Metro council 5/23/91 #2

TUALATIN RIVER DISCOVERY DAY

A Leisurely Float Down The Tualatin

June 29th - 9:00 AM

From Schamberg Bridge to the City of Tualatin

A Half Day Exploring The Tualatin River

Any Safe People-Powered Craft Is Suitable
Some Canoe Rentals Are Available
Driver Shuttle From Tualatin Community Park Available

YOU'LL NEED...

A boat with paddles or oars, life jackets, a picnic lunch, and a whistle. We may be able to match you with a boat that has an empty seat. Rentals will run approximately $30.00. These boats are limited and are available on a first come basis. Rental boats will be delivered and returned for you.

WHERE AND WHEN...

Saturday, June 29th, beginning at 9:00 AM drop off your equipment and friends, then drive to Tualatin. Park your car and take the shuttle back to the put-in. Call for detailed directions. There is an ENVIRONMENTAL FAIR at the park after the float trip.

WHY??

To learn about your neighborhood and the only river in Washington County. The Tualatin River is on the Endangered River list. Come see what the fuss is about. AND MOST OF ALL BECAUSE IT'S FUN.

For Directions, Reservations, or to Volunteer Call Clair at 639-4320

Environmental Fair

From 11:00 AM to 5:00 PM at Tualatin Community Park

Bring a picnic lunch (no food vendors will be available) and bring your friends. Learn about the Tualatin River and its valley; its history, geology, ecology and more!

Printing Courtesy of Portland General Electric

SATURDAY
JUNE 29TH

TUALATIN RIVER DISCOVERY DAY

CANOE TRIP
AND
ENVIRONMENTAL FAIR

METRO

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

Memorandum

DATE: May 20, 1991

TO: Metro Council

FROM: Paulette Allen, Clerk of the Council

RE: MAY 23 COUNCIL AGENDA ITEM NO. 4.2; RESOLUTION NO. 91-1442

Attached is Resolution No. 91-1440 Exhibit B, Proposal for a Planning Study of an Area-Wide Traffic Management System in the Portland Metropolitan Area. Because of the volume of documentation, the exhibit was not published in the agenda packet. This packet is for your review prior to May 23 and will be available at the Council meeting. The Transportation & Planning Committee considered the resolution at its May 14 meeting.

EXHIBIT B

OREGON STATE HIGHWAY DIVISION

Freeway Management Program

PROPOSAL

For a Planning Study of an AREA-WIDE TRAFFIC MANAGEMENT SYSTEM IN THE PORTLAND METROPOLITAN AREA

by

Gary McNeel
Freeway Management Facilitator
Oregon State Highway Division
Oregon Department of Transportation
9002 SE McLoughlin Blvd.
Milwaukie, Oregon 97222

A Proposal Submitted to
Federal Highway Administration
U.S. Department of Transportation

March 12, 1991

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PROPOSAL FOR DESIGN OF TRAFFIC MANAGEMENT SYSTEM AND DEVELOPMENT OF INCIDENT RESPONSE PROGRAM

THE PROBLEM

Congestion on the Freeway System within the Portland Metropolitan Area is escalating at an alarming rate. By the year 2005, traffic in the Portland area is expected to be 45 percent greater than it is today. This reflects a 32 percent growth in population and a 43 percent growth in employment during the same period.[1]

Most of Portland's Interstate freeways are carrying nearly all of the traffic they were designed to carry. Much of this freeway system was designed and built more than 15 years ago. Total freeway travel has grown by 140 percent over the last 18 years while the number of freeway miles has grown by only 16 percent and the number of lane miles by only 41 percent. Portland is not anticipating any new freeway links at this time. A map of Portland's freeway system is shown on Fig. 1.

Today's rush-hour congestion affects nearly one-third of the system. Portland's Regional Transportation plan predicts a four fold increase in the total number of vehicle hours of delay over the next 15 years.

In addition to the congestion caused by traffic demand exceeding the available capacity, there is also considerable congestion from non-recurring incidents (accidents, load spills, etc.). These unpredictable events account for nearly all the congestion that occurs during off-peak hours. Of the 1,998 urban freeway accidents in the State of Oregon during 1988, 67% were within the Portland Metropolitan area.[2] When incidents restrict the freeway, motorists often divert to adjacent arterials or surface streets, which cannot accommodate the additional demand.

Effective traffic management and incident response in the Portland area is impeded by the number of jurisdictions (32) and the "home rule" nature of traffic enforcement. For instance, the Oregon State Police do not patrol the freeways within the Portland city limits. Detection, response, and clearance of roadway incidents is handled by a number of different

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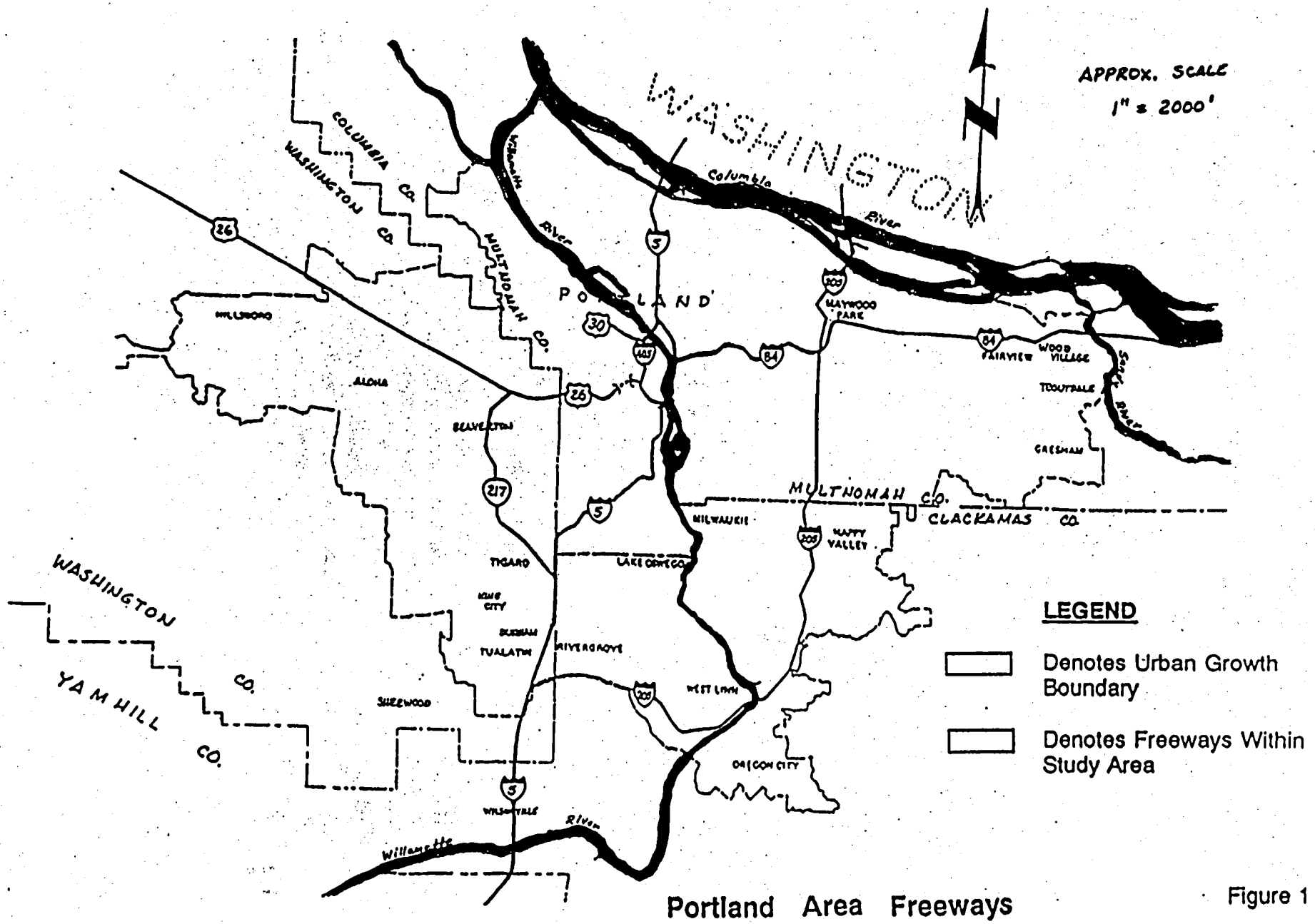
[1] Source: 1989 Update of the Regional Transportation Plan Metropolitan Service District

[2] Source: 1989 Summary of Reported Accidents Oregon Department of Motor Vehicles



Portland Area Freeways

Figure 1

agencies using their own procedures and various local policies and ordinances.

BACKGROUND

These congestion and accident problems emphasize the need for improved management of the Portland area freeway/arterial system. The specific areas being addressed by this proposal are:

1. Future freeway/arterial management system design
2. Improvement of incident management
3. Participation in the congestion reduction measures by all the jurisdictions in the area.

For the past 75 years, the focus of the Oregon State Highway Division (OSHD) has been highway construction. As traffic volumes and vehicle miles travelled steadily increased, new highways were built, extended, or widened. Since the 1960's the costs of right-of-way and physical construction have spiraled. Congestion and delay to motorists have steadily increased, as growth within the region out-paced development of the transportation network.

In January of 1981, OSHD installed the state's first ramp control signals, which were intended to balance demand with available capacity during peak periods. This ramp control program has been expanded to include 37 metered ramps on four segments of the Portland freeway system.

In 1989, the Oregon Transportation Commission approved the formation of a freeway management program. The Commission also approved a series of projects to be funded and constructed as part of the 1991-96 Six Year Highway Improvement Program. (Portions of which are included in Appendix C). The projects programmed include variable message signs, additional ramp meters, connection of all ramp meters to central monitoring, an incident "hot line", and closed-circuit television cameras. In addition, OSHD will expend capital improvement funds to construct a freeway management operations center (FMOC) and form an incident management program.

As a first step in implementing the freeway management program, the position of Freeway Management Facilitator was established by OSHD for the Portland metropolitan area in March of 1990. This position's duties include development of plans for the FMOC, and guiding the progress of the series of programmed

freeway management projects in the Six Year Highway Improvement Program.

Other duties include coordinating and overseeing consultant contracts for those tasks requiring specialized or technical expertise. A recent example of this is the contract OSHD signed with DKS Associates to prepare a study of the ultimate communications network for the freeway management program, and an interim, compatible design of four subsystems to interconnect the existing ramp meters to the FMOC.

As further evidence of their commitment to a coordinated, multimodal effort to manage urban congestion, the Department also created a position of Demand Management/Rideshare Program Manager in July of 1990. While the manager works primarily in the Portland metropolitan area, the scope of this program is statewide. The principal objectives of this position are to assess existing demand management/rideshare activities in Oregon, and to develop a statewide program of fundable projects consistent with Regional Transportation Plans (by June 1991).

The OSHD has aggressively undertaken the task of managing the growing problems caused by congestion on the Portland area freeway system. The Department has a vision for how optimization of traffic flow will be developed. Their support of the Freeway Management and Demand Management programs demonstrates commitment toward achieving this vision.

A Portland Traffic Operations Team has been meeting regularly since 1989 to discuss traffic management issues in the Portland metropolitan area. Regularly participating members of that team include persons from ODOT, Portland City Bureaus of Traffic Management, Police, Fire, and FHWA. The OSHD freeway management facilitator has been a regular participant in these team meetings since his appointment.

The City of Portland has demonstrated their commitment to relieving congestion on their surface street system by installation of a state-of-the-art computerized signal control system. Nearly all of the signals in the central business district are now being centrally controlled, and the city is expanding the number of interconnected intersections, utilizing the institutional network portion of the local cable television company.

There remain some unanswered questions in the effort to implement the best program for the Portland area. Additional funds from the Federal Highway Administration will enhance and

accelerate the identification of alternatives and recommendations to help answer those questions.

OBJECTIVES

One objective of this study is to **provide direction for the design of an area-wide advanced traffic management system (ATMS)** which can be implemented by OSHD within the next few years. Operation of the system would include multi-jurisdictional cooperation among participating agencies inside the "area of influence" shown on Fig. 1. The system will coordinate traffic flow on Portland area freeways and adjacent arterials while optimizing the efficiency of the roadway facilities. The system will be responsive to the impacts of any mainline adjustment (freeway or arterial) on adjacent arterial or surface streets.

Another objective is to **develop an incident management program which can be rapidly implemented within the framework of each agency.** This study will document existing practices, identify improvements in procedures, policies, and regulations that will reduce time needed for detection, response, and clearance of incidents in the Portland area. As part of this study, one of the work elements will identify one or more demonstration corridors. Plans for incident response strategies within these corridors will be developed, incidents and the responses will be documented, analyzed, and evaluated. The safety of both the travelling public and the personnel managing the incidents will be enhanced by a well organized program.

The third objective of the study will be **improved working relationships between area jurisdictions.** This will be accomplished by identifying, prioritizing, and recommending solutions for inter- and intra-jurisdictional issues and necessary agreements to establish a clear and concise structure.

BENEFITS

The design of an area-wide traffic management system and development of an incident management program will provide significant benefits to the motoring public. The primary goal of these efforts is to reduce motorists delay and congestion, which will decrease gasoline consumption, air pollution, and accident frequency. This study will provide plans which can be implemented in stages over several years. Each component will be compatible with the overall system. A comprehensive plan will enable OSHD to identify the appropriate elements and conceptual design of a central control system; the benefits of those elements; and staffing, operating and maintenance costs.

This study will also help OSHD and other Portland area jurisdictions determine how to plan for and spread the total cost of implementing the programs over several years. It can identify the impact on each department's overall budget, and recommend strategies for funding continuing operations and maintenance without negatively impacting other programs.

Improved interagency cooperation in incident management can be achieved through review of communications, personnel, equipment, and services currently provided by each agency. This analysis would reveal areas of overlapping, redundant, or missing elements in traffic management and incident response. The recommendations which result from this study would clarify each agency's role and foster better understanding of their mission and goals during and after an incident.

SCOPE OF WORK

The priority and magnitude of each task accomplished in this project has been determined utilizing input from the Oregon State Highway Division and the City of Portland. Priorities as we see them are listed on Page 11. The work performed will include three major elements, each containing several tasks and subtasks, which can be developed concurrently as follows:

TASK I. SYSTEM CONFIGURATION

A. Area-Wide Corridor Assessment

1. Inventory: This task will be to review Portland area freeways, adjacent arterials and surface streets (within corridors provided to the consultant by OSHD and other agencies). The review will determine which roadway facilities should be included in an area-wide traffic management and incident response system. As the inventory is developed, existing volumes, capacities (and/or capacity deficiencies) shall be mapped which would help identify areas which should be targeted for traffic flow enhancement projects.

2. Signal Review: This task will examine signal control along major arterials defined in the Portland area system and make specific recommendations on progression and control improvements (flow enhancement techniques) within the objectives of an area-wide traffic management system, which include integration of systems across jurisdictional boundaries.

3. Problem Areas: This task will review known "bottle- necks" (geometric constrictions) and "hot spots" (frequent accident sites), and potential mitigating actions. Products of this task will help identify and prioritize facilities and operational improvements needed as part of an ATMS.

4. Existing Communications and Coordination: This task will identify and document existing traffic management procedures in the Portland area. It will provide the types and limits of signal control, formal and informal methods of communication, and work planning procedures. Interviews will be conducted with appropriate personnel within various agencies responsible for operation, maintenance, and enforcement within major traffic corridors. The summary will then be used to prepare recommendations on the area-wide communications system which may best fit the Portland areas needs, utilizing existing equipment and jurisdictional procedures wherever possible.

B. Centralized Control

1. FMOC Needs Study: This task will include a comparison of other agencies' control centers, an examination of how their hardware and software needs were developed, and their integration with other local control centers. An informal evaluation of the benefits, costs, and operational considerations will be included.

2. FMOC Features: This task will identify which elements of central control are appropriate for the Portland system, and propose a strategy for staging the implementation of the various components. Products of this task will include complete life-cycle costs and benefits analysis of proposed features of the FMOC.

3. Advanced Technology Study: This task will involve evaluating emerging technologies in centralized control, particularly those involving advanced surveillance and detection/verification of incidents; dynamic two-way use of field devices (such as ramp meters) for more than recurrent congestion problems; and their feasibility for inclusion in the Portland program.

C. Detection Techniques Study

1. Technology Review: This task will involve compiling available research and demonstration reports of vehicle detection systems used by other agencies. The spacing, magnitude, service life, operation costs, and maintenance costs of detection systems that would serve Portland's needs will be compared. In addition to inductive loops, current research on radar, microwave, and video imaging techniques will be evaluated. Other detection possibilities such as volunteer observers and dedicated cellular telephone lines will also be evaluated.

2. Cost Effectiveness: This task will include a thorough evaluation of the benefits versus costs of detection systems with a recommendation as to the extent of the ultimate ATMS detection system for Portland along with a plan for staging the imple-

mentation of such a system. Costs listed in the evaluation will be complete life cycle costs including construction, operation, and maintenance.

D. ATMS System Configuration

The summary element in this task will provide a plan for an entire ATMS system in the Portland area with complete staging and life-cycle cost estimates. This will include recommendations of funding options, staffing requirements, facilities, software and equipment needs.

TASK II. INCIDENT MANAGEMENT

A. Existing Incident Management Practices

1. Inventory: This task will identify all response agencies within the defined Portland area traffic corridors which may include: police, fire, hazardous materials teams, rescue, ambulance, tow companies, and roadway maintenance crews. Current procedures for incident detection, response clearance, and driver information will be identified. Key individuals from the various responsible agencies will be interviewed.

2. Communication processes: This task will examine communication processes during detection and response phases and will document field procedures related to decision-making processes, lines of authority, and field communications. Other incident management issues that this task will address include vehicle clearance policies and procedures, equipment availability, and personnel training.

3. Incident Management Improvements: This task will identify deficiencies and shortcomings and recommend corresponding improvements in the current incident management efforts. Part of this work will include summarizing and evaluating incident data collected by OSHD, which may be useful in supporting benefits of program improvements. Improvement recommendations will be supported with life-cycle cost estimates and benefit/cost evaluations.

B. Incident Documentation

OSHD has been collecting incident data for several years. Data presently recorded include times of incident, response and clearance times. This task will involve a review and evaluation of the current record keeping process with recommendations for improvements. This program can be an effective tool in the evaluation of changes in the incident management program.

Issues to be examined in this task will include type of data collected, means of compiling and utilizing data, measures of

effectiveness for the incident management program, applicability of the program to other jurisdictions and roadway types, and software/hardware requirements.

C. Incident Site Communications

This task will focus on communications between the personnel responding to an incident. A single medium, such as multiple channel hand-held radios, will be studied. The most compatible type will be recommended, and an implementation plan will be prepared that will enable the recommended medium to be available to all agencies for use during incidents. The study will include complete itemized life-cycle cost estimates.

D. "HELP" Signs

OSHD is currently designing a project to install ten signs informing motorists of a central number to call to report "traffic problems" they experience or observe. This task will be to evaluate the effectiveness of this project and recommend future use of such signing (expansion, deletion, relocation, cellular phone use, etc.).

E. Incident Response Corridor Plan

This task will identify one or more corridors where incidents occur frequently and cause significant traffic problems. Specific response plans, including emergency access, signing, diversion routes, nearby resources for dealing with the incident and its aftermath will be developed. The task will also provide recommendations for documenting and evaluating each incident that occurs within the test area. Examining the cause of these incidents rather than simply treating the symptoms may provide us insight toward prevention of similar situations.

TASK III. INTER-JURISDICTIONAL ISSUES

A. ATMS Structure

This task will address issues related to the involvement of numerous agencies and jurisdictions in an ATMS for the Portland area. The issues include but are not limited to: jurisdiction and enforcement boundaries; legal and legislative authority and responsibilities; implementation, operation and maintenance responsibilities; staffing and funding; continuing evaluation; cooperative efforts in public information; and the role of the Metropolitan Service District (local planning organization) in the overall structure of operations. The examination will result in recommended working arrangements or agreements between agencies and a plan for the transition from existing conditions to ultimate system configurations as identified by other tasks in this project.

B. Incident Management Issues

This task is similar to III.A with specific focus on the inter-jurisdictional issues related to incident management. It will include recommendations on incident chain-of-command, which may change depending on the nature and/or magnitude of the incident. It may include agreements on jurisdiction and responsibility, as well as procedures such as selecting towing companies or equipment to be used at the incident.

C. Other Participants

The possibility of including agencies which currently have no operational relationship with OSHD should be explored. This task would identify, for instance, Tri-Met (the regional transit system), taxi cab companies, media organizations, and other private sector involvement which may be utilized to enhance the department's Freeway Management and Incident Response programs.

IMPLEMENTATION

Results of this study will be used to provide guidelines for further development of Portland's Area-wide Advanced Traffic Management System. Remodeling of the building to accommodate the Freeway Management Operations Center (FMOC) will occur over the next two years. The results of this study will provide direction for prioritizing the acquisition of hardware and software for that facility. It will also help OSHD plan and prepare for staffing, operations, and maintenance of the FMOC.

In conjunction with the "start-up" of the FMOC, OSHD will be developing the incident response program. Results of this study will identify potential obstacles such as "turf", staffing, funding, enforcement, maintenance, and communications. Exploring these issues will clarify each agency's role and enable the development of complete and effective agreements.

PROJECT STAFF

Staff for this project shall come from the Oregon State Highway Division, the City of Portland, and outside consultants. Costs shown in Appendix A are estimated consultant costs only and OSHD and City personnel will be providing in-kind manpower as their local match. OSHD and City of Portland participants and their estimated hours of involvement with this study are:

- Mr. Dwayne Hofstetter, P.E., (OSHD) State Traffic Engineer, will be the Project Principle. His involvement in the project is anticipated to be as Senior Advisor, and as such will be reviewing all work performed as part of this project. Mr. Hofstetter will coordinate any activities which require input from a legal or legislative source.
  Estimated hours: 150

- Mr. Thomas Schwab, P.E., (OSHD) Region 1 Transportation Analysis Manager, will be Senior Project Engineer. Mr. Schwab's involvement in the project will be primarily advisory. His research into Portland's freeway management program has been extensive, and he authored the executive summary approved by the Transportation Commission.
  Estimated hours: 150

- Mr. William Kloos, P.E., (C.O.P.) Signal System Manager, will be Senior Project Engineer. Mr. Kloos's involvement in the project will be primarily advisory. He will be reviewing all tasks which involve communications and/or integration of systems between the city and the state.
  Estimated hours: 100

- Mr. Ronald Failmezger, P.E., (OSHD) Region 1 Traffic Operations Supervisor, will be Project Manager. Mr. Failmezger has over twenty years of experience with traffic engineering in the Portland area. This has provided him with the ability to evaluate local traffic problems and recommend potential solutions.
  Estimated hours: 150

- Mr. Michael Bauer, T.E., (C.O.P.) Senior Traffic Engineer, will be Project Engineer. Mr. Bauer has considerable experience with Portland area traffic patterns and conditions, and will be reviewing all analyses and proposals for altering flows, detours and diversions for incidents.
  Estimated hours: 100

- Mr. Richard Johnson, (C.O.P.) Communications Engineer III, will be Project Engineer. Mr. Johnson has several years of experience with data and video communications. He will be reviewing all technical tasks, particularly the life cycle cost and recommendation sections.
  Estimated hours: 150

- Mr. Gary McNeel, (OSHD) Region 1 Freeway Management Facilitator, will be Project Coordinator. His primary task will be to monitor the progress of the selected consultant(s), provide their firm(s) with any materials or data they need, and to keep them on task and schedule, within their scope of work.
  Estimated hours: 300

PRIORITIZATION OF TASKS

PRIORITY	TASK NO.	COST	TASK DESCRIPTION
1	ID*	10,000	ATMS Configuration
2	IA	90,000	Corridor Assessment
3	IIIA	40,000	ATMS Structure
4	IIIB	30,000	Incident Management Issues
5	IIE	10,000	Incident Corridor Plan
6	IIA	40,000	Exist. Incident Management
7	IB*	50,000	Centralized Control
8	IC*	45,000	Detection Techniques
9	IIIC	30,000	Other Participants
10	IIB	15,000	Incident Documentation
11	IIC	20,000	Incident Communications
12	IID	20,000	"HELP" Signs Evaluation
		TOTAL 400,000	

*NOTE: Without inclusion of Task IB and IC, Task ID must be increased by 55,000.

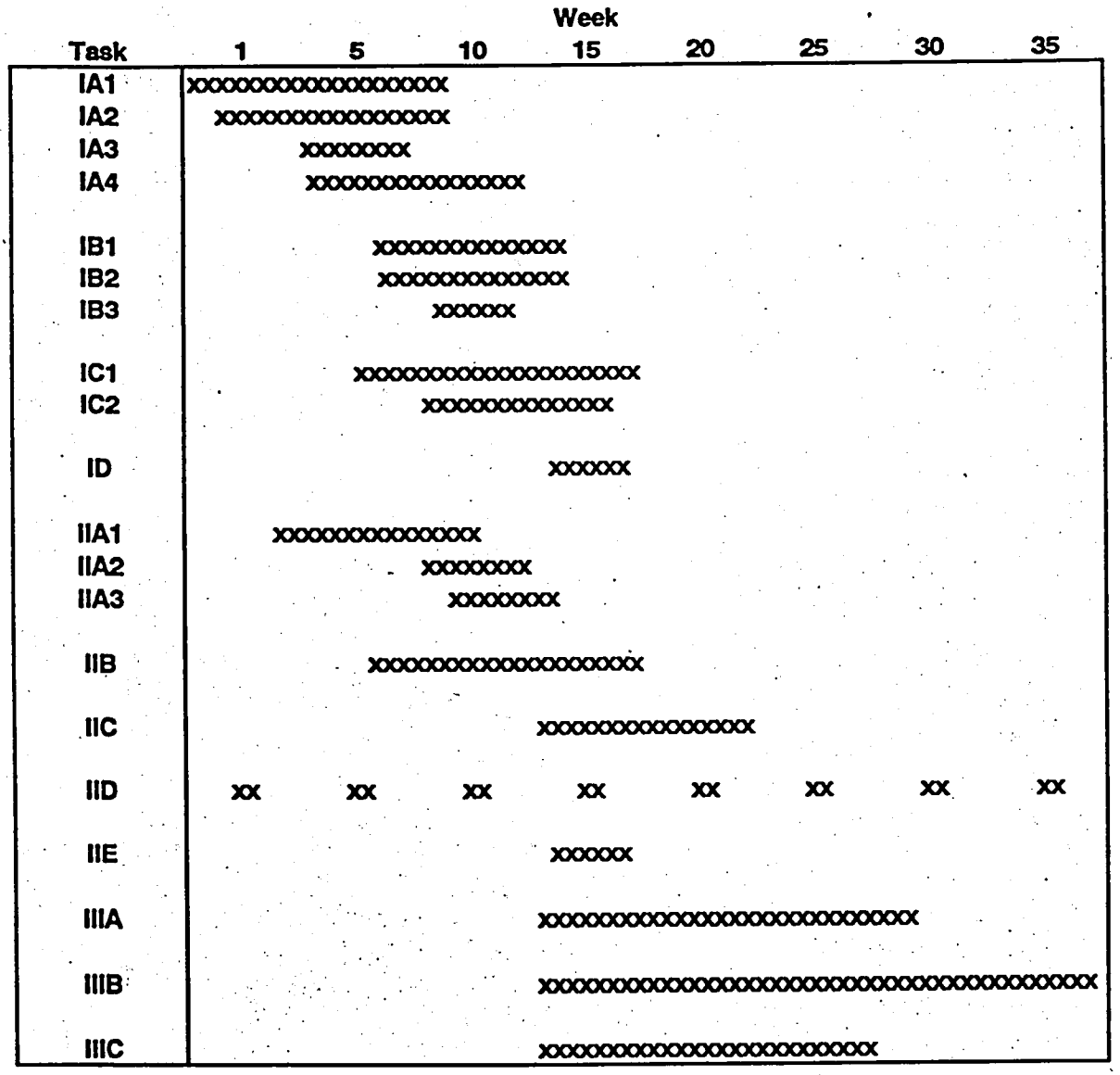
APPENDIX A
SUMMARY OF ESTIMATED TIME AND COSTS OF EACH TASK

Shown in Hours

Task	Project Admin.	Senior Advisors	Project Engineers	Support Staff	Total	Value
IA1	40	40	220	40	340	$25,000
IA2	20	25	130	25	200	$15,000
IA3	40	40	220	40	340	$25,000
IA4	45	50	200	45	340	$25,000
IB1	40	40	150	40	270	$20,000
IB2	35	40	160	40	275	$20,000
IB3	15	20	80	20	135	$10,000
IC1	50	60	200	50	360	$25,000
IC2	35	40	160	40	275	$20,000
ID	15	20	80	20	135	$10,000
Task I Total	335	375	1600	360	2670	$195,000
IIA1	30	30	110	30	200	$15,000
IIA2	25	25	100	30	180	$15,000
IIA3	15	15	80	20	130	$10,000
IIB	30	30	100	40	200	$15,000
IIC	35	40	160	40	275	$20,000
IID	35	40	160	40	275	$20,000
IIE	15	15	85	20	135	$10,000
Task II Tot.	185	195	795	220	1395	$105,000
IIIA	70	80	320	80	550	$40,000
IIIB	50	60	200	40	350	$30,000
IIIC	50	60	240	50	400	$30,000
Task III Tot.	170	200	760	170	1300	$100,000

APPENDIX B
FREEWAY MANAGEMENT AND INCIDENT RESPONSE PROGRAM

WORK SCHEDULE



CONSTRUCTION

REGION 1

MAP INDEX	ROUTE NO. HIGHWAY NAME	COUNTY	SECTION NAME MILEPOINT	WORK DESCRIPTION	COST ($1,000)	FUND SOURCES
			FEDERAL FISCAL YEAR 1991 PROJECTS			
034	OR-213 CASCADE SOUTH	CLACKAMAS	CASCADE SOUTH @ HENRICI ROAD M.P. 4.3	CONSTRUCT A LEFT TURN REFUGE.	170	FA
035	OR-213 CASCADE SOUTH	CLACKAMAS	CASCADE HWY S @ S GREENTREE DRIVE M.P. 5.0	CONSTRUCT A LEFT TURN REFUGE.	80	STATE
036	OR-213 CASCADE SOUTH	CLACKAMAS	CASCADE SOUTH @ LELAND ROAD M.P. 5.7	REALIGN THE INTERSECTION & INSTALL TRAFFIC SIGNAL.	180	FA
037	OR-224 CLACKAMAS	CLACKAMAS	RUSK ROAD - LAWNFIELD M.P. 2.7- 4.2	INSTALL NEW SIGNAL CONTROLLERS @ 7 SITES & REPLACE EXISTING INTERCONNECT SYSTEM.	350	STATE OTHERS 2/
		STATEWIDE	ASSIGNED FOR SURFACE PRESERVATION, REGION 1		2,000	STATE
038	BEAVERTON-TUALATIN	WASHINGTON	BEAVERTON/TUALATIN HWY @ SW WASHINGTON DR M.P. 3.7	CONSTRUCT A LEFT TURN REFUGE.	100	STATE
039	BEAVERTON-TUALATIN	WASHINGTON	BEAVERTON/TUALATIN HWY @ SW OAK M.P. 4.2- 4.3	CONSTRUCT LEFT TURN LANES.	190	STATE
040	BEAVERTON-TUALATIN	WASHINGTON	BEAVERTON/TUALATIN HWY @ SW PFAFFLE ST M.P. 4.6	CONSTRUCT LEFT TURN LANE.	60	STATE
041	BEAVERTON-TUALATIN	WASHINGTON	PACIFIC HIGHWAY WEST - SW MCDONALD ST (BIKEWAY) M.P. 5.0- 6.1	CONSTRUCT BIKEWAY.	200	BIKE
042	BEAVERTON-TUALATIN	WASHINGTON	BEAVERTON/TUALATIN HWY @ SW BURNHAM ST M.P. 5.5	INSTALL A SIGNAL AND CONSTRUCT A LEFT TURN REFUGE.	130	STATE
*	VARIOUS FREEWAYS	MULTNOMAH	PORTLAND AREA FREEWAYS 'HELP' SIGNS	INSTALL SIGNS INDICATING PHONE NUMBERS FOR 'HELP'.	40	I-4R

2/ REQUIRES WRITTEN PROJECT AGREEMENT

* Denotes projects in Six-Year Program related to Traffic Management System.

