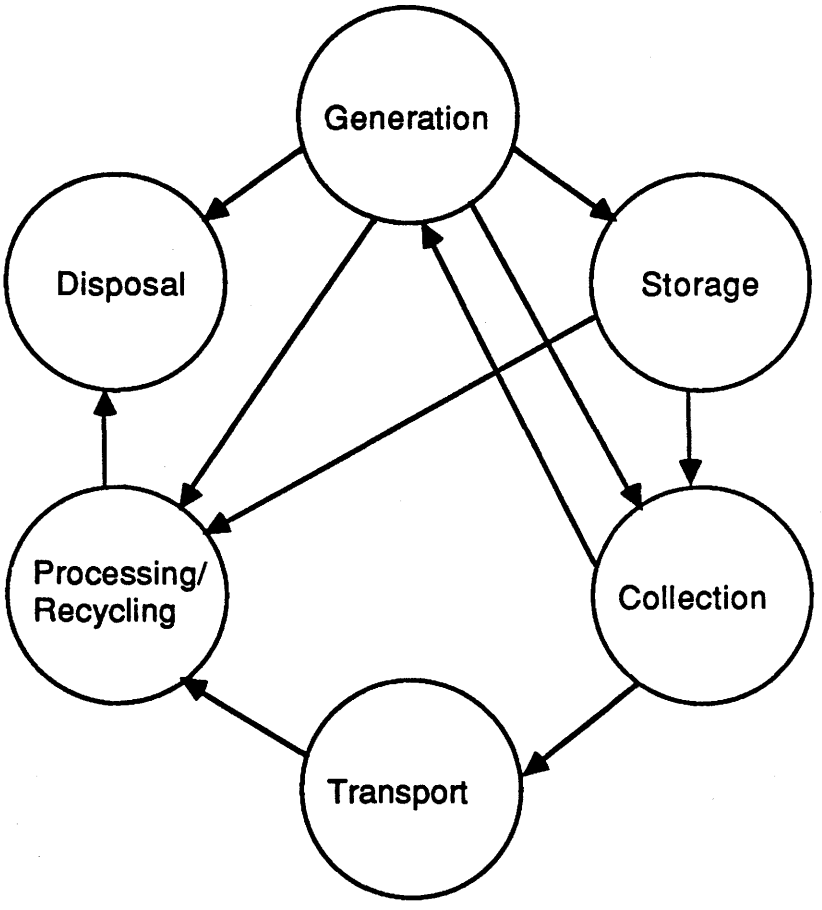
The Portland metropolitan area currently disposes of its municipal solid waste in two types of landfill facilities: general purpose landfills and limited purpose landfills. Limited purpose landfills are prohibited from accepting food waste, but they are permitted to receive commercial demolition debris and industrial solid waste that does not contain food waste.

General purpose landfills accept all types of residential, commercial and industrial wastes, excluding hazardous wastes. The St. Johns Landfill is the only general purpose landfill remaining in the Metro district. In 1987, approximately 50 percent of the waste generated in the Metro district was disposed of in this landfill. St. Johns is owned by the City of Portland and operated by Metro. Metro's contract with the city requires the landfill to close by February, 1991. However, current estimates of remaining capacity indicate that the landfill could close before that date.

Sanitary landfills are an integral part of the entire solid waste management system. Figure 1 depicts the six major parts of that system: Generation, Storage, Collection, Transport, Processing/Recycling, and Disposal. The diagram also illustrates the interrelationships that exist between the various parts of the system. For example, source separation of wastes can substantially reduce the need for landfill volume, but it

FIGURE 1

Interrelationships within the solid wastes system



Source: *Solid Wastes Management,* April, 1977

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requires changed collection and operating procedures; transfer stations can reduce the costs of long-distance hauling and reduce congestion at the landfill site itself; recycling centers can reduce disposal requirements and alter the composition of wastes requiring disposal. Ultimately, the disposal component is the receiver of all impacts of the other parts of the solid waste management system.

Metro is responsible for the safe and efficient disposal of solid waste produced in the Portland tri-county area. Under the current system of solid waste management, the tri-county area relies on landfills for the majority of waste disposal. Metro's goals for solid waste management seek to reduce to the maximum extent possible that portion of the waste stream that must go to a landfill.

Metro's 1986 Waste Reduction Plan recommends a number of programs which will reduce the amount of waste going to landfills. These include source-separated recycling and composting, materials recovery and yard debris centers, and energy recovery facilities. However, even if these programs were all in place, there would still be unrecyclable material and unprocessable waste and by-products. Energy recovery facilities produce at least 10 percent residue by volume as a by-product of the combustion process. As much as 30 percent of the waste entering a composting facility must be disposed of as well. These materials, as well as by-pass wastes from scheduled facility shutdown and waste generation in excess of resource recovery facility capacity, must be disposed of in a landfill.

It is Metro's responsibility to assure that facilities are available for the disposal of waste generated in the Portland metropolitan area. Metro must ensure the availability of general purpose landfill capacity to meet the disposal needs of the entire Metro region.

LANDFILL FUNDAMENTALS

General

The traditional definition of sanitary landfill comes from a Sanitary Landfill Manual of Practice, prepared by the American Society of Civil Engineers (ASCE) in 1959. "Sanitary Landfill is a method of disposing of refuse on land without creating nuisances or hazards to public health or safety, by utilizing the principles of engineering to confine the refuse to the smallest practical area, to reduce it to the smallest practical volume, and to cover it with a layer of earth at the conclusion of each day's operation or at such more frequent intervals as may be necessary."

Today's sanitary landfills are distinctly different from the old garbage dumps, which were open pits operated with little or no precautions against the potential hazards of gas migration, water pollution, rodent infestation, etc. Modern sanitary landfills operate according to a design and operating plan which has been approved by appropriate regulatory agencies. Landfill operations are closely monitored by federal and state agencies under an operating permit and regulations. The Resource Conservation and Recovery Act (RCRA) passed by Congress in 1976 requires that open dumps must be either closed or upgraded to meet prescribed standards of sanitary landfills, and new land disposal facilities must meet stringent criteria in siting and operation. These criteria relate to the following:

1. Floodplain integrity and management
2. Endangered species preservation
3. Surface water protection
4. Groundwater protection
5. Application of wastes to land used for the production of food chain crops
6. Disease prevention
7. Air quality protection
8. Public safety with respect to explosive gases, fires, bird hazard to aircraft, and site accessibility.

The U.S. Environmental Protection Agency (EPA) is currently evaluating the regulations for municipal waste landfills in response to the Hazardous and Solid Waste Amendments of 1984 to Subtitle D of the Resource Conservation and Recovery Act of 1976 (RCRA). In general, these proposed federal regulations affecting landfills are moving away from categorical design criteria toward strict performance standards. The federal regulations set the performance standards, which define the end result, and require states to implement a regulatory system that will achieve that end result. It would be the facility's responsibility to demonstrate that the proposed design and operation will meet the federal performance standards and the state regulations. Previously developed categorical design criteria may be issued as guidance by EPA as a way of evaluating facility design to verify that it meets the performance standards.

Current Status of Proposed Regulations

The EPA has scheduled April, 1988 as the envisioned publication date for the proposed new Subtitle D regulations covering landfills for non-hazardous wastes. They have released drafts of the proposed regulations for review and comment to state regulatory agencies, industry associations, and other interested

groups. Clearly, new regulations will emphasize groundwater protection, monitoring and elimination of hazardous waste from landfills, and lining requirements.

Characteristics of a Modern Landfill

Figure 2 presents a generalized schematic of the typical features that characterize a modern landfill.

While there are few ideal sites for landfills, some locations have more desirable conditions than others and have fewer potential effects on people and the environment. It is important for a site to be large enough to last a number of years, to provide a buffer around the active fill area, and to be capable of being constructed to meet regulatory standards for environmental safety.

Transport

Usually, getting waste to a landfill is a two-step process. Refuse haulers bring their collected waste to transfer stations near the region's centers of waste. Large transfer trucks, which keep the garbage completely enclosed, haul the waste to a landfill, where they unload it in a designated area. Variations to this procedure may occur when a landfill is close enough to the commercial and residential collection area to facilitate efficient direct haul by the refuse collector to the face of the operating landfill. Such has been the case in the operation of the St. Johns Landfill.

The transfer of refuse from the area of generation to the landfill is sometimes best accomplished by utilizing other modes of transport such as barging or rail. This usually occurs when the landfill is located a great distance from the waste collection area. In this latter scenario it is possible for waste to go through a three-step process to get to the landfill. One, haulers bring waste to the transfer station; two, transfer trucks take waste to a barge or rail loading facility; and three, the barge or rail car takes the waste to the distant landfill. Barging will usually require an additional step to get the waste from the barge site to the operating landfill. Rail may or may not require a similar additional step depending on the location of rail terminals.

Design and Construction

Groundwater or infiltrating surface water moving through solid waste can produce leachate, a solution containing dissolved and

How a Modern Landfill Works

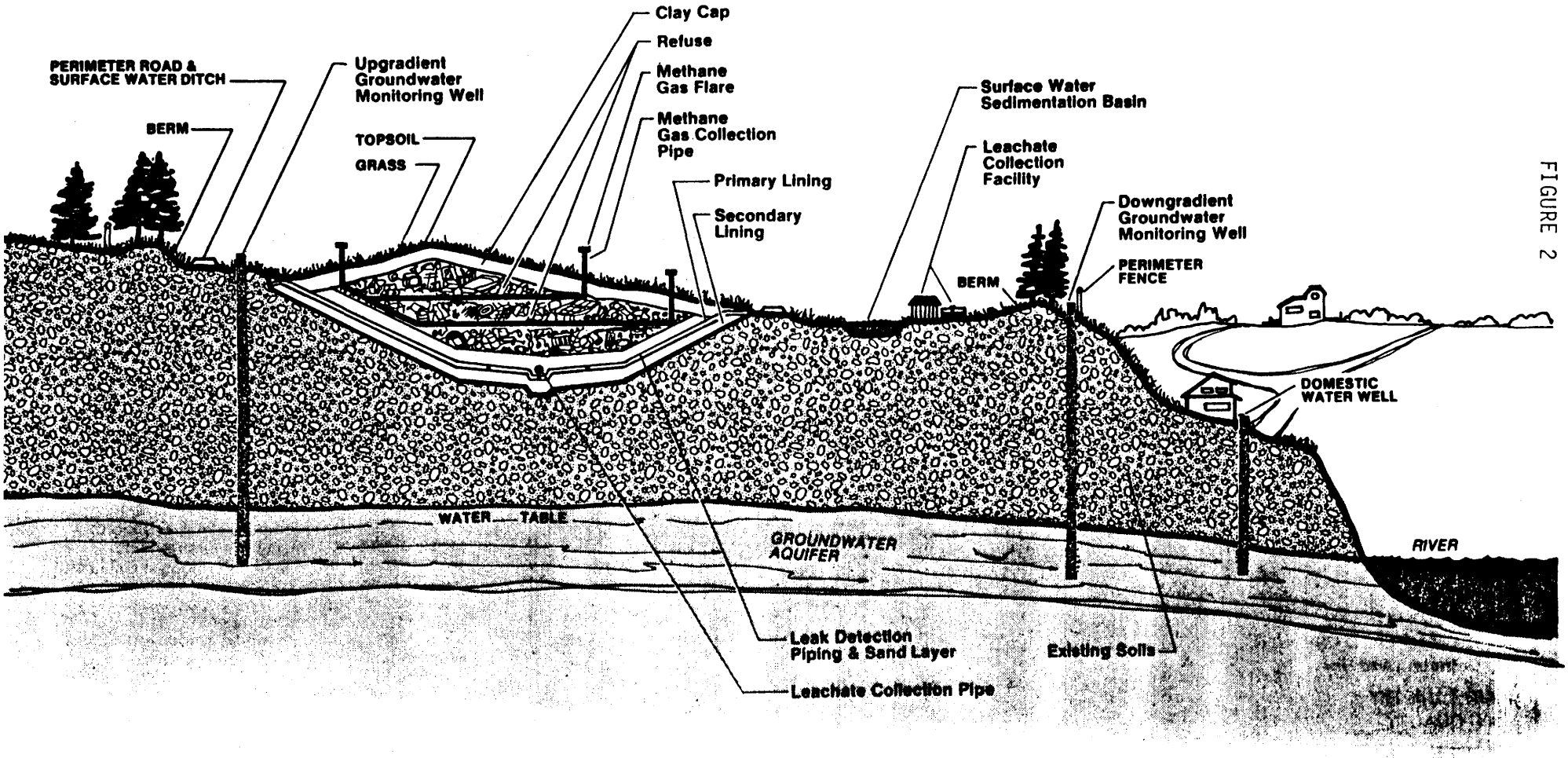


FIGURE 2

SOURCE: Landfill Siting Report: Summary
March 1987, Department of Environmental Quality

finely suspended solid matter and microbial waste products. The active areas of modern sanitary landfills have a system of liners to prevent leaks of this leachate. This system includes pipes to collect leachate from the bottom of the landfill and pump it to a treatment facility. Pipes are also installed to collect gas produced as the garbage decomposes. This gas may be flared to minimize environmental damage and odors if the system is not actively using the gas. Surface drainage is provided to direct surface water to a sedimentation basin and/or discharge culverts. Other features are incorporated into the landfill design to address particular site needs such as noise, berms, visual barriers, fire barriers and litter control measures.

Operation

The landfill is divided into working areas several acres in size. Usually, only one working area at a time is developed and used. Within the working area, waste disposal is confined to one small cell (about one acre at a time). The waste is spread into thin layers, compacted, and covered with a clean soil layer daily. When a working area is full, it is closed and disposal moves to another area.

Groundwater protection is an important feature of a modern landfill. Leachate leak detection systems are installed between the liners. If one liner leaks, it is detected before pollutants reach the second liner and corrective actions are taken. Groundwater monitoring wells are installed at appropriate locations around the site. If pollutants should escape through the bottom liner, they can be detected before reaching downgradient water wells. Gas monitoring systems are also provided. Fire prevention measures include on-site water systems and proper separation of the cells so fire is confined to a small area if it should occur.

Closing the Site

Even before the landfill begins to operate, plans are made for its eventual closure. They specify what the final protective cover will be (usually a clay cap), how the site will be graded and planted and for what new uses the land will be suitable. Groundwater and gas monitoring continue for many years after the landfill is closed.

EXISTING GENERAL PURPOSE LANDFILLS

St. Johns Landfill - Remaining Capacity

Currently, St. Johns is the only general purpose landfill in the Portland tri-county area. This 236-acre facility, located in north Portland, has been operating since about 1934. Owned by the City of Portland, and operated by Metro, the landfill receives a total of over 650,000 tons of waste per year from commercial and individual haulers or about 65 percent of all the wastes landfilled each year.

Projections on St. Johns' remaining capacity are based on three factors: 1) the rate of waste flow into the site, 2) the density of compaction of the waste as it is placed into the site, and 3) the amount of settlement. Regional solid waste policies and programs, such as diverting waste to out-of-region landfills or to material processing centers, and banning out-of-state loads also impact the site life of St. Johns.

As of September, 1987 Metro estimates that there are approximately 2.5 million cubic yards (2,698,660 tons) of remaining capacity including daily cover at St. Johns Landfill. This volume is predicated on two actions: 1) increasing compaction ratios by 12 percent; and 2) refilling an area in the old, closed-out section of the landfill.

Based on current flow projections and capacities, Metro anticipates the landfill will close by Summer 1990 unless additional measures can be taken to extend its life to February 1991--the end of the contract date with the City of Portland.

Diversion Efforts

Diversion is the process which redirects waste from one solid waste facility to another and is an additional tool Metro uses to prolong the life of St. Johns. Metro encourages haulers to utilize alternative facilities such as material recovery centers or limited purpose landfills where appropriate. Metro makes these alternative facilities economically attractive through rate setting techniques.

Encouraging the diversion of loads to alternative sites is limited by the type of alternative facilities available and the willingness of haulers to use them. Currently, the alternative facilities available within the Metro region can only take non-food waste or loads with a high percentage of recyclables. While use of the facilities has increased, economic incentives have

been insufficient to divert all the waste which could be handled by these alternative facilities.

Metro has permitted and encouraged haulers to utilize disposal facilities outside the Metro boundaries and has intergovernmental agreements with those facilities which allow this diversion. Commercial haulers are currently permitted to use the Forest Grove Transfer Station from which transfer trucks haul the waste to the Riverbend Landfill in Yamhill County. Metro also hauls waste to this landfill from its Clackamas Transfer and Recycling Center. Other haulers in Washington County haul directly to Riverbend.

In total, the Riverbend general purpose landfill receives approximately 36,000 tons of commercially hauled waste per year from the tri-county area. The Marion County energy recovery facility in Brooks can accept up to 40,000 tons of solid waste per year from the Portland region for incineration. Figure 3 illustrates the distribution of non-recyclable waste in 1987.

Extensions to the Landfill

Metro has conducted several studies to analyze the feasibility of extending the area or capacity of St. Johns to make it last longer. Theoretically, its life can be extended by expanding laterally through filling of new areas or vertically by adding lifts.

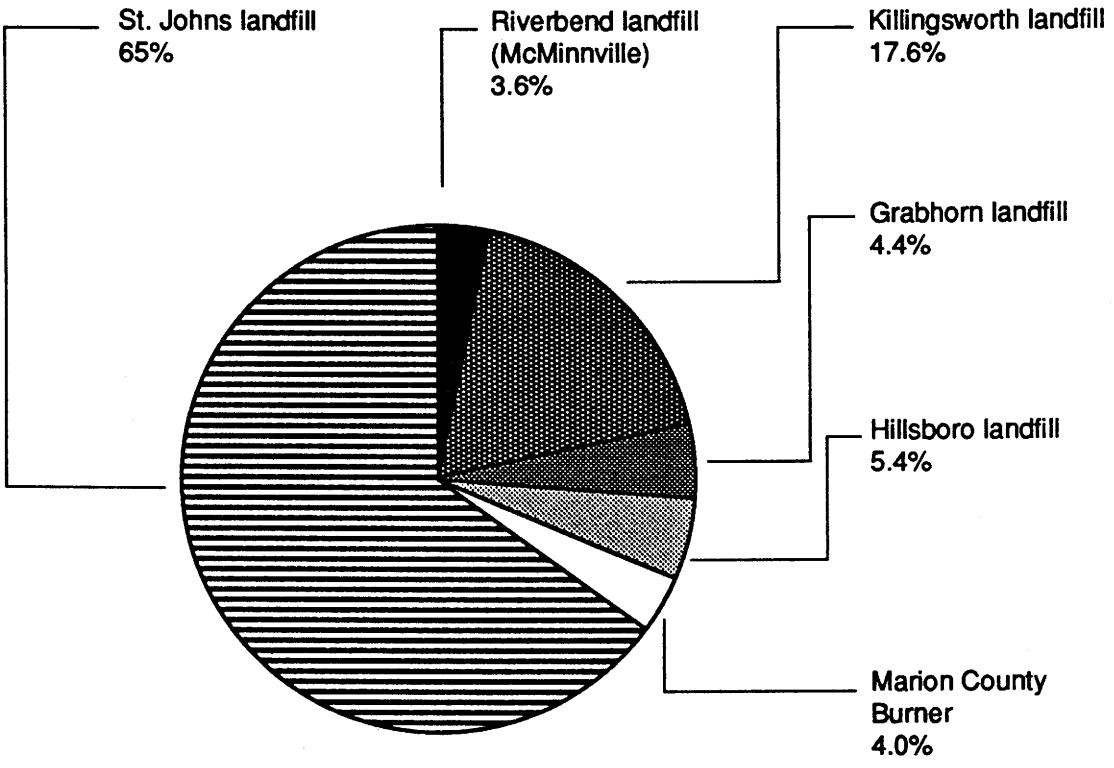
There are a number of restrictions and limitations which decrease the effectiveness of expansion as an effective means of extending St. Johns' site life. First, the height limitation set by the land use permit for St. Johns Landfill is 80 feet mean sea level. The landfill is presently being filled to an average peak elevation of 74 feet. Vertical expansion to 80 feet would only increase site life by about two years. This expansion would require approval by the City of Portland and the Department of Environmental Quality.

Lateral expansion to gain capacity at St. Johns would require moving into Smith or Bybee Lakes. This type of expansion would require 1) repeal of state statute (ORS 541.622), 2) approval from EPA and the Corps of Engineers for filling wetlands, and 3) land use approval from the City of Portland. In addition, geotechnical studies have found marginally suitable to poor foundation conditions for lateral extension.

At this time, both lateral and vertical expansions of the St. Johns Landfill appear to be unacceptable environmentally and politically.

FIGURE 3

Distribution of Non-Recycled Waste 1987



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St. Johns Closure

Metro has developed a Draft Closure and Financial Assistance Plan for the St. Johns Landfill (December, 1986). This plan specifies the procedures that will be undertaken to assure that the landfill is closed in an acceptable manner and that appropriate activities are scheduled to monitor and maintain the site for at least 10 years and possibly up to 20 years after closure. The Oregon DEQ has reviewed this plan and has determined that additional water control structures may be needed. Metro will conduct an investigation to determine exactly what is needed. The requirements for a closure plan have been established in Oregon's Administrative Rules (OAR Chapter 340, Division 61). The St. Johns Operations Plan calls for the closure of subareas in an ordered sequence as the filling of the landfill progresses. This "close-as-you-go" strategy is pursued so that areas susceptible to erosion and surface water infiltration are minimized throughout the period of active operations and so that the area to be closed at the time the landfill stops receiving waste is as small as practicable.

RELATIONSHIP OF LANDFILLS TO WASTE REDUCTION

The conventional approach to managing solid waste is to collect waste from residences or work places and to haul it to a landfill. Sometimes intermediate collection points or transfer stations are used to combine loads and transfer them to large trucks for haul to a landfill.

Increasingly, landfills are being viewed as only one part of a larger solid waste system which identifies waste as a resource from which materials and energy can be extracted. The waste reduction elements of the solid waste management system include (see Figure 4):

Source Reduction	Source reduction looks at ways to reduce packaging, make products last longer, use fewer resources in making them, and foster waste-thrifty consumer buying habits.
Source Separation	This step diverts waste before it enters the trash can. Examples include bottle return, recycling of paper, glass, metal, oil, yard debris, plastic, newspapers; and home composting.

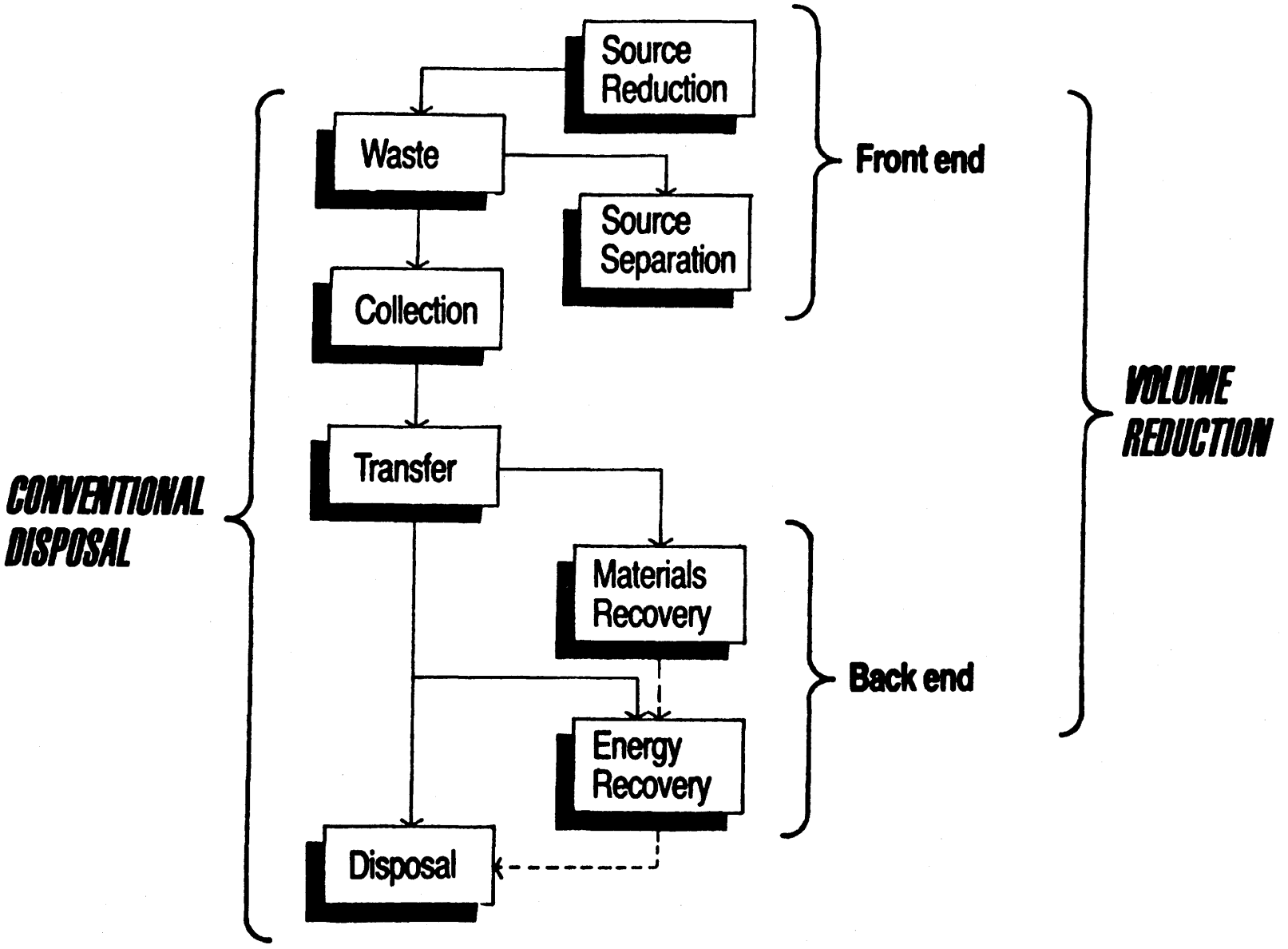

FIGURE 4

SOLID WASTE MANAGEMENT SYSTEM

Materials Recovery — Materials that could be recycled or composted are reclaimed from mixed waste after it is collected but before disposal. Materials can be extracted from mixed waste by hand or mechanical means.

