



# Agenda

August 13, 1984

SOLID WASTE POLICY ALTERNATIVES COMMITTEE  
SWPAC

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METROPOLITAN SERVICE DISTRICT 527 S.W. HALL ST., PORTLAND, OREGON 97201 503 221-1646  
Providing Zoo, Transportation, Solid Waste and other Regional Services

Date: August 20, 1984

Day: Monday

Time: 12:00 Noon

Place: Metro, Conference Rooms A-1--A-2

1. Approval of Minutes of March 26, 1984 meeting  
Approval of Minutes of June 26, 1984 meeting
2. Presentation of Disposal Rate Analysis  
Ed Stuhr
3. Update on WTRC Advisory Group  
Shirley Coffin
4. Presentation for Landfill Management Strategy  
Dan Durig
5. Solid Waste Department Update  
Dan Durig

SOLID WASTE POLICY ALTERNATIVES COMMITTEE

SWPAC REGULAR MEETING

March 26, 1984

Committee Members Present: John Trout, Chairman, Shirley Coffin, Mike Sandberg, Dave Phillips, Delyn Kies, Richard Howard, Robert Harris, Howard Grabhorn,

Committee Members Absent: James Cozzetto, Paul Johnson, Gary Newbore, Edward Sparks, Kelly Wellington

Ex Officio Member Present: Bob Brown, DEQ

Staff Present: Dan Durig, Dennis O'Neil, Norman Wietting, Doug Drennen, Dennis Mulvihill, Pat Kubala, Sue Klobertanz, Ed Stuhr, Bonnie Langford

Roll Call at 12:10 p.m.

Minutes of the February 21st meeting were approved as written.

Agenda Item I.

Metro 1984-85 Budget

Mr. Durig referred to the Proposed Budget for 1984-85, and the Budget Overview which was sent to the Committee previous to the meeting for their study and information. He stated there were some changes this year. There are five major funds we work out of in Solid Waste. Two handouts were given at the meeting showing these percentages and operating costs in concise form. The first major fund shown is the operating fund which is broken down into seven separate programs: Management and Administration, St. Johns Landfill, CTRC, Waste Reduction, Systems Planning, Wildwood and WTRC. 90 percent of our money is directly involved in operations, with CTRC and St. Johns. Waste Reduction is 3.4 percent and Management and Administration, plus the three programs we are trying to develop currently, are in the area of 1 - 2%. To help us manage more tightly, we break each program down into subprograms. Under management and administration, there are six subprograms, and a total of 31 subprograms under the seven submajor programs. For instance, if some one works under Management and Administration, and is working on the budget, then the time is charged to that subprogram, or supplies and materials used under that program are also charged in that category. Field Operations is basically the cost of Metro's involvement at the landfill, gatehouse people, and the direct disposal operations have the lions share under St. Johns and CTRC. The money primarily represents the contract we have with Genstar Waste Technology.

Mr. Durig stated each of the program managers would talk more comprehensively about their budgets.

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St. Johns final improvement fund is a new fund budgeted for this year, '84-'85. It used to be budgeted under capital improvements. It joins St. Johns Reserve fund which is post-closure money. This will clearly indicate what money has been raised for those purposes. and sets it aside, and also the City of Portland indicated they had concerns about these being set aside as really visible.

He mentioned in 1979 we were essentially a planning agency for future solid waste disposal. Today, 90 percent of our operating fund goes to operate a disposal service giving direct service. In 1980 we entered into an agreement to operate St. Johns Landfill In 1981 we took over the Recycling Information Center switchboard, and in 1982 we spent most of our time looking for resource recovery, the garbage burner in Oregon City, and in 1983 we opened Clackamas Transfer and Recycling Center. Hopefully, in 1985, we will open the Washington County Transfer and Recycling Center.

Mr. Durig stated he would review the other handout, major revenue sources and fund transfers with the Committee. We have two primary sources of money; disposal fees and the regional transfer charge and convenience fees. Disposal fee money is used only for operations. it is not used for non-operational programs, only CTCRC and St. Johns Landfill. When the Washington County Transfer Station becomes an operational facility it will also be operated on disposal fees. User fee money is used for non-operating or plan development and implementation. It pays for major administration, Systems Plan, Wildwood, waste reduction, and WTRC. Out of each of those funds we make appropriate transfers to pay debt service we owe There is also the Metro General Fund Transfer, and Solid Waste Capital Fund. The Reserve Fund is money set aside for final improvements or the post-closure cost. The charts, he said, gave a graphic representation of where the money comes from, what it's spent on and where it goes.

We are requesting two additional positions for the coming year. One is the lowest-paid clerical position provided for in the class study, and will be split one-half to the recycling information center to act as a back up to the switchboard, and the other half to do routine filing, copying and those sorts of things. The secretarial load has shifted with the number of night meetings we are currently attending and are expecting to continue, as well as we now cover the Services Committee with a secretary of solid waste rather than from Executive Management. That's been going on for about 9 months and the load has increased substantially.

The second position is Staff Analyst II and that is primarily to be a community involvement position. They will be assigned 100 percent to Solid Waste Department because of the active building phase involving two major projects, the WTRC and the siting of Wildwood landfill. Some time will also be spent on the systems development plan and St. Johns and CTCRC neighborhood plans. Will coordinate meetings with the community, keeping people informed.

Mr. Trout asked if there weren't a number of people on the general staff designated in that capacity?. Dan answered many of those people had been eliminated and no replacements were made. The budget information would show those that were left.

Discussion followed on various aspects of the Proposed Budget and the Budget Overview.

Sue Klobertanz, using an overhead projector, explained the cost-allocation plan at Metro. The cost-allocation plan allocates the cost of support services provided by the centralized departments i.e., the general fund at Metro. If we get our carpets cleaned, or whatever, paying the rent, the expense of the Council which we are required to have by law, these are all-encompassing over all of Metro's functions, so essentially what the cost-allocation plan does is realize the service that each department uses, and based on the amount of the service, allocates back the cost that is transferred to the general fund. You are paying for what you get. The basis for distribution is from the number of transactions, such as in the accounting department, accounts payable, accounts receivable and payroll. It encompasses all the money coming in and all the money coming out of Metro. Based on the percentage we allocate back the accounting costs. Office space--how much solid waste uses compared to IRC or Executive Management, etc. These have to conform to the federal regulations because of grants, etc. For this year's budget we are talking about data from calendar year 1982-83. By the time this is adopted in July it will be 16-18 months old but we have no other option because this is the way the federal regulations say we have to do it. It creates a problem because we may be having a hot item in solid waste and by the time the budget rolls around it may be a problem in another department. There is a time lag from where we were a year ago. She explained the costs and indirect costs and how they are allocated. The Council, for example, has about 7 percent of all the telephones in the building. Since the general fund has no source of revenue, the next step is to decide who pays for the Council's telephones. They used a number of agenda items to help make the decision since there is really no other criteria: Word processing--number of lines typed--number of things printed, etc. In solid waste, there has been an overall decrease as far as the general fund is concerned. From planning to actual operation is a big change. We now have more concern with the accounting department--the billing and receiving, for Solid Waste.

She mentioned that when Rick goes to the Legislature asking for whatever funding is available, those numbers will assume four funding sources. Mr. Durig said we should be rooting for a tax base or something that will reduce the cost to Metro for its projects.

Mr. Durig commended Ed Stuhr for the fine job he had done in assembling our budget in the absence of an administrative assistant. Mr. Stuhr had the experience of 14 years with Tektronix in the budget area.

Ms. Klobertanz stated if the committee had further questions, as they studied the budget, to inquire of her. Mr. Trout thanked her for her presentation and felt the Committee had benefitted by the explanation of the various aspects of the proposed budget.

Mr. Durig stated Norm Wietting, the Operations Manager of St. Johns and CTRC would bring an up date of that particular part of the budget.

Mr. Wietting said they would start on the form 7 in the Budget Overview which gave a Department Summary worksheet. He commented we would be starting the next fiscal year with a positive balance of \$403,000. It is essentially the contingency budgeted for last year that was not spent. We believe there will be a reduction in revenue which will be offset by a reduction in expenses. The disposal fees, \$5,217,000, is down from last year because last year's rate was lowered. The Recycling Center at CTRC has about ten times more activity than St. Johns because it was designed as an integral part of the facility and contractually there is a better situation to encourage the re-use of items. Mr. Wietting reviewed the other items of the department summary and answered questions from the Committee members.

Dennis Mulvihill gave the report on Waste Reduction. The budget went down from last year. It shifted from being materials-and-services heavy to being personal-services heavy. There are three reasons that reflect that change 1) There were recurring requests for technical assistance. (2) Actual time spent in 83-84 is not the way it was budgeted. (3) Senate Bill 405, Oregon's Recycling Opportunity Act is going to demand a lot of our assistance and seems to be expected by the local jurisdictions. Promotions will be sponsored by Metro to implement this Act. We will provide at least eight workshops for teachers to teach recycling at the elementary level. We have contracts with four cities in the Recycling programs. Market development and a Loan Program are two new research programs for the coming fiscal year.

Doug Drennen briefly described the Systems Planning--a subprogram started a year ago when it was decided not to proceed with the energy recovery facility. Systems Planning is the first major update of the solid waste management plan since the first one was adopted in 1975. Solid Waste expects to complete the first phase of that we call the "options report" before the end of this fiscal year. The 1985 budget proposes the continuation of this program. The budget is similar to this year and we expect to accomplish an options document that will be taken for public review and a recommended plan. The budget will also included a capital improvements program as a result of that plan. We are also looking for an east transfer station location to replace St. Johns when it closes. The majority of the work is personal services, there is very little outside material services budgeted.

Dennis O'Neil reported the Solid Waste Department is dealing with two areas now. We are in the Court of Appeals appealing the land-use decision by LUBA, and are also currently asking Multnomah County to re-review their criteria and revise them so it is possible to site a landfill in Multnomah County. We expect that to be available when the new budget begins. We expect to be defending an appeal to the Supreme Court which our opponents may make. On the second page of the Budget Overview he asked that the Committee note the assumptions were conservative in the program narrative. Purchase of Wildwood has been budgeted and also the preliminary design, along with the costs of appeals.

Doug Drennen reviewed the Washington County Transfer and Recycling Center. The decision was made by the Council to proceed with the Transfer Center in December. The Budget shows three sub-programs

The first sub-program is completing the siting process, second, obtaining the actual permits for a site, and then completing the design element. The money for this is in the capital budget.

The report on Capital funds by Mr. Drennen included the projects anticipated to be undertaken in FY 84-85. These are CTRC construction and engineering services; WTRC, Land acquisition, construction and engineering services; St. Johns construction (Methane) engineering services (methane, and Land (ROW); Wildwood Land acquisition and engineering services.. The total Capital Budget is \$10,346,000.

The Solid Waste Debt Service Fund provides for the repayment for three loans received from the State Pollution Control Fund through DEQ and for anticipated loans for WTRC and Wildwood. It includes \$461,698 from disposal revenue and \$425,832 from user fees. The total Debt Service Budget is \$887,530.

St. Johns Reserve Fund to accumulate during the remaining life of the landfill which will finance final and post-closure expenses has \$171,800 transferred into it from the Solid Waste Operating Fund each year. The total St. Johns Reserve budget is \$563,700.

St. Johns Final Improvements fund is a new fund which provides for placing final cover material, maintaining roads and drainage ways and seeding and erosion control and was previously a part of the Solid Waste Capital Fund. The total S.J. Final improvements budget is \$1,665,000.

Mr. Durig gave an explanation of the employees and their duties in the Solid Waste Program, including those at CTRC and St. Johns.

The next regular meeting will be April 23rd

The meeting adjourned at 2:12 p.m.

Written by Bonnie Langford

SOLID WASTE POLICY ALTERNATIVES COMMITTEE

SWPAC REGULAR MEETING

June 26, 1984

Committee Members Present: John Trout, Chairman, Shirley Coffin, James Cozzetto, Howard Grabhorn, Dick Howard, Dave Phillips

Members Absent: Robert Harris, Paul Johnson, Delyn Kies, Gary Newbore, Mike Sandberg, Edward Sparks, Kelly Wellington

Staff Present: Doug Drennen, Pat Kubala, Dennis O'Neil, Bonnie Langford

Roll Call at 12:15 p.m.

Minutes of the March 26, 1984 meeting, could not be officially approved without a quorum. Those present had no additions or corrections.

Dennis O'Neil handed out an informational report on the "Consideration and Recommendation of the Disposal Rate Policies to be Administered at Metro Solid Waste Disposal Facilities". Doug Drennen added the Resolution for the purpose of adopting these policies would probably go to the Council again in August. He pointed out they may not do an elaborate study as has been done in the past because it appears the financial situation--expenditures and revenues are close to matching. Consequently, barring any major occurrences, there won't be as much detail in the rate analysis this year. Mr. Drennen said we have two pending issues that have to be resolved. One is the post-closure requirements of DEQ. We do have some funds set aside for this and as yet don't know whether we will be impacted by the new rules. Secondly, we are still waiting for the City of Portland and Metro to come to some concurrence on the lease agreement. We are supposed to go through an assessment and appraisal of the property and we have selected an appraiser to do the work but we aren't sure what the adjustments might be, or how it might influence the rates. He said there would be more information in July or August.

Agenda Item

1984 update of Solid Waste Management Plan - Landfill and Transfer Sections

Patty Kubala, Planner, referred the Committee to the Draft report of the Solid Waste Management Plan which included one on Transfer Stations and one on Landfills which had been sent to them with the June 26th Agenda. A summary of the issues was handed out and Ms. Kubala reviewed the pertinent issues with SWPAC members. She commented the Metro Council directed staff to begin an update of the Solid Waste Management plan with last year's budget. The present plan is the 1974 Cormet Plan plus amendments made along the way. The update is timely with the court appeal to the land use permit of the Wildwood Landfill, and the vote to stop work on the energy recovery facility. She added the update will have five chapters when it is completed, the other three will be waste

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Minutes - continued

reduction and recycling, alternative technologies such as energy recovery, composting, and also a data section. Because of the amount of information and policy issues, we will distribute the reports as they are completed. Metro will be going through a more formal review process and will hold public forums. She told the committee Metro would welcome their input on the reports. Council will begin prioritizing the issues and deciding which ones need more immediate attention and which can wait awhile, as well as changing or modifying past practices. Some of the areas are going to require substantial work. She again stressed input was needed from the members of the Committee.

An overhead projector was used to review major points in the report. Variables were explained in the projected closure date at St. Johns which is expected to be sometime from March to June of 1989. The Wildwood Landfill and the appeals and delayed decisions were discussed, the various diversions used to extend the life of St. Johns, and alternatives for siting a regional landfill and transfer stations.

Ms. Kubala pointed out the charts from the report that illustrated haul time contours to transfer stations and land fills, and extension in St. Johns site life, among others. The increase in recycling will have an effect on the life of St. Johns, as will other diversions.

John Trout asked how soon they would be going out to outside groups and Patty Kubala answered probably as the chapters are developed and ready for feedback. Mr. Trout asked Mr. Drennen about a newspaper article where he was quoted as saying "Once a Washington County Transfer station is built it will mean shorter hauling distance for trucks and lower costs to consumers." Mr. Drennen asked him if it was in quotes and Mr. Trout answered no, but they wrote as though they were quoting him. Mr. Drennen explained he had not said lower costs to consumers. Mr. Trout said if that information is given out the haulers have problems. He suggested Mr. Drennen ask them to print a correction. Mr. Drennen said our message on that has been consistent. Metro has not tried to indicate that the price will go down when the transfer station opens and that we have, in fact, told them it will go up. We've also indicated to them that other factors affect the collection industry which do not necessarily mean the price will stay the same. It will be a matter of individual haulers looking at their cost and determining what benefits they should receive. Mr. Drennen stated he had talked to them and it was a matter of their interpretation at the news office.

Dennis O'Neil reported that in June we moved one step forward on the Wildwood project. Multnomah County Planning Commission adopted revised criteria for siting sanitary landfills. LUBA had stated the rules had to be strictly interpreted and we appealed back to the Appeals Board that according to the rules we couldn't site a landfill. After looking at revised drafts and listening to people through three different hearings, and reviewing the issues since January, they came up with some revised standards for landfill sitings.



SWPAC MEETING 6/26/84  
Minutes - Continued

Mr. Trout asked how long before the Court of Appeals renders a decision on the landfill. Mr. O'Neil stated some estimates believed it would be late summer or fall. They had no limitation. Even if we get a positive reading it can drag on and on.

Doug Drennen stated Metro was asked by Angus McPhee, operator of the Newberg Landfill, and also by Yamhill County people, to look into the possibility of bringing some waste to the Newberg site to close it out. The problem is, Mr. McPhee filed with Yamhill County to close the site on Sept. 30, 1984, due to physical constraints on the site and the cost of operating it during the winter. When they did that they realized they would have a shortage of meeting their final grades and finishing the site properly. Metro took a cursory look at it and felt it was a feasible thing to do but not at the current rates they are charging, without subsidizing from this area. Last Wednesday, the County Commission, approved a special rate class--a variance--for this situation and would allow them to charge as little as \$1.00 per cubic yard, which is about 1/2 of what they are charging now for loose drop box. Metro will be meeting with Genstar people and Yamhill County to consider hauling waste to Newberg and it may be a force in helping the site life of St. Johns. Metro will try to make it a break-even situation for us. The haul distance is about the same and essentially what we will have to do is pay extra cost for transfer trailers to be equipped to take it there. It may result in hauling part of July, August and September from CTRC to Newberg Landfill.

Mr. Drennen also reported that Shirley Coffin was appointed to represent SWPAC on the Transfer Station Committee. There are nine members on an advisory group representing the Solid Waste Policy Advisory Committee here, in Washington County, the cities, counties and hauling industries that are participating with us in looking at the sites and also in the design criteria for that facility. The first meeting will be June 27 but they won't get into the siting issue until later in July or August.

Meeting adjourned at 12:52 p.m.

Written by Bonnie Langford



# Memo

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METROPOLITAN SERVICE DISTRICT 527 S.W. HALL ST., PORTLAND, OREGON 97201 503 221-1646  
Providing Zoo, Transportation, Solid Waste and other Regional Services

Date: August 20, 1984

To: Marie Nelson

From: Bonnie Langford

Regarding: Resolution 84-491 presented to Solid Waste Policy  
Alternatives Committee (SWPAC)

Dave Phillips moved that SWPAC endorse Numbers 2 and 3 of Resolution 84-491; number 2 to also encourage recycling among the customers and haulers of the area. The Resolution is recommended to the Council for the purpose of establishing an interim management strategy for extending the projected life of St. Johns Landfill.

Motion Seconded by Robert Harris

Motion passed

Ayes 7

Nays 1

Abstain 1

CONSIDERATION OF RESOLUTION NO. 84-491 FOR THE  
PURPOSE OF ESTABLISHING AN INTERIM MANAGEMENT  
STRATEGY FOR THE ST. JOHNS LANDFILL, THE REGION'S  
ONLY GENERAL PURPOSE SANITARY LANDFILL.

Date: August 6, 1984

Presented by: Daniel F. Durig

FACTUAL BACKGROUND AND ANALYSIS

In March 1984 the first chapter of the Solid Waste Management Plan-Update 84 was completed by the Metro Solid Waste Department. The "Landfill Chapter" discussed the existing solid waste disposal system in which the St. Johns Landfill is the cornerstone. The report also discusses the need for a replacement site and the time frame required to gain the necessary permits for the Wildwood site.

The report shows that the time frame to receive final permits and complete construction of the Wildwood site may be longer than the current projected life of the St. Johns Landfill. Because that situation is unacceptable, the report outlines several alternatives to extend the life of the St. Johns Landfill. The alternatives discussed are:

- I. Diverting certain materials from the St. Johns Landfill.
  - A. Diverting non-putrescible waste to limited-use landfills
    1. By voluntary diversion
    2. By using Metro's flow control authority
    3. By using the fee structure
  - B. Diverting through increased recycling
- II. Diverting mixed waste to other general purpose landfills.
  - A. Diverting waste directly from Metro facilities
  - B. Diverting haulers from the periphery of the region
    1. By voluntary diversion
    2. By using Metro's flow control authority
    3. By using the fee structure

### III. Increasing the capacity of the St. Johns Landfill.

#### A. Vertical expansion

1. 10-foot vertical expansion
2. More than 10-foot vertical expansion

#### B. Lateral Expansion

1. Two-year lateral expansion
2. Five-year lateral expansion
3. Dike realignment (four acres)

### IV. Change in technology.

In order to clearly and concisely review the various interim strategy alternatives, the attached matrix summarizes the text of the landfill chapter and serves as the basis for the following analysis.

In analyzing the alternatives available to extend the landfill and recognizing that conditions and time frames change over time and that the cost of diversion may be high, the following scenario seems to be an appropriate course of action.

- I. Efforts should be made to remove material from the St. Johns Landfill waste stream that can be sent to limited-use landfills. Of the three options to achieve this it is recommended that the rate structure be modified to encourage drop box haulers to use limited-use sites whenever possible. While the exact effect of a rate change cannot be predicted it is reasonable to assume that most haulers will deliver materials to the site that is most economical considering haul distance and disposal cost.

The two other alternatives for diverting waste to limited use landfills should not be used at this time. Depending on voluntary diversion will probably not achieve any meaningful results and may disrupt an already competitive collection system. Enforcement problems along with the potential for increasing putrescible waste at the limited-use sites make the flow control alternative one that should not be used at this time.

- II. As discussed in the report, recycling an additional 2 percent per year (current short-term goals) would result in an increased life of three months for the St. Johns Landfill. This is a moderate benefit but because of the instability of secondary material markets it is less predictable than other alternatives. The

existing waste reduction programs should be continued and encouraged and any future programs and Metro's future role for increasing recycling will be discussed in the chapter of the Solid Waste Management Plan entitled Waste Reduction.

- III. The two major problems with diverting mixed waste to other landfills is the cost to transport it and finding a site and local jurisdiction who are willing to take the required quantities. Two options exist to accomplish this alternative. Waste could be diverted in relatively small quantities over long periods or relatively large quantities over shorter periods. As the impact would be the same for either option it is appropriate that the decision to divert be delayed. In order to have the option for this alternative in the future Metro should begin to secure permission from another site to take waste in the future if and when it becomes necessary.

If and when it becomes necessary to transport waste out of the region the transfer station system should be used as it is much more efficient than transporting in individual refuse trucks. They can also be managed directly by contract rather than using other less effective techniques.

- IV. Metro should pursue further evaluation and review with the City of Portland, Department of Environmental Quality and the residents of north Portland the potential for a phased increase in elevation of 10 feet as allowed by the Portland Planning Commission. As Subareas 1, 2 and 3 are either completed or will be soon and have received final cover, the first phase to receive the 10 extra feet of waste would be the 55-acre expansion area. Filling has just begun and there is adequate time to have a new grading plan approved before final grades are reached and final cover required. After the expansion area is finished if more space is required we would remove the final cover one subarea at a time and refill 10 feet. The final cover would then be replaced.

By sequencing the proposed increase in height Subareas 1, 2 and 3 would not be raised unless a replacement site is not available. Increasing the height by 10' would increase the amount of side slopes on the finished landfill and decrease the usable top surface from 170 acres to approximately 155 acres.

In addition to having minimal visual impact on the area, filling with an additional 10-foot lift is also the most efficient and cost-effective alternative. Technically the increase in height is not difficult to achieve, the City of Portland would receive lease payments longer, more methane gas revenues could be received

by the City of Portland and Metro, and as a back-up alternative the region would have time to adequately prepare a new site.

EXECUTIVE OFFICER'S RECOMMENDATION

The Executive Officer's recommends adoption of Resolution No. 84-491 which sets out a strategy to manage the remaining capacity of the St. Johns Landfill.

NW/srb  
1747C/392-4  
08/14/84

BEFORE THE COUNCIL OF THE  
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF ADOPTING AN ) RESOLUTION NO. 84-491  
INTERIM MANAGEMENT STRATEGY FOR )  
THE ST. JOHNS LANDFILL ) Introduced by the  
 ) Executive Officer

WHEREAS, ORS 268 designates the Metropolitan Service District (Metro) to be the provider of solid waste disposal facilities in the Portland metropolitan area; and

WHEREAS, The Council of the Metropolitan Service District has identified the site known as "Wildwood" to be the next general purpose sanitary landfill when the St. Johns Sanitary Landfill is filled to its design capacity; and

WHEREAS, Due to delays encountered in receiving final approval for the use of Wildwood as the region's next general purpose landfill, it now appears that Wildwood will not be available upon the anticipated closure of the St. Johns Landfill; and

WHEREAS, The Metro Council recognizes the need to ensure uninterrupted access to an environmentally sound and conveniently located general purpose sanitary landfill as a manner of acceptable public health practices; now, therefore,

BE IT RESOLVED,

That the following interim management policies and strategies for the St. Johns Landfill are adopted for the purpose of extending the useful life of this limited resource in order to

provide Metro additional time to secure final approval from appropriate governmental bodies for the Wildwood Sanitary Landfill site.

1. During preparation of the 1985 Metro Disposal Rate Study, the Executive Officer will incorporate modifications to the existing rate structure which will encourage drop box haulers to use existing limited-use landfills rather than the St. Johns Sanitary Landfill. Following past practice and upon adoption by the Metro Council, these rates will be effective on January 1, 1985.
2. Metro will begin to explore and secure permission from other authorized sites accessible to the Metro region for the disposal of municipal solid waste. The Executive Officer will report to the Metro Council on the progress of these discussions at the Council's first regularly scheduled meeting in February of 1985.
3. Metro will pursue further evaluation and review with the City of Portland, the Department of Environmental Quality and the residents of north Portland the potential to increase the final contours of St. Johns.



Landfill to 10 feet using a phased approach beginning with the expansion area and then into the already completed subareas of the landfill.

ADOPTED by the Council of the Metropolitan Service District  
this \_\_\_\_\_ day of \_\_\_\_\_, 1984.

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Presiding Officer

NW/srb  
1747C/392-4  
08/14/84

# SUMMARY MATRIX LANDFILL MANAGEMENT STRATEGY

MANAGEMENT STRATEGY	POTENTIAL EFFECT IN MONTHS	SYSTEM COST	METRO COST	APPROVALS REQUIRED	TIME FRAME TO IMPLEMENT	EASE OF ADMINISTRATION	AFFECTED PARTIES	RELIABILITY	MAJOR PRO'S	MAJOR CON'S
I.A. Divert limited use landfills 1. Voluntary	0-3 months	Probably increase hauling cost	Primarily higher cost per ton for lower volumes at landfill	Metro	30 to 90 days	Difficult to have significant impact without extensive work Requires constant monitoring	Haulers and their customers	Low	Leaves decision to haulers Easy to state policy	Very limited impact
I.A. Divert to limited use landfills 2. Flow control	3 months	Increase hauling cost	Primarily higher unit cost for lower volume at landfill	Metro	90 days	Adopt an ordinance and monitor to assure compliance (difficult) and requires enforcement	Drop box haulers and their customers	High	Decreases traffic at St. Johns; Relatively clear distinction in loads; i.e., drop box vs compactors	Local rate policies; Heavy handed; Could increase putrescible wastes at limited-use sites; Limited impact; Some drop box loads will continue to use Metro sites
I.A. Divert to limited use landfills 3. Rates	3 months	Metro costs and increased hauling cost	\$252,000/yr. Full RTC \$126,000 1/2 RTC	Metro	90 days	Adopt and implement new rates	All haulers in region	Moderate	Relative ease of implementation; Allows hauler to make decision; Improves efficiency of smaller sites	Limited impact on life of St. Johns; Rates at Metro facility will be higher; No guarantee of effectiveness. Fills up limited use sites sooner.
I.B. Increased recycling	To be reviewed	In Waste Reduction Chapter		To be reviewed in		Waste Reduction Chapter		To be	Reviewed in Waste Reduction Chapter	
II.A Divert to general purpose landfills from Metro facilities	Up to 60 months	Same as Metro cost	\$3.8 million per year of extension	Metro Receiving Jurisdiction Receiving Landfill	6 months	Secure agreements with other landfill and local jurisdictions. Negotiate change order with contractor	All ratepayers, Local jurisdiction Receiving Landfill	Moderate	Quantities under control of Metro. Coordinates well with West Transfer Station; Uses efficiency of transfer system	Must have a site willing to accept large quantities; Unit cost for Metro will be higher; Need to change tip-per system; Longer haul distances
II.B Divert to general purpose landfills 1. Voluntary	Variable	Possibly increased hauling cost	Higher unit cost for lower volume if effective	Metro	30 to 90 days and constant pressure	Difficult to have a significant impact without extensive work	Perimeter haulers Perimeter Landfills	Low	Same as I.A 1	Must have a site willing to accept larger quantities; No guarantee of effectiveness
II.B Divert to general purpose landfills 2. Flow control	Variable	Metro cost and increased hauling cost	Higher unit cost for lower volume at landfill	Metro	90 days	Adopt an ordinance and monitor compliance (Relatively easy)	Perimeter haulers Perimeter Landfills	High	Decrease traffic at St. Johns; Relatively easy to monitor, i.e., by company; Very effective method	Other sites must be willing to accept; potential problems with competition; Heavy handed; Potential court challenge; Transfer system may be more efficient
II.B Divert to general purpose landfills 3. Rates	Variable	Increased distance for haulers	\$380,000/year Full RTC \$190,000/year 1/2 RTC	Metro	90 days	Adopt and implement new rates	All haulers in the region	Moderate	Same as I.A 3	Limited impact on life of St. Johns; Rates at Metro will be higher; No guarantee of effectiveness; Other sites must be available; Competition with West Transfer Station
III.A Increase capacity 1. Up to 10' vertical expansion	24 months	\$3.97 million	\$3.97 million	City of Portland DEQ	6 months	Prepare a grading plan, potentially remove final cover and methane system	City of Portland North Portland Residents	Moderate	Maintains efficiency of scale; can be implemented in stages; longer use of existing facilities; delays the need for east transfer station	City of Portland willingness; Past promises to north Portland; Decreases land value of the property; Cost does not include community trade offs;
III.A Increase capacity 2. Vertical expansion over 10'	Up to 60 months	\$3.97 million	\$3.97 million	City of Portland DEQ	Approximately one year	Requires conditional use change in addition to III A.1	City of Portland North Portland Residents	Moderately Low	Same as III.A 1	City of Portland willingness; Past promises to north Portland; Requires Land-use changes; Cost does not include community trade offs; Decreases usable space of property
III.B Increase capacity 1. Horizontal expansion (2 years)	24 months	\$2.85 million	\$2.85 million	Ore. Legislat. City of Portland, DEQ, Division of State Lands, EPA, Corp of Engineers	Approximately 3 years	Difficult to change State laws and obtain conditional use permit and Comprehensive Plan Amendment	City of Portland North Portland Residents	Moderately Low	Same as III. A 1	Requires legislative changes; City of Portland willingness; Past promises to North Portland; Requires land-use changes; Cost does not include community trade offs
III.B Increase capacity 2. Horizontal expansion (5 years)	60 months	\$5.15 million	\$5.15 million		3 years	Same as III. B 1	City of Portland North Portland Residents	Moderately Low	Same as III. A 1	Same as III. B 1
III.B Increase capacity 3. Dike realignment (4 acres)	4 months	\$300,000	\$300,000	City of Portland, DEQ, Div. of State Lands; Corp of Engineers	2 years,	Same as III. A 2 and also Requires engineering plans	City of Portland North Portland Residents	Moderate	Same as III. A 1 and also improves a problem leachate seep	Same as III. A 2
IV. Change in Technology (Baling)	Minimal			Metro City of Port. DEQ	1 to 2 years	Financing, contract administration, and land use permits	Rate payers	Moderate	Balefills generally use less cover and cheaper landfill equipment Could be accomplished at Trans. Sta. Potential sorting before baling	Does not substantially increase life; Higher cost

(1) Excludes cost of daily cover, as it is a cost to any disposal alternate  
Excludes cost of land

## MEETING REPORT

DATE OF MEETING: August 8, 1984

GROUP/SUBJECT: Washington Transfer & Recycling Center  
Advisory Group,  
Beaverton Operations Center, 3:30 p.m.

