

METROPOLITAN SERVICE DISTRICT
MEETING MINUTES OF FEBRUARY 2, 1973

ATTENDANCE

Lloyd Anderson, Chairman
Mel Gordon
Eldon Hout
James Robnett
Warren Powell

Staff
Homer Chandler
Chuck Kemper
Judy Corsi

Legal Counsel
Dean Gisvold

There being a quorum present, the Board considered the following items of business:

I. SOLID WASTE MANAGEMENT ACTION PLAN

Chairman Anderson called on Mr. Gisvold to present certain documents pertaining to the preparation of the Solid Waste Plan. They were:

1. Ordinance No. 1.
2. Contract with Cor-Met.
3. Contract with Bartle Wells Associates.
4. Planning grant offer and acceptance from the DEQ.

Mr. Gisvold explained that the planning grant offer and acceptance was received on Wednesday, January 31, 1973. He further explained that the revised contracts with Cor-Met and Bartle Wells were prepared to meet the DEQ requirements as contained in the planning grant offer and acceptance. He advised the Board that Les Wierson, Regional

Manager for CH2M-Hill, one of the joint venturers in Cor-Met, was present in the audience and approved the contract and was prepared to sign it. Mr. Wierson affirmed this advice. Mr. Ed Wells, President of Bartle Wells Associates, Inc., was also present and announced his approval of the contract and his willingness to sign it. Mr. Gisvold noted that the Board had previously approved the application to DEQ for funds, the contract with CRAG for staff services, and the contracts with the two consultants. Ordinance No. 1 also approves the planning grant application of January 15, 1973, to DEQ, the agreement between MSD and CRAG, the agreement between MSD and Cor-Met, the agreement between MSD and Bartle Wells, and authorizes acceptance of the offer from DEQ to fund the solid waste management implementation plan. He advised that it would be appropriate, in light of the amendments and revisions to several of these documents, to reaffirm the Board's position with regard to the various contracts and agreements and to discuss and vote on Ordinance No. 1 at this time.

Mr. Gisvold then read Ordinance No. 1 in its entirety. The Board concurred that the policy henceforth should be to include a summary of an ordinance with the text of the ordinance and to read the summary in lieu of reading the entire ordinance.

Mr. Hout moved the adoption of Ordinance No. 1. The motion was seconded by James Robnett. The motion carried unanimously. Mr. Gordon arrived after this vote was taken and did not vote on Ordinance No. 1.

II. COLUMBIA COUNTY REPRESENTATION ON MSD

Mr. Powell moved that a representative of Columbia County be invited to sit on the Board to discuss related problems they may have on the Solid Waste Study, with the stipulation that he or she will be a non-voting member; motion seconded by James Robnett; motion carried.

III. TECHNICAL ADVISORY COMMITTEE

Mr. Chandler reported that, since the Board's last meeting, he had not received any additional names to submit to the Board for membership on the technical advisory committee.

Members of the Board expressed that they had understood that this matter would be brought up at the next regular meeting; therefore, had not made any definite appointments.

IV. APPROVAL OF MINUTES

Commissioner Hout moved for approval of the minutes of the MSD meeting of January 12; motion seconded by James Robnett; motion carried.

V. AGENDA FOR NEXT MEETING

Members of the Board agreed that the following should be discussed at the next meeting:

1. Establish Citizens Advisory Committee
2. Role--other areas in which MSD might participate.
3. Selection of MSD Program Manager for Solid Waste.
4. Progress of Solid Waste Study.

Members agreed that their next meeting would be March 2, 1973, at 1:30 p.m.

There being no further business, the meeting adjourned at 1:35 p.m.

AGREEMENT TO FURNISH ENGINEERING SERVICES
TO THE
METROPOLITAN SERVICE DISTRICT
FOR A
COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

For the consideration hereinafter set forth, COR-MET, a joint venture between the following member firms:

Cornell, Howland, Hayes & Merryfield, Inc.
1600 S.W. Fourth Avenue
Portland, Oregon 97201

Metcalf & Eddy, Inc.
1029 Corporation Way
Palo Alto, California 94303

agrees to provide engineering services to the METROPOLITAN SERVICE DISTRICT, hereinafter referred to as MSD, for preparation of a Comprehensive Solid Waste Management Plan for the Metropolitan Service District, Oregon including Clackamas Columbia, Multnomah and Washington counties.