Energy Recovery — Mixed waste can be used to generate energy either by directly burning the waste or by incinerating fuel products made from waste. Energy created can take the form of steam, hot water, or electricity.

Together, source reduction and source separation constitute "front-end volume reduction," since both take place before waste is collected. Materials recovery and energy recovery comprise "back-end volume reduction."

Specific examples of some of the region's waste reduction facilities include the following.

Materials Recovery and Recycling Centers for Mixed Waste

- Oregon Processing and Recovery Center is located in north Portland. Mechanical devices (trommels and screens) and people are used to separate recyclables for resale. The facility accepts loads of mixed waste composed of at least 50 percent recyclable materials. The facility's capacity is estimated at 12,000 to 15,000 tons per year. Residual waste (estimated 40 percent of volume received) is disposed of at St. Johns Landfill or Killingsworth Fast Disposal.

- East County Recycling is located in the Parkrose district of Portland. Mixed waste is accepted for processing at the site for loads with at least 30 percent recyclable material. The owners/operators hand-sort the loads in preparation for sale of the materials to the secondary market. Between October 1986, when they began reporting their volumes to Metro, and June 1987, they processed about 4,250 tons, with about 70 percent of that recycled.

- Marine Drop Box--Marine Drop Box, located in northeast Portland, collects dunnage and debris from ships and sorts out useful wood, rope, cable, turn buckles, metal clips and wire for resale or for salvage. Ninety percent of the material received is reused or recycled. Approximately 10,000 cubic yards of waste are processed yearly.

- Sunflower Recycling, located in southeast Portland, has a composting operation for limited amounts of source separated food scraps, grass clippings, weeds, sawdust, and sod. Less

than two tons per month of waste is composted in two 6 cubic yard cement mixers. Food and garden wastes are collected from Sunflower customers only and resold to the business's customers.

- Yard Debris Processing Centers

  Five yard debris facilities receive source separated yard debris and process the material into a product which can be sold. The material is delivered to the facilities by private individuals, commercial landscapers, and commercial waste collection firms. The material is generally processed into compost for sale as a soil amendment or ground cover. These firms received and processed over 200,000 cubic yards (about 20,000 tons) of material in 1986.

  The current yard debris processing centers include Grimm's, MacFarlane's, East County, Washington County Unified Sewerage Agency, and the City of West Linn Yard Debris Center.

- Recycling Drop Off Centers

  There are approximately 150 recycling drop off centers in the Metro region. These include multi-material drop centers, newspaper only depots, buy-back centers, motor oil drop centers and pick-up services.

Future Waste Reduction Programs

In addition to these ongoing activities, Metro continues to pursue the development of a number of new waste reduction programs. These will include formulating specific waste reduction goals for various parts of the waste stream, incorporating material recovery at transfer centers and pursuing resource recovery proposals, such as mixed waste composting and energy recovery facilities.

Why a Landfill is Still an Integral Part of the Solid Waste System

Despite these methods for reducing the volumes of waste, a landfill remains an essential component of a solid waste system. The following section will analyze each waste reduction method and explain why they do not preclude the need for a landfill.

(1) Source Reduction

- Regulation of private companies that manufacture products with excessive packaging would require federal and state law changes.
- Changing consumer attitudes regarding excess packaging and reuses of materials takes time.

(2) Source Separation

- Not all materials are recyclable at this time (i.e., disposable diapers, window glass, rubber products, tree stumps, items composed of multiple materials).
- Market prices for source-separated recyclables vacillate depending on economic conditions.
- Changing public attitudes and habits regarding separation will take time.

(3) Materials Recovery

- A residue of waste remains after materials have been recovered which must be sent to a landfill.
- Markets for recovered materials (i.e., high-grade paper, metals) vary depending on economic conditions. If markets are not available, materials can end up in a landfill.

(4) Energy Recovery

- Energy recovery facilities such as mass incinerators or refuse-derived fuel plants leave an ash residue that must be sent to a landfill.

In the event of a system failure (mechanical, markets, public participation), landfills provide a fail-safe element for public health, safety and welfare. Landfills also allow for the growth and development of waste reduction strategies and new technologies that take time to create and implement. Reduction,

reuse and recycling programs require legal and/or behavioral changes to produce effects and these take years of ongoing commitment. Disposal of solid waste through energy and resource recovery can have a substantial and immediate impact, but these technologies require a guaranteed commitment of waste. A landfill provides flexibility to maximize the recovery of materials in the waste stream for highest and best uses.

NEED FOR A LANDFILL

The discussions presented in this chapter provide justification for developing general purpose landfill capacity for the Portland tri-county area. Specifically, the following findings demonstrate that there is a clearly demonstrated need for more final disposal capacity to facilitate management of the region's solid waste system:

(1) The St. Johns Landfill will reach capacity by 1991.

In 1987 approximately 1.3 million tons of waste was generated in the Metro region. It is estimated that 25 percent of that amount was recycled, with the remaining 75 percent going to disposal facilities. Sixty-five percent of the waste disposed goes to the St. Johns Landfill; the remaining 35 percent is diverted to other disposal facilities (see Figure 3). Metro has also banned accepting out-of-state and out-of-region loads at Metro facilities.

Even with these measures, the landfill is anticipated to close in 1990 or 1991 (see Table 1). Physical extension possibilities are not technically feasible or are prohibited by state and federal regulations. Without a replacement landfill, there will not be enough disposal facilities for the region's garbage. This would lead to health and environmental hazards.

(2) Even with an aggressive waste reduction program, non-recyclable materials, residues from material processing centers, and residuals from resource recovery facilities (composting and refuse-derived fuel facilities) will need to go to a landfill.

Given Metro's highest reduction and recycling scenario, 52 percent of the region's waste could be reused or recycled through source separation, collection and processing of high-grade loads of select materials. This assumes that the rate of recycling would increase from the current 25 percent to 52 percent. This 25 percent increase could result only under optimal

conditions which would include increased public participation in source separation, increased facility capacity for high-grade waste load separation, and stable markets which could absorb the increase in recyclable commodities.

ST. JOHNS LANDFILL CAPACITY

Table 1

TIME PERIOD	TARGET TONNAGE	CUMULATIVE TONNAGE AT END OF TIME PERIOD	REMAINING CAPACITY AT END OF TIME PERIOD (CUBIC YARDS)
May 1, 1986 to April 30, 1987	572,380	572,380	3,054,157
May 1, 1987 to April 30, 1988	555,820	1,128,200	2,260,128
May 1, 1988 to April 30, 1989	557,600	1,685,800	1,463,557
May 1, 1989 to April 30, 1990	577,600	2,263,400	638,414
May 1, 1990 to Feb. 1, 1991	446,890	2,710,290	0

Source: Agreement between City of Portland and Metropolitan Service District for Operation of St. Johns Landfill, June 1986.

Recovery facilities could also help reduce the amount of waste going to the landfill. A proposed refuse-derived fuel plant in Columbia County could accept up to 350,00 tons per year of waste. A composting facility proposed for north Portland could accept up to 160,000 tons per year. However, the RDF plant will produce approximately 116,000 tons per year of residue that will need to go to a landfill. The composting facility will reject approximately 64,000 tons per year.

(3) Optimum reduction, recycling, resource and energy recovery are not necessarily technically, economically or politically feasible at this time.

There is no certainty that either the RDF or composting facility can be built. Political opposition and financial risks are just two factors that could affect final decisions on these facilities. Markets for recyclable materials vary depending on economic conditions or they have not yet been developed. Certain materials cannot be recycled because they are contaminated or contain large quantities of liquid. Residential and commercial reduction and recycling habits take time to change. Without legislative mandates, recycling is still voluntary.

Metro will continue to aggressively pursue and support waste reduction efforts to decrease the amount of waste that is destined for the landfill. However, at this time there is still an illustrated need for a landfill as the base for our system in view of the fact that waste reduction techniques are not capable of eliminating in total the waste flow directed to final land disposal.

(4) A landfill is an integral part of a solid waste disposal system.

A landfill can be considered the base of a solid waste system--a base which provides support when everything else fails. It is a safeguard when resource recovery facilities experience mechanical breakdowns, when markets for recyclables are poor or do not exist, and when innovative waste reduction alternatives to landfilling are being developed and implemented.

(5) The amount of solid waste generated in the region is projected to increase by two percent each year.

With current waste generation estimated at 1,272,022 tons, this means there will be 1,857,920 tons by the year 2000 and 2,304,459 tons by 2009. All this projected waste needs to be managed with an assurance that there will be a place for it to go if waste reduction techniques are not adequate to substantially reduce these projected volumes.

(6) In 1985, the Oregon State Legislature recognized the immediate need for general purpose landfill capacity in the Metro region by passage of Senate Bill 662.

SB 662 gave the Department of Environmental Quality the authority to study and establish landfill sites in the region after Metro had been unable to do so. This need is so compelling via direction of the Legislature that the selection of a landfill site by the Department of Environmental Quality's new authority provides DEQ the authority to override local land use plans in making such a siting selection.

COMPATIBILITY DETERMINATION FOR GENERAL PURPOSE LANDFILL SITES

Clearly, there is a demonstrated need for general purpose landfill capacity as an integral component of the region's solid waste management system. However, this region and the nation continue to struggle with establishing landfill sites. Solid waste facilities of all kinds, including not only landfills but also processing centers and transfer stations, are prime examples of the "LULU" or "locally unwanted land uses" syndrome.

For the Metro region, this LULU syndrome has resulted in several uphill and unsuccessful battles in attempting to locate general purpose landfill sites. As a result, the Legislature in 1985 gave the DEQ the authority to preempt local authority and secure site(s) for general purpose landfill capacity. This authority may eventually result in the successful siting of a new regional landfill. However, as we have all seen, this preemptive authority for landfill siting has been politically unpopular, legally challengeable, and infringes on the tradition of local government decision-making.

On the positive side, however, these municipal siting difficulties have resulted in an interest by the private sector to seek innovative alternatives for landfill sites and other solid waste facilities such as transfer stations and resource

recovery facilities. Competitive options resulting from municipal choices as well as private proposals provide Metro the flexibility to make better decisions in regard to both environmental safety assurance and economic savings in selecting one facility option over another.

Metro continues to have a need for general purpose landfill capacity for diversion of waste from the St. Johns Landfill. Current estimates indicate that, with current flows of waste to the St. Johns Landfill, it will reach capacity by Fall, 1990. If a new landfill is not on-line prior to that time, Metro will have a need to divert large amounts of garbage from St. Johns in order to keep it open until a new landfill is on-line. This diversion will require that general purpose landfill capacity be available. This needed capacity will probably be accomplished by utilizing existing sites in either Oregon or Washington. Again, it is important to maintain flexibility in determining which sites will be used in order to facilitate a competitive options process in making that decision.

The region will need to provide for ash disposal if an energy recovery facility is put on-line. At this time, it does not appear that private sector landfill operators are willing to accept this ash. Therefore, if Metro authorizes an energy recovery facility, it will need to provide for ash disposal. This signals a need for an additional location to facilitate ash disposal.

Finally, it is crucial for Metro to have available general purpose landfill capacity options in the event of unexpected problems or setbacks at a selected alternative disposal site. This could include such things as environmental hazards, or transport delays due to weather conditions.

In order to maintain this necessary flexibility in choices, it is crucial to maintain flexibility in determining sites for general purpose landfill capacity. Therefore, it should be recognized that general purpose landfill capacity for the Metro region can best be accomplished by utilizing a variety of site options. These options include in-region sites, out-of-region sites, existing sites, new sites and/or a combination thereof. This flexibility is necessary to allow for continued diversion of waste from St. Johns Landfill, to provide ash disposal, to maintain competitiveness with private sector options and to ensure placement of solid waste in the case of unexpected problems or setbacks at a selected site.

Metro needs this flexibility to select a minimum of one landfill site that is available, environmentally sound, and capable of handling the projected volume of waste that will still need to be landfilled on a long-term basis. Additional sites might also be

secured as necessary for ash disposal or as backup where it is feasible to do so.

General Locational Considerations

In assessing the appropriateness of landfills in regard to their general location, it is important to recognize some major differences and trade-offs associated with an in-region site or an out-of-region site located in arid conditions such as those in eastern Oregon or Washington.

Out-of-Region Landfills (arid conditions)

1. Favorable Environmental Conditions

The eastern terrains of Washington and Oregon are generally arid with significantly less annual rainfall than in the Willamette Valley. Arid conditions result in a minimal amount of leachate generation from a landfill. Because of arid conditions, it is less likely that vegetation or forest lands will need special protection as a result of a landfill. There will be no impacts on wetlands in this part of the northwest region.

In the Portland tri-county area, potential sites could be in areas with heavy rainfall, steep slopes and/or extensive wetlands. Landfills in these areas would generate more leachate thus requiring a more extensive landfill lining and leachate collection system than do arid region sites.

2. Rural Character - Low Population Density

A landfill is less likely to negatively impact residences and adjacent land uses because of the remoteness and lack of development in eastern Oregon and Washington. Because the Portland tri-county region is more densely developed than these eastern/arid regions, it is more difficult to find acceptable sites of sufficient size which do not negatively impact adjacent land uses. In addition, large parcels suitable for landfills might be used for more productive economic activities and new industrial development.

3. Acceptability to Local Residents

A landfill is more likely to be accepted by residents of eastern Oregon and Washington because of the environmental and land use factors mentioned above. In addition, landfill

projects can create temporary and permanent jobs for areas with higher unemployment and fewer opportunities for economic development than the Portland tri-county region.

In-Region Landfills

1. Lower Costs

Since an in-region landfill is closer to the center of waste generation, disposal costs may be less than for a landfill in eastern Oregon or Washington, where the cost of transporting waste from a transfer station or depot either by rail or barge would be added to the overall disposal costs. Higher costs would be passed on to the region's ratepayers.

2. Mitigation Measures and Compensation

Cost savings from an in-region landfill, if available, can be used to offset adverse environmental conditions, such as level of rainfall, wetlands, etc., or to compensate people who are adversely affected by the landfill. They could also be used to provide other needed public works for the tri-county region.

Current and Potential Landfills within 200 Miles of the Portland Metropolitan Area

Theoretically, any new or existing landfill which has sufficient capacity and is environmentally safe could receive solid waste from the Portland tri-county region. Using data from Oregon's Department of Environmental Quality (DEQ) and Washington's Department of Ecology (DOE), the following sanitary landfill sites have been identified. These are existing or potential general purpose landfills which accept or could accept the same kinds of waste as St. Johns.

This list is not meant to be all inclusive in identifying general purpose landfill capacity that may be utilized by Metro; nor does the list imply that all these facilities are practical for use by Metro until further transport and capacity issues are analyzed. Additional sites may be developed and thus may be appropriate for Metro's consideration in the future. Further, this list does not infer that these sites are environmentally safe. Such environmental safety determinations are not made by Metro, but are made by either the DEQ or DOE.

OREGON

	NAME	LOCATION (COUNTY)	OWNER	PERMITTEE
Northwestern Oregon				
1.	Vernonia	Columbia	City of Vernonia	City of Vernonia
2.	Tillamook	Tillamook	Tillamook County	Tillamook County
Mid-Willamette Valley				
3.	Coffin Butte	Benton	Valley Landfills	Valley Landfills
4.	Florence	Lane	Lane County	Lane County
5.	Franklin County	Lane	Lane County	Lane
6.	Oakridge	Lane	U.S. Forest Service	Lane County
7.	Short Mountain	Lane	Lane County	Lane County
8.	Agate Beach	Lincoln	City of Newport	Normac, Inc.
9.	South Lincoln Disposal	Lincoln	Dahl Disposal	Dahl
10.	McCoy Creek	Marion	U.S. Forest Service	Marion County
11.	Woodburn	Marion	Marion County	Marion County
12.	Riverbend Co.	Yamhill	M. Bernards	River Bend
Southwest Region				
13.	Bandon	Coos	Coos County	Coos County
14.	Roseburg	Douglas	Douglas County	Douglas County

	NAME	LOCATION (COUNTY)	OWNER	PERMITTEE
Central Region				
15.	Crook County Landfill	Crook	Crook County	Crook County
16.	Alfalfa	Deschutes	Deschutes County	Deschutes County
17.	Brothers	Deschutes	Oregon St. Hwy. Div.	Oregon St. Hwy. Div.
18.	Knott Pit	Deschutes	Deschutes County	Deschutes County
19.	Negus	Deschutes	Deschutes County	Deschutes County
20.	Southwest Landfill	Deschutes	Deschutes County	Deschutes County
21.	Box Canyon	Jefferson	Jefferson County	Jefferson County
22.	Chemult	Klamath	Klamath County	Klamath County
23.	Crescent	Klamath	Klamath County	Klamath County
24.	Sherman County	Sherman	U.S. Nat'l Bank	Sherman County
25.	Antelope	Wasco	City of Antelope	City of Antelope
26.	North Wasco County	Wasco	Arthur Braun	Arthur Braun
27.	Rajneeshpuram	Wasco	Rajneesh Investment	Rajneesh Commune
28.	Shaniko	Wasco	Oregon St. Hwy. Div.	City of Shaniko

POTENTIAL OREGON LANDFILL SITES

	NAME	LOCATION (COUNTY)	OWNER	PERMITTEE
1.	Waste Management, Inc.	Gilliam	Waste Management, Inc.	(Waste Management, Inc.)
2.	Finley Buttes	Morrow	Tidewater Barge	(Tidewater Barge)
3.	I-5 Landfill	Marion	Valley Landfills	Valley Landfills
4.	Bacona Road	Washington County	Metro	Metro

WASHINGTON

	NAME	LOCATION (COUNTY)	OWNER
1.	Lawson Landfill	Clallam	Dan Lawson
2.	Lake Creek	Clallam	Clallam County Public Works
3.	Carlson Circle C	Clark	Carl Carlson
4.	Leichner Brother	Clark	Elmer Leichner
5.	Cowlitz County	Cowlitz	Cowlitz County Public Works
6.	Sari Pit Site	Cowlitz	Ostrander Rock Co.
7.	Radakovich Landfill	Cowlitz	Bob Radakovich
8.	Aberdeen Landfill	Grays Harbor	Harold Lemay Enterprises, Inc.
9.	Hoquiam	Grays Harbor	City of Hoquiam
10.	Jefferson County	Jefferson	Jefferson County Public Works

	NAME	LOCATION (COUNTY)	OWNER
11.	Newcastle	King	Coal Creek Development Corp.
12.	Carnation	King	City of Carnation
13.	Cedar Hills	King	King County
14.	Duvall	King	King County, Division of Solid Waste
15.	Hobart	King	King County, Division of Solid Waste
16.	Kent Highlands	King	King County, Division of Solid Waste
17.	Vashon	King	King County, Division of Solid Waste
18.	Olympic View	Kitsap	Kitsap County Sanitary Landfill, Inc.
19.	Klickitat County	Klickitat	Klickitat County Public Works
20.	Centralia	Lewis	City of Centralia
21.	Mason County	Mason	Mason County
22.	Rainbow Valley	Pacific	Rainbow Valley, Inc.
23.	Fort Lewis	Pierce	U.S. Army
24.	Thun Field	Pierce	Land Recovery, Inc.
25.	Tacoma	Pierce	City of Tacoma

	NAME	LOCATION (COUNTY)	OWNER
26.	Darrington	Snohomish	Town of Darrington
27.	Cathcart	Snohomish	Snohomish County Public Works
28.	Thurston County	Thurston	Thurston County Public Works
29.	Terrace Heights	Yakima	Yakima County Public Works

ATTACHMENT 1

STATUTORY PROVISIONS RELATING TO LANDFILLS AND METRO'S SOLID WASTE AUTHORITY

A number of state statutes set direction and rules for the siting and management of landfills and other solid waste facilities. The major statutes relating to solid waste include ORS Chapter 459, which deals with solid waste control; and ORS 268, which establishes Metro's solid waste disposal powers. ORS Chapter 468 relates to State Pollution Control Bonds. Chapter 679, Oregon Laws, 1985 was passed during the 1985 legislative session to respond to the solid waste disposal emergency in the Portland metropolitan area. Chapter 876, Oregon Laws, 1987 was the omnibus solid waste bill of the 1987 legislature and has been incorporated into ORS Chapter 459. However, for the purposes of this document, it is discussed separately. The major provisions of these statutes are summarized on the following pages.

ORS Chapter 459 - Solid Waste Management

ORS 459.015 provides for a comprehensive statewide program for solid waste management. The statute specifically states that after consideration of technical and economic feasibility, the state shall establish the following priorities when developing a program for solid waste management:

> First, to reduce the amount of solid waste generated.
>
> Second, to reuse material for the purpose for which it was originally intended.
>
> Third, to recycle material that cannot be reused.
>
> Fourth, to recover energy from solid waste that cannot be reused or recycled, so long as the energy recovery facility preserves the quality of air, water, and land resources.
>
> Fifth, to dispose of solid waste that cannot be reused, recycled or from which energy cannot be recovered by landfilling or other methods approved by the Department of Environmental Quality (DEQ).

Rules adopted under ORS Chapter 459 (OAR-340-60-025 and 026) require that local governments (Metro in the Portland region) adopt a solid waste management plan in order to receive a landfill facility operating permit from DEQ. This plan must identify the need for a landfill and be approved by DEQ. Proposals for landfills must be compatible with the adopted local and DEQ-approved solid waste management plan.

ORS 459.055 stipulates that a waste reduction program must be prepared before a disposal site can be established as a conditional use in an area zoned for exclusive farm use. A waste reduction program written under this section of the law specifically requires:

- a commitment to reduce the volume of waste that would otherwise be disposed of in a landfill through techniques such as source reduction, recycling, reuse and resource recovery;
- a timetable for implementing each portion of the waste reduction program;

- energy efficient, cost effective approaches for waste reduction;

- procedures commensurate with the type and volume of solid waste generated in the area; and

- legal, technical and economical feasibility.

Metro's Waste Reduction component of the Solid Waste Management Plan for the tri-county region was approved by DEQ in 1981 and is in accordance with the requirements of the statute. The Solid Waste Management Plan was updated in 1986 to reflect the new waste reduction requirements of Chapter 679, Oregon Laws, 1985. DEQ approved the updated plan in June, 1986.

ORS 459.057 specifies that before issuing a permit for a landfill disposal site or for a disposal site established as a conditional use in an area zoned for exclusive farm use within the boundaries of Clackamas, Marion, Multnomah, Polk or Washington Counties, the Department (DEQ) shall require that "to the extent legally, technically and economically feasible only solid waste from transfer stations or solid waste residues from resource recovery facilities will be deposited in landfills."

ORS 459.065 gives Metro additional authority by authorizing intergovernmental agreements between Metro, cities, counties and the DEQ in order to carry out one of its authorized functions. Subsection (g) specifically allows intergovernmental agreements for "the establishment of landfill disposal sites including site planning, location, acquisition, development and placing into operation."

ORS 459.095 states that a local government should not take actions which conflict with a solid waste management plan or program adopted by a metropolitan service district and approved by the DEQ or any ordinances or regulations adopted pursuant to such a plan or program.

Chapter 679, Oregon Laws, 1985

In 1985, the Oregon Legislative Assembly passed legislation which attempted to resolve the solid waste disposal emergency in the Portland metropolitan area.

This legislation required the DEQ to conduct a study to determine the preferred and appropriate sites for solid waste disposal facilities to serve the Portland metropolitan area. This was critical because St. Johns Landfill, the Portland area's only existing general purpose landfill, is expected to be full by 1990. The time frame for the site selection process called for the development of a comprehensive list of potential sites by May 1986; the completion and submission to the EQC of a study identifying 12 to 18 preferred and appropriate sites in June 1986; and the selection by the DEQ of three final sites for detailed feasibility analysis by November 1, 1986. An order was to be issued by EQC directing the DEQ to establish a disposal site or sites by July 1, 1987.

Chapter 679 granted EQC broad-ranged siting authority within Washington, Multnomah and Clackamas Counties. Specific sites within Columbia, Marion, or Yamhill Counties were retained for evaluation only if they had received prior land use approval or had been recommended by the Board of Commissioners of that county.

DEQ developed a list of approximately 150 potential landfill sites using a numerical ranking system for site evaluation criteria. No out-of-region Oregon sites were ever considered even at the most preliminary stages. The 19 highest-ranking sites in the tri-county area were selected for in-depth evaluation, after which three sites were selected for detailed feasibility analysis. These three sites included Ramsey Lake, Bacona Road, and Wildwood. The Wildwood site was eventually dropped from further consideration because of landslide potential discovered deep beneath the site.

Chapter 679, Oregon Laws, 1985, also directed the Metro district to dedicate $0.50 per ton of the service charge collected at each general purpose landfill to be used for rehabilitation and enhancement of the area in or around the landfill. The legislation also stated that $1.00 per ton of the service charge must be transferred to the DEQ and paid into a separate account of the General Fund of the State Treasury. This money was to be used to carry out the department's functions and duties under this bill.

In addition to its landfill siting requirements, Chapter 679 provided for the development and implementation of a

comprehensive solid waste reduction program for the Portland region. This involves a commitment by the Metro district to substantially reduce the volume of solid waste that would otherwise be disposed of in land disposal sites through techniques including rate structures, source reduction, recycling, reuse, and resource recovery. This waste reduction program was submitted to the EQC for review and approval in 1985. The waste reduction program was subsequently approved by the EQC in June, 1986.