PERSONS ATTENDING: Advisory Group Members: Gary LaHaie,  
Carl Miller, Gordon Dawson, Steve Baker,  
Bill Dana for Tim Davidson, Merle Irvine  
and Shirley Coffin

Staff: Dan Durig, Doug Drennen,  
Norm Wietting, Evelyn Brown, M.J. Aman and  
Peg Henwood

Members of the Public: Dave Sudtell and  
David Slusarenko

MEDIA: None.

### SUMMARY:

Dan Durig thanked the Advisory Group for their interest in participating in the tour of the Clackamas Transfer & Recycling Center (CTRC) on July 25, 1984. He described the general concept of the criteria for the Washington Transfer & Recycling Center (WTRC) siting process to be a screening process to evaluate sites and to rank them according to the criteria.

Gary LaHaie asked if it was within the scope of the committee's work to make recommendations on the design of the transfer center. Durig replied yes; the design will be discussed later in the process.

Doug Drennen discussed the steps of the siting process criteria. He referred the Group to the 1982 aerial maps and explained the areas being considered, i.e., the center of waste, the available industrial zones and open spaces. The criteria includes a point system and a weight factor. The weight factor is applied to each criteria to depict its relative importance.

### Stage I - WTRC Siting Criteria

Drennen presented the three steps of Stage I.

1. "Distance from Center of Waste"; A question was asked whether there was any industrial land within two to three miles south of the center of waste (Drennen - yes). Carl Miller asked if staff considered points for areas outside a six-mile radius rather than restricting it; and whether there are adequate sites within a two-mile radius from the center of waste. A discussion

followed regarding setting a limit on the radius from the center of waste. Drennen reminded them that the cost increases as you move further from the center. Under Stage II - the issue of total travel time will be considered. The Group agreed with the criteria.

2. "Land Use and Zoning"; there was a question considering the zoning/permit process for transfer centers. Drennen explained the current zoning/permit process in Washington County and Beaverton. Another question concerned the high weight factor for a permitted zone. Drennen answered that properly zoned land would conserve time and cost as opposed to going through a zone change.
3. "Transportation Access"; the Group agreed with the criteria.

#### Stage II

1. "Size of Site;" Doug asked Carl Miller if he had talked with the commercial haulers about the possibility of Metro purchasing additional property for commercial haulers to park their trucks and to be used for some maintenance. The land would not be owned by Metro, but by the haulers to make it more convenient for the haulers. Carl Miller replied, they would not want to add the additional costs to the haulers and would rather keep the current system as is. Doug asked if he had met with the haulers and if they felt comfortable with that decision. Miller answered, yes. Carl Miller discussed the impacts of SB 405 stating that increased recycling at the transfer station would compete with the haulers. He agrees with the recycling at the transfer station, but would not want any more than at CTRC. Under SB 405 he would be required to pick up recycling and he must make a profit. Durig replied that recycling will be a key issue as we discuss the design criteria for the facility.
2. "Total Travel Time"; the Group agreed that the haul time for transfer plus the time for collection vehicles is important. The Group agreed to the criteria.
3. "Local Traffic Impacts"; the Group agreed with the criteria.
4. "Compatibility of Site to Adjacent Property" Bill Dana, DEQ, suggested changing the weight factor of 1 to a 2. After discussion the Group decided the factor was significant and changed the weight factor to a 2. In support of the previous decision, a statement was made regarding the impact on adjacent property by extended hours of operation. Bill Dana asked if it would be necessary at the completion of Stage II to develop a criteria to consider sites with 'fatal flaws' be discontinued. After discussion, no change was made.

Drennen explained that one change was made from the previous criteria process discussion of June 27, 1984. The site availability, previously in Stage II, was considered to be more

important in Stage III. Metro has the authority to exercise the power of condemnation if needed.

### Stage III

2. "Environmental Impacts"; Carl Miller was concerned about the litter on the highways. He suggested that the litter comes from the public using the facility, not the haulers. The Group agreed that any site faces this problem and that it is an operational responsibility to minimize the impact.
3. "Traffic Impacts"; Merle Irvine asked why #3 had a weight of 2. Drennen replied that local impacts such as intersection improvements or additional lanes for turning will be considered at that point. Discussion followed; the Advisory Group did not change the weight factor.

There was a question as to how the public would be involved in the siting process. There was a discussion of the community effort to date and it is expected the effort will be continued. Staff has provided information to neighborhood groups, community planning organizations, local chambers of commerce, business and service groups. A public meeting will proceed the final decision.

A member asked if the staff intended to contact owners of the vacant property. The answer was yes.

The Advisory Group agreed to the criteria as set out in Stages I and II. Stage III will be discussed and finalized at a later meeting prior to proceeding into Stage III.

### Public Comment

Dave Sudtell discussed his vacant property and offered to the Group a description of the land stating that it had been approved by the city of Hillsboro for a transfer station. He stated that it was located geographically in the center of Washington County. Drennen said the Sudtell property would be considered within the siting process.

Drennen informed the Group, that possibly by the end of September, Stage I would be completed. The technical staff will do the work of evaluating the sites and will bring the results to the Advisory Group for their review. It will include a brief description of each of the sites to be considered and carried into Stage II.

REPORT WRITTEN BY:           Peg Henwood

COPIES TO:                    Dan Durig  
                                  Doug Drennen  
                                  WTRC Advisory Group

PH/srb  
1808C/D3-4  
08/16/84

WTRC SITING CRITERIA

<u>CRITERIA</u>	<u>DESCRIPTION</u>	<u>PT. SYSTEM</u>	<u>WT. FACTOR</u>	<u>SITES/AREAS</u>
<u>STAGE I</u>				
1. Distance from Center of Waste	Center of waste generation is based on distribution of population and employment in the west service area. 1980--located east of Murray and north of Allen. 2000--projected growth would shift center to Murray Road and slightly south.	Less than 2 MI RAD. - 5 More than 6 MI RAD - 1	1	
2. Land Use and Zoning	Site is considered desirable if permitted outright and least desirable if zone changes are required.	. Permitted use - 5 to . Zone change - 1	2	
3. Transportation Access	Transportation routes to sites are based on shortest paths of collection vehicles to the site and of transfer vehicles to Hwy. U.S. 26 and state Hwy. 217 or <u>major</u> arterials.	. Direct access - 5 to site by major arterials and highways  to  . Encourages - 1 transportation thru congested areas	2	
<u>STAGE II</u>				
1. Size of Site	Total acreage available (Note: Some sites greater than maximum that can be parcelled and smaller parcels with available adjacent parcels will be considered further.	. Most desirable - 5 5 to 7 acres to . Least desirable 5 acres 10 acres	1	
2. Total Travel Time	Estimated haul times for commercial vehicles, plus the travel times for transfer vehicles. Haul times are based on number trips made from traffic zones in the service area. Each traffic zone is a subset of a census tract with known population and employment figures.	. Least Total Travel Time - 5 to . Most Total Travel Time - 1	2	

<u>CRITERIA</u>	<u>DESCRIPTION</u>	<u>PT. SYSTEM</u>	<u>WT. FACTOR</u>	<u>SITES/AREAS</u>
<u>STAGE II (continued)</u>				
3. Local Traffic Impacts	Access to the site by local collection vehicles and public. Favorable conditions require access by most collection vehicles using minor arterials or a higher road classification; unfavorable requires primary access using residential streets.	Most Desirable - 5 to Least Desirable - 1	2	
4. Compatability of Site to Adjacent Property	Assessment of the suitability of the site to neighboring land use and development.	Most Desirable - 5 to Least Desirable - 1	2	
5. Physical Characteristics of Property	Assessment of shape of property, topography and relation to floodplain.	Most Desirable - 5 to Least Desirable - 1	1	
<u>STAGE III</u>				
1. Cost of Land and Development	Land value and any cost to construct access or other major physical constraints.	Least Cost - 5 Most Cost - 1	1	
2. Environmental Impacts	Assessment of any special off-site impacts of noise, minor odor or litter.	Most Desirable - 5 to Least Desirable - 1	1	
3. Traffic Impacts	Assessment on local access roads and primary intersections using average daily traffic and/or peak hourly traffic.	Most Desirable - 5 to Least Desirable - 1	2	
4. Availability of Utilities	Location and accessibility to water, sewer power. Rail is desirable as an option for future hauling.	Most Desirable - 5 to Least Desirable - 1	1	
5. Geotechnical Considerations	Assess geological conditions from existing data to determine if site can be developed anticipating appropriate structural loading	Most Desirable - 5 to Least Desirable - 1	1	
6. Availability of Site	Sites are favorable when sufficient acreage can be acquired with few transactions and site acquisition is not a time-consuming and expensive process.	Most Desirable - 5 to Least Desirable - 1	1	
7. Other Criteria	Consideration of other factors identified during the selection process.	Most Desirable - 5 to Least Desirable - 1	1	



# Memo

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METROPOLITAN SERVICE DISTRICT 527 S.W. HALL ST., PORTLAND, OREGON 97201 503 221-1646  
Providing Zoo, Transportation, Solid Waste and other Regional Services

Date: August 20, 1984

To: Marie Nelson

From: Bonnie Langford

Regarding: Resolution 84-491 presented to Solid Waste Policy  
Alternatives Committee (SWPAC)

Dave Phillips moved that SWPAC endorse Numbers 2 and 3 of Resolution 84-491; number 2 to also encourage recycling among the customers and haulers of the area. The Resolution is recommended to the Council for the purpose of establishing an interim management strategy for extending the projected life of St. Johns Landfill.

Motion Seconded by Robert Harris

Motion passed

Ayes 7

Nays 1

Abstain 1



CONSIDERATION AND RECOMMENDATION OF THE DISPOSAL  
RATE POLICIES TO BE ADMINISTERED AT METRO SOLID  
WASTE DISPOSAL FACILITIES

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Date: June 15, 1984

Presented by: Dan Durig

11 25 (SWPAC)

FACTUAL BACKGROUND AND ANALYSIS

The current solid waste disposal rates were calculated using policies which were first articulated during the fall 1982 rate-setting process. The primary policy issue addressed at that time was whether rates should be uniform at all facilities or if they should reflect the cost of providing service at each facility.

The Rate Review Committee recommended that rates gradually be adjusted to reflect cost of service, which it proposed would lead to a more efficient system as users chose their least-cost alternative.

The Solid Waste Policy Alternatives Committee (SWPAC) and others argued that the disposal system is regional and that equality of rates throughout the system was a desirable goal.

Both the Rate Review Committee and SWPAC agreed that sudden large changes in rates could disrupt the collection system and should be avoided.

The uniform rate concept was finally adopted upon recommendation of the staff, SWPAC and the Executive Officer. At the same time, the Regional Transfer Charge and convenience charges were adopted to meet revenue requirements for the Clackamas Transfer & Recycling Center (CTRC) (except the debt service assigned to public users, which is paid by the public base rate).

The current rate structure consists of four elements: base disposal rates, regional transfer charges, convenience charges and user fees. During the rate-setting process, revenue requirements are identified for each element and adjustments are made, if necessary.

Revenue needs were analyzed and rates were set for 1984, using the same policies which emerged from the previous year's process, although the policies were not formally adopted by the Council.

The purpose of the proposed resolution is to gain formal adoption of rate policies which can then be used as a basis for future rate-setting processes.

BEFORE THE COUNCIL OF THE  
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF ADOPTING SOLID ) RESOLUTION NO.  
WASTE DISPOSAL RATE POLICIES )  
 ) Introduced by the  
 )

WHEREAS, Metro is empowered to collect funds to pay costs incident to solid waste disposal in the region; and

WHEREAS, Uniform administration of rates from year to year is necessary for the maintenance of equity among users of the disposal system; and

WHEREAS, There have been established four discrete disposal rate elements (base disposal rate, Regional Transfer Charge, convenience charge, user fee); now, therefore,

BE IT RESOLVED,

That the following rate policies are hereby adopted by the Metropolitan Service District:

1. Users of the disposal system are divided into two groups, commercial and public, and rates for each shall reflect the relative cost of providing service to each.

2. The commercial base disposal rate is used to pay the cost of disposal at the Metro-operated landfill. It is collected at Metro facilities and is applied uniformly at all Metro facilities. The public base disposal rate also pays the cost of disposal and transfer and recycling center capital costs. It is administered in the same way as the commercial rate.

3. The Regional Transfer Charge is used (in conjunction with the convenience charge) to pay for the cost of operating the

Metro transfer system, including transfer and recycling centers and transfer of waste to the landfill. It is applied to all waste generated in the Metro region, whether it is disposed at a Metro facility or at any other.

4. The public regional transfer charge will not include capital costs of Metro-owned transfer and recycling centers. That cost is included in the public base rate.

5. The convenience charge is used (in conjunction with the Regional Transfer Charge) to pay for the cost of operating the Metro transfer system. It is applied only to waste which is disposed at transfer and recycling centers.

6. User fees are used to pay for solid waste programs (administration, waste reduction, systems planning and development) and activities not directly related to operation of the transfer and disposal system and are used to pay debt service where appropriate on facilities which have been acquired but are not yet operational. They are applied to all waste generated in the region.

ADOPTED by the Council of the Metropolitan Service District  
this \_\_\_\_\_ day of \_\_\_\_\_, 1984.

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Presiding Officer

ES/srb  
1444C/382  
06/22/84

provided for seven different recyclable materials for use primarily by the public. With one stop, the public can dispose of recyclables and refuse.

CTRC was not specifically designed for the sorting of recyclables from commercial waste. On occasion, spotters working at CTRC will hand sort commercial loads containing a high percentage of recyclables. This is not required in the operations contract, but the contract terms provide an incentive as the operator receives 75 percent of the gross revenues from operation of the recycling center.

Metro's policies of reuse, source separation and processing for recoverable materials implies consideration of methods to recover recyclables from commercial waste at transfer sites. For future transfer stations Metro may want to consider a facility design that has the flexibility to adapt to material processing as well as the transfer of waste. Either manual sorting or mechanical processing and sorting may prove cost-effective if materials markets improve. CTRC could be modified to provide either manual sorting or mechanical processing.

Fluctuating prices in the materials markets have historically affected the amounts of recyclables recovered. Market fluctuations can be expected in the future, making the flexible design an attractive option. Metro may become more active in processing a specific material because an unforeseen need arises, or less active in processing because that role is filled by industry or another jurisdiction. The extent of Metro's role in the processing of materials collected at transfer stations is a policy issue that should be addressed by the Metro Council prior to construction of additional transfer stations. This issue will be discussed further in the Waste Reduction and Alternative Technologies/Processing chapters.

#### SUMMARY OF POLICY CONSIDERATIONS

Based on information presented in this chapter, certain factors are important for determining transfer policy for the Metro region:

1. Level of service is recognized as a measure of the need for solid waste transfer facilities. Service which has been provided by urban landfills in the past should be provided by transfer facilities in conjunction with the replacement landfills which are located farther from the centers of waste generation.
2. Publically owned transfer stations should be built and operated to serve both the collection industry and the public.
3. To ensure control to effectively manage the regional disposal system, Metro should continue to own transfer stations.

4. Transfer stations should be located near centers of waste generation.
5. Policies for franchising future privately owned transfer stations should be developed.
6. Flexibility in station design should be provided to accommodate developments in processing technology or changes in priorities.

0650C/374  
04/09/84

FOOTNOTES

- 1COR-MET, Solid Waste Management Action Plan, 1974.
- 2SCS Engineers, Solid Waste Characteristics and Flows in the Portland Metropolitan Service District, July 1980.
- 3Metropolitan Service District, Proposed Solid Waste Transfer Plan, January 1981, p. 33.
- 4Metropolitan Service District, Facilities Implementation Plan, Executive Summary, December 1981.
- 5R. W. Beck and Associates, Review of the Proposed Energy Recovery Facility, December 1982, pp. VIII-6, VIII-7.
- 6Summary of Proceedings of Washington County Local Government Committee, p. 3.
- 7Dan Durig, Metro Staff Report, December 20, 1983.

0650C/374  
04/09/84

METRO COUNCIL WORK SESSION  
1984 UPDATE OF SOLID WASTE MANAGEMENT PLAN  
LANDFILL AND TRANSFER CHAPTERS

I. PROJECTED CLOSURE DATE - ST. JOHNS LANDFILL

A. MAJOR VARIABLES

1. AVAILABLE VOLUME TO BE FILLED
2. RATE OF WASTE FLOW INTO THE SITE
3. COMPACTION OF WASTE AS PLACED INTO SITE
4. SETTLEMENT

B. CHANGES IN VARIABLES FROM LAST PROJECTION

1. POPULATION
2. DAILY COVER
3. ~~NEW LANDFILL~~ *areal Mapping*

C. RANGE FOR EXPECTED CLOSURE - MARCH TO JUNE 1989

II. WILDWOOD LANDFILL

- A. RANGE OF TIME TO RECEIVE FINAL DECISION ON LAND USE PERMIT  
EARLY 1985 - EARLY 1987
- B. STATE LANDFILL SITING - LENGTHY APPEAL POSSIBLE
- C. CONSTRUCTION WILDWOOD LANDFILL - 3 1/2 YEARS
- D. EXTENSION IN ST. JOHNS SITE-LIFE OF 1/2 TO 2 1/2 YEARS  
MAY BE NECESSARY

III. EXTENSION OF ST. JOHNS SITE-LIFE

- A. DIVERSION TO LIMITED-USE LANDFILLS
- B. DIVERSION THROUGH RECYCLING
- C. DIVERSION TO OTHER GENERAL-PURPOSE LANDFILLS
- D. LATERAL OR VERTICAL EXPANSION

IV. ALTERNATIVES FOR SITING REGIONAL LANDFILL

- A. SITING LANDFILL - ALTERNATIVE LOCATION
  - 1. REQUIRES SIMILAR PROCESS, TIME FRAME AND INVESTMENT AS WILDWOOD SITING EFFORT
  - 2. COURT APPEALS LIKELY
- B. EXPANSION ST. JOHNS LANDFILL
  - 1. REQUIRES CLEARING OF SEVERAL HURDLES INCLUDING
    - A. REPEAL OF STATE STATUTE
    - B. EPA APPROVAL TO FILL LARGE AREAS OF WETLANDS
    - C. LAND USE APPROVAL FROM CITY OF PORTLAND

V. TRANSFER STATIONS

- A. THREE TRANSFER-STATION SYSTEM --BEST BALANCE SERVICE AND COST
- B. MAJORITY OF POLICY ESTABLISHED BY PRACTICE



May 1982, Revised

SOLID WASTE POLICY ALTERNATIVES COMMITTEE

NAME	REPRESENTING	ADDRESS	PHONE	TERM. OF OFFICE
James Cozzetto	Collection Industry	P.O. Box 11457 Portland, OR 97211	285-0576	Feb. 1982-84
Shirley Coffin Vice Chairman	Public, Washington County	65 SW 93rd Portland, OR 97225	292-9338	Feb. 1982-84
Howard Grabhorn	Landfill Operators	Route 1, Box 849 Beaverton, OR 97007	628-1866	Feb. 1982-84
<del>John Brown</del>	Public, Multnomah County	3918 SE 116th Portland, OR 97266	288-7086	Feb. 1982-84
Robert Harris	Public, Clackamas County	32660 Lake Point Ct. Wilsonville, OR 97070	794-2370	Feb. 1982-84
Dick Howard	Multnomah County	Dept. of Public Works 2115 SE Morrison Portland, OR 97214	248-3623	No Limit
Paul Johnson	Construction Industry	Copenhagen Utilities and Construction P.O. Box 429 Clackamas, OR 97015	654-3104	Feb. 1982-84
<del>Delyn Kies</del>	<del>City of Portland</del>	<del>Office of Public Works 621 SW Alder St. Portland, OR 97205</del>	<del>248-4390</del>	<del>No Limit</del>
Gary Newbore	Landfill Operators	c/o Reidel Internat'l P.O. Box 3320 Portland, OR 97208	222-4210	Feb. 1982-84
Dave Phillips	Clackamas County	Dept. of Env. Services 902 Abernethy Rd. Oregon City, OR 97045	655-8521	No Limit
Mike Sandberg	Washington County	Dept. of Public Health 150 N. First St. Hillsboro, OR 97123	648-8609	No Limit
Edward Sparks	Recycling Industry	Publishers Paper Co. 4000 Kruse Way Pl. Lake Oswego, OR 97034	635-97 <sup>11</sup>	Feb. 1982-84
John Trout Chairman	Collection Industry	Teamsters Local 281 1020 NE Third Ave. Portland, OR 97232	23 <sup>2</sup> -8171	Feb. 1982-84
Kelly Wellington	Public, City of Portland	5015 SW Dosch Rd. Portland, OR 97201	239-5083	Feb. 1982-84
Bob Brown Ex Officio	DEQ	P.O. Box 1760 Portland, OR 97207	229-5157	No Limit
Norman Harker Ex Officio	Clark County	Clark Co. Public Works P.O. Box 5000 Vancouver, WA 98668	(206) 699-2451	No Limit

LANDFILLS

# DRAFT REPORT SOLID WASTE MANAGEMENT PLAN

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Update 84

PRELIMINARY

March 1984

**NOTE:** This is one chapter of the 1984 update of Metro's Solid Waste Management Plan. It is a working draft, subject to change and additional refinement. It should not be quoted as Metro policy due to the fact that changes to the text and data will occur throughout the review process. Ultimate adoption is expected during the summer of 1984.

**METROPOLITAN SERVICE DISTRICT**  
Providing Zoo, Transportation, Solid Waste and  
other Regional Services



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## LANDFILLS

### INTRODUCTION

Every year citizens of the Portland metropolitan region produce over 3/4 million tons of solid waste that must be disposed of. While Metro has no control over the collection of this waste, it is responsible for managing its safe, efficient disposal. Under the current system of solid waste management, the metropolitan area relies totally on landfills for the disposal of approximately 755,000 tons of solid waste per year. Even if the metropolitan region realizes greatly increased source separated recycling, or implements one of the systems evaluated in this report for further materials or energy recovery, there will be unrecyclable material, unprocessable waste or by-products that must be disposed in a sanitary landfill.

This chapter summarizes Metro's past efforts to locate and site new landfills. It documents the information and landfill siting process which led Metro to designate the Wildwood site as the region's next regional landfill, and includes information regarding implementation of the Wildwood site. As delays in implementation may result in a new regional landfill not being ready to accept waste by the expected closure of the St. Johns Landfill, the chapter examines methods to extend the St. Johns site life. Finally, it presents information on alternatives for establishing a regional landfill and discusses criteria to guide future consideration of general purpose and limited use landfills.

### SUMMARY OF POLICY CONSIDERATIONS

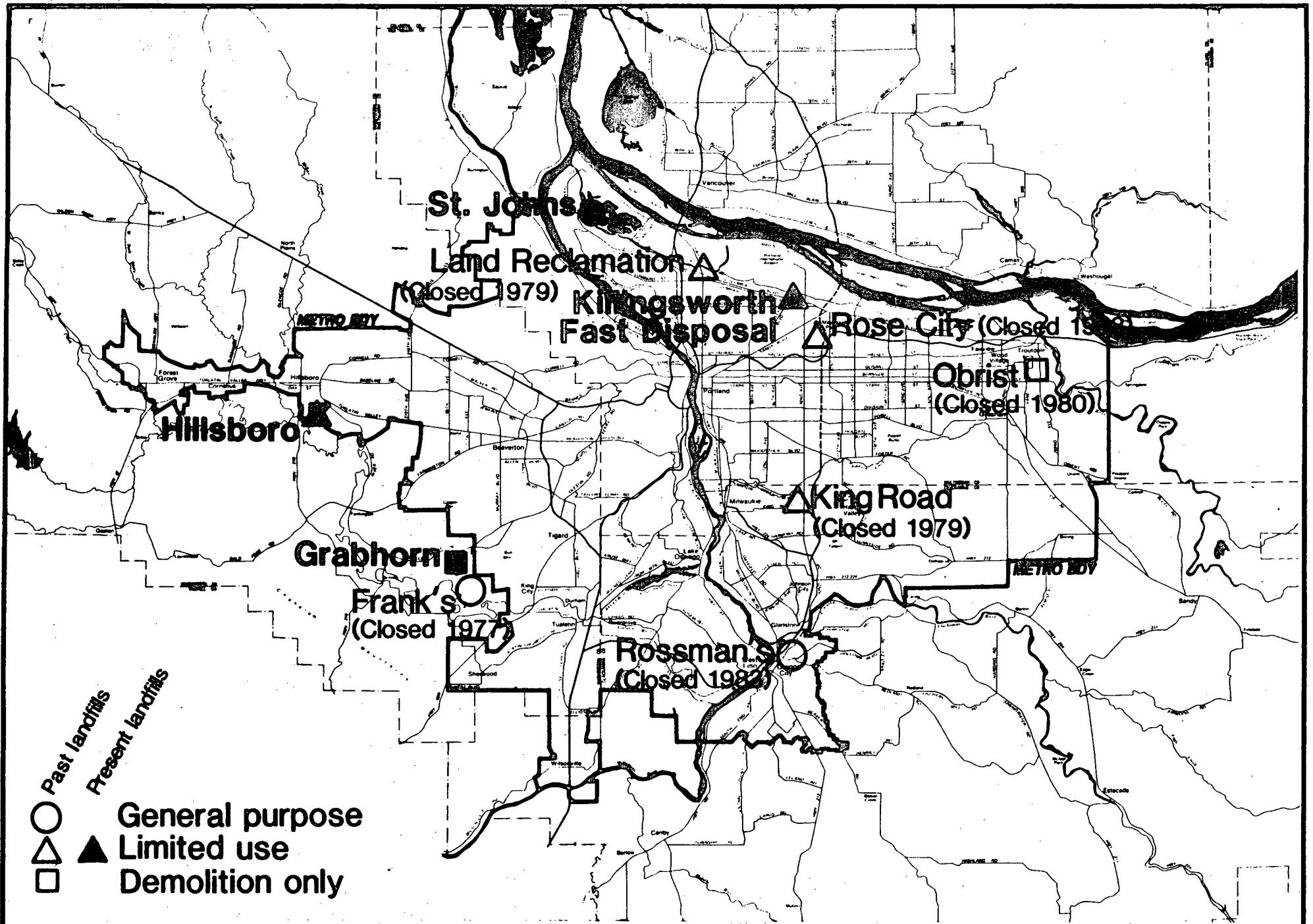
1. Metro is responsible for assuring that facilities are available for the disposal of waste generated in the Portland metropolitan region, currently about 755,000 tons each year. With the region's only general purpose landfill expected to close in the late 1980s, a top priority of the Metro Council has been to establish a new long-term disposal site.
2. The proposed Wildwood Landfill was the top-ranked of 46 potential sites, based on environmental, land use and operational criteria. Since completion of the landfill search, Metro has used the site evaluation criteria to rank new sites suggested to Metro. All of these sites ranked much lower than the Wildwood site. The current Metro Council policy is to pursue the best (top-ranked) site as the region's next sanitary landfill.
3. The Metro Council has designated the Wildwood site as the region's next landfill, but land use approval is under dispute and may not be resolved until as late as 1987. The Wildwood construction schedule shows that further investment in the site may be required before land use approval is received, if the landfill is to be operational by the expected closure of the

St. Johns Landfill. If Metro delays further investment in the Wildwood site during the uncertainty over the land use permit, the site life of St. Johns may need to be extended one-half to 2-1/2 years.

4. During the time it takes to obtain land use permits for a long-term site, Metro must address its responsibility for disposal by adopting policies and programs to:
  - Ensure the availability of general purpose landfill capacity to meet the disposal needs of the region.
  - Ensure the best use of the region's remaining general purpose landfill capacity.
5. Possible programs to ensure disposal capacity and best use of that capacity include:
  - a. Diversion of materials from the St. Johns Landfill
    - 1) Diversion of non-putrescible waste to limited use landfills
    - 2) Diversion through increased recycling
  - b. Diversion of waste to other general purpose landfills
    - 1) Diversion from Metro facilities
    - 2) Diversion of haulers from the periphery of region
  - c. Increasing the capacity at the St. Johns Landfill
    - 1) Lateral or vertical expansion
    - 2) Different technology--baling of solid waste
6. Metro should examine what the role of limited use landfills will be in the future solid waste system once a long-term disposal site and transfer stations are available to the region.
7. Metro should determine under what policies it will review requests for franchises of general purpose landfills within the District or requests from a privately owned landfill outside of the District to dispose of a percentage of metropolitan area waste.

#### CURRENT DISPOSAL FACILITIES/URGENCY FOR NEW LANDFILLS

Metropolitan area municipal solid waste is currently disposed of in two types of facilities: general purpose landfills and limited use landfills (see Figure 3-1). Limited use landfills accept approximately 18.7 percent of the region's waste. They are prohibited from accepting putrescible waste, but they are



**Past & Present Landfills 1974-1984**

**Fig. 3-1**

permitted to receive non-food municipal solid waste and demolition debris. Currently operating limited use landfills include Killingsworth Fast Disposal (KFD) and Hillsboro Landfill. Grabhorn Landfill is permitted to accept only land clearing and demolition debris.

General purpose landfills accept all types of residential, commercial and industrial wastes, excluding hazardous wastes. With the June 1983 closure of Rossman's Landfill in Oregon City, the St. Johns Landfill became the only general purpose landfill remaining in the District. Approximately 70 percent of the waste generated each year in the metropolitan region is disposed of in this landfill.

As of January 1984, the remaining capacity at the St. Johns Landfill is estimated at 3.3 million tons of solid waste. The site life based on this capacity depends on the rate of waste flow into the site, density of compaction of the waste as it is placed into the site and amount of settlement.

Of these variables, the rate of waste flow is the most critical, and is subject to the least control and most fluctuation. The rate at which waste is produced is related to population, economy, weather, recycling effectiveness, and other variables which are difficult to forecast. Because of the number and types of variables, estimates of the site life of St. Johns are predicted in a range. The assumptions and method used to project St. Johns site life is included in Appendix A. Based on these assumptions, St. Johns Landfill will likely reach capacity between March and June of 1989. Estimates of site life are regularly updated, and remaining landfill capacity will be monitored yearly through aerial mapping of the site.