CONSTRUCTION

REGION 1

MAP INDEX	ROUTE NO. HIGHWAY NAME	COUNTY	SECTION NAME MILEPOINT	WORK DESCRIPTION	COST ($1,000)	FUND SOURCES
			FEDERAL FISCAL YEAR 1992 PROJECTS			
052	US-30 LOWER COLUMBIA RIVER	COLUMBIA	LOST CREEK HILL M.P. 55.0- 55.7	INSTALL GUARDRAIL.	70	STATE
053	US-30 LOWER COLUMBIA RIVER	COLUMBIA	LOWER COLUMBIA RIVER HWY @ MIDLAND ROAD M.P. 63.7	CONSTRUCT A LEFT TURN REFUGE.	150	STATE
054	OR-8 TUALATIN VALLEY	WASHINGTON	CANYON LANE - WALKER ROAD M.P. 0.3- 2.2	INSTALL 3 TRAFFIC SIGNALS.	240	STATE
055	OR-8 TUALATIN VALLEY	WASHINGTON	TUALATIN VALLEY HIGHWAY @ SW 209TH M.P. 7.8	INSTALL TRAFFIC SIGNAL CONTROLLER.	20	STATE
056	OR-35 MT HOOD & HOOD RIVER	HOOD RIVER	13TH & OAK STREET (HOOD RIVER) M.P. 103.3	INSTALL TRAFFIC SIGNAL.	70	FA
057	OR-99E PACIFIC EAST	CLACKAMAS	PACIFIC HWY EAST @ S NEW ERA RD M.P. 18.2	REALIGN INTERSECTION.	300	FA
058	OR-210 SCHOLLS	WASHINGTON	SCHOLLS HWY @ SW JAMIESON ROAD M.P. 11.5	CONSTRUCT A LEFT TURN REFUGE.	150	STATE
059	OR-212 CLACKAMAS	CLACKAMAS	CLACKAMAS @ 130TH AVENUE M.P. 6.9	INSTALL A TRAFFIC SIGNAL.	80	STATE
060	OR-212 CLACKAMAS	CLACKAMAS	CLACKAMAS @ 135TH AVENUE M.P. 7.2- 7.2	INSTALL A TRAFFIC SIGNAL.	70	STATE
061	OR-213 CASCADE SOUTH	CLACKAMAS	E PORTLAND FREEWAY - HOLCOMB BLVD M.P. 0.1- 0.6	CORRECT ROADWAY SETTLEMENT AND DRAINAGE.	750	STATE
* 062	OR-217 BEAVERTON-TIGARD	WASHINGTON	SUNSET INTERCHANGE - I-5 M.P. 0.1- 7.4	INSTALL RAMP METERS AT ALL RAMPS.	450	FA

* Denotes projects in Six-Year Program related to Traffic Management System.

CONSTRUCTION

REGION 1

MAP INDEX	ROUTE NO. HIGHWAY NAME	COUNTY	SECTION NAME MILEPOINT	WORK DESCRIPTION	COST ($1,000)	FUND SOURCES
			FEDERAL FISCAL YEAR 1992 PROJECTS			
		STATEWIDE	ASSIGNED FOR SURFACE PRESERVATION, REGION 1		1,800	STATE
063	BEAVERTON-TUALATIN	WASHINGTON	HALL BLVD - UPPER BOONES FERRY ROAD (BIKEWAY) M.P. 7.1- 7.7	CONSTRUCT A BIKE LANE.	200	BIKE
064	CROWN POINT	MULTNOMAH	KENDALL - KIBLING M.P. 1.0- 1.2	RECONSTRUCT & WIDEN ROADWAY.	240	STATE OTHERS 2/
065	CROWN POINT	MULTNOMAH	MP 2.3 - MP 22.9 M.P. 2.3- 22.9	INSTALL GUARD RAIL @ INTERMITTENT LOCATIONS.	230	STATE
	VARIOUS HIGHWAYS	STATEWIDE	TRAFFIC LOOP REPAIR PROJECT, UNIT 4	REPLACE SIGNAL LOOP DETECTORS AND FEEDER CABLES.	400	STATE
*	VARIOUS HIGHWAYS	MULTNOMAH	RAMP METER MONITORING SYSTEM	INSTALL COMMUNICATIONS SYSTEM.	920	I-4R
				YEAR TOTAL	59,680	
			FEDERAL FISCAL YEAR 1993 PROJECTS			
066	I-5 PACIFIC	WASHINGTON	I-5 EXPANSION JOINT REPAIR M.P. 283.2-290.0	REPAIR EXPANSION JOINTS.	60	I-4R
067	I-5 PACIFIC	WASHINGTON	I-5 @ HWY 217/KRUSE WAY INTERCHANGE, UNIT 1 M.P. 291.9-292.4	CONSTRUCT A FREEWAY TO FREEWAY INTERCHANGE.	28,500	I-4R 3/
068	I-5 PACIFIC	MULTNOMAH	E MARQUAM INTCHGE GRAND AV/UNION AV RAMPS; COMB-1A M.P. 300.5-301.5	CONSTRUCT RAMPS FROM MARQUAM BRIDGE TO GRAND AND UNION AVE.	25,700	FAI I-4R
* 069	I-5 PACIFIC/EAST PORTLAND	MULTNOMAH	MOTORIST ADVISORY SYSTEM (PORTLAND), PHASE 1	PROVIDE VARIABLE MESSAGE SIGNS ON I-5 & I-205.	1,000	I-4R

* Denotes projects in Six-Year Program related to Traffic Management System.

2/ REQUIRES WRITTEN PROJECT AGREEMENT

3/ CANDIDATE FOR DISCRETIONARY FUNDING.

CONSTRUCTION

REGION 1

MAP INDEX	ROUTE NO. HIGHWAY NAME	COUNTY	SECTION NAME MILEPOINT	WORK DESCRIPTION	COST ($1,000)	FUND SOURCES
			FEDERAL FISCAL YEAR 1994 PROJECTS			
089	I-5 PACIFIC	WASHINGTON	S TIGARD INTERCHANGE - E PORTLAND FWY M.P. 285.9-289.5	LANDSCAPE.	700	I-4R
090	I-5 PACIFIC	WASHINGTON	STAFFORD RD INTERCHANGE M.P. 285.9-286.4	WIDEN BRIDGE TO 5 LANES.	7,550	I-4R
091	I-5 PACIFIC	MULTNOMAH	NB CONNECTION - SB STADIUM FWY M.P. 303.0-303.5	DECK RESTORATION.	950	I-4R
092	I-84 COLUMBIA RIVER	MULTNOMAH	WOOD VILLAGE & EAST HOOD RIVER INTERCHANGE M.P. 15.4- 64.7	INSTALL VARIABLE MESSAGE SIGNS.	250	I-4R
093	US-26 MT HOOD	CLACKAMAS	RHODODENDRON - LAUREL HILL M.P. 44.4- 48.5	RECONSTRUCT & WIDEN TO 4 LANES.	7,000	AOH
094	US-26 SUNSET	CLATSOP	JEWELL JCT - OSWEG CREEK (CLIMBING LANE) M.P. 20.4- 23.1	CONSTRUCT EB CLIMBING LANE AND COMPLETE SLIDE REPAIRS & CONST MEDIAN TURN LANE.	3,500	FA
095	US-26 SUNSET	WASHINGTON	WEST FORK DAIRY CREEK - MALLER ROAD M.P. 46.3- 52.3	OVERLAY PAVEMENT.	1,010	FA
096	US-26 SUNSET	WASHINGTON	MP 47.0 - 48.5 (TURN LANE) M.P. 47.0- 48.5	CONSTRUCT A CONTINUOUS LEFT TURN LANE.	800	FA
097	US-26 SUNSET	WASHINGTON	STOREY CREEK - CEDAR HILLS BLVD M.P. 62.2- 68.3	OVERLAY PAVEMENT.	2,100	FA
098	US-26 SUNSET	WASHINGTON	KATHERINE LANE - SYLVAN INTERCHANGE M.P. 70.3- 71.3	WIDEN IN CONJUNCTION WITH LIGHT RAIL PROJECT.	30,000	STATE 2/
* 099	US-26 SUNSET	MULTNOMAH	VISTA RIDGE TUNNEL, UNIT 3 M.P. 72.0- 74.0	INSTALL VARIABLE MESSAGE SIGNS AND CLOSED CIRCUIT TV EQUIPMENT.	1,300	FA

/2 REQUIRES WRITTEN PROJECT AGREEMENT

* Denotes projects in Six-Year Program related to Traffic Management System.

CONSTRUCTION

REGION 1

MAP INDEX	ROUTE NO. HIGHWAY NAME	COUNTY	SECTION NAME MILEPOINT	WORK DESCRIPTION	COST ($1,000)	FUND SOURCES
			FEDERAL FISCAL YEAR 1996 PROJECTS			
* 114	I-5 PACIFIC	MULTNOMAH	METRO ADVANCE WARNING SIGNS M.P. 299.0	DEVELOP AND INSTALL A MOTORIST INFORMATION SYSTEM.	1,000	I-4R
115	I-84 COLUMBIA RIVER	MULTNOMAH	MULTNOMAH FALLS PARKING AREA (EB OFFRAMP) M.P. 31.0- 31.5	REALIGN EASTBOUND OFF RAMP.	660	I-4R
116	I-84 COLUMBIA RIVER	HOOD RIVER	HOOD RIVER BR #2444A M.P. 64.1	DECK RESTORATION.	620	I-4R
117	I-205 EAST PORTLAND FREEWAY	CLACKAMAS	WILLAMETTE RIVER BRIDGE ICE DETECTOR M.P. 8.8- 9.3	INSTALL ICE DETECTORS IN BRIDGE DECK & LINK TO MONITOR @ MAINTENANCE STATION.	140	I-4R
118	US-26 SUNSET	MULTNOMAH	SYLVAN INTCH - VISTA RIDGE (ZOO INTCH); COMB-1C M.P. 70.9- 73.0	CONSTRUCT CLIMBING LANE AND BIKE SHOULDER.	7,300	STATE
119	US-26 SUNSET	MULTNOMAH	SYLVAN INTCH - VISTA RIDGE (ZOO WB ONRAMP);COMB-1C M.P. 71.8- 72.0	CONSTRUCT ONRAMP.	1,650	STATE
120	OR-99E PACIFIC EAST	CLACKAMAS	OREGON CITY - COALCA M.P. 12.6- 17.7	PROVIDE ROCKFALL PROTECTION.	2,550	FA
121	OR-219 HILLSBORO-SILVERTON	WASHINGTON	FARMINGTON HIGHWAY - SCHOLLS M.P. 5.6- 10.1	OVERLAY EXISTING HIGHWAY.	2,320	STATE
		STATEWIDE	ASSIGNED FOR SURFACE PRESERVATION, REGION 1		1,500	STATE
122	HOOD RIVER	HOOD RIVER	HOOD RIVER HWY @ ODELL HWY M.P. 5.0	REALIGN INTERSECTION.	380	FA
		STATEWIDE	ASSIGNED FOR SURFACE PRESERVATION, REGION 1		2,800	FA
				YEAR TOTAL	21,580	
				REGION TOTAL	372,310	

* Denotes projects in Six-Year Program related to Traffic Management System.

CITY OF
PORTLAND, OREGON
FIRE PREVENTION DIVISION

Dick Bogle
Commissioner of Public Safety
Lynn C. Davis, Fire Marshal
55 S.W. Ash Street
Portland, Oregon 97204-3590
(503) 823-3700

February 8, 1991

Mr. Don Adams, Region Engineer
Oregon Department of Transportation
9002 SE McLoughlin Blvd.
Milwaukie, Oregon 97222

Dear Mr. Adams:

The Portland Bureau of Fire, Rescue and Emergency Services was extremely encouraged to learn of the progress the Portland Traffic Operations Team has made in working with the Oregon Department of Transportation (ODOT) on ODOT's proposal for an Area-Wide Traffic Management System. This bureau is highly supportive of this work.

If I may, please let me list some of the benefits which we feel this Area-Wide Traffic Management System will create for improved fire service to Portland and our neighboring communities.

1. First, we believe an Advanced Traffic Management System (ATMS) will improve response times and fire service in the Portland metropolitan area by allowing fire apparatus to avoid traffic tie-ups and reroute to open traffic corridors.

2. Second, this bureau believes that an Area-Wide Traffic Management system employing ATMS will aid in the control of hazardous materials and other incidents which require freeway or arterial blockage and traffic rerouting.

3. Third, we feel that such a freeway management system will allow much greater levels of coordination and control in managing evacuations which may be necessitated by fire, hazardous materials incidents,earthquake or other major disaster.

These benefits are very important for the region to realize so that we may keep control of our growing traffic control problems and the impact they have on emergency services. Two-thirds of the urban freeway accidents occur in the Portland Metropolitan area now. With a six-fold increase in the rush hour congestion anticipated between now and 2005 and a projected increase in population to 1,789,428 from the current estimated 1,400,000 in the next 20 years, the flexibility that ATMS will bring within an Area-Wide Traffic Management System is indispensable.

This bureau has already devoted the services of two of its staff members to this project and has already begun the contacts with the Metropolitan Fire Chief's Association which we feel are needed to aid this important process.

We strongly commend and support this effort.

Sincerely,

George Monogue
Chief of the Bureau

CITY OF
PORTLAND, OREGON
BUREAU OF POLICE

J.E. BUD CLARK, MAYOR
Tom Potter, Chief of Police
1111 S.W. 2nd Avenue
Portland, OR 97204

February 6, 1991

Don Adams
Region Engineer
Oregon Department of Transportation
9002 S.E. McLoughlin Blvd.
Milwaukie, OR 97220

Dear Mr. Adams,

As the primary agency responsible for traffic enforcement and accident response activities on the highway systems in Portland, we are always supportive of traffic management projects.

As the population of the Portland Metropolitan area continues to grow, and police traffic resources struggle to keep up, it is imperative that our agencies work together on traffic safety and traffic management issues.

The Portland Police Bureau fully supports and endorses your agency's proposal for an area-wide Traffic Management System Research Grant which you will be submitting to the Federal Highway Administration of the U.S. Department of Transportation.

Very truly yours,

Tom Potter
TOM POTTER
Chief of Police

TP:BWP/vah

CITY OF
PORTLAND, OREGON
OFFICE OF TRANSPORTATION

Earl Blumenauer, Commissioner
Felicia Trader, Director
1120 S.W. Fifth Avenue
Suite 702
Portland, Oregon 97204-1957
(503) 796-7016

February 11, 1991

Mr. Don Adams, Region Engineer
Oregon State Highway Division
Metro Region
9002 S.E. McLoughlin Boulevard
Milwaukie, OR 97222

RE: Proposal for Federal Funding for an Area Wide Traffic Management System (ATMS)

Dear Mr. Adams:

The City of Portland Office of Transportation is a strong supporter of the Freeway Management Program that is being developed for the Portland area. The series of projects funded as part of the 1991-96 Six Year Highway Improvement Program, and the funding of a full-time position of Freeway Management Facilitator in the Metro Region, are all positive signs of a commitment by the Oregon State Highway Division to better manage the freeway system in this Region. The strategies proposed in the Freeway Management Program will help to maintain the Portland Region as a livable and accessible area, which is competitive in developing new industries.

The Office of Transportation views the proposal to the Federal Highway Administration, for federal funding for an Area Wide Traffic Management System (ATMS), as an enhancement to the current program. The additional funding would not only enhance the current program, but also allow the program development and project identification for future year's needs to be moved ahead at a much faster pace.

Staff from the Bureau of Traffic Management, and other City Bureaus (Police and Fire), have been working for the past two years with State Highway Division staff as part of a Portland Traffic Operations Team. City staff are committed to a continued involvement with the Freeway and Arterial Management program, and will participate throughout the project. We are committed to working with the Oregon State Highway Division, and other area agencies, in a team effort to manage the transportation system and make it work to its maximum potential in the Portland area.

Sincerely,

Felicia Trader

Felicia Trader, Director
Portland Office of Transportation

MB/jp
GRP:PAD:FWYMGMT\DON_ADAMS.WP

METRO

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

Memorandum

DATE: May 20, 1991

TO: Metro Council

FROM: Paulette Allen, Clerk of the Council PA

RE: MAY 23 COUNCIL AGENDA ITEM NO. 5.10; ORDINANCE NO. 91-395

Attached is staff's report; Ordinance No. 91-395; Exhibit A, Area of Request; Exhibit B, Contested Case No. 90-01; Exhibit C, REsolution No. 90-1351; and Exhibit D, Final Order. Because of the volume of documentation, the exhibits were not published in the agenda packet. This packet is for your review prior to May 23 and will be available at the Council meeting. The ordinance is scheduled for first reading and public hearing May 23 and is tentatively scheduled for second reading and final review June 13.

STAFF REPORT

CONSIDERATION OF AN ORDINANCE ADOPTING A FINAL ORDER AND AMENDING THE METRO URBAN GROWTH BOUNDARY FOR CONTESTED CASE 90-1: WAGNER

Date: May 23, 1991 Presented By: Ethan Seltzer
Larry Shaw

BACKGROUND

On December 13, 1990, the Metro Council held a public hearing and approved Metro Council Resolution Number 90-1351 (attached), expressing its intent to amend the Metro Urban Growth Boundary, as requested in Contested Case 90-1, pending annexation of the subject property to the City of Wilsonville and/or the Metro District. When the Metro Council wishes to amend the Urban Growth Boundary to add property not currently within the Metro District Boundary, it states its intent to do so in the form of a resolution, with final action on an ordinance delayed until the property is brought under its territorial jurisdiction.

On March 7, 1991, the Boundary Commission approved the annexation of the subject property to the City of Wilsonville and the Metro District. Therefore, Ordinance Number 91- is now before the Metro Council to complete the amendment consistent with the Council's earlier statement of intent.

Contested Case No. 90-1 is a petition from Marvin and Bonnie Wagner of Wilsonville for a locational adjustment of the Urban Growth Boundary in Clackamas County. The property proposed for inclusion in the UGB is an approximately 6.35 acre parcel located east of Wilsonville, as shown in Exhibit A. The City of Wilsonville has gone on record in support of the amendment. Clackamas County has taken a position in support of an amendment to accommodate the proposed road realignment, but had concerns about the compatibility of making the total amendment with the County's comprehensive plan.

Metro Hearings Officer Larry Epstein held a hearing on this matter on September 25, 1990, in Wilsonville. Testimony was received from both the petitioner and from concerned citizens. The Hearings Officer's Report and Recommendation, attached as Exhibit B, concludes that the petition meets the applicable standards and should be approved. A number of exceptions were filed to the decision, and were included with the staff report to the resolution at the time that it was considered by the Council.

At its meeting on the 13th of December, 1990, Council heard from parties to the case, reviewed the record, reviewed the report and recommendation of the Hearings Officer, and approved the resolution. The petitioner was given 6 months from the date of

adoption of the Resolution No. 90-1351 to complete the annexation. Petitioner has successfully completed this step, and final action by the Metro Council is now requested.

EXECUTIVE OFFICER'S RECOMMENDATION

The Metro Council should approve Ordinance No. 91-395, consistent with its intent as stated in Resolution No. 90-1351.

ES/es
5/13/91

BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

AN ORDINANCE ADOPTING A FINAL ORDER AND AMENDING THE METRO URBAN GROWTH BOUNDARY FOR CONTESTED CASE NO. 90-1: WAGNER	ORDINANCE NO. 91-395

THE COUNCIL OF THE METROPOLITAN SERVICE DISTRICT HEREBY ORDAINS:

Section 1. The Council of the Metropolitan Service District adopted Resolution No. 1351, attached as Exhibit C of this Ordinance and incorporated by this reference, on December 13, 1990, which stated its intent to amend the Metro Urban Growth Boundary for Contested Case 90-1: Wagner pending annexation of the subject property to the City of Wilsonville and/or the Metropolitan Service District within 6 months of adoption of the resolution.

Section 2. The Portland Metropolitan Area Local Government Boundary Commission acted on March 7, 1991, to annex the petitioners Wagner's property, the subject of Contested Case No. 90-1: Wagner, to the City of Wilsonville and the Metropolitan Service District. The action of the Boundary Commission is attached to this Ordinance as Exhibit D, which is incorporated by this reference.

Section 3. The Council of the Metropolitan Service District hereby accepts and adopts as the Final Order in Contested Case No. 90-1 the Hearings Officer's Report and Recommendations in Exhibit B of this Ordinance, which is incorporated by this reference.

Section 4. The District Urban Growth Boundary, as adopted by Ordinance No. 79-77, is hereby amended as shown in Exhibit A of this Ordinance, which is incorporated by this reference.

Section 5. Parties to Contested Case No. 90-1 may appeal this Ordinance under Metro Code Section 205.05.050 and ORS Ch. 197.

ADOPTED by the Council of the Metropolitan Service District this _____ day of _____, 1991.

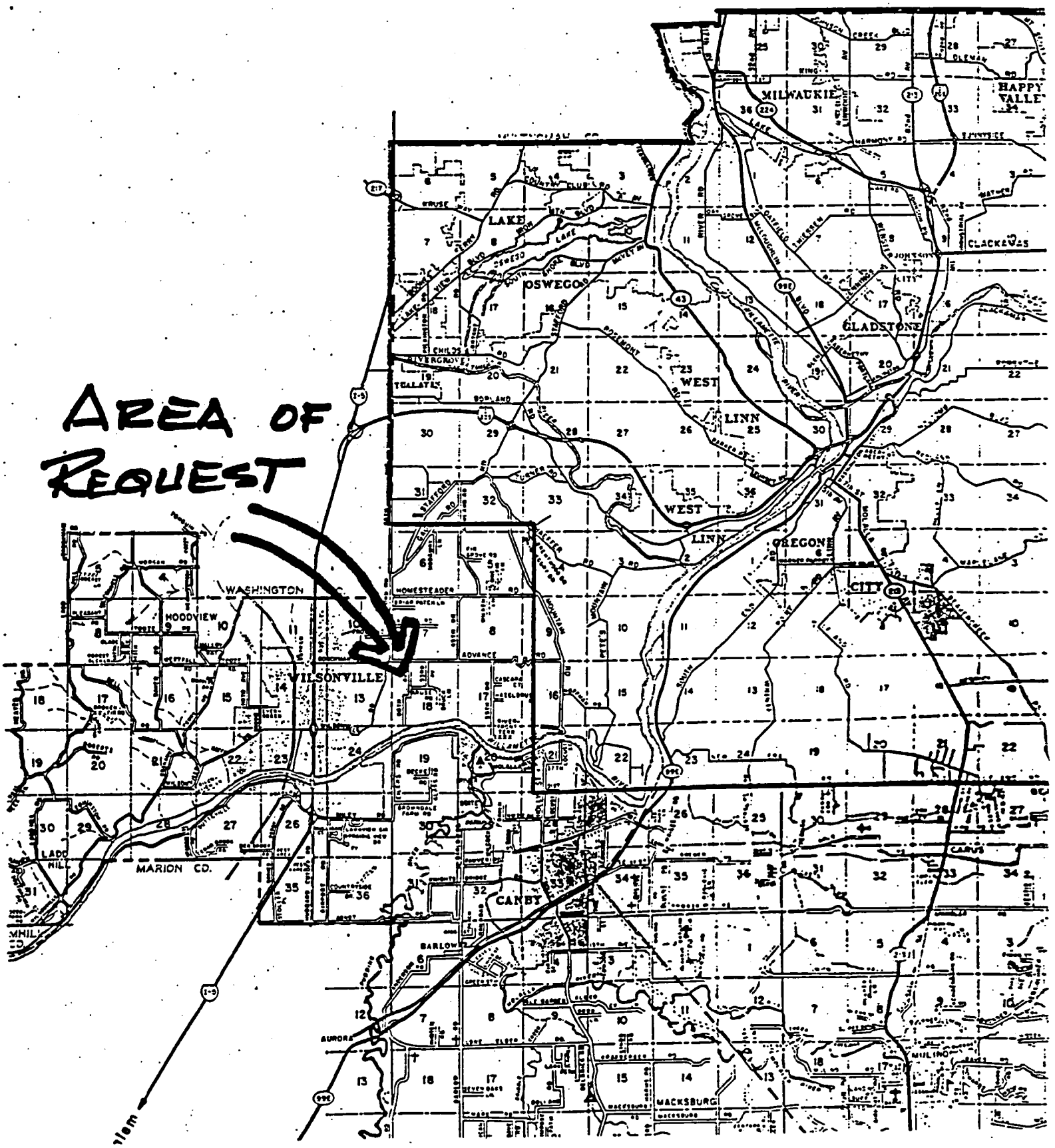
_____
Tanya Collier, Presiding Officer

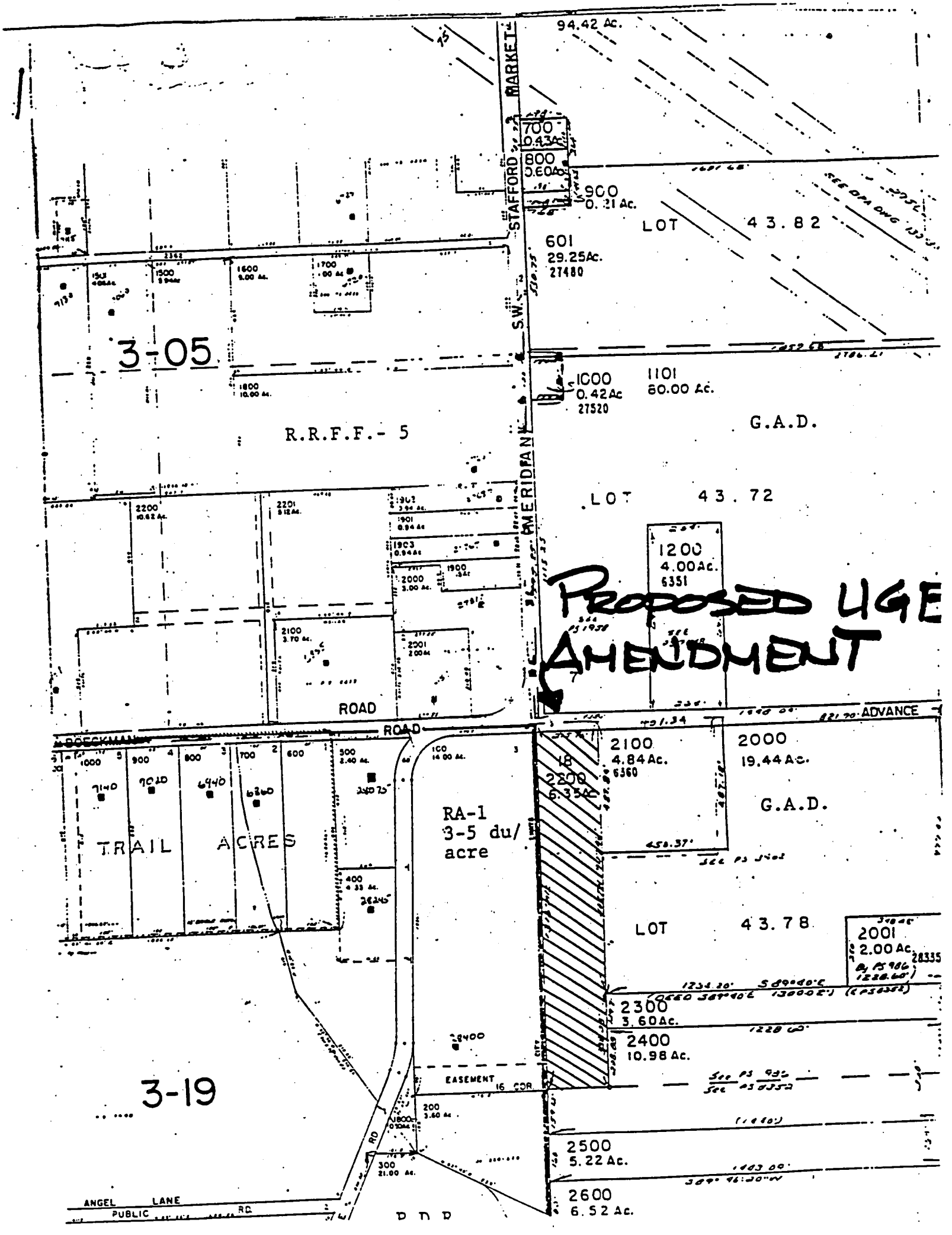
ATTEST:

_____
Clerk of the Council

ES/es
5/13/91

EXHIBIT A


AREA OF REQUEST
MILWAUKIE
HAPPY VALLE
LAKE
OSWEGO
GLADSTONE
WEST LINN
WASHINGTON
HOODVIEW
WILSONVILLE
MARION CO.
CANBY
OREGON CITY
MACKSBURG
AURORA


94.42 Ac.
MARKET
STAFFORD
700
6.43Ac.
800
3.60Ac.
900
0.21 Ac.
LOT
43.82
601
29.25Ac.
27480
3-05
SW
1000
0.42Ac
27520
1101
60.00 Ac.
G.A.D.
R.R.F.F.- 5
MERIDIAN
LOT
43.72
1200
4.00Ac.
6351
PROPOSED UGB
AMENDMENT
ROAD
ADVANCE
ROAD
2100
4.84Ac.
6360
2000
19.44Ac.
2200
6.35Ac.
G.A.D.
TRAIL
ACRES
RA-1
3-5 du/
acre
LOT
43.78
2001
2.00Ac.
28335
2300
3.60Ac.
2400
10.98Ac.
3-19
EASEMENT
2500
5.22Ac.
2600
6.52Ac.
ANGEL
LANE
PUBLIC
RD

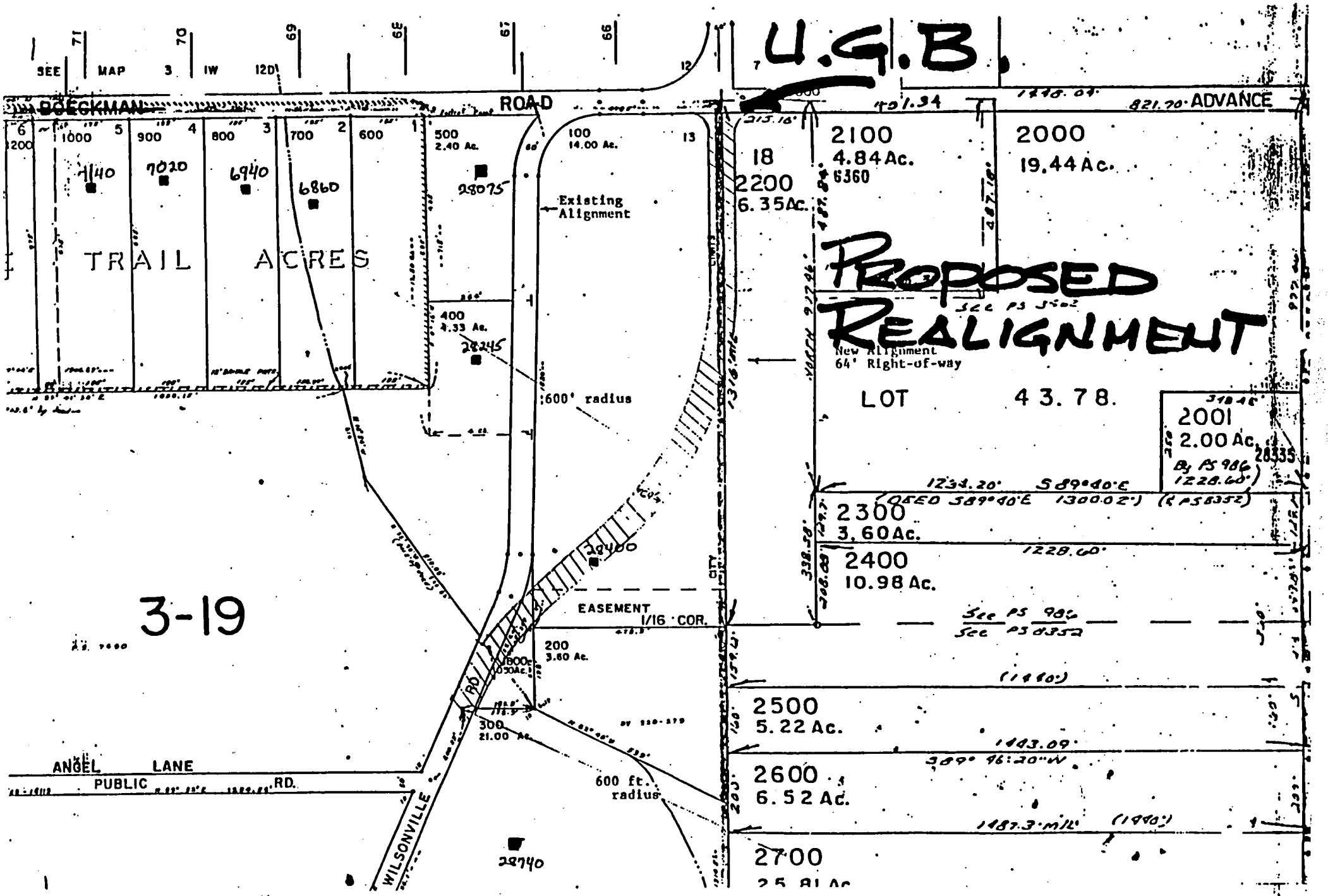

U.G.B.
SEE MAP 3 1W 12D
BOECKMAN ROAD
ADVANCE
TRAIL ACRES
Existing Alignment
PROPOSED REALIGNMENT
New Alignment
64' Right-of-way
600' radius
LOT 43.78.
2100 4.84 Ac. 6360
2000 19.44 Ac.
18
2200 6.35 Ac.
2001 2.00 Ac.
2300 3.60 Ac.
2400 10.98 Ac.
2500 5.22 Ac.
2600 6.52 Ac.
2700
500 2.40 Ac.
100 14.00 Ac.
400 3.33 Ac.
200 3.60 Ac.
300 21.00 Ac.
EASEMENT
1/16 COR.
ANGEL LANE
PUBLIC RD.
WILSONVILLE
600 ft. radius
3-19
7140
7020
6940
6860
28075
28245
28400
28740
28335

EXHIBIT B

BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

In the matter of the petition of Marvin and Bonnie Wagner to amend the Urban Growth Boundary to add 6.35 acres to the urban area north of Wilsonville in Clackamas County	))))	Contested Case No. 90-01 HEARINGS OFFICER REPORT & RECOMMENDATION

I. Nature and Summary of the Issues

Petitioners propose to add 6.35 acres (the "Subject Property") to the Urban Growth Boundary (UGB) north of and adjoining Wilsonville in Clackamas County. Petitioners also own 17.6 acres already in the UGB adjoining the Subject Property. Petitioners propose to include the Subject Property in the UGB to facilitate development of their property and to facilitate dedication of a realigned right of way for Wilsonville Road.