Current Status

The following items have taken place since Chapter 679 was adopted in the 1985 Legislative session:

- The DEQ met the dates specified for siting of a landfill. The schedule for Bacona Road was amended by Chapter 876, Oregon Laws, 1987.
- The EQC issued an order identifying Bacona Road as the selected site within the time frame established, which was appealed to a hearings officer.
- Metro submitted a Waste Reduction Program, which was approved by the EQC in June, 1986.
- Metro created and implemented a rehabilitation and enhancement fee and program for St. Johns Landfill.
- Metro instituted a $1.00 per ton landfill siting fee and $.50 per ton rehabilitation fee.

Chapter 876, Oregon Laws, 1987

Chapter 876, Oregon Laws, 1987, was the Solid Waste Omnibus Bill of the 1987 legislative session. The bill covers four major policy concerns which are discussed below.

(1) Expansion of the Rehabilitation and Enhancement Fee Program

Chapter 876, Oregon Laws 1987, establishes two different rehabilitation and enhancement fee programs for publicly owned or franchised disposal facilities, including landfills and transfer stations. Under either program, citizens' advisory committees are required to select plans, programs and projects for the rehabilitation and enhancement of the area around the disposal site. For regional disposal sites, committees will be activated when the DEQ receives an application for a site permit. If the regional site is operated by Metro, the citizens' advisory committee will be established by the Council. Otherwise, counties have this responsibility. These advisory committees are required to file annual reports with the DEQ, who will consider these reports when issuing or renewing solid waste permits.

(2) Creation of New County Revenues from Regional Landfill Tonnage Surcharges

Section 7 of Chapter 876 establishes a county tonnage surcharge schedule, if the public agency and the owner/operator of a proposed regional landfill cannot come to an agreement. If the county activates the surcharge formula in lieu of a negotiated agreement, then the county must commit 10 percent of the revenues to a transition/closure fund, and use the remaining 90 percent to mitigate adverse impacts of the facility.

(3) EQC Bacona Road Order

Section 5 of the legislation states that Metro may select an alternative to the EQC-selected site (Bacona Road). This could be an out-of-region landfill.

> The Metropolitan Service District may provide for the disposal of solid waste from Clackamas, Multnomah or Washington County at a disposal site or sites other than the site selected by the

Environmental Quality Commission
under Section 5, Chapter 679,
Oregon Laws, 1987.

This section also prohibits the DEQ from determining that the Metro-selected site is not needed. Section 20 requires that the EQC Bacona Road order not expire before July 1, 1989. This allows Metro to look for landfill opportunities other than through the Chapter 679 process, while keeping their options open by not allowing the EQC-selected site to be abandoned prior to July 1, 1989.

(4) Establishment of Program Requirements

Chapter 876, Oregon Laws, 1987 also requires Metro to establish certain solid waste education programs, household hazardous waste collection programs, and recycling container programs. It also requires Metro to submit a biannual solid waste reduction program to the EQC for review and comment beginning July 1988. Every two years thereafter, they must submit a report on the status of its solid waste reduction plan. This bill does not give DEQ veto authority or ability to alter the plan or its amendments, as was the case in Chapter 679, Oregon Laws, 1985.

The EQC will evaluate Metro's report compared to Metro's results in meeting the plan's goals. They will submit a preliminary report of its findings to the Legislature by September 1988 and a final report prior to the 1989 Session. This review will continue every two years thereafter.

Other Impacts on Solid Waste Management

In addition to the four major policy concerns described above, Chapter 876 stipulates that any local or regional government sending solid waste to a regional disposal site after July 1, 1988 must comply with Oregon's statutory source separation/recycling statutes under Chapter 679, Oregon Laws, 1985. The EQC is in charge of making the rules and setting the fees to implement these requirements.

In addition, if Metro is sending waste to a regional disposal site located outside the current Metro district boundaries after July 1, 1988, it is required to implement the following three projects:

(1) At least semiannually operate a collection system or site for collection of household hazardous wastes;

(2) Provide residential recycling containers as a pilot project not later than July 1, 1989;

(3) Provide an educational program to increase participation in recycling and household hazardous materials collection programs.

The DEQ has been directed to conduct a statewide solid waste management study and to make its reports available to the next Legislature. The study will include evaluation of disposal sites throughout the state.

ORS Chapter 268 - Metro's Disposal Authority

ORS 268.317 provides the framework for Metro's solid waste disposal powers and it outlines the specific activities the District may undertake to implement that authority within the tri-county area. These activities include the ability to

- build, construct, acquire, lease, improve, operate and maintain landfills, transfer facilities, resource recovery facilities and other improvements necessary for the solid waste disposal system;
- sell, enter into short- or long-term contracts, solicit bids, enter into direct negotiations, deal with brokers or use other methods of sale or disposal for the products or by-products of the District's facilities;
- require any person or class of persons who generates solid waste to make use of the disposal, transfer or resource recovery sites or facilities of the District or disposal, transfer or resource recovery sites or facilities designated by the District;
- require any person or class of persons who pick up, collect or transport solid wastes to make use of the disposal, transfer or resource recovery sites or facilities of the District or disposal, transfer or resource recovery sites or facilities designated by the District;
- regulate, license, franchise and certify disposal, transfer and resource recovery sites or facilities; establish, maintain and amend rates charged by facilities;
- prescribe a procedure for the issuance, administration, renewal or denial of contracts, licenses or franchises;
- regulate the service or services provided by contract, license or franchise; and
- receive, accept, process, recycle, reuse and transport solid wastes.

Functional Planning Authority

Under ORS 268.390, Metro also has the authority to prepare and adopt functional plans for areas and activities having significant impact on the orderly and responsible development of the metropolitan area.

If a functional plan is adopted for a specific area or activity, Metro can recommend or require cities and counties to make changes in their comprehensive plans to assure that local plans and actions conform to the District's functional plans.

In September 1986, the Metro Council adopted Ordinance No. 86-207 establishing a planning procedure for identifying and designating those areas and activities in need of functional planning. On March 12, 1987, the Metro Council adopted Resolution No. 87-740 for the purpose of designating solid waste as an area and activity appropriate for the development of a functional plan.

Rate Setting Authority

Finally, ORS 268.317 establishes the authority to collect fees at solid waste facilities which it operates or franchises. The statute allows Metro to "establish, maintain and amend rates charged by disposal, transfer and resource recovery sites or facilities." ORS 268.515 also provides that "a district may impose and collect service or user charges in payment for its services or for the purposes of financing the planning, design, engineering, construction, operation, maintenance, repair and expansion of facilities, equipment, systems or improvements."

ORS Chapter 468
State Pollution Control Bonds

ORS 468.220 stipulates that the DEQ shall require municipal corporations, cities, counties or agencies applying for loans, grants or requesting general obligation bonds to demonstrate that they have an adopted Solid Waste Management Plan that has been approved by the DEQ. This plan must also include a waste reduction program.

METRO EAST TRANSFER AND RECYCLING CENTER

PURPOSE

The purpose of this chapter is to identify specific provisions for transfer station services for the east waste shed. Throughout this chapter the proposed facility will be referred to as the Metro East Transfer and Recycling Center or the Metro East Station.

BACKGROUND

The east waste shed, encompassing the City of Portland and Multnomah County area, will need transfer station services prior to the scheduled closure of the St. Johns Landfill in February of 1991. The region's only large scale transfer station in close proximity is the Metro South Station (CTRC). Directing waste from the east waste shed to the Metro South Station would cause serious difficulties. There clearly is a need for a transfer station facility within the east waste shed prior to the closure of the St. Johns Landfill.

SUMMARY

Following is a summary of the issues addressed for the Metro East Transfer and Recycling Center. A more detailed analysis follows the summary.

1. Relationship to Depot

   A depot will be necessary to transport waste to the Arlington Landfill if the mode of transport is either barge or rail. The depot can be combined with the East Transfer Station facility or it can be a separate facility.

2. Option for One or Two Facilities

   Transfer station service can be provided by either one or two facilities. However, the transfer station(s) must serve the entire east waste shed.

3. Waste Reduction

A major focus of the Metro East Station will be material recovery. Options for facility design should include a means to recover 10 percent, 20 percent and 30 percent of the incoming waste stream. These options and associated costs should be evaluated prior to determining the design for the facility. The cost of recovery at the transfer station should not exceed 120 percent of the landfill system cost. The Metro East Station will provide drop-off facilities for source-separated yard debris and lumber.

4. Combined Service for Commercial Haulers and the Public

The Metro East Station system will provide transfer and recycling services for both commercial haulers and the public.

5. Land Use Siting Criteria

Land use siting criteria specified within this chapter shall be used as guidelines for evaluating East Transfer Station projects (sites). The criteria include on-site characteristics, utilities, land use permits, traffic capacity, transportation access, land use impacts along access routes, and land use impacts on adjacent uses.

6. Hazardous Waste

The Metro East Station owner/operator will be required to ensure that hazardous or unacceptable wastes will not be transferred from the facility to the landfill or to resource recovery facilities.

7. Ownership of Facility

The determination of whether the transfer station should be publicly or privately owned shall be made pursuant to Chapter 13 of this plan (policy 13.0). If it is determined that private ownership is the best option to pursue development of Metro East, a competitive process shall be used to do so. Metro shall control the gatehouse at a privately owned Metro East Station.

1. RELATIONSHIP OF THE METRO EAST STATION WITH THE DEPOT

BACKGROUND

There are three basic elements which are necessary for getting waste from the Metro region to the out-of-region landfill:

1. A material recovery transfer station system;

2. A depot; and

3. A transportation system.

The Metro East Station(s) will consist of a facility or facilities where commercial haulers and private haulers unload their waste. The waste will then be transferred and compacted into sealed containers. The depot is the facility through which the containers are loaded onto the transport vehicle. The transportation system takes the waste in containers via rail, barge or truck to the out-of-region landfill. If the transportation mechanism is trucking, a depot is not required.

ANALYSIS

The following analysis determines how best to coordinate the Metro East Station with the depot. The following two options were reviewed:

1. Combine the Metro East Station and depot; or

2. Separate the Metro East Station from the depot.

Should the depot and the Metro East Station be required to be a combined facility? This option was rejected because there was a concern that requiring a combined transfer station/depot may unnecessarily complicate the siting process. A combined transfer station/depot would subject existing depot facilities to land use approvals for a new transfer and recycling center. Further, the number of available sites for the transfer and recycling center would be reduced to only sites which have adjacent rail lines or docks.

Existing depots do exist and if separate facilities are used, the depot operator would not have to specialize in solid waste handling. In addition, there may be transporters who will not want to be involved in operating the Metro East Station.

If the facilities were sited at different locations, then the depot could be located to maximize efficiency in transport and the Metro East Station could be located to minimize commercial haul time. The depot will be located next to a rail line and/or on the waterfront. Commercial haul time is minimized by locating the transfer station near the centroid of waste.

The principle rationale for combining the transfer station and depot is the potential for lower system cost. If not combined, cost for the depot and the Metro East Station may be higher than if the elements were a combined package. If each element is developed separately the system may not receive a price break due to economy of scale.

In addition, an advantage of having the depot and transfer station on one site is that compaction equipment can be used to load the transfer containers and therefore, more waste will be put into each container. The container can be put directly on the train or barge. If the transfer station is located away from the depot, trucks will transport the containers to the depot and highway weight restrictions will limit the amount of waste in each container.

FINDINGS

1. Separating the Metro East Station from the depot will make the siting of the depot easier. Existing depot facilities are available.

2. The depot can be located to maximize efficiency in transporting the waste to the disposal facility, whereas, the Metro East Station(s) can be located to minimize commercial haul time.

3. Transportation firms and depot operators may not want to get involved in solid waste handling at the Metro East Station(s). Therefore, separating the two will allow for more competition.

4. A combined transfer station/depot has the potential for lower system cost and greater efficiency.

CONCLUSION

It is concluded that there is no compelling rationale to support exclusive selection of either Option 1 (combined) or Option 2 (separate) described above. Therefore, it is not necessary to require a combined transfer station/depot. However, it is permissible to combine the two elements in order to achieve lower system cost.

2. OPTION FOR ONE OR TWO METRO EAST STATION FACILITIES

BACKGROUND

The following analysis examines the costs and impacts of constructing and operating one transfer station versus two stations to serve the east waste shed. Capital, operation and maintenance, and the transport costs were computed for transfer stations that include space for commercial high grade sorting, high grade work areas, and recycling drop boxes. The capital cost of material recovery equipment was not included in the estimates because it is unknown what material recovery technology will be used.

Metro's transportation model was used in the analysis for estimating the collection haul cost. The model uses population and employment information for 1992 and 2005. Therefore, annual operation and maintenance (O & M) costs and commercial haul costs were estimated using the waste going to the station(s) in 1992, instead of 1990 when the station(s) would open. A description of the assumptions used in the cost analysis is contained in Attachment A.

The intent of the cost analysis in this chapter is only for comparison of one station versus two stations. The analysis is not site specific and therefore, does not take into account site specific design issues.

ANALYSIS

In 1992, the east waste shed will dispose of approximately 587,000 tons of waste. This equates to a daily average of 1610 tons. The amount of vehicle trips to an Metro East Station as a result of the 587,000 tons of waste is approximately 271,000 vehicles per year. In the two station alternative, each station was assumed to handle approximately half of the waste. The size of each of the two stations would be the same as the size of the previously proposed West Transfer and Recycling Center. Metro South Station (CTRC) is currently handling, on an average, 800 tons per day (TPD).

The cost analysis for one transfer station versus two transfer stations compared the following two cases:

1. Transfer station(s) located at the centroid(s) of waste; and

2. Transfer station(s) located at a hypothetical vacant land location(s) away from the centroid(s).

Evaluating both cases made it possible to examine a range of costs for the one versus two station option. Case 1 shows the costs at the optimum location, whereas, Case 2 shows the costs at hypothetical locations away from the centroid. It should be noted that in the vacant land case, one of the stations in the two transfer station alternative is located in the same zone as the one transfer station alternative. The hypothetical locations are shown in Exhibits 2 through 5 in Attachment A. It should be emphasized that the sites are hypothetical and were chosen solely for analytical purposes. It is not intended that these specific sites be interpreted as being optimum for the siting of the Metro East Station.

The capital cost for one transfer station is $10,712,000, whereas, the capital cost for two stations is $13,557,000. The following summarizes the annual cost of the two alternatives. The annual cost includes capital, operation and maintenance, and commercial haul costs.

	ANNUAL COST	
	ONE STATION	TWO STATIONS
CASE 1: Centroid Locations	$4,172,000	$4,326,000
CASE 2: Vacant Land Locations	$4,859,000	$4,959,000

The difference in annual cost between the one and two station alternatives ranges from $100,000 to $154,000, or a difference of 2 to 4 percent. The cost estimate prepared for this analysis is an "order of magnitude level cost estimate." It was made without detailed engineering design drawings. Therefore, when comparing alternatives, if the costs between the alternatives are within 10 to 15 percent, they should be viewed as being about equal.

With respect to other impacts of one station versus two stations, the report "Valuation of the Potential External Effects of Selected Types of Prototypical Solid Waste Facilities" completed by ECO Northwest indicated that perceived impacts are independent of the size of the facility. Two transfer stations, therefore, would likely be viewed as having twice the impact of one station. However, there are at least three private sites in existence which may be eligible as solid waste transfer stations through a modification of their permits. The sites are:

1. Riedel Environmental Technologies' compost facility on Columbia Boulevard;

2. East County Recycling's material recovery center on 122nd Avenue; and

3. Oregon Processing and Recovery Center's material recovery center in North Portland.

It should be noted that none of the sites have zoning which allows transfer station as an outright permitted use. However, each has been previously approved by local governments for some form of solid waste handling. Modification of existing permits may be less difficult than obtaining new permits. Therefore, the siting of two stations, if one of the existing facilities is selected, would not inherently be more difficult to site than one station. Further, the City of Portland has created three zone districts which allow solid waste transfer stations as an outright permitted use. The districts are: Heavy Industrial, General Industrial, and General Employment.

There is a concern with two stations that facility sites may be located in close proximity to each other. The savings in the two station alternative are in the collection haul cost. When two stations are near each other, this savings decreases. Also, there would be a potential that no one would propose a site on the west side of the east waste shed close to the west centroid used in the cost analysis.

Based on the cost analysis and the land use permitting points discussed above, it is concluded that Metro should allow either one or two stations to be developed for the Metro East Station. This, in effect, allows for one of the following:

1. A single station system to service the entire east waste shed; or

2. A two station system to service the entire waste shed.

FINDINGS

1. There is little difference in cost between the one transfer station and two transfer station alternative provided that the west station in the two station alternative is located near its centroid.

2. Perceived land use impacts may increase under a two station proposal.

3. Obtaining land use approvals for two sites is not necessarily more difficult if one or both sites have existing permits or the sites are within the new Portland industrial zones which allow transfer stations as an outright permitted use.

CONCLUSION

It is concluded that there is no compelling rationale to support exclusive selection of either Case 1 (one station) or Case 2 (two stations) described above. Therefore, transfer station service can be provided by either one or two facilities. However, the transfer station(s) must serve the entire waste shed.

3. WASTE REDUCTION

BACKGROUND

Post-collection material recovery systems pull recyclable material from the mixed waste stream. Mixed waste, exclusive of the materials that have been source separated out for recycling, is delivered to a post-collection facility where it is mechanically and/or hand-sorted into "residuals" and "marketable recyclables." The "residuals" are transferred to energy recovery facilities or the landfill while the "marketable recyclables" are sold. Such a system does not conflict with on-route source separation programs. Rather, the combination of programs provides for maximum waste reduction for the waste shed.

ANALYSIS

The determination of a new program's compatibility with existing on-route collection of source separated recyclable and post-collection material recovery was an important component of the evaluation for the Metro East Station(s) programs. Extensive promotion has been done in the past to encourage participation in recycling and source separation. The existing system of source separation is the primary method of recovery that the east waste shed uses, which needs to be protected and enhanced. However, the greatest potential for increased recovery is through post-collection material recovery. This narrowed the program options for the Metro East Station(s) to those that:

- are compatible with the existing system;
- recovered material from the mixed waste stream; and
- utilized post-collection material recovery processing.

Two mixed waste post-collection material recovery program options have been investigated. The first uses a combination of hand and mechanical sorting, and recovered cardboard, newspaper, plastic, glass, ferrous metal and non-ferrous metal. It achieves an eight percent recycling rate. The second uses mechanical sorting only and recovered cardboard, newspaper, plastic, ferrous metal, non-ferrous metal, office paper and mixed paper. It achieves a 19 percent recycling rate.

Based on preliminary cost evaluations, it can be reliably determined that post-collection material recovery is the least expensive of the program options that handle the mixed waste

stream. Thus, it is recommended that the Metro East Station include front-end material recovery.

Further, since it can be illustrated that from 8 to 19 percent of the waste generated is recoverable through post-collection material recovery, the designing of the Metro East Station should include cost of evaluation of and design options for recovering 10, 20 and 30 percent of the waste entering the facility. This range of recovery from the material delivered would result in the following waste reduction goals for the waste generated in the east waste shed:

Tons generated = 777,132 (includes current recycling and landfilling)

Tons disposed = 586,735 (landfilled only)

	Tons Recovered	Metro East Station Recycling Goal	Metro East Station Contribution to regional Recycling	Total Regional Recycling Goal*
10% of tons disposed at Metro East Station	58,674	8%	5%	27%
20% of tons disposed at Metro East Station	117,347	15%	9%	31%
30% of tons disposed at Metro East Station	176,020	23%	14%	36%

* Recycling rate of 22 percent plus the Metro East Station(s) contribution to regional recycling rate = total regional recycling rate.

Material recovered from the east waste shed mixed waste stream at the Metro East Station is clearly for the purpose of recycling. Using recovered materials in existing boilers for energy recovery is deemed acceptable if all reuse and recycling options are exhausted or have failed to be economically feasible.

The Waste Reduction Chapter of this Plan states the following concerning resource recovery projects:

> "Project(s) will not increase the disposal system cost more than 20 percent over a landfill-based disposal system."

Further, the Waste Reduction Chapter states:

> "Metro may proceed with a resource recovery project(s) that increases the disposal system cost more than twenty percent over a landfill-based system cost if the project(s) meets criteria b through i of Section 5, and the Council determines that the project(s) provide a reasonable cost effective method to achieve goals of Section 3."

It is recommended that this policy be utilized for determining economic feasibility of post-collection material recovery proposals for the Metro East Station.

Yard debris at the East transfer station(s) was addressed separately from post-collection material recovery because it must be source separated for successful recovery. According to the "Waste Composition Study" (Appendix), yard debris is the third largest component of the waste stream and made up 10.5 percent of the waste disposed in 1987.

Yard debris is a principal recyclable material, therefore, Metro East Station(s) will provide drop-off for yard debris as well as for other recyclable material. The intention of the yard debris portion of the recommendation is that the material will be stored at the transfer station(s) for a short term and transported to an area processor. The inclusion of drop-off for source separated principal recyclable at Metro East Station is in accordance with Section 4.(1) of ORS 459.250 which states:

> "After January 1, 1985, the department shall require as a condition to issuing a disposal site permit under ORS 459.245 that a place for collecting source separated recyclable material located either at the disposal site or at another location more convenient to the population served by the disposal site is provided for every person whose solid waste enters the disposal site."

In addition to yard debris, the region discarded approximately 128,000 tons of lumber in 1987. The 1988 "Waste Reduction Program System Measurement Study" (Appendix) recommends the recovery and reuse of lumber. A processing facility for source-separated lumber would salvage the material for reuse and process the remainder as hogged fuel. The program's effectiveness would be increased by locating several drop-off facilities throughout the region. Therefore, the Metro East Station(s) will provide a drop-off for source-separated lumber for eventual transport to a lumber processing facility.

FINDINGS

The following findings support the above analysis:

1. Post-collection materials recovery can potentially extract and recycle up to 19 percent of the mixed waste stream.

2. Post-collection materials recovery is consistent with the State hierarchy (reduce, reuse, recycle, recover and landfill).

3. Post-collection materials recovery compliments the existing recovery system in the east waste shed because it will not adversely affect existing on-route collection of source separated material.

4. The "Waste Composition Study" (Appendix) showed that 10.54 percent of the waste disposed in 1987 was yard debris. This percentage is considered a significant portion of the waste stream that can be diverted at the Metro East Station.

5. A drop-off for lumber at the Metro East Station would enhance the lumber recovery project.

6. True economic feasibility and recovery potential of post-collection material recovery can be determined by requiring the facility design options for the Metro East Station(s) to include design options and costs for recovering 10, 20 and 30 percent of the mixed waste entering the facility.

CONCLUSION

Based on discussion and findings above, the following waste reduction recommendations for the Metro East Station are proposed.

1. A major focus of the Metro East Station should be material recovery.

2. The Metro East Station will include post-collection material recovery. The cost of recovery should not exceed 120 percent of landfill system cost.

3. While continuing to stress source separation waste reduction methods, options for facility design should include a means to recover 10,20 and 30 percent of the incoming mixed waste stream. These options and

associated costs should be evaluated prior to determining the design for the facility. These recovered materials should not go to mass burn, RDF, mass compost or landfill. However, recovered material used in existing boilers for energy recovery is acceptable.

4. The existing source separation structure and post-collection material recovery systems will continue. Increased material recovery at the transfer station(s) should come from that waste being landfilled. This does not preclude further improvements in source separation.

5. The Metro East Station will provide drop off for source-separated yard debris, lumber, and other recyclable materials.

4. COMBINED SERVICE FOR COMMERCIAL HAULERS AND THE PUBLIC

BACKGROUND

The purpose of this analysis is to determine whether the Metro East Station system should be a combined facility for the commercial haulers and self haulers or whether there should be separate facilities for these two user groups.

ANALYSIS

Commercial haulers and self haulers can dispose of their waste directly at the St. Johns Landfill. There is a facility at the St. Johns Landfill in which the self haulers unload their waste into drop boxes instead of at the working face of the landfill. This drop box facility will not be available to the self haulers when the St. Johns Landfill closes. The Metro South Station serves both the commercial haulers and self haulers.

It has been concluded that most of the problems associated with transfer stations (i.e. litter and traffic) are primarily attributable to the self hauler. If the Metro East Station(s) have a separate facility for the commercial haulers, it may be very difficult to site a station which services only self haulers. It would be relatively easier to site a commercial only station.

Providing separate enclosed facilities for the commercial and self haulers would probably double the cost of the transfer station system for this area. This is because sizing of a transfer station for self haulers is based primarily on the number of vehicles using the facility. Self haulers generate more trips and take more time to unload than commercial haulers. Therefore, self haulers require more stalls for unloading.

As an example, weekday traffic requirements listed in the bidding documents for the operation of the Metro South Station (CTRC), issued April 1982, indicate the peak arrival rate for commercial haulers to be 11 vehicles per hour and for self haulers to be 50 vehicles per hour. On weekends, the peak arrival rate for commercial haulers was 2 vehicles per hour and for self haulers was 100 vehicles per hour.

The sizing of a transfer station for the commercial haulers is based on the amount of waste the commercial haulers dump at the station. The commercial haulers bring in 96% of the waste to the St. Johns Landfill. However, a facility for the self haulers would probably need to be approximately the same size as the one

for the commercial haulers and there would be little difference in size between a separate facility and a combined facility.

In regard to operational costs, the commercial hauler primarily uses the facility during the week and the self hauler primarily uses the facility during the weekend. Therefore, a combined facility is optimally used and the operational costs would be less for a combined facility than for two separate facilities.

FINDINGS

The following findings establish that the Metro East Station system serve both the commercial haulers and self haulers:

1. It is not acceptable to provide a facility only for commercial haulers. Not providing for self haul would increase illegal dumping.

2. It is more economical to provide combined transfer station(s) than separate station(s). Separate transfer station(s) would still need to be approximately the same size as the combined station(s).

3. A combined transfer station(s) would be optimally used since the majority of the commercial haulers would use it during the week and the majority of the self haulers would use it during the weekend.

CONCLUSION

The Metro East Station system will need to handle both commercial and self haul waste.