Site life is also affected by the programs and policies adopted by the Metro Council. For example, current programs for diverting yard debris from the landfill, or the recent approval of a transfer station in Forest Grove to haul waste to Riverbend Landfill near McMinnville, affect the waste flow into the St. Johns Landfill.

The expected closure dates and percentage of regional waste flowing to various solid waste disposal sites is summarized in Table 3-1.

Using projected landfill closure dates and projected solid waste flows, Figure 3-2 shows the remaining solid waste disposal capacity in the Metro region. This graphic example clearly portrays the need for additional landfill capacity. All of the present general purpose and limited use landfills receiving metropolitan area waste are expected to reach capacity by the early 1990s, except for the Woodburn and McMinnville Landfills, which presently receive under 4 percent of the region's waste.

Siting a new landfill is a difficult and unpopular task, as is reflected by the current shortage of long-term landfill capacity in the metropolitan area. While several limited use and one general purpose landfill have closed in the past 10 years, only one new site

TABLE 3-1

Estimated Landfill Closure Dates

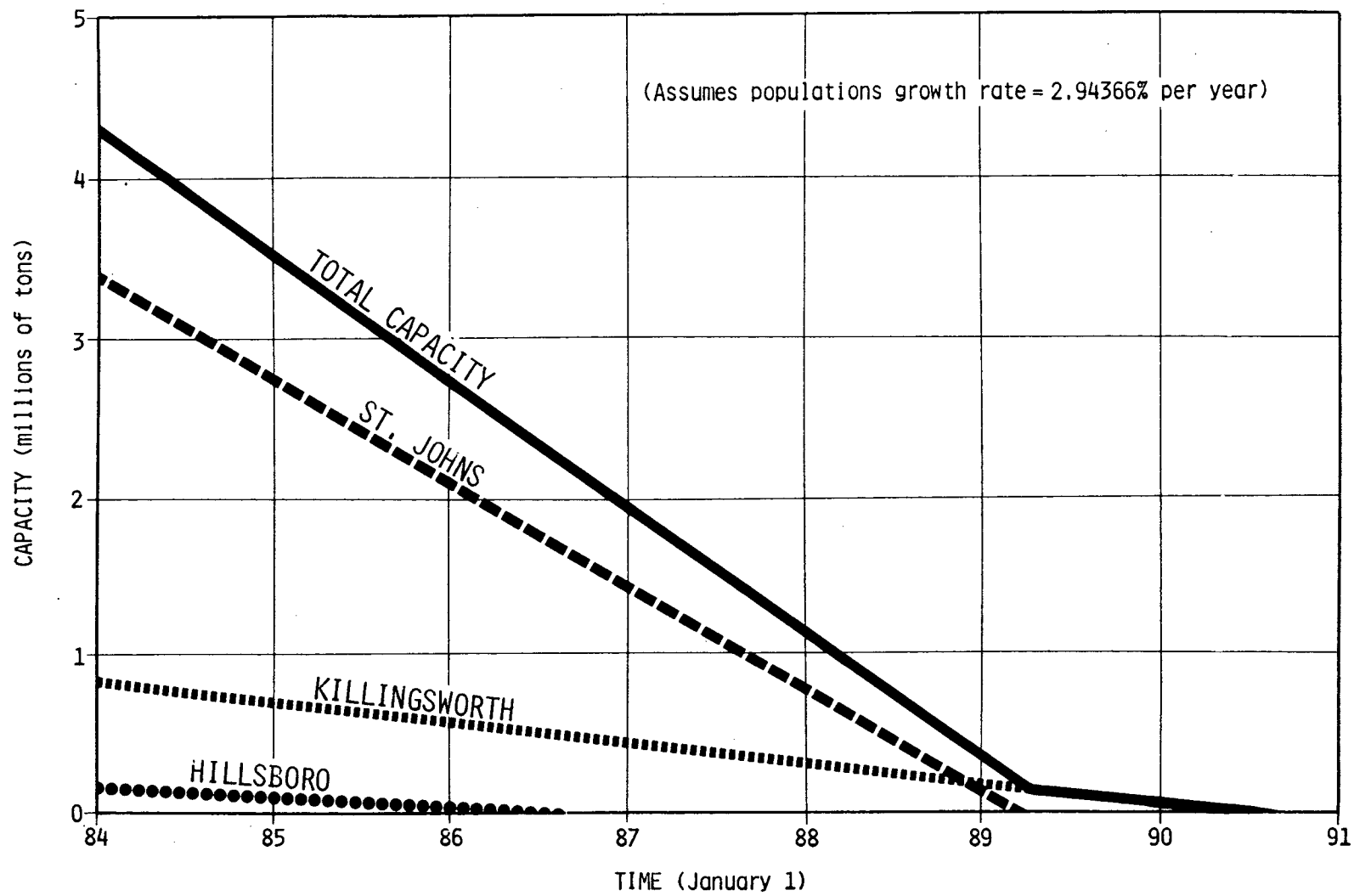
<u>Site</u>	<u>Approximate Percent of 1983 Regional Flow Disposed At Various Sites</u>	<u>Remaining Capacity (as of 01/01/84)</u>	<u>Forecast Range* for Closure Date</u>
St. Johns	71%	3,330,000 tons	March to June 1989
Hillsboro	3%	74,100 tons	November 1985 to March 1987
KFD <sup>1</sup>	12%	923,000 tons	November 1989 to November 1991
Newberg	6%		October 1984
Riverbend	2%		>1999
Woodburn	2%		>1999

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\*See Appendix A for details on calculation of site life for St. Johns, Hillsboro and Killingsworth Landfills.

<sup>1</sup>Reflects increased flow to KFD after closure of Rose City.





**Regional Landfill Capacity vs. Time**

**Fig. 3-2**

(KFD--limited use) has been approved, and one extension has been granted (a 55-acre expansion approved for St. Johns Landfill in 1978). The lack of new sites is probably due to several factors: the difficulty of obtaining land use and environmental approval; stricter construction and operational requirements adopted by the Oregon Department of Environmental Quality (DEQ) in 1981 to meet requirements of the federal Resource Conservation and Recovery Act (RCRA) (see Table 3-2); and previous consideration of an energy recovery plant which would have greatly reduced the region's reliance on landfilling.

TABLE 3-2

Major Environmental Landfill Siting Criteria  
Adopted by EPA and DEQ under the RCRA (PL 94-580)

Groundwater	The solid waste disposal activity must not contaminate an underground drinking water source beyond the solid waste boundary or an alternative boundary set by the state.
Surface Water	Sanitary landfills shall not discharge leachate nor cause non-point source pollution in violation of state standards.
Endangered Species	No solid waste disposal activity may cause or contribute to the taking of endangered or threatened species.  Sanitary landfills shall not destroy or adversely modify the critical habitat of endangered or threatened species.
Bird Hazard	Any solid waste disposal of putrescible waste that occurs within 10,000 feet of airports accepting turbojets and 5,000 feet for airports accepting piston-type aircraft must not pose a bird hazard to aircraft.
Floodplains	Solid waste disposal in floodplains may not restrict the base flood, reduce water storage capacity, or result in washout of solid waste so as to pose a hazard to human life, wildlife, or land or water resources.

## LANDFILL SITING EFFORTS

### Landfill Site Search, 1978

The adopted Cor-Met plan included recommendations for siting a system of landfills to dispose of residual waste from milling-transfer stations. Initially, the plan advocated the use of several gravel pits in the region for landfill sites, stating the added benefit of reclaiming marginal use land.

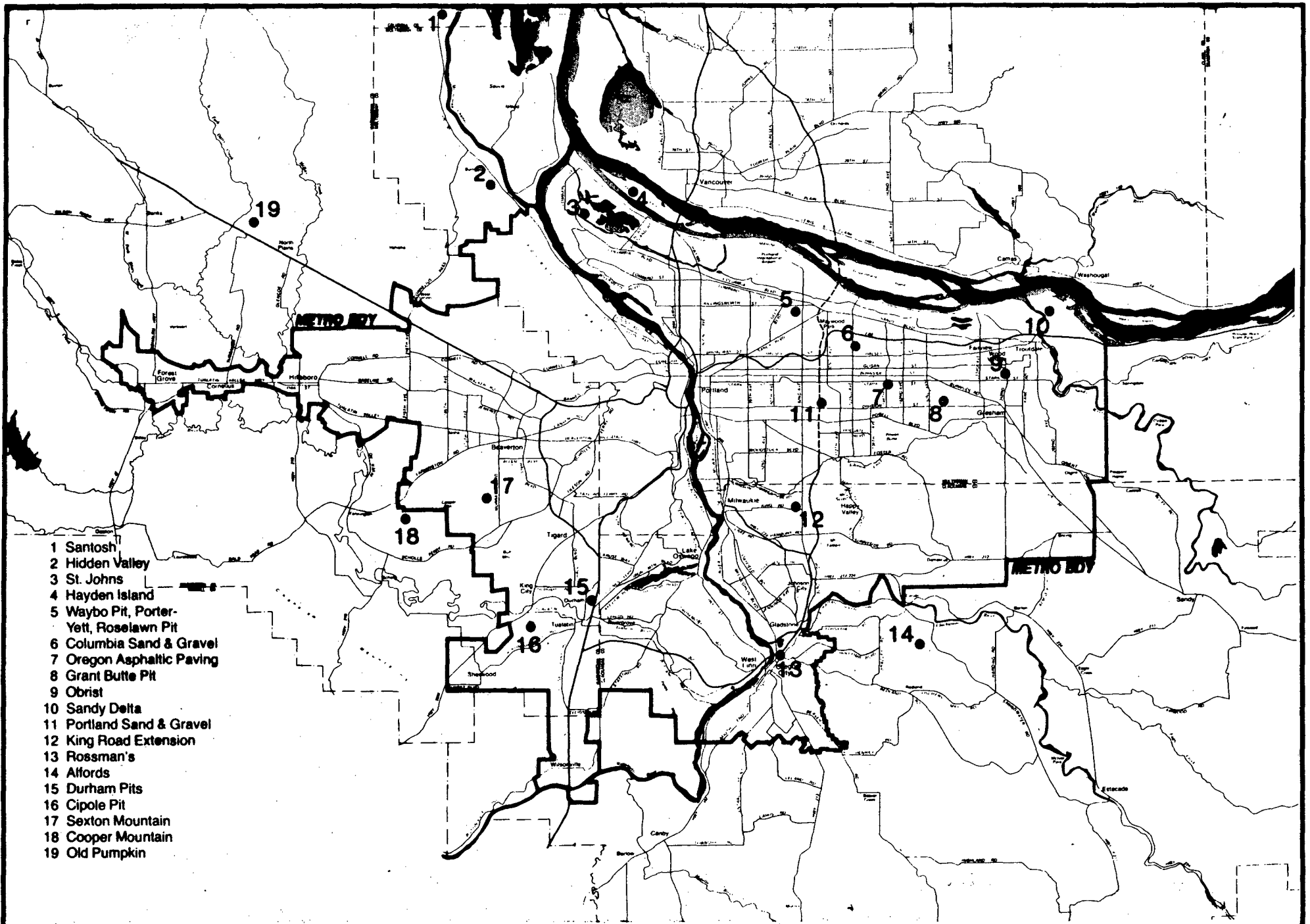
In 1978, the Metropolitan Service District (MSD) completed a technical report entitled Disposal Siting Alternatives, which re-evaluated the Cor-Met plan by again looking at the relative advantages of various disposal options. Among the objectives of this study were development of a list of potential landfill sites within the District boundaries, consideration of the feasibility of using gravel pits as sanitary landfills, and a comparison of the advantages and disadvantages of siting alternative landfills.

To identify all possible close-in sites within the boundaries of the District, MSD published a request for information from persons and groups directly affected by implementation of sanitary landfills. MSD staff also studied information from other agencies and reviewed all earlier reports and research concerning sanitary landfills. Nineteen potential landfill sites were identified. The majority were gravel pits located throughout the region. (See Figure 3-3.)

The Disposal Siting Alternatives report also concluded that DEQ offered little encouragement on the feasibility of the majority of sites considered in the report. Commenting on the 1978 report, DEQ stated that it "had serious concerns relative to developing gravel pits as solid waste sites."<sup>2</sup> DEQ's concern focused on the general geology of gravel pits and their significant potential for groundwater pollution. An ideal landfill site is located at least eight to ten feet above the high groundwater level, and is separated by some kind of impermeable strata. Gravel, rock and sand are usually highly permeable, and would offer little or no protection against leachate infiltration and contamination of domestic groundwater supply.

The large alluvial deposits which cover the east and west portions of the District form a significant groundwater aquifer resource. (See Figure 3-4.) The east Portland aquifer is the source of several community water systems and private wells including the Parkrose School District, and Richland, Hazelwood and Parkrose Water Districts.<sup>3</sup> The City of Portland has finished a new well field near the Columbia River in East Multnomah County which will draw groundwater from the alluvial deposits. Most of the gravel pits that were identified as potential landfill sites are located within these aquifer areas.

With the question of gravel pits unresolved, MSD contracted for technical feasibility studies at a cost of \$42,000 on two of the pits which appeared most promising--the Durham Pits and Portland

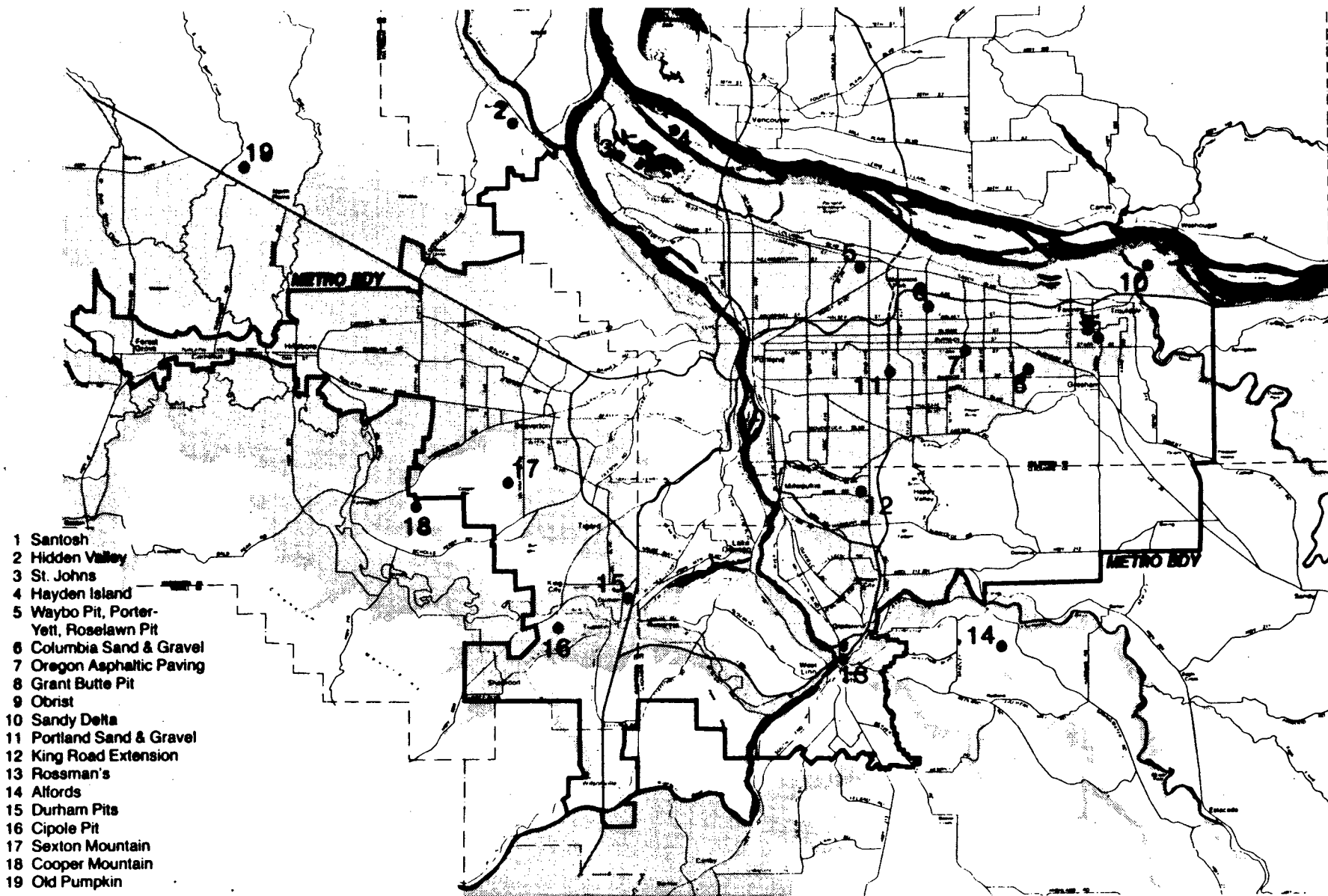


- 1 Santosh
- 2 Hidden Valley
- 3 St. Johns
- 4 Hayden Island
- 5 Waybo Pit, Porter-Yett, Roselawn Pit
- 6 Columbia Sand & Gravel
- 7 Oregon Asphaltic Paving
- 8 Grant Butte Pit
- 9 Obrist
- 10 Sandy Delta
- 11 Portland Sand & Gravel
- 12 King Road Extension
- 13 Rossman's
- 14 Affords
- 15 Durham Pits
- 16 Cipole Pit
- 17 Sexton Mountain
- 18 Cooper Mountain
- 19 Old Pumpkin



**19 Potential Landfill Sites**  
 From 1978 Disposal Siting Alternatives Report

**Fig. 3-3**



- 1 Santosh
- 2 Hidden Valley
- 3 St. Johns
- 4 Hayden Island
- 5 Waybo Pit, Porter-Yett, Roselawn Pit
- 6 Columbia Sand & Gravel
- 7 Oregon Asphaltic Paving
- 8 Grant Butte Pit
- 9 Obrist
- 10 Sandy Delta
- 11 Portland Sand & Gravel
- 12 King Road Extension
- 13 Rossman's
- 14 Alford's
- 15 Durham Pits
- 16 Cipole Pit
- 17 Sexton Mountain
- 18 Cooper Mountain
- 19 Old Pumpkin

 Recent Alluvium



## Location of Potential Aquifers

**Fig. 3-4**

Sand and Gravel sites. MSD also studied a third site outside the District called Mira Monte, which was proposed to MSD by the owner. In recognition of DEQ's concerns about potential groundwater pollution, the studies were to analyze probable water quality impacts of landfill development and to recommend sound engineering solutions for leachate control.

Based on the technical studies, MSD proposed to address the potential for groundwater pollution through an engineering design which included positive leachate containment (membrane liner), positive leachate collection, treatment and disposal (sewer), and positive infiltration prevention (top liner). However, DEQ had "serious uncertainties with regard to the use of clay seals or PVC liners to adequately seal gravel pits."<sup>4</sup>

After studying the feasibility reports submitted on Durham, KFD and Portland Sand & Gravel pits and other available information, DEQ categorized most of the gravel pits within the District as to their environmental acceptability as follows:<sup>5</sup>

1. Down-gradient (flowing away) from domestic water supplies and with suitable hydrogeological and physical conditions.

These sites afford a location where the impacts would affect the least possible present or future users of a groundwater aquifer should the leachate system fail. Included in this category are the KFD, Waybo, Roselawn and Porter Yett sites.

2. Up-gradient (flowing towards) from existing wells and in an area with limited potential for development of the groundwater by future users.

Alternate water supply system is available. Durham would be included in this category.

3. Up-gradient (flowing towards) or within an aquifer which is presently used or has the potential to serve future users of the area for domestic water supply purposes.

Almost all of the east Multnomah County gravel pits would fall in this category.

Of the gravel pits located within the District, only KFD, Waybo/Roselawn and Porter Yett gravel pits were classified by DEQ as known to have possibly acceptable environmental conditions. DEQ recommended that further work on gravel pits that would not fall into category 1 be suspended, and that a new site search be conducted including land outside the District boundary. DEQ hoped that a new search would produce sites more preferable from an environmental standpoint.<sup>6</sup>

In November 1979, DEQ solidified its position on the use of gravel pits as solid waste sites in areas where the groundwater is currently or has the potential to be used for domestic water supply. DEQ denied a permit to Land Reclamation Inc. for use of the Columbia Sand & Gravel pit (at N.E. 122nd and San Rafael) as a limited use landfill. To address possible groundwater pollution, the proposed design had included positive containment (clay liner), collection and treatment of the leachate.

DEQ based its denial on the uncertainty of technology to prevent leachate pollution, availability of alternate sites, and the state's intent to protect the groundwater aquifer. DEQ stated in its denial that "among the potential landfill sites available in the MSD area, the east Multnomah County gravel pits would be the least desirable from the standpoint of risk and nonreversible impact to the groundwater supply should the system leak. Sites down-gradient from domestic water supplies and with suitable hydrogeological and physical conditions would be more acceptable from an environmental viewpoint."<sup>7</sup> DEQ's denial was upheld by the Oregon Court of Appeals.

#### Expanded Landfill Site Search

The DEQ position on use of gravel pits as solid waste sites eliminated most potential landfill sites within the District boundary. Metro was forced to move away from its proposed landfill system of first filling close-in gravel pits. Further work on the Mira Monte site outside the District was also stopped, due to the site's location within 10,000 feet of the Aurora Airport, which raised concerns about danger to aircraft from birds attracted to the site. Metro began a broad based search for potential landfill sites.

Meanwhile, the 1979 Oregon Legislature approved SB 925, which gave the state, through DEQ, the authority to site a landfill in Multnomah, Washington, Clackamas, Marion and Polk Counties if the local jurisdictions were unable to do so. Because of this law and the difficulties in siting a landfill that is both environmentally sound and publicly acceptable, Metro sought technical support from the DEQ in its new landfill search. DEQ and Metro signed an interagency agreement to combine staff resources to find a new landfill, and formed a technical subcommittee of DEQ and Metro personnel.

The subcommittee's major task was to identify potential sites, collect preliminary technical information on each site, develop criteria to evaluate each site, and rank sites in order of relative feasibility. The technical subcommittee's recommendations would be given to a citizens' advisory committee (Regional Landfill Siting Advisory Committee) which would evaluate the recommendations and other available information and recommend to Metro one or more sites to be studied in greater depth. Ultimately, the citizens' committee would recommend to Metro the most feasible site(s) for future sanitary landfills.

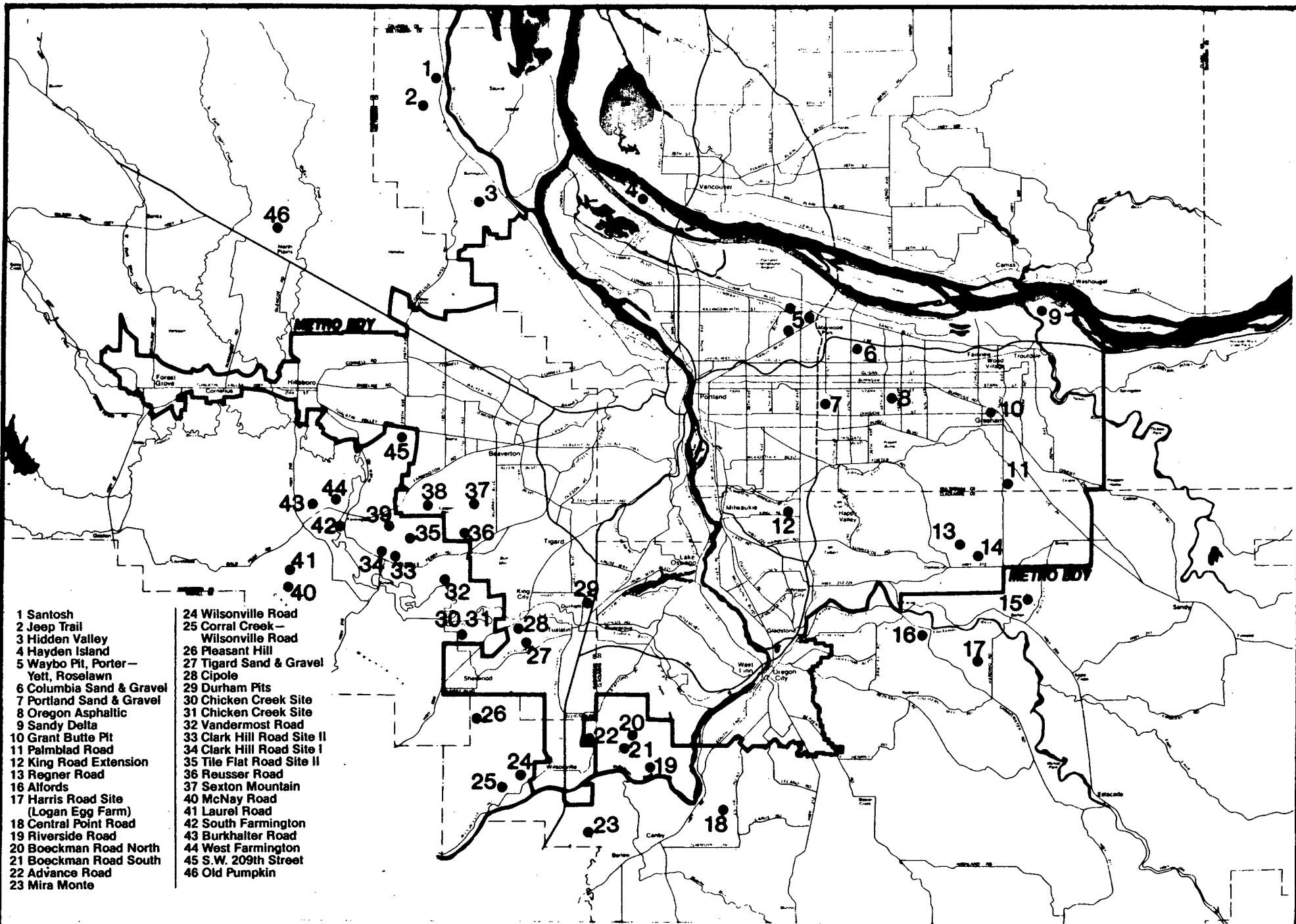
A total of 46 sites were studied (Figure 3-5). The technical subcommittee, consisting of a hydrogeologist, an engineering geologist, an environmental planner, three sanitary engineers and two sanitarians, developed a numerical rating system including environmental, land use and operational factors necessary for the proper siting, design and operation of a sanitary landfill. The technical subcommittee made site visits, reviewed technical information and recommended sites that received at least 50 percent of the highest possible scores in all categories for consideration by the Regional Landfill Siting Advisory Committee.

The citizens' committee, after site visits and careful review of information about each site, narrowed its consideration to three sites and held public meetings. On June 12, 1980, the committee passed a resolution stating that the Wildwood site was clearly preferred over the other two sites, based on its soil type, bedrock geology, drainage suited to leachate control with minimum negative effects on groundwater, good access to transportation modes, relatively few adjacent residents, and better screening. However, the committee declined to make a final recommendation about the site until a detailed study had been conducted, which would provide answers to 15 specific questions about possible negative impacts and ways to mitigate them.

Metro completed a detailed feasibility study to investigate possible impacts of a sanitary landfill at the Wildwood site and to determine ways to address potential problems. In addition, an assessment was prepared of the five top-ranked sites, published as Five Potential Sanitary Landfill Sites. During subsequent public meetings, other potential landfill sites were suggested, including a Newberg site, Ramsey Lake and 209th Street II. These sites were scored using the criteria established by the technical subcommittee. The Newberg site, Ramsey Lake and 209th Street II sites ranked 11th, 24th and 24th respectively among the original 46 potential sites.

Based on the Wildwood feasibility study, the Five Sites report, and additional public meetings, the committee again concluded that the Wildwood site was the most suitable of the sites evaluated for a landfill. It ranked as the most desirable site from the standpoint of land use, environmental and operational considerations. The committee was satisfied that potential impacts had been adequately addressed and recommended that Metro pursue permits and take other steps toward implementation. In June 1981, the Metro Council amended the Solid Waste Management Plan to designate the Wildwood site for a new regional sanitary landfill.





- |   |                                      |
|---|--------------------------------------|
| 1 Santosh                               | 24 Wilsonville Road                  |
| 2 Jeep Trail                            | 25 Corral Creek—<br>Wilsonville Road |
| 3 Hidden Valley                         | 26 Pleasant Hill                     |
| 4 Hayden Island                         | 27 Tigard Sand & Gravel              |
| 5 Waybo Pit, Porter—<br>Yett, Roselawn  | 28 Cipole                            |
| 6 Columbia Sand & Gravel                | 29 Durham Pits                       |
| 7 Portland Sand & Gravel                | 30 Chicken Creek Site                |
| 8 Oregon Asphaltic                      | 31 Chicken Creek Site                |
| 9 Sandy Delta                           | 32 Vandermost Road                   |
| 10 Grant Butte Pit                      | 33 Clark Hill Road Site II           |
| 11 Palmbad Road                         | 34 Clark Hill Road Site I            |
| 12 King Road Extension                  | 35 Tile Flat Road Site II            |
| 13 Regner Road                          | 36 Reusser Road                      |
| 16 Alford's                             | 37 Sexton Mountain                   |
| 17 Harris Road Site<br>(Logan Egg Farm) | 40 McNay Road                        |
| 18 Central Point Road                   | 41 Laurel Road                       |
| 19 Riverside Road                       | 42 South Farmington                  |
| 20 Boeckman Road North                  | 43 Burkhalter Road                   |
| 21 Boeckman Road South                  | 44 West Farmington                   |
| 22 Advance Road                         | 45 S.W. 209th Street                 |
| 23 Mira Monte                           | 46 Old Pumpkin                       |



**Site Screening Study Locations**  
**From Landfill Site Selection Process, 1980**

**Fig. 3-5**

## IMPLEMENTATION OF THE WILDWOOD LANDFILL

Metro received preliminary environmental approval of the Wildwood site from DEQ in 1981, and land use approval from Multnomah County in December 1982. However, opponents of the Wildwood Landfill appealed the Multnomah County decision to the Oregon Land Use Board of Appeals (LUBA). In June 1983, LUBA returned the Wildwood case to Multnomah County, ruling that a strict interpretation of the County's ordinance did not allow a landfill to be located at the Wildwood site.

The standards in the County's ordinance are worded such that, if they are interpreted strictly, there may be no adverse impact on natural resources, no hazard, no adverse effect on farm or forest land, and no inconsistency with the character of the area. During the land use hearings Metro argued that, because landfills inherently cause some adverse impacts to the environment and are inherently inconsistent with virtually any surrounding use, a strict interpretation of the standards would prohibit the siting of any landfill in Multnomah County. The Multnomah County Board of Commissioners found that it was not the purpose of the criteria to prevent landfill siting, and that the standards must be interpreted in a manner which would minimize but not prohibit adverse impacts of the use.

Despite these arguments, LUBA held that the applicable standards in the County zoning code were drafted in strict terms and could not be interpreted otherwise. However, LUBA suggested that the County standards are unnecessarily strict and that the County could change the standards to emphasize mitigation instead of prohibition of impacts.