ARTICLE 1

The specific services which COR-MET agrees to furnish are described as Tasks 1, 2, 3, and 5 in Appendix A. Task 4 will be furnished by others.

ARTICLE 2

As consideration for providing the engineering services enumerated in ARTICLE 1, MSD shall pay COR-MET the lump sum of Two Hundred Fifty Thousand Dollars (\$250,000).

For ADDITIONAL SERVICES authorized by MSD, not specifically provided for hereunder, MSD shall pay COR-MET an agreed upon fee to be negotiated at the time the work is undertaken.

ARTICLE 3

Payment to COR-MET as prescribed in ARTICLE 2 is to be made as follows:

Within ten (10) days after the last day of each month during which services on the study have been furnished, COR-MET's estimate of the value of the work accomplished by COR-MET during the month, except the total of such monthly payments prior to completion of the work shall not exceed ninety percent (90%) of the total lump sum as prescribed in ARTICLE 2.

Within thirty (30) days after completion of the study, the lump sum for such services as prescribed in ARTICLE 2, less monthly payments previously made.

Within ten (10) days after the last day of each month during which ADDITIONAL SERVICES not specifically listed under ARTICLE 1 have been furnished, the amount due as prescribed in ARTICLE 2, for such services rendered during the month.

ARTICLE 4

It is further mutually agreed by the parties hereto:

That, unless specifically so directed by MSD, COR-MET shall not begin work under this Agreement until acceptance by MSD of an Advance for Comprehensive Solid Waste Management Planning from the State of Oregon Department of Environmental Quality and issuance of written notice to proceed.

That, if ADDITIONAL SERVICES not specifically provided for in this Agreement are to be performed, written approval of MSD must be given.

That COR-MET will complete all engineering services which are specifically to be furnished under this Agreement within ten (10) months after written notice to proceed, unless the data or work to be furnished or performed by MSD or other contractors assigned to the project by MSD are not available to COR-MET at the proper time for incorporation into the work, or there occur other delays beyond COR-MET's control, in which case the time of completion shall be extended by the number of days of such delay.

That, if payment of the amounts due as prescribed in ARTICLE 2, or any portion thereof, is not made within thirty (30) days after the period specified in ARTICLE 3, interest on the unpaid balance thereof will accrue at the rate of six percent (6%) per annum and become due and payable at the time said overdue payments are made.

That, cost estimates for the study and report to be prepared under this Agreement are to be based upon presently available data, adjusted where necessary to reflect anticipated future changes. In preparation of cost estimates, COR-MET will apply their experience and judgment, but since they have no control over such possible changes or competitive bidding procedures and market conditions, no warranty is given as to the accuracy of cost estimates.

That, if the engineering services covered in this Agreement have not been completed by January 1, 1974, MSD or COR-MET may, at the option of either, on written notice, request a renegotiation of ARTICLE 2 (providing for the compensation to be paid COR-MET for services rendered) to allow for changes in the cost of service. Such new schedule of compensation is to apply to work performed by COR-MET after delivery date of such written notice.

That, COR-MET will work with other contractors retained by MSD for the project and assist in coordination of the work to accomplish the work program set forth in ARTICLE 1.

That, this Agreement is to be binding on the heirs, successors, and assigns of the parties hereto and is not to be assigned by either party without first obtaining the written consent of the other.

ARTICLE 5.

IN WITNESS WHEREOF, the parties hereto each herewith subscribe
the same in triplicate this _____ day of _____, 19 __.

For Metropolitan Service District

By _____

By _____

For COR-MET

BY Healie Jackson

BY Franklin L. Burtis

APPENDIX A

TO ACCOMPANY CONTRACT FOR
MSD PORTLAND SOLID WASTE MANAGEMENT STUDY

STUDY AREA

The study area shall include in their entirety the four counties of Clackamas, Columbia, Multnomah, and Washington in the State of Oregon.