5. LAND USE SITING CRITERIA

BACKGROUND

Metro has used land use siting criteria to guide the selection of sites for solid waste facilities. Criteria were developed for the site selection and evaluation of an in-region landfill in 1979 and for the proposed West Transfer and Recycling Center in 1985. The following analysis establishes land use siting criteria appropriate for evaluating potential sites for the East Transfer Station(s).

ANALYSIS

Land use siting criteria has been developed for the purpose of evaluating sites for the Metro East Station. The criteria are developed from the standpoint of minimizing the land use impacts of the Metro East Station(s).

The WTRC criteria were determined to be a good model which were revised to recognize the land use pattern of the east waste shed.

A fatal flaw criterion plus seven criteria for the evaluation of the Metro East Station were identified (see Attachment B for the full text of the criteria). In summary, the criteria and their rationale are:

> Fatal Flaw - In order to be considered, potential ETRC projects must include a land use approval and construction schedule which demonstrates that the Metro East Station can be operational to receive waste before the St. Johns Landfill closes in February 1991.
>
> Rationale: Sites requiring lengthy land use approvals (e.g., zone changes) may not meet time requirements for design and construction and therefore should not be considered.
>
> On-site Characteristics - Characteristics of the site make it well suited for the use. The site plan does not create on-site conflicts with wetlands, 100-year flood plain, geotechnical conditions, or other physical characteristics of the site. Mitigation measures which are shown to effectively reduce or eliminate any potential on-site conflicts will be credited.
>
> Rationale: The criterion encourages sites and site plans which do not affect hazardous environmental conditions or sensitive resources.

Utilities - Utilities needed by the Metro East Station (sewer, water, power) are available and of adequate capacity.

Rationale: Utilities requiring major improvements to serve the site are not encouraged.

Land Use Permits - The Metro East Station projects need to demonstrate a high probability that all necessary land use permits (local, state, and federal) have been or can be obtained so that the transfer station can be constructed and operating before the St. Johns Landfill closes in February 1991.

Rationale: Projects that cannot demonstrate compliance with such a schedule will result in Metro not having appropriate transfer service for the east waste shed upon closure of the St. Johns Landfill.

Traffic Capacity of Primary Access Routes - Primary access routes to the site have adequate built or planned capacity for the traffic type and load. Planned capacity will be credited when programmed and fully funded. The determination of adequate capacity will be made by local governments.

Rationale: Traffic is a major impact of transfer and recycling centers. Such facilities should be encouraged where road capacity is adequate or financial commitments are in place to make necessary improvements.

Transportation Access for Collection Vehicles and Self-Haulers - Access to the site allows commercial haulers and the public to travel primarily on interstate highways and arterials.

Rationale: Proximity and accessibility provides convenience, reduces travel time and cost, and minimizes impacts to land uses adjacent to the route.

Land Use Impacts along Access Routes - Adverse land use impacts are minimal along the primary access route(s) between the closest interstate highway and the site. Other primary access routes which do not directly connect to an interstate highway will be considered.

Rationale: Truck traffic is the most commonly cited and most visible impact of transfer and recycling centers. The industrial "sanctuaries" of Portland provide an opportunity to encourage the location of the Metro East Station where

land uses along the access routes are not sensitive to the impacts of trucks.

Land Use Impact on Adjacent Uses - The Metro East Station is compatible with the conforming land uses within 500-feet of the property line of the site, and/or impacts are mitigated through buffering, screening, and/or enclosure of facilities.

Rationale: The criterion encourages locations with neighboring uses which are not sensitive to the industrial activities which will occur at the Metro East Station. Buffering is credited and encouraged, especially to mitigate impacts to sensitive adjacent uses.

Prioritize the Criteria to Assign Weighting Factors

Priorities have been assigned to the above criteria based on the criteria and reviewing the impacts associated with transfer and recycling centers. The criteria are ranked individually in terms of most to least importance. Weights are assigned to the criteria, using the rank order as a guide. The rank and weighting of the criteria are listed as follows:

CRITERION	RANK	WEIGHT
Transportation Access	1	25%
Land Use Permits	2	20%
Site Compatibility	2	20%
Land Use Impact Along Access	3	15%
On-site Characteristics	3	15%
Utilities	4	5%

The transportation access criterion is further separated into the categories of transportation access and traffic capacity (Attachment B). Transportation Access is to be weighted ten percent and traffic capacity 15 percent.

The weightings recognize the importance of minimizing the impacts of truck traffic associated with transfer and recycling centers, selecting a site which is compatible with adjacent land uses, and siting the facility in a timely manner.

Develop An Evaluation System to Apply the Criteria

Two options for applying the criteria have been evaluated:

1. A fixed point system in which compliance with the criteria is measured in terms of pre-determined definitions. For example, under the Transportation Access criterion, 5 points would be assigned to sites

within 1/4 mile of a highway, 4 points would be assigned to sites between 1/4 and 1/2 mile from a highway, etc.

2. A relative comparison system in which sites are compared to each other and ranked according to compliance with the criteria. For example, under the Transportation Access criterion, the site which is closest to the highway would be ranked the highest and the most distant site would be ranked the lowest.

Option 1, the fixed point system approach, was used in the site selection of the WTRC. Fixed point systems are commonly used in public site selection processes.

After reviewing the WTRC criteria and point assignments, Option 2 was selected, a relative comparison system. The relative approach is best suited to the task of selecting among competing projects, as opposed to finding an optimum site.

The following steps can be used to implement the relative comparison system:

1. Rank the projects (sites) for each criterion. The ranking is from best to worst with the understanding that ties are permitted.

2. Assign scores according to rank order, again working individually with each criterion.

3. Multiply the scores by the weight factor for each criterion.

4. Total the scores for the criteria and rank the projects (sites) for overall compliance with the land use criteria. Again, ties are possible.

The above system is **not** intended to be the sole basis for selection of a project (site), but are to be used as a guide for selecting the most appropriate East Transfer Station project and site. The criteria were tested on three sites within the east waste shed. In summary, the pre-test revealed that the criteria and evaluation system are workable and can differentiate between projects.

FINDINGS

The following findings support the application of land use siting criteria for the evaluation of sites for the Metro East Station(s).

1. Metro has developed and applied land use siting criteria for previous siting efforts including a regional landfill and the WTRC.

2. Minimizing land use impacts is recognized as an important objective of land use siting criteria.

3. The recommended criteria have been developed by revising the WTRC criteria to reflect the land use pattern of the east waste shed.

4. The evaluation system emphasizes comparing sites against each other, relative to the land use siting criteria. An absolute point system approach was evaluated and not selected because of the extensive pre-testing required for criteria development and the uncertainty of the results.

5. A pre-test of the criteria and evaluation system demonstrates that the land use siting criteria and evaluation system is workable and can differentiate between competing projects (sites).

CONCLUSION

Land use siting criteria shall be used as guidelines for evaluating sites for the Metro East Station(s). The intent of the land use siting criteria is to minimize the land use impacts of the Metro East Station(s). (See Attachment B for the full text of the criteria).

6. HAZARDOUS/UNACCEPTABLE WASTE

BACKGROUND/ANALYSIS

Solid Waste Management Policy 2.0 states that "hazardous wastes shall be kept out of solid waste facilities." Further, Metro is responsible for ensuring that waste going to a final facility, whether it be a landfill or resource recovery facility such as an RDF plant or mixed waste compost plant, is acceptable. Further, waste going to a resource recovery facility will need to be clean of hazardous waste.

FINDINGS

1. Hazardous waste is defined to be residue that may

   > cause or significantly contribute to, an increase in mortality, or an increase in serious irreversible or incapacitating reversible, illness or pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of, or otherwise managed.

   In general, any waste which is ignitable, corrosive, reactive, or toxic is considered hazardous waste.

2. The Metro East Station is the point from which waste will be directed from the east waste shed to the landfill and/or resource recovery facilities. This is the logical point to ensure that the waste stream is free of hazardous and unacceptable wastes prior to being disposed.

CONCLUSION

The Metro East Station owner/operator shall be required to ensure that hazardous waste will not be transferred from the facility to the landfill and that hazardous wastes are not transferred to resource recovery facilities.

7. OWNERSHIP OF FACILITY

BACKGROUND/ANALYSIS

Metro's existing solid waste system is multi-dimensional. Some facilities are publicly owned with Metro-contracted field operations, and some facilities are privately owned and operated. The Metro South Station is owned by Metro with field operations contracted privately. The limited purpose landfills, yard debris centers, recycling centers, and processing centers are all privately owned and operated.

In regard to the East Transfer Station, the issue of ownership is important. While the literature (Discussion of Issues Pertinent to the Decision Concerning Public or Private Ownership and Operation of the Eastside Transfer and Recycling Center; Appendix) shows a tendency for the private delivery of services to be less costly than public delivery, a private facility may not provide the level and degree of service that a publicly owned facility can. The determination on ownership will need to be made by balancing all the pros and cons of both options. Chapter 13 of this Plan provides the criteria necessary to accomplish such an evaluation.

In theory, incentives resulting from competition are what make the private sector efficient in providing public services. Therefore, it is in the best public interest for a privately owned facility to be selected through a competitive process.

Also, if the East Transfer and Recycling Center is privately owned, Metro should control the facility gatehouse. This will ensure fair fee collection and proper general accounting at the station.

CONCLUSION

The determination of ownership of an East Transfer and Recycling Center will be made in accordance with criteria established in Chapter 13 of this Plan. If a private option is selected, it will be done through a competitive process. Further, Metro will control the gatehouse at a privately owned East Transfer and Recycling Center to ensure equity in fee collection and accounting.

Attachments

A. Cost Analysis of One versus Two Transfer Stations for the East Waste Shed

B. Land Use Siting Criteria

ATTACHMENT A

COST ANALYSIS OF ONE VERSUS TWO TRANSFER STATIONS FOR THE EAST WASTE SHED

The following is a discussion of the assumptions which were made for the cost analysis of one transfer station versus two stations. The Metro region has been divided into three waste sheds - east, west, and south. Metro's report Proposed Solid Waste Transfer Plan published in January 1981 indicates that one transfer station located in each waste shed would serve 90% of the population within a 20 minute haul time. Figure 1 illustrates the service area of the east waste shed.

Table 1 summarizes the assumptions used for the split between commercially hauled waste and self hauled waste, waste generation rates, and recycling rates. A review of the waste going to the St. Johns Landfill indicated that commercial haulers bring in approximately 96% of the waste and self haulers bring in 4% of the waste. At CTRC, commercial haulers bring in 88% of the waste and self haulers bring in 12%. Combining the waste from St. Johns and Killingsworth landfills, the commercial haul to self haul split is 93% to 7%, respectively. Since it appears that a transfer station may attract more self haulers, it was assumed that 93% of the waste to the east waste shed transfer station(s) will be from commercial haulers and 7% will be from self haulers.

In order to calculate the waste generation rate, the waste generation rates for the Metro region from 1980 to 1987 were examined. From 1980 to 1983, the waste generation rate was fairly constant and even decreased slightly in 1982. In 1985, the method of calculating the waste changed from using a volume calculation to using the weight of solid waste. This change resulted in an anomaly in the data and the waste generation rate jumped from 5.08 pounds per person per day (ppd) in 1984 to 5.84 ppd in 1985. The average increase in waste generation from 1980 to 1984 was 0.061 ppd, whereas, the average increase from 1985 to 1987 was 0.160 ppd.

A review of the report, Characterization of Municipal Solid Waste in the United States, 1960 to 2000 by Franklin and Associates, Ltd. indicates that the waste generation rate does increase. However, it was difficult to correlate the national average of waste generation to the Metro region. In the January 1986 issue of "Waste Age", the University of Wisconsin's Landfill Course indicated that "studies of per capita waste generation over a 10 year period indicated an annual increase of about 2% in Philadelphia and Des Moines". This article used a 2% per year increase for its projection for the waste generation rate for Madison, Wisconsin.

The waste generation rate between 1986 to 1987 increased 0.12 ppd which was a 2% increase. The 1987 overall waste generation rate is estimated to be 6.2 ppd. In this analysis, it was assumed that waste will increase annually at a rate of 0.12 ppd until 1995 and then will increase annually at a rate of 0.08 ppd, thereafter. This lower rate of increase after 1995 assumes that there will be some change in legislation for packaging and technology changes that will affect the waste generation rate.

Based on the above assumptions, the overall waste generation rate in 1992 is 6.8 ppd and for 2005 is 7.9 ppd. These rates were then broken down into 3 categories - residential, retail, and other. These categories were used because the transportation model which was used to calculate collection haul cost has population and employment projections for these categories. The waste generation rate by category is shown on Table 1.

In order to calculate the waste that will be handled at the transfer station(s), the amount of waste generated must be reduced by the recycling rate. A conservative increase in recyling was assumed so that the facility would not be undersized.

The current recycling rate based on the analysis done by SCS Engineers is 22%. A waste distribution table submitted by SCS Engineers to Metro in October estimated the residential recycling rate to be 19%. In order to achieve the overall rate of 22%, the commercial recycling rate would be approximately 24%. In this analysis, it is assumed that the recycling rate will increase one half percent per year. This results in an overall recycling rate of 24.5% in 1992 and 31% in 2005. Table 1 also shows the assumed recycling rates by category.

In order to estimate the number of vehicle trips that will be generated in the east waste shed, an assumption was made for each category. The residential waste stream was broken down by commercial haulers and self haulers. Table 2 summarizes the assumed vehicle generation rates. It is assumed that the majority of waste in the "other" category will be collected by commercial drop box trucks.

Tables 3 and 4 summarize the solid waste quantities and vehicle flow for the years 1992 and 2005. Peak day waste and peak day trips were based on reviewing the 1985 and 1986 waste data from the St. Johns Landfill. The peak monthly waste was 9.5% of the total yearly waste and occurred during a month that had 21 week-

days. The number for peak monthly vehicle trips was 9.2% of the total yearly vehicle trips and occurred in months that had 22 weekdays. Therefore, peak day waste and peak day trips for commercial haulers were projected using the following formulas:

Peak day waste = Total yearly waste x .095 ÷ 21

Peak day trips = Total yearly trips x .092 ÷ 22

With respect to self haulers, the peak monthly trips were 11.8% of the total yearly trips at the St. Johns Landfill. A public vehicle survey done at the Rossman's Landfill in 1981 indicated that the peak day trips were 7% of the monthly vehicle trips. The peak day waste and peak day trips for self haulers were calculated using the following formulas:

Peak day waste = Total yearly waste x .118 x .07

Peak day trips = Total yearly trips x .118 x .07

Metro's transportation model divides the region into census tracts and travel distance and times can be computed from the centroid of each census tract to the centroid of the census tract in which the facility is located. The sum of the travel distances can then be multiplied by the cost per mile for collection haul. Table 5 is a summary of the assumptions used to estimate collection haul cost. The $1.50 per haul mile was also used in the Forest Grove Transfer Station analysis completed in 1986.

Table 6 summarizes the cost assumptions in the analysis. Capital costs are annualized over 20 years at a real interest rate of 4%. The real interest rate is the market rate of interest minus the inflation rate. This interest rate is consistent with the rate Metro is using to evaluate the Bacona Road Landfill.

The amount of waste from the east waste shed is approximately twice as much as the amount of waste that was estimated for the Washington Transfer and Recycling Center (WTRC). The WTRC was located on an 8.3 acre site and the transfer station used the majority of this area. It was felt that this site was the minimum amount required for a transfer station of this size. Therefore, the two transfer station alternative assumes that each station will be located on a 10 acre site. This will probably allow for more queuing space on-site and a larger recycling area. The size of the site for one transfer station is assumed to be 15 acres.

Since the location of the depot is unknown, transfer haul cost between the transfer stations(s) and the depot was not included in the analysis. If the depot is located closer to the location of the one transfer station site in the vacant land scenario, the transfer haul cost for the one station alternative will be less than the two station alternative. If the depot is closer to the western station in the two station vacant land scenario, then the transfer haul cost will be less for the two station alternative.

Operations and maintenance (O & M) costs were estimated by examining the present cost to operate the CTRC with new equipment and then expanding this operation for one large transfer station. The current O & M cost to operate a new facility handling a similar amount of waste as CTRC is $4.30/ton. To handle the additional waste, it is assumed that 100% of the equipment cost and operation cost of the equipment of the smaller facility will be required and 75% of the labor, building maintenance, and utility costs of the smaller facility will be incurred. Twenty percent was added for overhead and profit. This results in an O & M cost for one transfer station of $4.00/ton. The cost of gatehouse attendants was then added to the O & M cost. The cost for attendants for one station is $75,000 and for two stations is $100,000.

The analysis for one transfer station versus two transfer stations included the following two scenarios:

1. Transfer station(s) located at the centroid of waste.

2. Transfer station(s) located at vacant land location(s) away from the centroid.

Evaluating both scenario's will show a range of costs for the one versus two station option. Scenario 1 shows the costs at the optimum location, whereas, scenario 2 shows the costs at locations away from the centroid. The Portland Development Commission and the East Multnomah County Development Commission were consulted during the selection of the vacant land locations. It should be noted that in the vacant land scenario, one of the stations in the two transfer station alternative is located in the same zone as the one transfer station alternative.

Figures 2 through 5 show the location of the transfer station(s) in each scenario. Tables 7 through 10 summarize the capital costs and annual cost in 1992 for each scenario.

TABLE 1
PORTLAND/MULTNOMAH COUNTY TRANSFER STATION(S)
ONE STATION VERSUS TWO STATIONS
TRANSPORTATION MODEL ASSUMPTIONS

- Waste to Transfer Stations:

Commercial Haulers	93%
Self Haulers	7%

- Waste Generation Rate:

Category	1992	2005
Residential	3.0 Lbs./Pers./Day	3.5 Lbs./Pers./Day
Retail	7.0 Lbs./Emp./Day	7.4 Lbs./Emp./Day
Other	6.8 Lbs./Emp./Day	7.8 Lbs./Emp./Day
Overall	6.8 Lbs./Pers./Day	7.9 Lbs./Pers./Day

- Recycling:

Category	1992	2005
Residential	21%	27%
Retail	27%	34%
Other	27%	34%

TABLE 2
PORTLAND/MULTNOMAH COUNTY TRANSFER STATION(S)
ONE STATION VERSUS TWO STATIONS
TRANSPORTATION MODEL ASSUMPTIONS

o Vehicle Trip Generation Rate:

Category	Tons/Trip
Residential-Commercial Haulers	6.0
Residential-Self Haulers	0.31*
Retail	6.0
Other	3.0

*Residential Self Haulers - 2.5 Yards/Trip, 8 Yards/Ton

TABLE 3
PORTLAND/MULTNOMAH COUNTY TRANSFER STATION(S)
SOLID WASTE QUANTITIES

1992

	ANNUAL (TPY)	DAILY AVERAGE (TPD)	PEAK DAY (TPD)
COMMERCIAL	545,664	1,495	2,470
SELF HAULERS	41,071	115	340
TOTAL	586,735	1,610	N.A.

2005

	ANNUAL (TPY)	DAILY AVERAGE (TPD)	PEAK DAY (TPD)
COMMERCIAL	644,153	1,765	2,915
SELF HAULERS	48,485	135	400
TOTAL	692,638	1,900	N.A.

TABLE 4
PORTLAND/MULTNOMAH COUNTY TRANSFER STATION(S)
VEHICLE FLOW

1992

	ANNUAL (VPY)	DAILY AVERAGE (VPD)	PEAK DAY (VPD)
COMMERCIAL	138,424	380	580
SELF HAULERS	132,487	360	1,095
TOTAL	270,911	740	N.A.

2005

	ANNUAL (VPY)	DAILY AVERAGE (VPD)	PEAK DAY (VPD)
COMMERCIAL	164,085	450	685
SELF HAULERS	156,403	430	1,290
TOTAL	320,488	880	N.A.

TABLE 5
COLLECTION HAUL COST

ASSUMPTIONS:

- 20 C.Y., One Axle, Diesel, Auto Transmission, Rear Loader, Capital Cost = $67,000.
- Commercial Truck is Sold or Traded at No Residual After 84,000 Miles of Use (i.e., 12,000 M.P.Y. @ 7 Years).

		$/MILE
Truck Capital:	$67,000/84,000	0.80
Insurance		Excluded Fix Cost
Maintenance:	$20,000/Life	0.24
Fuel ($1.00/Gallon, 2.5 M.P.G.)		0.40
P.U.C. License		0.06
Labor		Excluded Fix Cost
	Cost Per Haul Mile	$1.50

TABLE 6
PORTLAND/MULTNOMAH COUNTY TRANSFER STATION(S)
ONE STATION VERSUS TWO STATIONS
COST ASSUMPTIONS

- Commercial Haul Cost = $1.50/Mile.
- Real Interest Rate = Market Rate - Inflation.

  = 4.0%
- Capital Costs Annualized Over 20 Years.
- One Transfer Station - 15 Acre Site.
- Two Transfer Stations - Two 10 Acre Sites.
- Transfer Haul Cost Not Included.
- Operation and Maintenance Cost for One Station is $4.00/Ton Plus $75,000 for Gatehouse Attendants.
- Operation and Maintenance Cost for Two Stations is $4.30/Ton Plus $100,000 for Gatehouse Attendants.

TABLE 7
PORTLAND/MULTNOMAH COUNTY TRANSFER STATION(S)
ONE TRANSFER STATION
CENTROID LOCATION
1987 DOLLARS

CAPITAL COSTS

LAND	$ 1,050,000
CONSTRUCTION	8,402,000
TECHNICAL SERVICES	1,260,000
TOTAL	$10,712,000

ANNUAL COST

CAPITAL COST*	788,000
OPERATION AND MAINTENANCE	2,422,000
SUBTOTAL	$ 3,210,000
COLLECTION HAUL COST**	962,000
TOTAL	$ 4,172,000

*REAL INTEREST RATE = 4%, ANNUALIZED OVER 20 YEARS.

**1992 WASTE QUANTITIES

TABLE 8
PORTLAND/MULTNOMAH COUNTY TRANSFER STATION(S)
TWO TRANSFER STATIONS
CENTROID LOCATIONS
1987 DOLLARS

CAPITAL COSTS	
LAND	$ 1,400,000
CONSTRUCTION	10,571,000
TECHNICAL SERVICES	1,586,000
TOTAL	$13,557,000
ANNUAL COST	
CAPITAL COST*	998,000
OPERATION AND MAINTENANCE	2,623,000
SUBTOTAL	$ 3,621,000
COLLECTION HAUL COST**	705,000
TOTAL	$ 4,326,000

*REAL INTEREST RATE = 4%, ANNUALIZED OVER 20 YEARS.

**1992 WASTE QUANTITIES

TABLE 9
PORTLAND/MULTNOMAH COUNTY TRANSFER STATION(S)
ONE TRANSFER STATION
VACANT LAND LOCATION
1987 DOLLARS

CAPITAL COSTS

LAND	$ 1,050,000
CONSTRUCTION	8,402,000
TECHNICAL SERVICES	1,260,000
TOTAL	$10,712,000

ANNUAL COST

CAPITAL COST*	788,000
OPERATION AND MAINTENANCE	2,422,000
SUBTOTAL	$ 3,210,000
COLLECTION HAUL COST**	1,649,000
TOTAL	$ 4,859,000

*REAL INTEREST RATE = 4%, ANNUALIZED OVER 20 YEARS

**1992 WASTE QUANTITIES

TABLE 10
PORTLAND/MULTNOMAH COUNTY TRANSFER STATION(S)
TWO TRANSFER STATIONS
VACANT LAND LOCATIONS
1987 DOLLARS

CAPITAL COSTS

LAND	$ 1,400,000
CONSTRUCTION	10,571,000
TECHNICAL SERVICES	1,586,000
TOTAL	$13,557,000

ANNUAL COST

CAPITAL COST*	998,000
OPERATION AND MAINTENANCE	2,623,000
SUBTOTAL	$ 3,621,000
COLLECTION HAUL COST**	1,338,000
TOTAL	$ 4,959,000

*REAL INTEREST RATE = 4%, ANNUALIZED OVER 20 YEARS.

**1992 WASTE QUANTITIES

TABLE 11
PORTLAND/MULTNOMAH COUNTY TRANSFER STATION(S)
ONE STATION VERSUS TWO STATIONS
EXTERNAL IMPACTS

PARAMETER	IMPACT
NOISE	
- Facility	Minimal
- Truck Traffic	Property owners directly exposed will suffer losses of $15/year per 100,000 of property value.
LITTER	Cost of picking up litter.
DUST AND ODOR	Insignificant.

Perceived impacts independent of size of facility. Two transfer stations will have the same perceived impacts from two areas.