The majority of the road realignment will occur on land already in the UGB. However, a roughly 800-foot long half-width section of the road is planned on the northwest part of the Subject Property outside the UGB on land zoned for exclusive farm use.

One issue in this case is whether the petitioners can dedicate the half-width right of way for realigned Wilsonville Road if the petition is denied. If the right of way can be dedicated for the road outside the UGB, or if the road can be built on land already inside the UGB, then the petition should be denied, because it does not result in an improvement in urban service efficiency to land already inside the UGB.

Petitioners argued they cannot dedicate right of way on land zoned GAD based on state law. No one else addressed the issue. Metro Counsel should advise the Council regarding this issue. Given the record, the hearings officer concludes that the petitioners cannot create a parcel necessary to dedicate right of way from land zoned for exclusive farm use.

If the right of way cannot be dedicated without granting the petition, then granting the petition facilitates the substantial public service efficiency represented by the realigned road, and it should be approved if it complies with other criteria for a Locational Adjustment, because granting the petition is a necessary first step to dedication of the right of way.

Another issue is whether the Council can and should treat the "right of way" and "remainder" portions of the Subject Property differently. The half-width right of way for realigned Wilsonville Road on the Subject Property is referred to as the "right of way" portion. The rest of the Subject Property is referred to as the "remainder" portion.

Metro Code (MC) Section 3.01.070 allows the Council to approve a petition in whole or in part; therefore, the two portions of the Property can be considered and acted on separately. Whether the Council should consider them separately is discretionary and not dictated by clear and objective standards. In acting on UGB Locational Adjustment cases in the past, the Council has not considered parts of a property separately.

Findings adopted in support the rules for Locational Adjustments in the Metro Code provide that, if including a parcel containing 10 acres or less in the UGB results in any benefit to land already in the UGB, then the petition complies with the efficiency standard of MC section 3.01.040(a)(1) for the whole parcel. This suggests that a parcel containing 10 acres or less should be considered as a unit at least for purposes of MC section 3.01.040(a)(1).

If the Subject Property is treated as a unit, then the merits of the road realignment warrant finding that the all of the Property complies with MC section 3.01.040(a)(1).

If the "right of way" and "remainder" portions of the Subject Property are treated separately, the hearings officer concludes that only the "right of way" portion fulfills the increased service efficiency standard of MC section 3.01.040(a)(1). Inclusion of the "remainder" portion of the property does not increase the efficiency of public facilities.

The hearings officer also concludes that including the "remainder" portion is not necessary for urbanization of or for delivery of public services to land inside the UGB, and that it increases the potential incompatibility between urban uses on the Subject Property and nearby agricultural activities, and therefore violates MC section 3.01.040(a)(4) and (5), respectively.

Given the past practice of the Council of considering a locational adjustment parcel as a single unit, the finding adopted in support of the rules noted above, and the circumstances of the case, including the relatively small size of the Subject Property, the buffer provided by the natural feature on the "remainder" portion, and the residential land use east of the north part of the Property, the hearings officer recommends that the Subject Property be considered as a unit.

The hearings officer recommends the UGB be amended to include the Subject Property, because dedication and improvement of the road increases the efficiency of road services for land already within the UGB, that increased efficiency cannot be accomplished without use of agricultural lands, including the Subject Property will not cause significant environmental, energy, social or economic impacts, and urban use of the Subject Property will be compatible with nearby agricultural activities.

However, so that the Council can evaluate the merits of treating the Subject Property as a unit versus treating each portion separately, the Report and Recommendation provides findings for both approaches. That way, the Council can draw its own conclusions about how the property should be treated.

II. Procedures and Record

A. History, Proceedings, and Comments from affected jurisdictions.

1. On or about June 28, 1990, Richard Whitman filed a petition for a Locational Adjustment for Parcel 2200 in Township 3 South, Range 1 East, WM, Clackamas County (the "Subject Property") on behalf of its owners, Marvin and Bonnie Wagner. See Exhibits 4 and 5.

2. On or about August 27, 1990, the hearings officer sent notices by certified mail to owners of land within 250 feet of the Subject Property, the petitioners, the City of Wilsonville, Clackamas County, and the Far West Citizens Planning Organization (CPO) that a hearing would be held September 25 regarding the petition. The notices and certificates of mailing are included as Exhibits 2 and 3. A notice of the hearing also was published in *The Oregonian* on or before September 5.

3. On September 25, 1990, from 2:30 pm until about 4:30 pm, the hearings officer held a public hearing at the Wilsonville City Hall. Nine witnesses testified in person about the petition. The hearing was recorded on audio tape. Two witnesses testified in writing. See Exhibits 18 and 19.

4. After the September 25 hearing, the hearings officer left the record open for 3 days to allow William Ciz to submit written testimony and for an additional 3 working days for submission of a response from the petitioner. See Exhibits 25 and 26.

5. On November 1, 1990, the hearings officer filed with the Council this Report and Recommendation.

B. Written record. The following documents are part of the record in this matter. The hearings officer also takes official notice of relevant provisions of the comprehensive plans and land development ordinances of the City of Wilsonville and Clackamas County.

Exhibit No.	Subject matter
1	Memorandum from Seltzer to Epstein dated 8/20/90
2	Notice of public hearing and map of the Subject Property
3	Certificates of mailing of notice of hearing
4	Letter from Seltzer to Whitman dated 6/28/90
5	Petition for Locational Adjustment
6	Notice of Proposed Action to DLCD
7 A-D	Requests for comment from Clackamas County Sheriff, West Linn School District, Tualatin Valley Fire and Rescue District, and Clackamas County
8	Comment from Tualatin Rural Fire Protection District
9	Comment from West Linn School District
10	Letter from Whitman to Sorenson dated 6/22/90
11	Letter from Whitman to Seltzer with attachments (PMALGBC forms)
12	Letter from Whitman to Seltzer dated 9/5/90
13	Letter from Starner (Wilsonville) to Seltzer dated 9/4/90
14	Letter from Bruck to Wagner dated 9/4/90
15	Letter from Cook (Clackamas County) to Seltzer with attachments
16	Clackamas County Board Order 90-806
17	Wilsonville Resolution 778
18	Letter from Beck to Epstein dated 9/25/90
19	Letter from Connolly to Epstein dated 9/24/90
20	Letter from Van Lente (Far West CPO) to Epstein dated 9/25/90
21	Soil Survey for Clackamas County Area (excerpt)
22	Petition in support of application and attached map
23	Letter from Wagner to Connolly dated 9/19/90
24	Map showing existing and proposed orchard and rights of way
25	Letter from Ciz to Epstein dated 9/27/90
26	Letter from Whitman to Epstein dated 10/3/90
27	Profiles of Commercial Agriculture (excerpt)

C. Responses from service providers and affected jurisdictions.

1. The Subject Property is in the Tualatin Valley Fire and Rescue District and West Linn School District 3J. Both districts filed a written comment recommending approval of the petition. See Exhibits 8 and 9.

2. The Subject Property is in unincorporated Clackamas County. The County Commissioners adopted a Board Order recommending approval of the Locational Adjustment only to the extent the land included in the UGB will be included in a realigned right of way for Wilsonville Road. See Exhibit 16. The County did not make an express recommendation regarding that portion of the Subject Property that is not needed for the realigned right of way of Wilsonville Road. However, the Board Order includes the following findings:

... It further appearing to the Board it is not necessary to include the entirety of the parcel within the Urban Growth Boundary in order to incorporate the road realignment, and

... It further appearing to the Board the County Comprehensive Plan allows agricultural land be designated urban only after considering retention of that agricultural land, and it appears the request to include all the property in the Urban Growth Boundary is not supported by County Comprehensive Plan policies to retain agricultural lands...

3. The Subject Property adjoins the City of Wilsonville. The City Council adopted a resolution recommending approval of the petition. See Exhibit 17.

III. Basic Findings About the Subject Property and the Surrounding Area

A. Location. The Subject Property is situated south of and adjoining Boeckman/Advance Road, east of the southerly extension of Stafford Road, and about 475 feet east of Wilsonville Road. The west edge of the site adjoins the UGB and the city limits of Wilsonville in Clackamas County. See the map included in Exhibit 2.

B. Legal description. The legal description of the Subject Property is Tax Lot 2200, Township 3 South, Range 1 East, WM, Clackamas County.

C. Size and shape. The Subject Property is a rectangle about 215 feet wide (east-west) and 1316 feet deep (north-south) and contains about 6.35 acres.

D. Existing and proposed uses.

1. The subject property is used predominantly for an agricultural purpose in conjunction with the adjoining 17.6-acres to the west. Based on Exhibit 24, the Subject Property contains about 253 filbert trees on the northwesterly 3.6 acres of the property. The southeasterly 2.75 acres of the Subject Property is not developed; it contains native vegetation and a seasonal drainageway.

2. The petitioner intends to annex the Subject Property to Wilsonville (see Exhibit 11) and to apply for an appropriate Comprehensive Plan amendment and zone change to an urban designation and a residential zone. If the annexation, plan amendment and zone change are approved, the petitioner plans to:

a. Dedicate the northwesterly 1 acre of the Subject Property for a realignment of Wilsonville Road consistent with City development requirements,

b. Develop about 2.75 acres of the Property for dwellings together with the adjoining 17.6 acres owned by petitioners inside the UGB (TL 1800 and 200), and

c. Establish 2+ acres of the Property as an open space and drainage tract.

3. The residential density that would be permitted on the area dedicated for road and open space purposes will be transferred to the remainder of the petitioner's land (TL 1800 and 200 and the developable portion of TL 2200). If TL 2200 has the same zoning as adjoining land in the UGB, it could be developed for up to 31 dwelling units. Storm water from all three parcels would be discharged to the drainageway on the Subject Property. The petitioner did not submit more detailed plans for the proposed development.

E. Surrounding land uses, designations, and zoning.

1. The 14-acre parcel west of the Subject Property (TL 1800) and the 3.6-acre parcel to the southwest (TL 200) also are owned by the petitioners. Unlike the Subject Property, the parcels to the west are inside the Urban Growth Boundary and the City of Wilsonville. The parcel to the west contains the petitioners' home; both parcels contain filbert trees that are part of the orchard that includes the trees on the Subject Property. The properties are designated Residential on the Wilsonville Comprehensive Plan Map and are zoned RA-1 (Residential-Agriculture, 3 to 5 dwellings per acre). The property inside the UGB can be developed for up to 88 dwelling units, based on existing zoning.

2. Land south, east, northeast, and north of the Subject Property is designated Agricultural and zoned GAD (General Agricultural District) by the Clackamas County. Land to the south and southeast is used for nursery stock. Directly east of the north part of the Subject Property is a single family home on a 4+ acre parcel. Farther east are tilled fields and pasture. Land to the north across Boeckman/Advance Road is used for a tree farm.

3. Land northwest of the site is designated Rural on the County Comprehensive Plan Map and is zoned RRFF5 (Rural Residential/Farm and Forest 5 acres). That land is used predominantly for rural residential development and small scale farming and animal husbandry.

F. Public facilities and services.

1. Sewer and water.

a. The Subject Property is not served by a private well or sanitation system or public water system or sewer. The nearest water and sewer lines are situated about 800 feet southwest of the Subject Property in the Wilsonville Road right of way south of the stream at the southwest corner of Tax Lot 1800.

b. Tax Lots 1800, 400, and 500 --- inside the Wilsonville city limits and the UGB --- also are not served by public water or sewer. To provide water and sewer to those properties and to the Subject Property, the City would have to extend lines across the stream at the southwest corner of Tax Lot 1800.

c. Water and sewer lines extended as part of recent development in the City southwest of the Subject Property were sized to accommodate service to all properties in the urban area, based on testimony from City Engineer Richard Drinkwater. Mr. Drinkwater concluded the incremental impact of service to these properties on capital facilities of the City is negligible, although the system would not accommodate further expansion to the north, and, at some undetermined time, the City will have to expand its capital facilities to provide sewer service to all developable land in the City.

2. Storm water drainage.

a. The Subject Property is not served by an improved public storm water drainage system. There is a roadside ditch along Boeckman/Advance Road at the north edge of the property. Also a natural drainage channel that enters the Subject Property near its northeast corner and extends southwest diagonally through the Subject Property to its southwest corner before continuing off-site to merge with a drainageway south of TL 200.

b. The City has not prepared a storm drainage master plan for the area that includes the Subject Property or adjoining urban land to the west. City policies promote use of natural drainageways. The City urban renewal plan provides that storm drainage is to be provided as part of the Wilsonville Road realignment project. See Exhibit 26.

3. Roads and transit access.

a. The north edge of the Subject Property adjoins Advance/Boeckman Road. That road is identified as a collector street on the Wilsonville Master Street System Plan. It has a 20-foot paved section between gravel shoulders and drainage ditches.

b. Stafford Road terminates at a 90° intersection with Boeckman/Advance Road at the northwest corner of the Subject Property. It is identified as an arterial road. It has a 20-foot paved section between gravel shoulders and drainage ditches.

c. Wilsonville Road is about 475 feet west of the Subject Property. It is designated as an arterial road on the Wilsonville Master Street System Plan. It has a 90° intersection with Boeckman/Advance Road. It has a 20-foot paved section between gravel shoulders and drainage ditches adjoining TL 1800 and 200, but has been improved to full urban standards adjoining recent development further south.

(1) There have been 5 vehicle accidents at the intersections of Wilsonville and Boeckman Roads and of Stafford and Boeckman Roads in the last three years, based on a summary by the petitioner of accident statistics from the sheriff's office.

(2) Wilsonville Road is to be realigned so the centerline of the road aligns with the centerline of Stafford Road. The realigned right of way will extend south and southwest to intersect with existing Wilsonville Road near the southwest corner of Tax Lot 1800. It will roughly split Tax Lot 1800 into two equal pieces and will require removal of the existing dwelling and much of the filbert orchard on that lot. The right of way for realigned Wilsonville Road will be 64 feet wide with 6-foot wide permanent easements on both sides, based on testimony from City Engineer Richard Drinkwater. The existing right of way of Wilsonville Road may be vacated once the road is relocated; however, at least a portion of the road is likely to continue to be used for access to TL 400 on the west side of the road because it will not adjoin relocated Wilsonville Road.

(3) The City of Wilsonville will require the petitioner to dedicate the realigned Wilsonville Road right of way through TL 1800 as a condition of approval of development permits for TL 1800 and 200 west of the Subject Property. See Exhibit 13. The City also will require the petitioner to improve the street before occupancy of structures on the Subject Property, such as by making the improvement, participating in a local improvement district (LID), or including the project in the City's Urban Renewal District with financing provided by tax increment revenue.

d. The Subject Property is not within one-quarter mile of a transit corridor designated by Metro.

G. Soil, slope and natural features.

1. The Subject Property contains predominantly Aloha Silt Loam soils on slopes of 0 to 6%, based on the SCS Soil Survey of Clackamas County. This soil has a agricultural capability class of Class II. The soil survey map is at a scale that makes it difficult to state precisely the area of the site with this soil, but it appears that about 2/3 of the site or about 4 acres is this type of soil. It it found on the north and west portions of the Subject Property.

2. The seasonal drainage channel on the Subject Property contains Xerochrepts and Haploxerols soil on slopes of 20% or more, based on the SCS map. This soil has an agricultural capacity class of Class VIIe. The site contains a little more than 2 acres of this soil type. Petitioners' attorney testified 2.8 acres of the site contains this soil, but there is no precise quantification in the record. Based on an inspection of the site, little of the Xerochrepts and Haploxerols soils are sloped more than 20%, particularly at the north end of the drainage channel. A topographic survey is needed to determine slopes precisely.

3. The predominant natural feature on the site is the seasonal drainageway that extends from near the northeast corner of the Subject Property to the south edge of the property, from which point it continues south. The drainageway was dry during site inspection. The banks of the drainageway are covered in predominantly deciduous trees and shrubs. The remainder of the Subject Property does not contain significant natural features; most native vegetation was removed to enable farming of the site.

H. Relevant Comprehensive and Urban Renewal plan designations, policies, & zoning.

1. The Subject Property is designated Agricultural on the Clackamas County comprehensive plan map and is zoned GAD (General Agricultural District). The Subject Property is not in an area approved as an exception to Goal 3 (Agriculture).

2. The Wilsonville Comprehensive Plan does not designate the Subject Property. However, the Master Street System and Function Classification Map in the City Plan provides conceptually that Wilsonville Road is to be realigned to extend northeast across TL 1800 west of the Subject Property and along the north part of the west edge of the Subject Property so the centerlines of Wilsonville Road and Stafford Road align. This will eliminate a "jog" created by two 90° turns in a 1/10-mile section of road where Wilsonville Road and Stafford Road now join. The Clackamas County Plan also provides for realignment of Wilsonville Road (Transportation Element 32 and Map V-9).

a. A final design for the Wilsonville Road realignment has not been prepared by the City. The City has considered several scenarios for realigning the road, including one or more that do not use land outside the UGB. If the final road plan differs from the conceptual plan in the comprehensive plan, the City may need to amend the plan.

3. The Wilsonville Comprehensive Plan does not require the City to provide funds to acquire and develop the right of way for the Wilsonville Road realignment per se. Policies 3.3.1, 3.3.3 and 3.3.5 of the Plan provide in relevant part:

> The Street System Master Plan has been designed to meet projected year 2000 traffic volumes. It specifies the design standard for each arterial and major collector street. The conceptual location os proposed new major streets are also identified. However, actual alignments may vary from the conceptual alignments based on detailed engineering specifications and design considerations, provided that the intended function of the street is not altered...
>
> ... Dedication of adequate right of way, as established in the Street System Master Plan, or as otherwise approved by the Planning Commission, shall be required prior to actual site development...
>
> The City shall assume the responsibility to plan, schedule, and coordinate all street improvements through a Capital Improvements Plan...

4. The Wilsonville Urban Renewal Plan includes the realignment of Wilsonville Road as a project. The Urban Renewal District does not extend beyond the city limits; therefore, the project does not involve the Subject Property. If the Subject Property is not involved in the project, only a half-width dedication and improvement would be made at the north end of the road realignment. The project includes associated storm drainage, water, and sewer system development. The Urban Renewal Plan for the City has yet to be adopted, and is scheduled for an advisory vote in November, 1990. Costs of the Wilsonville Road realignment project are listed below:

Construction	$496,000
Property acquisition	$100,000
Engineering and legal fees	$189,400
Total	$785,400

5. Wilsonville Zoning Ordinance section 4.167(f) requires, prior to issuance of a building permit or recording of a final plat, an applicant to dedicate right of way in accord with the Street System Master Plan and to file a waiver of remonstrance against formation of a local improvement district. It also requires a minimum setback of 55 feet from the centerline of a street or 25 feet from the edge of the right of way whichever is greater.

6. Regarding storm water management, the City Plan provides the following in Policies 3.4.3 and 3.4.4 in relevant part:

> Major natural drainageways shall be established as the backbone of the drainage system and designated as open space. The integrity of these drainageways shall be maintained as development occurs... Developers shall be required to retain and protect existing vegetation in steeply sloped (15 percent or above) and landslide prone areas to decrease the amount of surface runoff, to preserve areas of natural percolation and help stabilize landslide prone areas...

7. Section 402 of the Clackamas County Zoning and Development Ordinance (ZDO) contains the regulations for the GAD zone. That section does not allow roads or drainage utilities as a principal use. However, "utility facilities necessary for public services" and "public and private conservation areas and structures for the conservation of water, soil, forest, or wildlife habitat or resources" are permitted as nonfarm uses following a public hearing and compliance with certain approval criteria.

8. Clackamas County Comprehensive Plan Map V-15 provides for a bicycle path along Wilsonville Road. The Pathways Master Plan and Policies 3.3.11 and 3.3.12 of the Wilsonville Comprehensive Plan also provide for development of a bicycle path along Wilsonville Road. Policy 3.3.12 provides in relevant part:

> ... When land is developed which includes a designated pathway, appropriate dedication of right of way or easements shall be required. In cases where the proposed development will substantially increase the need for the path, construction also may be required prior to occupancy...

Policy 3.3.13 provides that pathways shall be completely separated from vehicular traffic, unless physical barriers or interim phasing warrant creation of a pathway that is merely delineated by pavement markings, curbs, or bumper blocks or that shares traffic right of way with motor vehicles.

9. Wilsonville Zoning Ordinance section 4.136(5) provides for density transfers:

> When calculating the density of a planned development, the total area shall include the area of the proposed development, including streets, dedications, and mapped open space designated in the Comprehensive Plan up to 10% of the total land area.

10. Wilsonville Zoning Ordinance section 4.161(5) protects stream corridors. The width of the protected area along a stream varies with the classification of the stream. Along a "major drainageway," the minimum buffer is 20 feet from the channel bottom centerline plus 1 additional foot for each percent of bank slope greater than 12%. Along a "minor drainageway," the minimum buffer is 10 feet from the channel bottom centerline plus 1 additional foot for each percent of bank slope greater than 12%. Along a "seasonal drainageway," the minimum buffer is 10 feet from the channel bottom centerline. Based on the record, the City would classify the drainageway on the Subject Property as seasonal.

IV. Applicable Approval Criteria for Location Adjustment

A. Background.

1. The UGB is intended to accommodate urban growth through the year 2000. It can be changed in two ways. One method involves Major Amendments, which generally involves a change of more than 50 acres in the UGB.

2. The other way to change the UGB is called a Locational Adjustment. Metro Ordinance No. 81-105 provides that a Locational Adjustment may be warranted where a patent mistake was made when the UGB was drawn, where the addition uniquely facilitates development of land already in the UGB, where the addition of two acres or less would make the UGB coterminous with property lines, or where other conditions warrant the addition based on standards in that ordinance, codified in Metro Code Chapter 3.01.

a. Need for more urban land is not relevant to a Locational Adjustment.

b. A Locational Adjustment cannot add more than 50 acres to the UGB. To prevent contiguous, incremental amendments from exceeding the 50 acre maximum, a Locational Adjustment cannot add more than 50 acres including all similarly situated land.

c. It is assumed that a change of 50 acre in the region would not affect the efficiency of major public facilities, considering the population and area for which major public facilities are designed. But, all land in the UGB is intended to be developed for urban uses. If 50 acres is added to one part of the UGB, it could supplant use of a comparable size area or combination of areas elsewhere in the UGB. This could affect the efficiency of public services and increase energy consumption and pollution from travel in the region. That is, there would be costs and potential service inefficiencies, because public facilities would be available to serve land in the UGB that would not be developed and because there would be costs to serve the land that is added to the UGB.

d. To ensure the effect of adding land to the UGB is warranted despite the potential service inefficiencies elsewhere in the region, Ordinance 81-105 requires Metro to consider whether the addition of a given area to the UGB would increase the efficiency of public services and facilitate development inside the existing UGB. If so, then the benefit from adding the land can outweigh the cost that may accrue from not developing a comparable area inside the UGB.

e. The larger the size of the area to be added, the greater the cost that may accrue from not developing a comparable area inside the UGB. The cost of leaving a 10 acre or smaller parcel inside the UGB vacant is so small that it is not significant if, as a result of adding a comparable size area to the UGB, any benefit accrues to land in the UGB abutting the land to be added. For Locational Adjustments involving more than 10 acres, a net benefit should result to the area inside the UGB. The larger the area involved, the greater the benefit required.

f. Statewide Planning Goal 3 (Agriculture) is intended to protect agricultural land. The UGB is one way to fulfill that goal by clearly delineating urban and nonurban areas. The Locational Adjustment standards reflect this priority by allowing agricultural land to be included in the UGB only under compelling circumstances.

B. Locational Adjustment standards. The relevant standards for addition of land to the UGB, contained in Metro Code Section 3.01.040(a), are as follows.

> (a) As required by subsections (b) through (d) of this section, Locational Adjustments shall be consistent with the following factors:
>
> > (1) *Orderly and economic provisions of public facilities and services.* A Locational Adjustment shall result in a net improvement in the efficiency of public facilities and services, including but not limited to, water, sewerage, storm drainage, transportation, fire protection and school in the adjoining areas within the UGB; and any area to be added must be capable of being served in an orderly and economical fashion.
> >
> > (2) *Maximum efficiency of land uses.* Considerations shall include existing development densities on the area included within the amendment, and whether the amendment would facilitate needed development on adjacent existing urban land.
> >
> > (3) *Environmental, energy, environmental and social consequences.* Any impact on regional transit corridor development must be positive and any limitations imposed by the presence of hazard or resource lands must be addressed.
> >
> > (4) *Retention of agricultural land.* When a petition includes land with Class I-IV soils that is not irrevocably committed to non-farm use, the petition shall not be approved unless it is factually demonstrated that:
> >
> > > - Retention of the agricultural land would preclude urbanization of an adjacent area already inside the UGB, or
> > >
> > > - Retention of the agricultural land would prevent the efficient and economical provision of urban services to an adjacent area inside the UGB.
> >
> > (5) *Compatibility of proposed urban uses with nearby agricultural activities.* When a proposed adjustment would allow an urban use in proximity to existing agricultural activities, the justification in terms of factors (1) through (4) of this subsection must clearly outweigh the adverse impact of any incompatibility...

(d) Petitions to add land to the UGB may be approved under the following conditions:

(1) An addition of land to make the UGB coterminous with the nearest property lines may be approved without consideration of the other conditions of this subsection if the adjustment will add a total of two acres or less, the adjustment would not be clearly inconsistent with any other factors in subsection (a), and the adjustment includes all contiguous lots divided by the existing UGB.

(2) For all other additions, the proposed UGB must be superior to the UGB as presently located based on consideration of the factors on subsection (a). The minor addition must include all similarly situated contiguous land which could also be appropriately included within the UGB as an addition based on the factors in subsection (a).

V. Arguments in Support of the Petition

A. In summary, petitioners make the following major arguments in favor of the Locational Adjustment:

1. Development of the 17.6 acres owned by petitioners inside the UGB and 4.83 other acres inside the UGB is impossible without dedication and improvement of the realigned Wilsonville Road, including that portion of the realigned right of way now outside the UGB, because traffic in the area exceeds the capacity of Wilsonville Road until the road is realigned, and dedication of the right of way and improvement of the roadway is not possible unless the area needed for the road is included in the UGB and annexed to the City.

a. The City should not, and perhaps cannot, annex land outside the UGB or include such land in the Urban Renewal District.

b. Petitioners cannot dedicate right of way for realignment of Wilsonville Road outside the UGB without violating ORS 215.213(2).

(1) ORS 215.213(2) and 215.296 allow construction of public roads and highways in an agricultural zone (such as GAD) if it does not create a new parcel or force a significant change in accepted farm practices on surrounding land devoted to farm use or significantly increase the cost of accepted farming practices.

(a) Under ORS 215.010(1), a "parcel" is created on agricultural land by partition or by deed. The right of way for the realignment would be acquired by partition and deed pursuant to Clackamas County regulations. Therefore, dedication of the right of way (by granting a deed) on land zoned GAD would violate ORS 215.213(2). One way around this prohibition is for the County to acquire all of the Subject Property. This would substantially increase land acquisition costs, if the County purchases the property for the road realignment.

(b) If 1 acre of the Subject Property is used for a road, and 2.75 acres of the Subject Property is not suitable for agriculture because it is part of the drainageway, then only about 3 acres of the Subject Property could be used for agriculture. Such a small area of land cannot be used practicably for agriculture without forcing a significant change in or significantly increasing the cost of accepted farming practices.

2. Petitioners cannot discharge storm water from land in the UGB to the drainageway on the Subject Property outside the UGB, because the Clackamas County GAD zone does not allow urban level utility facilities. Therefore, petitioners would have to build a new 1700-foot long storm sewer at a cost of $200,000 to accommodate storm water from land now within the UGB.

3. Petitioners could not build a bicycle path on the east side of the realigned Wilsonville Road, because the Clackamas County GAD zone does not allow urban level utility facilities. Therefore, the path would have to be located on the west side of the road, requiring the path to cross the road at its south end.

4. If the road realignment cannot be financed by Urban Renewal tax increment funds, then it will fall on the petitioners to build it. This would cause an onerous financial impact on petitioners, and would prevent or delay urbanization of the petitioners' land already in the UGB.

5. Including the Subject Property in the UGB will increase the efficiencies of scale for the petitioners by increasing the number of dwelling units that can be built on petitioners' property. This will reduce the incremental cost per unit of development, including costs of extending public water, sewer and roads. Because including the Subject Property increases the permitted number of dwelling units on petitioners' property by about 35%, (31 units allowed on Subject Property + 88 units allowed on land already in UGB), the cost per unit of infrastructure improvements is reduced an equivalent amount. Also, if the subject 6.35 acres is added to the UGB, then the area of land inside the UGB that needs public water and sewer services is increased by about 25% (6.35 + 24.83 acres = 25%). This, too, reduces the per unit service delivery cost an equivalent amount and results in more efficient service delivery.

6. The impact of the road realignment on petitioners' property inside the UGB — it splits the property in half with a curvilinear road creating two triangular parcels — makes it more difficult to design a practicable housing complex. Including the Subject Property in the UGB will offset in part the negative effects of the road relocation on the petitioners' property by increasing the number of units on that property and by providing a larger buildable area on the east side of the realigned road.

7. Pursuant to the City comprehensive plan and development codes, the easterly 2.75 acres of the Subject Property will be preserved as an open space and drainage tract. This provides a buffer between urban development on petitioners' property and adjoining agricultural uses to the east and southeast. More than 45 residents of the area signed a petition supporting the Locational Adjustment, showing that they believe the adjustment will not adversely affect their agriculture activities. Petitioners also agreed to execute a covenant waiving rights to object to lawful agricultural practices on adjoining land. Taken altogether, this shows urban development on the Subject Property will not adversely affect agricultural uses in the area.

8. Granting the petition enables Wilsonville Road to be developed by the City sooner than it would be by the County and enables the road and adjoining development to be subject to one set of standards.