SCOPE OF WORK

General

A comprehensive solid waste transfer, transport, processing, and disposal plan shall be developed for all types of solid wastes within the study area. Short-term recommendations shall be made to upgrade the existing systems in the years 1973 through 1975, and a long-range program shall be developed through the year 2000. The short-term recommendations shall be compatible with and make a logical transition into the long-range program. The collection of solid wastes shall be considered only insofar as it interfaces with and has an impact upon transfer, transport, processing, and disposal. Individual pickup points and collection routes will not be considered.

The specific types of wastes to be included in the study are the following: household and commercial garbage and refuse; leaves, lawn clippings, brush, and other debris resulting from residential, street, and highway maintenance operations; industrial solid wastes; agricultural solid wastes; demolition wastes; major household appliances; abandoned automobiles; tires; wood residues; chemical residues; waste oils; septic tank pumpings; sludge from sewage treatment plants; dead animals; and pathogenic wastes. Hazardous wastes shall be included in the inventory phase of the project only; recommendations on handling and disposing of hazardous wastes will be forthcoming from the Oregon Department of Environmental Quality and shall not be included in this contract.

Formulation of the solid waste management plan shall emphasize viable solutions for solid waste management within the study area and shall de-emphasize research-and-development types of solutions. The recommended plan shall, however, be capable of being adapted to newly developing processes that may prove in the future to be applicable for full-scale use in the study area.

The final report for the study shall present a well-documented, definitive, and implementable action plan for solid waste management within the study area. The report shall include feasibility investigations and preliminary layouts for recommended facilities, but shall not include final design of any facility. The report shall include all descriptions, cost evaluations, environmental assessments, financing analyses, legislative recommendations, and time scheduling necessary to ensure proper implementation of the recommended plan.

Task 1: Public Information Exchange

A public information firm will be engaged by COR-MET to assist in formulating the public information program. The three-fold purpose of the program shall be to inform the public of the need for and progress in the project, to utilize local knowledge as an input to the project, and to report to the public on the final results of the project. The program shall include utilization of the news media, personal presentations, and brochures. Work accomplished under Task 4, by others, will be included in the public information program. Included in this effort shall be a general summary document of the final project plan, to be reproduced in quantity for public distribution, but with expenditures for preparation, printing, and distribution of said document not to exceed \$5,000 of the total funds allocated to Task 1.

To ensure that the public is continuously involved in the project from its outset and to supplement the public information program, a series of public meetings shall be scheduled and held. The purpose of the public meetings will be to inform the local citizens of the continuing progress of the study and to gain from them the expression of local preferences and knowledge in selecting future solid waste handling facilities. A maximum of twelve meetings at which the public will be asked to participate shall be held. Public notice of the time, date, and place of each meeting shall be given at least seven days prior to the meeting. The Metropolitan Service District (MSD) Staff, aided by the Citizens Advisory Council (CAC) of MSD, shall schedule and arrange for the meetings. Representatives of the MSD Staff and COR-MET shall jointly conduct the meetings.

The information presented under this task shall be coordinated with the work accomplished under Tasks 2, 3, and 4 as delineated in this scope of work. Total expenditures up to a maximum of \$37,700 for time, materials, exhibits, and general expenses required of COR-MET for accomplishing Task 1 shall be a part of this contract. Any project expenditures beyond \$37,700 shall be considered additional services subject to negotiation.

Task 2: Analyze Secondary Materials Market

Recognizing the goal of the State of Oregon to achieve maximum reuse of solid wastes, a market survey to determine available and potential reuse of solid wastes shall be conducted as a part of this project.

The survey shall consist both of personal contacts and of mailed questionnaires to major manufacturers who are present or potential users of reclaimed materials. Personal contacts and the issuance of questionnaires shall be restricted to manufacturers within the four-county study area. Determination of present and potential markets outside the study area shall be based exclusively on that information which may be available from State, inter-state, and public-interest groups who have researched available secondary materials markets.

This analysis shall be coordinated with the legislation and financing analyses of Task 4, with particular emphasis on incentive legislation for and financial benefits from reuse of secondary materials.