In July 1983, the Metro Council voted to join with Multnomah County in appealing the LUBA ruling to the Oregon Court of Appeals. The principal argument on appeal is whether the County has the authority to interpret its standards in light of the nature of a landfill, or whether it is confined to the strict interpretation ordered by LUBA. Oral arguments before the Court of Appeals were heard in March 1984.

The Metro Council also asked Multnomah County to reaffirm its decision to authorize the Wildwood Landfill by changing its relevant land use standards and reissuing the conditional use permit. Multnomah County is considering modifications to its ordinance to make it possible to consider a landfill.

Table 3-3 illustrates the four possible courses that the Wildwood land use permit process could take, and best case timeframes for receiving final approval. The earliest projected date for a final determination of the Wildwood land use case is January 1985, assuming a favorable decision at the Court of Appeals and refusal of review at the Supreme Court. If Metro does not receive a favorable decision at the Court of Appeals, the dates it could expect to receive a final favorable decision on the proposed Wildwood site range from August 1985 to March 1987.

TABLE 3-3

Four Possible Cases Outlining BEST CASE Timeframes for Receiving Land Use Approval of the Wildwood Landfill:

## Case I - Favorable Decision at Court of Appeals

<u>Date</u>	<u>Amount of Time Necessary</u>	<u>Item</u>
March 1984	--	Oral Arguments - Court of Appeals
September 1984	Estimated 3-6 months	Decision - Court of Appeals
October 1984	Limited to 30-day filing period	Petition for Review by Supreme Court filed by Opponents
November 1984	Limited to 21-day filing period	Metro Response to Opponents
December 1984	Limited to 21 days	Court of Appeals decides whether to reconsider
January 1985	Estimated 1 month	Supreme Court decides whether to hear case
If Supreme Court refuses review of the case - the Court of Appeals decision is final		
January 1986	Estimated 1 year for decision by Supreme Court	Supreme Court decision

## Case II - Unfavorable Decision at Court of Appeals

<u>Date</u>	<u>Amount of Time Necessary</u>	<u>Item</u>
March 1984	--	Oral Arguments - Court of Appeals
September 1984	Estimated 3-6 months	Decision - Court of Appeals
October 1984	Limited to 30-day filing period	Petition for Review by Supreme Court filed by Metro
November 1984	Limited to 21-day filing period	Opponents response to Metro Petition
December 1984	Limited to 21 days	Court of Appeals decides whether to reconsider
January 1985	Estimated 1 month	Supreme Court decides whether to hear case
If Supreme Court refuses review of the case - the Court of Appeals decision is final		
January 1986	Estimated 1 year for decision by Supreme Court	Supreme Court decision

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Case III - Unfavorable Decision at Court of Appeals; Metro seeks reapproval of community service designation from Multnomah County

Case IV - Court of Appeals Remands the Wildwood decision back to LUBA (Court of Appeals rules favorably that Multnomah County can interpret its standards, and remands to LUBA to decide whether standards have been met)

<u>Date</u>	<u>Amount of Time Necessary</u>	<u>Item</u>	<u>Date</u>	<u>Amount of Time Necessary</u>	<u>Item</u>
March 1984	--	Oral Arguments - Court of Appeals	March 1984	--	Oral Arguments - Court of Appeals
September 1984	Estimated 3-6 months	Decision - Court of Appeals	September 1984	Estimated 3-6 months	Decision - Court of Appeals Remands back to LUBA
September 1984		File application with Multnomah County. This assumes that Multnomah County has adopted ordinance changes allowing the siting of a landfill in the county.	October 1984	Limited to 30 days to respond to upper court's mandate	Decision LUBA
January 1985	New statute limits decision to 120 days including resolving appeals at the local level	Decision Multnomah County	November 1984	Limited to 21 days for filing	Petition for Review to Court of Appeals
February 1985	Limited to 21-day filing period	Appeal to LUBA	Early December 1984	Limited to 7 days for transmittal of record of proceedings	Transmission of Record to Court of Appeals
March 1985	Local government limited to 21 days to transmit record of proceedings to LUBA	Transmission of Record to LUBA	Late January 1985	Must have oral arguments within 42 days of record transmission	Oral arguments - Court of Appeals
Mid-June 1985	Limited to 77 days after transmittal of record	LUBA decision	End of April	Limited to 91 days after oral arguments	Court of Appeals decision
Early July 1985	Limited to 21 days for filing	Submit petition for Review to Court of Appeals	End May 1985	Limited to 30-day filing period	Petition for Review by Supreme Court
Mid-July 1985	Limited to 7 days for transmittal of record of proceedings	Transmission of Record to Court of Appeals	End June 1985	Limited to 21-day filing period	Response to Petition
End-August 1985	Must have oral arguments within 42 days of record transmission	Oral Arguments - Court of Appeals	End July 1985	Limited to 21 days	Court of Appeals decide whether to reconsider
End of November 1985	Limited to 91 days after oral arguments	Court of Appeals decision	End August 1985	Estimated 1 month	Supreme Court decides whether to take case
End December 1985	Limited to 30-day filing period	Petition for Review by Supreme Court	If Supreme Court refuses review of the case - the Court of Appeals decision is final		
End January 1986	Limited to 21-day filing period	Response to Petition	August 1986	Estimated 1 year for Supreme Court decision	Supreme Court decision
End February 1986	Limited to 21 days	Court of Appeals decides whether to reconsider			
End March 1986	Estimated 1 month	Supreme Court decides whether to take case			
If Supreme Court refuses review of the case - The Court of Appeals decision is final					
March 1987	Estimated 1 year for Supreme Court decision	Supreme Court decision			

(It is important to note that Table 3-3 lists best case estimates of time for land use decisions and cannot be relied upon as actual dates when an event will occur. Some steps of the land use process have no legal time limits, so one can only guess at possible dates. New statutes which place time limitations on land use decisions do allow time extensions based on certain conditions.)

The Wildwood implementation schedule is updated in Table 3-4, showing when major tasks must be started to have the landfill operating by the expected closure of St. Johns Landfill. Completion of a geotechnical study, preliminary and final engineering design, and approval of other required permits will be required. Schedule A presents a timetable which allows adequate time for completion of the required steps, assuming no major delays. Schedule B reflects a contingency for unforeseen delays in permit approvals, bidding delays, etc. The table shows that completion of required studies, design and construction of the landfill is expected to require a minimum of 3-1/2 years. While the St. Johns Landfill has been estimated to reach capacity between March and June of 1989, the Wildwood implementation schedule is based on a completion date of October 1988, the end of the last construction season before the expected St. Johns closure.

A comparison of the possible timeframes for final land use approval in Table 3-3 and the Wildwood implementation schedule shows that further investment in the Wildwood site may be required before land use approval is received if the landfill is to be ready by the expected closure of the St. Johns Landfill. If the Metro Council wishes to delay further studies during the period of uncertainty over land use permits, a program to extend the site life of the St. Johns Landfill may need to be implemented.

Table 3-5 compares the date the Wildwood Landfill would be operational with delays in completion of required studies. If further investment in the Wildwood site is delayed until 1987 due to uncertainty over land use permits, the new landfill would not be ready to begin operations until 1990 or 1991. Table 3-6 summarizes information presented in Tables 3-3, 3-4 and 3-5 to show the relationship between timeframes for completing the Wildwood Landfill and the projected St. Johns closure. Delay of further implementation of the Wildwood site until land use approval is received could require an extension in the site life of St. Johns of one-half to 2-1/2 years.

#### State Landfill Siting

In addition to the four possible courses that Metro could take to pursue required permits for the proposed Wildwood Landfill (Table 3-3), another alternative is available under ORS Chapter 459, which authorizes the state, through DEQ, to site and issue a permit for a landfill in Multnomah, Washington, Clackamas, Marion or Polk Counties. The effect of a permit issued by DEQ under this statute is to bind state agencies and local governments as to the approval, construction and operation of the landfill. All affected agencies

TABLE 3-4

Implementation Schedule for Wildwood Landfill

In Order to Have Landfill Operational by the Expected Closure of St. Johns

Action	Schedule A	Period of Time Between Key Actions	Schedule B	Period of Time Between Key Actions
	Allows adequate time to complete different phases, assuming no major delays.		Allows contingency for major delay	
Award Contract for Phase II - Geotechnical Study	March 1985	2/3 year	April 1984	1 year
Begin Preliminary Engineering	November 1985	1-1/4 years	April 1985	1-3/4 years
Issue Bids for Construction	February 1987	1-3/4 years	December 1986	2 years
Landfill Ready to Begin Operation	October 1988 <sup>4</sup>		October 1988 <sup>4</sup>	

Assumptions

- Both the timing of the majority of Phase II studies and actual construction of landfill are tied to completion during the dry season (construction season).
- Some studies in Phase II - Geotechnical Study will require collection of data over a one-year period. However, the majority of data collection can occur during a 3-4 month period during the dry season. Preliminary engineering design can be started after this period before all long-term data results are received.
- Landfill construction will require two full construction seasons. Shortest construction time of 1-3/4 years results from timing of construction period to include two full construction seasons and single winter in between.
- The St. Johns Landfill has been estimated to reach capacity between March and June of 1989. The October 1988 date reflects the end of the last construction season before this expected closure.

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TABLE 3-5

Completion Date of Wildwood Landfill Based on Timing of Investments

<u>Action</u>	<u>Investment Delayed Until 1985</u>		<u>Investment Delayed Until 1986</u>		<u>Investment Delayed Until 1987</u>	
	Schedule A Assumes No Major Delays	Schedule B Allows Contingency for Major Delay	Schedule A Assumes No Major Delays	Schedule B Allows Contingency for Major Delay	Schedule A Assumes No Major Delays	Schedule B Allows Contingency for Major Delay
Award Contract for Phase II - Geotechnical Study	March 1985	April 1985	March 1986	April 1986	March 1987	April 1987
Begin Preliminary Engineering	November 1985	November 1985	November 1986	November 1986	November 1987	November 1987
Issue Bids for Construction	February 1987	July 1987	February 1988	July 1988	February 1989	July 1989
Landfill Ready to Begin Operation	October 1988	October 1989	October 1989	October 1990	October 1990	October 1991

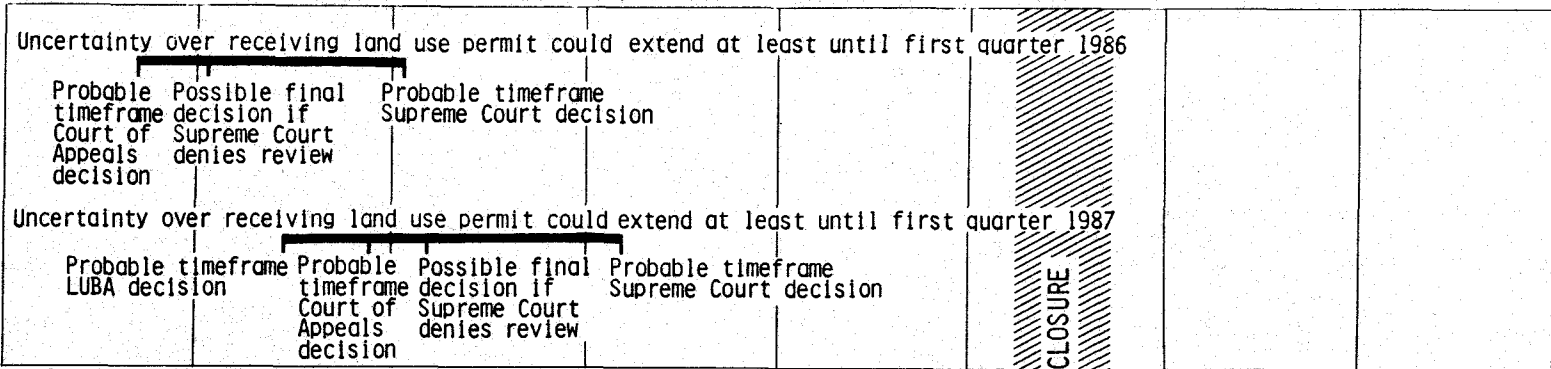
Assumptions

1. Both the timing of the majority of Phase II studies and actual construction of landfill are tied to completion during the dry season (construction season).
2. Some studies in Phase II - Geotechnical Study will require collection of data over a one-year period. However, the majority of data collection can occur during a 3-4 month period during the dry season. Preliminary engineering design can be started after this period before all long-term data results are received.
3. Landfill construction will require two full construction seasons. Shortest construction time of 1-3/4 years results from timing of construction period to include two full construction seasons and single winter in between.

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## Possible courses for Wildwood land use permit process

Shortest timeframe for final decision on Wildwood Landfill (Favorable decision at Court of Appeals)



Longer timeframe for final decision on Wildwood Landfill (Reapproval of Community Service designation)

## Completion of Wildwood Landfill based on timing of investments

Investment delayed until 1985

Schedule A

Schedule B

Investment delayed until 1986

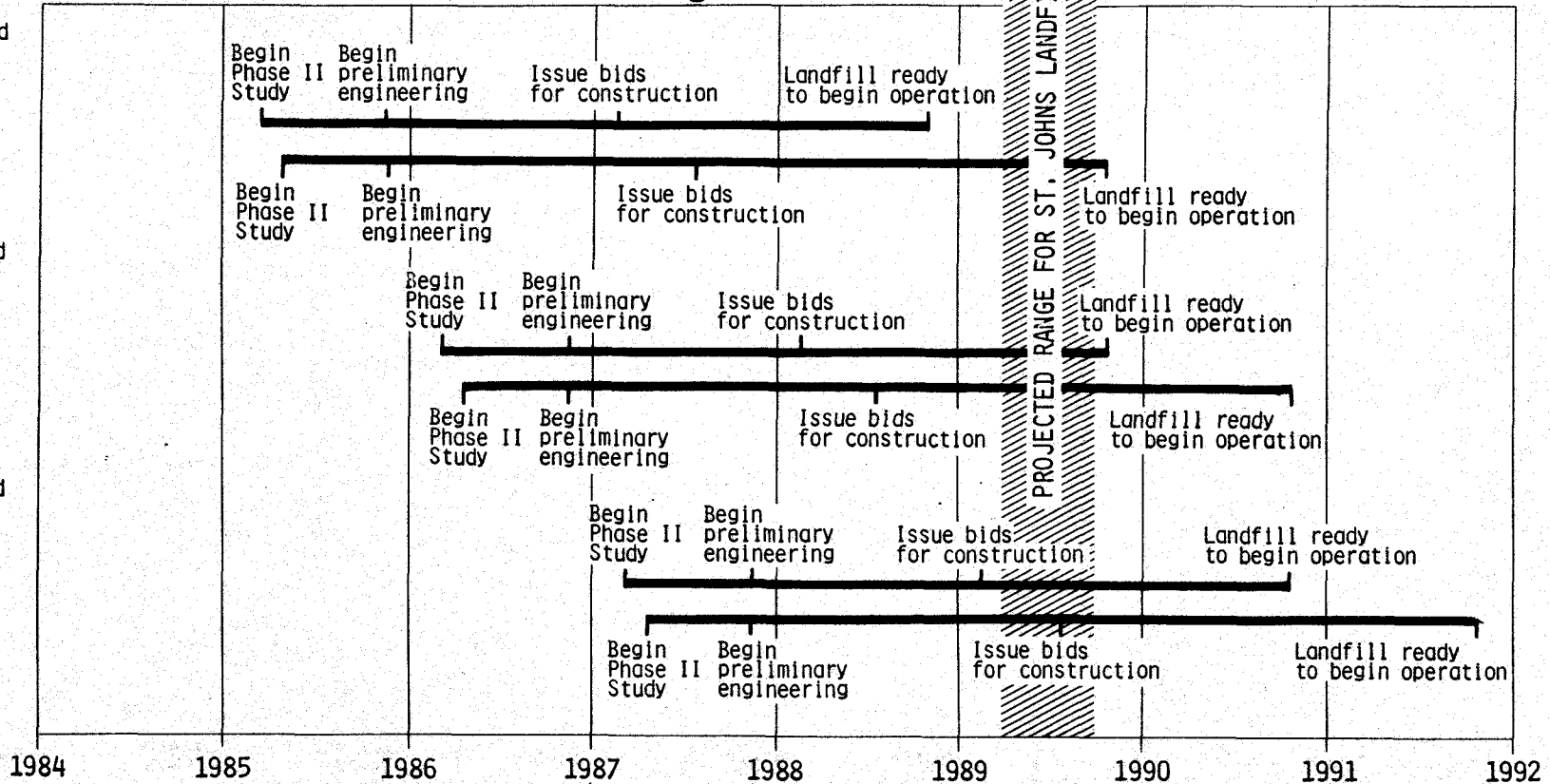
Schedule A

Schedule B

Investment delayed until 1987

Schedule A

Schedule B



**Timeframe for Completing Wildwood Landfill vs. Projected St. Johns Closure**

**Table 3-6**



must issue necessary permits subject only to DEQ site certificate conditions. The statute provides two methods to initiate emergency landfill siting, outlined in ORS 459.047 and ORS 459.049.

#### ORS 459.047

Under ORS 459.047 a city or county responsible for implementing a DEQ-approved solid waste management plan may request that DEQ site and issue a solid waste disposal permit for a landfill. The landfill must be sited within the boundaries of the requesting local government. There is some ambiguity over the application of this statute to this region, as Metro--not a city or county--has been given the responsibility under ORS Chapter 268 for implementing a solid waste disposal system for the Portland metropolitan region.

Under general rules of statutory construction, it is reasonable to read the statute in a manner which would give effect to its purpose. A legal opinion issued by the Oregon Legislative Counsel states that the record of amendments to the original legislation indicates the legislature intended to allow only a city or county to make the request and to specifically exclude special districts such as Metro. Under this interpretation, a request by Multnomah County or a joint request by Multnomah County and Metro would be required in the case of the proposed Wildwood Landfill.

A request by a local government under ORS 459.047 must include evidence that the local government has carried out a process for landfill siting which includes at least review and ranking of alternative sites, a feasibility report on the top-ranked site and a public participation process. After receiving a completed request for siting, DEQ will give public notice of the request and will seek "policy direction" from the Environmental Quality Commission (EQC). The EQC will review the request and provide direction to the department, including written findings as to the acceptability of the local government siting process. If that process is found incomplete by the EQC, the DEQ or the local government may be directed to complete it.

Once a request is complete, DEQ is required to site a facility and issue a solid waste disposal permit according to general permit requirements. The Legislative Counsel's legal opinion states that DEQ must comply with ORS 197.180, which requires state agencies to comply with statewide planning goals and local comprehensive plans when granting permits affecting land use. This requirement appears to subject the state to the same land use requirements as local government, which creates the potential of a lengthy emergency siting process due to possible legal challenges.

Before a permit for a landfill is issued, local jurisdictions must prepare or have adopted an acceptable waste reduction program. The statute has no requirement for a public hearing. The permit issuance would be appealable, as are all DEQ orders.

## ORS 459.049

ORS 459.049 provides that the EQC, upon its own motion or upon request from DEQ, may determine a need to protect the health, safety and welfare of the area for which a solid waste management plan has identified a need for waste disposal sites. In determining the need and the location for a site, the EQC must address nine factors listed in the statute.

If the EQC determines that a landfill disposal site is needed, it may order the responsible local government unit to establish a site within a specified period of time. At that point, the local government can either proceed to site a landfill or request DEQ assistance under ORS 459.047.

If the EQC determines that establishment of the disposal site ordered is not being accomplished, it may direct the DEQ to establish the site or complete the establishment of the site undertaken by the local government unit. The EQC may direct the department to finish the siting only if it finds that (a) the action is consistent with the statewide goals and any applicable provisions of a local comprehensive plan, and (b) the responsible local government unit is unable to establish the site. This requirement again creates the potential for a lengthy emergency siting process.

The statute requires that the EQC provide notice and hold a public information hearing on the issue of need for a landfill site, and, prior to siting a landfill, give notice and hold a hearing in the area affected by the proposed site. The permit issuance would be appealable.

### Summary - Landfill Siting

The process contained in ORS 459.049 seems to be designed to allow the EQC to order landfill siting on its own motion in the case of an impending public health and safety crises when a local government will not. The process outlined in ORS 459.047 is designed to react to needs already determined by local governments. In the Portland metropolitan region's case, ORS 459.047 is the more appropriate procedure because the need has been determined, the facility located and preliminary feasibility study already completed. Both processes appear to subject the state to the same land use requirements as local governments, which may result in a lengthy siting process because of possible legal challenges.

## INTERIM EXTENSION OF ST. JOHNS LANDFILL SITE LIFE

As noted in the last section, delays in implementing the proposed Wildwood Landfill may result in the site not being ready to accept waste by the expected closure of the St. Johns Landfill. Therefore, Metro must examine methods to extend the site life of the St. Johns Landfill, including reducing the flow rate into the landfill through the diversion of waste, or increasing the capacity of the site for waste disposal. Programs that could be implemented include:

1. Diverting certain materials from the St. Johns Landfill
  - a. Diverting non-putrescible waste to limited-use landfills
  - b. Diverting through increased recycling
2. Diverting mixed waste to other general purpose landfills
  - a. Diverting waste directly from Metro facilities
  - b. Diverting haulers from the periphery of the region
3. Increasing the capacity of the St. Johns Landfill
  - a. Lateral or vertical expansion
  - b. Change in technology--baling of solid waste

Figure 3-6 illustrates the relationship between the rate of waste flow into the St. Johns Landfill and remaining site life. It depicts the relationship as it is projected to be in January 1985, which is used throughout this section as the base date for beginning site life extension programs. The nominal capacity of the St. Johns Landfill is shown to be 2,775,000 tons as of January 1985. The projected average waste flow rate of 54,400 tons per month results in a remaining site life of 51 months from the January 1985 date. The assumptions used in projecting capacity and waste flow rate are the same as those included in Appendix A. Figure 3-6 can be used to show the results of alternative programs for the extension of the St. Johns site life. The programs' effects on the rate of waste flow or nominal capacity can be calculated, showing resultant increases in site life.

Preliminary cost estimates of some of the alternative programs for extending the site life of St. Johns are included in Appendix B.

## DIVERT CERTAIN MATERIALS FROM THE ST. JOHNS LANDFILL

### Divert Non-Putrescible Waste to Limited Use Landfills

Some extension in the life of the St. Johns site would be obtained by diverting legally permissible waste to limited use sites. Limited use landfills are restricted to disposing of non-food municipal waste and demolition debris. It is assumed that some portion of uncompacted drop boxes currently delivered to St. Johns and CTRC would not be contaminated with food waste and could be disposed of at limited use sites. Approximately 10 percent of St. Johns tonnage and 20 percent of CTRC tonnage consists of uncompacted drop box waste. If it is assumed that waste from 50 percent of all uncompacted drop boxes could be diverted from St. Johns and CTRC beginning January 1, 1985, approximately 33,500 tons of waste per year (or 2,800 tons per month) could be diverted. Figure 3-7 shows that a waste flow reduction of 2,800 tons per month would produce a gain in site life of approximately three months. As the implementation of such a diversion program is delayed, a proportionate decline in the amount of life extension can be expected.

Diversion to limited use landfills could be accomplished in several ways:

#### Voluntary Diversion (program coordinated by Metro)

This method would be administratively easy and inexpensive to implement. On the negative side, the effects of voluntary programs are often weak and unpredictable. Haulers would have to be persuaded that it is in their interest to divert, either directly through financial motivation or indirectly through appeals to civic duty.

Metro tried a voluntary diversion program to reduce waste flow to CTRC in order to meet the maximum tonnage requirements of Oregon City. There was not sufficient evidence to conclude that the program was effective.

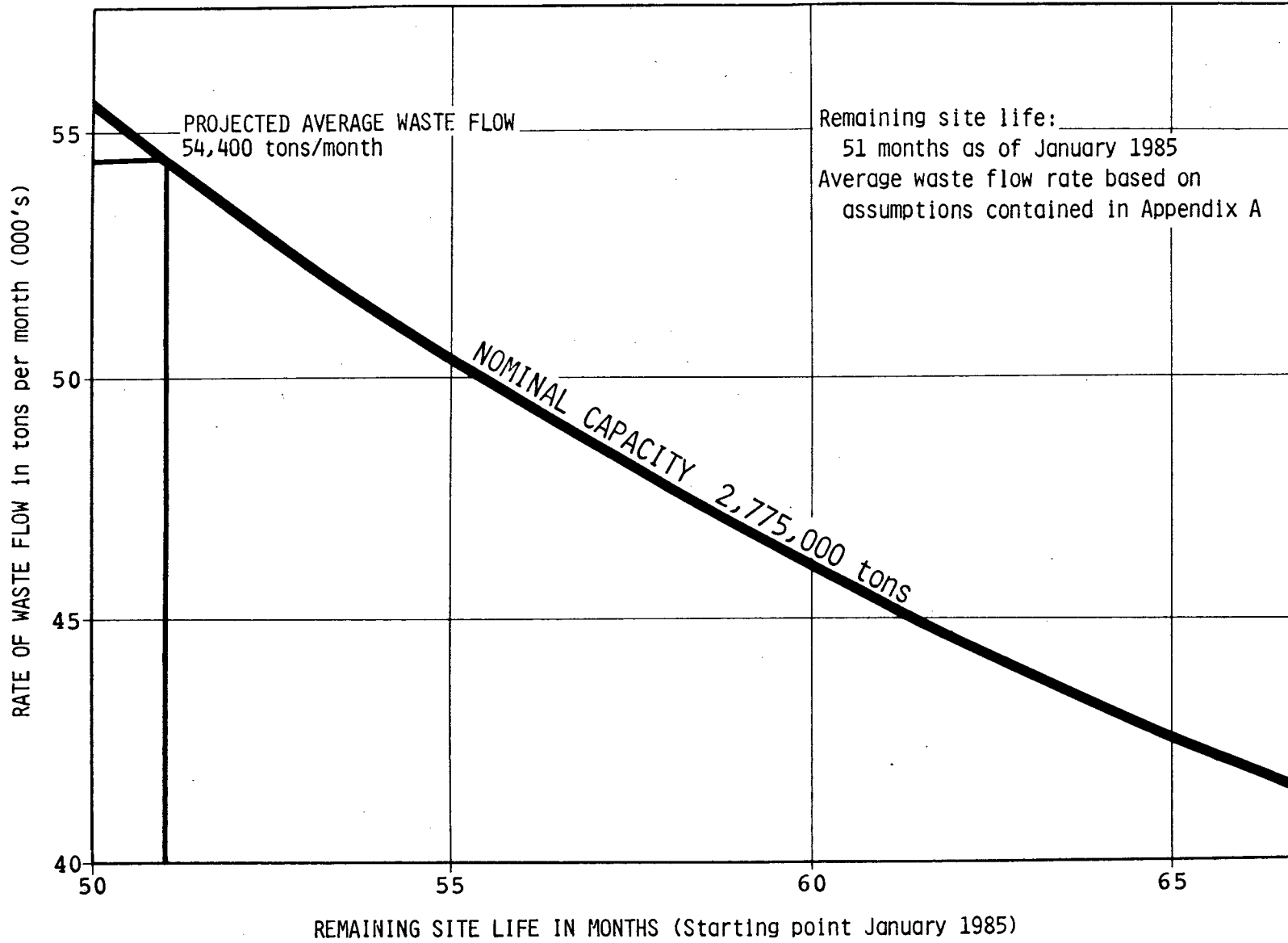
As it is assumed that haulers are currently making the best economic choice in disposal sites, a voluntary program is not expected to result in diversion of large volumes of waste.

#### Fee-Driven Diversion

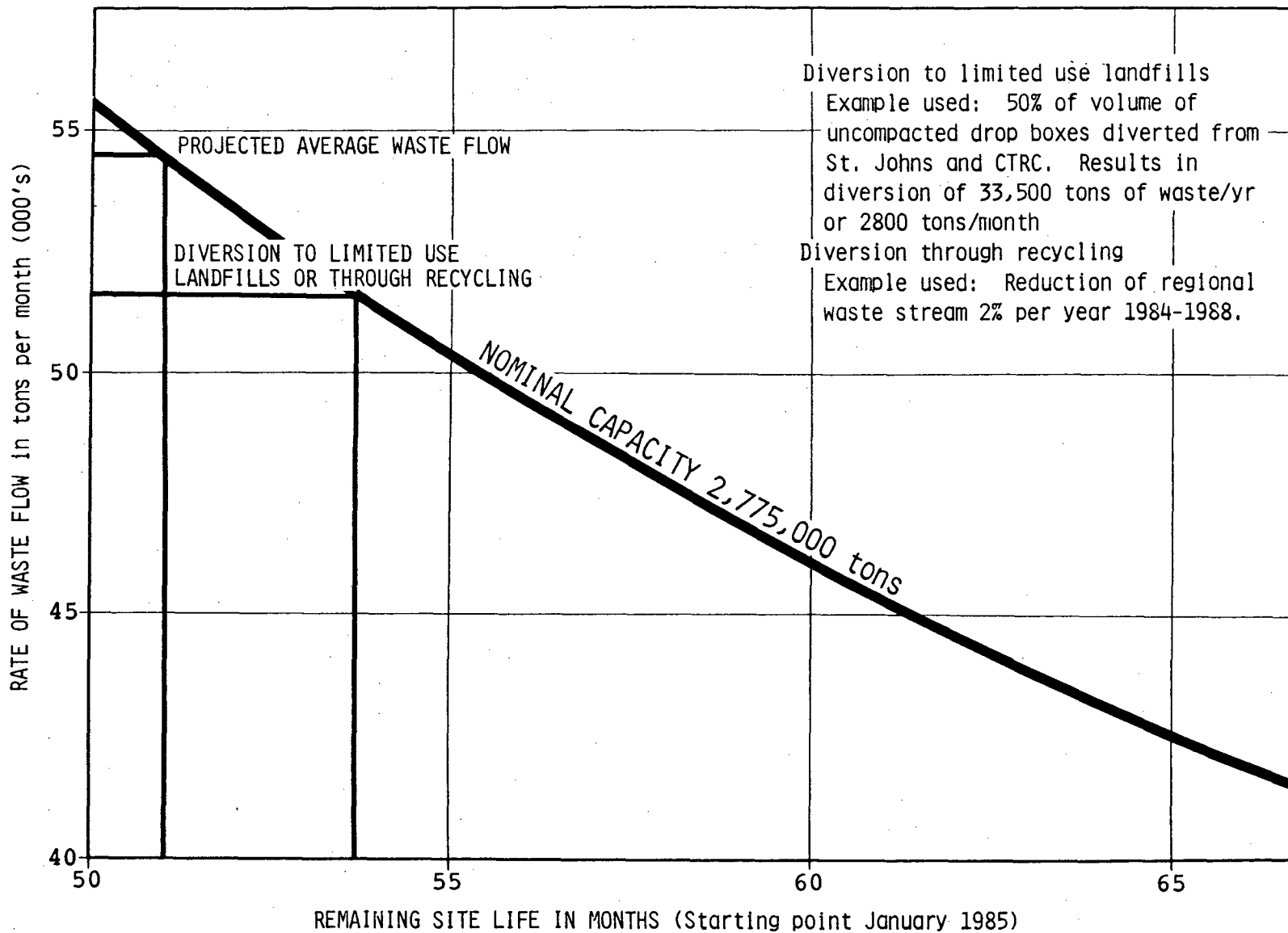
By altering its rate policies, Metro could adjust disposal rates to levels which would cause more customers to use less expensive disposal sites. This is an administratively simple option, and, with experience, can produce relatively predictable results. The hauling industry would be likely to resist the rate increases necessary at some sites to implement fee-driven diversion.