VI. Findings Applying Approval Criteria to the Facts of the Case

In applying the approval criteria to the facts of the case, it is useful to distinguish the merits of including that portion of the Subject Property that will be dedicated for the Wilsonville Road realignment (the "right of way portion") from the merits of including the rest of the Subject Property in the UGB (the "remainder portion").

A. Orderly and economic provision of and net improvement in efficiency of public facilities and services (§ 3.01.040(a)(1)).

1. Water and sewer.

a. Water and sewer can be provided to the Subject Property by extending a line from the public water and sewer lines that will be built in the realigned Wilsonville Road right of way. It would be orderly and economic to serve the Subject Property with water and sewer service once Wilsonville Road is realigned and associated infrastructure improvements are made. Realignment and improvements will be made as a condition of approval of development of petitioners' land already in the UGB. Therefore, the Subject Property can be served by public water and sewer systems in a timely and orderly manner.

b. Including the "right of way portion" of the Subject Property in the UGB increases the City's options about where to locate the water and sewer lines. That is, if the right of way portion is included in the UGB, then the water and sewer lines can be placed anywhere in the right of way. However, the City could locate the water or sewer lines in the right of way to be dedicated from land already in the UGB. Therefore, the Locational Adjustment is not necessary to provide water or sewer service to land already in the UGB. Including the right of way portion of the Subject Property to the UGB does not affect the construction or operating cost of of the water or sewer line. Therefore, including the "right of way portion" of the Subject Property to the UGB has no net effect on the provision or efficiency of water or sewer service.

c. Including the "remainder portion" of the Subject Property in the UGB is not necessary to provide water or sewer service to land already in the UGB, because water and sewer lines will not cross the Subject Property to serve land already in the UGB. Including the "remainder portion" of the Subject Property to the UGB potentially increases the number of dwelling units served by the water and sewer systems, marginally increasing service efficiency by having the system serve more dwelling units and reducing per unit service costs by spreading those costs over more users. However, such a result by itself cannot result in a net improvement service efficiency for purposes of the Locational Adjustment standards, or else every petition would have to be approved on that basis. The service cost reductions per unit will be offset by higher gross construction cost. Therefore, including the "remainder portion" of the Subject Property in the UGB has no net effect on water or sewer system service efficiency in the UGB.

d. To the extent including both portions of the Subject Property in the UGB expedites development of all of petitioners' land, it also expedites water and sewer system improvements associated with realignment of Wilsonville Road and expedites delivery of water and sewer services to land already in the UGB that do not have those services, including TL 1800 and 400. However, water and sewer service to land already in the UGB is physically practicable without including either portion of the Subject Property in the UGB. Also, water and sewer service can be provided to land in the UGB when petitioners' land already in the UGB is developed. Therefore, including both portions of the Subject Property in the UGB has no effect on water or sewer system service efficiency in the UGB.

2. Roads and transportation.

a. If the Subject Property is included in the UGB, it can have vehicular access to realigned Wilsonville Road and to Boeckman/Advance Road. Therefore, the Subject property can be served by roads in an orderly and efficient manner.

b. Property already in the UGB can be served by Wilsonville Road. However, the permitted use of land already in the UGB may be constrained by the capacity of Wilsonville Road, because its route and level of improvements. If the road is realigned and improved, then full use of adjoining urban land would be permitted.

c. Wilsonville Road is required to be realigned and improved before urban use of the petitioners' property already in the UGB.

(1) Petitioners argue ORS 215.213(2) and 215.296 preclude dedication of the right of way outside the UGB, because such a dedication results in creation of a "parcel" and would force a significant change in accepted farm practices on adjoining farm land.

(2) Given the limited record regarding this issue, the hearings officer agrees with petitioners that dedication of a portion of the Subject Property for the road would violate ORS 215.213(2), because dedication of right of way from the Subject Property results in creation of a parcel as defined by state law. Therefore, including the "right of way portion" of the Subject Property results in more efficient delivery of road services that benefit land already inside the UGB. The hearings officer notes, an argument could be made that state law was not intended to treat a right of way as a parcel and that dedication of the right of way does not result in creation of an additional parcel; it merely adjusts the boundary between two existing parcels --- TL 1800 and TL 2200.

(3) However, dedication of the half-width right of way from the Subject Property would not violate ORS 215.296, because it would not force a significant change in accepted farming practices. It would reduce the farmable area of the Subject Property by one acre. It is not so much the dedication of the right of way from the Subject Property that makes farming the Subject Property problematic; it is the loss of the remainder of the filbert orchards on petitioners' property already inside the UGB. By developing their land already in the UGB, petitioners' eliminate most of their orchard. It is that development that has the most significant impact on the farm use potential of the Subject Property. Even if the right of way is not dedicated from the Subject Property, the Subject Property still is too small to be farmed by itself, given the drainageway on the property, based on Exhibits 14 and 27. Petitioners could dedicate right of way for the northeast half-width of realigned Wilsonville Road without violating ORS 215.296.

d. Including the "remainder portion" of the Subject Property in the UGB is not necessary to provide and does not facilitate access to other property inside the UGB. It makes it easier for petitioners to recover the cost of road improvements or reduces the per unit cost by allowing petitioners to build more units whose residents can be charged for the improvements. However, that does not result in more efficient delivery of urban services; only that it would be more economical to the petitioner if the petitioner ultimately builds the road. This sort of private economic benefit is not relevant to the Locational Adjustment. Therefore, including the "remainder portion" of the Subject Property in the UGB does not affect road system service efficiency in the UGB.

3. Police and Fire. Police and fire protection services can be provided to the Subject Property from existing or planned facilities in the vicinity, based on responses from service providers. Fire hydrants can be added as needed. Given the relatively small size and potential development of the Subject Property, no change in the efficiency of delivery of these services would follow from including the Subject Property in the UGB.

4. Schools. School services can be provided to the Subject Property from existing and planned facilities in the vicinity, based on responses from service providers. By including the Subject Property in the UGB and realigning Wilsonville Road, school-related traffic would benefit from improved road services.

5. Storm drainage.

a. The Subject Property can be served by storm drainage by discharging water into the drainageway on the property. Therefore, the property can be served by drainage facilities in a timely and orderly manner.

b. Including the "right of way" portion of the Subject Property in the UGB will make it possible for the realigned Wilsonville Road to contain complete storm drainage features. Therefore, including that portion of the property in the UGB results in a net improvement in the efficiency of the storm drainage system.

c. It is not necessary to include the "remainder portion" of the Subject Property in the UGB to provide drainage services for land already in the UGB. Petitioners' property already in the UGB can discharge water to the storm sewer scheduled to be built in the Wilsonville Road right of way, to the drainageway south of the TL 1800, or to the drainageway on the Subject Property.

(1) The hearings officer disagrees with petitioners' argument that storm water cannot be discharged from land inside the UGB to land outside the UGB, because such an activity is not listed as a permitted use in the GAD zone. Clackamas County could conclude the use of the drainageway for drainage does not rise to the level of a land use under the GAD zone or could grant a conditional use permit for the drainage features as a public utility.

(2) Including the "remainder portion" of the Subject Property in the UGB makes it easier to discharge storm water from the urban area to the drainageway, because a conditional use permit would not be necessary. It is not clear from the Rules for Locational Adjustments or from past actions pursuant to those rules whether administrative ease is intended to be a measure of service efficiency, however the hearings officer concludes administrative ease is not a measure of service efficiency.

(3) Given that drainage services can be provided to land inside the UGB without the "remainder portion," including that portion of the property in the UGB does not result in a net improvement in the efficiency of the storm drainage system.

B. Land use efficiency (§ 3.01.040(a)(2)).

1. Including the "right of way portion" of the Subject Property in the UGB is necessary to enable full development of a realigned Wilsonville Road and thus to enable full development of land in already in the UGB. Therefore, including the "right of way portion" results in maximum efficiency of land uses in the urban area.

2. Including the "remainder portion" of the Subject Property in the UGB is not necessary to enable urban use of land already in the UGB and therefore does not affect the efficiency of land uses inside the UGB. Including the "remainder portion" of the Subject Property in the UGB does not provide access which otherwise does not exist to the adjoining property; it does not provide services which would not otherwise exist to the adjoining property; it does not remedy physical development limitations which exist on the adjacent urban property. The Subject Property and adjoining lands to the north, east, and south are developed for agricultural and rural residential uses consistent with their County Comprehensive Plan Map designation. The adjoining land to the west can be developed independent of the "remainder portion" of the Subject Property, consistent with their City Comprehensive Plan Map designation.

3. Including the "remainder portion" of the Subject Property in the UGB could facilitate development of the adjoining land to the west by allowing more dwelling units to be built on land in the UGB through density transfers --- the density allowed on land dedicated for roads and for open space could be transferred to the land already in the UGB. More efficient use of land in the UGB results if such density transfers occur. However, the density from the drainageway and road could be transferred onto the "remainder portion" of the Subject Property rather than onto land to the west. There is no means to assure that density from the undevelopable parts of the Subject Property would be transferred to land to the west.

4. Petitioners also argued the costs of development associated with property in the UGB can be spread over a larger area and more dwelling units if the "remainder portion" of the Subject Property is included in the UGB. However, private economic benefits due to potential cost-spreading are not relevant to a Locational Adjustment except to the extent they are shared by the public at large. In this case, including the "remainder portion" of the Subject Property does not result in cost savings to the public.

5. The curvilinear route of realigned Wilsonville Road makes development of TL 1800 more difficult, because of the long curved road frontage. Including the "remainder portion" of the Subject Property in the UGB would make it easier to develop part of TL 1800, because it could be combined with TL 1800 to create a larger and therefore more flexible developable area. To this extent, including the "remainder portion" of the Subject Property in the UGB facilitates more efficient use of land already in the UGB.

C. Environmental, energy, social and economic consequences (§ 3.01.040(a)(3)).

1. Including the Subject Property in the UGB will not have significant environmental, energy, or economic consequences, because of the relatively small size and development potential of the property. Physical development limitations presented by the drainageway on the property will be addressed pursuant to land development laws of the local governments; the Wilsonville Code requires protection of at least a 20-foot wide portion of the drainageway as an open space tract. The Locational Adjustment would not affect regional transportation corridors, because the site is so far from I-5.

2. Including the Subject Property in the UGB could have adverse social consequences if urban development on the property disrupts nearby agricultural uses and rural residences. Adverse consequences could include a perception that urban uses are extending into the agricultural area, reducing the certainty that agricultural uses will be protected from such intrusions, and encouraging speculation.

a. Including the "right of way portion" of the Subject Property will not cause adverse social consequences, because the road will buffer urban uses on land in the UGB from adjoining agricultural land to the northeast, and the "remainder portion" of the Property and the drainageway on the southeast portion of the Subject Property will buffer urban uses on land in the UGB from agricultural land to the southeast.

b. Including the "remainder portion" of the Subject Property will not cause adverse social consequences, because the drainageway on the southeast portion of the Subject Property will buffer urban uses from agricultural land to the southeast, and the limited developable area at the north end of the property and the existing home on land to the east of the north end of the property will minimize the potential for urban/farm conflicts.

D. Retention of agricultural land (§ 3.01.040(a)(4)).

1. The Subject Property contains Class VII soils based on Exhibit 21. The Locational Adjustment is subject to Section 3.01.040(a)(4), because the property also contains Class II soils, is designated and zoned for farm use by Clackamas County, and is not irrevocably committed to non-farm use.

2. Retention of the "right of way portion" of the Subject Property in agricultural use would preclude development of realigned Wilsonville Road to full width standards. Unless Wilsonville Road is developed to full urban standards, development of land already in the UGB could exceed the capacity of the road system. It is necessary to include the

"right of way portion" of the Property in the UGB to enable development of Wilsonville Road to full width standards and thus permit full development of land within the UGB.

3. Retention of the "remainder portion" of the Property in agricultural use would not preclude urbanization of adjacent land inside the UGB, because adjoining land in the UGB can be developed without that portion. Retention of the "remainder portion" of the Subject Property would not prevent the efficient and economical provision of urban services to the adjacent land inside the UGB, based on findings VI.A.1.c and d, 2.d, 5.c, and B.2. This is the principal reason to treat the "right of way" and "remainder" portions of the Subject Property separately --- conversion of agricultural land is not necessary to provide the service efficiencies that in large part justify a Locational Adjustment.

4. On the other hand, the "remainder portion" of the Subject Property is not large enough on its own to accommodate accepted farming practices common to the area. The minimum developable area required for such use is 5 acres, based on Exhibits 14 and 27. The "remainder portion" contains not more than 3 acres of developable land. The minimum lot size for farm uses in the area --- the smallest lot size allowed by Clackamas County --- is 9 acres. The "remainder portion" could be joined with land to the east to create a larger developable area. However, because there is a home on the developable land east of the north part of the Subject Property, it is unlikely that combining the "remainder portion" with adjoining land to the east will enhance it productivity for agriculture. Therefore, if the "remainder portion" is not included in the UGB, it will be a substandard sized parcel that cannot be used for any purpose without a conditional use permit from Clackamas County unless merged with adjoining nonurban land. That makes it of low value for agricultural purposes except to the extent it provides a buffer between agricultural and urban lands.

E. Compatibility with agricultural activities (§ 3.01.040(a)(5)).

1. The Locational Adjustment would allow an urban use in the vicinity of agricultural activities described in finding III.E. These agricultural activities could be adversely affected by trespass and vandalism from residents of the Subject Property or users of the road across the Subject Property, and residents of the Subject Property could object to accepted farming practices, such as use of natural and chemical fertilizers.

2. Potential adverse effects of urban use of the "right of way portion" of the Subject Property on agricultural uses in the area could be reduced by fencing the east side of realigned Wilsonville Road, prohibiting direct access from that road to adjoining agricultural lands for nonfarm purposes, and establishing a buffer between that portion of the property included in the UGB and adjoining agricultural land. The substantial public interest in realigning Wilsonville Road, including the service efficiencies noted above, outweigh the potential incompatibility between urban uses on the "right of way portion" of the property and nonurban uses on land to the east.

3. Potential adverse effects of urban use of the "remainder portion" of the Subject Property would be reduced by the buffering effect of the drainageway-open space tract and by the presence of a single family family home east of the north portion of the property. Urban uses and agricultural activities would not adjoin directly. However, they would be physically closer to each other if the "remainder portion " of the Subject Property is included in the UGB. This increases the potential for incompatibility. The negligible public benefits resulting from inclusion of the "remainder portion" of the Subject Property in the UGB do not outweigh the potential incompatibility between urban uses on the property and nonurban uses on land to the east. This is a second reason to treat the "right of way" and "remainder" portions of the Subject Property separately --- to provide the maximum protection and compatibility for nearby agricultural activities.

F. Superiority of proposed UGB (§ 3.01.040(d)(2)).

1. If the "right of way portion" of the Subject Property is included in the UGB, then Wilsonville Road can be realigned. This enhances road services and provides greater flexibility regarding the location of utilities within the right of way. The north part of that road would form the edge of the urban area, resulting is a superior UGB, because the road is an easily perceptible boundary between urban and nonurban areas. As it is now, the UGB falls between two of petitioners' properties and is not readily apparent on the ground. Therefore, including the "right of way portion" of the Subject Property in the UGB does result in a superior UGB.

2. If the "remainder portion" of the Subject Property is included in the UGB, then the drainageway on the east side of the property becomes the edge of the UGB. This has little effect on the efficiency of urban services. The drainageway creates an easily perceptible boundary at the southeast part of the property, but not at the northeast part of the property where it differs little from surrounding land in appearance, similar to the existing UGB. Including the "remainder portion" of the Subject Property in the UGB does not result in an inferior or superior UGB.

3. The existing UGB is coterminous with property lines. If the "right of way portion" of the Subject Property is included in the UGB, but not the "remainder portion," then the UGB will not be coterminous with property lines. The UGB will split the Subject Property into 1-acre and 5.35-acre portions. However, the 1-acre portion will be dedicated for right of way purposes, so that the west property line of the Subject Property will be the east edge of the Wilsonville Road right of way. Therefore, in the end, the UGB will be coterminous with property lines if the "right of way portion" of the Subject Property is included in the UGB, but not the "remainder portion."

G. Similarly situated land (§ 3.01.040(d)(3)).

The petition includes similarly situated lands, considering topography, soils, and other natural features of the land and considering the ownership patterns in the area. The only property owned by petitioners with access to realigned Wilsonville Road that can be served by public sewer and water facilities is the Subject Property.

VII. Conclusions and Recommendation

A. Whether the Subject Property is considered as a unit or in two portions, public facilities and services can be provided in an orderly and economic manner, including water, sewer, storm drainage, roads, fire, police, and schools.

B. If the Subject Property is considered as a unit, then the efficiency resulting from inclusion of the "right of way portion" of the Property is sufficient to warrant inclusion of the "remainder portion" of the Property. If the two portions of the Property are considered separately, then the "remainder portion" of the Property does not comply with the increased service efficiency criterion of MC section 3.01.040(a)(1).

1. Including the "right of way portion" of the Subject Property increases the efficiency of road services for land already in the UGB, because it provides right of way for realignment and widening of Wilsonville Road. That realignment and widening cannot be done to full urban standards consistent with ORS 215.213(2) without the amendment. The realignment and widening is necessary for urban development of land inside the UGB.

2. Including the "remainder portion" of the Subject Property in the UGB does not increase or reduce the efficiency of urban services for land already in the UGB, although it would facilitate higher density on adjoining land inside the UGB pursuant to a density transfer and would expedite development of land in the UGB.

C. Including the "right of way portion" of the Subject Property increases land use efficiency in the UGB by allowing realignment and widening of Wilsonville Road, thus allowing full urban development of land already in the UGB. Including the "remainder portion" of the Subject Property in the UGB is not necessary to enable urban use of land in the UGB and does not necessarily increase the efficiency with which that land is used. Therefore if the Subject Property is treated as a unit, the petition complies with MC section 3.01.040(a)(2). If the Subject Property is treated in two portions, the "remainder portion" of the Subject Property does not comply with that section.

D. Whether the Subject Property is considered as a unit or in two portions, including the Subject Property in the UGB will not have adverse environmental, energy, social, or economic consequences and will comply with MC section 3.01.040(a)(3).

E. Retention of the "right of way portion" of the Subject Property in agricultural use would preclude development of realigned Wilsonville Road to full width standards. Therefore, including the "right of way portion" in the UGB complies with MC section 3.01.040(a)(4). Retention of the "remainder portion" of the Subject Property, which is agricultural land, would not preclude urbanization of an adjacent area already inside the UGB, because adjoining land in the UGB can be developed without that portion of the property. Therefore, if the Subject Property is treated in two portions, the "remainder portion" of the Subject Property should not be included in the UGB, because it would violate MC section 3.01.040(a)(4).

F. The substantial public interest in realigning Wilsonville Road, including the service efficiencies noted above, outweigh the potential incompatibility between urban uses on the "right of way portion" of the property and nonurban uses on land to the east. The lack of public benefits resulting from inclusion of the "remainder portion" of the Subject Property in the UGB do not outweigh the increased potential incompatibility between urban uses on the property and nonurban uses on land to the east. Therefore, if the Subject Property is treated in two portions, the "remainder portion" of the Subject Property should not be included in the UGB, because it would violate MC section 3.01.040(a)(5).

G. If the Subject Property is treated as a unit, then the UGB will be superior to the present UGB if the Subject Property is included in the UGB. If the Subject Property is treated in two portions, then the UGB will be superior to the present UGB if the "right of way portion" of the Subject Property is included in the UGB, but not if the "remainder portion" of the Subject Property is included in the UGB.

H. The petition does include all similarly situated contiguous land outside the UGB.

I. For the foregoing reasons, the hearings officer recommends that the Metropolitan Service District Council grant the petition in Contested Case 90-01 if the Council decides the treat the Subject Property as a unit. If the Council decides to treat the property as two portions, then the hearings officer recommends the Council grant the petition only for the "right of way portion" of the Property and deny the petition for the "remainder portion" of the Property.

J. Given the past practice of the Council of considering a locational adjustment parcel as a single unit, the finding adopted in support of the rules for locational adjustments noted above, and the circumstances of the case, including the relatively small size of the Subject Property, the buffer provided by the natural feature on the "remainder" portion, and the residential land use east of the north part of the Property, the hearings officer recommends that the Subject Property be considered as a unit and, therefore, that the Council approve the petition for the whole Property.

DATED this 1st day of November, 1990.

Respectfully submitted,

Larry Epstein
Hearings Officer

EXHIBIT C

Certified A True Copy of the Original Thereof
Clerk of the Council

BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF EXPRESSING COUNCIL INTENT TO AMEND METRO'S URBAN GROWTH BOUNDARY FOR CONTESTED CASE NO. 90-1, WAGNER PROPERTY	)))))	RESOLUTION NO. 90-1351

WHEREAS, Contested Case No. 90-1 is a petition from Marvin and Bonnie Wagner to the Metropolitan Service District for a locational adjustment of the Urban Growth Boundary to include approximately 6.35 acres east of Wilsonville in Clackamas County as shown on Exhibit A; and

WHEREAS, A hearing on this petition was held before a Metropolitan Service District Hearings Officer on September 25, 1990, in Wilsonville; and

WHEREAS, The Hearings Officer has issued his Report and Recommendation, attached as Exhibit B, which finds that all applicable requirements have been met and recommends that the petition be approved; and

WHEREAS, The property is currently outside, but contiguous with, the boundary for the Metropolitan Service District; and

WHEREAS, The Metropolitan Service District Code Section 3.01.070(c)(i) provides that action to approve a petition including land outside the District shall be by resolution expressing intent to amend the Urban Growth Boundary after the property is annexed to the Metropolitan Service District; now, therefore,

BE IT RESOLVED,

That the Metropolitan Service District, based on the

findings in Exhibit B, attached, and incorporated herein, expresses its intent to adopt an Ordinance amending the Urban Growth Boundary as shown in Exhibit A within 30 days of receiving notification that the property has been annexed to the Metropolitan Service District, provided such notification is received within six (6) months of the date on which this resolution is adopted.

ADOPTED by the Council of the Metropolitan Service District this 13th day of December, 1989.

Tanya Collier, Presiding Officer

ES/es
11/26/90

EXHIBIT D

PORTLAND METROPOLITAN AREA LOCAL GOVERNMENT BOUNDARY COMMISSION
320 S. W. Stark (#530) - Portland, Oregon 97204 - Tel: 229-5307

FINAL ORDER

RE: BOUNDARY CHANGE PROPOSAL NO. 2909 - Annexation of territory to the City of Wilsonville.

Proceedings on Proposal No. 2909 commenced upon receipt by the Boundary Commission of a petition from the property owner on February 1, 1991, requesting that certain property be annexed to the City. The petition meets the requirements for initiating a proposal set forth in ORS 199.490, particularly paragraph (c) of section (1).

Upon receipt of the petition the Boundary Commission published and posted notice of the public hearing in accordance with ORS 199.463 and conducted a public hearing on the proposal on March 7, 1991. The Commission also caused a study to be made on this proposal which considered economic, demographic and sociological trends and projections and physical development of the land.

The Commission reviewed this proposal in light of the following statutory guidance:

"199.410 Policy. (1) The Legislative Assembly find that:

(a) A fragmented approach has developed to public services provided by local government. Fragmentation results in duplications in services, unequal tax bases and resistance to cooperation and is a barrier to planning implementation. Such an approach has limited the orderly development and growth of Oregon's urban areas to the detriment of the citizens of this state.

(b) The programs and growth of each unit of local government affect not only that particular unit but also the activities and programs of a variety of other units within each urban area.

(c) As local programs become increasingly intergovernmental, the state has a responsibility to insure orderly determination and adjustment of local government boundaries to best meet the needs of the people.

(d) Local comprehensive plans define local land uses but may not specify which units of local government are to provide public services when those services are required.

(e) Urban population densities and intensive development require a broad spectrum and high level of community services and controls. When areas become urbanized and require the full range of community services, priorities are required regarding the type and levels of services that the residents need and desire. Community service priorities need to be established by weighing the total service needs against the total financial resources available for securing services. Those service priorities are required to reflect local circumstances, conditions and limited financial resources. A single governmental agency, rather than several governmental agencies is in most cases better able to assess the financial resources and therefore is the best mechanism for establishing community service priorities.

(2) It is the intent of the Legislative Assembly that each boundary commission establish policies and exercise its powers under this chapter in order to create a governmental structure that promotes efficiency and economy in providing the widest range of necessary services in a manner that encourages and provides planned, well-ordered and efficient development patterns.

(3) The purposes of ORS 199.410 to 199.519 are to:

(a) Provide a method for guiding the creation and growth of cities and special service districts in Oregon in order to prevent illogical extensions of local government boundaries and to encourage the reorganization of overlapping governmental agencies;

(b) Assure adequate quality and quantity of public services and the financial integrity of each unit of local government;

(c) Provide an impartial forum for the resolution of local government jurisdictional questions;

(d) Provide that boundary determinations are consistent with local comprehensive plans and are in conformance with state-wide planning goals. In making boundary determinations the commission shall first consider the acknowledged comprehensive plan for consistency of its action. Only when the acknowledged local comprehensive plan provides inadequate policy direction shall the commission consider the state-wide planning goals. The commission shall consider the timing, phasing and availability of services in making a boundary determination; and

(e) Reduce the fragmented approach to service delivery by encouraging single agency service delivery over service delivery by several agencies.

199.462 Standards for review of changes; territory which may not be included in certain changes. (1) In order to carry out the purposes described by ORS 199.410 when reviewing a petition for a boundary change or application under ORS 199.454, a boundary commission shall consider local comprehensive planning for the area, economic, demographic and sociological trends and projections pertinent to the proposal, past and prospective physical development of land that would directly or indirectly be affected by the proposed boundary change or application under ORS 199.464 and the goals adopted under ORS 197.225."

(2) Subject to any provision to the contrary in the principal Act of the affected district or city and subject to the process of transfer of territory:

(a) Territory within a city may not be included within or annexed to a district without the consent of the city council;

(b) Territory within a city may not be included within or annexed to another city; and

(c) Territory within a district may not be included within or annexed to another district subject to the same principal Act.

The Commission also considered its policies adopted under Administrative Procedures Act (specifically 193-05-000 to 193-05-015), historical trends of boundary commission operations and decisions, and past direct and indirect instructions of the State Legislature in arriving at its decision.

FINDINGS

(See Findings in Exhibit "A" attached hereto).

REASONS FOR DECISION

(See Reasons for Decision in Exhibit "A" attached hereto).

ORDER

On the basis of the Findings and Reasons For Decision listed in Exhibit "A", the Boundary Commission approved Boundary Change Proposal No. 2909 on March 7, 1991.

NOW THEREFORE IT IS ORDERED THAT the territory described in Exhibit "B" and depicted on the attached map, be annexed to the City of Wilsonville as of 45 days from this date which is April 21, 1991. Subject to the provisions of ORS 199.505. Provisions of ORS 199.519 which would ordinarily delay this effective date until after the May election are overridden by Section (3) of ORS 199.519 which disallows such delay when the territory contains no voters.

PORTLAND METROPOLITAN AREA LOCAL GOVERNMENT
BOUNDARY COMMISSION

DATE: March 7, 1991

BY: Temporary Chairman

Attest:

Exhibit A
Proposal No. 2909

FINDINGS

Based on the study and the public hearing the Commission found:

1. The territory to be annexed contains 6.35 acres, is vacant, and is assessed at $2,160.

2. The petitioners propose to annex 6.35 acres to the City of Wilsonville. Petitioners also own 17.6 acres already within the City. Petitioners propose to include the annexed territory to facilitate development of their property and to facilitate dedication of a realigned right of way for Wilsonville Rd. The petitioner plans to: 1) dedicate the northwesterly 1 acre for a realignment of Wilsonville Road; 2) develop about 2.75 acres for dwellings together with the adjoining 17.6 acres: and, 3) establish 2+ acres as an open space and drainage tract. The residential density that would be permitted on the area dedicated for road and open space purposes is to be transferred to the remainder or the petitioner's land.

3. The subject property is used predominantly for an agricultural purpose in conjunction with the adjoining 17.6 acres to the west. The parcels contain a filbert orchard.

4. The territory is located outside the boundary of the Metropolitan Service District and outside the acknowledged regional urban growth boundary. Metro has made the decision to amend the urban growth boundary. The Metro Council adopted a resolution of intent to amend the UGB to include the Subject Property on December 13, 1990. Metro Resolution No. 90-1351. Upon annexation to the City the land is automatically annexed to Metro under ORS 199.510(2)(c). Once the territory is within its jurisdiction Metro will adopt an ordinance amending the UGB.

5. The territory is designated GAD, General Agricultural District. Lands to the south, east, northeast and north are also designated GAD.

   The county's Comprehensive Plan land use element divides the county into five land use categories: urban, rural, agriculture, forest and rural centers. Urban areas are defined to include all land inside Urban Growth Boundaries.

County Plan policy 6.0 provides: "Use the following guidelines for annexations having the effect of converting Future Urbanizable to Immediate Urban land:

a. Capital improvement programs, sewer and water master plans, and regional public facility plans should be reviewed to insure that orderly, economic provision of public facilities and services can be provided.

b. Sufficient vacant Immediate Urban land should be permitted to insure choices in the market place.

c. Sufficient infilling of Immediate Urban areas should be shown to demonstrate the need for conversion of Future Urbanizable areas.

d. Policies adopted in this Plan for Urban Growth Management Areas and provision in signed Urban Growth Management Agreement should be met.

The Metro record includes testimony from the City Engineer that public facilities and services can be provided to the Subject Property, and this testimony is reflected in the findings by the Metro Hearings Officer. This proposal will increase the amount of Immediate Urban land by adding 6.35 acres and, thus, add to the choices in the market place. The last two policies do not apply to this proposal.

6. The City of Wilsonville's Comprehensive Plan has been acknowledged by LCDC. The City has annexed all other lands within the urban growth boundary surrounding the city. The adjacent land within the city is designated Residential on the Wilsonville Comprehensive Plan Map and are zoned RA-1 (Residential-Agriculture, 3 to 5 dwellings per acre). The property inside the city can be developed for up to 88 dwelling units, based on existing zoning. The City expects to apply the City's residential 5-7 units per acre zoning to the property. The City's ordinances allow density to be transferred from open space and dedicated lands to developable portions of a site. The attorney representing the applicants estimates that total development allowed on this property including density transfer allowed to other portions of the development inside the City would be 17 units.

The territory is not included within the Wilsonville Comprehensive Plan. However, the Master Street System and Function Classification Map in the City Plan provides conceptually

that Wilsonville Road is to be realigned as illustrated on the attached figure 3 map. This will eliminate a "jog" created by two 90 degree turns in a 1/10-mile section of road where Wilsonville Road and Stafford Road now join. The Clackamas County Plan also provides for realignment of Wilsonville Road.

Wilsonville Zoning Ordinance section 4.167(f) requires, prior to issuance of a building permit or recording of a final plat, an applicant to dedicate right of way in accord with the Street System Master Plan and to file a waiver of remonstrance against formation of a local improvement district. It also requires a minimum setback of 55 feet from the centerline of a street or 25 feet from the edge of the right of way whichever is greater.

The following information was provided by the petitioners:

> "According to preliminary figures from the 1990 census, the City of Wilsonville is one of the most rapidly growing cities in Oregon, with a population of 7,225 on 6/30/90. Recent residential developments to the south of the Subject Property have added approximately 360 dwelling units to this area of the city, and outstanding approvals for these projects allow for an additional 840 units. During 1990, 695 units were constructed in the City of Wilsonville (434 apartments, 260 single family and duplex units). Of the approximately 4,400 dwelling units in the city, roughly 42% are single family and duplexes, 48% are apartments, and 10% are manufactured and mobile homes. The city has 1,158 acres currently planned for residential development, of which 484 acres are undeveloped (42%).
>
> "These figures are indicative of a very rapid growth rate for the City of Wilsonville. While the addition of the Subject Property to the city would add only one-half of one percent to the city's residential land area, it is nevertheless important in that it will allow the improvements to Wilsonville Road, described above, to be completed. With the city's rapid growth, particularly in the area immediately to the south of the Subject Property, this infrastructure improvement is critical to assuring that an already serious safety hazard does not become even worse."

7. A sanitary sewer line has been extended to within 800 feet of the Subject Property as part of a recent development immediately to the south. The cost of extending a sewer line along the new Wilsonville Road alignment is included in the city's estimate of $795,400 for realigning Wilsonville Road.