Total project expenditure for accomplishing Task 2 shall be a maximum of \$20,300, exclusive of the coordinative input from Task 4.

Task 3: Engineering of Solid Waste Systems

Subtask 3a: Organize Project. Prior to starting field work on the project, COR-MET shall delineate in detail the specific individual tasks to be accomplished within the project, the responsibility, and the timing for those individual tasks. Because a compressed time schedule is a critical element in accomplishing the project, careful controls shall be established to enable the Project Manager to maintain constant surveillance of the day-to-day work on the project.

Subtask 3b: Set Goals and Criteria. Based upon the technical expertise of COR-MET, the needs of the study area, and the expression of public preferences gained from local governmental agencies and from public information meetings, goals and criteria for the solid waste management program shall be formulated. The criteria shall include social, legal, political, environmental, and technological considerations and shall continually be revised and evaluated throughout the first six months of the project. The criteria shall be applied to the selection of transport equipment, transport routes, processing equipment, and sites for transfer, processing, and disposal facilities.

As a part of this task, COR-MET shall obtain the services of a legal counsel for advice on matters of law to COR-MET and the other project consultants.

Subtask 3c: Identify and Project Study Area Characteristics. The MSD Staff shall be responsible for providing COR-MET with all pertinent available information on the following general planning data for the study area: present population and demographic projections; land use, present and planned, including acres devoted to various crops; existing topographic maps and aerial photographs; transportation and utility systems; geological conditions; hydrological conditions; climatic conditions and meteorological data; and local wildlife and vegetation. COR-MET shall review all information so provided and select appropriate values and criteria to be applied to the study. COR-MET shall utilize the provided population projections for the study period but will not be responsible for originating those projections; the projections shall be for the years 1975, 1980, 1990, and 2000. Using the population projections and the present solid waste quantities derived in Subtask 3d, COR-MET shall estimate future solid waste quantities for the years 1975, 1980, 1990, and 2000.

Subtask 3d: Inventory Existing Solid Waste Handling System. COR-MET shall conduct an inventory of the present solid waste handling system. The inventory shall be accomplished through on-site investigations and interviews, as well as through the review of existing solid waste reports. The following basic elements shall be included in the inventory: present solid waste handling agencies and their responsibilities; present solid waste handling equipment; present transfer station sites; present transport routes to disposal; present disposal sites and disposal methods; present solid waste management costs; present solid waste quantities and composition; and present recycling efforts.

In conjunction with the inventory, the MSD Staff shall supply COR-MET with a list of all solid waste management agencies (both administrative and operational) within the study area. Included in the list shall be the address and telephone number of the agency, as well as the name of the individual designated to act as a representative of that agency in supplying information and data for this project. Prior to supplying the name of the individual representing each agency, the MSD Staff shall make definitive arrangements with the agency and the individual to ensure maximum cooperation and efficiency. Subsequent contacts with the agencies (to obtain information and data therefrom) shall be the responsibility of COR-MET, except as designated in the following paragraph.

The MSD Staff shall, under the direction of COR-MET, be responsible for gathering and organizing all available cost data (both capital expenses and operating and maintenance expenses) from each of the solid waste handling agencies. COR-MET shall utilize the cost data supplied by the MSD Staff to determine the total costs of the present solid waste handling system. Wherever actual cost figures cannot be obtained by the MSD Staff, COR-MET shall, to the best of its ability, estimate those missing costs in order to arrive at the most realistic figure possible for total cost of the present system.

The MSD Staff shall supply COR-MET with copies of all available solid waste management reports for the study area and shall do all within its power to expedite the gathering of all basic data included in this subtask.