Fee-driven diversion would be a departure from existing Metro rate policies which are moving towards a regional uniform rate. Rates

Depicted as of January 1985



Depicted as of January 1985



### Extension in St. Johns Site Life

Based on alternatives to reduce waste flow rate by diverting certain materials

Fig. 3-7

have been based primarily on revenue requirements to meet the cost of service to different user groups, rather than on the need to implement certain management policies such as waste diversion.

The difference in rates charged at St. Johns Landfill and CTRC gives some information on diversion of waste between Metro facilities. Rates charged at CTRC are higher due to the assessment of a "convenience" charge. The fact that CTRC is experiencing a higher than expected flow rate may indicate that the convenience charge is not high enough to divert flow. A recent increase in the convenience charge (effective January 1, 1984), should provide further information about using rates to divert waste flow.

Other results of fee-driven diversion in the region are illustrated in Figure 3-8, which shows the relationship of waste flows to rates between St. Johns and Rossman's Landfills from 1980-1983.

Logically, a fee-driven diversion program would work only if the differential would cancel any cost savings or other perceived benefits gained by the current situation. In the case of CTRC, the question would be what value haulers place on the amenities provided by the facility.

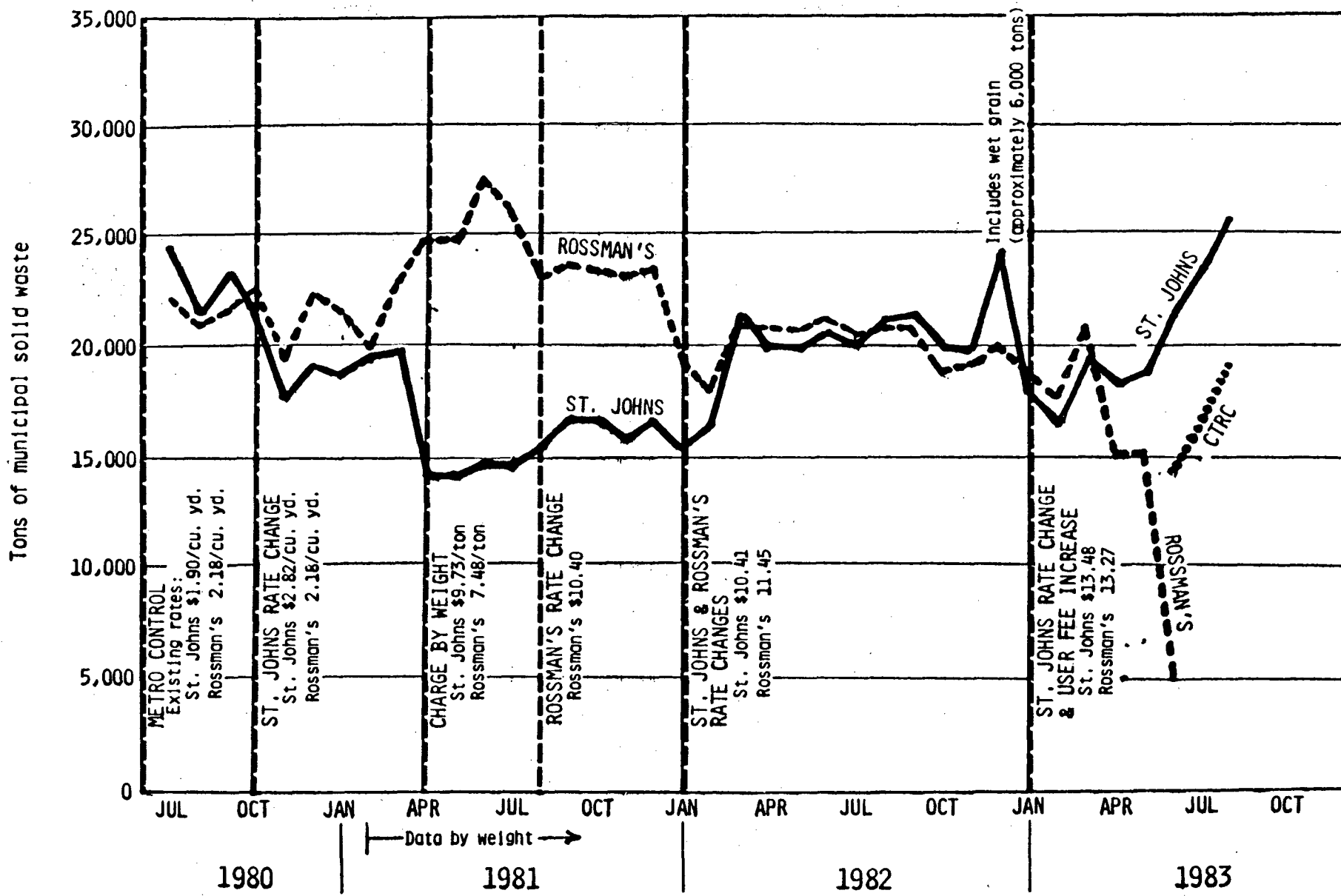
#### Mandatory Diversion (Flow Control)

Mandatory diversion is a powerful and precise option which Metro can use with considerable flexibility to gain the results it seeks. However, flow control would probably encounter resistance and would be difficult to administer equitably. Forcing a hauler to go to a more expensive site would cause his costs to increase, forcing him to take a smaller profit or increase prices to the public. If one hauler is forced to raise retail prices and his competitor is not, his ability to compete is affected. Competitive problems are reduced in franchised areas, but the public in one area may be forced to pay higher prices for the same service level than another area. Equity is clearly the primary issue with this option.

#### Location and Capacity of Limited Use Landfills

The capacity and location of facilities affects the ease of implementing and expected results of a program to divert waste to limited use landfills by either voluntary, fee-driven, or mandatory programs. Diverting waste to a limited use landfill will have the desired result of extending St. Johns site life only if the limited use site has a longer life than St. Johns or if replacements are available.

If limited use landfills were located conveniently in different parts of the region, voluntary diversion would occur more easily, fee-driven diversion would require less difference in rates to make up for transportation costs, and mandatory diversion would cause fewer inequities.



**History of Commercially Hauled Solid Waste**  
 St. Johns & Rossman's Landfills

**Fig. 3-8**



Currently, two limited use landfills operate in the Metro region: KFD in northeast Portland and Hillsboro Landfill in western Washington County. The Grabhorn Landfill in Washington County is permitted by DEQ to accept only land clearing and demolition debris. (See Figure 3-1.)

KFD received approximately 8 percent of the region's waste in 1983 and is projected to reach capacity in 1988-91. Possible replacements for KFD are nearby Waybo/Roselawn or Porter Yett gravel pits. As discussed earlier, these gravel pits are in areas classified by DEQ as being possibly acceptable environmental locations. However under DEQ rules, these sites would likely be permitted to accept only non-putrescible waste due to their location within 10,000 feet of the Portland International Airport. This restriction would be due to possible hazard to aircraft from birds attracted to the sites. Waybo/Roselawn has received land use approval from Multnomah County to operate a limited use landfill. As these are the only known gravel pits with possibly acceptable environmental conditions, the use of gravel pits for limited use landfills under present regulations and technology may have a limited application in the future.

Hillsboro Landfill received approximately 3 percent of the region's waste in 1983. Through recent operational modifications, the site is now projected to reach capacity in 1985 to 1987. (The assumptions and method of projecting the site life of the Hillsboro and KFD sites is included in Appendix A.) There is no replacement site known to be available in the Washington County area at this time. It is unknown whether the DEQ would allow Grabhorn Landfill to take a greater variety of waste. A transfer station is planned for Washington County, to be operational by the closure of the Hillsboro Landfill. Waste is currently planned to be transferred for final disposal at the St. Johns Landfill.

The southeast portion of the region has no limited use landfill. Presumably, some waste that could be disposed in a limited use landfill is now being taken to CTRC, where it is transferred for final disposal at St. Johns.

In considering a program to divert non-putrescible waste to limited use landfills, the Metro Council should examine whether actions are necessary to encourage development of new facilities. Actions the Metro Council could pursue include: stating Metro's interest in franchising new limited use landfills, issuing a request for proposals for private industry to site additional facilities, or undertaking a Metro siting effort.

#### Divert Materials Through Increased Recycling

Some extension in the St. Johns site life could be gained by diverting materials through increased recycling. Figure 3-7 shows an example, using the region's short-term goal of reducing the solid waste stream 2 percent per year by increased recycling. The rate of waste flow into St. Johns could be reduced by approximately 2,800

tons of materials per month, resulting in a site life extension of approximately three months. Recycling is an appealing method to increase landfill life, as it accomplishes other worthwhile goals such as reduced energy consumption in production of new materials and reduced depletion of raw materials.

While it is difficult to translate a certain need for site life extension into a recycling program which will be known to gain that extension, it does provide additional justification for a commitment to increase the level of recycling. An analysis of options Metro has for implementing programs to help increase recycling levels is included in the waste reduction chapter. Generally, diversion of recyclables can be encouraged in the same ways as other diversion efforts through voluntary, fee-driven or mandatory programs, with the methods having the same advantages and disadvantages.

### DIVERT MIXED WASTE TO OTHER GENERAL PURPOSE LANDFILLS

#### Diversion Directly from Metro Facilities

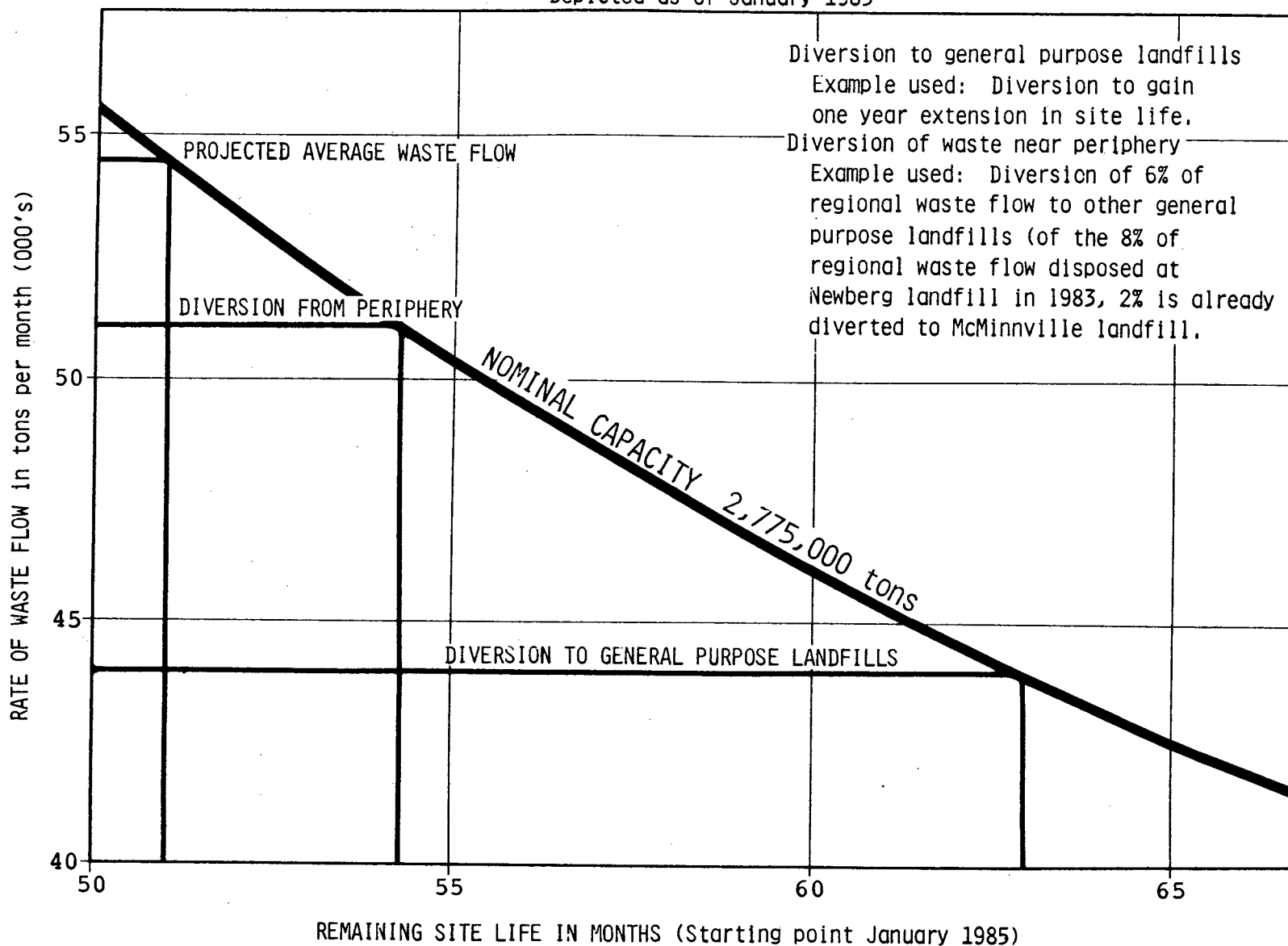
Another option to reduce waste flow into St. Johns and increase the site life is to divert mixed waste received at the region's transfer stations to other general purpose landfills outside the district. There are general purpose landfills operating outside the Metro region which could, on the basis of site life, receive some waste from Metro facilities. Potential sites in terms of the closest haul distances include Riverbend Landfill at McMinnville, the Woodburn Landfill, and a potential site at Ridgefield, Washington. The Ridgefield site, Circle C, is presently permitted to operate only as a limited use landfill, but is applying for approval as a general purpose facility. It is not known whether any of these sites would be willing to receive increased waste from the metropolitan area.

In determining the amount of waste that would need to be diverted to gain a certain site life extension, the date of implementation is important. For example, if diversion began in January 1985, the waste stream into the landfill would need to be reduced by about 19 percent in order to gain a one-year extension in site life. If diversion efforts were put off two years, a 30 percent reduction would be needed to gain the same one-year extension. Figure 3-9 shows that in order to gain a one-year site life extension at St. Johns when diversion is begun in January 1985, the fill rate would need to be reduced by approximately 10,000 tons per month.

#### Divert Haulers at Periphery

Currently, a portion of waste in the periphery of the region is disposed of at the Newberg and Hillsboro Landfills. In 1983, Newberg received approximately 8 percent of the region's waste, while Hillsboro received approximately 3 percent. With the Newberg Landfill expected to close in 1984 and Hillsboro in 1985-1987, haulers will be making a new choice of disposal sites.

Depicted as of January 1985



Diversion to general purpose landfills  
Example used: Diversion to gain one year extension in site life.  
Diversion of waste near periphery  
Example used: Diversion of 6% of regional waste flow to other general purpose landfills (of the 8% of regional waste flow disposed at Newberg landfill in 1983, 2% is already diverted to McMinnville landfill).



### Extension in St. Johns Site Life

Based on alternatives to reduce waste flow rate by diverting mixed waste

Fig. 3-9

Since current rates for compacted waste at Riverbend Landfill in McMinnville are less than at Metro facilities, haulers near the periphery might find it to their advantage to haul or transfer compacted waste to McMinnville. Haulers are required to receive Metro approval to leave the District. Metro could encourage the program on a voluntary or mandatory basis, in coordination with the receiving landfill and affected local jurisdictions.

A recent example of diversion at the periphery is the Metro Council's approval of Forest Grove Disposal Company's franchise request for a transfer station. The company plans to transfer about 2 percent of the waste that was going to Newberg to the Riverbend Landfill.

The projected average waste flow into St. Johns shown in Figure 3-9 includes the assumption that the remaining 6 percent of the Newberg waste will come to St. Johns when Newberg closes. Figure 3-9 shows that if this waste was diverted to other general purpose facilities outside the region, the St. Johns waste flow would decrease by approximately 3,300 tons per month, extending the site life slightly over three months.

#### INCREASE CAPACITY AT ST. JOHNS

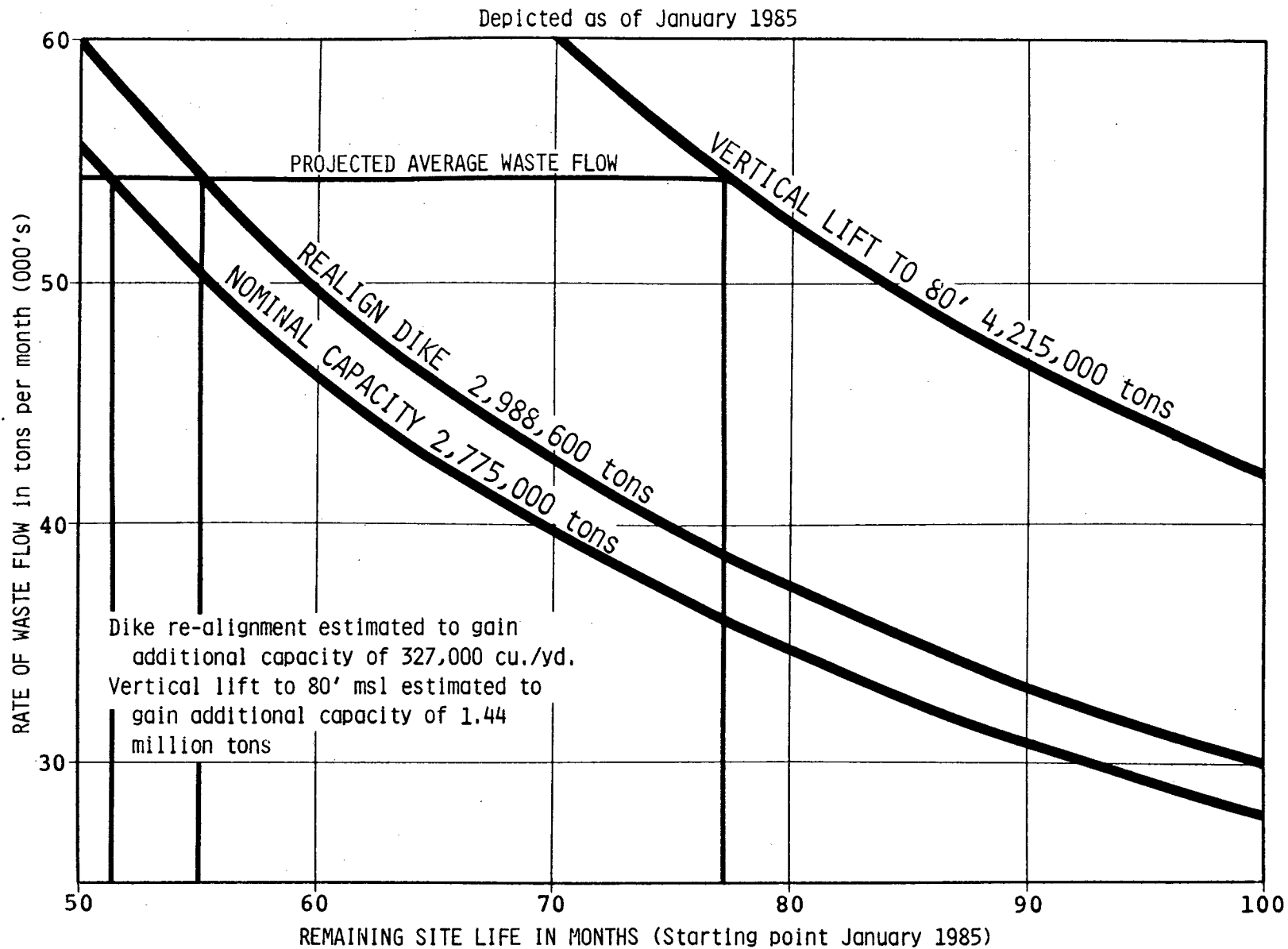
The site life of St. Johns can be extended by acquiring new capacity through vertical or lateral expansion or by increasing effective capacity through changed technology.

#### Lateral or Vertical Expansion

Increased capacity at St. Johns can be obtained by expanding laterally through filling of new areas or vertically by adding lifts. Figure 3-12 shows the site life extension which would be gained by different vertical and lateral expansions. A discussion of required permits for either vertical or lateral expansion is presented on pages 21-22.

As discussed in that section, the height limitation set by the land use permit for the St. Johns Landfill is 80 feet mean sea level (msl). The landfill is presently being filled in accordance with the operation plan approved by the City of Portland and DEQ, to an average peak elevation of 70 feet msl. Adding a 10-foot layer of fill over the entire landfill to bring it to the current height limitation would result in additional capacity for approximately 1.44 million tons of solid waste. Figure 3-10 shows that at projected waste flow levels this would increase site life by approximately two years. A 10-foot vertical expansion would require the least number of permits. However, approval of a new operations plan by the City of Portland Engineer and a DEQ solid waste disposal permit would be required.

Vertical expansion over 80 feet msl would require additional permits, including land use approval by the City of Portland to change the height limitation of the current permit.



**Extension in St. Johns Site Life**  
Based on alternatives to increase capacity

**Fig. 3-10**

Lateral expansion to gain increased capacity at St. Johns would be into Smith or Bybee Lakes. Actions and permits necessary for lateral expansion include repeal of ORS 541.622 which prohibits the Division of State Lands from issuing a permit to fill Smith or Bybee Lakes below 11-foot msl. The toe of the dike bounding the present 55-acre expansion area is at the 11-foot msl contour. Lateral expansion would also require Corps of Engineers and EPA approval for filling of wetlands and land use approval from the City of Portland. This would involve approval of a revokable permit or comprehensive plan change, zone change, and conditional use permit.

Geo-technical investigations completed during the design of the recent 55-acre expansion area found marginally suitable to poor foundation conditions for dike construction. Further lateral expansion may extend the dike into areas with even poorer foundation conditions,<sup>8</sup> requiring more costly dike design. Further study would be required to determine the cost-effectiveness of this solution.

#### Dike Realignment

A proposal to correct a surface leak of leachate at the St. Johns Landfill would result in a slight lateral expansion of the landfill.

A dike, built as part of the 55-acre expansion of St. Johns, encloses the entire east edge of the original landfill area with the exception of a 300-foot section adjoining Columbia Slough and a short finger of the slough. This section contains the last significant remaining surface leak in the entire landfill.

The final grading plan at St. Johns calls for the problem area to be covered with refuse and capped with a final cover. This method has proved successful in most other areas, but it is the opinion of Metro staff and its contractor that the leak is too close to the water's edge and that the slope is too steep to be filled in the normal manner. Instead, it is proposed that the south end of the perimeter dike be modified to encompass the problem area. This will eliminate a source of contamination as well as minimize the collection of debris in the stagnant, dead end finger of the slough.

The proposed dike modification would add approximately 5.20 acres to the St. Johns Landfill. Of this total, approximately 1.10 acres would be covered by the new dike and 4.10 acres would be available for solid waste disposal.

The additional volume available for fill would be approximately 327,000 cubic yards. As Figure 3-10 shows, at projected fill rates this would extend the site life of St. Johns approximately four months.

#### Increased Capacity Through Changed Technology

The use of garbage balers was examined to determine the increase in density of disposed waste that could be achieved. Increased density

would effectively lower the fill rate into St. Johns Landfill, therefore extending its site life.

Solid waste is currently estimated to be compacted to an in place density of 1,200 lbs. per cubic yard. Residual settlement of the filled material results in a somewhat higher final density.

While baling systems do offer some distinct advantages, such as potential haul savings and reduced odor and noise problems, they will not achieve a significantly higher in place density in the case of the current landfill operation at St. Johns. Discussions with jurisdictions who operate large bale fills in the mid-west and eastern parts of the country, and with baler manufacturers, indicate a typical range in density of 1,100 to 1,350 lbs. per cubic yard. As this is substantially the same density currently being achieved in the existing landfill operation, introduction of a baling system would not have the desired effect of a significant extension in the site life of the St. Johns Landfill.

## ALTERNATIVE OPTIONS FOR SITING REGIONAL LANDFILL

Landfill siting is a necessary, but unpopular task. Whenever a proposed landfill site is selected, residents near the proposed site urge that the facility be put somewhere else. Meanwhile, the community continues to generate solid waste at the rate of over 2,000 tons per day. Metro's responsibility is to site a landfill that will meet the community's needs with the least impact on the environment and the surrounding area.

This section examines options for siting a regional landfill other than implementing the proposed Wildwood Landfill. Options examined include siting a landfill at an alternate location, and major expansion of the St. Johns Landfill.

### Siting Landfill at Alternative Location

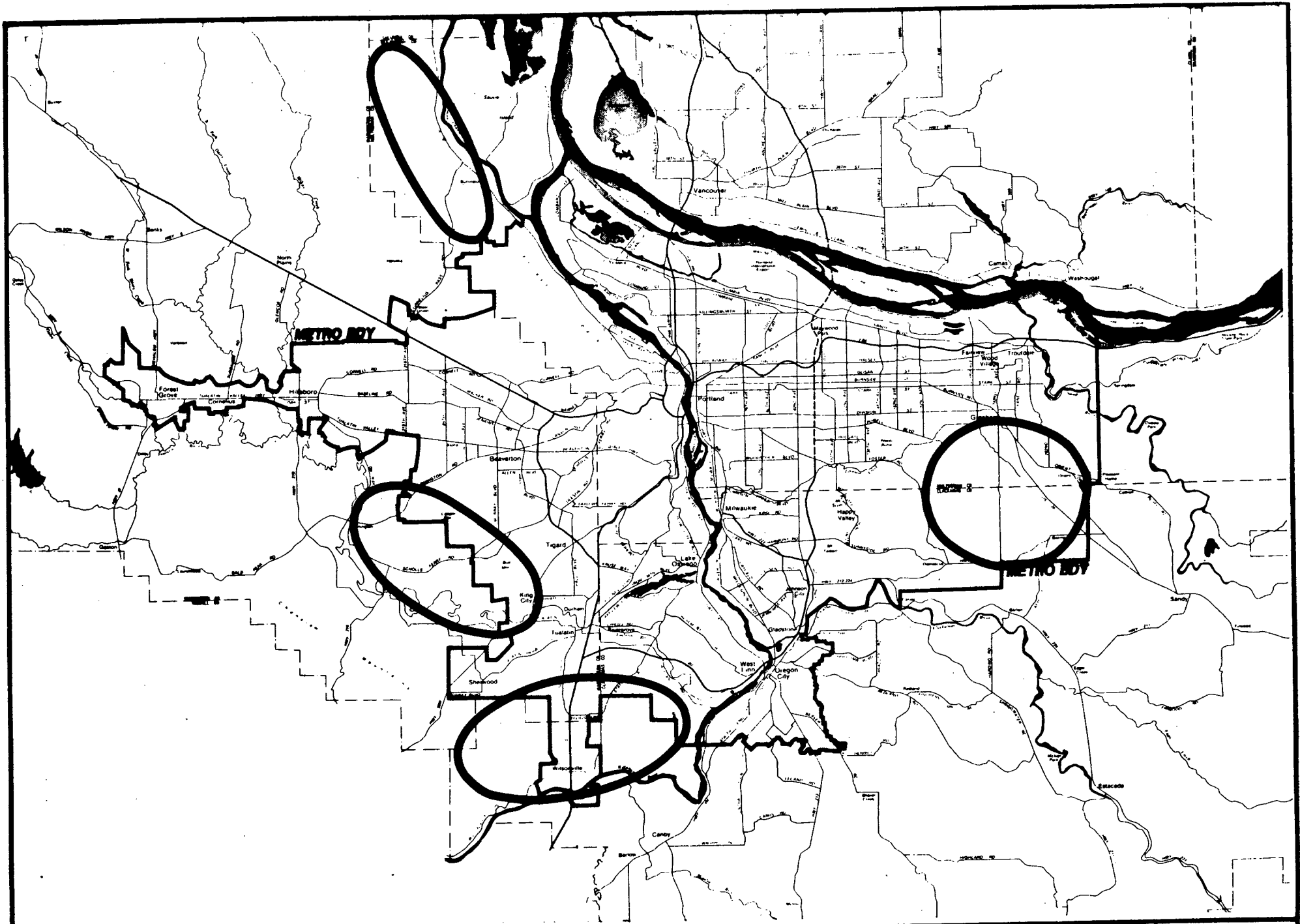
An alternative to continuing the Wildwood siting process is to begin the land use approval process for an alternative landfill site. The 1980-81 landfill site search identified four large, general areas of the region which had the fewest apparent negative factors for siting a landfill. (See Figure 3-11.) The areas were identified by analyzing a series of overlay maps which showed negative siting factors including poor geology, developed land, dedicated public open space such as parks, closeness to an airport, floodplains, steep slopes and choice farmland. Probable new landfill sites would be located within these four general areas and would include other sites identified in the 1980-81 landfill search. None of the sites identified in the 1980-81 study ranked as high as the proposed Wildwood site.

In addition to sites identified in the 1980-81 study, new sites have been and may continue to be suggested to Metro. Metro should continue to evaluate new sites by the criteria and procedure established during the site screening study. This will provide information to further Metro's policy of pursuing the most desirable site from the standpoint of environmental, land use and operational considerations.

Approval of any new proposed landfill site could be expected to require a similar process, timeframe and investment as the present Wildwood siting effort. Public resistance to landfill siting is understandably intense and court appeals of permits should be anticipated. The landfill site search which identified Wildwood as the top ranked site occurred over a 1-1/2 year period. Metro first applied for land use approval of the Wildwood site in August 1981, with the earliest date for a final decision on the land use permit expected to be early 1985. Metro has spent nearly \$500,000, exclusive of staff time, on the feasibility studies and the land use approval process for the Wildwood site.

Due to the expected closure date of St. Johns Landfill, pursuing land use permits for a new landfill site would require extension of the St. Johns site life by one of the methods discussed in this





**General Site Search Areas**

**Fig.3-11**

chapter. Siting a landfill closer to the Metro population centers would reduce transfer costs. However, the probable locations of new landfills, as indicated in Figure 3-11, are all at the outer limits of the region.

### Expansion of St. Johns Landfill

Another alternative to continuing the Wildwood siting process is to seek a significant lateral and/or vertical expansion of the St. Johns Landfill.

### History of Recent St. Johns Landfill Expansion

In 1975, the City of Portland submitted a proposal to DEQ and the Army Corps of Engineers for a phased 275-acre expansion of the St. Johns Landfill. The federal Environmental Protection Agency (EPA) strenuously objected due to the anticipated impact on the area's wetlands. The proposed expansion was into Smith and Bybee Lakes, which had been identified as wetlands and important waterfowl habitat by the U.S. Fish and Wildlife Department. Following EPA's response, the City revised its plan and asked for a 70-acre expansion of the site. Despite this revision, the wetlands issue remained a stumbling block. The EPA held up the application for several years, based on EPA rules adopted under RCRA which state that wetlands shall be considered for solid waste disposal sites only where no other alternatives exist. Finally, the Mayor of Portland traveled to Washington, D.C. and, through his personal intervention, the EPA finally granted a permit in 1978. The permit allowed a 55-acre lateral expansion of the site and required the City to find another landfill site to be opened when filling of the expansion area was complete.