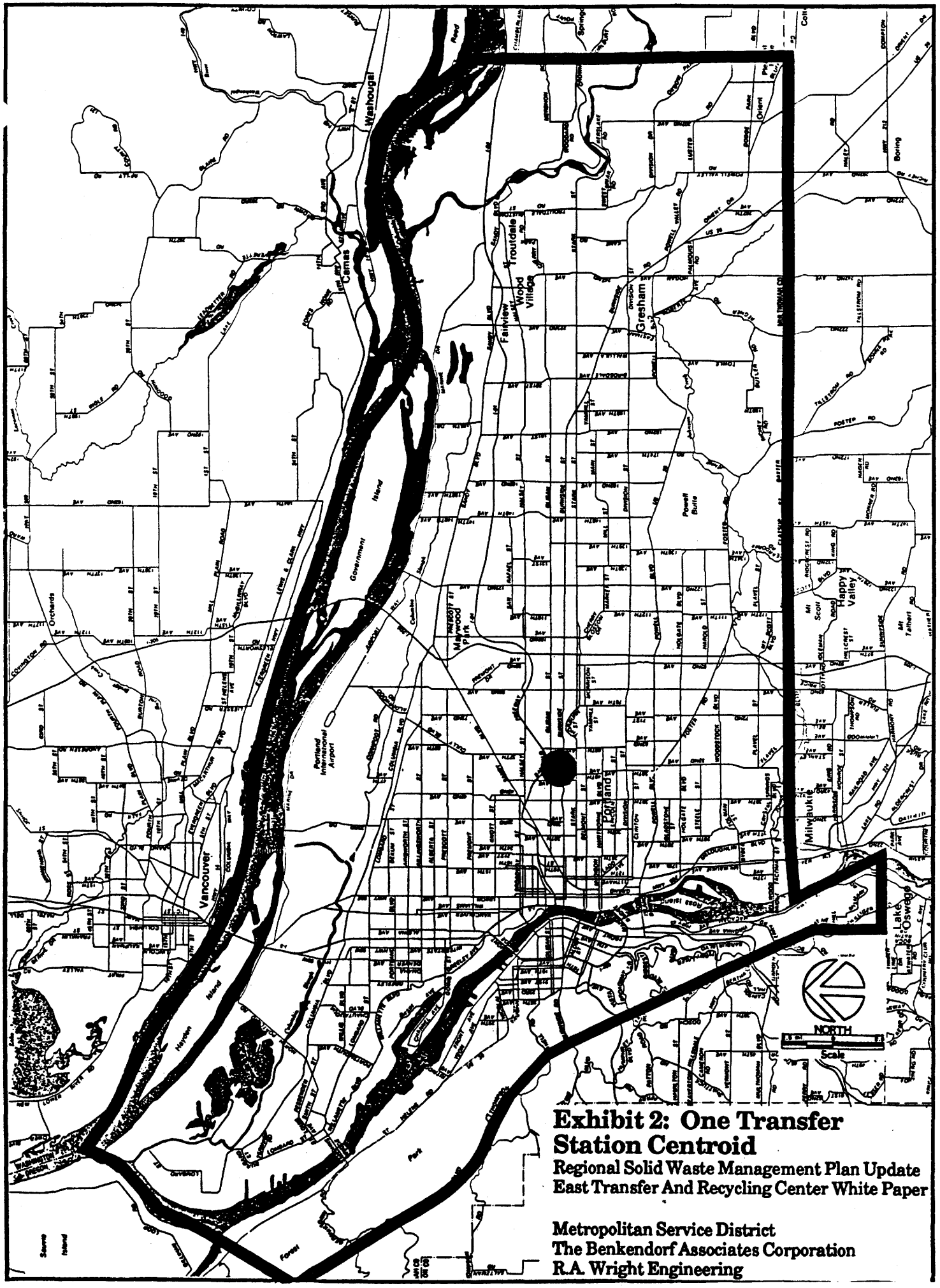

Exhibit 2: One Transfer Station Centroid

Regional Solid Waste Management Plan Update
East Transfer And Recycling Center White Paper

Metropolitan Service District
The Benkendorf Associates Corporation
R.A. Wright Engineering

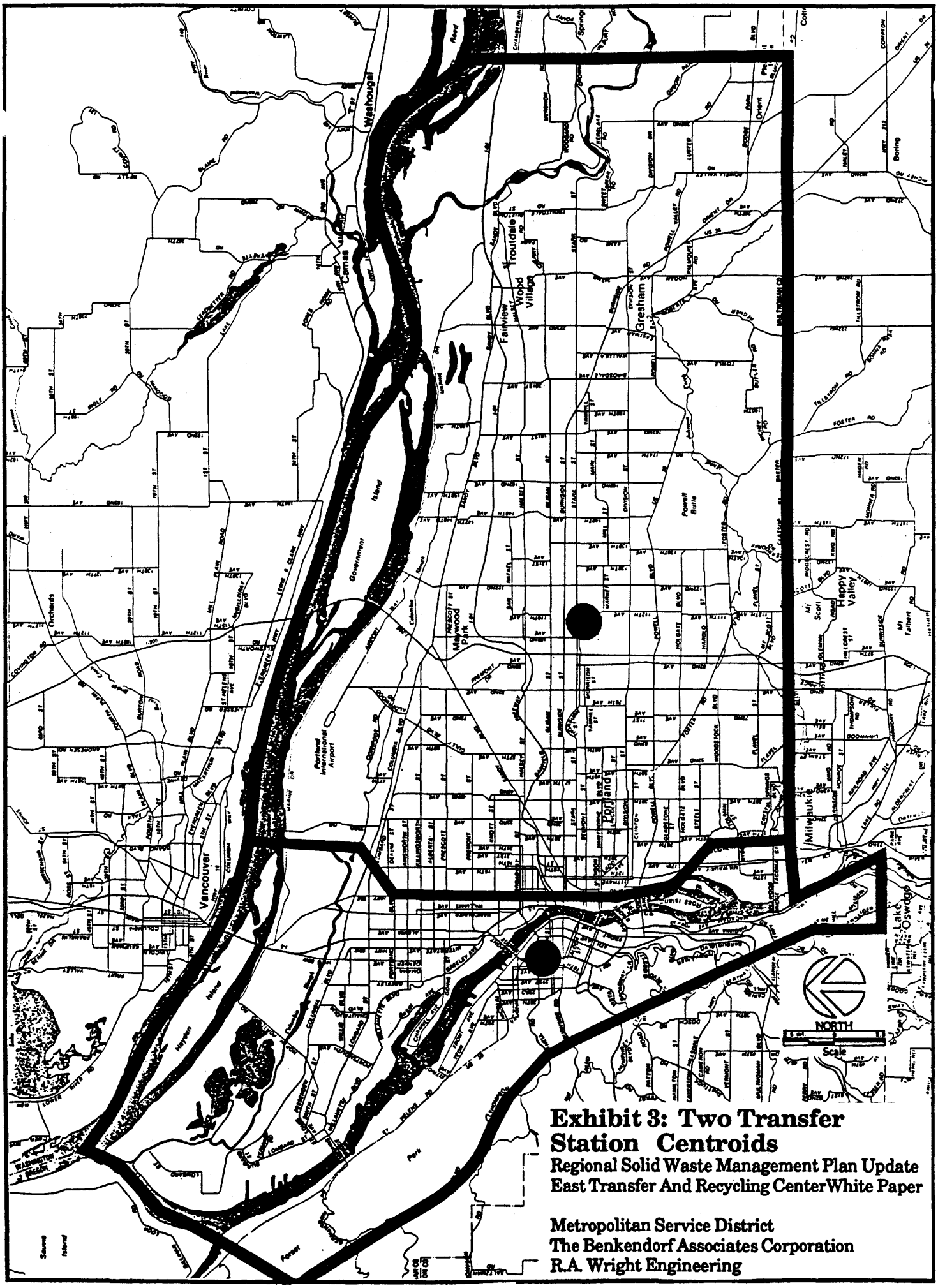

Exhibit 3: Two Transfer Station Centroids

Regional Solid Waste Management Plan Update
East Transfer And Recycling Center White Paper

Metropolitan Service District
The Benkendorf Associates Corporation
R.A. Wright Engineering

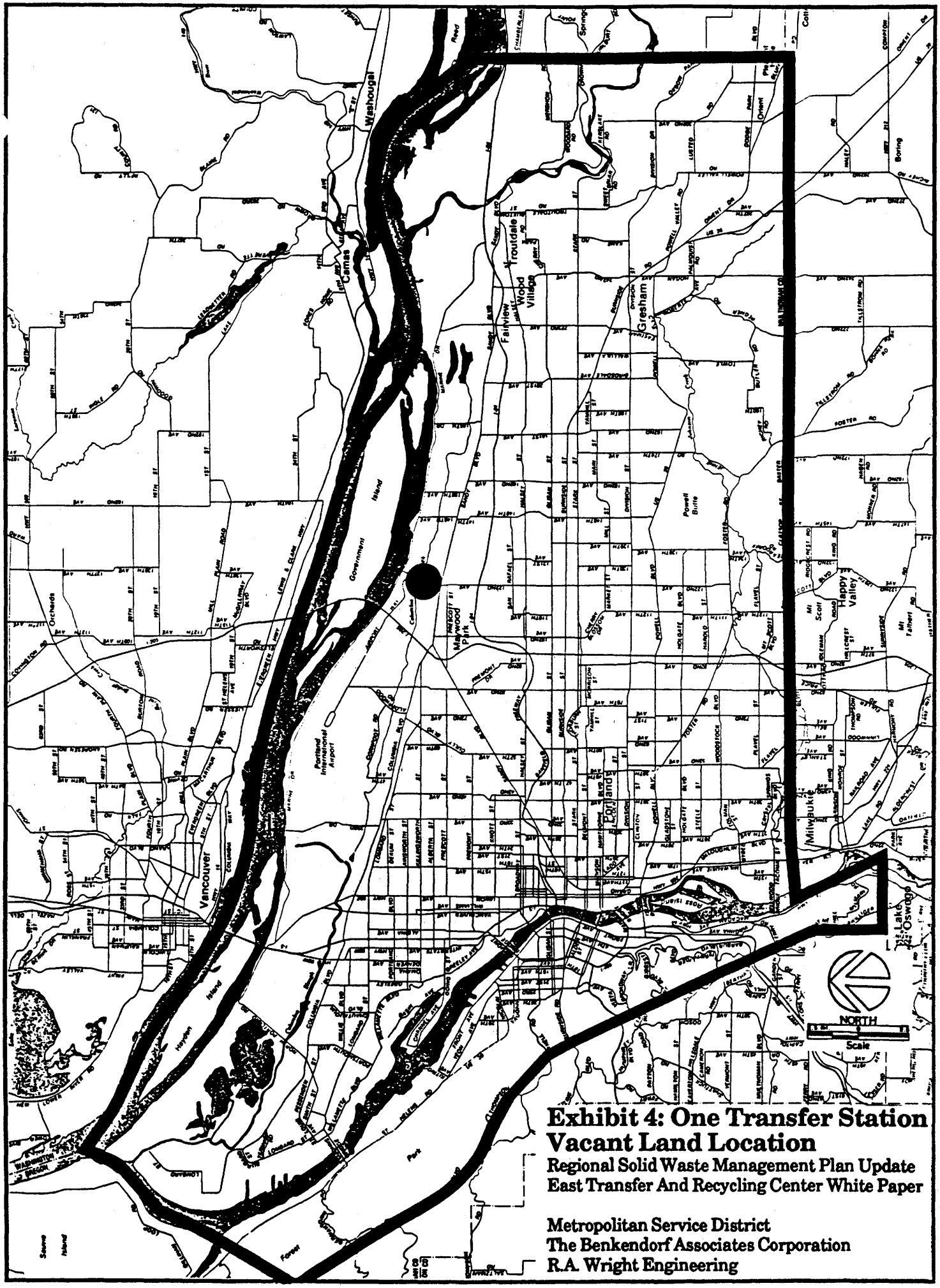

Exhibit 4: One Transfer Station Vacant Land Location

Regional Solid Waste Management Plan Update
East Transfer And Recycling Center White Paper

Metropolitan Service District
The Benkendorf Associates Corporation
R.A. Wright Engineering

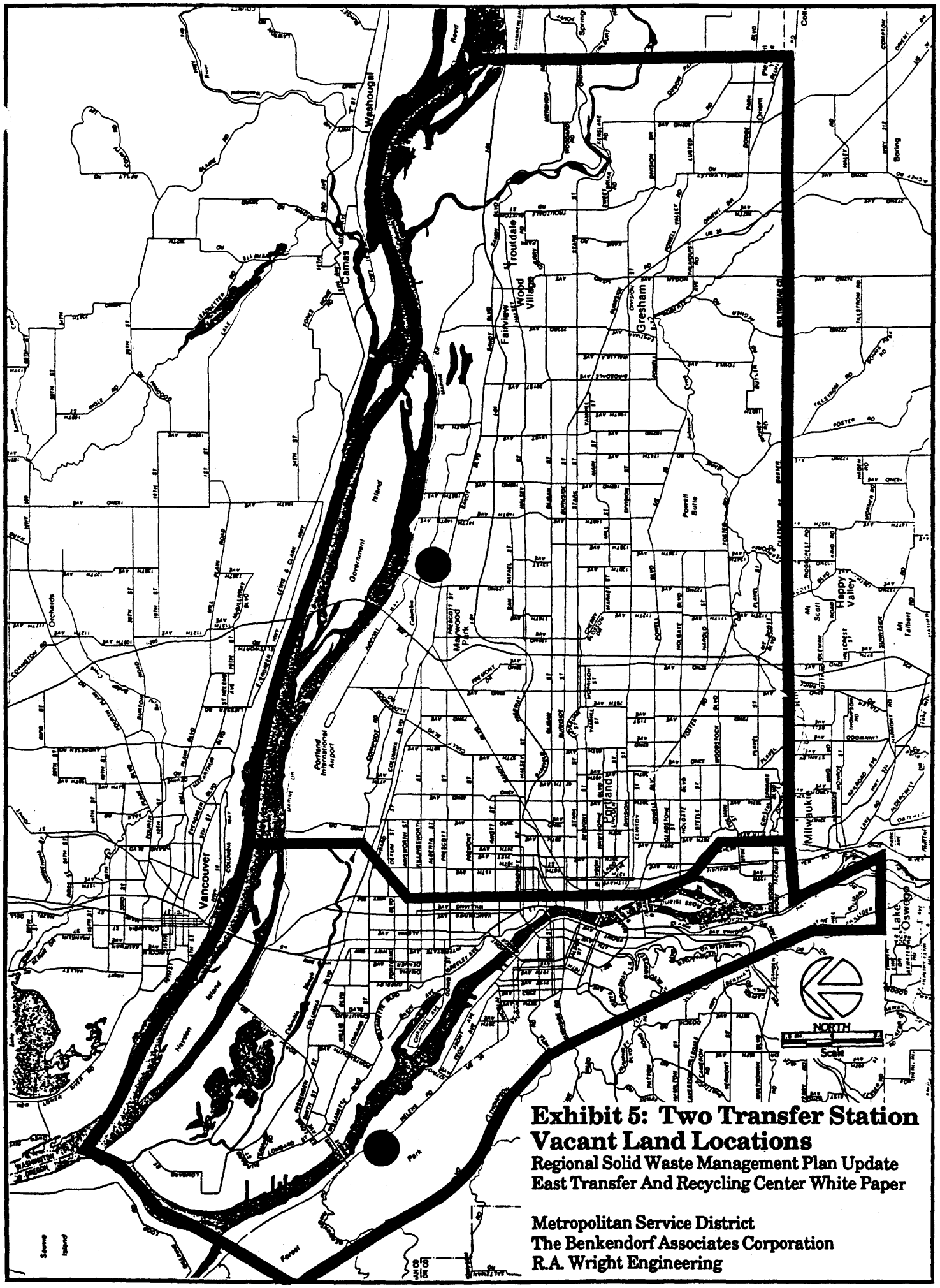

Exhibit 5: Two Transfer Station Vacant Land Locations

Regional Solid Waste Management Plan Update
East Transfer And Recycling Center White Paper

Metropolitan Service District
The Benkendorf Associates Corporation
R.A. Wright Engineering

ATTACHMENT B

LAND USE SITING CRITERIA FOR THE METRO EAST TRANSFER AND RECYCLING CENTER

Projects (sites) will be ranked relative to each other for all of the following criteria. The project (site) most closely meeting a criterion's objective will receive the highest ranking. If two or more projects (sites) meet a criterion equally, they will be ranked identically (i.e., ties are possible). The rankings will be multiplied by the weighting factors listed to the right. The examples provided are intended to illustrate a range of compliance with each criterion, ranging from the "best" compliance to low compliance.

Fatal Flaw Analysis

In order to be considered for evaluation, projects (sites) must include a land use approval and construction schedule which demonstrates that the Metro East Station can be operational to receive waste before the St. Johns Landfill closes in February 1991.

Evaluation Criteria

Criteria	Weight Factor
1. ON-SITE CHARACTERISTICS	(15%)

On-site characteristics of the site make it well suited for the use. The site plan does not create on-site conflicts with wetlands, 100-year flood plain, geotechnical conditions, or other physical characteristics of the site. Proposed mitigation measures which are shown to effectively reduce or eliminate any potential on-site conflicts will be credited.

Examples:

Best
- No conflicts.
- One or two on-site characteristics have unmitigated conflicts.
- Multiple and/or severe unmitigated conflicts.

Criteria	Weight Factor

2. UTILITIES (5%)

Utilities needed by the facility (sewer, water, power) are available and of adequate capacity.

Examples:

Best
- All utilities available
- Some, but not all, utilities available, and can only be extended at public expense.

3. LAND USE PERMITS (20%)

The project can demonstrate a high probability that all necessary land use permits (local, state, federal) have been, or can be obtained by June 1, 1989.

Examples:

Best
- All permits in hand or assured
- Application filed, administrative approvals can be obtained by June 1, 1989.
- Application filed, quasijudicial approvals can be obtained by June 1, 1989.

4. TRAFFIC CAPACITY OF PRIMARY ACCESS ROUTES (15%)

Primary access routes to the site have adequate built or planned capacity for the traffic type and load. Planned capacity will be credited when programmed and fully funded. The determination of adequate capacity will be made by local governments.

Examples:

Best
- The primary access route has adequate capacity to accommodate the proposed traffic type and load.
- The primary access route will require improvements to accommodate the proposed traffic type and load, and the improvements are fully funded.
- The primary access route will require improvements to accommodate the proposed traffic type and load, and the improvements are not fully funded.

Criteria	Weight Factor

5. TRANSPORTATION ACCESS FOR COLLECTION VEHICLES AND SELF-HAULERS (10%)

Access to the site allows commercial haulers and the public to travel primarily on interstate highways and arterials.

Examples:

Best
- Site is directly adjacent to an interstate highway.
- Site is close to an interstate highway and accessed primarily by an arterial.
- Site is far from an interstate highway and accessed primarily by an arterial.

6. LAND USE IMPACTS ALONG ACCESS ROUTES (15%)

Adverse land use impacts are minimal along the primary access route(s) between the closest interstate highway and the site. Other primary access routes which do not directly connect to an interstate highway will be considered.

Examples:

Best
- Industrial land uses, open space, and/or passive recreation areas.
- Mixed uses of commercial, industrial, and/or active recreation areas.
- Residential, educational, and/or medical land uses.

Criteria	Weight Factor

7. LAND USE IMPACTS ON ADJACENT USES (20%)

The transfer station is compatible with the conforming land uses within 500 feet of the on-site activity, and/or impacts are mitigated through buffering, screening, and/or enclosure of facilities.

Examples:

Best
- Heavy or general industrial, exclusive farm use, public works and utilities, open space with low to no recreational access.
- Warehouse and distribution, light manufacturing, passive recreation areas.
- Mixed commercial/industrial use, commercial uses, food processing, active recreation areas.
- Campus industrial, corporate office.
- Residential, school, hospital, etc.

Guidelines for Application of Criteria 6 and 7

The effectiveness of buffers, screening and/or enclosure of facilities to mitigate potential negative impacts of outside storage and processing will be credited. Effective mitigation of impacts through buffers, screening and/or enclosure of facilities will upgrade the adjacent use one category.

When there is more than one use along the primary access route or adjacent to the site, the overall impact will be based on a proportional mix of the uses.

Uses which are not specifically listed above will be placed in the most similar category. For example, sensitive wildlife habitat may be evaluated as similar to active recreation areas.

"Conforming land uses" are those which are allowed by the local Comprehensive Plan. When the adjacent land is vacant or land uses do not conform to Comprehensive Plan designations, the Comprehensive Plan designations will be used, with one exception: In cases where the current zone and existing conforming use are less intense than uses allowed by the Comprehensive Plan, the existing uses may be used to rate the project (site). Vacant properties with final development plans approved by the local jurisdiction may also be considered in rating the proposal.

Collection Policies

6.0 Local governments shall be responsible for assuring that collection of solid waste and recyclables is conducted in a cost efficient and reliable manner.

6.1 Metro, the cities, the counties, solid waste industry, and citizens shall develop waste generation and collection practices which reduce the amount of undesirable contaminants in wastes from which materials can be recovered.

6.2 Local governments shall be responsible for implementing regional solid waste management programs in which a change in local collection methods is necessary.

CHAPTER 6 - COLLECTION

Chapter 6, Collection, has not yet been developed. It will be completed during future updates of the Solid Waste Management Plan.

Transportation Policies

7.0 The solid waste transportation system shall be cost-effective, reliable, and readily adaptable to alternative modes of transportation.

7.1 City and county land use and transportation plans shall be considered in the solid waste transportation system design.

7.2 Solid waste transport services shall be secured from the private sector.

CHAPTER 7 - TRANSPORTATION

PURPOSE

The purpose of this chapter is to present the system necessary to transport mixed solid waste from the Metro South Transfer and Recycling Center and the Metro East Transfer and Recycling Center to the Gilliam County Landfill near Arlington, Oregon. This chapter recognizes that the solid waste transport system will change as other solid waste facilities come on line and therefore will be amended accordingly.

BACKGROUND

Various transportation modes (1988) were researched resulting in a list of assumptions and key issues. Each key issue was analyzed and recommended options developed. The assumptions and recommended options presented below form the basis for the transportation system to facilitate transport of waste from the Metro region to the Gilliam County Landfill.

ANALYSIS

A list of basic assumptions broadly define the envisioned transportation system. The assumptions are as follows:

1. Three modes of transporting waste from the Metro region to the Gilliam County Landfill are possible: truck, rail, and barge.

2. Barge and rail modes will require depots; truck will not.

3. There will be no direct haul of solid waste to the depot.

4. There will be no materials recovery at the depot.

5. Transport vendors will provide the necessary container or trailers.

6. At least three direct-haul transfer stations will exist.

7. The Riedel compost facility and the Oregon Processing and Recycling Center will receive solid waste by direct haul. Residuals from both facilities will be transported to transfer stations.

8. Waste from the Forest Grove Transfer Station and the Hillsboro Reload Facility will be transported to the Riverbend Landfill in Yamhill County.

9. The Metro South Station will continue to transport a portion of its total volume to the Marion County Energy Recovery Facility.

10. The Gilliam County Landfill is to receive no less than 90 percent of the Metro region general-purpose landfill waste.

In order to further clarify the design of a transportation system some key issues must be addressed. For the transport of waste to the Gilliam County Landfill, the following key issues were analyzed and conclusions drawn after several options were evaluated:

Issue 1:
How will waste be prepared for transport?

Recommended Option:
Waste is compacted into standard dimensions at selected transfer stations. The option of compacting waste into standard dimensions was recommended as it produces loads which can be shifted to other modes, can achieve maximum road limits, and has proven reliability.

Issue 2:
Where will the transporter accept delivery of waste?

Recommended Option:
At transfer stations, specifically Metro South Station and Metro East Station. Since the location of Metro South Station is known, as is the general location of Metro East Station, and since together they will handle the majority of waste for shipment; it was decided to solicit per ton prices based on these two locations. A process for establishing prices for future pick-up points, such as a Washington County transfer station(s), will also be contracted in the bid documents.

The option of hauling waste to a depot for compaction and transfer was rejected because the material would be hauled twice and would require the facility to obtain a transfer station permit.

Issue 3:
How much waste will the vendor be expected to transport and when?

Recommended Option:
For the period from January 1, 1990 to January 1, 1991, Metro agrees to provide, for transport to the Gilliam County Landfill, a minimum of 90 percent of the total tons of acceptable waste which Metro delivered to the St. Johns Landfill from the Metro South Station for the previous calendar year. For the remainder of the contract Metro agrees to provide for transport to the Gilliam County Landfill a minimum of 90 percent of the total Metro region general-purpose landfill waste. It's anticipated that the annual waste flow by facility, once the Metro East Station is operational, will be approximately 30% for Metro South Station and 70% for Metro East Station.

CONCLUSION

The transport system is one in which waste is compacted at selected transfer stations by compacting equipment designed to produce efficient payloads. The transfer station operators will be responsible for compacting the waste and loading it into intermodal leakproof containers supplied by the transporter. The containers are sealed and transported to the landfill where the seal is broken and the waste unloaded by the transporter. The landfill operator then disposes of the waste.

The system will be reliable since the containerized waste can be transported by rail, barge or truck in the event one mode becomes inoperable. Such flexibility ensures efficient, timely disposal of the region's waste since all modes of transport can compete in such a system and can be shifted to different modes during both routine and catastrophic shut downs of the transporters primary mode. Containerized loads also facilitate the use of any depots required by barge or rail transporters since the depots will not require DEQ permits as transfer stations.

The system will be environmentally sound. The containers will be "wind and water tight" and not opened until they are

unloaded at the landfill. The spillage of either waste or liquids from the container will be prohibited, and even odor should be minimized by the container design. In short, the loads of waste will be indistinguishable from any other containerized load as it moves through the transport system. Since there will be additional transfer stations and resource recovery facilities whose locations, specifications and timing are as yet unknown; procedures for establishing pick-up at these facilities will be developed.

System Design Considerations Policies

8.0 The solid waste system design shall consider the potential adverse environmental, economic, and land use impacts and the need for adequate mitigation.

8.1 Environment. The design of the solid waste system shall strive to protect environmental quality through the selection of sites, facility design standards and operational standards.

8.2 Economic. The design of the solid waste system shall support the economic development of the region by recognizing potential economic impacts during the planning, siting and permitting of the solid waste system and its components.

8.3 Land Use. The design of the solid waste management system shall strive to ensure compatibility with adjacent land uses.

8.4 Mitigation. Adequate mitigation will be provided for adverse environmental, economic, and land use impacts directly related to the siting of a solid waste disposal site. A balanced program of appropriate measures shall be imposed jointly by Metro and the local jurisdiction.

CHAPTER 8 - SYSTEM DESIGN CONSIDERATIONS

Chapter 8, System Design Considerations, has not yet been developed. It will be completed during future updates of the Solid Waste Management Plan.

SECTION V - IMPLEMENTATION

INTRODUCTION

This section of the plan describes specific tools for implementing waste management programs and system design requirements identified earlier in the plan. Some of the subjects that are addressed include 1) determining stable and predictable system costs and rates; 2) developing franchise, contract and licensing procedures to regulate privately-owned facilities; and 3) establishing enhancement fees to serve as incentives for communities accepting solid waste facilities.

The Implementation section also includes a Unified Work Program which identifies the roles, responsibilities and general time frames in which Metro, the cities and counties shall implement the Solid Waste Management Plan.