   The area is served by an existing pump station which needs to be upgraded in capacity. There is an approved development immediately west of the territory to be annexed, a Robert Randall project. The Robert Randall development approval was conditioned upon the installation of the upgraded sewage pump. Thus the pump capacity will be in place after the Robert Randall development. If the subject property desires development prior to the Randall development the developer will be required to upgrade the pump.

   The primary elements of the City's Sanitary Sewer System, including the first phase of the treatment plant were built in the early 1970's. The hydraulic capacity of the plant is 2.5 million gallons per day (MGD). The City has recently let a design and construction contract to upgrade the biological oxygen demand (BOD) capacity of the plant.

8. The nearest sewer and water lines are located about 800 feet southwest of the property in the Wilsonville Road right-of-way south of the stream at the southwest corner of Tax Lot 1800. Tax Lots 1800, 400, and 500, inside the Wilsonville city limits and the UGB, also are not served by public water or sewer. To provide water and sewer to those properties and to the subject property, the City would have to extend lines across the stream at the southwest corner of Tax Lot 1800.

   The Metro hearings officer findings contains the following determination:

   > "Water and sewer lines that were extended as part of recent development were sized to accommodate service to all properties in the urban area, based on testimony from City Engineer Richard Drinkwater. Mr. Drinkwater concluded the incremental impact of service to these properties on capital facilities of the City is negligible, although the system would not accommodate further expansion to the north, and, at some undetermined time, the City will have to expand its capital facilities to provide sewer service to all developable land in the City."

The City's existing water supply is provided by five wells capable of supplying 3.8 million gallons per day. In July of 1990 the average daily demands on the City water system were 2.41 MGD.

Testimony from surrounding property owners at the hearing indicated there have been some local draw down problems and they questioned the effects of additional development in the City. The City is currently drilling an additional well (it has acquired permits for two additional wells from State Water Resources Dept.) which is specifically located so as not to exacerbate that local draw down problem. The property owner of the territory to be developed within the City has indicated that his well, while located near the wells which are experience draw down problems, has not exhibited draw down problems.

In addition the City has approved the construction of an additional reservoir.

9. The territory is not served by an improved public storm water drainage system. There is a roadside ditch along Boeckman/Advance Road at the north edge of the property. Also a natural drainage channel that enters the territory near its northeast corner and extends southwest diagonally through the territory to its southwest corner before continuing off-site to merge with a drainageway south of TL 200.

   The City Plan Policies 3.4.3 and 3.4.4 provide: "Major natural drainageways shall be established as the backbone of the drainage system and designated as open space. The integrity of these drainageways shall be maintained as development occurs... Developers shall be required to retain and protect existing vegetation in steeply sloped (15 percent or above) and landslide prone areas to decrease the amount of surface runoff, to preserve areas of natural percolation and to help stabilize landslide prone areas..."

10. The north edge of the territory adjoins Advance/Boeckman Road. That road is identified as a collector street on the Wilsonville Master Street System Plan. It has a 20-foot paved section between gravel shoulders and drainage ditches. Stafford Road terminates at a 90 degree intersection with Boeckman/Advance Road at the northwest corner of the territory. It is identified as an arterial road. It has a 20-foot paved section between gravel shoulders and drainage ditches. Wilsonville Road is about 475 feet west of the ter-

ritory. It is designated as an arterial road on the Wilsonville Master Street System Plan. It has a 90 degree intersection with Boeckman/Advance Road. It has a 20-foot paved section between gravel shoulders and drainage ditches adjoining TL 1800 and 200, but has been improved to full urban standards adjoining recent development further south.

The right of way for realigned Wilsonville Road will be 64 feet wide with 6-foot wide permanent easements on both sides. The existing right of way of Wilsonville Road may be vacated once the road is relocated; however, at least a portion of the road is likely to continue to be used for access to TL 400 on the west side of the road because it will not adjoin relocated Wilsonville Road.

The City of Wilsonville will require the petitioner to dedicate the realigned Wilsonville Road right of way as a condition of approval of development permits. The City also will require the petitioner to improve the street before occupancy of structures on the territory.

11. Wilsonville contracts with the Clackamas Co. Sheriff for protection at a level of 1 officer 24 hours a day 7 days a week.

12. The portion of Wilsonville north of the Willamette River is within the Tualatin Valley Fire and Rescue district. The part of Wilsonville south of the Willamette River is in the Aurora RFPD. The subject territory is within the Tualatin Valley Fire and Rescue district. Since the City is already in the District, this service will not be altered by the annexation.

13. Land use Planning, Building Administration, and general governmental services are currently provided by Washington County. Upon annexation these services will be provided by the City.

14. According to the petitioner the financing of the realignment of Stafford/Wilsonville Road and associated water and sewer line extensions is projected to cost $785,400. Including the Subject Property within the City of Wilsonville will make it possible for this project to be managed by a single jurisdiction. The land necessary for the improvements will be dedicated by the Wagners as a condition of any land use approval for the development of their property. . .

There are several alternatives for financing the improvements. The city is currently reviewing whether to proceed with a proposed Urban Renewal District and project list, which would include these improvements. In the event Urban Renewal moves forward, the improvements would be financed by tax increment. In the event the Urban Renewal District is not pursued, the improvements will be financed through a Local Improvement District (LID), by the developer, or by some combination of the two.

Including the entire project area within the city will avoid the need to coordinate city and county financing. The city has indicated that the improvement to Stafford/Wilsonville Road is a higher priority than the county has in its Comprehensive Plan. The two jurisdictions also have somewhat different improvement standards, and these inconsistencies will also be obviated by the proposed annexation.

REASONS FOR DECISION

Based on the Findings the Commission determined:

1. The Proposal is consistent with regional, county, and city planning.

   METRO has reviewed the amendment to the urban growth boundary and found that this land should be included within the UGB. Once that decision on urbanization is decided the Boundary Commission's concern is with the adequacy of services, not with whether this land should develop to urban uses. The City's comprehensive plan has not yet been amended to reflect the METRO decision on the UGB.

   Clackamas County has responded in favor of the annexation. Upon annexation the existing planning and zoning designations will remain applicable to the property according to ORS 215.

   After annexation the City will consider amending its plan to apply appropriate urban planning and zoning designations to the property. These amendments must be adopted prior to development approvals for the proposed development. These amendment and zoning hearings will be required to provide notice and an opportunity to be heard to interested parties.

2. The City has an adequate quantity and quality of service available to serve the area.

The City's water source has capacity to produce 3.8 MGD. This well has been specifically sited to avoid exacerbating an acknowledged local draw down problem in the area of the city's existing well and the area of the proposed annexation. An additional well has been drilled and will soon be on line. The July demand on the water supply system last summer was 2.41. Thus the supply capacity exceeds current demands.

The sanitary sewer plant (STP) has adequate hydraulic capacity according to the City engineer. The STP has been close to its BOD capacity but the City has let a construction contract to increase this capacity. There is an existing constraint in the sanitary sewer system serving the area -- a pump station needs to be upgraded. A development proposal immediately adjacent to the proposed annexation was conditioned to require that developer (Robert Randall) to upgrade the pump station. If this development wishes to proceed prior to the upgrading by Robert Randall, this developer will be required to upgrade the pump station.

The proposal will provide for improvement of the alignment of the road system in the area. There is a natural drainageway on the site that will provide storm drainage services. The City receives adequate police protection services from the Sheriff via a contract.

LEGAL DESCRIPTION
ANNEXATION TO
City of Wilsonville

Tax Lot 2200, being a part of the northwest quarter of the northwest quarter of Section 18, Township 3 South, Range 1 East, Willamette Meridian, Clackamas County, Oregon, more particularly described as follows:

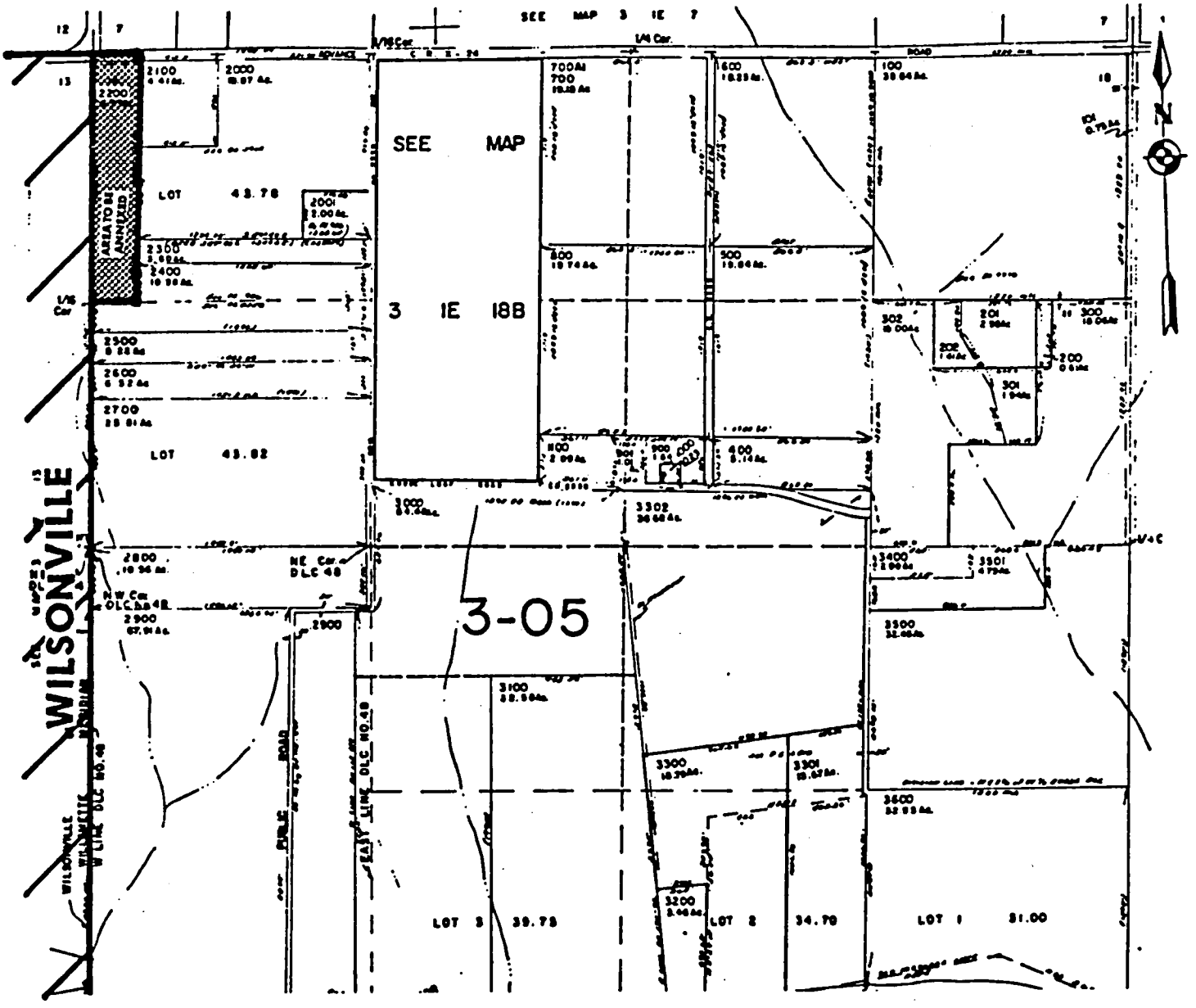
BEGINNING at the northwest corner of Section 18, T3S, R1E of the W.M.; THENCE South on said section line 1,318.02 feet, m/l, to the 1/16th section corner; THENCE East 215.16 feet to a stone; THENCE North 1,316.54 feet, m/l, to a point in the north line of said Section 18 and the centerline of Advance Road (Co. Rd. X-24); THENCE West 215.16 feet, m/l, to the Northwest corner of said Section 18 and the POINT OF BEGINNING.

PROPOSAL NO. 2909

SECTION 18 T3S R1E W.M.
Clackamas County

3 1E 18

Scale: 1" = 800'



PROPOSAL NO. 2909
CITY OF WILSONVILLE
ANNEXATION
FIGURE 2

BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

AN ORDINANCE ADOPTING A FINAL ORDER)
AND AMENDING THE METRO URBAN)
GROWTH BOUNDARY FOR CONTESTED CASE)
NO. 90-1: WAGNER)

ORDINANCE NO. 91-395-A

THE COUNCIL OF THE METROPOLITAN SERVICE DISTRICT HEREBY ORDAINS:

Section 1. The Council of the Metropolitan Service District (the "Council") adopted Resolution No. 1351, attached as Exhibit C of this Ordinance and incorporated by this reference, on December 13, 1990, which stated its intent to amend the Metro Urban Growth Boundary for Contested Case 90-1: Wagner pending annexation of the subject property to the City of Wilsonville and/or the Metropolitan Service District within 6 months of adoption of the resolution.

Section 2. The Portland Metropolitan Area Local Government Boundary Commission acted on March 7, 1991, to annex the petitioners Wagner's property, the subject of Contested Case No. 90-1: Wagner, to the City of Wilsonville and the Metropolitan Service District. The action of the Boundary Commission is attached to this Ordinance as Exhibit D, which is incorporated by this reference.

Section 3. The Council conducted a public hearing on contested Case Number 90-1 on December 13, 1990. At the hearing, the Council considered the Hearings Officer's Report and Recommendations, as well as Exceptions to and additional testimony given at the hearing on the Report and Recommendations. Based upon the Hearings Officer's Report and Recommendations, and the other testimony in the record, the Council finds that it is appropriate to consider the subject property as a single unit, and that the inclusion of the entire subject property will result in a superior Urban Growth Boundary. Accordingly, the ~~The~~ Council of

the Metropolitan Service District hereby accepts and adopts as the Final Order in Contested Case No. 90-1 the Hearings Officer's Report and Recommendations in Exhibit B of this Ordinance, which is incorporated by this reference.

Section 4. The District Urban Growth Boundary, as adopted by Ordinance No. 79-77, is hereby amended as shown in Exhibit A of this Ordinance, which is incorporated by this reference.

Section 5. Parties to Contested Case No. 90-1 may appeal this Ordinance under Metro Code Section 205.05.050 and ORS Ch. 197.

ADOPTED by the Council of the Metropolitan Service District this _____ day of _____, 1991.

_____
Tanya Collier, Presiding Officer

ATTEST:

_____
Clerk of the Council

ES/es
5/20/91

METRO

Planning and Development
2000 S.W. First Avenue
Portland, OR 97201-5398
(503) 221-1646

Memorandum

Council
5/23/91
5.10

DATE: May 20, 1991

TO: Metro Council

FROM: Ethan Seltzer, Land Use Coordinator

SUB: Amendments to Ordinance No. 91-395, An Ordinance Adopting A Final Order and Amending the Metro Urban Growth Boundary for Contested Case No. 90-1:Wagner

In order to more accurately reflect both the nature of the Council's previous discussion on this matter and the basis for its decision in support of Resolution No. 1351, the petitioner has proposed several amendments to Ordinance No. 91-395 as submitted for first reading. The proposed amendments are included in the attached Ordinance No. 91-395-A. Material proposed to be added is shown as underlined.

The proposed amendments do two things. First, they reflect, accurately, that the Council based its decision on Resolution No. 1351 on more than simply the Report and Recommendations of the Hearings Officer. Council considered not only the Report and Recommendations, but written exceptions filed prior to the hearing and testimony, both pro and con, presented at the hearing. Second, a critical issue in the case was whether to accept the Hearings Officer's recommendation to consider the subject property as a unit, rather than splitting it into the portion needed for the road realignment and the remainder. The proposed amendments note that the Council did consider that issue and decided to accept the recommendation of the Hearings Officer.

Staff considers these amendments to be clarifying in nature, and to improve the accuracy of the findings. Staff recommends that the Council substitute Ordinance No. 91-395-A for Ordinance No. 91-395 when it considers that ordinance for adoption at second reading.

BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

AN ORDINANCE ADOPTING A FINAL ORDER) ORDINANCE NO. 91-395-A
AND AMENDING THE METRO URBAN)
GROWTH BOUNDARY FOR CONTESTED CASE)
NO. 90-1: WAGNER)

THE COUNCIL OF THE METROPOLITAN SERVICE DISTRICT HEREBY ORDAINS:

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the Metropolitan Service District hereby accepts and adopts as the Final Order in Contested Case No. 90-1 the Hearings Officer's Report and Recommendations in Exhibit B of this Ordinance, which is incorporated by this reference.

Section 4. The District Urban Growth Boundary, as adopted by Ordinance No. 79-77, is hereby amended as shown in Exhibit A of this Ordinance, which is incorporated by this reference.

Section 5. Parties to Contested Case No. 90-1 may appeal this Ordinance under Metro Code Section 205.05.050 and ORS Ch. 197.

ADOPTED by the Council of the Metropolitan Service District this _____ day of _____, 1991.

_____
Tanya Collier, Presiding Officer

ATTEST:

_____
Clerk of the Council

ES/es
5/20/91

METRO COUNCIL
Agenda Item No. 6.1
May 23, 1991

SOLID WASTE COMMITTEE REPORT

ORDINANCE NO. 91-397, FOR THE PURPOSE OF AMENDING METRO CODE SECTION 5.02.035 LITTER CONTROL BY ESTABLISHING A SURCHARGE FOR UNCOVERED LOADS

Date: May 22, 1991 Presented by: Councilor DeJardin

Committee Recommendation: At the May 22, 1991 meeting, the Committee voted unanimously to recommend adoption of Ordinance No. 91-397. Voting in favor were Councilors DeJardin, Gardner, McFarland, McLain, and Wyers.

Committee Issues/Discussion: Sam Chandler, Solid Waste Facilities Manager, gave staff's report by responding to questions raised in a memorandum from Council staff.

He said the Solid Waste Department does not know exactly how many uncovered loads come to Metro facilities, but the department believes the vast majority of litter near stations is due to unsecured loads. He said the majority of the problems are due to self-haulers.

He said the surcharge figures recommended by Department staff are sufficiently high to be a deterrent, but not onerous. The aim of the policy is to encourage compliance, not to seek revenue. Staff had looked at the possibility of issuing tickets, but found that the administrative review process would be too complicated, and that Metro lacked the necessary authority.

Councilor DeJardin noted the importance of adequate public notice, possibly through signage prior to beginning of enforcement. He also asked how the ordinance would be applied if the waste consists of lumber or bottles, which are less likely to be thrown from an uncovered load.

Mr. Chandler said the surcharge would be imposed when a hauler brings an uncovered load for the third time. Scalehouse technicians must exercise judgment to determine whether the ordinance applies to the type of load.

Councilor McFarland said she believes judgment calls should be avoided, and that the surcharge should be assessed against questionable uncovered loads unless it is clear the ordinance does not apply.

Councilor Gardner noted that the effect of the amendment is to reduce the penalty for commercial haulers and increase it for self-haulers. He found this approach persuasive in light of staff's comment that 90% of the litter is attributable to self-haulers.

Councilor Wyers suggested that after the policy has been in place for a year, the Department should consider assessing the surcharge after one warning.

METRO

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

Memorandum

DATE: May 20, 1991

TO: Metro Council

FROM: Paulette Allen, Clerk of the Council PA

RE: MAY 23 COUNCIL AGENDA ITEM NO. 7.2; RESOLUTION NO. 91-1441

Attached is Resolution No. 91-1441 Exhibit Western Bypass Study Statement of Purpose and Need by the Oregon Department of Transportation. Because of the volume of documentation, it was not published in the agenda packet. This packet is for your review prior to May 23 and will be available at the Council meeting. The Transportation & Planning Committee considered the resolution at its May 14 meeting.

WESTERN BYPASS STUDY

Oregon Department of Transportation

Statement of Purpose and Need

Prepared for
OREGON DEPARTMENT OF TRANSPORTATION
(ODOT)

Prepared by
Parsons Brinckerhoff Quade & Douglas, Inc.

PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.

This statement of purpose and need was adopted in concept by Western Bypass Study committees on the following dates:

Technical Advisory Committee	January 08, 1991
Steering Committee	January 16, 1991
Citizens Advisory Committee	January 29, 1991

This document summarizes information developed on the study to date and provides a framework to begin development of alternative strategies. Although the language of the conclusions was specifically adopted by study committees, several recommendations to text changes have been received. This is a fluid document and will continue to be modified throughout the study. It will be summarized as the purpose and need chapter of the Environmental Impact Statement.

WESTERN BYPASS

Statement of Purpose and Need

APPENDIX

A Background Reports and Studies Upon Which the Statement of Purpose and Need was Developed

B Western Bypass Study Goals and Objectives

C Levels-of-Service Definitions

D Select Link Analysis

STATEMENT OF PURPOSE AND NEED

OVERVIEW

The Oregon Department of Transportation (ODOT) has initiated preparation of a "Corridor-Level" or First Tier Environmental Impact Statement (EIS) and associated alternatives analysis to address the broad transportation needs in the Southwest Portland Metropolitan area. This first tier analysis will be followed by a detailed "Design-Level" EIS to develop specific design parameters of the alternatives selected through the corridor level EIS. This First Tier study focuses on regional transportation needs, primarily circumferential, in the southwestern Portland metropolitan area. These traffic conditions, examined over a twenty-two year period from 1988 to 2010, are expected to worsen based on growth in travel due to continued implementation of adopted land use plans, regional population and employment forecasts and shifts in trip-making characteristics. Future regional transportation demands within the study area are expected to overtax the capability of existing and future committed transportation facilities, thus making some form of action necessary.

This Statement of Purpose and Need Report identifies the need for major transportation improvements within the Western Bypass Study Area, and describes the context in which the project planning is being carried out. The report details major components of the existing transportation system within the Western Bypass study area, including an analysis of the current and future demands on the existing transportation system and the need for additional transportation improvements. A summary of the planning context and study structure is provided to identify local jurisdictions involved in the study, and to briefly document planning activities which preceded the Western Bypass study.

STUDY AREA

Geographic Description-Metropolitan Area

The Western Bypass Study Area is a part of the Portland metropolitan area as shown in Figure 1. The Portland Metropolitan area is the fastest growing region in the State and encompasses portions of Multnomah, Washington and Clackamas Counties in Oregon and Clark County, Washington. With a total population of 1,334,200 persons, the regional population is almost half that of the State. The metropolitan area is located in northwest Oregon, in the Willamette Valley at the convergence of two rivers, the Columbia River, which forms the Washington/Oregon boundary, and the Willamette River. The region is uniquely situated between the Oregon Coast, 75 miles to the west, and the Cascade Mountains, 50 miles to the east. The Interstate 5/205 corridors pass through the region and provide a link between southern California and Vancouver, Canada.

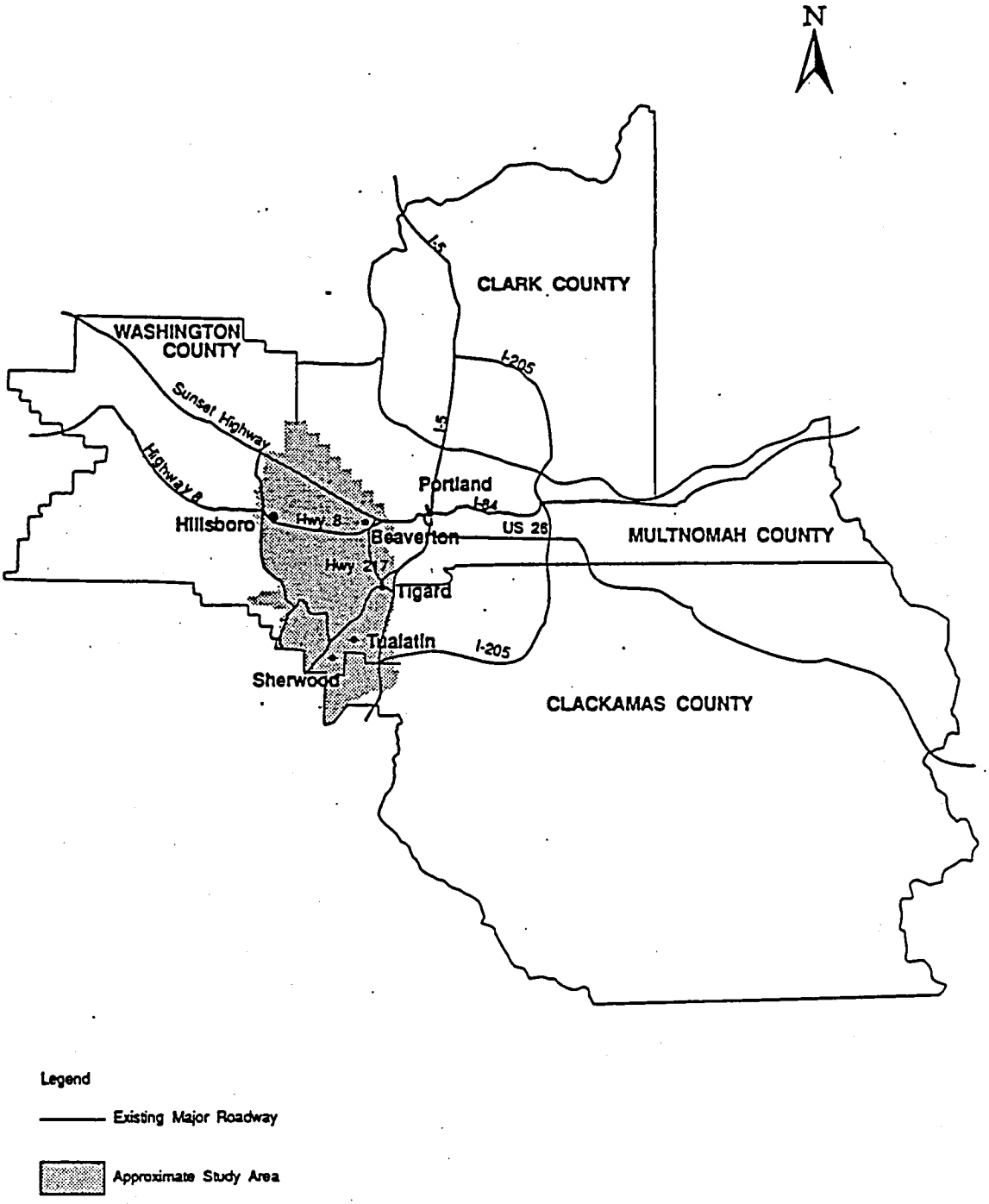

Figure 1
PORTLAND METROPOLITAN AREA

PARSONS BRINCKERHOFF

Western Bypass Study

The Portland area also links other major transportation routes, including Interstate 84, which is an east-west route connecting the region with Idaho, Utah and points east, and Highway 26, which links the metropolitan area to the Oregon coast as well as Mt. Hood and eastern Oregon. Many visitors travel through the metropolitan area, and many visitors stay in the area.

The City of Portland is the commercial and financial center for the region, with major activity centers including the Port of Portland and Portland International Airport, both of which provide a trade and commerce connection with Japan and the Pacific Rim. The City is also a center of government, with federal, state, regional and local government offices located in the Central Business District (CBD), including federal and county courthouses.

Western Bypass Study Area

The Western Bypass Study Area is located in the western Portland metropolitan area and is the fastest growing portion of the region. The study area is roughly bounded on the north and east by the Washington County-Multnomah County and Washington County-Clackamas County lines. On the south, the study area is bounded by the Willamette River and the Washington County-Yamhill County lines. On the west, the study area is approximately bounded by Oregon State Highway 219 and McKay Creek. The size of the study area is approximately 20 miles north by south, and 10 miles east by west, covering over 200 square miles.

Geography in the study area ranges from the Chehalem Mountains in the southern portion, across the Tualatin Valley floor to the rolling terrain approaching the Tualatin Mountains in the northern portion of the area. Cooper and Bull Mountains rise in the middle of the study area, posing a physical barrier to direct access among some of the major population centers because of steep terrain. The area is also crossed by the Tualatin River and several major creeks and numerous tributaries. This network of waterways results in many areas of wetlands and aquatic environments throughout the study area.

The Portland area Urban Growth Boundary (UGB) separates land that is designated for urban development from land that is designated for farm and/or forest use, as shown in Figure 2. A large portion of land in Washington County and in the study area is located outside the UGB and is currently in farm or forest use. Urban development within the study area has generally concentrated within the UGB.

The study area contains several centers of high technology development, in the Sunset Corridor along Highway 26 between Hillsboro and Beaverton, and in the cities of Beaverton, Tualatin and Wilsonville. There are several large companies located in these areas, including the U.S. headquarters for a number of firms. Other business centers include large business parks located in Beaverton, Tigard, Tualatin and Hillsboro.

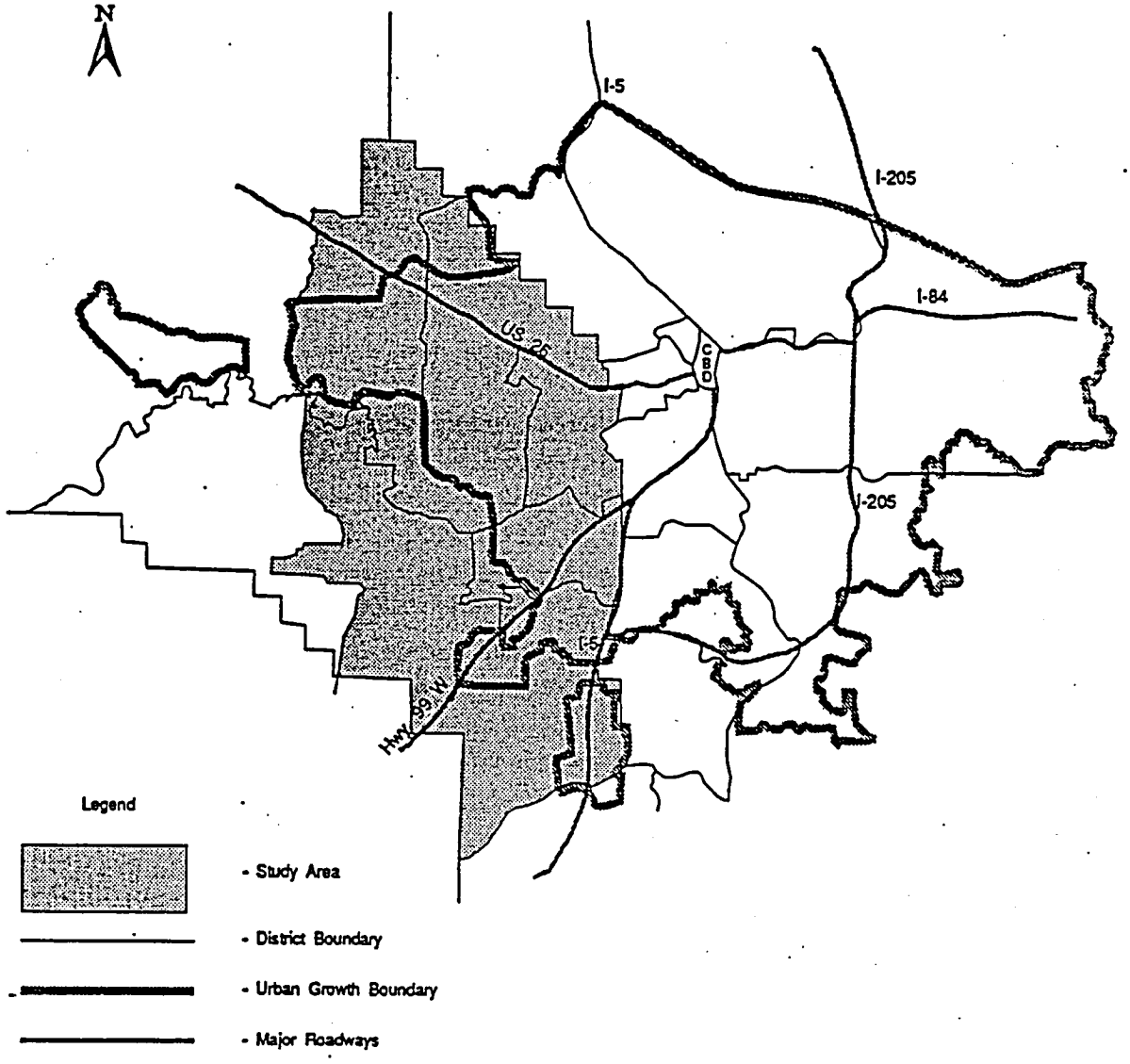

Figure 2
URBAN GROWTH BOUNDARY

PARSONS BRINCKERHOFF

Western Bypass Study

The City of Hillsboro is also the center of county government, with County offices and the County Courthouse and Jail Facility. Hillsboro is the location of the primary general aviation airport in the Portland Metropolitan area, and the County Fairgrounds, which attracts visitors from both inside and outside the region. The fairgrounds has an average annual attendance of 750,000 persons, with growth projected to increase to 2,440,000 visitors per year over a potential of 200 use-days by 2002.