In 1977, the Oregon Legislature amended ORS Chapter 541 to prohibit the Division of State Lands from issuing a permit to fill Smith or Bybee Lakes below the 11-foot msl contour, which is the extent of the present 55-acre expansion area. The legislation was sponsored by the State Representative from North Portland as a compromise between the concerns of the City of Portland and area residents. While the terms of the legislation provided for use of St. Johns Landfill as an interim facility while the region implemented a long-term solid waste site, it effectively blocked use of St. Johns as a long-term site.

### Permits Required

The following is a summary of permits that would be required for lateral or vertical expansion of St. Johns Landfill.

1. Lateral or vertical expansion would require a new or modified Solid Waste Disposal Permit and/or National Pollution Discharge Elimination System (NPDES) Waste Discharge Permit from the Oregon DEQ. Both permits currently state that the St. Johns Landfill is an interim facility to be used only until an alternative facility is

available. If vertical expansion were approved by DEQ, it is probable that a leachate collection system would have to be installed around the existing fill. During the period preceding the present St. Johns Landfill expansion, the DEQ consistently favored lateral expansion over vertical expansion because of concern about wind-blown litter, possible interference with final site use, and, especially, increased leachate discharge resulting from vertical expansion.<sup>9</sup>

2. Lateral expansion of the landfill into the adjacent wetlands would require a new or modified removal-fill permit from the Army Corps of Engineers and the Oregon Division of State Lands. Oregon Revised Statute 541.622 prohibits the Division of State Lands from issuing a permit to fill Smith or Bybee Lakes below the 11-foot msl contour. The toe of the dike bounding the present 55-acre expansion area is at the 11-foot msl contour. This law would have to be repealed before further outward expansion into the lakes could occur.
3. Either vertical or lateral expansion of the landfill would require approval by the City of Portland. City Ordinance No. 140592 permits the landfill to reach 80 feet msl. Currently the landfill is being filled to an average peak elevation of 70 feet msl. Vertical expansion to the current height limit of 80 feet msl would require approval of a new operations plan by the City Engineer. Vertical expansion over 80 feet msl would require land use approval by the City of Portland.

The June 1983 Comprehensive Plan designates the landfill, except the expansion area, as heavy manufacturing. This plan designates the surrounding Smith and Bybee Lakes as open space. Land use approval by the City of Portland would be required to expand the landfill laterally into Smith or Bybee Lakes.

#### Site Life Gained by Various Expansions

Figure 3-12 indicates how many years various expansions would increase the site life of the St. Johns Landfill.

#### Summary

Providing a long-term disposal site for the region at the St. Johns Landfill would require a major lateral expansion into Smith and Bybee Lakes. Lateral expansion of the landfill would require the clearing of several hurdles including repeal of a state statute, Corps of Engineers and EPA approval for filling large areas of wetlands, and land use approval from the City of Portland.

## FUTURE ADDITIONS TO THE SYSTEM

### Additional General Purpose Landfill Capacity

Metro is in the process of siting a regional landfill to provide residents of the region with future disposal capacity after the St. Johns Landfill closes. Alternatives for siting that regional landfill have been discussed in previous sections. In addition to the planned regional landfill, Metro has the option of adding future additional general purpose landfill capacity to the disposal system. Increased capacity could occur through additional siting efforts by Metro or through disposal at privately owned general purpose facilities either inside or outside the Metro region.

### Metro Owned and Sited General Purpose Landfills

Several factors should be considered in deciding whether to site additional general purpose facilities.

#### Capacity Existing in Region

If the proposed Wildwood Landfill is sited, citizens of the Portland metropolitan region will have an estimated disposal capacity of approximately 22 years with a system relying totally on landfills, based on estimates from Volume III, Wildwood Feasibility Study. The estimated site life of the proposed Wildwood Landfill would be longer if the region pursued a disposal system which significantly reduced the volume of waste, such as energy recovery or composting systems. There will be no immediate need for additional capacity if the Wildwood Landfill is sited, but other factors could influence the decision to site additional facilities.

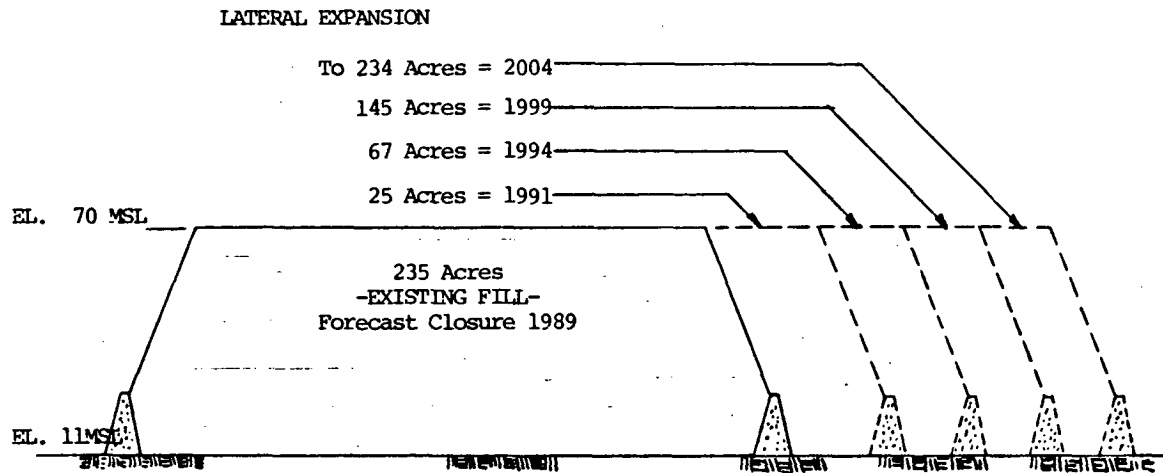
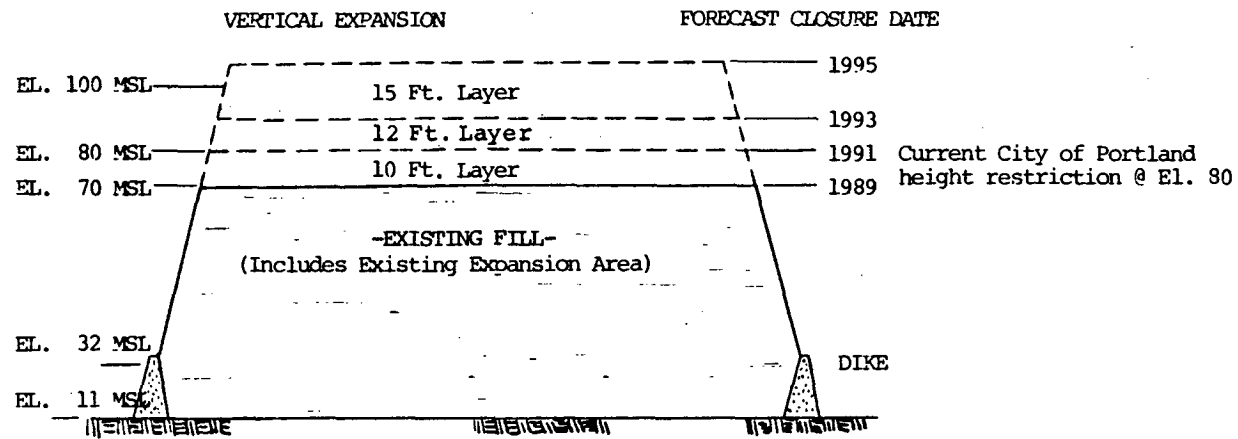
#### System Cost

A systems cost analysis should show benefit to the region from siting an additional landfill. Depending on the location of a proposed landfill, there could be a potential for savings in transportation costs (transfer costs). However, these savings would need to offset siting and capital costs, and higher costs at other general purpose landfills due to higher unit costs for disposing of reduced volumes.

#### Siting Difficulties

A lack of sites with acceptable environmental conditions, proper zoning and compatible surrounding land uses makes landfill siting difficult. Community opposition is understandably intense, and lengthy court appeals are likely.

The cost, amount of time and other siting difficulties are important considerations in the decision to site additional facilities.



Scale:  
 1"=600' horizontal  
 1"=60' vertical

See Appendix A for assumptions used in calculating extended site life for vertical and lateral extensions.



## Emergency Disposal Back Up

A second general purpose landfill could serve as a back up site in case of emergency closure of the other general purpose landfill. However, emergency back up could be provided by agreement with other general purpose facilities outside the District.

## Conformance with Adopted Solid Waste Management Plan

One of the purposes of this report is to provide information necessary for the update of the Metro Solid Waste Management Plan. The provisions of the management plan will have a direct bearing on decisions such as adding additional landfill capacity. For example, a planned system relying totally on landfills for the disposal of waste will provide more justification for siting additional capacity than a system employing other technologies such as energy recovery, which result in a significant reduction in volume of waste requiring landfilling.

## Private General Purpose Landfills

In the future, a private operator may request a franchise for a general purpose landfill within the District, or a landfill owner outside of the District may offer to dispose of a percentage of Metro area waste. Metro has the authority to approve or deny these requests based on the franchise ordinance and flow control authority.

The factors to consider in approving or denying these requests are the same discussed above, including total capacity in the Metro system, systems cost and conformance with the Solid Waste Management Plan. If disposal of solid waste at a private landfill out of District requires a commitment of a certain quantity of waste for a specified period of time, the proposal must be closely reviewed against the Solid Waste Management Plan, as it could substantially reduce Metro's flexibility to pursue alternative disposal options included in the plan. For example, energy recovery systems using technology of mass burning or refuse derived fuel require the commitment of waste which may be unavailable due to a contract to dispose of waste out of District.

In the case of siting difficulties, much of the burden would shift to the private sector. However, Metro should expect a significant involvement because much of the land use permit approval criteria depends on the provisions of a solid waste management plan and a region's need for a landfill site. These facts are illustrated by the region's involvement in the siting of the proposed Big Fir Landfill near Dundee.

## Role of Limited Use Landfills

Limited use landfills fulfill several important roles in the current solid waste disposal system in the Metro region, including extending the life of the only remaining general purpose landfill in the region, providing a convenient disposal place for non-food waste for

that portion of the public in close proximity to the site, and, in the case of the use of excavated gravel pits, positive land reclamation. Limited use landfills traditionally have been owned and operated by the private sector. Metro franchises sites within the District to regulate the number operating in any given area, thereby promoting more rapid filling and closure, and providing the opportunity for adequate waste volume to finance proper operation.

As discussed earlier, until a long-term general purpose landfill is sited, it is desirable to maintain or increase limited use capacity in the disposal system. However, after a regional general purpose landfill is sited, factors to consider in deciding what benefit limited use sites play in the disposal system are similar to considerations for adding general purpose capacity.

#### Capacity Existing in the Region

There will be no immediate need for additional capacity if the Wildwood Landfill is sited.

#### Systems Cost

A systems cost analysis should show benefit to the region. In the present system, limited use landfills reduce transportation costs for commercial haulers and the public in close vicinity to the site. As the planned transfer stations become operational, this benefit will decrease. Another important cost/benefit consideration of limited use landfills is their impact on delaying the costly siting and development of a new general purpose landfill.

#### Siting Difficulties

Environmental siting criteria are similar for limited use and general purpose landfills. Because limited use landfills usually accept wood and wood products, cardboard, paper and yard debris, they do produce leachate, so protection of groundwater is an important consideration and siting constraint. Limited use landfills also produce methane gas which, as in general purpose landfills, may have to be actively collected. However, limited use landfills may encounter less public opposition during siting than a general purpose landfill, because limited use landfills do not receive food wastes and the public may perceive the landfill to have fewer problems of odor, and rodent and bird attraction. In the case of gravel pits which may meet environmental siting criteria, an important factor in neighborhood approval may be the positive land reclamation brought about by filling.

#### Conformance with Adopted Solid Waste Management Plan

The provisions of the management plan will have a direct bearing on decisions such as adding additional limited use capability. Relying totally on landfills for waste disposal may provide more justification for adding limited use sites than having a system that includes energy recovery, which significantly reduces the volume of

waste to be landfilled. However, if ash was permitted to be disposed in limited use facilities rather than in general purpose landfills, the reasons to site increase.

Different views exist as to whether siting limited use landfills results in better management of general purpose facilities. Disposing of waste that is legally permissible in limited use sites extends the site life of general purpose facilities. However, since waste disposed in limited use sites creates the same problems of leachate and methane gas as in general purpose facilities, it can be argued that if a large capacity general purpose site exists, the waste should be placed at that facility.

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## FOOTNOTES

- <sup>1</sup>Putrescible waste is defined as organic waste which anaerobically decomposes with the formation of foul-smelling incompletely oxidized products.
- <sup>2</sup>Letter from Regional Manager DEQ to MSD, June 20, 1978.
- <sup>3</sup>Memo from R. Kent Mathiot, Water Resources Department to Charles Gray, DEQ, May 11, 1979.
- <sup>4</sup>Letter from Regional Manager DEQ to MSD, June 20, 1978.
- <sup>5</sup>Letter from Regional Manager DEQ to MSD, December 11, 1979
- <sup>6</sup>Ibid.
- <sup>7</sup>Letter from Director of DEQ to Ronald A. Watson, November 23, 1979.
- <sup>8</sup>Letter from CH<sub>2</sub>M HILL to Metro, May 21, 1984.
- <sup>9</sup>Letter from Regional Manager DEQ to G. G. Hoare, January 19, 1982.

## APPENDIX A

### Estimated Site Life of St. Johns Landfill

In order to thoroughly evaluate the various options for obtaining adequate future landfill capacity, it is useful to have an estimate of how long the existing St. Johns site can serve as a regional landfill.

The site life of St. Johns depends on three major parameters:

1. Available volume to be filled;
2. Rate of waste flow entering the site; and
3. Methods by which the waste is placed and compacted into the site.

A previous site life estimate, prepared by Metro in May 1983, predicted the landfill to reach capacity between August of 1988 and January of 1989. Modifications to operation parameters, population forecasts and the status of other landfills in the area have encouraged Metro to prepare a revised site life estimate for the St. Johns Landfill.

A new operation plan for the expansion area allows for the placement of lesser quantities of daily cover material than was estimated earlier. This reduction in daily cover allows for a greater volume of solid waste, thus extending the life of the landfill.

Additionally, the new estimated site life accounts for revised population forecasts (lower than previously estimated) as well as increased flows to St. Johns from both the Hillsboro and Newberg Landfills, once those two sites reach capacity. The Hillsboro Landfill is estimated to handle 3 percent of the regional waste generated. All of this volume is anticipated to be diverted to St. Johns once Hillsboro closes (estimated in 1986).

The Newberg Landfill previously handled an estimated 57,000 tons or 8 percent of the region's waste flow annually. Recently, Forest Grove collectors applied for a franchise to transfer waste to the Riverbend Landfill in McMinnville. This reduces the waste going to the Newberg Landfill by 25 percent. Therefore, when the Newberg Landfill closes, it is assumed that St. Johns will receive the greater share of the Metro region generated waste or an increase of 6 percent, while the remainder (2 percent) will be diverted to the Riverbend Landfill in McMinnville.

Of the three parameters previously identified, the quantity of waste flow is the most critical. Waste flow in the region is subject to the least control and most fluctuation of the three key parameters. The rate at which waste is produced is related to population, economy, weather, recycling effectiveness, secondary markets and other variables which are difficult to forecast. Because of the number and types of variables involved in estimating the site life

of St. Johns, a range has been identified in which the closure of the St. Johns Landfill, as it is currently planned, is likely to fall.

The range is based on two assumed population growth rates combined with a fixed level of waste generated per capita per day. In this manner a range can be established based on an early closure date, corresponding with the larger population forecast, and a late closure date, corresponding with a lesser forecast. Other variables which affect the site life were accounted for using assumptions which Metro has established for determining landfill capacity. These assumptions are intended to be somewhat conservative in order to provide for actual landfill lives that are longer, rather than shorter, than those estimated. All assumptions which were utilized in computing the site life are listed below.

The range identified indicates that the St. Johns Landfill will likely reach capacity between March and June of 1989.

The assumptions used to calculate this range include the following:

- a. The landfill will be filled in accordance with the current Operations Plan adopted in 1980 and revised December 1983.
- b. Refuse will be compacted to an in-place density of 1,200 lb. per cubic yard.
- c. Daily cover will be applied at a ratio of one part daily cover to 12 parts refuse (7.5 percent). This does not account for re-use of daily cover whenever possible.
- d. There will be an overall settlement of 25 percent in the existing area of fill. No settlement was allowed for in the expansion area.
- e. No new general purpose landfill will open prior to closure of the St. Johns site.
- f. Waste previously deposited at the Newberg Landfill, representing 8 percent of the regional generation, will be directed to the following sites beginning November 1984: St. Johns Landfill @ 6 percent (42,000 tons/yr.) and Riverbend Landfill @ 2 percent (15,000 tons/yr.).
- g. Hillsboro will receive 3 percent of the region's waste (approximately 22,000 tons/yr.) until it reaches capacity in mid-to-late 1986. Waste will be directed to St. Johns thereafter.
- h. Available remaining volume capacity is per calculations supplied by Spencer Gross, derived from their aerial photos taken 06/07/83. These calculations indicate remaining volume of the site to be 6,063,550 cy ( $3.3 \times 10^6$  tons) as of January 1, 1984.

- i. Refuse generated will be at a fixed rate of 4.12 lbs. per capita per day.
- j. Population forecasts were provided by the Metro Data Resource Center. The larger (conservative) population growth rate was assumed to be 2.94366 percent per year. The lesser growth rate was assumed to be 1.46323 percent per year. Both rates were cast off an assumed 1983 population of 982,800 (Metro region only).
- k. The fill rate, using the higher population growth rate, will increase from 46,300 tons/month to 59,400 tons/month in 1989.
- l. KFD or a replacement site will be available in northeast Portland.

APPENDIX A

TABLE 1

St. Johns Estimated Site Life

Calculation of Remaining Capacity as of 01/01/84

Total Volume:	6,555,195 cy	(Calculations supplied by Spencer Gross, derived from aerial photos taken 06/07/83.)
Daily Cover (7.5%)	491,640 cy	
Available Capacity (06/07/83)	6,063,55 cy	
Refuse (06/07/83 to 01/01/84)	513,801 cy	(308,281 tons)
Remaining Cap. 01/01/84 =	<u>5,549,754 cy</u> or	<u>3,329,852 tons</u>

Projected Waste Flow Rates and Remaining Capacity

	<u>Lo Flow</u>	<u>Lo Cap</u>	<u>Hi Flow</u>	<u>Hi Cap</u>
1984	547,339	3,329,852 2,782,513	555,326	3,329,852 2,774,526
1985	593,385	2,189,128	610,827	2,163,699
1986	607,860	1,581,268	663,870	1,526,829
1987	634,375	946,393	672,215	854,614
1988	643,657	303,236	692,002	162,612
1989	653,072	June 1989	712,375	March 1989

ASSUMPTIONS

- Assumes 75 percent of Newberg Metro waste goes to St. Johns starting 11/01/84.
- Regional flow into St. Johns:
  - 1984: 72 percent (10 months) 78 percent (2 months)
  - 1985: 78 percent
  - 1986: 78 percent until Hillsboro closes, 81 percent after closure
  - 1987: 81 percent
  - 1988: 81 percent
  - 1989: 81 percent
- St. Johns capacity assume 7.5 percent daily cover and 25 percent settlement in existing area. No settlement is assumed in the expansion area.

## Estimated Site Life for Hillsboro and KFD

The Hillsboro Landfill and KFD Landfill in northeast Portland, are the limited use landfill sites within the boundaries of Metro. Historical data shows dramatic fluctuations in waste flow into both of these sites during the last three years. These fluctuations can be partially attributed to variations in the region's economy, population and to the status of other regional waste disposal sites, i.e., closure of Rossman's, closure of Rose City, opening of the CTRC, etc.

The relatively small capacity and limited use designation of these two landfills results in their individual site lives being more sensitive to fluctuations in waste flow. Site life is, therefore, more difficult to predict than the St. Johns site. In recognition of this fact, a range in waste flow based on historical data was used to forecast a closure "window" for each site, during which time they are likely to reach capacity.

### Killingsworth Fast Disposal

Aerial photo mapping of the KFD site in June of 1983 indicated a remaining volume capacity of approximately 1.58 million cubic yards. Allowing for final and intermediate cover material yields a volume available for solid waste of approximately 1.42 million cubic yards. Because of the relatively denser nature of the waste flow into the KFD site (construction debris, demolition, etc.) an in-place density of 1,300 pounds per cubic yard was used to calculate the mass capacity of the site:  $1,420,000 \text{ cy} \times 1,300 \text{ lb/cy} \times 1 \text{ ton}/2,000 \text{ lbs.} = 923,000 \text{ tons remaining capacity.}$

The forecast range in waste flow into the KFD site was based on gatehouse records. The site is currently accepting an annual flow of approximately 600,000 cy per year. Using this value as a minimum and allowing for a potential increase of 33 percent, which coincides with recent flow fluctuations, creates a range in anticipated waste flow. This allows for a range in flow of from 600,000 to 800,000 cubic yards per year. These flow rates were combined with a 1.5 percent annual volumetric growth rate and an estimated average in flow density of 350 lb/cy in order to determine site life:

Low Flow:  $600,000 \text{ cy/yr} \times 350 \text{ lb/cy} \times 1 \text{ ton}/2,000 \text{ lbs} = 105,000 \text{ tons/yr.}$

High Flow:  $800,000 \text{ cy/yr} \times 350 \text{ lb/cy} \times 1 \text{ ton}/2,000 \text{ lbs} = 140,000 \text{ tons/yr.}$

The use of the above flow rates combined with a 1.5 percent annual growth rate and a remaining capacity of 923,000 tons results in a closure window with the following dates:

Low Flow: November 1991      High Flow: November 1989

## Hillsboro Landfill

A closure window for the Hillsboro Landfill was calculated in a manner similar to that identified above. The remaining volume capacity of the Hillsboro site, as of June 16, 1983, was approximately 158,612 cubic yards. Accounting for final and daily cover material allows for a remaining solid waste volume capacity of approximately 123,500 cubic yards. Assuming an in-place density of 1,200 lb per cubic yard, the remaining mass capacity of the Hillsboro site is approximately 74,100 tons. An in-place density of 1,200 lb/cy was used at the Hillsboro site, rather than 1,300 lb/cy at KFD, because of the greater percentage of low density public waste received at the Hillsboro Landfill. KFD has historically received mostly higher density commercial waste, thereby justifying the use of the higher in-place density.

Records at the Hillsboro Landfill for the last three years show annual fluctuations in waste flow of as much as 60 percent. During fiscal year 1981 the Hillsboro site received approximately 31,000 tons of refuse. In contrast, the Hillsboro site received approximately 19,500 tons of refuse in fiscal year 1983.

The closure window for the site was calculated using these two flow rates to determine an anticipated early and later date between which the capacity of the Hillsboro Landfill is likely to be reached. The closure date of the Hillsboro Landfill is expected to fall within the following range:

Flow rate of 31,000 tons/yr: November 1985

Flow rate of 19,500 tons/yr: March 1987.

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## APPENDIX B

### PRELIMINARY COST ESTIMATES OF ALTERNATIVES FOR INTERIM EXTENSION OF ST. JOHNS SITE LIFE

Preliminary cost estimates have been developed for alternatives for extension of the St. Johns Landfill site life where costs are more easily identifiable. Cost information is presented to allow a comparison of the relative costs of different programs, allowing the Metro Council and interested parties to begin to evaluate alternatives.

Preliminary cost estimates have been developed for: diversion of mixed waste from Metro transfer facilities to other general purpose landfills; interim vertical or lateral expansion of St. Johns Landfill; and dike realignment near Columbia Slough.

Costs for expansion alternatives were derived from the 1980-81 55-acre expansion and current operating cost information. Due to the preliminary nature of design requirements necessary to implement any of these alternatives, all costs associated with the expansion of the landfill should be considered as an order-of-magnitude level. This implies a level of accuracy of between +50 percent to -30 percent.

Costs portrayed in this appendix are in 1984 dollars. No attempt has been made to present costs on a present worth basis. Effects of inflation between the date of the cost estimates and the actual construction/implementation date have not been included.



Preliminary Cost Estimate to Divert Mixed Waste to Other General Purpose Landfills to Gain One-Year Site Life Extension

The costs involved in diverting waste to general purpose landfills outside the District include transportation costs and disposal costs.

For purposes of illustration, this cost estimate assumes diversion of enough material to extend the St. Johns site life by one year (divert 10,000 tons per month or 120,000 tons per year beginning in January 1985). All costs are expressed in current dollars (no attempt has been made to apply present value analysis).

The transportation cost is based on the cost of the extra haul distance transfer trucks would incur as compared with the cost to transfer to the St. Johns Landfill. Assuming a transfer station system of CTRC and the west transfer station, average round trip travel times to area landfills are as follows:

TABLE 1

Average Round Trip Travel Time to Area Landfills<sup>1</sup>

	<u>Average Round Trip Travel Time</u>
St. Johns	112 minutes
Riverbend	134 minutes
Circle C	107 minutes
Woodburn	106 minutes

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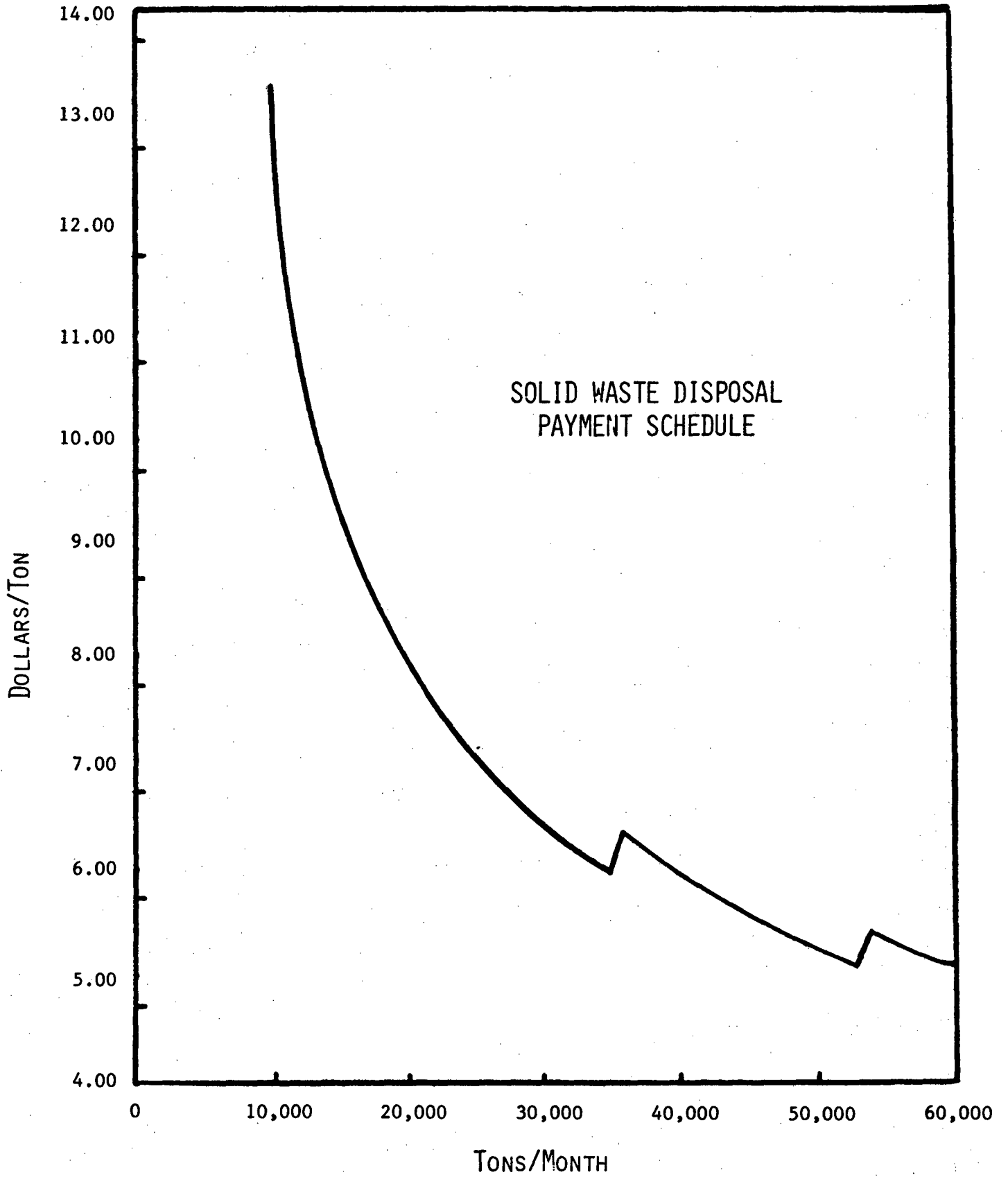
<sup>1</sup>Assumes transfer station system consisting of CTRC and west transfer station. Travel time includes disposal time at landfill.

For this cost estimate, an extra haul distance of 20 minutes per round trip has been used. The cost to operate a transfer truck has been assumed to be \$0.85 per minute, based on data from current CTRC operations. As each transfer truck can haul 24 tons, diversion of 10,000 tons would require 417 trips. The extra transportation cost for this example would be nearly \$450,000 (417 trips for 63 months at \$17.00 per trip).

The disposal cost includes two components: the St. Johns disposal contract cost and the disposal charge at the other general purpose landfill. Rates charged in the St. Johns disposal contract vary with the volume of waste disposed (see Figure 1). Rates are higher with lower volumes of waste as there is less waste to cover the fixed costs of the facility. Table 2 compares the St. Johns disposal contract cost with and without diversion of waste to other general purpose facilities.

ST. JOHNS LANDFILL

FIGURE 1



APPENDIX B

TABLE 2

St. Johns Disposal Contract Cost

Year	Without Diversion			With Diversion		
	Waste Flow Into St. Johns <sup>1</sup>	Disposal Rate	Disposal Cost	Waste Flow Into St. Johns <sup>1</sup>	Disposal Rate	Disposal Cost
1985	610,800	\$5.57	\$ 3,402,000	490,800	\$6.26	\$ 3,072,000
1986	663,900	\$5.64	3,744,000	543,900	\$5.88	3,198,000
1987	672,200	\$5.60	3,764,000	552,200	\$5.81	3,208,000
1988	692,000	\$5.54	3,834,000	572,000	\$5.75	3,289,000
1989	712,400	\$5.46	<u>3,890,000</u>	592,400	\$5.63	<u>3,335,000</u>
			\$18,634,000			\$16,102,000

<sup>1</sup>Waste flow assumptions taken from Appendix A.

The other component of the disposal cost is the disposal charge for the diverted waste at the other general purpose landfill. The base rate at the St. Johns Landfill (\$9.80 per ton) has been used to simulate this cost. Disposal of 120,000 tons per year at \$9.80 per ton for five years results in a cost of \$5,880,000. Therefore, the total disposal cost of the example with diversion is \$21,982,000, which is \$3,348,000 more than the example without diversion.