As a part of this subtask, COR-MET shall conduct a comprehensive survey to determine present quantities and composition of solid wastes within the study area. The following major sources of wastes shall be considered in the survey:

1. urban residential and commercial (producing garbage and general wastes, trimmings, demolition wastes, major appliances, abandoned automobiles, tires, septic tank pumpings, sewage sludge, dead animals, and pathogenic wastes)
2. industrial (producing solid wastes, chemical residues, and waste oils)
3. rural residential (producing the same types of wastes as urban residential, but in lesser concentrations)
4. agricultural (producing field and crop residues)

All available information on solid waste quantities from each of the above sources shall be studied and evaluated by COR-MET. To augment and substantiate the available information, COR-MET shall accomplish the following:

1. Determine present quantities and composition of urban residential and commercial wastes through a program of weighing and spot-sampling at a maximum of three major landfills within the study area. A one-week program shall be conducted at each of the selected landfills. The data obtained from the weighing and spot-sampling program will then be correlated with like data available from other sampling and

weighing programs, and total urban residential and commercial waste quantities and composition for the study area shall be derived. Such special wastes as major appliances, abandoned automobiles, tires, septic tank pumpings, sewage sludge, dead animals, and pathogenic wastes shall not be weighed, but determination of their quantities shall be through visual observation at the landfill and through information obtained at the source of the wastes.

2. Determine present quantities of industrial wastes through observations at the landfill and through interviews with major industries (including wood processing industries and the Port of Portland) in the study area. If there is no reliable information available for quantities of wood processing wastes, COR-MET shall estimate those quantities through visual observations at the industrial site. There shall be no weighing program for industrial wastes.
3. Determine present quantities of rural residential wastes through questionnaires mailed to rural residents, visual observations of the rural system, and visual observations of rural wastes brought to the disposal sites. There shall be no weighing program for rural wastes.
4. Determine present quantities of agricultural wastes through typical per-acre waste generation figures for various types of crops. The source of information for the typical figures shall be local, state, and federal agencies, and Oregon State University. The typical unit generation figures applied to acres of croplands within the study area shall be used to determine total present quantities of agricultural wastes. There shall be no weighing program for agricultural wastes.

Of the total expenditures for Subtask 3d, a maximum of \$15,000 shall be utilized for the above program to determine present solid waste quantities and composition. The information on quantities shall be converted to typical per-capita and (in the case of rural areas) per-acre waste generation rates for use in projecting future solid waste quantities. Data on solid waste composition will be used to evaluate processing systems and the potential for recycling particular waste components.

Subtask 3e: Identify and Evaluate Potential Equipment and Sites. Based upon the characteristics of the study area and upon COR-MET's knowledge of solid waste processes and equipment, COR-MET shall select those processes and equipment that may be applicable to the study area. Those methods that will be considered include but are not limited to, the following:

1. Transfer
2. Transport
 - a. trucks
 - b. barge
 - c. rail
3. Processing
 - a. compaction
 - b. milling
 - c. high-compression baling
 - d. heat processing with energy recovery
4. Disposal in sanitary landfills
5. Reclamation of materials for reuse
 - a. separation at the transfer station or intermediate point
 - b. separation at the disposal site

Once the potential handling and processing methods have been determined, potential sites for them will be identified. Site selection shall consider public preferences, economics, technical feasibility, environmental impact, and aesthetic effects. Information gained from the public meetings (Task 1) shall be utilized in these evaluations. Existing landfill sites shall be evaluated for suitability of continued use and extent of improvements required, and the remaining life of the sites shall be estimated. Potential landfill sites, both local and regional, shall be identified and their capacity estimated.

Subtask 3f: Evaluate Existing Systems. Based upon the criteria set in Subtask 3b and the information evaluated in Task 4 and Subtasks 3c, 3d, and 3e, COR-MET shall evaluate the existing solid waste management systems. Efficiency, economy, aesthetics, public acceptance, and environmental effects shall all be considered. Immediate problems within the existing systems shall be identified, and applicable short-term (1972-1975) solutions shall be recommended. Short-term recommendations shall, however, be coordinated with probable long-term recommendations for the systems.

At the conclusion of Subtask 3f, the recommendations for short-term improvements to the existing systems shall be presented to the MSD Board at a meeting called specifically for that purpose. COR-MET shall prepare a letter-type report presenting the recommendations and shall discuss them in detail at the meeting.

Subtask 3g: Develop Alternative Systems. COR-MET shall combine potential waste handling methods, processes, and sites selected in Subtask 3e into alternative solid waste management systems. The efforts in this subtask shall be concentrated on the physical and operational aspects of the alternative systems, but the results shall be coordinated with Task 4, which will deal with the management alternatives for the systems and financing.