Other recreational attractions include the Hagg Lake Recreational Area located between Gaston and Forest Grove, which offers boating, swimming and picnicking, and the numerous wineries located in Washington County. Various transportation routes that pass through the study area provide direct links to the Oregon coast, including Highway 26 and Highway 99W.

Jurisdictions Affected

The study area encompasses a number of cities including Beaverton, Durham, Hillsboro, King City, Tigard, Tualatin, Sherwood, and Wilsonville, in addition to numerous communities in unincorporated Washington County. Each of the jurisdictional entities has representation within the Western Bypass Study Committee structure.

The nature of the transportation problem under study is of regional significance and the outcome of the study will also have a significant effect on other jurisdictional entities outside the immediate study area. These jurisdictions rely on travel to and through the study area for employment and the movement of goods and services. Several such as the City of Portland and Clackamas and Multnomah Counties, will have the opportunity to formally participate in the study, as they are members of the Joint Policy Advisory Committee on Transportation (JPACT), the regional transportation committee for METRO. Other jurisdictions are provided regular updates on the study and can participate through a variety of public and agency outreach programs.

Population and Economic Base

Population and number of households have steadily increased since 1960 and reflect a period of overall economic growth for the region. Washington County has been the fastest growing county in the State in the 1980s. Total population within the study area in 1988 amounted to 245,600 persons, nearly 18.5 percent of the region's total 1,334,200 residents. This population tended to be concentrated in or near the existing municipalities of Beaverton, Tigard, Tualatin, Sherwood, Wilsonville, and Hillsboro.

The 1988 employment base within the study area accounted for 136,300 jobs, more than 19 percent of the total 704,600 jobs within the metropolitan region. Eighteen percent of the jobs within the study area were retail oriented, while the other 82 percent were distributed amongst various non-retail employment categories. Employment within the

study area also tended to be concentrated near existing municipalities. The cities of Beaverton, Tigard, Tualatin, Wilsonville, and Hillsboro had the highest concentrations of employment in both the retail and other employment fields.

Strong economic growth in Washington County has accompanied the rapid population growth that has characterized the County in the past several years. Population growth in the County has attracted employers to the area, while growth in population has created the demand for many supporting business activities. Several cities already experiencing growth continue to be attractive with the availability of large tracts of industrial land and proximity to the Portland CBD and international airport and port facilities.

In addition to the employment centers within the Western Bypass study area, employment centers in the Portland Central Business District (CBD), on Portland's Eastside, and in Clackamas County, provide destinations for cross-town commuters traveling from Washington County. These areas also provide workers who commute to jobs in Washington County.

The fertile soils, moderate temperature and damp climate make the Tualatin Valley one of the most productive agricultural regions in Oregon and the nation. These factors produce an opportunity for a wide variety of farm crops with above average yields. Approximately 60 agricultural commodities are produced commercially in Washington County. Farmers in the County have tended to assemble a number of small parcels of land which are not necessarily contiguous and may be rented to form one productive unit. Existing trends indicate a decline in the production of fruits and vegetables resulting in the closure of food processing plants in Washington County. The value of farm lands in the County is many times higher than the State average for farmland. Agriculture continues to play an important role in the County's diverse economy.

By the year 2010, the existing patterns of residential development and employment within the study area are expected to intensify, supported by adopted land use plans. The study area is expected to grow by over 60 percent in population and over 73 percent in employment. Furthermore, retail employment is expected to garner a greater percentage of the study area's total employment as compared to 1988. This study area growth will nearly double that of the region as a whole (See: 1988 Existing and 2010 No-Build, Forecasting Analysis Results, October 26, 1990).

WESTERN BYPASS STUDY GOALS AND OBJECTIVES

In order to identify key issues within the study area and therefore the need for improvement, the goals and transportation objectives of the community must be identified. These goals and objectives provide a framework by which various transportation alternatives can be developed, evaluated, and compared against each other. The goals and objectives were synthesized from land use plans of communities within the study area, from state-wide planning goals and objectives, and from concerns expressed by citizens and from study committee representatives. The goals and objectives for the study were adopted by the Citizens and Technical Advisory Committees, the Steering Committee, and by ODOT and are contained in the appendix to this report. Goals as adopted are as follows:

Goal 1: Conduct the Western Bypass Study in an open, objective and expeditious process allowing input from all sectors of the community and considering all reasonable alternative solutions to transportation problems that comply with local, regional, state and federal plans and regulations.

Goal 2: Develop a solution to transportation problems related to accommodating major existing and future (year 2010) state, regional, and intra-county travel needs primarily north-south or circumferential within the project study area:

Goal 3: Develop a solution to transportation problems that is sensitive to local and regional environmental issues and community needs, consistent with local, regional, state, and federal plans and regulations.

Goal 4: Consider economic and social factors in the identification and development of a solution to transportation problems for the study area, consistent with local, regional and state plans.

THE PLANNING PROCESS

Supporting Documentation and History of Previous Studies

The need to address circumferential travel in the study area has been discussed since the 1950's. This discussion has intensified because of rapid growth in the region which is projected to continue. In 1987, the Metropolitan Service District (METRO) completed the Southwest Corridor Study which documented system deficiencies, evaluated alternatives, and recommended construction of a major new highway, or bypass, from Tualatin to Hillsboro to serve this circumferential travel demand. Other arterial and transit-related improvements were also recommended. The Southwest Corridor Study concluded that this new circumferential transportation facility was needed to accommodate the future development of the southwest metropolitan area supported by adopted local land use plans.

The Tualatin-Hillsboro corridor was adopted into the 1988 Washington County Transportation Plan as a transportation facility for further evaluation. Other improvements in the county's system were planned under the assumption that a bypass facility would be constructed.

The Tualatin-Hillsboro corridor was adopted into the Regional Transportation Plan (RTP) 1989 update. The RTP stated that "The circumferential and suburban radial corridors provide the capacity for statewide travel through the region and for travel among developing suburban areas without the need to enter the downtown Portland sector. Sufficient highway capacity to serve the level of growth contained in the adopted local comprehensive plans in these corridors cannot be adequately provided through improvements to the existing system and additional facilities are required." The RTP stipulated that actual construction of the facility was to be subject to a determination that the facility is consistent with local comprehensive plans and state land use policies, and recommended a detailed assessment of the impacts through the EIS process.

Following the adoption of the Southwest Corridor Study by METRO into the RTP, the Oregon Department of Transportation initiated the Western Bypass Study to conduct an environmental analysis including developing and evaluating alternatives for providing the increased circumferential transportation capacity proposed in the Southwest Corridor Study. New data on the population and employment base for 1988 and 2010 have been developed for this study to document regional transportation problems and evaluate alternatives. This first tier environmental analysis and Statement of Purpose and Need is a part of that effort.

A series of studies and reports, as well as various engineering and planning maps, have been prepared to develop this Statement of Purpose and Need. These reports include the 1988 Existing and 2010 No-Build, Forecasting Analysis Results Report, published October 26, 1990; the Statement of Goals and Objectives, adopted June 27, 1990; and various background report summaries. A list of the background studies and reports used in the development of this Statement of Purpose and Need is included in Appendix A.

Tiered EIS Process

The environmental analysis and First Tier Environmental Impact Statement will be prepared in accordance with the Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA). Sections 40 CFR 1502.20 and 1508.28 of the NEPA regulations regarding "Tiering" are specifically applicable to the Western Bypass Study. These sections allow the lead agency (Federal Highway Administration-FHWA) and support agency to use tiering to "eliminate repetitive discussions of the same issues and focus on the actual issues ripe for decision at each level of environmental review" (40 CFR 1502.20). Furthermore, FHWA's Rules and Regulations suggest and encourage that for major transportation actions, the tiering of the EIS process is appropriate. "The first tier EIS would focus on broad issues such as general location, mode choice, and area wide air quality and land use implications". The second tier would address site-specific details of project impacts, costs, and mitigation measures" (Federal Register/Vol. 52, No. 167, 8-28-97).

As stated in both NEPA and the FHWA regulations, the purpose of using a tiered environmental analysis method is to facilitate timely decisions on complex issues. Once such decisions are made, the process allows the lead agency to proceed without needing to revisit or repeat analysis of previous decisions. Thus, once decisions are made, they provide a firm and stable foundation on which to base future decisions.

In recognition of the importance in gaining inter-jurisdictional, agency, and community support at each step in the tiering process, ODOT assembled a Citizens Advisory Committee, a Technical Advisory Committee, and a Steering Committee. The responsibility of these committees is to communicate local concerns to the process and to provide technical and political guidance and advice.

ODOT is also conducting a Public Involvement Program to encourage public participation in the study process. A series of workshops and open houses are being held at decision points in the study. A mailing list of over 2000 citizens has been compiled for notification of public events and periodically, newsletters are mailed.

EXISTING AND FUTURE TRANSPORTATION FACILITIES

Existing Regional Roadway System

As shown in Figure 3, the existing regional roadway system consists of radial and circumferential facilities in relationship to the location of the Portland CBD. East to west or southwest-oriented facilities tend to be radial providing passage from the Portland CBD to major activities in the suburbs on the west side. A few circumferential roads connect these radial facilities to provide north-south mobility. Circumferential roadways on the southern end of the study area provide for east-west movement. The unique geography of the study area underlies the lack of a north-south road system infrastructure. An extensive network of creeks and tributaries, the wide flood plain of the Tualatin River, and the hilly terrain across the study area provide a system of constraints that have prevented construction of a continuous grid system through the study area especially circumferentially north and south. The existing roads in the study area have evolved from a network of farm-to-market roads that have been upgraded and maintained over time. This road system followed the existing terrain which was not conducive to a grid system.

Unless otherwise noted, listed traffic volumes in the following discussion of the existing roads and traffic volumes were recorded in 1988.

East-West or Radial Facilities

Interstate 5, Sunset Highway (US 26), Highway 99W, Canyon Road/Tualatin Valley Highway, Beaverton-Hillsdale Highway/Farmington Road, and Scholls Ferry Road are radial facilities connecting the Portland CBD to suburban areas to the west and southwest of Portland.

Interstate 5 is a major West Coast transportation route, providing a direct link between southern California and Canada and passing through the Portland CBD. It is a two-way, six-lane facility which serves between 6,000 and 6,500 vehicles per hour (vph) per direction during the PM peak hour. In 1988, Interstate 5, just south of Highway 99W, west of Tigard junction, carried a weekday traffic volume of 68,500 vehicles per day (vpd). The same facility, just south of Highway 217, carried an average weekday traffic volume of 102,400 vpd.

Highway 99W provides a primary connection between Tigard and Sherwood. It diverges from Interstate 5 prior to entering the study area and continues south to Newberg. It is a five-lane roadway with two northbound lanes, two southbound lanes, and a center median/two-way left-turn lane. It carried between 11,900 vpd south of Beaverton Hillsdale Highway and 47,600 vpd near Highway 217 in 1988. Major intersections along Highway 99W are located at Highway 217, Durham Road, and Tualatin-Sherwood/Edy Road.

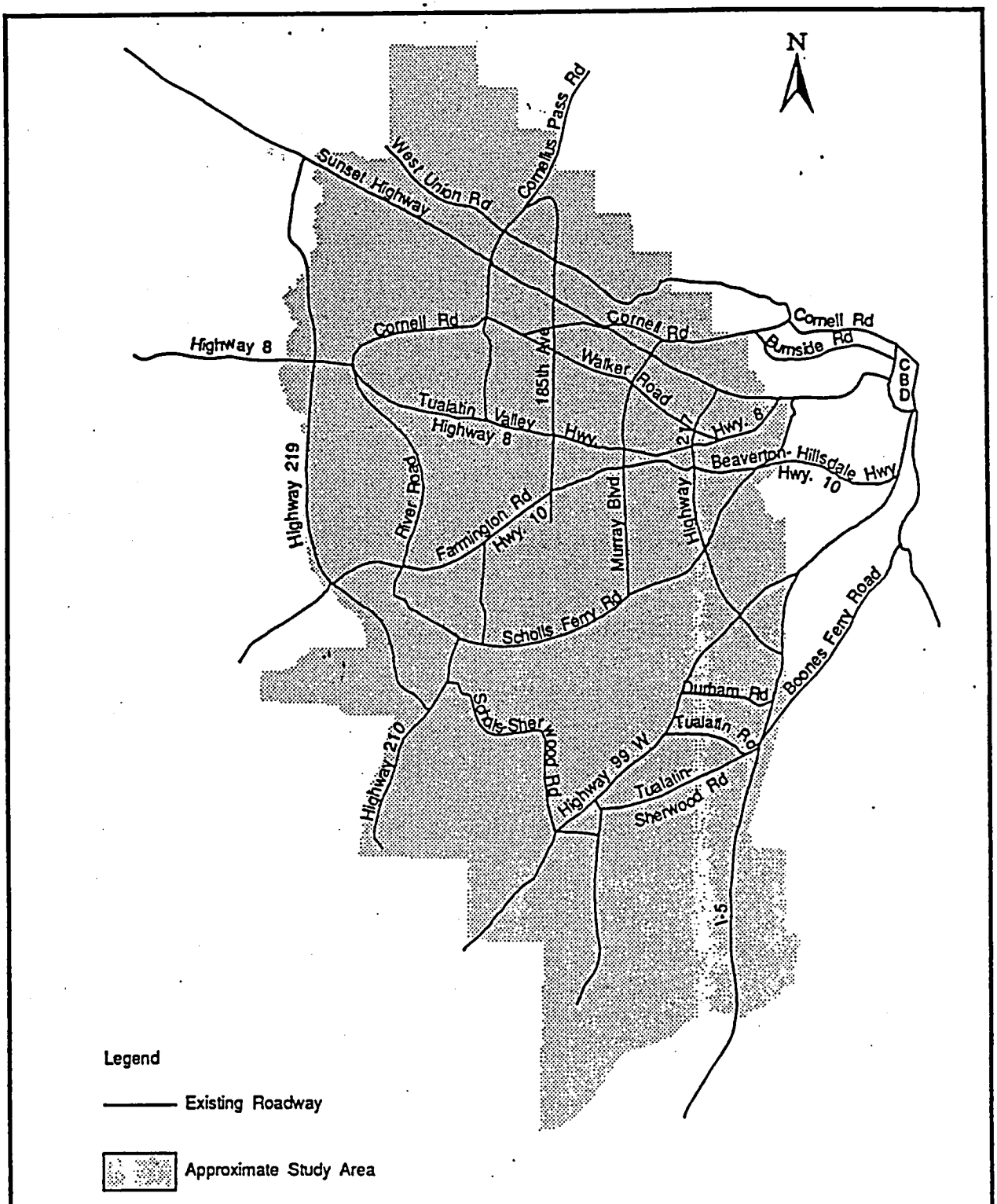

Figure 3
ROADWAY NETWORK

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Sunset Highway is a major commuter route connecting the Portland CBD to Hillsboro, Beaverton, and the northern Sunset Corridor suburbs, and continuing on to the Oregon coast. It is a four-lane highway in the study area. Its average weekday traffic volumes range from 17,000 vpd, near the North Plains Interchange, to 125,500 vpd, recorded east of the Washington Park/Zoo Interchange. Major interchanges within the study area include Sylvan (Scholls Ferry Road), Canyon Road, Highway 217/Barnes Road, Murray Boulevard, Cornell Road, 185th Avenue, and Cornelius Pass Road.

The Tualatin Valley Highway (Highway 8) is a five-lane principal route. It stretches from Highway 217 to Forest Grove. East of Highway 217, Highway 8 becomes Canyon Road and it ends at Sunset Highway. It carried between 19,100 vpd, recorded southwest of Canyon Lane, and 41,800 vpd, recorded east of 185th Avenue.

Farmington Road (Highway 10) is a two-lane roadway from Highway 219 to Murray Boulevard where it becomes a five-lane roadway, and finally merges with Beaverton-Hillsdale Highway as it nears Highway 217. In 1988, traffic volume ranged from 2,700 vpd, at the west edge of the study area, and 20,200 vpd, recorded east of SW 160th Avenue.

Other major radial facilities are Walker Road, linking Beaverton to Hillsboro via Cornell Road; Cornell Road, connecting North Sunset Corridor to Hillsboro; Farmington Road, connecting Portland to Gaston and western Washington County; and Scholls Ferry Road, connecting Portland to Scholls.

North-South or Circumferential Facilities

There are a limited number of north-south or circumferential facilities in the study area. Many of the circumferential links in the Western Bypass study area stretch between Scholls Ferry Road and Sunset Highway including: Murray Boulevard, 185th Avenue, 170th Avenue, Cornelius Pass Road/216th Avenue/219th Avenue, and Glencoe Road/First Avenue/Highway 219. These roadways consist of both major and minor arterials, with the exception of Highway 217 which is classified as a freeway facility. Almost all of these facilities serve as major connections between the Sunset Corridor and the Beaverton, Tigard, areas, but they are discontinuous routes and can result in out-of-direction travel and use of circuitous road systems.

The only continuous circumferential facility within the Western Bypass study area is Highway 217, connecting Sunset Highway on the north to Interstate 5 on the south. It is a four-lane freeway facility linking Lake Oswego, Tualatin, Tigard and Beaverton. Its capacity ranges between 4,000 and 4,500 vph per direction. Average weekday traffic volumes ranged between 73,200 vpd, recorded south of Beaverton-Hillsdale Highway (Highway 10) Interchange, and 99,000 vpd, recorded south of the next southbound interchange at SW Allen Boulevard. There are no alternate north-south facilities in the study area to relieve

the traffic demands on this highway, which in 1988 included a significant portion of trips made between the north and the south/southeast portions of the study area.

Tualatin, Durham, and Tualatin-Sherwood/Edy Roads are located south of the City of Tigard. These roadways are the primary links on the southern end of the study area, connecting Highway 99W and Interstate 5.

Existing Transit System

The study area is currently served with transit by the Tri-County Metropolitan Transportation District (Tri-Met) as is the rest of the Portland metropolitan area. Within the Western Bypass study area an all-bus network of radial routes is strongly orientated toward the Portland CBD. Routes typically run west, southwest, and south along major regional arterials and transportation corridors, depending upon their orientation within the study area. A timed-transfer system involves transit centers where buses in the area meet at regular intervals, a system of feeder buses and trunk line buses, and a "pulse" scheduling system to provide timely, interconnected service. Primary arterials accommodating transit within the study area include the Tualatin Valley Highway, Sunset Highway, I-5, Farmington Road, Scholls Ferry Road, Beaverton-Hillsdale Highway, and Highway 99W. These primary arterial routes are shown in Figure 4.

Although the radial trunk routes are primarily oriented to serve work-related commute trips to and from the Portland CBD, they also accommodate some demand for non-work trips destined for the CBD. However, because these routes are designed to provide direct service to the CBD, and thus rarely deviate from their direct paths, their ability to collect and distribute large numbers of passengers within the study area is limited to their immediate corridors. These trunk routes must rely on feeder routes to supply such collection and distribution functions. Most trunk routes in the study area run on headways of 20 minutes during peak operations, and on 30 minute headways during off-peak operations. Capacities of the various routes depend on the number of buses being used, headway spacing, and the size of the vehicles being operated on the route.

Non-CBD bound trips (i.e., cross-town trips and local trips) are generally not served well by CBD-oriented trunk routes. To provide better service to potential cross-town transit patrons, Tri-Met has developed a network of suburban transit centers. These transit centers are fed by a number of local transit routes which provide collection and distribution operations. The various suburban transit centers are connected by several cross town routes which allow for travel and for cross-town trips between transit centers. The CBD oriented transit routes also interact with this transit center network, providing direct access to the CBD. This suburban transit service suffers from the lack of roadway grid continuity and circumferential routes in the study area.

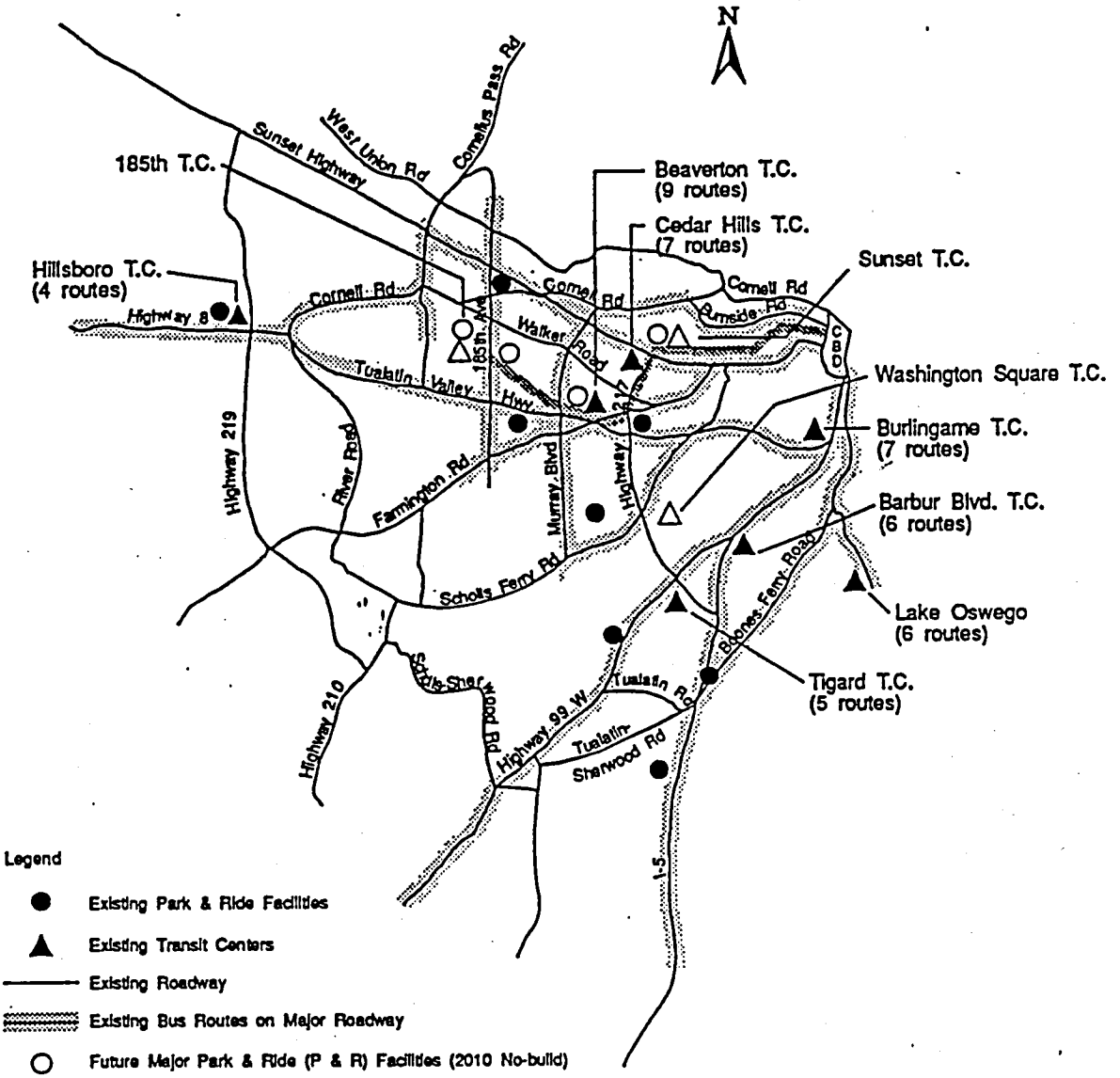

Figure 4
1988 EXISTING TRANSIT FACILITIES AND 2010 NO-BUILD TRANSIT FACILITIES SERVING THE STUDY AREA
Western Bypass Study

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Within the Western Bypass study area, travelers are served by a transit center network which includes four suburban transit centers: Tigard, Beaverton, Cedar Hills, and Hillsboro Transit Centers. Additionally, another three transit centers (Lake Oswego, Barbur Boulevard, and Burlingame) are within close proximity to Western Bypass study area communities, as shown in Figure 4.

In addition to the network of transit centers, Tri-Met also maintains a number of park-and-ride facilities within, or on the perimeter of the Western Bypass study area. Currently, the study area is served by eight park-and-ride lots of 200 or more spaces each. These facilities are pictured in Figure 4.

The system of suburban transit centers, local routes, cross-town connectors, CBD-oriented trunk routes, and park-and-ride facilities is effective in allowing Tri-Met to continue serving their traditional transit market (i.e., CBD-oriented commuter trips) while at the same time providing some measure of local connectivity and circulation. However, limitations on the transit system such as a lack of through-roads oriented towards cross-town travel, lower densities, and dispersed employment centers, reduce transit effectiveness in the Western Bypass study area.

In addition to the all-bus network in the Western Bypass study area, Tri-Met provides the Tri-County LIFT Program, a door to door dial-a-ride service for persons with special transportation needs.

Future No-Build Transportation System

In order to develop future base traffic projections, a future No-Build transportation system for the Western Bypass study area was defined. The analysis of the deficiencies associated with the future No-Build alternative will be used to develop alternative solutions for improved travel. The No-Build is the alternative against which the other alternatives will be compared. This system consists of both transit- and highway-oriented facilities. The system includes all transportation facilities and networks which existed in 1988 plus any transportation projects with committed funding as of 1990 which will be implemented by the year 2010 (see Figure 5). In addition to these funded projects, the future No-Build transportation system also includes the Westside Light Rail Line to 185th Avenue and its accompanying improvements (see Figure 4). The definition of the No-Build alternative was adopted by the Citizens Advisory, Technical Advisory, and Steering Committees.

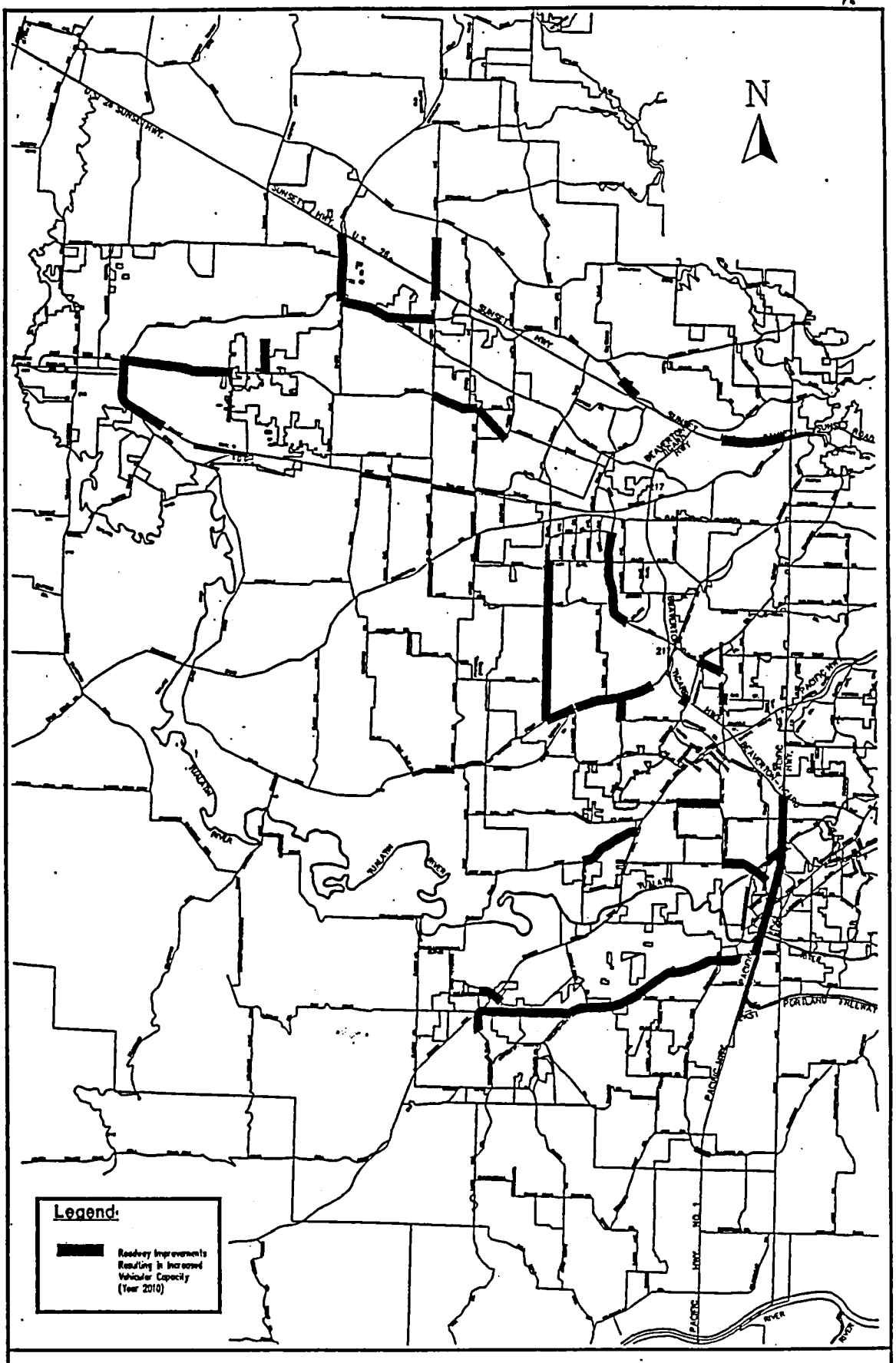

Figure 5
ROADWAY CAPACITY IMPROVEMENTS
INCLUDED IN YEAR 2010 TRAFFIC MODEL
Western Bypass Study

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REGIONAL AND STUDY AREA GROWTH

Population and Employment Growth

The region is growing at a very fast rate and the study area is the most significant area of growth for both population and employment within the region. The study area will continue to become a more significant regional force, and the demand for mobility will increase accordingly.

Population growth in the Portland Metropolitan region is expected to continue to lead the State and, as can be seen in Table 1, will increase by 34.8 percent between 1988 and 2010. Within the region, the study area is expected to continue to be the area of greatest growth with a population increase of 60.3 percent. The same relationship is true in the economic sector, where employment will increase by 38.2 percent in the region and 73.4 percent in the study area. With the past trends in growth in population and employment continuing, the study area's share of the region's population will increase from 18.5 percent in 1988 to 22.0 percent in 2010, while the study area's share of the region's employment will increase from 19.3 percent to 24.3 percent during that same period.

Travel Growth

Person trips are projected to grow significantly in the region, and person trips will grow proportionally faster in the study area than the region as a whole. As the study area grows more quickly in both employment and population there will be more opportunity to travel for work, commercial, retail and recreational activities to and within the study area. Data related to person trips are summarized in Table 1.

The study area accounted for 19.5 percent of the total trips in the region in 1988. This percentage is expected to increase to 23.8 percent by the year 2010. Overall, person trips related to the study area will grow by about 66.8 percent between 1988 and the year 2010. In comparison, person trips related to the region will grow by 36.8 percent.

The higher rate of growth observed for non-work person trips may occur because there will be more opportunities to travel within the region and the study area, as the environment becomes more urbanized and as the economy shifts to a service-oriented base.

By definition, work purpose trips include those from home to work and from work to home only. Non-work purpose trips include school, college, shopping, recreation, and other trips. Neither of these trip purposes include walk and bike person trips. However, shown in Table 2 is a distribution of the total regional and total study area trips by mode, including walk and bike trips. As can be seen, walk and bike trips comprise a minimal proportion of the total trips in both 1988 and 2010.