Adding the extra transportation costs in this example of \$450,000, the total cost of extending the site life of St. Johns Landfill for one year through diversion of waste to other general purpose facilities approaches \$3.8 million or approximately \$725,000 per year.

TABLE 3

Summary of Cost

	<u>Without Diversion</u>	<u>With Diversion</u>
St. Johns Disposal Contract Cost	\$18,634,000	\$16,102,000
Disposal Charge for Diverted Waste <sup>1</sup>		5,880,000
Extra Haul Costs <sup>2</sup>		450,000
	<u>\$18,634,000</u>	<u>\$22,432,000</u>

<sup>1</sup>The base rate at the St. Johns Landfill (\$9.80 per ton) is used to project this cost.

<sup>2</sup>Extra haul distance of 20 minutes per round trip is used in this cost estimate.

## Preliminary Cost Estimate for Interim Vertical or Lateral Expansion--St. Johns Landfill

This section provides preliminary cost estimates for both vertical and lateral expansion alternatives which provide a site life extension of the St. Johns Landfill of approximately two and five years. The two-year time frame corresponds with a vertical expansion that would raise the average peak elevation from its present elevation of 70 feet msl to 80 feet msl, which is the height limitation set by the City of Portland land use permit. To contrast cost differences in lateral vs. vertical expansion, a cost estimate for a two-year lateral expansion was also developed. The five-year time period was chosen to provide sufficient time to site, procure permits and construct a new landfill should a replacement site not be available once the existing St. Johns Landfill reaches capacity.

### Two-Year Site Life Extension Through Vertical Expansion

A two-year site life extension would require an additional average 10-foot layer of solid waste fill over the entire site. The 10-foot lift is assumed to maintain the existing perimeter side slopes at a ratio of 4H:1V and a crown slope of approximately 3 percent to allow for drainage. Such an expansion would add approximately 1.44 million tons of solid waste capacity to the St. Johns site.

Capital improvements required for a 10-foot vertical expansion would be relatively minimal. It is likely, however, that a leachate collection system would be required to prevent possible leachate outbreaks and to avoid surcharging of the aquifer underlying the St. Johns site. Additionally, a system of roads to access the expanded area would be required to replace existing roads which would be buried under the new lift.

Metro has estimated capital costs for improvements to the existing site to be approximately \$604,000 for a two-year vertical expansion.

### Five-Year Vertical Expansion

Vertical expansion of the St. Johns Landfill to elevation 100 feet msl would provide an extended site life of approximately five years. Such an expansion would provide approximately 3.90 million tons of additional solid waste capacity. A vertical expansion to elevation 100 feet approaches the practical limit to which the landfill can be raised. Vertical expansion above this level would significantly limit the amount of useable (non-side slope) area available for development once the site is closed.

Capital improvements required for a 30-foot vertical expansion would be identical to those identified for the 10-foot expansion.

### Interim Vertical Expansion

<u>Item</u>	<u>Quantity</u>	<u>Unit Costs</u>	<u>Total</u>
1. Leachate Drain	16,000 LF	\$2.20/LF	\$ 35,200
2. Pump Station	2 ea.	\$87,000/ea.	175,000
3. Pressure Main	10,000 LF	\$17.00/LF	170,000
4. Rebuild Roads	6,200 LF	\$16.55/LF	<u>103,000</u>
		Subtotal	\$483,200
5. Engineering, Contingency, etc. @ 1.25:			
		1.25 x \$483,200	<u>\$604,000</u>

### Two-Year Site Life Extension Through Lateral Expansion

A lateral expansion of the St. Johns Landfill to provide an additional site life of two years would require an approximate 25-acre expansion into the Smith and Bybee Lakes area.

Lateral expansion of the St. Johns Landfill will require significantly more work, and cost, than a similar capacity vertical expansion. This is primarily due to the necessity of constructing an impervious earthen dike around the perimeter of any lateral expansion area. An impervious dike is required to protect the landfill from high water conditions in the Smith/Bybee Lakes and to prevent leachate seepage into the surrounding wetlands.

Cost estimates for future lateral expansion of the landfill assume a dike design similar to that utilized for the existing 55-acre expansion area. However, there is not certainty that a similar dike configuration can be utilized for future expansion into the Smith/Bybee Lakes area. Previous soils investigations in the existing expansion area suggest that poor to unsuitable soils conditions may exist in the surrounding area available for expansion. Such soils conditions may require a different and more costly dike configuration than that previously utilized. A thorough soils investigation would be required previous to any serious contemplation of lateral expansion.

With the above qualifications in mind, Metro has estimated the capital cost for a 25-acre lateral expansion to be approximately \$2,000,000.

### Lateral Expansion - 25 Acres

<u>Item</u>	<u>Quantity</u>	<u>Unit Costs</u>	<u>Total</u>
1. Retention Dike Construction	3,400 LF	\$135/LF	\$ 459,000

Lateral Expansion - 25 Acres  
(continued)

<u>Item</u>	<u>Quantity</u>	<u>Unit Costs</u>	<u>Total</u>
2. Imported Fill for Dike	151,000 cy	\$6.70/cy	1,012,000
3. Leachate Drain Pipe	2,300 LF	\$2.20/LF	5,100
4. Leachate Pressure Pipe	2,700 LF	\$17.00/LF	46,000
5. Leachate Pump Station	1 ea.	\$87,000/ea.	87,000
6. Wetlands Mitigation	Lump Sum		<u>25,000</u>
		Subtotal	\$1,634,000
7. Engineering, Contingency, etc. @ 1.25:			
	Total 1.25 x \$1,634,000		<u>\$2,040,000</u>

Note: Cost of impermeable liner not included. If one were required, the additional estimated cost would be 3' x 25 acres x 43,560 ft.<sup>2</sup> x 1/27 x \$6.70/cy = \$811,000.

Five-Year Lateral Expansion

A lateral expansion of St. Johns to provide for a five-year increased site life would require an approximate 63-acre expansion into the Smith/Bybee Lakes area. As described above, an impervious earthen dike would be required in addition to a leachate collection system.

Metro has estimated capital costs for development of a 63-acre lateral expansion area to be approximately \$3,018,000.

Lateral Expansion - 63 Acres

<u>Item</u>	<u>Quantity</u>	<u>Unit Costs</u>	<u>Total</u>
1. Retention Dike Construction	5,000 LF	\$135/LF	\$ 675,000
2. Imported Fill for Dike	222,000 cy	\$6.70/cy	1,490,000
3. Leachate Drain Pipe	6,000 LF	\$2.20/LF	13,000
4. Leachate Pressure Pipe	7,000 LF	\$17.00/LF	119,000

Lateral Expansion - 63 Acres  
(continued)

<u>Item</u>	<u>Quantity</u>	<u>Unit Costs</u>	<u>Total</u>
5. Leachate Pump Station	1 ea.	\$87,000/ea.	87,000
6. Wetlands Mitigation	Lump Sum		<u>30,000</u>
		Subtotal	\$2,414,000
7. Engineering, Contingency, etc. @ 1.25:			
	Total	1.25 x \$2,414,000	<u>\$3,018,000</u>

Note: Cost of impermeable liner not included. If one were required, the additional estimated cost would be \$2,000,000.

Final And Daily Cover Costs

A significant cost incurred in the operation of the St. Johns Landfill is the import and placement of final and daily cover material.

The current operations plan requires that a two-foot cap of final cover material be placed over the entire site. Final cover material is a select clay soil, having a very low permeability to prevent penetration of moisture and escape of landfill gas from the solid waste fill.

Current cost for import and placement of final cover material is approximately \$7.00 per cubic yard. New regulations of DEQ require that all landfills or portions of landfills whose life extends past 1988 must provide a minimum of three feet of final cover. This means that any lateral or vertical expansion area will likely be required to have a three feet final cover cap.

Daily cover is currently placed in the St. Johns Landfill at a ratio of approximately one part daily cover to 12 parts solid waste. Daily cover is used to cover the compacted solid waste to minimize odors and vector infestation and to prevent blowing of loose refuse.

Because of the less stringent specifications required for daily cover material, it is available at a much lower cost than final cover material. Current cost for import of daily cover material is approximately \$1.25 per cubic yard. Despite its relatively lower cost, daily cover is incorporated into the landfill in quantities large enough to produce significant cost.

Vertical Expansion - Daily and Final Cover Costs

A vertical expansion of the St. Johns Landfill would allow for the reuse of the majority of existing final cover material. In this



manner most of the major cost for the import of the material would be avoided. However, some cost would be incurred for the stripping and replacement of the existing cover material.

An estimated 25 percent of existing final cover material would be lost in the stripping and replacement operation. Replacement of this material would require the import of suitable material.

Further, the new DEQ requirement for three feet rather than two feet of final cover may result in the need to import an additional one foot layer of final cover material.

Final cover material import and placement costs for both a two- and five-year vertical expansion are estimated to be \$2,812,000.

Daily cover material costs for a two-year vertical expansion is estimated to be \$225,000. Daily cover material costs for a five-year vertical expansion is estimated to be \$614,000.

#### Calculation of Final Cover Material Costs for Vertical Expansion

Assume 75 percent reuse of existing two-foot layer of final cover, with \$1.00/cy stripping and replacement charge:

$$\begin{aligned} &170 \text{ acres} \times 43,560 \text{ ft.}^2/\text{acre} \times 2 \text{ ft.} \times \$1.00/\text{cy} \times \\ &1 \text{ cy}/27 \text{ ft.}^3 = \underline{\$412,000} \end{aligned}$$

New final cover material @ \$7.00/cy, including 25 percent loss of existing final cover:

$$\begin{aligned} &170 \text{ acres} \times 43,560 \text{ ft.}^2/\text{acre} \times 1 \text{ ft.} \times \$7.00/\text{cy} \times 1.25 \\ &1 \text{ cy}/27 \text{ ft.}^3 = \underline{\$2,400,000} \end{aligned}$$

Total Final Cover Cost = \$2,812,000

#### Lateral Expansion - Daily and Final Cover Costs

A lateral expansion of the St. Johns Landfill will require the import of sufficient final cover material to provide a three-foot thick cap over the new area.

Cost for import of this material for a 25-acre (two-year extension) lateral expansion is estimated to be \$847,000. Final cover costs for a 63-acre (five-year extension) expansion is estimated to be \$2,130,000.

Since daily cover material requirements are assumed to be proportionate to the in place solid waste volume, there is essentially no difference in daily cover material required for a vertical versus a lateral expansion, therefore, daily cover material for a two-year lateral expansion is estimated to cost \$225,000, daily cover material for a five-year lateral expansion is estimated to cost \$614,000.

Calculation of Daily Cover Material Costs for Lateral Expansion:

Daily Cover - 25 Acre Expansion

Total Volume Capacity = 2.40 million cy

Daily Cover @ 7.5 percent = 180,000/cy @ \$1.25/cy = \$225,000

Daily Cover - 63 Acres Expansion

Total Volume Capacity = 6.55 million cy

Daily Cover @ 7.5 percent = 491,250/cy @ \$1.25/cy = \$614,000

Calculation of Final Cover Material Costs for Lateral Expansion:

Final Cover - 25 Acre Expansion

3 ft. x 25 acres x 43,560 ft.<sup>2</sup>/acre x 1 cy/27ft.<sup>3</sup> x \$7.00/cy  
= \$847,000

Final Cover - 63 Acre Expansion

3 ft. x 63 acres x 43,560 ft.<sup>2</sup>/acre x 1 cy/27 ft.<sup>3</sup> x  
\$7.00/cy = \$2,130,000

The following table summarizes the cost of the interim expansion alternatives. The cost to place refuse in each alternative is assumed to be similar.

Expansion Alternatives Comparison

Expense	Vertical		Lateral	
	2-Year	5-Year	2-Year	5-Year
Capital Cost <sup>1</sup>	\$ 600,000	\$ 600,000	\$2,000,000	\$3,000,000
Operating Cost				
Daily Cover <sup>2</sup>	225,000	614,000	225,000	615,000
Final Cover <sup>3</sup>	<u>2,800,000</u>	<u>2,800,000</u>	<u>850,000</u>	<u>2,130,000</u>
Total Operating Cost	\$3,025,000	\$3,414,000	\$1,075,000	\$2,795,000

<sup>1</sup>Assumes no finance costs.

<sup>2</sup>Assumes daily cover material incorporated into the landfill at a volumetric ratio of one part cover to 12 parts solid waste.

<sup>3</sup>Final cover costs are calculated based on current rates for import of material. These rates are highly flexible depending on availability of suitable local material.

Preliminary Cost Estimate for Dike Realignment

The revised St. Johns Landfill Operations Plan indicates a proposed dike realignment near the terminus of a blind slough at the southeast corner of the site. The purpose of the dike realignment is to remedy a chronic leachate outbreak.

The proposed dike modification would add approximately 5.20 acres to the St. Johns Landfill. Of this total, approximately 1.10 acres would be covered by the new dike and 4.10 acres would be available for solid waste disposal. The additional volume available for fill would be approximately 327,000 cubic yards.

Capital cost for the proposed improvements is estimated to be approximately \$154,000. An additional expense of approximately \$170,000 would be incurred in daily and final cover material costs.

Cost Estimate for Dike Relocation

<u>Item</u>	<u>Quantity</u>	<u>Unit Costs</u>	<u>Total</u>
1. Mobilization	Lump Sum		\$ 5,500
2. Clearing and Grubbing	Lump Sum		15,000
3. Dike Relocation	29,000 cy	3.00/cy	87,000
4. Leachate Pressure Pipe Relocation	1,500 LF	\$17.00/LF	10,500
5. Dewater	Lump Sum		<u>5,000</u>
		Subtotal	\$123,000
6. Engineering, Contingency, etc. @ 1.25:			
	1.25 x \$123,000		<u>\$154,000</u>

Daily Cover = 327,000 cy x .075 x \$1.25/cy = \$31,000

Final Cover = 4.1 acres x 43,560 ft.<sup>2</sup>/acre x 3 ft. x  
1 cy/27 ft.<sup>3</sup> x \$7.00/cy = \$139,000

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TRANSFER  
STATIONS

# DRAFT REPORT SOLID WASTE MANAGEMENT PLAN

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Update 84

PRELIMINARY

March 1984

**NOTE:** This is one chapter of the 1984 update of Metro's Solid Waste Management Plan. It is a working draft, subject to change and additional refinement. It should not be quoted as Metro policy due to the fact that changes to the text and data will occur throughout the review process. Ultimate adoption is expected during the summer of 1984.

**METROPOLITAN SERVICE DISTRICT**  
Providing Zoo, Transportation, Solid Waste and  
other Regional Services



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## TRANSFER STATIONS

The difficulty of finding suitable solid waste disposal sites in an urban area is not unique to the Portland metropolitan region. Throughout the country, as disposal facilities are developed farther from the centers of population (and waste generation), transfer stations have become an important component in the solid waste disposal system.

### BENEFITS OF TRANSFER STATIONS IN A SOLID WASTE MANAGEMENT SYSTEM

The purpose of a transfer station is simple: It provides an interim point for commercial haulers and the general public to dispose of waste, which is then transferred by larger vehicles to a final disposal site.

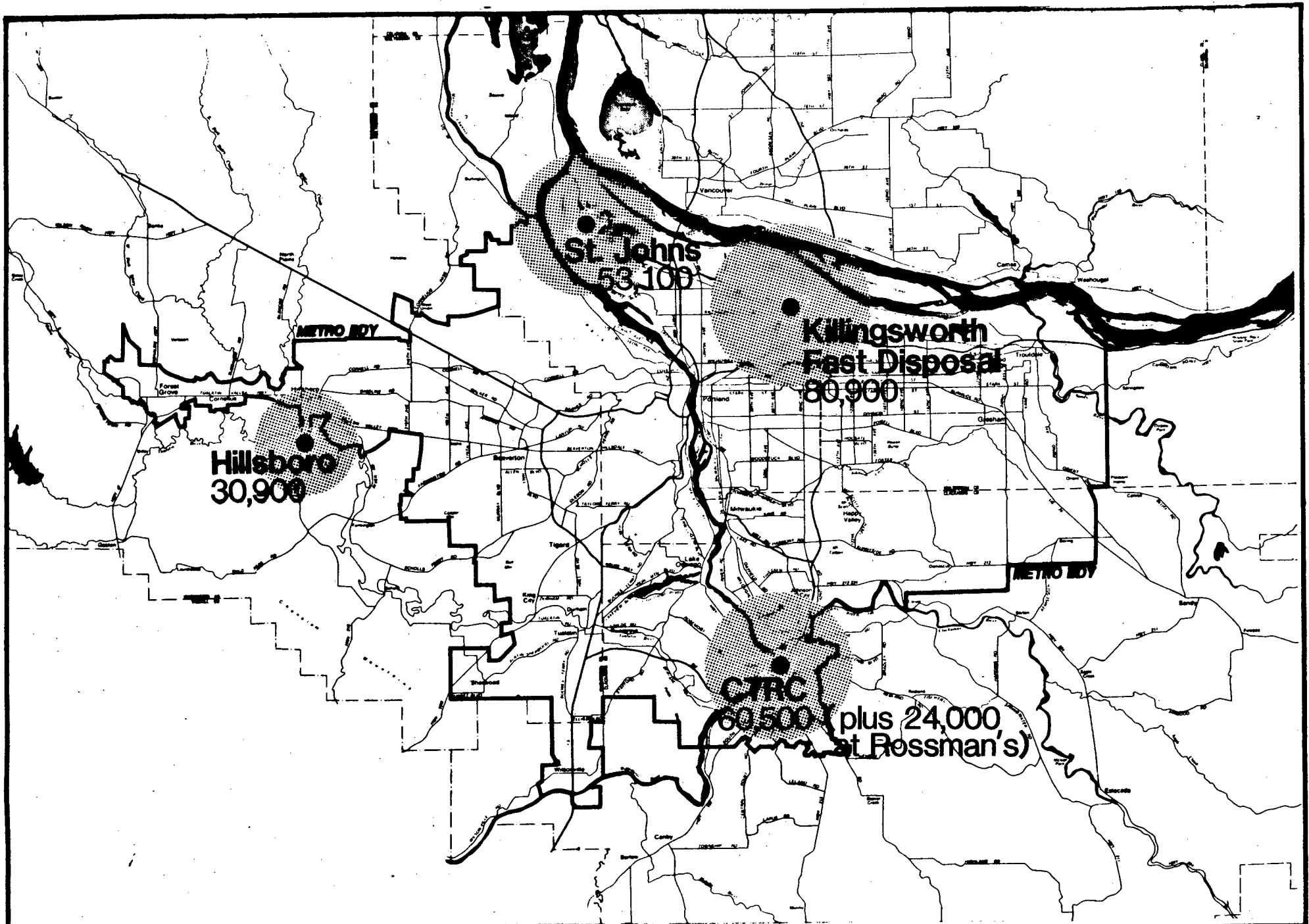
Transfer stations offer several benefits to a solid waste system:

1. Improved hauling efficiencies. When disposal sites are located in outlying areas and all collection firms must haul directly to those sites, the cost of hauling (including vehicles, maintenance, fuel and employees) increases. Transfer stations hold down the collectors' hauling costs by providing a facility closer to their collection routes. While there are additional costs for hauling the waste from a transfer station to a disposal site, the greater efficiency of using larger vehicles, which haul four or five collector loads in one transfer trip, helps to keep total system cost (collection plus disposal) lower than having everyone haul directly to a disposal site.

By locating transfer stations near the centers of waste generation, collection haul costs can be held down regardless of where the final disposal sites are located. Centers of waste shift only slightly over time with shifts of population and employment.

2. Maintained or improved level of service. As existing landfills close and new, distant disposal sites are developed, the level of disposal service will drop unless transfer stations are used. Transfer stations benefit both the waste collection industry and the general public by providing a convenient location to dispose of waste. Consideration of service levels for the general public is important in the Metro area as residents are not required to use a garbage collection service and many people self-haul some or all of their solid waste (see Figure 4-1). A total of 992,000 public haul trips were made to disposal sites in the Metro region in the three years from July 1980 to June 1983 (Table 4-1).

The Clackamas Transfer & Recycling Center (CTRC) is an example of maintaining a similar level of service. When



**Public Haul Trips to Solid Waste Facilities**  
 (trips/year January-December 1983)

**Fig. 4-1**

TABLE 4-1

## Metro Regional Haul Trips

FY 81, FY 82 and FY 83

Total Trips	Commercial			Public			Total		
	FY 81	FY 82	FY 83	FY 81	FY 82	FY 83	FY 81	FY 82	FY 83
St. Johns***	53,295	46,844	61,753	66,636	54,414	49,744	119,931	101,258	111,497
Rossmann's	58,622	54,031	41,966	135,933	121,902	84,768	194,555	175,933	126,734
CTRC			6,135			20,076			26,211
Newberg	8,515	8,579	8,667	0	0	0	8,515	8,579	8,667
Woodburn	1,255*	1,239*	2,346*	0	0	0	1,255*	1,239*	2,346*
Rose City (closed 12/31/82)	28,141	20,510	8,880	132,409	127,854	61,500	160,550	147,905	70,380
Hillsboro	8,496	6,465	5,160	35,721	31,559	29,856	44,217	38,024	35,016
Grabhorn	4,088	4,187	3,847	0	0	0	4,088	4,187	3,847
Nash Pit (public accepted Killings- worth following closure of Rose City)	1,806	15,804	20,948	0	0	39,897	1,806	15,804	60,845
Santosh	500	67	27	0	0	0	500	67	27
Total**	164,700	157,300	159,730	370,700	335,700	285,840	535,400	493,000	445,600

\*Estimate based on volume - 20 yd<sup>3</sup>/compacted vehicle  
25 yd<sup>3</sup>/loose drop box

\*\*Correct to nearest hundred.

\*\*\*St. Johns public trips represent all cash trips including woody waste, tires, etc. Therefore, not valid for public rate calculations, average density, or weight per trip.

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Rossmann's Landfill in Oregon City closed, residents in the southern part of the region would have had to take their waste to landfills located in other counties such as Yamhill or Marion County or to St. Johns in Portland, 27 miles away.

3. Flow control. When a solid waste system includes more than one disposal site, transfer stations can help control the flow of waste to the most appropriate site. For example, diverting waste to extend site life of a specific landfill can be easily implemented. Delivering waste to facilities for processing or energy recovery is another example. Flow control provides flexibility in a solid waste management system, making the system better able to respond to changes in the location, quantity or composition of waste.
4. Compliance with regulations. A transfer station would be a requirement with some landfill locations. ORS 459.057 states that in an Exclusive Farm Use (EFU) zone within the boundaries of Clackamas, Marion, Multnomah, Polk or Washington County, the DEQ shall require "that to the extent legally, technically and economically feasible...only solid waste from transfer stations...will be deposited in the landfill."

Transfer stations are an important element in the solid waste system that is evolving for this region. One station is already operating in Clackamas County, one is planned for Washington County, and still another is being considered. What factors and decisions have influenced the transfer station system that is developing?

#### HISTORY OF TRANSFER STATION PLANNING IN THE METRO REGION

Transfer stations were first considered for the Portland metropolitan area as a result of the COR-MET study,<sup>1</sup> which was adopted by the MSD Board in 1974 as the region's Solid Waste Management Plan. COR-MET recommended four transfer/processing stations where solid waste would be collected, recyclables would be separated out, and combustibles would be shredded for use in a refuse derived fuel plant. The remaining waste would be transferred to a landfill.

In the next year, the COR-MET plan was altered substantially because of several problems. The MSD Board had appointed a citizens' committee to review proposals for building the four transfer/processing stations. When the bids were opened, it was apparent that the COR-MET cost estimates for a four-station system were considerably lower than the actual cost of the system. At the same time, MSD's legal eligibility for a grant/loan from the State of Oregon Pollution Control Bond Fund was questioned.

Because of the high cost and doubtful financing, the committee recommended that the four-station plan be reduced to two

transfer/processing stations (one in north Portland and one near Rossman's Landfill) and one transfer only station (in Washington County). The Solid Waste Management Plan was modified in August 1975 to reflect those changes, and a contract was signed with Parker Northwest Construction to design, build and operate the three proposed stations.

The entire plan was put on hold, however, because the contractor was unable to obtain financing for the project and MSD's ability to qualify for pollution control funds had to be clarified.

The Oregon Legislature resolved the statutory issues in 1977. At that time MSD purchased land in Oregon City and began exploring the possibilities for a refuse-derived fuel plant to be built adjacent to the proposed transfer/processing facility.

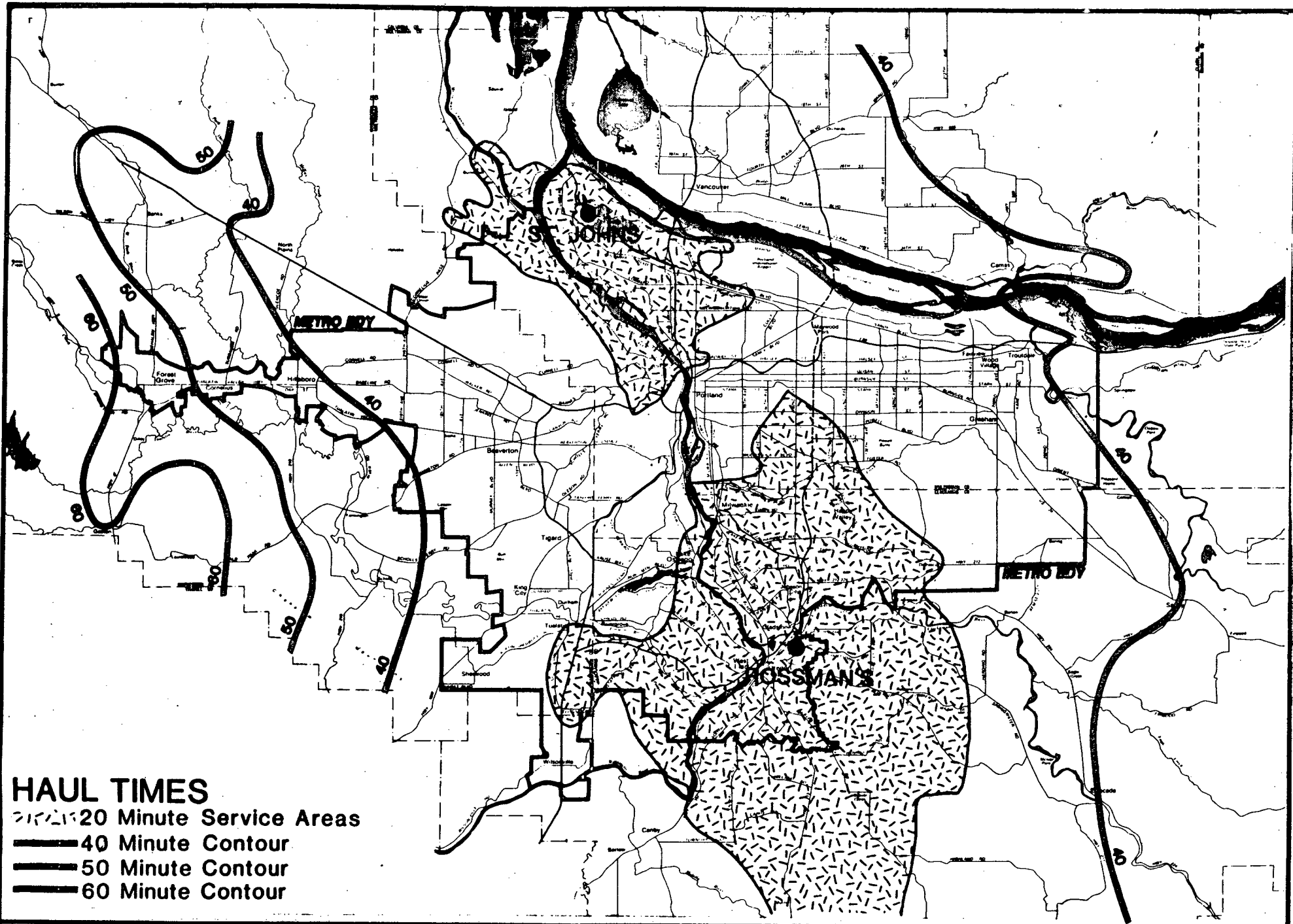
Two and one-half years later, after considerable study, the plan for a refuse-derived fuel plant was revised in favor of mass burning technology. Because mass burning requires no pre-processing of waste, there was no longer a need for processing at the transfer stations. Planning for those stations continued based on transfer only, though no formal amendment was made to the Solid Waste Management Plan. If market conditions or waste disposal methods change, processing at transfer stations can be added.

In order to develop an efficient transfer station system, Metro contracted with SCS Engineers<sup>2</sup> in 1980 to analyze solid waste flow in the region and the effect of various transfer alternatives. SCS developed 21 alternative configurations using up to six transfer stations ranging in capacity from 300 to 1,200 tons per day (TPD). After studying each alternative, SCS concluded that optimum hauling efficiency would be achieved with a system of five receiving facilities: a landfill, CTRC/energy recovery facility, and three transfer stations.

SCS based its analysis on mileage from the end point of collection routes to disposal sites. Metro staff took the SCS study a step farther in the Proposed Solid Waste Transfer Plan (Transfer Plan) by considering actual haul times and operating costs. Using time contours and the SCS data, Metro established existing levels of service for every area of the region. (See Figure 4-2, time contour map.)

Metro then analyzed the impact on level of service and total system cost of two alternative transfer station systems: (1) two stations plus CTRC/ERF, and (2) three stations plus CTRC/ERF (the SCS recommendation).