Franchising, Contracting, Licensing Policy

9.0 The solid waste management plan shall include methods for regulatory control of solid waste facilities. Such regulatory methods may include a system of franchising, contracting and/or licensing to ensure that needed disposal facilities are provided and are operated in an acceptable manner.

CHAPTER 9 - FRANCHISING, CONTRACTING, LICENSING

Metro Code Sections 5.01, 5.02 and 5.03 are hereby adopted as the franchising, contracting, licensing chapter of the Solid Waste Management Plan. Future updates to this plan will include analysis of franchising vs. contracting vs. licensing of solid waste facilities for this chapter.

Financing Policies

10.0 The solid waste management plan shall include methods of financing the solid waste system.

10.1 Metro may assist in the financing of solid waste facilities in part by allocating waste volumes to various facilities.

CHAPTER 10 - FINANCING

Chapter 10, Financing, has not yet been developed. It will be completed during future updates of the Solid Waste Management Plan.

Rate Structure Policies

11.0 The solid waste system shall be developed to achieve stable, equitable and predictable solid waste system costs and rates.

11.1 While the base rate will remain uniform throughout the region, local solid waste management options may affect rates.

11.2 Metro shall provide financial support for source separation programs, to produce high-grade select loads and to carry out other waste reduction programs.

11.3 In establishing financial support for waste reduction programs, Metro shall consider cost effectiveness, legal, technical and economic feasibility.

CHAPTER 11 - RATE STRUCTURE

The Rate Study for fiscal year 1988-89 is hereby adopted as the Rate Structure Chapter of the Solid Waste Management Plan. The 1988-89 Rate Study is not consistent with the Solid Waste Management Plan Policies. Per Ordinance No. 88-266, future rate studies will be brought into conformance with the Solid Waste Management Plan Policies.

Community Enhancement Policies

12.0 Metro shall provide the host city or county of a solid waste "disposal site," as defined by ORS 459.280(1) and (2), with a host fee to be used for the purposes of community enhancement.

12.1 Host fees will be paid on a per ton volume of non-source separated waste entering the disposal site.

12.2 The host fee paid to a city or county for privately owned and operated disposal sites will be reduced by an amount equal to the property taxes assessed by the host jurisdiction.

12.3 A citizen committee will be appointed, by the city or county receiving the host fee, to advise how the fee should be allocated as part of a community enhancement program. The Metro Councilor or his or her designee of that district shall be appointed to the citizen committee.

CHAPTER 12 - COMMUNITY ENHANCEMENT

The host fee paid to the host city or county for a publicly owned disposal site within the region shall be $.50 per ton.

The host fee paid to the host city or county for a privately owned disposal site within the region shall be $.50 per ton minus the property taxes levied by the local jurisdiction.

CHAPTER 13 - FACILITY OWNERSHIP

The criteria are be used for determining what form of facility ownership best serves the public interest are:

a. to compare the anticipated capital and operating costs;
b. to adhere to the waste reduction policies;
c. to best achieve implementation of the solid waste management plan;
d. to be compatible with existing facilities and programs;
e. to adjust to changing circumstances which may require capital improvements, new methods of operation or similar factors;
f. to be environmentally acceptable;
g. to provide ease of access by the public and collection industry, where applicable;
h. to avoid vertical integration (monopoly) of the solid waste business;
i. to demonstrate ease of facility management, including fee collection equity, periodic review, rate changes, flow control and related operational changes;
j. to provide appropriate mitigation and\or enhancement measures deemed appropriate to the host jurisdiction.

The nature and scale of the subject facility shall be considered in determining how to apply the criteria.

Facility Ownership Policies

13.0 Solid waste facilities may be publicly or privately owned, depending upon which best serves the public interest. A decision on ownership of a facility shall be made by Metro, case-by-case, and based upon established criteria.

13.1 Recycling drop centers shall be privately owned unless a need for such additional facilities is identified and can best be fulfilled by a city or county as determined by that city or county.

13.2 Facilities which serve only one collector and exclude the public shall be privately owned.

Unified Work Programs Policy

14.0 The solid waste management plan shall include annual work programs which identify roles, responsibilities and time frames in which Metro, the cities and counties shall implement the plan.

CHAPTER 14 - UNIFIED WORK PROGRAMS

Chapter 14, Unified Work Programs, has not yet been developed. It will be completed during future updates of the Solid Waste Management Plan.

SECTION VI - PLANNING PROCESS

INTRODUCTION

This section of the plan describes the process through which the Solid Waste Management Plan is developed and implemented. The emphasis is on regional cooperation between cities, counties, Metro, the Department of Environmental Quality, the solid waste industry and citizens in solid waste management.

The Local Solutions Chapter establishes a process for providing appropriate zoning for solid waste facilities and for incorporating local facility design and program options into the regional plan. The Plan Consistency Chapter deals with the question of how to achieve consistency between city and county comprehensive plan policies and ordinances, and the regional solid waste management plan.

The remaining chapters in this section address questions relating to public involvement and education, and the process for updating and amending the plan.

Public Involvement and Education Policy

15.0 Metro, the cities and counties shall promote public information, education and participation in developing and implementing the solid waste management plan.

CHAPTER 15 - PUBLIC INVOLVEMENT AND EDUCATION CHAPTER

PURPOSE

One of the overriding objectives of the region's Solid Waste Management Plan is to promote public education and participation in all phases of the planning process. In order to accomplish this objective, the plan has and will continue to be developed through a process of regional cooperation and consensus building between local governments, solid waste industry representatives and citizens. The purpose of this chapter is to identify specific public involvement objectives and strategies for implementing these objectives.

BACKGROUND

In July 1987, Metro established a Policy Committee and Technical Committee to develop recommendations to the Metro Council on solid waste management planning issues. The Policy Committee has fourteen members comprised of elected or appointed officials from cities and counties in the tri-county area, the Department of Environmental Quality, the Port of Portland, and Metro. This committee addresses solid waste policy issues of regional significance. The Technical Committee has 25 members including local government technicians, representatives from the solid waste industry and five citizens. This group provides technical expertise to the Policy Committee and the Metro Council on specific solid waste facility and program issues.

The Policy Committee and Technical Committee have met on a regular basis since September 1987. They have played a major role in developing the solid waste policies, in making recommendations for a Metro East Transfer and Recycling Center, and in identifying waste reduction programs for the region.

In addition to the activities of these groups, 31 cities and three counties in the tri-county area have signed formal resolutions supporting the cooperative approach for preparing and implementing the Solid Waste Management Plan.

PROGRAM SUMMARY

Policy 15.0 of the plan (Public Involvement and Education) states that " Metro, cities and counties shall promote public information, education and participation in developing and implementing the plan." Goal No. 1 (Citizen Involvement) of the statewide planning goals establishes the following objectives for citizen involvement:

- To provide for widespread citizen involvement.
- To assure effective two-way communication between citizens and their governments.
- To provide the opportunity for citizens to be involved in all phases of the planning process.
- To assure that technical information is available in an understandable form.
- To assure that citizens receive a response from policy makers.
- To ensure funding for the citizen involvement program.

The following strategies have and will continue to be used to implement the Citizen Involvement Policy and address the objectives identified in Goal 1:

Citizen Representation on Planning Committees

As described in the Background section above, Metro through Resolution No. 87-785A established regional committees to help develop and implement the region's Solid Waste Management Plan. These committees are comprised of local elected officials from the tri-county area, local government technicians, solid waste industry representatives and citizen members.

Specifically, five citizens serve on the Technical Committee. They were selected in the summer of 1987 through an open recruitment process. Metro notified over 150 interested citizens to solicit their participation on the committee. The Executive Officer appointed five individuals from those who applied for the citizens' positions.

Not only do citizens directly serve on the Technical Committee, but they are also represented by their local elected officials on the Policy Committee. These officials provide a link between local citizen involvement programs and the regional planning process. When committee members bring an issue back to their respective governing bodies, neighborhood associations and community planning organizations are notified, thereby providing an opportunity for citizen input at the local as well as regional level. Policy Committee members not only bring forward the comments and concerns of their particular councils or

commissions, but they speak on behalf of the citizens in their communities.

The planning committees have been instrumental in developing the plan to this point and they will continue to play an important role as other parts of the plan are prepared and amendments occur.

Newsletters

In order to assure that citizen involvement is widespread and that technical information is available in an understandable form, Metro has and will continue to prepare solid waste management plan newsletters on a regular basis. The newsletters summarize complex policy issues and technical information for the general public. The newsletters are distributed to local governments, neighborhood associations, community planning organizations, business and civic organizations, and individuals interested in solid waste issues.

During the first year of the project, four newsletters were distributed. These newsletters informed citizens about the cooperative solid waste planning process; the development of the solid waste policies; and proposed waste reduction activities. Newsletters will continue to be prepared at key points in the planning process.

Mailing List

Metro has and will continue to work with local governments to maintain an up-to-date mailing list of interested groups and individuals. The list includes local neighborhood associations and community planning organizations formed to meet Goal 1 - Citizen Involvement requirements, and will therefore provide a link between regional and local citizen involvement programs.

There are currently about 800 names on the Solid Waste Management Plan mailing list and in addition to the citizen groups mentioned above, it includes government officials and staff, business and civic organizations, and individuals interested in solid waste issues. This list has and will continue to be added to or revised as the plan development and amendment process continues.

This mailing list is used to distribute the newsletter; to provide an opportunity for review and comment of the solid waste plan chapters as they are written; to notify citizens of public hearings and meetings; and for other purposes that help to promote public information, education and participation.

Review and Comment

As chapters of the Solid Waste Management Plan are completed, they are distributed to individuals on the solid waste management plan mailing list and other interested parties. This provides an opportunity for the public to review the chapters and to submit comments or testimony to the Metro Council on issues related to the chapters.

Public Hearings and Meetings

During key decision points in the planning process, the Metro Council and/or local jurisdictions hold public hearings to invite citizen input. These hearings also assure that citizens receive a response from policy makers in accordance with the objectives stated above. Public meetings to explain specific aspects of the plan and to receive comments from citizens and local governments also are conducted as appropriate during the planning process.

During the development of the solid waste policies section of the plan, seven informal meetings were held throughout the region to provide information and solicit input from interested citizens and public officials. As appropriate, Metro and local governments will continue to present forums which promote citizen participation throughout the planning and amendment process.

Other Educational and Promotional Tools

Other educational and promotional methods have been and will continue to be used if they help achieve the goals and objectives for citizen involvement. Some of these methods include a speaker's bureau, fact sheets, public opinion surveys and slide shows. In the spring of 1988, Metro surveyed members of the Policy and Technical Committees to determine their views on the planning process and to solicit input on how it could be improved in the future.

Financial Support

Metro has committed resources to carry out an aggressive citizen involvement program. Metro and local governments, as appropriate, will continue to allocate adequate funds to achieve the citizen involvement goal and objectives. This allocation is and will continue to be an integral component of the budget for the Solid Waste Management Plan.

CONCLUSION

The Solid Waste Management Plan includes a comprehensive program for citizen involvement to insure the opportunity for citizens to be involved in all phases of the planning process. Citizen and local government involvement will continue during plan update and amendment. Chapter 17 of this plan will define the specific roles and responsibilities for citizens during the amendment process.

Local Government Solutions Policies

16.0 The implementation of the solid waste management plan shall give priority to solutions developed at the local level that are consistent with all plan policies.

16.1 Each local government shall exercise its responsibilities for solid waste solutions in its area, in ways consistent with the regional plan.

16.2 Each local government shall provide appropriate zoning for planned solid waste facilities or enter into intergovernmental agreements with others to assure such zoning.

CHAPTER 16 - LOCAL GOVERNMENT SOLUTIONS

INTRODUCTION

Oregon's Statewide Planning Goal No. 11 (Public Facilities and Services), established per ORS Chapter 197, requires that all local governments provide for solid waste disposal sites in their plans in order to meet current and long-range needs. The Solid Waste Management Plan includes a policy framework developed through a regional decision-making process which establishes the means to satisfy Goal 11 requirements.

BACKGROUND/ANALYSIS

Policy 16.0 recognizes the significant role that local jurisdictions perform in implementing the regional plan. Cities and Counties have the responsibility for solid waste collection. They also are responsible for administering local land use provisions which regulate siting of needed solid waste facilities. Policy 16.0 recognizes that Cities and Counties are closest to both local industry and citizen constituents and, therefore, prioritizes City and County solutions that will ensure effective design and operation of programs established by the Solid Waste Management Plan.

Successful implementation of the Plan requires commitment to do so by the Cities and Counties. That commitment is established through policies 16.1 and 16.2. Policy 16.1 requires each local government to participate in the programs established by the Plan. Policy 16.2 defines that commitment, in part, by requiring each City and County to provide appropriate zoning to allow siting of solid waste facilities within its boundaries.

It is recognized that existing zoning in Cities and Counties may permit solid waste facilities either as an outright permitted use or as a conditional use. However, it will be desirable for local jurisdictions to work cooperatively, both among themselves and with Metro to establish clear and objective zoning standards for solid waste facilities.

As a starting point to carry out policy 16.2, the solid waste Facilities/Zoning Matrix in this chapter lists the existing zoning districts in which operational solid waste facilities are

located by facility type. The matrix is derived from Appendix E of the Solid Waste Management Plan Inventory, an informational appendix to the Plan. Many types of facilities are located in industrial, transitional timber and exclusive farm use zones, but some facilities are also located in commercial, residential, and public works districts. Section IV of the Inventory describes the existing facilities and notes that surrounding land uses range from industrial, agricultural and forestry to commercial and residential.

The operational characteristics and size of solid waste facilities are the principal determinants of the appropriate zone in which to locate solid waste facilities. Establishment of clear and objective zoning standards will control how facilities may be physically located in relation to surrounding uses on appropriate sites. Potential external effects of siting solid waste facilities include litter, noise, and impact on transportation facilities that can be addressed by local jurisdictions through the land use process.

CONCLUSION

The attached matrix is provided as a starting point to assist local governments in carrying out policy 16.2 of this Plan.

SOLID WASTE FACILITIES/ZONING MATRIX[1]

Zoning Districts in which Existing Facilities Located

Types of Solid Waste Facilities	HI	GI	LI	GC	RES	TT	EFU	PWS
Transfer Stations	X	X	X			X	X	X
Material Recovery	X	X		X	X	X	X	
Yard Debris Processing		X			X			
Lumber By-Product Processing		X						
Low-Grade Waste Disposal						X	X	X
Hazardous Waste Facilities		N	O	N	E			
Mixed Waste Composting Facilities						X		
Energy Recovery Facilities							X	

HI = Heavy Industrial
GI = General Industry/Manufacturing
LI = Light Industry/Manufacturing
GC = General Commercial
RES = Residential
TT = Transitional Timber/Farm, Forest
EFU = Exclusive Farm Use
PWS = Public Works/Safety

[1]Condensed from Appendix E of the Solid Waste Management Plan Inventory. This information is provided as an indicator of the variety of zoning districts in which existing solid waste facilities are located that serve the Metro region. It should not be construed as a recommended facilities/zoning compatibility matrix or policy.

Plan Development and Amendment Policies

17.0 The Solid Waste Management plan shall be developed and amended through a regional cooperative process between Metro, the cities, the counties, solid industry representatives, citizens and other affected parties.

17.1 The Solid Waste Management Plan shall include a process for developing and amending the plan, and shall define the roles and responsibilities of Metro, the cities, the counties, solid waste industry representatives, citizens and other affected parties.

17.2 The Solid Waste Management Plan shall be consistent with existing Metro policies for managing solid waste.

17.3 Amendments to existing plan policies may occur during the planning process whenever a need is demonstrated.

CHAPTER 17 - PLAN DEVELOPMENT AND AMENDMENT

Chapter 17, Plan Development and Amendment, has not yet been developed. It will be completed during future updates of the Solid Waste Management Plan.

Plan Consistency Policies

18.0 The Solid Waste Management Plan shall be recognized through city and county comprehensive plan policies and ordinances governing the siting, permit review, and development standards for solid waste facilities.

18.1 The Solid Waste Management Plan shall provide performance standards for the siting of facilities. The model standards can be incorporated into local comprehensive plans in order to achieve compliance with the regional plan.

CHAPTER 18 - PLAN CONSISTENCY

Chapter 18, Plan Consistency, has not yet been developed. It will be completed during future updates of the Solid Waste Management Plan.

GLOSSARY

Alternative technology - Techniques used to reduce the volume of non-recoverable waste currently landfilled. Examples include composting of mixed waste, manufacture of refuse-derived fuel, and energy recovery.

Base rate - A fee used to cover the operation, maintenance, and debt service of regional solid waste facilities.

Conditionally exempt hazardous waste generator - A generator who produces less than 100 kg (220 lbs.) of hazardous waste per month. (EPA-RCRA)

Depot - A facility for transferring containerized solid waste from one mode of transportation to another.

Disposal site (inside the region) - ORS 459.2-80 (1) - "Disposal site" has the meaning given that term in ORS 459.005, but does not include a material recovery, recycling or reuse facility. (2) "Disposal site" does not include a regional disposal site defined in ORS 459.005.
ORS 459.005 (8) - "Disposal site means land and facilities used for the disposal, handling or transfer of or resource recovery from solid wastes, including but not limited to dumps, landfills, sludge lagoons, sludge treatment facilities, disposal site for septic tank pumping or cesspool cleaning services, transfer stations, resource recovery facilities, incinerators for solid waste delivered by the public or by a solid waste collection service, composting plant..."

Energy recovery - The process in which all or part of the solid waste materials are processed to utilize the heat content or other forms of energy of or from the material. (ORS 459)

Enhancement - Programs or activities which provide communities with improvements as a result of the location of solid waste facilities in their jurisdiction.

Flow control - The power to direct or otherwise require that solid waste be delivered to particular locations.

Functional plan - A set of detailed information, policies, and standards regarding some function of local government—transportation, for example. Functional plans usually deal with capital improvements for public services, e.g., municipal water supply, sewers, fire protection, transportation. They are also known as development plans or may be referred to as elements, such as the transportation element, of the comprehensive plan. A comprehensive plan often contains several functional plans, community plans, and a framework plan.

General purpose landfills - Those facilities which accept all types of residential, com-

mercial and industrial wastes, excluding hazardous wastes, for disposal in the ground. [Solid Waste Management Plan (SWMP), Landfill Chapter, 1988]

Hazardous waste - Unwanted materials or residues that cause or significantly contribute to, an increase in mortality, or an increase in serious irreversible, or incapacitating reversible illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. (ORS 466.005)

High-grading - To generate loads of waste containing a higher than normal percent of mixed recyclables over mixed refuse for which it is economically feasible to separate out the recyclables.

Host fees - Fees provided to communities to compensate for a variety of public concerns regarding the location of solid waste facilities.

Household hazardous waste - Residential waste which is ignitable, corrosive, reactive, or toxic. Examples include solvents, pesticides, cleaners, and paints.

Infectious waste - Wastes resulting from medical procedures which may cause or are capable of causing disease.

Innovative technologies - A new process or concept for recycling or resource recovery.

Level of service - To provide service at a level that supports solid waste collection, processing and transport efficiency for the industry and the public.

Limited purpose landfills - Those facilities which are prohibited from accepting putrescible waste and hazardous waste, but are permitted to receive commercial and industrial solid wastes that are non-putrescible, and demolition debris for disposal by burying in the ground. (SWMP, Landfill Chapter, 1988)

Local governments - As referred to in this plan include cities and counties.

Low-grade waste - A relatively uniform material which can be safely disposed at a facility which does not contain all the environmental controls of a general purpose landfill. Examples are treated sludges, demolition materials, contaminated soil, wood waste, and old appliances.

Low-grade waste facility - A land disposal site or resource recovery facility used primarily for low-grade waste.

Material recovery - The process for obtaining from solid waste, by pre-segregation or otherwise, materials which still have useful physical or chemical properties after serving a specific purpose and can, therefore, be reused or recycled for the same or other purpose. (ORS 459)

Mitigation - To lessen adverse impacts on the area in and around solid waste facilities. This includes, but is not limited to 1) traffic and road improvements, 2) litter control, 3) facility design and operations, and 4) reducing adverse effects on wildlife and the environment.

Mixed waste - Solid waste containing a variety of recyclable and non-recyclable material.

Mixed waste composting - A process in which the organic component of the solid waste stream is biologically decomposed under aerobic or anaerobic conditions into a humus-like final product that can be used as a soil amendment.

Non-putrescible waste - Non-food solid waste and demolition debris not capable of being rapidly decomposed by micro-organisms, which does not emit foul-smelling odors during decomposition. (SWMP, Landfill Chapter, 1988)

Putrescible waste - Solid waste containing organic material that can be rapidly decomposed by microorganisms which may give rise to foul-smelling, offensive products during such decomposition or which is capable of attracting or providing food for birds and potential disease vectors such as rodents or flies. (OAR, Chapter 340, Division 61, Section 10)

Recycling - Any process by which solid waste materials are transformed into new products in such a manner that the original products may lose their identity. (ORS 459)

Recycling drop center - A facility which only serves as a location to deposit or sell source-separated materials, which are then consolidated and transferred to materials markets.

Regional disposal site (outside the region) - ORS 459.005 (16)(b) - "A disposal site that receives . . . more than 75,000 tons of solid waste per year from commercial haulers outside the immediate service area in which the disposal site is located."

For a county within the metropolitan service district, "immediate service area" means the metropolitan service district boundary.

Resource recovery - The process of obtaining useful material or energy resources from solid waste and includes: energy recovery, material recovery, recycling, and reuse. (ORS 459)

Reuse - The return of a commodity into the economic stream for use in the same kind of application as before without change in its identity. (ORS 459)

Solid waste - All putrescible and non-putrescible wastes, including but not limited to garbage, rubbish, refuse, ashes, waste paper, and cardboard; sewage sludge, septic tank and cesspool pumpings or other sludge; commercial, industrial, demolition and construction wastes; discarded or abandoned vehicles or parts thereof; discarded home and industrial appliances; manure, vegetable or animal solid and semisolid wastes, dead

animals and other wastes; but the term does not include:

a. Hazardous waste as defined in ORS 466.005

b. Materials used for fertilizer or for other productive purposes or which are salvageable as such materials are used on land in agricultural operations and the growing or harvesting of crops and the raising of fowls or animals. (ORS 459)

Source-separated material - Recyclable material which has been kept from being mixed with solid waste by the generator in order to reuse or recycle that material.

State hierarchy - An established state priority (ORS 459.015) for managing solid waste in order to conserve energy and natural resources. The priority methods are as follows:

- Reducing the amount of solid waste generated;
- Reusing material for the purpose for which it originally was intended;
- Recycling material that cannot be re-used;
- Recovering energy from solid waste that cannot be reused or recycled, so long as the energy recovery facility preserves the quality of air, water and land resources; and
- Disposing of solid waste that cannot be reused, recycled, or from which energy cannot be recovered by landfilling or other methods approved by the Department of Environmental Quality.

Transfer station - A facility which provides an interim point to dispose of waste, which is then transferred, and where materials may be processed for recovery.

Transportation system - Facilities, equipment and sites which provide a means to transport solid waste from transfer stations or resource recovery facilities to land disposal sites.

Vertical integration - Principle or partial involvement by a private industry in the three primary functions of the solid waste system; that being collection, transfer station/material recovery and land disposal.

Waste reduction - To substantially reduce the volume of solid waste that would otherwise be disposed of in land disposal sites through techniques including, but not limited to, rate structures, source reduction, recycling, reuse and resource recovery. (ORS 459)

Waste substream - An identified component of the full waste stream which is derived from a distinct source or is characterized by a particular quality. Examples include household hazardous waste, yard debris and low-grade waste.

Yard debris - Clippings, prunings and other leftovers from grass, trees, shrubs, and various other plants, of which overall com-

position is approximately 50 percent leaves and grass and 50 percent woody material. (Yard Debris Glossary, May 1986)

Yard debris processing center - A facility which processes yard debris into a usable soil amendment through controlled biological decomposition.

SECTION VIII - APPENDIX

The following are supporting documents used in the development of the Solid Waste Management Plan. Copies are available upon request.

Brennan and Associates. "Metro Survey of Recycling Markets." Portland, Oregon. September 1988.

ECO Northwest. "Discussion of Issues Pertinent to the Decision Concerning Public or Private Ownership and Operation of the Eastside Transfer and Recycling Center." Eugene, Oregon. February 1988.

--. "Valuation of the Potential External Effects of Selected Types of Prototypical Solid Waste Facilities." Eugene, Oregon. November 1987.

Metropolitan Service District. "Illegal Dumping Sites Survey Metro Region." Portland, Oregon. June 1988.

--. "Metro East Transfer and Recycling Center White Paper." Portland, Oregon. February 1988.

--. "Solid Waste Management Plan Inventory." Portland, Oregon. May 1988.

--. "Waste Reduction Program System Measurement Study." Portland, Oregon. July 1988.

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on Lindsey's computer

Attachment to Ord. No. 88-266B
Regional Solid Waste Mgmt. Plan

12.3 A citizen committee will be appointed, by the city or county receiving the host fee, to advise how the fee should be allocated as part of a community enhancement program (ORS 459.290). The Metro Councilor or his or her designee of that district shall be appointed to the citizen committee.

BACKGROUND

ORS 459.280 (1) and (2) definition of disposal site includes landfills, transfer stations, and resource recovery facilities.

The idea of providing host fees for solid waste facilities was initiated in the region in 1985 and again in 1987 by the state legislature when they allocated a total of $1.00 per ton of waste going into the St. Johns Landfill to the community adjacent to the landfill. The purpose of the host fee is to finance community enhancement programs in the area.

The money collected from host fees will allow communities to do such things as provide job outreach programs for young people, put up new street lights, establish historical viewpoints or information kiosks about the community, fund new community business programs, etc. Payment for mitigation of impacts from a solid waste facility such as necessary street improvements, landscaping and litter patrol will be included in the financing of the facility, and are incorporated into the plan policies under section 8.0.