TABLE 1
POPULATION, EMPLOYMENT, AND TRAVEL GROWTH IN THE REGION AND STUDY AREA (IN THOUSANDS)
1988 Existing and 2010 No Build

	REGION			STUDY AREA		
	1988	2010	Percent Growth	1988	2010	Percent Growth
POPULATION	1,334.2	1,799.0	34.8%	246.5	395.2	60.3%
Percent of Region				18.5%	22.0%	
EMPLOYMENT						
Retail	118.5	184.1	55.4%	25.4	46.7	83.9%
Other	586.1	789.7	34.7%	110.9	189.7	71.1%
Total Employment	704.6	973.8	38.2%	136.3	236.4	73.4%
Percent of Region				19.3%	24.3%	
PERSON TRIPS BY PURPOSE						
Work Trips	937.9	1,226.7	30.8%	183.9	297.5	61.8%
Auto Trips	743.0	942.2	26.8%	154.5	248.8	61.0%
Carpool Trips	128.5	171.2	33.2%	24.3	39.3	61.7%
Transit Trips	66.3	113.3	70.9%	5.0	9.4	88.0%
Non-Work Trips	3,531.3	4,887.7	38.4%	689.4	1,159.1	68.1%
Auto Trips	3,447.7	4,779.7	38.6%	683.9	1,150.0	68.2%
Transit Trips	83.6	108.0	29.2%	5.5	9.1	65.5%
Total Person Trips*	5,407.0	7,341.1	35.8%	1,057.1	1,754.1	65.9%
Percent of Region				19.6%	23.9%	
PERSON TRIPS BY MODE						
Auto Trips	4,190.7	5,721.8	36.5%	838.4	1,398.8	66.8%
Transit Trips	149.9	221.4	47.7%	10.5	18.5	76.2%
Carpool Trips**	128.5	171.2	33.2%	24.3	39.3	61.7%
Total Person Trips*	4,469.1	6,114.4	36.8%	873.2	1,456.6	66.8%
Percent of Region				19.5%	23.8%	
VEHICLE TRIPS BY PURPOSE						
Work Trips	796.3	1,008.4	26.6%	164.1	264.3	61.1%
Non-Work Trips	2,647.2	3,665.4	38.5%	526.5	884.5	68.0%
Total Vehicle Trips***	3,443.5	4,673.8	35.7%	690.6	1,148.8	66.3%
Percent of Region				20.1%	24.6%	

Notes:
*Does not include walk and bicycle trips.
** Carpool Trips are not defined for non-work purpose
***Excludes commercial vehicle trips as well as external vehicle trips (i.e., trips coming from areas outside the region).

TABLE 2
DAILY PERSON TRIPS BY MODE (IN THOUSANDS)
1988 Existing and 2010 No-Build

	1988 Existing				
	Walk & Bike Trips	Auto Trips	Carpool Trips	Transit Trips	Total Trips
Study Area	33.9 3.7%	838.4 92.4%	24.3 2.7%	10.5 1.2%	907.1 100.0%
Region	214.8 4.6%	4,190.7 89.5%	128.5 2.7%	149.9 3.2%	4,683.9 100.0%
Region without Study Area	180.9 4.8%	3,352.3 88.8%	104.2 2.8%	139.4 3.7%	3,776.8 100.0%
	2010 No-Build				
	Walk & Bike Trips	Auto Trips	Carpool Trips	Transit Trips	Total Trips
Study Area	59.2 3.9%	1,398.8 92.3%	39.3 2.6%	18.5 1.2%	1,515.8 100.0%
Region	334.2 5.2%	5,721.8 88.7%	171.2 2.7%	221.4 3.4%	6,448.6 100.0%
Region without Study Area	275.0 5.6%	4,323.0 87.6%	131.9 2.7%	202.9 4.1%	4,932.8 100.0%
	Growth between 1988 and 2010				
	Walk & Bike Trips	Auto Trips	Carpool Trips	Transit Trips	Total Trips
Study Area	74.6%	66.8%	61.7%	76.2%	67.1%
Region	55.6%	36.5%	33.2%	47.7%	37.7%
Region without Study Area	52.0%	29.0%	26.6%	45.6%	30.6%

Mode Choice

Modal transportation options available to travelers within the Portland region and the Western Bypass study area includes the single occupant vehicle, shared ride or carpool option, and transit. Although biking and walking are also modal options available to travelers, they comprise only a small portion of the total trips in the region in comparison to the mechanized modes. These non-mechanized modes will be discussed in subsequent sections.

As shown in Table 3, the single occupant vehicle is and will continue to be the primary mode of choice for work trips in both the region and the study area. Carpool trips, defined only for work-related trips, comprised a much smaller portion of the trip-making totals within the region and study area. They represented only 13.7 percent of the total work trips in 1988 and only 13.2 percent in 2010 (see Table 3). The proportion of the total study area work trips by carpool will remain nearly constant, ranging between at 13.3 percent and 13.2 percent (see Table 3). Transit, consisting of a bus only system in 1988 and a combination bus and light rail system under the 2010 No-Build scenario, is shown to carry fewer work travelers than do carpools in both 1988 and 2010 within the study area.

Reliance on the automobile is even more dominant for non-work purposes than work purposes. The definitions of modal options differ slightly for work and non-work purposes. For non-work purposes, single occupancy vehicles and multi occupancy vehicles are not differentiated between in Metro's modeling process. These two modes are included in a single mode identified as the auto mode. Transit is defined for the non-work purpose as it was for the work purpose trip.

For the non-work purpose, auto trips accounted for nearly 98 percent of the region's trips in both 1988 and 2010 (3,447,700 trips and 4,779,700 trips respectively). For study area non-work trips, the auto mode accounted for 99 percent of the total in both 1988 and 2010 (683,900 trips and 1,150,000 trips, respectively). Transit accounted for the remaining 2 percent of the total non-work trips in the region and 1 percent in the study area in both 1988 and 2010.

Trip Types

For the study, trips within the region and the study area were grouped into four trip types: local (or shorter than average trip lengths of six miles), regional, interregional, and through trips. These trip types are defined for the region and the study area as shown in Figure 6 and 7. For this analysis, "study area trips" were defined as those trips which were either attracted to the study area, generated within the study area, or passing through the study area.

TABLE 3
MODE CHOICE BY PURPOSE IN THE REGION AND STUDY AREA (IN THOUSANDS)
1988 Existing and 2010 No-Build

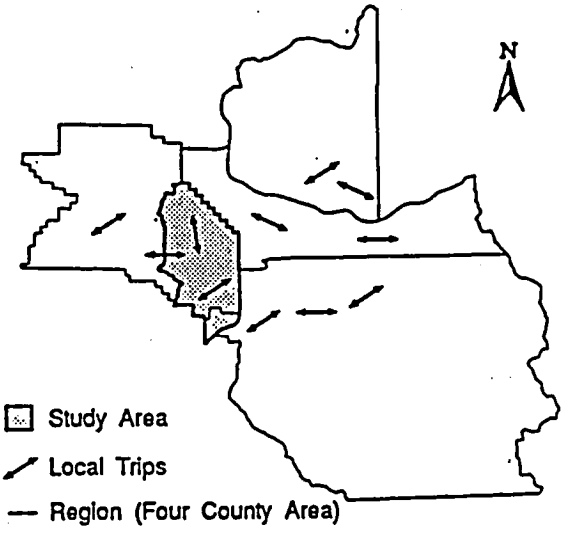
	REGION				STUDY AREA			
	1988	Percent	2010	Percent	1988	Percent	2010	Percent
PERSON TRIPS BY PURPOSE								
Work Trips								
Auto Trips	743.0	79.2%	942.2	76.8%	154.5	84.0%	248.8	83.6%
Carpool Trips	128.5	13.7%	171.2	14.0%	24.4	13.3%	39.3	13.2%
Transit Trips	66.4	7.1%	113.3	9.2%	5.0	2.7%	9.4	3.2%
Total Trips	937.9	100.0%	1,226.7	100.0%	183.9	100.0%	297.5	100.0%
Non-Work Trips								
Auto Trips	3,447.7	97.6%	4,779.7	97.8%	683.9	99.2%	1,150.0	99.2%
Transit Trips	83.6	2.4%	108.0	2.2%	5.5	0.8%	9.1	0.8%
Total Trips	3,531.3	100.0%	4,887.7	100.0%	689.4	100.0%	1,159.1	100.0%
Total Person Trips*	4,469.2		6,114.4		873.3		1,456.6	

Note:
*Does not include walk and bicycle trips.

Local Trips

A local trip is defined as one of less than 6 miles in length which has both its origin and destination within the region.

The 6 mile length used to define the local trip is equal to the average trip length observed within the region.



Regional Trips

A regional trip is defined as one of more than 6 miles in length, with both its origin and destination within the region.

Note that regional trips can pass through the study area while remaining within the region.

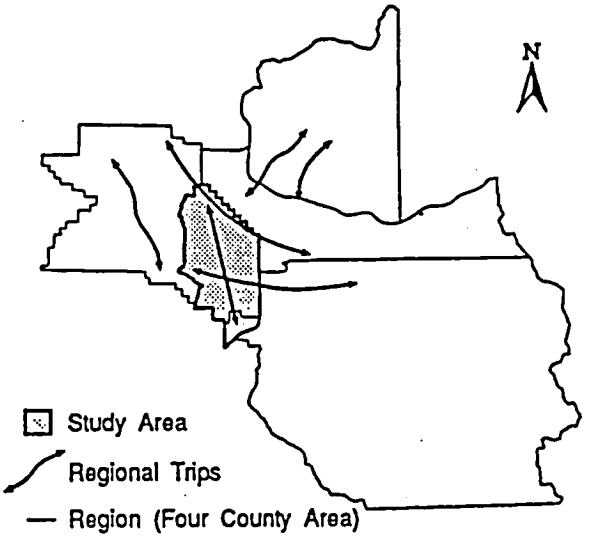


Figure 6
TRIP TYPE DEFINITION

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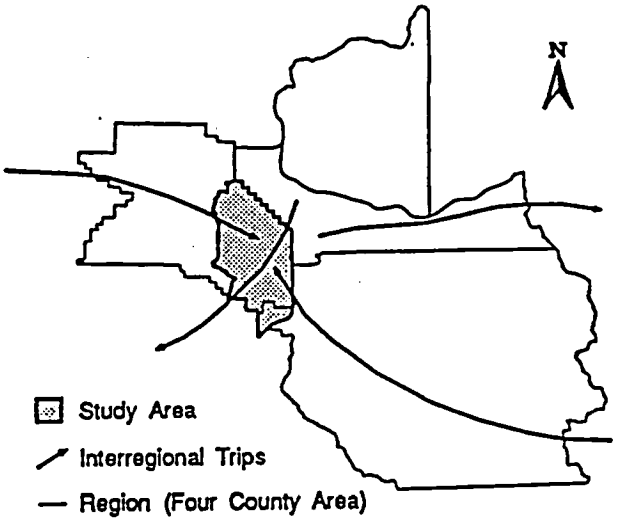
Interregional Trips

An interregional trip is defined as having one trip end within the region and one trip end outside the region. Thus, an interregional trip will have either its origin or its destination within the region, but not both.

Note that interregional trips can pass through the study area while fulfilling the criteria of an interregional trip.



Through Trips

A through trip is one which has neither its origin nor its destination within the region. These trips may pass through the study area or skirt around it.

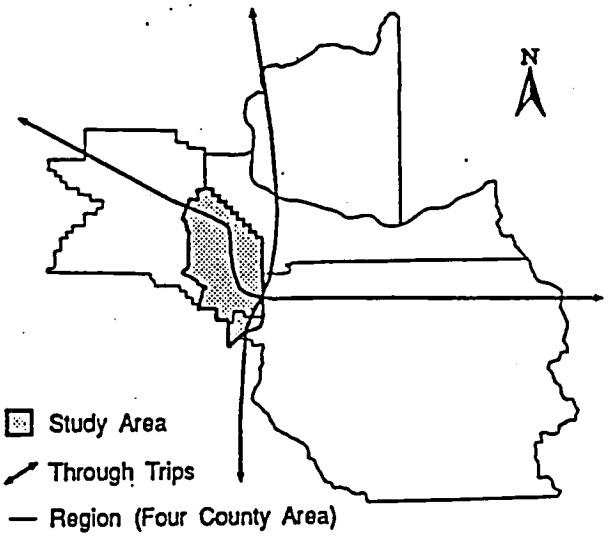


Figure 7
TRIP TYPE DEFINITION ... CONTINUED

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A high percentage of trips in the study area were (in 1988) and will be (in 2000) less than six miles in length. This high percentage of local trips in both 1988 and 2010 is not unique to the study area, and in fact is characteristic of the Portland region and most other urban areas. Individual households within the region and the study area are estimated to make on average ten trips per day. Many of these trips will be of less than six miles in length. These numerous local trips will generally outnumber regional, interregional, and through trips and are a major component of regional travel demand.

As demonstrated in Figure 8, the analysis of trip types showed that 62 percent of the total daily study area trips which occurred in 1988 were local trips. This compares to 28 percent daily regional trips, 9 percent daily interregional trips, and 1 percent daily through trips. However a high proportion of longer than six mile regional trips are tied to the study area. Although interregional trips beginning or ending within the study area account for only 9 percent of the total daily study area trips, they represent 23 percent of the regions total daily interregional trips. Similarly, although trips passing through the study area and the region amount to only 1 percent of the total study area trips, they represent 73 percent of all the through trips passing through the Portland Metropolitan region on an average daily basis.

Likewise for the 2010 No-Build Scenario, the analysis of trip types indicates that 68 percent of the total daily study area trips will be local, 22 percent will be regional, 9 percent will be interregional, and 1 percent will be through trips. Interregional trips beginning or ending within the study area will represent 27 percent of the region's total daily interregional trips while through trips traversing the study area will represent 76 percent of the total daily trips passing through the region.

As shown in Figure 9, the distribution of trips from the region is similar to that demonstrated by the study area for both 1988 and 2010. A notable difference between the study area and regional distributions of trip types is the fact that, for the study area, the regional, interregional, and through trip categories generally reflect higher percentages of the total study area trips than do their regional counterparts. This fact reflects the high percentage of total interregional and through trips which pass through or begin and end within the study area. It also is indicative of a suburban environment in which many of the trips made by local residents to access employment and retail centers must be greater than six miles. However, the shift away from regional trips to more local trips within the study area, as shown in Figure 8, demonstrates that the study area is expected to gradually become more integrated in its land uses reducing the need for its residents to travel long distances to access work or local amenities.

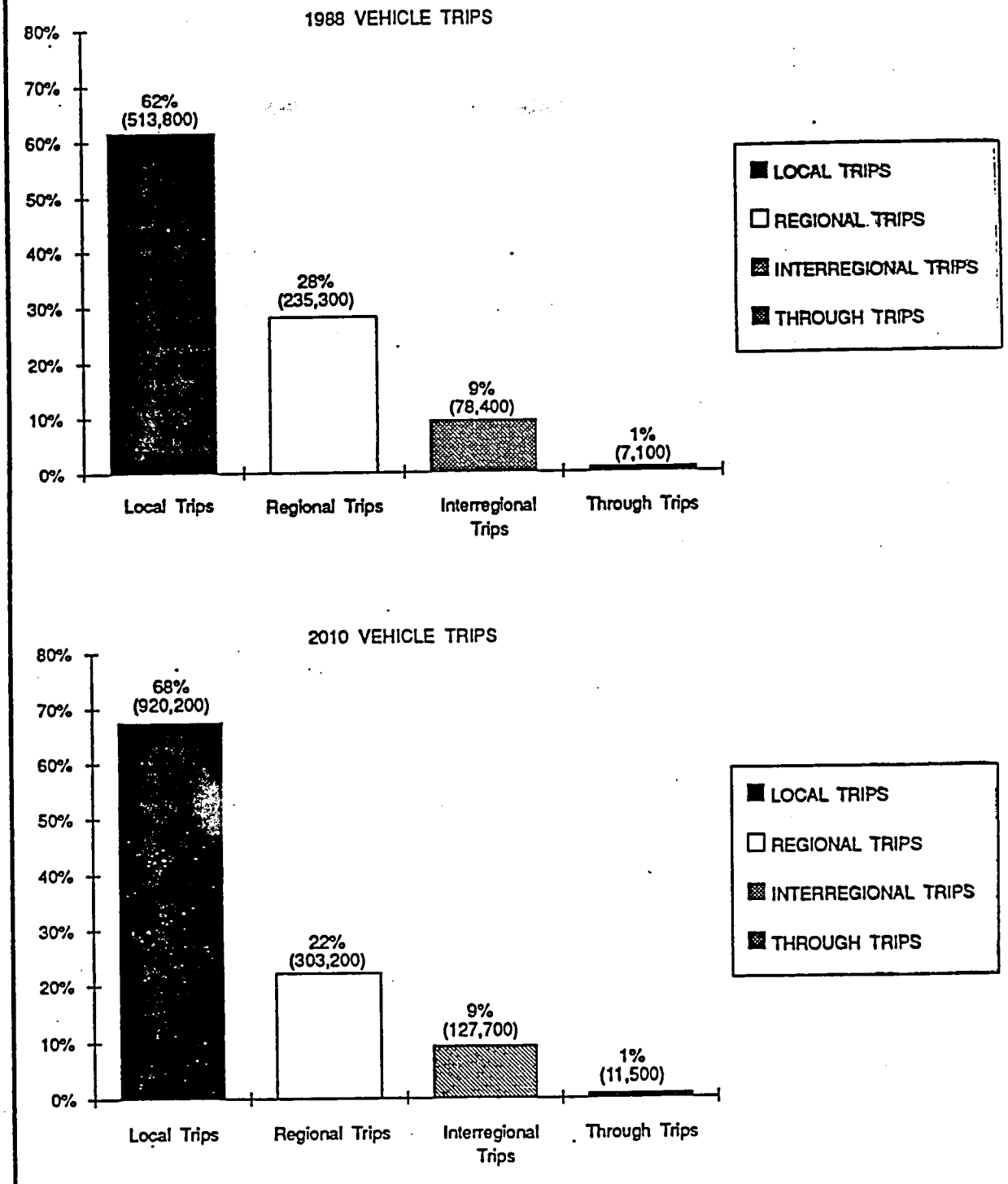

Figure 8

DISTRIBUTION OF 1988 AND 2010 VEHICLE TRIPS ORIGINATING IN, DESTINED TO, OR PASSING THROUGH THE STUDY AREA

Western Bypass Study

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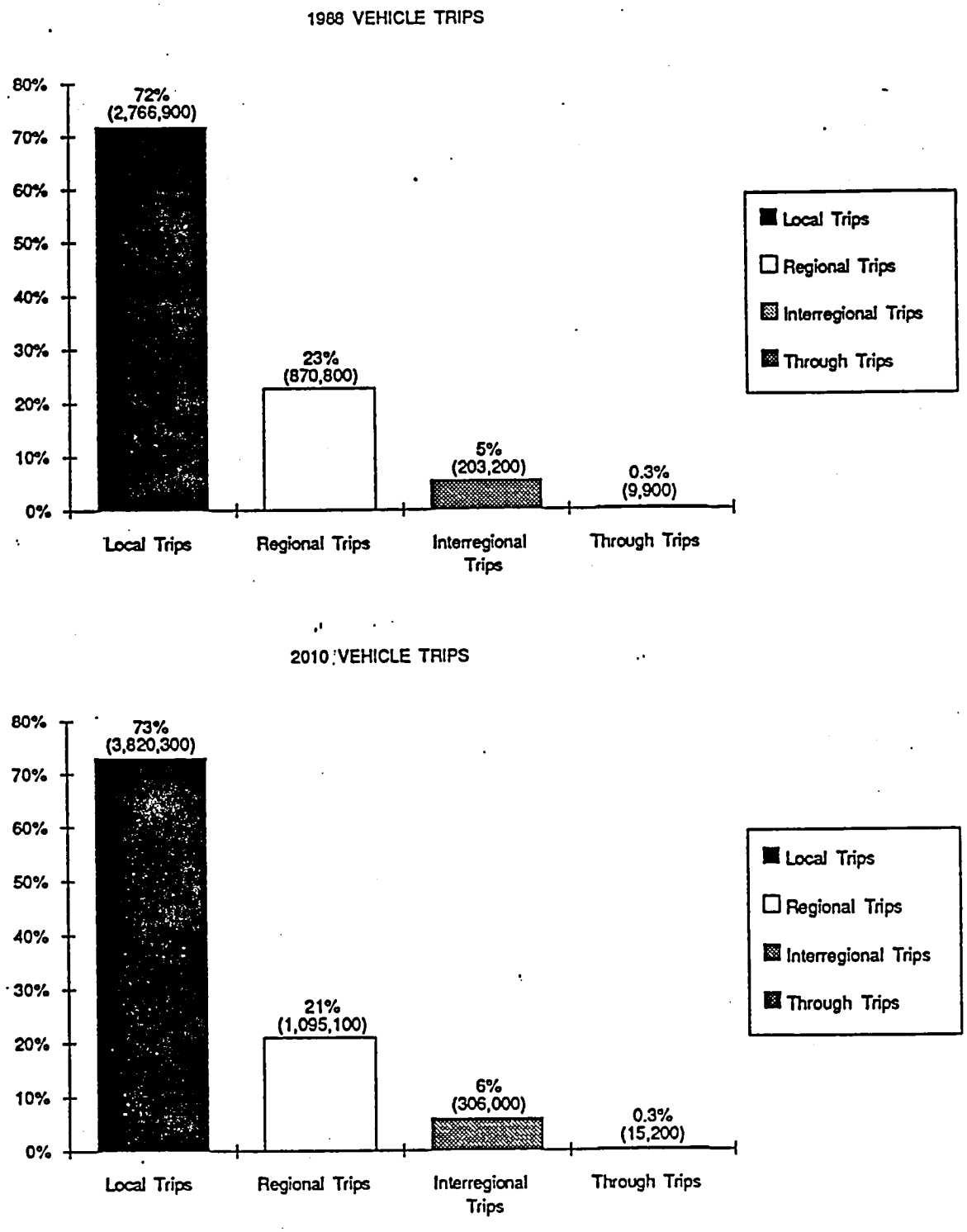


Figure 9
DISTRIBUTION OF 1988 AND 2010 VEHICLE TRIPS ORIGINATING IN, DESTINED TO, OR PASSING THROUGH THE REGION
Western Bypass Study

PARSONS BRINCKERHOFF

Vehicle Trip Distribution

Between 1988 and 2010 the percentage of study area vehicle trips will grow as a whole. Moreover the percentage of these vehicle trips which remain in the study area will increase. These increases in percentages of both work and non-work trips remaining within the study area reflect the fact that both population and employment are expected to increase significantly within the study area and at a faster rate than for the region as a whole, thus providing more opportunities to both live, work, and shop within the study area.

Within the region, total work and non-work vehicle trips will grow by 35.7 percent. Total work and non-work vehicle trips generated by the study area are expected to grow by 66.3 percent during the same period. The study area's share of the region's work and non-work vehicle trips in 1988 amounted to 20.1 percent. This proportion is expected to increase to 24.6 percent by the year 2010.

Of the total work vehicle trips generated in the study area in 1988, 60 percent stayed within the study area and the remaining 40 percent was dispersed to other parts of the region. By the year 2010, study area internal trips are expected to increase to over 70 percent of total vehicle trips while almost 30 percent will continue to be distributed to other parts of the region.

Analysis of North-South or Circumferential Travel Between Districts Within the Study Area

An adopted goal (Goal 2) for the Western Bypass Study is to develop a solution to transportation problems related to accommodating major existing and future (year 2010) state, regional, and intra-county travel needs primarily north-south or circumferential within the project study area. Circumferential travel is any person trip which is directed between or across radial routes, and is not limited by trip length or purpose. Circumferential travel in most of the study area (north and central portions) would be oriented north-south. Circumferential travel in the southeastern portion of the study area would be oriented east-west. Certain trips in this category may use radial routes for a portion of the trip to travel in the circumferential direction.

In order to further investigate travel patterns an analysis was conducted to estimate north-south or circumferential travel between districts within the study area. This analysis did not include study area trips that both begin and end within the same district, some of which would be directed north-south or circumferential. Districts were defined as a means to aggregate information for simplifying the detailed data available for analysis. The location or boundaries of these eight districts are shown in Figure D-1 of Appendix D.

There is a significant demand for north-south or circumferential travel within the study area. Table 4 lists the number of trips between and within the eight districts in the study area. The shaded volumes in Table 4 indicate trips that are north-south or circumferential between these eight districts in the study area. North-south or circumferential trips which begin and end within the same district within the study area are not included in the shaded volumes. Trips which do not have both ends in the study area are not included in this table.

In 1988, these circumferential trips between districts comprised 29 percent of the total internal study area person trips. In 2010, these trips are expected to constitute 28 percent of the total internal study area trips.

If trips are divided by mode, transit versus auto, it can be seen that for 1988, 30 percent of transit trips and 29 percent of auto trips remaining within the study area were north- south or circumferential between districts. In 2010, the proportion of circumferential transit trips between districts will reduce slightly to 28 percent, while the auto percentage will reduce slightly to 28 percent.

These levels of circumferential trips between districts in the study area, by both auto and transit modes, are significant. They represent a significant proportion of the trips being made within the study area. In 1988, they account for 183,452 trips, and in 2010 for 323,168 trips daily, or a 76 percent increase in north-south or circumferential travel between districts within the study area, between 1988 and 2010.

TABLE 4

ANALYSIS OF NORTH-SOUTH / CIRCUMFERENTIAL TRAVEL BETWEEN DISTRICTS WITHIN THE STUDY AREA

1988 Study Area Summary Matrix

I/J	(6) BEAVERTON			(7) TIGARD			(8) TUALATIN/WILSONVILLE			(9) SCHOLLS			(11) ALOHA			(12) HILLSBORO			(13) NORTH SUNSET CORR.			(14) HELVETIA			TOTAL STUDY AREA TRIPS		
DISTRICTS	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT
(6) BEAVERTON	117,475	863	118,338	27,422	179	27,601	8,756	19	8,774	785	2	787	38,135	225	38,359	4,960	29	4,989	18,159	101	18,260	305	1	306	216,997	1,418	218,414
(7) TIGARD	27,422	179	27,601	45,563	266	45,830	8,407	34	8,441	848	2	850	5,960	33	5,993	803	5	808	2,282	13	2,295	45	0	45	91,330	534	91,864
(8) TUALATIN / WIL	8,756	19	8,774	8,407	34	8,441	29,985	122	30,108	959	2	961	998	6	1,004	248	2	250	425	3	428	11	0	11	44,788	187	44,975
(9) SCHOLLS	785	2	787	848	2	850	959	2	961	1,541	3	1,544	733	3	736	412	2	414	121	1	122	7	0	7	5,406	18	5,422
(11) ALOHA	38,135	225	38,359	5,960	33	5,993	998	6	1,004	733	3	736	63,813	427	64,040	15,079	68	15,147	13,849	134	14,024	787	1	788	139,172	899	140,071
(12) HILLSBORO	4,960	29	4,989	803	5	808	248	2	250	412	2	414	15,079	68	15,147	56,776	285	57,062	4,715	58	4,799	1,014	1	1,015	84,007	448	84,454
(13) N. SUNSET	18,159	101	18,260	2,282	13	2,295	425	3	428	121	1	122	13,849	134	14,024	4,714	35	4,749	18,383	134	18,517	1,017	0	1,017	59,989	442	60,431
(14) HELVETIA	305	1	306	45	0	45	11	0	11	7	0	7	786	2	788	1,013	2	1,015	1,012	5	1,017	372	0	372	3,530	10	3,541
TOTAL→	210,996	1,418	212,414	91,330	534	91,864	44,788	187	44,975	5,406	16	5,422	139,171	900	140,071	84,007	448	84,454	59,985	448	60,431	3,537	3	3,541	639,218	3,955	643,173
N/S CIR. →	49,336	299	49,635	44,918	266	45,184	14,804	66	14,869	2,232	8	2,240	22,344	180	22,525	7,191	66	7,257	39,588	309	39,897	1,844	2	1,846	182,256	1,196	183,452
% N/S CIR. →	23%	21%	23%	49%	50%	49%	33%	35%	33%	41%	51%	41%	16%	20%	16%	9%	15%	9%	66%	69%	66%	52%	67%	52%	29%	30%	29%

2010 Study Area Summary Matrix

I/J	(6) BEAVERTON			(7) TIGARD			(8) TUALATIN/WILSONVILLE			(9) SCHOLLS			(11) ALOHA			(12) HILLSBORO			(13) NORTH SUNSET CORR.			(14) HELVETIA			TOTAL STUDY AREA TRIPS		
DISTRICTS	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT
(6) BEAVERTON	137,357	864	138,221	35,031	185	35,216	8,172	31	8,203	771	2	773	59,086	322	59,408	5,853	29	5,882	22,487	137	22,624	363	1	365	268,120	1,573	269,693
(7) TIGARD	35,031	185	35,216	66,509	388	66,897	20,060	89	20,149	1,014	3	1,018	11,175	63	11,239	1,091	8	1,099	2,800	19	2,820	61	0	61	137,743	756	138,499
(8) TUALATIN / WIL	8,172	31	8,203	20,080	89	20,149	78,187	342	78,530	2,191	6	2,197	2,794	17	2,812	500	4	503	726	6	734	22	0	22	111,854	496	112,150
(9) SCHOLLS	771	2	773	1,014	3	1,018	2,191	6	2,197	1,579	7	1,586	1,614	7	1,621	1,118	4	1,122	149	2	150	10	0	10	8,447	31	8,478
(11) ALOHA	59,086	322	59,408	11,175	63	11,239	2,794	17	2,812	1,614	7	1,621	174,382	1,265	175,647	35,829	171	36,000	34,866	275	35,140	1,674	5	1,680	325,222	2,125	327,347
(12) HILLSBORO	5,853	29	5,882	1,091	8	1,099	500	4	503	1,118	4	1,122	35,829	171	36,000	121,818	688	122,506	9,901	109	10,010	1,367	4	1,371	177,477	1,016	178,493
(13) N. SUNSET	22,487	137	22,624	2,800	19	2,820	726	6	734	149	2	150	34,866	274	35,140	9,901	109	10,010	42,678	371	43,048	1,219	6	1,225	119,625	925	120,550
(14) HELVETIA	363	1	365	61	0	61	22	0	22	10	0	10	1,675	5	1,680	1,367	4	1,371	1,219	6	1,225	282	1	283	4,999	18	5,017
TOTAL→	268,120	1,573	269,693	137,743	756	138,499	111,654	496	112,150	8,447	31	8,478	325,222	2,125	327,347	177,477	1,016	178,493	119,825	925	120,550	4,999	17	5,017	1,153,287	6,938	1,160,225
N/S CIR. →	64,690	353	65,044	70,220	365	70,584	32,467	153	32,620	5,082	19	5,101	53,925	368	54,292	13,976	129	14,105	75,730	547	76,278	3,135	9	3,144	321,225	1,842	323,168
% N/S CIR. →	24%	22%	24%	51%	48%	51%	29%	31%	29%	60%	60%	60%	17%	17%	17%	8%	13%	8%	63%	59%	63%	63%	53%	63%	28%	28%	28%

PERCENT INCREASE IN TRIPS BETWEEN 1988 AND 2010

I/J	(6) BEAVERTON			(7) TIGARD			(8) TUALATIN/WILSONVILLE			(9) SCHOLLS			(11) ALOHA			(12) HILLSBORO			(13) NORTH SUNSET CORR.			(14) HELVETIA			TOTAL STUDY AREA TRIPS		
DISTRICTS	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT	AUTO	TRANSIT	TOT
TOTAL→	27%	11%	27%	51%	41%	51%	149%	165%	149%	56%	93%	58%	134%	136%	134%	111%	127%	111%	99%	106%	99%	41%	409%	42%	80%	75%	80%
N/S CIR. →	31%	18%	31%	56%	37%	56%	119%	133%	119%	128%	128%	128%	150%	104%	150%	94%	94%	94%	91%	77%	91%	70%	0%	70%	76%	62%	76%

Identifies circumferential movements staying within the study area

Note:

This table includes trips with both ends (origin and destination) in the study area.

It does not include north-south or circumferential trips within the study area but with either the origin or destination outside the study area.

EXISTING AND FUTURE DEFICIENCIES

The analysis of existing and future transportation deficiencies within the study area was based on a study of roadway levels-of-service during the PM peak hour using Metro's regional forecasting model refined for use on this study. It should be noted that this information was developed at a systems level using updated population, employment and traffic data projected through the year 2010. Individual roadways are analyzed based on volumes of traffic on sections of roadways rather than at an intersection level of detail. Congestion on roadways, therefore, may differ somewhat from those identified in the Washington County transportation plan and the Metro RTP.