Metro's analysis showed that the level of service was 5 percent higher with alternative (2). The total system cost was virtually the same under both alternatives. While a third station resulted in increased transfer, capital and operating costs, it reduced collection haul costs. Metro has no legal authority to control collection, so it may be difficult to assure these haul cost



### HAUL TIMES

- 20 Minute Service Areas
- 40 Minute Contour
- 50 Minute Contour
- 60 Minute Contour



**Haul Time Contours: 1980**  
 from Proposed Solid Waste Transfer Plan, January 1981

**Fig. 4-2**

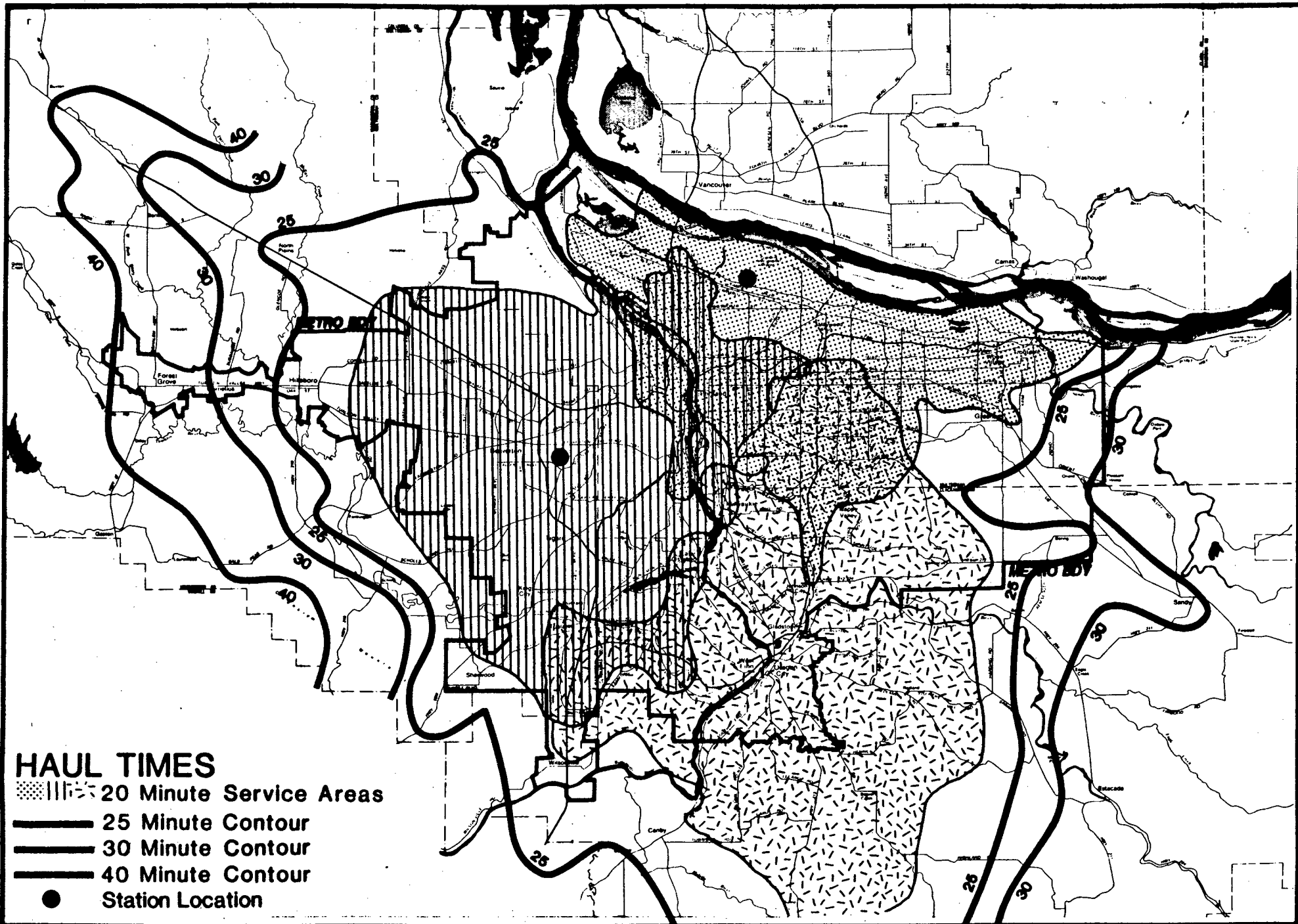
savings. There is also an additional cost for siting additional facilities. For these reasons, the report recommended a system of two transfer stations plus CTRC/ERF. This system could put approximately 90 percent of the region within a 20-minute haul to a transfer or disposal site, thus improving the level of service. Figure 4-3 shows haul time contours for the recommended plan, assuming transfer facility locations on industrially zoned land near the center of waste generation.

The analysis presented in the Transfer Plan, concluded with the following recommendations:<sup>3</sup>

1. Metro should develop a total of three transfer stations in the region (CTRC/ERF plus two others).
2. Of the two transfer stations besides the one in Oregon City, a station serving the western portion of the metropolitan area should be given priority.
3. The transfer stations should be located to minimize the solid waste transportation system cost by:
  - a. Locating as close as possible to the centers of waste generated in the Metro region (see Figure 4-4).
  - b. Providing a 20-minute haul time for at least 80 percent of the solid waste generated in the Metro region.
  - c. Locating near major transportation corridors.
4. Metro should consider locating a satellite transfer facility in the Hillsboro/Cornelius/Forest Grove area if 30-minute service is not provided by the site selected for the west transfer station.
5. Implement Phase I Resource Recovery Public Receiving and Recycling Center (later named CTRC) to be operational by June 1982.

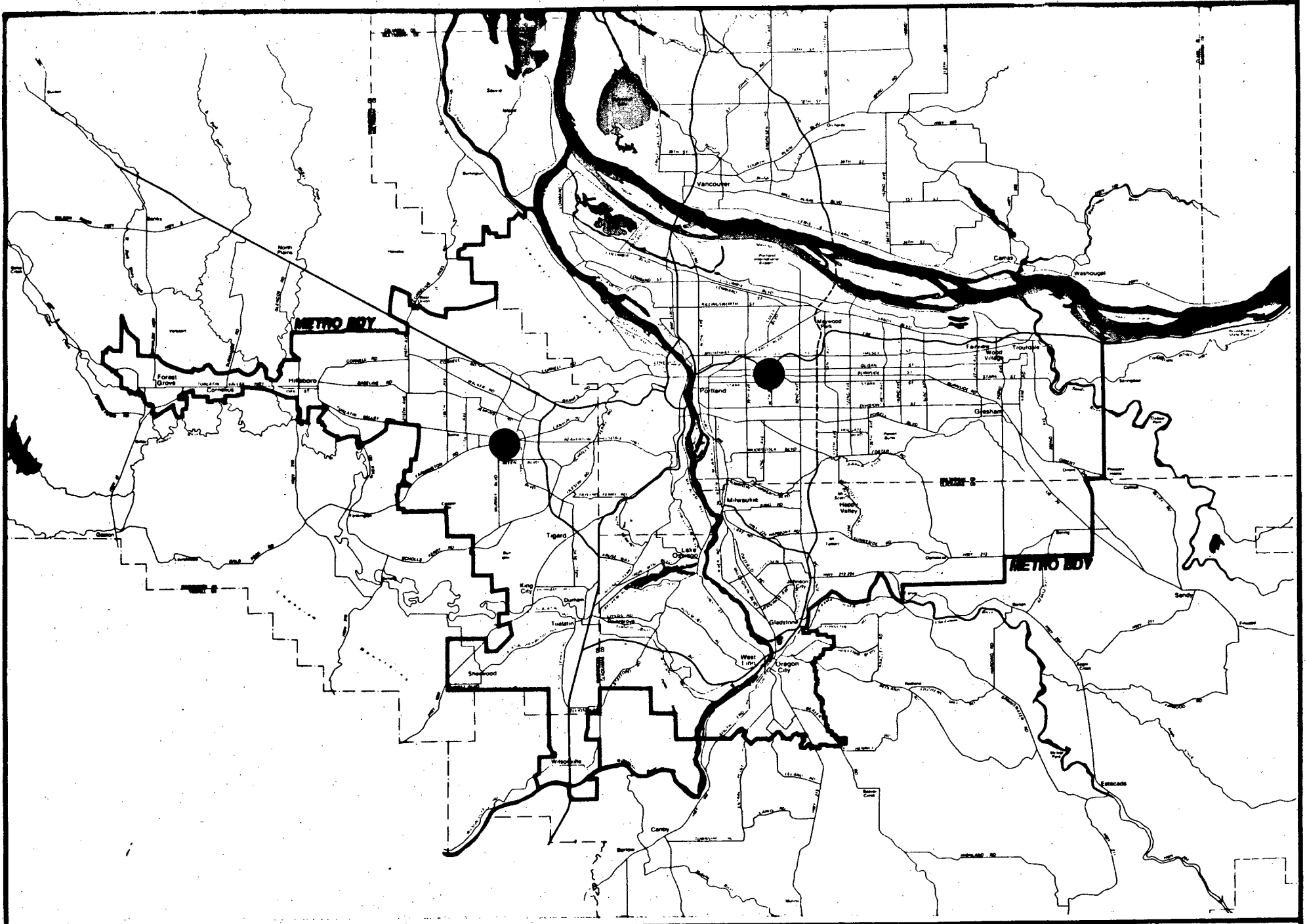
The Transfer Plan was reviewed and approved by the Regional Services Committee in January 1981. The plan was not acted on by the full Metro Council. A copy of the Transfer Plan and a siting procedures report was sent to all local jurisdictions in the Metro region in May 1981 for their comment. Metro received limited response to these reports, but continued to update information on the cost-effectiveness of the proposed system. In the meantime, the energy recovery project was moving ahead.

As part of the ERF analysis, Metro looked at total system cost and levels of service for several alternative systems. This analysis was submitted to the Metro Council in December 1981 as the Solid Waste Facilities Implementation Plan (FIP).



**Haul Time Contours: Two Transfer Stations plus CTCR/ERF**  
 from Proposed Solid Waste Transfer Plan, January 1981

**Fig. 4-3**



**1980 Waste Generation Centroids**  
 Assuming the Metro waste shed is divided east, west & CTCRC

**Fig. 4-4**

The conclusions of the report supported the conclusions of the Transfer Plan--that the recommended system include two transfer stations plus CTRC/ERF. The FIP noted, however, that implementation of a west transfer station "will be influenced by the support from local jurisdictions and haulers."<sup>4</sup>

Anticipating the closure of Rossman's Landfill, Metro began construction of CTRC in 1982. In the meantime, the Metro Council was moving toward a final decision on whether to implement the ERF. R. W. Beck and Associates, consulting engineers, was retained to review the proposed ERF. The Beck report reviewed the cost of alternative disposal systems, including information contained in the Transfer Plan and the FIP.

Beck considered several system alternatives that included CTRC only, and CTRC plus one or two additional transfer stations. The consultant concluded that, compared to disposal facility costs, the number of transfer stations appears to have a relatively minimal effect on the overall system cost. The cost of adding a third station is offset by keeping the collectors' haul cost to a minimum. This is illustrated in Table 4-2 which is an excerpt from a table in the Beck report.<sup>5</sup>

Transfer stations can increase the cost efficiency of the solid waste collection and disposal system in the tri-county region. Various studies by both Metro staff and independent consultants conclude with the same recommendations: that a system of transfer stations be implemented, and that the optimum combination of level of service and impact on total system cost can be achieved with the CTRC in Oregon City plus a facility in Washington County to serve the west portion of the region and a facility in the City of Portland to serve the north and east areas of the region.

Implementation of this system began in 1983 with the opening of the region's first transfer station in Oregon City. Metro's constituents in other parts of the region have reiterated their desire to have continued or improved level of service as existing disposal sites close. Implementation of a west transfer station, the next system component, will begin in 1984.

TABLE 4-2

Haul Cost Comparison(Cost per Ton as Expressed in 1982 Dollars)<sup>1</sup>

<u>Cost Component</u>	1 Lndfl CTRC <u>1 TS</u>	2 Lndfl CTRC <u>2 TS</u>
Transfer Station Debt Service	1.26	1.56
Transfer Station O&M	2.94	3.58
Transfer Haul	3.85	3.99
Cost of Transfer Haul	8.05	9.13
Collection Haul	<u>10.35</u>	<u>8.58</u>
Total Haul Costs	<u>18.40</u>	<u>17.71</u>

Legend: Ldnfl: Wildwood Landfill  
 CTRC: Clackamas Transfer & Recycling Center  
 TS: Transfer Station

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<sup>1</sup>Total annual costs have been divided by 848,000 TPY to convert to unit cost per ton.

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## IMPLEMENTATION OF THE TRANSFER SYSTEM

### Clackamas Transfer & Recycling Center

With Rossman's Landfill slated to reach capacity and close in late 1982 or early 1983, Metro proceeded with the design and construction of CTRC in 1981-1982. The facility opened in April 1983 and is the only transfer station operating in the tri-county metropolitan area which serves both public and commercial haulers. Waste arriving at CTRC is transferred 27 miles to the St. Johns Landfill for disposal, a two-hour round trip.

As part of Metro's solid waste management plan, the CTRC was planned as a transition facility serving both public and commercial haulers from the southern portion of the region. Ultimately, CTRC was scheduled to take refuse from public customers only, and act as a back-up facility to the proposed 1,500 ton per day mass incineration facility.

The Oregon City Planning Commission approved the proposed CTRC design plan on November 4, 1981, with 12 conditions, including the stipulation that CTRC be sized for a maximum of 400 TPD.

In November 1982 an initiative petition was passed by the voters of Oregon City to prohibit the solid waste incinerator that was planned for the north end of the property on which CTRC is located. With that decision, the future role of CTRC changed. Instead of being a long-term public and short-term commercial facility for solid waste from the southern portion of the Metro region, it would now function as a long-term facility for both public and commercial haulers.

In February 1983, Metro returned to the Planning Commission and requested that the 400 ton limit be rescinded. The Planning Commission conditionally approved an increase in the allowed tonnage.

Oregon City expressed concern about the long-term potential for traffic congestion in the area of the transfer station. Traffic has not been a problem, however, either on-site or leading to the site. In October 1983, Metro and Oregon City reached an agreement that allows CTRC to receive and transfer 24,000 tons of solid waste within a 30-day period, or approximately 800 TPD. Other conditions to the previous agreement were not changed.

The CTRC also serves as a center for recycling waste. Recycling drop boxes for source separated material (primarily hauled by the public) are provided for newsprint, corrugated cardboard, tin, white goods, non-ferrous metal, glass and aluminum. Used motor oil is also accepted. Approximately 125 tons of recyclables are collected each month at CTRC. With this experience, Metro can evaluate recycling methods for future transfer stations.

### Washington County Transfer Station

The need for a transfer facility for Washington County was first

recognized in the COR-MET study, and specified in MSD Ordinance No. 31, passed on August 8, 1975. The Transfer Plan approved by the Regional Services Committee in 1981 suggested that implementation of a west transfer station should be a priority.

In February 1983, when the Oregon City Commission approved an increase in the tonnage limit at CTCRC, it was with the condition that Metro have a second transfer station under construction by 1985. This condition reflects Oregon City's desire that CTCRC accommodate solid waste from Clackamas County, but not supply the principal disposal option for solid waste from other parts of the region.

The imminent closure of the landfills serving Washington County prompted a renewed effort to begin implementation of a west station in the spring of 1982. Metro began holding discussions with local jurisdictions and members of the waste collection industry in Washington County regarding their need/desire for a transfer station. Resolutions of support for a facility were received from Washington County and the cities of Hillsboro, Beaverton, Tigard, Forest Grove, Tualatin and Cornelius.

In July 1982 the Metro Council directed the staff to set up a process for implementing a transfer station in the county. A committee was established and directed to consider various implementation alternatives. The committee, made up of representatives of local jurisdictions, urged that Metro proceed with building the transfer station as soon as possible and suggested that the actual procurement approach should be decided by Metro.

Since receiving the committee suggestions, the Metro Council has decided that the Washington County transfer station will be publicly owned, and privately operated by contract.

The proposed transfer station should be located with good access to U.S. 26 or Highway 217. Industrial land served by arterials will minimize or eliminate traffic in residential areas. The primary factor will be to locate near the center of waste generation.

It will be sized to handle the 200,000 tons of solid waste generated annually in the western part of the region.

#### Portland Transfer Station

As discussed earlier, both the COR-MET and the Transfer Plan recommends that a transfer station be located to serve Portland and Multnomah County. The St. Johns contract between Metro and the City of Portland, and the terms of the conditional use permit from Multnomah County for the Wildwood Landfill, affect implementation of a third transfer station to serve areas not served by the CTCRC or Washington County stations.

The April 1980 contract between Metro and the City of Portland, giving Metro the authority to operate the St. Johns Landfill, noted

the need for replacement disposal options for both commercial haulers and the public when the St. Johns Landfill closes. The contract stipulated that "Metro shall construct and implement operation of a processing center(s) and/or transfer station(s) in the City of Portland prior to the close of the landfill to provide a level of disposal service which meets the disposal needs of the City."

The need for a transfer station in Portland comes not only from the terms of the St. Johns contract. When Multnomah County granted a conditional use permit to Metro for the site of the proposed Wildwood Landfill, one of the conditions in the permit stipulated that access to the site be limited to transfer vehicles in order to reduce traffic impacts on highway U.S. 30. This restriction practicably requires a transfer station to serve haulers and residents of Portland and East Multnomah County.

Currently, an average of 25,000 tons of waste is hauled directly to St. Johns each month. Most of this waste is generated in the City of Portland and Multnomah County. When the landfill is completed, a transfer station will be sited to provide service to these areas. The transfer station will be more centrally located near the waste generation center than the St. Johns site. This will reduce the collector's haul time.

The need for a third station is not as immediate as the need for the west station because the St. Johns Landfill is expected to continue taking refuse into 1989. The timing for implementation of a third station will be determined by the remaining capacity at the St. Johns Landfill. Ample time must be reserved for planning, public review, siting, obtaining necessary permits, and construction of the facility prior to the landfill closure date.

#### Satellite Facilities

In addition to the planned system of three transfer stations, the Transfer Plan included a recommendation to consider locating a satellite transfer facility in the Hillsboro/Cornelius/Forest Grove area if a 30-minute service is not provided by the site selected for the west transfer station.

A satellite facility is defined for this report as a relatively small transfer station, located near the region's boundary, for the purpose of providing improved disposal service to the periphery of the region. This service should be available to both commercial collection firms and to private citizens who haul their own waste to a disposal facility.

#### Independent/Privately Owned Transfer Stations

Small, independently owned transfer and/or processing facilities have operated in the Metro region for several years. These facilities fall into two basic categories: 1) operations where source separated material is collected and processed for marketing

by a commercial hauler or recycler, and 2) operations where mixed waste is received, recyclables may be separated, and the remaining waste compacted and transferred for disposal at a landfill.

If the operation handles strictly source separated material, Metro is not involved. An example would be a facility which processes loads of corrugated cardboard that is baled on site for marketing. However, if a facility handles mixed waste that is sorted and processed, with some material going to a disposal site, then Metro's Disposal Franchise Ordinance applies.

Metro's Disposal Franchise Ordinance does not allow a person involved in the waste collection industry to obtain a franchise to operate a processing center or transfer station unless it will be used only by his own collection company. This provision assures that a solid waste facility operator cannot give his own waste collection company an unfair price advantage over his competitors.

In the past, some commercial haulers have set up private transfer stations for the purpose of reducing their cost of doing business. The private transfer station operators may compact their waste and transfer it to a limited use landfill or a landfill outside the region, where they may be charged by volume rather than by weight. The operator may also realize haul cost savings. For example, Forest Grove Disposal Company has received a franchise to operate a private transfer station to serve its collection companies. Waste will be transferred to the Riverbend Landfill in McMinnville. While this station will partially meet the potential need identified in the Transfer Plan for a satellite facility to serve the western periphery of the region, it will not meet the service needs of the public who self haul.

As a transfer component, the impact of existing privately-owned transfer and/or processing facilities is negligible because of the small volume of material they handle. In the current Metro system, the privately owned transfer stations have worked to reduce the waste flow into the St. Johns Landfill, thereby extending its site life. This benefits the Metro region by providing more time to implement a long-term general purpose landfill. After a regional landfill is sited, this benefit will be reduced. There is no adopted policy on the role of private transfer stations once the region's planned transfer stations and regional landfill are developed.

#### TRANSFER STATION MANAGEMENT

In 1980, when Metro was ready to begin building the facilities for a regional solid waste disposal system, the firm of Price Waterhouse was hired to study and recommend a management strategy for those facilities. Specifically, Price Waterhouse looked at four alternatives:

- Metro ownership and operation
- Metro ownership/private operation
- Private ownership and operation
- Private ownership/Metro operation

Each of the alternatives has advantages and disadvantages. In deciding between private versus public ownership and operation, Metro must evaluate factors such as the ability to raise capital, the degree of technological risk involved, the management expertise required and the expected capital and operating costs.

Regardless of which management alternative is used, Metro is ultimately responsible for ensuring that needed disposal facilities are available and are operated in a safe, efficient manner. How does Metro accomplish this? By getting maximum use out of existing and future disposal facilities, controlling the flow of waste to facilities when necessary, controlling the number and qualifications of private operators who are involved in solid waste disposal in the region, and controlling user charges to assure that they are fair and reasonable.

In light of these objectives, Price Waterhouse recommended that the optimum management structure would have Metro owning and operating, or contracting the operation of, all transfer stations and general purpose landfills. This management structure would ensure that Metro has the control it needs in order to effectively manage the regional disposal system. It also offers economies of scale and the availability of low interest loans or government grants for capital expenditures.

Price Waterhouse noted that while transfer stations could be privately owned and operated, public ownership would guarantee that the general public had convenient disposal service. The consultant also suggested that a uniform disposal charge be levied at all transfer stations in the region, to help flow control, and that if all or some stations were privately owned, establishment of a uniform disposal charge would be extremely complex and unlikely.

Metro has followed the policy of public ownership while contracting with the private sector for design, construction and operation for CTRC and at St. Johns Landfill. By having an open, competitive bidding process for the operations contract, Metro can obtain the most cost-effective operations for St. Johns Landfill and for the transfer facilities. This will keep down total system cost.

As Metro continues the management structure of public ownership/private operations by contract, a review of the existing Disposal Franchise Ordinance should be conducted to assure its compatibility with the management system.

#### ALTERNATE TRANSFER STATION DESIGN

Transfer stations can be designed to enhance the opportunity for recycling, as evidenced by the CTRC. Recycling drop boxes are

REGIONAL SERVICES COMMITTEE WORK SESSION  
Solid Waste Management Plan Update  
Landfill and Transfer Sections

I. Long-Term System Policy Issues

- A. Establish long-term disposal site
  - 1. Current top priority of Metro Council is to establish long-term disposal site
  - 2. Adopted policy is to establish regional landfill at Wildwood site
- B. Development of criteria to review establishment of other general-purpose landfills once a long-term disposal site is available
  - 1. Metro Council needs to develop and adopt policies
- C. Role of limited-use landfills in long-term system
  - 1. Metro Council needs to develop and adopt policies
- D. In the event Metro is unable to secure permits for a regional landfill at Wildwood, the Council will need to establish policy on alternatives to establish disposal site
  - 1. Identified alternatives include long-term expansion of St. Johns landfill, seeking approval of a different new site, or requesting state siting of landfill
  - 2. Policy will only need to be established if, in the future, Metro is unable to secure permits for Wildwood site
- E. Establishment of number, location, sizing of transfer station system
  - 1. Policies have been developed and adopted as part of Cor-met and Metro Transfer Station Plans. The Metro Transfer Station Plan was not formally adopted by full Council

- F. Policy on groups to which Metro disposal facilities will provide service
  - 1. Practice has been to serve both commercial haulers and self-hauling public. Need to develop into policy.
- G. Development of criteria to review establishment of small private transfer stations in long-term disposal system
  - 1. Some criteria presently included in franchise ordinance, needs to be determined whether adequate.
- H. Opportunity to recycle in transfer stations
  - 1. Policy adopted in Waste Reduction Plan. Extent of Metro's role in processing and recycling at transfer stations is still a policy issue. Further information will be presented in Waste Reduction and Alternative Technologies/Processing sections.
- I. Ownership of disposal facilities
  - 1. Practice has been for public ownership of base disposal system to meet region's need - 3 major transfer stations, regional landfill. Actual policies have not been adopted. No policies adopted for ownership of limited use landfills.

## II. Short-term System Policy Issues

- A. Establish strategy for extending St. Johns Landfill site life options
  - 1. Diverting waste to limited use landfills - Program could be implemented through voluntary, fee - driven or mandatory means. Includes policy issue of siting new facilities.
  - 2. Diversion through increased recycling
    - a. Programs will be discussed in Waste Reduction and Recycling section.

II. Short-term System Policy Issues (cont.--)

- 3. Diversion of mixed waste from Metro transfer stations to other general purpose facilities.
  - 4. Division of haulers from the periphery - Could be voluntary or mandatory program
  - 5. Lateral or vertical expansion of St. Johns Landfill
  - 6. Baling
- B. Further investment in Wildwood site before approval of land use permits
- 1. Metro Council may need to decide on this policy issue based on outcome of Wildwood permit process

Post - Collection Processing/ Resource Recovery

I. Policy Issues

- A. Priorities in Solid Waste Management
  - 1. Policies were adopted in Waste Reduction Plan which are in conformance with new statute (ORS 459)  
Any changes or more detail required?
- B. Emphasis on source-separated vs. post-collection recycling
  - 1. Cor-met plan included post-collection processing and recycling; little emphasis on Metro role in source separated recycling
  - 2. Waste-reduction plan emphasis source-separated recycling
- C. Under what criteria should Metro consider alternative disposal technology proposals
  - 1. Development of policies on cost, guarantees required etc.
- D. Involvement with demonstration projects on developing technologies





# Memo

METROPOLITAN SERVICE DISTRICT 527 S.W. HALL ST., PORTLAND, OREGON 97201 503 221-1646  
Providing Zoo, Transportation, Solid Waste and other Regional Services

Date: July 23, 1984

To: Rick Gustafson, Executive Officer

From: Daniel F. Durig, Director of Solid Waste

Regarding: Fourth Quarter Program Progress Report  
1983-84 Fiscal Year Summary  
Solid Waste Department

SOLID WASTE DEPARTMENT

## MAJOR PROGRAM ACCOMPLISHMENTS OF 1983-84

FY 1983-84 was noteworthy in Solid Waste for both internal and external progress. Within the department, the staff was made substantially stronger through the addition of personnel possessing more experience in the public or private sector. Our efforts to more fully explain our role and accomplishments, prior to public policy decisions, have clearly resulted in media coverage which is accurate and lacking in the emotional tone of some previous Solid Waste projects. While our decibel level has gone down, effectiveness has increased. Following are major highlights.

- Completed final draft of five-year financial study of Solid Waste Department. (To be incorporated into Solid Waste 1984 Update Management Plan.)
- Selected Methane Gas Consultant, completed 90 percent of progress report on development of St. Johns Landfill gas resource.
- Completed landfill and transfer station chapters of system plan. Alternative technology and data base chapters in final draft form. Completed extensive contact briefings with parties affected by landfill/transfer system chapters. Distributed landfill and transfer station chapters to over 80 individuals for comment.
- Closed administrative portion of yard debris demonstration grant, issued final report, and conducted public forum. Provided technical assistance to DEQ on burning ban rules.
- Completed revision to Multnomah County Land Use Ordinance/Comprehensive Plan at Planning Commission level based upon need to revise these documents in response to LUBA decision on Wildwood.

- Committed to build WTRC, appointed advisory group, and undertook extensive educational campaign about Metro Solid Waste and need for WTRC in western part of region.
- Selected consultants for St. Johns inspection-services report for a three-year contract period. Completed minor and major landfill reports and delivered to the City of Portland.
- Completed office paper recycling project for Metro offices and instituted findings.
- Monitored, and when appropriate, testified on legislation affecting Solid Waste. (DEQ user fees and SB 405 were closely followed.) Attended all relevant DEQ policy task force meetings.
- Completed CTRC construction litigation between Metro and the contractor. Litigation between Metro and its engineer is still pending.
- Incorporated a more extensive landfill management flow program into Solid Waste Management Plan Update 1984.
- Reached agreement with Genstar, Yamhill County, and Newberg operator to divert CTRC waste to this site beginning 7/84.
- Completed detailed report of St. Johns Landfill and filed for permit extensions. Received the NPDES permit for the landfill.
- Completed first full year of CTRC operation, produced detailed report on CTRC operations, and reported to Oregon City officials. Hosted open house on first anniversary.
- Completed annual rate study and instituted new rates on 1-1-84.
- Assisted legal counsel in Wildwood appeal before Oregon Court of Appeals.
- Added two additional cities to source-separated curbside demonstration program.
- Completed negotiations with City of Portland on modification to St. Johns contract. Continued negotiation on lease payment with City staff
- Designed, bid, and constructed three-bay washrack at CTRC.
- Prepared and presented FY 84-85 Solid Waste Budget. Participated heavily in reclassification study of Metro organization.

4th Quarter Program Progress Report  
- continued. Solid Waste Dept.

- Completed active program of Waste Reduction public information, including publishing Recycling Forum, operating RIC and providing technical assistance to local jurisdictions on community/school educational campaigns.
- Operated both CTRC and St. Johns Landfill on a seven-day-a-week basis in an efficient and environmentally sound manner.
- Completed informational solid waste slide program and presented to a variety of civic organizations on Metro's solid waste mission, progress, and project status.
- Completed compilation of ERF documents and made available for sale to interested parties.

STATUS OF BUDGETED PROGRAM COMMITMENTS

- Major commitments met are highlighted in previous paragraph. Although some slippage has taken place in system planning and methane projects, the need to lay proper groundwork or complete analysis at the front end of these projects, will avoid major confusion at future decision points.
- Although a formal management analysis of the organizational structure of the department was not completed, the Metro pay and class study assisted in addressing several of the major pending concerns.
- Anticipated seminars for local government officials were not held, but extensive communication with local governments was carried out in conjunction with other programs.
- Rebudgeted waste reduction market study and plan to integrate CTRC with Clackamas County Recycling Industry for FY 84-85.

MAJOR PROGRAM CHANGES

- Commitment to build Washington Transfer and Recycling Center (WTRC).
- CTRC construction litigation and negotiation required a substantial amount of unbudgeted time.
- Wildwood effort was primarily directed towards modifying Multnomah County land use ordinances during second half of fiscal year.
- Yard debris program has occupied twice the time originally budgeted.

4th Quarter Program Progress Report  
- continued. Solid Waste Dept.

- . Time involved with legislation, pay-class study, Council-Executive workshops, office rearrangement and recruiting, was more than anticipated in the budget.
- . Built washrack at CTRC, worked with Oregon City to increase tonnage limitation.
- . Committed more time to landfill management flow program than was originally budgeted.

COMMITTEE MEETING TITLE

SWPAC

DATE

8/30/84

NAME

AFFILIATION

Gary Newbore

GARY NEWBORE

Metro

KFD LANDFILL

Mike Smalley

Wash. Cty

John Trout

Collection

Bob Brown

DEGR

Bob Harris

Public - Clarkamas Co.

Shirley Coffin

Public - Wash. Co.

DANIEL F. DURIG

METRO

DENNIS O'NEAL

METRO

Dave Phillips

Clackamas Co. DES

D Mulvihill

Metro

BUFF Wynn

METRO

Howard Grathorn

Landfill Wash Co.

Dolyn Kies

City of Portland

Ed Stuber

Metro

James Cozzitto

bl

Metro

8/20

Members -

- Phelps +

Annis -

Wan -

- Shirley C. <sup>X</sup> <sub>Wm</sub>

Robert H. <sup>X</sup> <sub>Annis</sub>

Bruce Brown <sup>Ⓢ</sup>

~~Jack Randall~~ <sup>Ⓢ</sup>

~~Sam Johnson~~ <sup>Ⓢ</sup>

John <sup>X</sup> <sub>Wan</sub>

✓ Buff & Wm

X Howard <sup>Wan</sup>  
✓ Jim <sup>Wan</sup> <sub>3/3/76</sub>

✓ Helen <sup>Wan</sup> <sub>Kerr</sub>

✓ Ed

✓ El

✓ Mary <sup>Wan</sup> <sub>Jane</sub>

✓ Long <sup>Wan</sup> <sub>Wan</sub>

✓ Mike <sup>Wan</sup> <sub>Sando</sub>