13.0 FACILITY OWNERSHIP POLICY

SOLID WASTE FACILITIES MAY BE PUBLICLY OR PRIVATELY OWNED, DEPENDING UPON WHICH BEST SERVES THE PUBLIC INTEREST. A DECISION ON OWNERSHIP OF A FACILITY SHALL BE MADE BY METRO, CASE-BY-CASE, AND BASED UPON ESTABLISHED CRITERIA.

(Note: The following criteria should be located in the Solid Waste System section.

The criteria to be applied to a public or private facility decision are:

a. to compare the anticipated capital and operating costs;
b. to adhere to the waste reduction policies;
c. to best achieve implementation of the solid waste management plan;
d. to be compatible with existing facilities and programs;
e. to adjust to changing circumstances which may require capital improvements, new methods of operation or similar factors;
f. to be environmentally acceptable;

g. to provide ease of access by the public and collection industry, where applicable;

h. to avoid vertical integration (monopoly) of the solid waste business;

i. to demonstrate ease of facility management, including fee collection equity, periodic review, rate changes, flow control and related operational changes;

j. to provide appropriate mitigation and/or enhancement measures deemed appropriate to the host jurisdiction.

The nature and scale of the subject facility shall be considered in determining how to apply the criteria.

13.1 Recycling drop centers shall be privately owned unless a need for such additional facilities is identified and can best be fulfilled by a city or county as determined by that city or county.

13.2 Facilities which serve only one collector and exclude the public shall be privately owned.

BACKGROUND

The regional solid waste system has always been an integrated system of both private and publicly owned facilities. Policy 13.0 would provide a means to evaluate both private and public options in establishing new facilities. The purpose of such an evaluation would be to ensure that the public interest is met by choosing the best ownership option for providing solid waste service to the citizens of the region.

Currently, local recycling drop centers are all privately owned. Policy 13.1 would allow these drop centers to continue being privately owned. Further, this policy would allow cities and counties to establish recycling drop centers if the cities and counties determined that such additional drop centers were needed and weren't being provided by the private sector. This policy further gives the cities and counties the responsibility of providing this kind of solid waste service in their jurisdictions in accordance with ORS 459.165.

14.0 UNIFIED WORK PROGRAMS POLICY

THE SOLID WASTE MANAGEMENT PLAN SHALL INCLUDE ANNUAL WORK PROGRAMS WHICH IDENTIFY ROLES, RESPONSIBILITIES AND TIMEFRAMES IN WHICH METRO, THE CITIES AND COUNTIES SHALL IMPLEMENT THE PLAN.

Community Enhancement Policies

12.0 Metro shall provide the host city or county of a solid waste "disposal site," as defined by ORS 459.280(1) and (2), with a host fee to be used for the purposes of community enhancement.

12.1 Host fees will be paid on a per ton volume of non-source separated waste entering the disposal site.

12.2 The host fee paid to a city or county for privately owned and operated disposal sites will be reduced by an amount equal to the property taxes assessed by the host jurisdiction.

12.3 A citizen committee will be appointed, by the city or county receiving the host fee, to advise how the fee should be allocated as part of a community enhancement program. The Metro Councilor or his or her designee of that district shall be appointed to the citizen committee.

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CHAPTER 12 - COMMUNITY ENHANCEMENT

The host fee paid to the host city or county for a publicly owned disposal site within the region shall be $.50 per ton.

The host fee paid to the host city or county for a privately owned disposal site within the region shall be $.50 per ton minus the property taxes levied by the local jurisdiction.

Separate sheet

CHAPTER 13 - FACILITY OWNERSHIP

The criteria are be used for determining what form of facility ownership best serves the public interest are:

a. to compare the anticipated capital and operating costs;
b. to adhere to the waste reduction policies;
c. to best achieve implementation of the solid waste management plan;
d. to be compatible with existing facilities and programs;
e. to adjust to changing circumstances which may require capital improvements, new methods of operation or similar factors;
f. to be environmentally acceptable;
g. to provide ease of access by the public and collection industry, where applicable;
h. to avoid vertical integration (monopoly) of the solid waste business;
i. to demonstrate ease of facility management, including fee collection equity, periodic review, rate changes, flow control and related operational changes;
j. to provide appropriate mitigation and\or enhancement measures deemed appropriate to the host jurisdiction.

The nature and scale of the subject facility shall be considered in determining how to apply the criteria.

Continued to next pg.

Facility Ownership Policies

13.0 Solid waste facilities may be publicly or privately owned, depending upon which best serves the public interest. A decision on ownership of a facility shall be made by Metro, case-by-case, and based upon established criteria.

13.1 Recycling drop centers shall be privately owned unless a need for such additional facilities is identified and can best be fulfilled by a city or county as determined by that city or county.

13.2 Facilities which serve only one collector and exclude the public shall be privately owned.

Attachment to Ord. No. 88-266 B
Regional Solid Waste Mgmt. Plan

13.0 FACULTY OWNERSHIP POLICY

Solid waste facilities may be publicly or privately owned, depending upon which best serves the public interest. A decision on ownership of a facility shall be made by Metro, case-by-case, and based upon established criteria.

(Note: The following criteria should be located in the Solid Waste System section.

The criteria to be applied to a public or private facility decision are:

a. to compare the anticipated capital and operating costs;
b. to adhere to the waste reduction policies;
c. to best achieve implementation of the solid waste management plan;
d. to be compatible with existing facilities and programs;
e. to adjust to changing circumstances which may require capital improvements, new methods of operation or similar factors;
f. to be environmentally acceptable;
g. to provide ease of access by the public and collection industry, where applicable;
h. to avoid vertical integration (monopoly) of the solid waste business;
i. to demonstrate ease of facility management, including fee collection equity, periodic review, rate changes, flow control and related operational changes;
j. to provide appropriate mitigation and/or enhancement measures deemed appropriate to the host jurisdiction.

The nature and scale of the subject facility shall be considered in determining how to apply the criteria.

13.1 Recycling drop centers shall be privately owned unless a need for such additional facilities is identified and can best be fulfilled by a city or ~~the~~ county.
^ or county as determined by that city

13.2 Facilities which serve only one collector and exclude the public shall be privately owned.

(see last pg for 13.0, 13.1, 13.2 also)

BACKGROUND

The regional solid waste system has always been an integrated system of both private and publicly owned facilities. Policy 13.0 would provide a means to evaluate both private and public options in establishing new facilities. The purpose of such an evaluation would be to insure that the public interest is met by choosing the best ownership option for providing solid waste service to the citizens of the region.

Currently, local recycling drop centers are all privately owned. Policy 13.1 would allow these drop centers to continue being privately owned. Further, this policy would allow cities and counties to establish recycling drop centers if the cities and counties determined that such additional drop centers were needed and weren't being provided by the private sector. This policy further gives the cities and counties the responsibility of providing this kind of solid waste service in their jurisdictions in accordance with ORS 459.165.

Community Enhancement Policies

12.0 Metro shall provide that host city or county of a solid waste "disposal site," as defined by ORS 459.280 (1) and (2), with a host fee to be used for the purpose of community enhancement.

12.1 Host fees will be paid on a per ton volume of non-source separated waste entering the disposal site.

12.2 The host fee paid to a city or county for privately owned and operated disposal sites will be reduced by an amount equal to the property taxes assessed by the host jurisdiction.

12.3 A citizen committee will be appointed, by the city or county receiving the host fee, to advise how the fee should be allocated as part of a community enhancement program. The Metro Councilor or his or her designee of that district shall be appointed to the citizen committee.

Chapter 12 - Community Enhancement

The host fee paid to the host city or county for a publicly owned disposal site within the region shall be $.50 per ton.

The host fee paid to the host city or county for a privately owned disposal site within the region shall be $.50 per ton minus the property taxes levied by the local jurisdiction.

Chapter 13 - Facility Ownership

The criteria are to be used for determining what form of facility ownership best serves the public interest are:

a. to compare the anticipated capital and operating costs;
b. to adhere to the waste reduction policies;
c. to best achieve implementation of the solid waste management plan;
d. to be compatible with existing facilities and programs;
e. to adjust to changing circumstances which may require capital improvements, new methods of operation or similar factors;
f. to be environmentally acceptable;
g. to provide ease of access by the public and collection industry, where applicable;
h. to avoid vertical integration (monopoly) of the solid waste business;
i. to demonstrate ease of facility management, including fee collection equity, periodic review, rate changes, flow control and related operational changes;
j. to provide appropriate mitigation and/or enhancement measures deemed appropriate to the host jurisdiction.

The nature and scale of the subject facility shall be considered in determining how to apply the criteria.

Facility Ownership Policies

13.0 Solid waste facilities may be publicly or privately owned, depending upon which best serves and public interest. A decision on ownership of a facility shall be made by Metro, case-by-case, and based upon established criteria.

13.1 Recycling drop centers shall be privately owned unless a need for such additional facilities is identified and can best be fulfilled by a city or county as determined by that city or county.

13.2 Facilities which serve only one collector and exclude the public shall be privately owned.

METRO

2000 S.W. First Avenue
Portland, OR 97201-5398
503/221-1646

Memorandum

DATE: October 11, 1988

TO: Council Solid Waste Committee

FROM: Rich Carson, Director
Planning and Development

RE: ADOPTION OF SOLID WASTE MANAGEMENT FUNCTIONAL PLAN (ATTACHMENTS)

Attached you will find the Ordinance to adopt the Solid Waste Management Plan (SWMP) (Ordinance No. 88-266-A) and a discussion paper regarding rate policy options. The SWMP has been put in your Council box as of October 13th (Thursday).

On October 18th you will hold a public hearing to consider adoption of the Solid Waste Management Plan as a functional plan. The Plan to date includes:

- The goal, objectives and policies.
- Existing plan documents and provisions including the 1986 waste reduction program, general purpose landfill chapter, transportation system guidelines, east transfer station policies, and the 1986 hazardous waste management plan.

Functional Planning Authority - Ordinance No. 88-266-A includes findings necessary to establish the SWMP as a functional plan. Appropriate land use goal findings and CRAG land use framework goal findings are made in Attachment B of the Ordinance. Staff will be working with DLCD staff to get their comments on our land use goal findings with the intent of getting their approval of our goal findings prior to Council adoption of the SWMP. This DLCD approval will assist Metro in causing appropriate local plan changes to site solid waste facilities during the local government periodic review process.

Policies - Last month you reviewed the plan policies in detail. Your comments were forwarded to the Policy Committee for discussion. The Policy Committee incorporated all the CSWC specific recommended changes at their meeting on September 16th.

At the time of your review last month, you identified three policy areas which needed additional discussion and possibly change prior to adoption. They were:

1. Rates (policy 11.1) - this issue is regarding uniform vs. cost-of-service rates for the region (refer to attached discussion paper).

2. Host Fees (policy 12.0) - issue regarding general application of 50¢ per ton host fee for all disposal facilities.

3. Land Use (policies 16.0, 16.1, 16.2) - issue regarding the extent of local government requirement to provide zoning for solid waste facilities (i.e., are the policies strong enough to have local governments provide the right zoning?).

Staff will be prepared to further discuss these policies with you on Tuesday. Also, attached you will find a summary of the local government and public review of the policies.

Metro East Transfer Station - The SWMP includes a chapter on Metro East. This chapter was developed by the planning committees prior to their policy work. The Council has already adopted most policy provisions contained in this chapter per Resolution No. 88-835-C (Privatization). The chapter includes two additional policy issues not previously decided upon by the Council. They are as follows:

1. Waste Reduction - The SWMP requires that for all ETRC proposed projects an analysis is completed which includes facility design options and costs for recovering 10, 20 and 30 percent of the mixed waste coming into the facility.

2. Land Use - Criteria for evaluating ETRC sites are included in the chapter as guidelines for approving an ETRC project.

If you have any questions on the above information, please don't hesitate to call me prior to Tuesday. I look forward to seeing us achieve a major step in solid waste management planning for the region by adopting the SWMP.

RHC:mk

Attachments

METRO

2000 S.W. First Avenue
Portland, OR 97201-5398
503/221-1646

Memorandum

Date: April 27, 1989

To: Donald E. Carlson, Council Administrator

From: Daniel B. Cooper, General Counsel

Regarding: SOLID WASTE MANAGEMENT PLAN

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Enclosed is the official notice from the Department of Environmental Quality that the Department has approved Metro's regional Solid Waste Management Plan. The original of this letter should be filed with the original of the Council ordinance adopting the Solid Waste Management Plan.

By copy of this memo, I am transmitting copies of the DEQ's approval to Rena Cusma for placement in the Executive Officer's files, Rich Carson for placement in the office of Planning & Development's files, and to Bob Martin for placement in the Solid Waste Department's files. A copy of this memo should be attached to all of those copies so that there is a clear trail showing where the original of this document is in case it is needed for future purposes. A copy of this memo and the original notice from DEQ will also be placed in the files of the Office of General Counsel.

DBC/gl

Enclosure

cc: Rena Cusma
Rich Carson
Bob Martin

NEIL GOLDSCHMIDT
GOVERNOR

Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

April 11, 1989

Ms. Rena Cusma, Executive Officer
Metropolitan Service District
2000 S.W. First Avenue
Portland, OR 97201-5398

Re: Regional Solid Waste Management Plan

Dear Ms. Cusma:

We have completed review of Metro's Regional Solid Waste Plan (Plan) transmitted by letter dated November 4, 1988.

Consistent with the requirements of Oregon Revised Statutes (ORS) 459.035, the purpose of our review is to assist Metro with planning and implementing effective solid waste management plans and practices.

We commend Metro for the excellent job of coordinating involvement of all relevant parties in the process of developing the Plan. Due to its broad scope, the Plan understandably does not contain all the details for managing solid waste in the Metro region. However, the Plan does establish a good comprehensive framework for guiding development of future detailed plans, and should prove to be a useful document for ensuring continued effective solid waste management in the Metro region.

The Plan uses a prioritization scheme in which the Plan "Goal" is the highest priority element followed, in sequential order, by "Objectives," "Policies," "Chapters" and "Annual Unified Work Programs." In implementing the Plan, higher priority Plan elements take precedence over lower ranking elements.

The Department hereby approves Metro's Regional Solid Waste Management Plan. More specifically, the Department approves the Plan "Goal," "Objectives" and "Policies." All future updates and amendments to Plan "Chapters" and "Annual Unified Work Programs" will need to be consistent with the approved Plan "Goal," "Objectives" and "Policies."

Our review did note three issues of concern: 1) waste reduction; 2) low-grade waste; and 3) plan development and amendment. Our comments on each of these issues are organized below following the format of the Plan.

WASTE REDUCTION

Section III. Waste Management; Chapter 1 - Waste Reduction
This chapter adopts the 1986 Metro Waste Reduction Program approved by DEQ. Subsequent Department review of the program concluded that the solid waste reduction program has not been adequately implemented. Therefore, this chapter should be updated consistent with applicable requirements of EQC Order No. SW-WR-89-01.

LOW-GRADE WASTE

The Plan appears to recognize issues related to low-grade waste, but doesn't propose a plan of action for addressing these issues. There clearly needs to be a viable plan ready for implementation when the St. Johns landfill closes. We urge Metro to take action in this matter because time is running out for potential options available to Metro.

Section II. Solid Waste Policies; 3.0 Low-Grade Waste Policy.
The background information to the low-grade waste policy recognizes the need for Metro to take a more active role in assuring that adequate disposal facilities for low-grade waste exist. We agree that it is more efficient to manage low-grade waste by finding solutions to substreams having similar characteristics, rather than trying to use one solution to manage the full range of low-grade waste.

Section IV. Solid Waste System; Chapter 5 - Facilities
The regional flow diagram on pg 5-2, identifies three low-grade waste disposal sites accepting 20.5% of the regional waste flow. The largest of these sites will soon close, which translates into significant volumes of waste being routed to the remaining two disposal sites, the Hillsboro and Lakeside landfills, both of which are located in Washington County.

Considering the definition of low-grade waste, the Plan incorrectly represents the Hillsboro and Lakeside landfills as low-grade waste disposal facilities. The permits for these landfills specify a more restrictive waste definition:

> "The permittee is authorized to accept only building demolition and construction debris, rubbish, land clearing debris, wood products, metals, chipped tires, and similar non-putrescible material. No other wastes shall be accepted unless specifically authorized in writing by the Department supplementary to this permit."

The Hillsboro and Lakeside landfills were designed and permitted to dispose of relatively inert demolition waste. To use them for disposal of large quantities of other types of waste could jeopardize their environmental integrity. In order to use these facilities for disposal of waste that is not specifically authorized by permit, Department staff would have to be

satisfied that the waste in question is compatible with authorized waste. In general, this would require a demonstration showing that leachable pollutants from the waste in question are comparable in type and concentration to leachate quality derived from authorized waste.

If the Hillsboro and Lakeside landfills plan to accept the full range of low-grade waste, then the permits must be amended and additional environmental controls implemented. This would of course increase the disposal cost for all low-level waste, including the majority of low-grade waste which is relatively inert and can be safely and more economically disposed at a landfill with lesser environmental controls.

Section VII. Glossary; "Low-Grade Waste"
"Low-Grade Waste" is defined as " A relatively uniform material which can be safely disposed at a facility which does not contain all the environmental controls of a general purpose landfill. Examples are treated sludges, demolition materials, contaminated soil, wood wastes, and old appliances."

When analyzed within context of the Plan, the low-grade waste definition appears to include all wastes destined for disposal, except regulated hazardous waste, putrescible waste, and wastes addressed by Metro's Hazardous and Medical Waste Policy (i.e. Policy 2). This means that low-grade wastes can be expected to pose a wide range of environmental and/or health hazards. Metro provides no technical basis to substantiate the conclusion that low-grade wastes (as defined) can be safely disposed at a facility which does not contain all the environmental controls of a general purpose landfill. In fact, some contaminated soils and industrial wastes may actually warrant more stringent environmental controls because they present greater environmental risks than wastes targeted for disposal at general purpose landfills.

We recognize that Metro is actively working on revisions to the definition of "low-grade waste" and encourage your continued efforts in this matter. As you are probably aware, the DEQ Solid Waste Advisory Committee (SWAC) is in the process of rulemaking to define "specific wastes" and best practices for managing such wastes. Perhaps a cooperative effort between SWAC and Metro would prove to be the most productive process for developing solutions to the low-grade/specific waste issue.

PLAN DEVELOPMENT AND AMENDMENT

Section VI. Planning Process;
Chapter 17 - Plan Development And Amendment.
As with many of the other chapters in the Plan, Chapter 17 is still in its developmental stages. However, it seems logical to prioritize drafting of Chapter 17, since its purpose is to establish guidelines for developing, updating and amending the Plan. Finalizing this chapter would help to smooth the process for all other changes to the Plan.

If you have any questions about our review, then please contact Joe Gingerich at 229-6844.

Sincerely,

Stephanie Hallock

Stephanie Hallock, Administrator
Hazardous and Solid Waste Division

SH:jg:b
SB8452
cc: Charles Gray, Northwest Region, DEQ

METRO

2000 S.W. First Avenue
Portland, OR 97201-5398
503/221-1646

Memorandum

Agenda Item No. 6.2

Date: October 5, 1988

Meeting Date Oct. 13, 1988

To: Metro Councilors

From: Marie Nelson, Clerk of the Council

Regarding: ORDINANCE NO. 88-266, ADOPTING THE REGIONAL SOLID WASTE MANAGEMENT PLAN

Attachment A to the ordinance, the Solid Waste Management Plan, will be distributed to Councilors as part of the upcoming Solid Waste Committee agenda. Parties wanting a copy of the draft Plan document prior to the October 13 Council meeting may contact Becky Crockett, 221-1646, extension 241.

BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF ADOPTING THE REGIONAL SOLID WASTE MANAGEMENT PLAN AND RESCINDING PRIOR SOLID WASTE PLAN PROVISIONS	))))	ORDINANCE NO. 88-266

THE COUNCIL OF THE METROPOLITAN SERVICE DISTRICT HEREBY ORDAINS:

1. The Metropolitan Service District Regional Solid Waste Management Plan, a functional plan which includes a waste reduction program, dated 1988, copies of which are on file with the Clerk of the Council, is hereby adopted.

2. The plan is attached hereto as Attachment A.

3. In support of the above Plan, the Findings attached hereto as Attachment B are hereby adopted.

4. Solid Waste Management Plan Provisions attached hereto as Attachment C are hereby rescinded.

ADOPTED by the Council of the Metropolitan Service District this _____ day of _____, 1988.

_____
Mike Ragsdale, Presiding Officer

ATTEST:

_____
Clerk of the Council

ATTACHMENT B

FINDINGS

1. Oregon Revised Statutes (ORS), Chapters 268 and 459, provide for the development of a Solid Waste Management Plan. The Metropolitan Service District is the responsible provider of the Plan and the solid waste disposal system in the Metro region. Further, Executive Order No. 78-16, Office of the Governor, State of Oregon, designates Metro as the solid waste planning and implementing agency for Clackamas, Multnomah and Washington Counties.

2. The Solid Waste Management Plan includes a waste reduction program as required by ORS Chapter 459. This program, in part, establishes justification for locating a landfill disposal site in an area zoned for exclusive farm use (EFU) in accordance with ORS 459.055.

3. The Solid Waste Management Plan is consistent with Metro's land use planning goals and objectives which were developed and adopted consistent with Oregon's Statewide Planning Goals (ORS 197.005 - 197.465) as required by ORS 268.380. The Solid Waste Management Plan is not consistent with Metro's land use framework plan which was developed under CRAG and adopted in 1976. This Ordinance rescinds the framework plan recognizing that it no longer carries out the planning objectives of Metro.

4. Oregon Revised Statutes, 268.390 provides for Metro to develop functional plans in order to establish the relation between regional plans and local comprehensive plans. Metro Ordinance No. 86-207 established a planning procedure for identifying areas and activities in need of functional planning. Further, Metro Resolution No. 87-740 specifically designated solid waste as an area and activity appropriate for development of a functional plan.

5. Oregon's Statewide Planning Goal No. 11 (Public Facilities and Services), established per ORS Chapter 197, requires that all local governments provide for solid waste disposal sites, including sites for inert waste, in their plans in order to meet current and long-range needs. ORS 459.005 (8) defines disposal site, in part, as land and facilities used for the disposal, handling or transfer of or resource recovery from solid wastes. The Solid Waste Management Plan provides a means to satisfy Goal 11 requirements regarding solid waste disposal by identifying disposal facilities necessary to meet the needs of the region. Further, the Plan specifies that cities and counties will be required to allow for these planned disposal facilities, in part, by providing appropriate zoning.

6. The first Metro Solid Waste Management Plan was adopted by MSD by Ordinance No. 9 in 1974. This plan, also known as COR-MET, was premised on a solid waste system of milling and transfer stations. Several ordinances and resolutions were adopted after 1974 to update the COR-MET plan and specifically to recognize the need to change the regional system to one based on waste reduction priorities. This 1988 plan serves to replace COR-MET and to consolidate appropriate plan provisions adopted prior to this 1988 plan into the 1988 plan.

7. The Solid Waste Management Plan contains several sections of priority for implementation. The following list of priorities indicates which plan provisions take precedence over other plan provisions where inconsistencies in the Plan may arise:

    1. Goal
    2. Objectives
    3. Policies
    4. Chapters (included in Waste Management, Solid Waste System Implementation and Planning Process sections)
    5. Annual Unified Work Programs

    The appendices or background documents used to develop the Plan policies and chapters are <u>not</u> adopted as a part of this plan.

8. Solid waste facilities, programs and implementing provisions which were established prior to this plan will be brought into conformance with this plan. The 1988 Solid Waste Management Plan shall supersede and take precedence over any prior ordinances and resolutions previously adopted that are inconsistent with this plan.

9. The 1988 Solid Waste Management Plan is consistent with the Statewide Land Use Planning Goals (ORS 197.005 to 197.465) as indicated by the following paragraphs:

    <u>Goal No. 1 - Citizen Involvement</u>. Metro Resolution No. 87-785A established regional committees to develop Solid Waste Management Plan recommendations to the Metro Council. A Policy Committee provided a forum for local government officials and representatives from the Department of Environmental Quality and the Port of Portland to address solid waste policy issues of regional significance. A Technical Committee comprised of local government technicians, solid waste industry representatives and citizens provided technical expertise to the Policy Committee and the Metro Council on specific solid waste facility and program issues.

In addition to these committees, Metro actively solicited input from all local governments in the region on a regular basis. To initiate the solid waste planning project, Metro worked with the three counties and 24 cities in the tri-county area to get their approval for the project and the cooperative decision-making process via the above referenced committee structure. All jurisdictions except the City of Banks passed this resolution of support.

Throughout the planning process, members of the Policy Committee also solicited input on plan issues from their constituents and fellow board or commission members as well as from their neighboring jurisdiction local government officials.

Metro designed a "Regional Solid Waste Management Report" for this planning project which was mailed to approximately 800 individuals and groups in the region once every two months. This six-page report summarized the status of the developing plan and solicited comments on portions of the Plan as they were completed. The report was mailed to local elected officials, city managers and administrators, district neighborhood offices, chambers of commerce, economic development associations, solid waste haulers, recyclers and industry market representatives, local neighborhood offices and interested citizens.

Goal No. 2 - Land Use Planning. The Solid Waste Management Plan reflects the region's vision for managing solid waste over the next 20 years. It addresses such issues as waste reduction, hazardous waste management, low-grade waste management, financing, rates, design of the region's solid waste system and siting facilities. The Plan is based on a solid waste inventory and extensive analysis including waste generation statistics, population forecasts, solid waste system measurement and financial forecasts. The Plan includes a policy framework developed through a regional decision-making process.

Goal No. 3 - Agricultural Lands. The Solid Waste Management Plan system includes a land disposal facility located in an EFU zone. In accordance with ORS 459.055, the Plan includes a waste reduction program which, in part, establishes justification for allowing such use in an EFU zone. Other plan provisions are not inconsistent with Goal No. 3.