COR-MET shall develop a basic plan for each alternative solution, taking into account the location, type, and capacity of potential transfer, processing, and disposal facilities. Potential sites shall be located and generally described. Each system plan developed shall provide for ultimate disposal of all residues, effluents, and by-products of the processing methods. A time schedule for phasing of the potential facilities, according to needs, shall be developed for each alternative over the 27-year study period from the year 1973 through 2000.

For each alternative, COR-MET shall estimate the capital costs of construction, including costs of land acquisition, engineering, legal services, and contingencies. The total annual cost of the potential facilities shall also be estimated and shall include debt service to defray capital costs as well as expenses for operation and maintenance.

As deemed necessary, COR-MET may use computer modeling to a limited extent to assess the effects that result from varying the individual components within alternative systems. To such a degree as the results from Task 2 and Subtask 3e have shown separation, reclamation, and reuse of materials to have feasible application within the study area, these methods shall be included in one or more of the alternative systems.

For those land disposal sites within the study area that prove to be most viable for inclusion in the alternative systems, reconnaissance soil borings and evaluations of soil and groundwater conditions shall be conducted as required, with the total expenditure not to exceed \$10,000. Further expenditures for this activity for preliminary design or final design purposes are beyond the scope of this contract.

Subtask 3h: Compare Alternative Systems and Effects. The evaluation of alternative systems shall consider the following: cost; reliability; aesthetics; environmental effects; conservation; laws, ordinances, and regulations; public health; availability of land; ultimate use of reclaimed land; current technology; effects of newly developing technology; and community support. Because many of these evaluations are of a qualitative rather than a quantitative nature, the preferences of the local people expressed at public meetings conducted under Task 1 and the opinions of board, agency, and committee members contacted under Task 5 will be invaluable aids in properly evaluating the systems and their effects.

Upon completing Subtask 3h, COR-MET shall present the alternative systems and their evaluations to the MSD Board for assistance in selecting a recommended system that will best meet the needs of the study area.

Subtask 3i: Document Recommended System and Prepare Final Report. The recommended system shall be thoroughly described and documented, and evidence shall be detailed to support the recommendation. In addition to the information already developed under Task 4 and Subtasks 3g and 3h, detailed information on equipment and staffing shall be provided, a time schedule for land requirements shall be developed, and preliminary layout sketches for the recommended facilities shall be presented. COR-MET shall prepare selected environmental assessment data on the recommended system; formal and complete environmental impact statements shall not be a part of this contract. The roles of operational and managing agencies, both public and private, shall be clearly defined. COR-MET shall present a practical timetable for completion of the necessary steps in implementation of the system and shall outline the proposed method of financing.

All details of the project investigation, conclusions, and recommendations shall be fully presented in the final report.

Task 4: Financing and Legislation (Work scope furnished by Bartle-Wells Associates, as follows)

Subtask 4a: Public Information. We will work with the MSD Staff to explore possible financing and legal arrangements for analysis. Meetings will be held with committees or citizens groups as the MSD Board may designate. Meetings will be needed at each stage of plan development in order to elicit public input to the planning process and engender public understanding of the means of implementation.

We will coordinate our preparation of charts, diagrams, spoken and written materials with other participants in each public

program and support the MSD Staff in answering questions which arise on the question of implementation.

We will assist MSD Staff in presenting our findings and recommendations to county commissions and legislative committees.

Subtask 4b: Financing Plan. We will develop financing and legal criteria for use in evaluating alternative plans. Both the MSD Staff and COR-MET will be brought into the process to make sure that the criteria are broad enough to cover the physical, financial, and legal alternatives to be analyzed.

We will collect all basic financial data bearing on present and possible solid waste disposal methods. Data will include:

1. Current service rates and charges
2. Income statements and balance sheets for franchised or publicly-owned disposal companies
3. Allocation of existing expenditures among collection, transportation, and disposal functions
4. Presently outstanding debt for solid waste purposes
5. Local precedents for tax support of solid waste programs
6. Existing billing methods and practices
7. Existing territorial service limits and jurisdictions
8. Existing contractual arrangements among disposal companies or agencies
9. Assessed valuations
10. Existing debt levels and limitations

Data collection will be coordinated with the work of the MSD Staff and COR-MET.