Goal No. 4 - Forest Lands. This action is not inconsistent with Goal No. 4.

Goal No. 5 - Open Spaces, Scenic and Historical Areas, Natural Resources. This action is not inconsistent with Goal No. 5.

Goal No. 6 - Air, Land, and Water Resources Quality. The Plan recognizes the importance of maintaining the air, land and water quality of the State. Solid waste facilities and programs in the region shall only be pursued to the extent they are environmentally feasible.

Goal No. 7 - Areas Subject to Natural Disasters and Hazards. Solid waste facilities established as a result of this plan will be done in the context of recognizing existing local comprehensive plan inventories which identify known areas of natural disaster and hazards.

Goal No. 8 - Recreational Needs. This plan is consistent with Goal No. 8 in that it will result in the effective management of solid waste for the region. This results in a better liveability for all citizens of the region and increases the desirability of the area for visitors.

Goal No. 9 - Economy of the State. This plan is consistent with Goal No. 9. The development of a regional plan projects an ability to manage the region's solid waste effectively and economically. This can contribute significantly to a positive climate for economic development, and thus have a significant impact on the development of the metropolitan area. Further, the Plan recognizes solid waste as a resource from which valuable materials and energy can be extracted.

Goal No. 10 - Housing. Effective management of solid waste is a key factor in providing residential development in the region. The Plan addresses the need for continued and enhanced curbside collection programs for recyclables and efficient waste collection services for residential areas.

Goal No. 11 - Public Facilities and Services. The Solid Waste Management Plan is consistent with Goal No. 11 by identifying disposal facilities necessary to meet the needs of the region. Further, the Plan specifies that cities and counties will be required to allow for those planned disposal facilities, in part, by providing appropriate zoning. The adoption of the Solid Waste Management Plan furthers the establishment of the region's functional solid waste plan as required by Goal No. 11.

Goal No. 12 - Transportation. The Plan is consistent with Goal No. 12. The regional plan provides for a coordinated system of facilities to serve the entire region. This regional system results in a more cost-effective system of transport of solid waste to strategically located facilities than would otherwise occur if not regionally coordinated and planned.

Goal No. 13 - Energy Conservation. The Plan will result in a coordinated solid waste system for the region. This coordinated system will cause a more efficient and thus less energy consuming system to be utilized for waste management in the region than what will occur without the Plan.

Goal No. 14 - Urbanization. The Plan is not inconsistent with Goal No. 14.

Goals No. 15 through No. 19. These goals do not apply to the Plan.

ATTACHMENT C

The following Ordinances and Resolutions are hereby rescinded:

CRAG Land Use Framework Plan	(12/22/76)
Ordinance No. 1	(Contract for Solid Waste Management Plan)
Ordinance No. 9	(Adopting COR-MET)
Ordinance No. 26	(Milling/Transfer Station System Change)
Ordinance No. 27	(Establishing Non-Processable Solid Waste Program)
Ordinance No. 31	(Milling/Transfer Station System Change)
Ordinance No. 47	(Solid Waste Operations Program)
Ordinance No. 48	(Certificate Program)
Ordinance No. 61	(Certificate Program)
Ordinance No. 88-240A	(Landfill Chapter)
Resolution No. 11	(Markets for Resource Recovery)
Resolution No. 14	(Source Separation Policy)
Resolution No. 79-12	(Landfill Siting)
Resolution No. 79-85	(Recycling Drop/Receiving Centers)
Resolution No. 79-108	(Supporting Regulated Collection)
Resolution No. 81-212	(Adopting Waste Reduction Plan)
Resolution No. 81-272	(Facility Guidelines for Waste Reduction)
Resolution No. 81-282	(S.E. Portland Curbside Collection Policy)
Resolution No. 82-372	(Pledge to Adopt Recycling Program)
Resolution No. 83-393	(Authorizing Recycling Program)
Resolution No. 83-437	(Diverting Newsprint from Facilities)
Resolution No. 84-491	(Interim Management Strategy for St. Johns)
Resolution No. 84-506	(Transfer Station Strategies)

Resolution No. 84-507	(Landfill Strategies)
Resolution No. 85-538	(Interim Waste Reduction Strategies)
Resolution No. 85-571	(Clarification of Alternative Policies to Landfilling)
Resolution No. 86-676	(Hazardous Waste Plan)

ATTACHMENT B

FINDINGS

1. Oregon Revised Statutes (ORS), Chapters 268 and 259, provide for the development of an Solid Waste Management Plan. The Metropolitan Service District is the responsible provider of the Plan and the solid waste disposal system in the Metro region. Further, Executive Order No. 78-16, Office of the Governor, State of Oregon, designates Metro as the solid waste planning and implementing agency for Clackamas, Multnomah and Washington counties.

2. The Solid Waste Management Plan (SWMP) includes a waste reduction program as required by ORS Chapter 459. This program, in part, establishes justification for locating a landfill disposal site zoned for Exclusive Farm Use (EFU) in accordance with ORS 459.055.

3. ORS 268.390 provides for Metro to develop functional plans in order to establish the relation between regional plans and local comprehensive plans. Metro Ordinance No. 86-207 established a planning procedure for identifying "areas and activities" in need of functional planning. Metro Resolution No. 87-740, then, specifically designated solid waste as such an "area and activity" appropriate for development of a functional plan.

4. The first "Metro Solid Waste Management Plan" was adopted by MSD by Ordinance No. 9 in 1974. This Plan, also known as COR-MET, was premised on a solid waste system of milling and transfer stations. Several ordinances and resolutions were adopted after 1974 to update the COR-MET plan and specifically to recognize the need to change the regional system to one based on waste reduction priorities. This 1988 Plan serves to replace COR-MET and to consolidate appropriate plan provisions adopted prior to this 1988 plan into the 1988 plan.

5. The SWMP has policies for and is developing plan components to:

   (1) establish regulatory policies for the management of solid waste;

   (2) define a system of solid waste facilities and programs to effectively manage solid waste in the region;

   (3) provide the means to establish equitable rates for solid waste disposal;

   (4) identify the means to finance facilities in the programs;

   (5) identify appropriate land use provisions for siting solid waste facilities and implementing waste reduction, hazardous waste and low-grade waste programs; and

(6) establish a unified work program for the region which identifies respective roles and responsibilities of Metro and local government for implementing plan programs.

6. The 1988 Solid Waste Management Plan is consistent with the Statewide Land Use Planning Goals (ORS 197.005 to 197.465) as indicated by these Findings and the following Findings and Conclusions:

Goal 1 - Citizen Involvement

The SWMP Citizen Involvement Program describes the involvement of citizens and coordination with local government in the Plan development and adoption process. Metro Resolution No. 87-785A established regional committees to develop Solid Waste Management Plan (SWMP) recommendations to the Metro Council. A Policy Committee with representatives from Washington, Clackamas and Multnomah counties and two city representatives from each county and the City of Portland, and representatives from the Department of Environmental Quality and the Port of Portland addressed solid waste policy issues of regional significance.

A 25-member Technical Committee comprised of local government technicians, solid waste industry representatives, and citizens met monthly. Subcommittees of the Technical Committee met every two weeks to provide technical expertise to the Policy Committee and the Metro Council on specific solid waste facility and program issues. Every local government in the region was represented on both the Policy Committee and Technical Committee.

In addition to these committees, Metro actively solicited input from all local governments in the region on a regular basis. To initiate the solid waste planning project, Metro worked with the three counties and 24 cities in the tri-county area and obtained their formal approval in a resolution from each jurisdiction. This resolution outlined the project and comparative decision-making process with the above referenced committee structure. All jurisdictions except the city of Banks adopted this resolution of support.

Throughout the planning process, members of Policy Committee continued to solicit input on plan issues from their constituents and fellow board or commission members, as well as from their neighboring jurisdiction local government officials.

Metro designed a "Regional Solid Waste Management Report" for this planning project, which was mailed to approximately 800 individuals and groups in the region once every two months. This six-page report summarized the status of the developing plan and solicited comments on portions of the Plan as they were completed. The report was mailed to local elected officials, city managers and administrators, district neighborhood offices, Chambers of Commerce, economic development associations, solid waste planners,

recyclers and industry market representatives, local neighborhood offices, and interested citizens.

Public hearings on the completed plan prior to adoption were held before the Council Solid Waste Committee and the Metro Council with public notice published in the regionwide newspaper.

The Metro Council finds that the SWMP is consistent with State Goal 1.

Goal 2 - Land Use Planning

This SWMP is the regional plan element that reflects the region's vision for managing solid waste over the next 20 years. It addresses the issues of waste reduction, hazardous waste management, low-grade waste management, financing, rates, design of the region's solid waste system, and siting facilities. The Plan is based on a solid waste inventory and an extensive analysis including waste generation statistics, population forecasts, solid waste system measurement and financial forecast.

Together with applicable Metro Goal and Objectives, the Plan provides a policy framework in its Goals and Objectives and its completed component elements that are the basis for solid waste land use decisions. Under ORS 268.390, city and county plans and actions must be consistent with this adopted regional plan. Coordination of solid waste planning with these regional plan policies will help assure an adequate factual basis for solid waste decisions and actions.

CRAG Regional Land Use PLanning Goals and Objectives, effective September 30, 1976, were continued in force for Metro by 1977 Oregon Law, Chapter 665, Section 25. These Goals and Objectives are to be applied to local jurisdictions through regional plan elements like the SWMP. The Metro Council finds that the SWMP is consistent with State Goal 2.

Goal 3 - Agricultural Lands

The SWMP system includes an existing land disposal facility located in an EFU zone. In accordance with ORS 459.055, the Plan includes a waste reduction program which establishes justification for allowing such use and allowing a land disposal facility in an EFU zone. This facility is sited in an EFU zone based on land use decision findings by the county that the facility siting was consistent with the county's acknowledged comprehensive plan. The Department of Environmental Quality has issued the appropriate solid waste facility permit. Therefore, the Metro Council finds that this specific facility component of the SWMP is consistent with State Goal 3.

Other Plan provisions have a positive impact on preservation and maintenance of agricultural lands because: (1) SWMP reduction of the duplication of local solid waste facilities, and (2) waste

reduction programs reduce continuing demand for agricultural land to site solid waste facilities. Waste Management Policy 1.0, Low Grade Waste Policy 3.0. Other existing solid waste facilities on agricultural land under the SWMP have been sited based on land use decision findings by local government that the facility siting was consistent with the local government's acknowledged comprehensive plan. As additional site specific components of the SWMP are completed, Statewide Goal findings will be made to assure that each site incorporated into the Plan is consistent with Goal 3. Current plan provisions may allow, but do not require the use of resource agricultural land. Any decision to construct a solid waste facility under a component of this SWMP on resource lands must be consistent with the resource lands policies of the Statewide Goals including Goal 3 or an acknowledged Metro plan or local government comprehensive plans.

The Metro Council finds that the SWMP is consistent with State Goal 3.

Goal 4 - Forest Lands

This SWMP has a positive effect on the conservation of forest lands for forest uses because SWMP reduction of duplication of local solid waste facilities and waste reduction programs reduce continuing demand for forest resource lands to site solid waste facilities. Waste Management Policy 1.0 Low Grade Waste Policy 3.0.

The SWMP may allow, but does not require the use of resource forest land. As additional site specific components of the SWMP are completed, Statewide Goal findings will be made to assure that each site incorporated into the Plan is consistent with Goal 4. Plan Consistency Policy 18.0. Any decision to construct a facility must be consistent with the resource land policies of the Statewide Goals including Goal 4 or an acknowledged Metro plan or local government comprehensive plans.

Therefore, the Metro Council finds that the SWMP is consistent with State Goal 4.

Goal 5 - Open Spaces, Scenic and Historical Areas, Natural Resources

Goal 5 resources in the region have been inventoried by local governments in the region. As additional site specific components of the SWMP are completed, Statewide Goal findings will be made to assure that each site incorporated into the Plan is consistent with Goal 5. Plan Consistency Policy 18.0. Solid waste facilities established under SWMP components will recognize existing local comprehensive plan inventories which identify open spaces, scenic and historical areas. Any decision to construct a facility must be consistent with the resource policies of the Statewide Goals including Goal 5 or an acknowledged Metro plan or local government comprehensive plans.

Therefore, the Metro Council finds that the SWMP is consistent with State Goal 5.

Goal 6 - Air, Land and Water Resources Quality

As a matter of statewide concern and plan policy, solid waste control must be accomplished in an environmentally acceptable manner as regulated by the Department of Environmental Quality. DEQ has participated in the policy and technical meetings held to prepare this SWMP. DEQ has approved the Solid Waste Reduction Program element consistent with the statutory hierarchy for managing solid waste. Solid waste facilities sited under the SWMP must comply with the air, land and water quality regulations of the state Environmental Quality Commission and the federal Environmental Protection Agency.

Therefore, the Metro Council finds that there will be no significant adverse impacts on the quality of the air, water and land resources due to this SWMP. The Metro Council finds that the SWMP is consistent with State Goal 6.

Goal 7 - Areas Subject to Natural Disasters and Hazards

Natural disaster and hazard areas have been inventoried by local governments in the region. Solid waste facilities established under the SWMP will recognize existing local comprehensive plan inventories and federal data on natural disasters and hazards to avoid placing solid waste facilities at risk from such hazards. As additional site specific components of the SWMP are completed, Statewide Goal findings will be made to assure that each site incorporated into the Plan is consistent with Goal 7. Plan Consistency Policy 18.0.

The Metro Council finds that the SWMP is consistent with State Goal 7.

Goal 8 - Recreational Needs

This Plan is consistent with satisfying the recreational needs of the citizens of this state and visitors in that it will result in the effective management of solid waste for the region. This results in better livability for all citizens of the region and increases the desirability of the area for visitors. As additional site specific components of the SWMP are completed, Statewide Goal findings will be made to assure that each site incorporated into the Plan is consistent with Goal 8. Plan Consistency Policy 18.0. The Plan will recognize developed or planned recreational areas, facilities and resorts in the siting of solid waste facilities.

The Metro Council finds that the SWMP is consistent with State Goal 8.

Goal 9 - Economy of the State

This Plan contributes to diversification and improvement of the state's economy by enhancing the ability to manage the region's solid waste effectively and economically. Such management contributes significantly to a positive development climate and provides the facilities infrastructure needed for economic development, and thus has a significant positive impact on the development of the metropolitan area.

Further, the Plan recognizes solid waste as a resource from which valuable materials and energy can be extracted. New direct employment in waste reduction, including recycling, will be funded in part from new revenues generated from the wastestream. Diversification of employment is aided by this new class of jobs.

Construction of environmentally safe and efficiently located regional solid waste facilities generates employment throughout the metropolitan region. Local governments will benefit from the operation of these facilities by private enterprises by an increased tax base. SWMP, Goals and Objectives, Policy 13. Host fees for solid waste disposal facilities will become part of the solid waste rate structure, providing revenue to local governments. SWMP, Goals and Objectives, Policy 12.0.

Therefore, the Metro Council finds that the SWMP is consistent with State Goal 9.

Goal 10 - Housing

Effective management of solid waste is a key factor supporting residential development in the region. The SWMP addresses the need for continued and enhanced curbside collection programs for recyclables and efficient waste collection services for residential areas. The Plan will assist in accommodating increases in population densities in the urban areas of the region by the coordination of solid waste facilities and services.

The Metro Council finds that the SWMP is consistent with State Goal 10.

Goal 11 - Public Facilities and Services

The adoption of the SWMP, as both an element of Metro's regional plan and the region's functional solid waste plan, furthers the implementation of the region's functional solid waste plan authorized by ORS 268.390(2) for timely, orderly and efficient management of solid waste facilities and services. The Plan identifies disposal facilities necessary to meet the needs of the region. Further, the Plan specifies that cities and counties will be required to allow for those planned disposal facilities by providing appropriate zoning. SWMP guidance to local governments in the region enhances coordination of solid waste facilities planning in the preparation, adoption and amendment of local

governments Public Facilities Plans. Facilities Policy 5.0, Transportation Policy 7.0.

The Metro Council finds that the SWMP is consistent with State Goal 11.

Goal 12 - Transportation

The regional plan provides for a coordinated system of solid waste facilities to serve the entire region. A primary criterion for siting regional solid waste disposal facilities in the SWMP is cost-effectiveness. This regional system under the SWMP results in a more cost-effective system of transport of solid waste to strategically located facilities than development of local sites coordinated and planned by region

The Metro Council finds that the SWMP is consistent with State Goal 12.

Goal 13 - Energy Conservation

The Plan designates a coordinated solid waste system for the region based on available data. This coordinated system will cause a more efficient and thus less energy-consuming system to be utilized for waste management in the region than use of local sites not coordinated and planned by region. The Goals and Objectives at p.1 require solid waste planning consistent with the hierarchy for waste management which includes the recovery of energy.

The Metro Council finds that the SWMP is consistent with State Goal 13.

Goal 14 - Urbanization

The Plan provides for solid waste facilities and services infrastructure for an orderly and efficient transition from rural to urban land use. It does not directly impact the establishment and change of urban growth boundaries established to identify and separate urban from rural land.

The Metro Council finds the SWMP is consistent with State Goal 14.

Goal 15 - Willamette Greenway

The SWMP does not include a solid waste facility located in the Willamette Greenway. Local governments have inventories to determine the nature and extent of the resources, uses and rights associated with the Willamette River Greenway. SWMP provisions are neutral on the conservation of the Willamette Greenway because the SWMP may allow, but does not require the use of Willamette Greenway land. Any facility under the Plan must be consistent with the Statewide Goals including Goal 15 or an acknowledged Metro plan or the Willamette Greenway policies of acknowledged

local government comprehensive plans that are consistent with Goal 15.

The Metro Council finds that the SWMP is consistent with Goal 15.

Goal 16 through 19

The Metro Council finds that these goals do not apply to the SWMP.

7. The Solid Waste Management Plan is consistent with Metro's land use planning goals and objectives adopted by CRAG and still in effect.

The Metro Council finds that the following Goals and Objectives from Metro's Regional Land Use Planning Goals and Objectives are applicable to the Solid Waste Management Plan:

> "GOAL 1 - LAND DEVELOPMENT: Land uses and public facilities, utilities and services shall be planned to foster:
>
> 5. orderly development of land within the urban areas, within governmental fiscal capabilities and optimal use of existing facilities, utilities and services;"

Orderly and efficient development of land within urban areas is enhanced by the regional planning of public facilities and services. Solid waste facilities and services planning is Metro's statutory responsibility. This SWMP helps avoid duplication of local planning and coordinates with local Public Facilities plans. SWMP element seek optimal use of existing and planned facilities and services for each type of solid waste facility.

> "6. orderly development of non-urban lands, within governmental fiscal capabilities and optimal use of existing facilities, utilities and services;"

Regional planning of solid waste facilities and services maximizes existing and planned sites to minimize the demand for additional rural lands for solid waste facilities by waste reduction, facilities integration, and following the state mandated hierarchy for waste management. SWMP Goals and Objectives, Waste Reduction Policy 1.0, Facilities Policy 5.0.

> "GOAL II - LAND PRESERVATION OR CONSERVATION:
>
> Land uses and public facilities, utilities and services shall be planned to:

1. preserve and maintain agricultural land for farm use;

   See Statewide Goal 3 Finding above.

2. conserve forest land for forest uses;

   See Statewide Goal 4 Finding above.

4. preserve or conserve open space, natural, fragile, historic and scenic areas;

   See Statewide Goal 5 Finding above.

5. maintain and improve the quality of air, water and land resources;

   See Statewide Goal 6 Finding above.

6. protect life and property from natural disasters and hazards."

   See Statewide Goal 7 Finding above.

"GOAL III - INTEGRATION OF LAND DEVELOPMENT, PRESERVATION AND CONVERSATION:

The varied interests of development, preservation and conservation shall be integrated through (1) a citizen involvement program that provides opportunity for citizens to participate in all phases of the planning process to impart, for consideration, the public's concern;"

There was an extensive citizen involvement program through local government representatives consistent with SWMP Policy 15.0 as described in the Statewide Goal findings for Statewide Goal 1, above.

"OBJECTIVE I. CITIZEN INVOLVEMENT

See Statewide Goal 1 Finding above and SWMP Policy 15.0

"OBJECTIVE II - PLANNING PROCESSES
SECTION 1, SUBSTANTIVE OBJECTIVES

A. Process and Policy. A planning process and policy framework shall be established and utilized as a basis for all regional decisions and actions related to the use of land and to assure an adequate factual basis for such decisions and actions. The regional planning process shall include consideration of local comprehensive plans in preparing the regional plan."

The SWMP is a policy framework for regional solid waste facility and service decisions and actions related to the use of land that helps assure an adequate factual basis for such decisions. See SWMP Goals and Objectives. As indicated GOAL III above, policy and technical representatives from the region's local governments participated in the development of the SWMP to assure consideration of local comprehensive plans. See Statewide Goal 2 Findings above.

"OBJECTIVE II - PLANNING PROCESSES

"SECTION 1. SUBSTANTIVE OBJECTIVES

b. Plan Documents. Plan documents shall be developed which contain: an identification of regional issues and problems; necessary inventories and other factual information for applicable regional planning elements; policy choices; necessary maps indicating planned land uses; and an evaluation of alternative courses of action, taking into consideration social, economic, energy and environmental consequences."

The SWMP contains the compilation of solid waste planning documents prepared for regional solid waste planning to date. The component elements of the SWMP identify regional issues and problems such as waste reduction, landfill siting, transfer stations, franchising, hazardous waste, and solid waste regional planning. Some elements contain the necessary inventories and factual information for regional solid waste planning policy choices. Other elements still need inventory work. All of the current elements of the SWMP are consistent with the objective of developing sufficient plan documents.

"c. Application of Goals and Objectives. The Board of Directors finds that conformity with the Goals and Objectives throughout the region is best assured by development and administration of a regional plan which clarifies and implements the Goals and Objectives and by compliance with such plan by local jurisdictions in the region. Therefore, the Goals and Objectives shall constitute requirements to which CRAG must conform its Regional Plan and local compliance with the Regional Plan and each of its elements shall constitute conformance by local jurisdictions to the Goals and Objectives."

The SWMP is the regional plan for solid waste facilities and services that is envisioned by this Objective. Policy 16.0 and Policy 18.0 of the SWMP incorporate the principles of this Objective on local compliance with the regional plan.

"d. Plan Elements. The Regional Plan shall be developed and

administered incrementally in elements and all adopted elements together shall constitute the Regional Plan. The Objectives on Citizen Involvement and Planning Processes shall apply only to CRAG and to the processes used in developing each element of the Regional Plan. All other Objectives shall be implemented through Plan elements. Each element shall implement and conform to certain Objectives designated in the element. When local plans conform to a Regional Plan element, they shall also be deemed to comply with the Objectives designated in that element. Each element of the Regional Plan shall be adopted by rule and such rules shall provide for implementation of each element as deemed necessary to assure conformity throughout the region."

The SWMP is being developed incrementally, consistent with this Objective. The body of this Ordinance outlines the order of conformance to the existing Plan elements. SWMP Policy 14.0, 16.0, 17.0 and 18.0 set out the means by which additional Plan increments and implementation will be carried out.

SECTION 2, PROCEDURAL OBJECTIVES

See Statewide Goals 1, 2 and SWMP Goals 14.0, 15.0, 16.0 and 17.0.

There was an extensive citizen involvement program through local government representatives as described in the Statewide Goal findings for Statewide Goal 1, above.

"OBJECTIVE III. - AIR, WATER AND LAND RESOURCES QUALITY"

See Statewide Goal 6 above.

"OBJECTIVE IV. - ENERGY CONSERVATION"

See Metro Goal III above.

"OBJECTIVE VII. - ECONOMIC DEVELOPMENT"

See Statewide Goal 9 above.

"OBJECTIVE VIII. - TRANSPORTATION

See Statewide Goal 12 above and SWMP Policy 7.0 that incorporates the relevant portion of this Objective.

"OBJECTIVE IX. - PUBLIC FACILITIES AND SERVICES"

See Statewide Goal 11 above.

"OBJECTIVE X. - RECREATION, OPEN SPACE AND HISTORIC AREAS

See Statewide Goals 5 and 8 above.

ATTACHMENT C

The following Ordinances and Resolutions are hereby rescinded:

CRAG Land Use Framework Plan	(12/22/76)
Ordinance No. 1	(Contract for Solid Waste Management Plan)
Ordinance No. 9	(Adopting COR-MET)
Ordinance No. 26	(Milling/Transfer Station System Change)
Ordinance No. 27	(Establishing Non-Processable Solid Waste Program)
Ordinance No. 31	(Milling/Transfer Station System Change)
Ordinance No. 47	(Solid Waste Operations Program)
Ordinance No. 48	(Certificate Program)
Ordinance No. 61	(Certificate Program)
Ordinance No. 88-240A	(Landfill Chapter)
Resolution No. 11	(Markets for Resource Recovery)
Resolution No. 14	(Source Separation Policy)
Resolution No. 79-12	(Landfill Siting)
Resolution No. 79-85	(Recycling Drop/Receiving Centers)
Resolution No. 79-108	(Supporting Regulated Collection)
Resolution No. 81-212	(Adopting Waste Reduction Plan)
Resolution No. 81-272	(Facility Guidelines for Waste Reduction)
Resolution No. 81-282	(S.E. Portland Curbside Collection Policy)
Resolution No. 82-372	(Pledge to Adopt Recycling Program)
Resolution No. 83-393	(Authorizing Recycling Program)
Resolution No. 83-437	(Diverting Newsprint from Facilities)
Resolution No. 84-491	(Interim Management Strategy for St. Johns)
Resolution No. 84-506	(Transfer Station Strategies)

Resolution No. 84-507	(Landfill Strategies)
Resolution No. 85-538	(Interim Waste Reduction Strategies)
Resolution No. 85-571	(Clarification of Alternative Policies to Landfilling)
Resolution No. 86-676	(Hazardous Waste Plan)
Resolution No. 88-835C	(Privatization, ETRC)