We will survey and describe existing programs for financing and structuring solid waste disposal on a regional basis. We will also identify and describe existing and proposed federal and state programs bearing on regional solid waste programs.

We will summarize and describe the various techniques for raising funds locally, including both private and public financing. Techniques include issuance of short-term notes, contributions-in-kind, equipment leases or installment purchases, issuance of industrial bonds, issuance of general obligation bonds, formation of a non-profit corporation to issue lease revenue bonds and possibly

other techniques which arise from suggestions by the public, industry representatives, MSD Staff, CAC, or COR-MET.

We will work closely with COR-MET to develop financing and structural options to cover the full range of physical alternatives considered. Jointly with COR-MET, will contact selected solid waste handling companies to discuss their ability and interest in financing, providing, or contracting for solid waste handling services. We will describe and discuss the relative advantages and disadvantages of the available options to help in identifying the candidate systems most worthy of more detailed engineering and financial analysis.

For alternatives jointly selected by the MSD Staff, COR-MET, and ourselves, we will prepare pro forma estimates of revenues and expenses. Based on demographic and land use data to be supplied by others, we will forecast assessed valuation by county or service area as appropriate. These analyses will illustrate and compare the effects of the different financing methods and revenue structures involved.

When the preferred plan is finally identified and agreed upon, we will prepare an implementation plan for the financing, legislative and contractual steps involved. Where interagency agreements are required, we will suggest terms and conditions concerning financing responsibility, rates and charges, and cost sharing.

We will prepare a detailed report of our work, describing all alternatives considered and the reasons for recommending one over the others. Possible variations of the recommended plan will be noted.

Jointly with COR-MET, we will prepare charts, tables, and other exhibits which describe and display our recommendations. Text will be submitted for possible use in an abridged report for areawide distribution.

Subtask 4c: Legislative Program. We will survey existing Oregon enabling acts dealing with solid waste collection and disposal, and summarize the provisions of importance to the planning process.

We will also review the articles of incorporation and terms of franchises under which private companies now serve the area in order to determine the extent to which they can provide necessary services or contract for such services.

We will coordinate with the MSD Staff and COR-MET to determine the nature of physical interfaces with and among agencies and

enterprises in the planning area, and will outline, as best we can see them, the legal questions which need to be resolved.

We will suggest legislative changes for consideration by MSD's legal counsel.

Subtask 4d: Management and Liaison. To ensure that our services mesh with the work of COR-MET and the MSD Staff, we will prepare work programs, attend project and MSD and CAC meetings, provide periodic reports of our work and circulate working papers for comment and information.

We will endeavor to answer questions as the MSD Staff and COR-MET encounter them.

Task 5: Coordinate with Client and Other Agencies

Due to the variety of governmental agencies and advisory committees involved in this project, coordination and liaison among them will be an important task. Among those agencies directly involved are the Metropolitan Service District, the Columbia Region Association of Governments, the Department of Environmental Quality, the MSD Technical Advisory Committee, the MSD Citizens Advisory Committee, the State Solid Waste Citizens Advisory Committee, and various county and municipal agencies. The COR-MET Project Manager shall be responsible for coordinating the project with the MSD Program Manager who shall, in turn, be responsible for coordination among all other involved agencies.

FINAL REPORT

COR-MET shall furnish the originals for and 500 copies of the final report. All costs for preparation and reproduction of the 500 copies shall be borne by COR-MET.

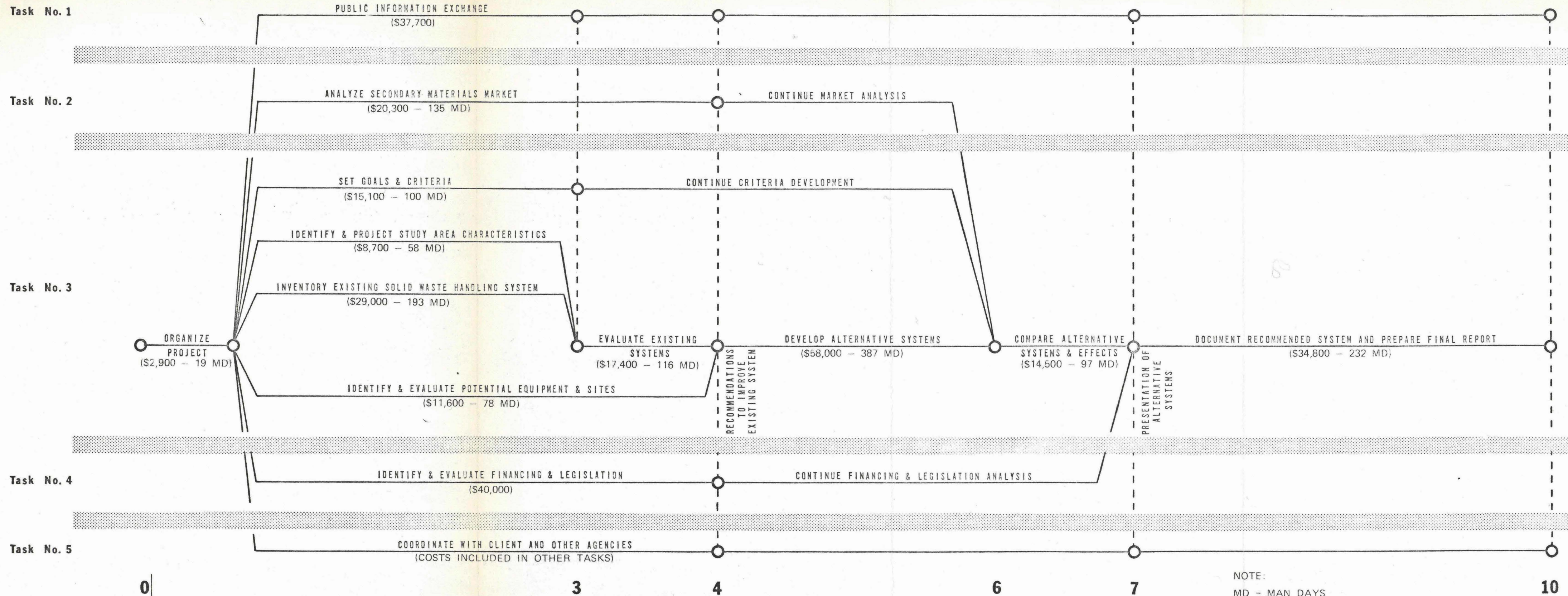
ESTIMATE OF PERCENT ALLOCATIONS TO WORK TASKS (1)
MSD SOLID WASTE MANAGEMENT STUDY

Task	Subtask	Description	%	\$	Man-days
1		Public Information Exchange	13	37,700	N.A.
		Subtotal Task 1	13	37,700	
2		Analyze Secondary Materials Market	7	20,300	135
		Subtotal Task 2	7	20,300	135
3		Engineering of Solid Waste Management Systems			
	3a	Organize Project	1	2,900	19
	3b	Set Goals and Criteria	5	15,100	100
	3c	Identify and Project Study Area Characteristics	3	8,700	58
	3d	Inventory Existing Solid Waste Handling System	10	29,000	193
	3e	Identify and Evaluate Potential Equipment and Sites	4	11,600	78
	3f	Evaluate Existing System	6	17,400	116
	3g	Develop Alternative Systems	20	58,000	387
	3h	Compare Alternative Systems and Effects	5	14,500	97
	3i	Document Recommended System and Prepare Final Report	12	34,800	232
		Subtotal Task 3	65	188,500	1,258
4		Financing and Legislation	14	40,000	--
		Subtotal Task 4	14	40,000	--
5		Coordinate with Client and Other Agencies	--	-- (2)	
		Total	100	290,000	

N.A. = Not applicable

(1) These allocations are made for preliminary budget purposes and reallocations between actual work tasks may be made during the study work program.

(2) COR-MET costs for this task are included in other tasks.



ACTIVITY CHART