Level-of-service (LOS) ratings are used to describe how well traffic flows on a particular facility or through an intersection. Level-of-service is defined by such factors as freedom to maneuver, speed, driver discomfort and frustration, fuel consumption, lost travel time, and delay. Level-of-service on arterials is heavily affected by the type of arterial (principal, minor, suburban, or urban), number of signalized intersections per mile, speed limits, separate left-turn lanes, parking, pedestrian interference, and roadside developments.

Congestion is measured by comparing the relationship between the volume of traffic during the peak hour of travel for a certain section of roadway with the capacity which that same section can reasonably accommodate. The volume of traffic is either recorded in the field or estimated from regional forecasts. Capacity is determined by a number of criteria including number of traffic lanes, type of traffic control, roadway geometry, and speed of travel.

Levels-of-service ratings range from "A" to "F", with "A" being the best rating and "F" the worst. At LOS D small increases in traffic volumes will cause level of service to deteriorate rapidly, and driver comfort is poor. LOS E is indicative of significant congestion, while LOS F represents severe congestion or failure with high driver frustration. Characteristics of each Level-of-Service are detailed in the appendix.

For the purpose of analysis, the relationship between level of service and volume-to-capacity ratios (V/C) was defined such that a V/C ratio of 0.80 or less indicated a LOS of C or better; a V/C ratio of 0.80 to 1.0 indicated a LOS of D or E; and a V/C ratio of 1.0 or greater indicated a LOS of F. These definitions were based on the Highway Capacity Manual, TRB Special Report 209, 1986.

Table 5 summarizes peak hour traffic volumes and levels of service in 1988 and 2010 on selected roadways within the study area. As depicted in Figures 10 and 11, roadway congestion in both 1988 and the 2010 No-Build Scenario occurs throughout the Western Bypass study area. Significant portions of the study area were subject to roadway LOS of D or worse during 1988. This pattern of congestion is expected to worsen by 2010 under the No-Build scenario, spreading over much of the developed portions of the study area. The existing major north-south or circumferential roadways within the study area currently are, or are projected to experience, significant traffic congestion over the next two decades. Due to the lack of these circumferential roadways in the study area, a certain amount of circumferential traffic will use radial routes to move north-south, increasing congestion on them (See Appendix D).

Previous analysis showed that vehicle hours of delay will increase by 246 percent between 1988 and 2010 in the study area and 179 percent in the region. (Forecasting Analysis Results, October 26, 1990). People will spend more time traveling between origins and destinations. As congestion spreads on primary arterials and highway networks such as those identified on Table 5 and Figures 10 and 11, traffic will likely divert to rural roadways and arterials which provide less frustration and possibly shorter travel times. These secondary networks have not been designed for higher traffic volumes and do not provide direct routes. Vehicle miles of travel will increase and safety is likely to become a significant issue.

From the analysis of regional congestion levels, the worst congestion levels tend to be located in the northern and southeast portions of the study area. Bull and Cooper Mountains divide the congestion in the study area into a northern and southern grouping and pose a geographical limitation in extending north-south routes to the southern portion of the study area. These two areas are linked via the congested Highway 217, the only continuous major circumferential facility in the study area. Thus this creates a problem related to both travel within districts at ends of the study area, and travel through the study area affecting mobility within and through the western portion of the region.

To fully describe the congestion occurring within the study area, and to understand the growth in traffic causing the deterioration in levels-of-service, it is instructive to examine a few of the congested roadways within the study area network. In general it can be concluded that many of the major roadways experienced significant congestion in 1988. Over the next two decades these already congested roadways will not be able to accommodate additional volumes of traffic within the peak hour without significant capacity improvements and level of service will further deteriorate. Other major roadways will become congested as traffic shifts to the available capacity on these currently less congested segments. By 2010 there will not be enough capacity to meet the travel demand within the study area in either the radial or circumferential direction.

TABLE 5
SERVICE DEFICIENCIES ON MAJOR ROADWAYS

SEGMENT	1988 Peak Hour Volume (veh/hr)	1988 LOS	2010 Peak Hour Volume (veh/hr)	2010 LOS
Tualatin-Sherwood/Edy Road	1,375	D/E	2,200	F
Highway 99W				
South of Tualatin Road	1,375	C	2,700	C
North of Tualatin Road	1,900	D/E	3,500	D/E
North of Highway 217	4,100	F	4,475	F
Interstate 5				
South of Nyberg Road	8,100	C	11,600	D/E
North of Nyberg Road	9,700	D/E	13,325	F
Sunset Highway				
West of 185th	3,550	F	5,600	F
West of Canyon Road	6,850	F	11,850	F
Highway 217				
North of Hall Boulevard	7,875	D/E	8,700	F

* LOS C indicates a level of service of C or better

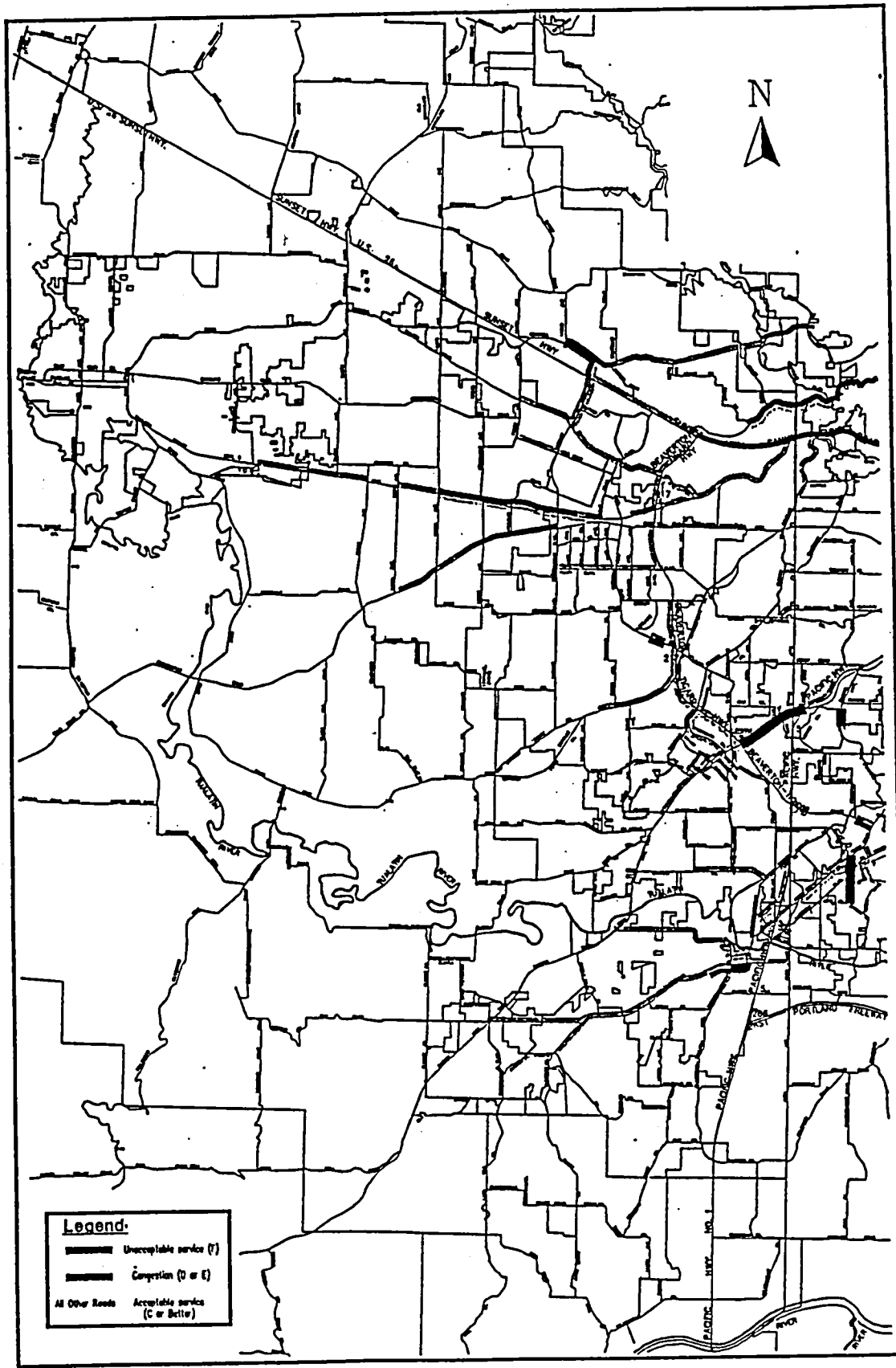


Figure 10
ROADWAY LEVEL OF SERVICE
1988 EXISTING PM PEAK HOUR
Western Bypass Study

PARSONS
BRINCKERHOFF

NOTE: Levels of service are for roadway segments, based on traffic estimates from Metro's model; they may differ from intersection levels of service from other studies.

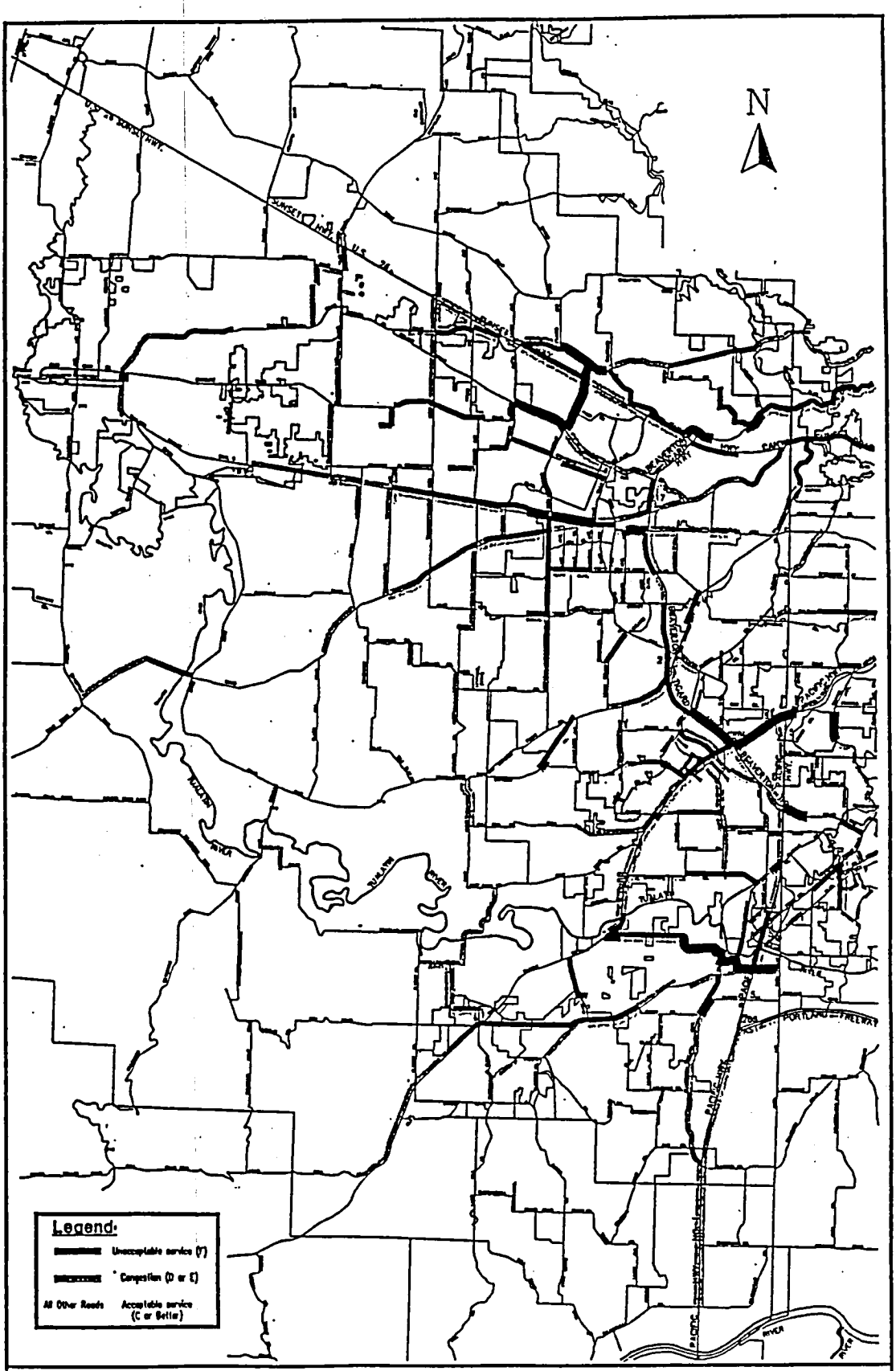


Figure 11
ROADWAY LEVEL OF SERVICE
2010 NO-BUILD PM PEAK HOUR
Western Bypass Study

PARSONS
BRINCKERHOFF

NOTE: Levels of service are for roadway segments, based on traffic estimates from Metro's model; they may differ from intersection levels of service from other studies.

Southern End of the Study Area

Tualatin-Sherwood/Edy Road

Tualatin-Sherwood/Edy Road serves as a major connection between Highway 99W and Interstate 5 in the southwest part of Washington County. Traffic conditions on this roadway were at LOS E in 1988. By the year 2010, traffic demand on this roadway segment will increase by 59.4 percent during the PM peak hour. The roadway will not be adequate to serve the traffic demands forecasted even with the committed improvements under the No-Build scenario. Level-of-Service on significant portions of the roadway is expected to deteriorate to LOS F.

Highway 99W

Highway 99W within the study area north of the Tualatin Road Intersection either was operating at poor level of service in 1988 or will be in 2010 under the No-Build Scenario even with committed improvements. Just north of the Tualatin Road Intersection, traffic levels-of-service will worsen from acceptable levels of service in 1988 to LOS of D or E by the year 2010. Traffic volumes on this section will grow by 84 percent.

North of Highway 217, level of service on highway 99W in 1988 was LOS F, and for the 2010 No-Build Scenario will continue at LOS F. Traffic north of Highway 217 will increase by 9 percent between 1988 and 2010. This portion of Highway 99W is already operating at full capacity during 1988 and, as the minimal increase in traffic over the twenty year period indicates, it can accommodate very little additional traffic.

Interstate 5

Interstate 5 is already congested north of Nyberg Road, and conditions will become worse and extend south by 2010 even with committed improvements under the No-Build Scenario. Interstate 5, north of the Nyberg Road interchange during the typical 1988 PM peak hour operated at a LOS of D or E. The total volume carried by this section of I-5 is expected to grow by 37 percent, and the traffic condition will worsen to LOS F.

Traffic conditions on Interstate 5, south of the Nyberg Road interchange in the study area were at a LOS C or better in 1988. This level-of-service will worsen to a LOS D or E by the year 2010 under the No-Build Scenario. Traffic volume will increase by over 43 percent on this portion of Interstate 5.

Other roadways in the southern portion of the study area such as Durham Road, Tualatin Road and portions of Scholls Ferry Road show similar levels of congestion to those described above.

Northern End of the Study Area

Sunset Highway

Much of the Sunset Highway east of Highway 217 is currently congested and, as can be seen in Figure 10, operated at a LOS F in 1988. These poor levels-of-service will continue to exist in the year 2010 even with committed improvements under the No-Build Scenario and, as can be seen in Figure 11 will spread westerly through the Sunset Corridor as travel demand to these areas increases. During the PM peak period, traffic volumes on Sunset Highway, just north of 185th, are expected to increase by 57.7 percent. On the same facility, west of Sylvan traffic volumes are expected to grow by 20.3 percent.

Highway 217 and Other North-South Roadways (north end of the study area)

Highway 217 serves as a major circumferential connection between Tigard and Beaverton and between Interstate 5 and the Sunset Corridor. Most of the facility is currently congested, and this condition will become worse and encompass almost all of this facility by 2010 under the No-Build Scenario.

In 1988, the facility operated at LOS D or E, with the exception of isolated segments between Interstate 5 and Highway 99W and between Allen Boulevard and Denney Road which operated at levels-of-service of C or better. The levels-of-service on the entire facility except the short section between Canyon road and Beaverton-Hillsdale Highway is expected to deteriorate to levels of service D or worse by the year 2010 under the No-Build Scenario.

Other roadways in the northern portion of the study area such as Murray Boulevard, 185th Avenue, Walker Road, Cornell Road, Tualatin Valley Highway, and Farmington Road show similar levels of congestion to those described above in both 1988 and 2010.

MAJOR FINDINGS AND CONCLUSIONS

The analysis of existing (1988) transportation conditions in the study area confirms what travelers in the study area are currently experiencing every day, namely, that peak hour travel demand has exceeded available capacity on many of the major roadways, causing traffic back-ups and delay. Over the next twenty years, peak hour travel conditions will deteriorate even further under the future No-Build alternative. Delay on both radial and circumferential routes will increase as the residents of the study area, as well as workers commuting to the area from other parts of the region, go about their daily activities. The one-hour peak will extend to two or more hours as travelers are delayed in traffic for increasingly longer periods of time or adjust their schedules to travel on the "shoulder" of the peak to try and avoid congestion. Delay on major routes will cause travelers to search for alternate local routes to bypass this congestion. The significant increases in congestion forecast to occur between 1988 and 2010 can be directly linked to population and employment growth in the study area and region, numerous socioeconomic factors and travel characteristics, including the following:

Population, Employment and Travel Growth

- Population and employment is expected to grow at a much faster rate in the study area compared to the region over the next two decades.

- The study area's share of the region's population and employment will increase due to these higher rates of growth relative to the rest of the region. Population in the study area will increase from 18.5 percent of total region population in 1988 to 22.0 percent in 2010 while employment will grow from 19.3 percent to 24.3 percent during that same period. The study area is thus expected to become not only an increasingly important economic component of the Portland metropolitan area but also of the State of Oregon given Portland's dominance in the state economy.

- Employment is expected to grow at a faster rate than population within the study area, with retail employment growing at a faster rate than other types of employment.

- Consistent with adopted comprehensive plans, the type and rate of growth will result in land uses within the study area becoming increasingly more mixed relative to today. The number of trips remaining within the study area will become a greater percentage of the total study area trips, that is, the trips which both begin and end within the study area will become a greater percentage of all trips with one or both ends in the study area.

- With increasing numbers of retail and employment centers, and recreational facilities being located within the study area, the opportunities for travel within the study area will multiply, resulting in increased numbers of shorter (under six mile) trips.

- The major proportion of existing 1988 and future 2010 No-Build trips in both the study area and the region will be trips of six miles or less. This is typical for any major urban area because non-work trips (social, recreational, shopping, and school trips) constitute close to 80 percent of the trip-making in the study area and in the region and tend to be shorter than work-related trips.

- Regional trips with one or both ends in the study area (defined as those trips greater than six miles in length and remaining entirely within the region) will decline from 28 to 22 percent between 1988 and 2010.

- Although interregional and through trips associated with the study area make up a relatively small proportion of total study area trips (10 percent), they represent a significant proportion of the total interregional and through trips attracted and produced or passing through the region (between 40 and 43 percent). Therefore a significant proportion of the metropolitan area's overall longer trips pass through the study area on the existing facilities.

- Work-related trips are forecast to increase by 30.8 percent between 1988 and 2010, reaching 1,226,700 daily work person trips in the study area by year 2010. The study area's share of the region's work trips will increase from 19.5 percent in 1988 to 23.8 percent in 2010, consistent with the fact that the study area is projected to experience more rapid growth in both population and employment than the region as a whole.

- Between 1988 and 2010, study area trips for non-work purposes will increase at an even faster rate than will work-related trips (68.1 versus 61.8 percent), eventually reaching a total of 4,887,700 daily person trips by the year 2010. The study area's share of the region's non-work trips will increase from 19.5 percent to 23.7 percent over the twenty-year period as increasing amounts of non-work related travel attractions are located within the study area to accommodate the growing population.

Travel Mode

- The predominant mode of travel in both the study area and in the region today is the private automobile. However, transit service and use are significantly less in the study area than in the region as a whole (e.g., three percent of work trips in the study area are by transit compared to seven percent for the region).

- Both demand and supply factors influence people's mode of travel. The land use patterns in the study area are characterized by low density employment centers and single-family subdivisions thus making trip origins and destinations relatively dispersed. The road system, serving both buses and cars, is not a complete grid system such as is found in many parts of Portland. Because of the many geographical constraints, the

road network has discontinuities and in some areas is built on slopes too steep for transit to maneuver. It is thus difficult to serve many parts of the study area efficiently with fixed-route transit. Existing transit centers and park-and-ride lots provide a means to focus travelers and service at a single location and thereby improve the effectiveness of transit service.

- The automobile will continue to be the predominant mode of travel in both the study area and in the region under the future 2010 No-Build alternative. Some increases in transit use are expected to occur due to the investment in light rail in the Westside Corridor, although these increases in transit use are related primarily to radially oriented trips.

- The percentage of commuters carpooling to work are the same for both the study area and the region in 1988 and under the 2010 No-Build alternative. This mode of transportation has potential for helping relieve traffic congestion in the study area since it requires a lower concentration of households and employment to be attractive relative to fixed route transit. However, time or cost savings need to be realized relative to driving alone in order to get people to carpool.

Analysis of North-South or Circumferential travel

- North-south or circumferential travel represent a significant proportion of the trips being made within the study area. In 1988 north-south or circumferential travel remaining within the study area and travelling between districts comprised 29 percent of the total study area person trips. By 2010 these study area trips between districts are expected to decrease slightly to 28 percent proportion of the total internal study area trips. The total number of the north-south or circumferential trips between districts within the study area will grow by 76 percent between 1988 and 2010. Some of the other trips within the study area beginning and ending within the same district would also be north-south or circumferential, but these are not included in the north-south or circumferential proportions of this analysis.

- An analysis of the existing traffic on Highway 217, the only continuous circumferential roadway within the study area, indicates that a significant portion of trips on that facility in 1988 were made between the northern study area and the southern and southeastern portion of the region. This trend becomes even more pronounced in the 2010 analysis which showed that during the PM peak, as much as one lane of traffic on Highway 217 will be devoted to long distance, circumferential movements between or beyond the northern and southern ends of the study area.

- In both 1988 and 2010, 16 percent of the PM peak hour trips on the major links between I-5 and Highway 99W are destined for Clackamas County or circumferential travel destined outside the study area. An additional 16 percent are destined for the

Portland area. Two-thirds are begin or end in the southeast end of the study area. Only 2 to 3 percent of trips on these east-west/circumferential routes were or will be distributed to the northwestern portion of the study area.

- By contrast, the Sunset Highway does not currently carry large numbers of long-distance, circumferential trips during the PM peak. The majority of study area PM peak hour travel destinations on the Sunset Highway for 1988 and 2010 are distributed between Beaverton and Hillsboro, conveying principally trips westbound from the Portland CBD.

Traffic Congestion

- Because of the large increases in population and employment and the continued reliance on the private auto as the primary mode of transportation in the study area into the future, the existing and future No-Build transportation systems will not provide sufficient capacity for forecasted traffic demands. High levels of congestion on many of the study area roadways, as measured by levels of service, are expected by 2010.

- Major radial roadways will experience significant traffic congestion and delay under the No-Build alternative. Movement of traffic circumferentially, some of which must now be accomplished via radial routes because of a lack of direct circumferential routes, will become more difficult.

- The current deficiency in north-to-south or circumferential roadways within the Western Bypass study area will hamper the movement of both transit and private automobiles. Existing north-south or circumferential roadways such as Highway 217, Murray Boulevard, Tualatin Road, and the Tualatin-Sherwood/Edy Road are or will be heavily congested or do not continue far enough to provide effective circumferential connections between the southern and northern portions of the study area.

- Because of the lack of adequate circumferential routes and the increasing congestion expected by 2010, traffic will likely divert from primary arterials and highway networks to the rural roadway and minor arterial networks within the study area. These secondary networks have not been designed for high traffic volumes. Safety, both on and off the roadway, is likely to become a significant issue.

- Many of the committed roadway improvements included in the No-Build condition were designed under the assumption that a Western Bypass would be in place by 2010 to supply additional transportation capacity. These facilities, in the absence of a Western Bypass, will be insufficient to handle future traffic demands.

- Many of the roadway improvements, included in the 2010 No-Build scenario, were designed for horizon years falling significantly short of the 2010 horizon year of the Western Bypass Study. Because many of these roads will not have been designed for 2010 traffic levels, they will provide insufficient capacity for the traffic demands within the study area.

SUMMARY OF PURPOSE AND NEED

Based on the analysis of expected growth and travel patterns, it is clear that transportation problems in the Study area will be significant by 2010 without major strategies to reduce or alleviate existing and future traffic congestion. Analysis of regional congestion levels and specific roadways within the study area indicates that the worst congestion levels are located in the northeast and southeast portions of the study area. Analysis further shows that Highway 217 and existing radial routes are currently relied upon to serve significant north-south or circumferential movements within the study area.

Strategies to reduce or alleviate traffic congestion need to:

- Address the demand for north-south or circumferential travel focusing on the major travel movements and deficiencies within the study area such as movements between economic centers and residential developments. The purpose of the study is not to solve every traffic congestion problem in the study area;

- Recognize the diversity of trip types and trip lengths to be served within the study area, including work versus non-work and local, regional, interregional, and through trips;

- Consider opportunities to not only increase capacity but also potentially reduce demand in the study area, recognizing that there is currently a very heavy reliance on the private automobile;

- Take into account the geographic and environmental constraints and land uses within the study area;

- Consider travel demand in the northeast and in the southeast portions of the study area, as well as travel demand between the northern and southern ends of the study area and through the study area.

APPENDIX A

BACKGROUND REPORTS AND STUDIES

Study	Date Published
Statement of Goals and Objectives	June 1990
Summary of Southwest Corridor Study	October 1990
1988 Existing and 2010 No-Build, Forecasting Analysis Results	October 26, 1990
Travel Patterns and Conditions, Major Findings and Conclusions	October 29, 1990
Evaluation Methodology, Technical Memorandum	October 1990
Select Link Analysis, Technical Memorandum	November 1990

APPENDIX B

WESTERN BYPASS STUDY
GOALS AND OBJECTIVES

Goal 1

Conduct the Western Bypass Study in an open, objective and expeditious process allowing input from all sectors of the community and considering all reasonable alternative solutions to transportation problems that comply with local, regional, state and federal plans and regulations.

Objectives

1.1 Keep citizens, local, regional and state agencies and officials, as well as other interest groups, involved in the study process through public forums and workshops and through newsletters and other media.

1.2 Identify and assess major existing and future state, regional and intra-county travel needs, primarily as they relate to north-south or circumferential access within and through the study area.

1.3 Identify and evaluate the widest range of reasonable alternative solutions to transportation problems, including but not limited to, transit/HOV, street, and highway improvements, and transportation demand management measures, regardless of current funding availability.

1.4 Maintain the study schedule in order to move forward towards the implementation of a feasible and effective solution in a timely manner.

Goal 2

Develop a solution to transportation problems related to accommodating major existing and future (year 2010) state, regional, and intra-county travel needs primarily north-south or circumferential within the project study area:

Objectives

2.1 Reduce congestion on existing streets and highways, as compared to a no-action alternative.

2.2 Improve access through, to/from, and within the study area.

2.3 Reduce through-traffic diversion to rural roads and residential streets.

2.4 Improve safety for both motorized and non-motorized traffic.

2.5 Reduce reliance on the private automobile and reduce or delay the need for additional vehicular capacity through support of transit, ride sharing (carpools/vanpools), and other demand management strategies.

2.6 Develop alternatives that have flexibility to be improved to meet longer term, future needs (beyond the year 2010 and looking toward anticipated growth within the urban area).

Goal 3

Develop a solution to transportation problems that is sensitive to local and regional environmental issues and community needs, consistent with local, regional, state, and federal plans and regulations.

Objectives

3.1 Avoid or minimize negative impacts on the natural environment, e.g., wetlands, water, air, energy, noise, visual, agricultural and forest land.

3.2 Avoid or minimize negative impacts on the built environment, e.g., on existing urban and rural land uses and cultural, historical, and recreational resources.

3.3 Support an urban development pattern that provides for the efficient delivery of urban services, including public transportation, in a manner consistent with state-wide planning goals and with local and regional planning.

3.4 Minimize negative impacts or pressures on the Urban Growth Boundary and identify how various alternatives might affect the rate, type or form of urbanization.

Goal 4

Consider economic and social factors in the identification and development of a solution to transportation problems for the study area, consistent with local, regional and state plans.

Objectives

4.1 Consider the construction, operation and maintenance costs of each alternative.

4.2 Avoid or minimize negative impacts on the integrity and social fabric of the diverse neighborhoods and business communities in the study area (urban and rural).

4.3 Support the economic health of the study area and communities that depend on access through the study area.

APPENDIX C

LEVELS-OF-SERVICE DEFINITIONS

Level-of-Service (LOS) ratings are used to describe how well traffic flows on a particular facility or through an intersection. LOS is defined by such factors as, freedom to maneuver, speed, driver discomfort and frustration, fuel consumption, lost travel time, and delay. Level-of-service on arterials is heavily affected by the type of arterial (principal, minor, suburban, or urban), number of signalized intersections per mile, speed limits, separate left-turn lanes, parking, pedestrian interference, and roadside developments. Levels-of-service ratings range from "A" to "F", with "A" being the best rating and "F" the worst. Characteristics of each Level-of-Service are as follow:

Level-of-Service A

- Free flow conditions
- Vehicles unaffected by other users on the roadway
- Driver comfort is generally excellent for all users
- Very little or no delay

Level-of-Service B

- Stable flow conditions
- Users are aware of other vehicles on the roadway, but no interruption in speed occurs
- Maneuverability is somewhat more restricted than LOS A, but is still relatively uninhibited
- Level of driver comfort is high, but lower than for LOS A
- Very little delay

Level-of-Service C

- Stable flow conditions
- Speed and maneuverability are affected by other users on the roadway
- Level of driver comfort begins to decline
- Some delay is noticeable

Level-of-Service D

- High density stable flow
- Speed and vehicle maneuverability are limited by other vehicles on the roadway
- Level of driver comfort is poor
- Small increases in traffic volumes will cause level-of-service to deteriorate rapidly, and may cause operational problems
- Delay is moderate

Level-of-Service E

Highly unstable flow, at or near the capacity of the roadway

Speeds are low and maneuverability is extremely limited

Small increases in traffic volumes may cause the transportation facility to exceed its capacity, thus causing system failure

Driver comfort is extremely poor and frustration is often high

Delay is typically high

Level-of-Service F

System failure, the roadway is fully saturated

Traffic operation characterized by stop-and-go conditions

Traffic operations are unacceptable to most drivers, frustration is extremely high

Delay is severe and unacceptable

APPENDIX D

SELECT LINK ANALYSIS

A select link analysis is part of the transportation planning software used by METRO. It allows the transportation planner to identify the origins and destinations of travelers on specific roadways.

Based on the analysis of congestion described in the report titled 1988 existing and 2010 No-Build, Forecasting Analysis Results dated October 26, 1990 the study area was broken into a southern and a northern section for the purpose of the select link analysis. The southern portion of the study area consisted of the Tigard, Tualatin/Wilsonville, Sherwood, and Scholls districts while the northern portion included the Beaverton, Hillsboro, Helvetia, North Sunset Corridor and Aloha districts (Figure D-1). These districts are sizeable areas in themselves, and a significant amount of trips can be expected to occur within a given district.

The 1988 analysis is based on the existing transportation system, and the 2010 analysis is based on the No-Build Scenario. Specific roadways in the southern portion of the study area, analyzed for select link information, during the PM peak hour included:

- Highway 99 W, north and south of Tualatin Road, and north of Highway 217
- Interstate 5, north and south of Nyberg Road, and
- The Tualatin and Tualatin-Sherwood Road pair.

The Sunset Highway was evaluated as the major roadway in the northern portion of the study area. Select links on Sunset Highway west of Sylvan Creek and just west of 185th have been analyzed. Highway 217 was included as the major circumferential facility connecting the two parts of the study area. Data from each of the select link analyses follows.

Select Link Analysis: Southern Portion of the Study Area

Tualatin Road and Tualatin-Sherwood Road

During the PM peak hour for year 2010, the trips produced by Tigard, Scholls, Sherwood, King City, and Wilsonville, are expected to increase by almost 74 percent (from 3,000 trips in 1988 to 5200 trips in 2010). Trips attracted to these areas will grow by 72 percent (from 1,400 trips to 2,800 trips). Additionally, the number of trips staying within these areas is expected to grow by 103 percent (from 1,400 trips to 2,800 trips).

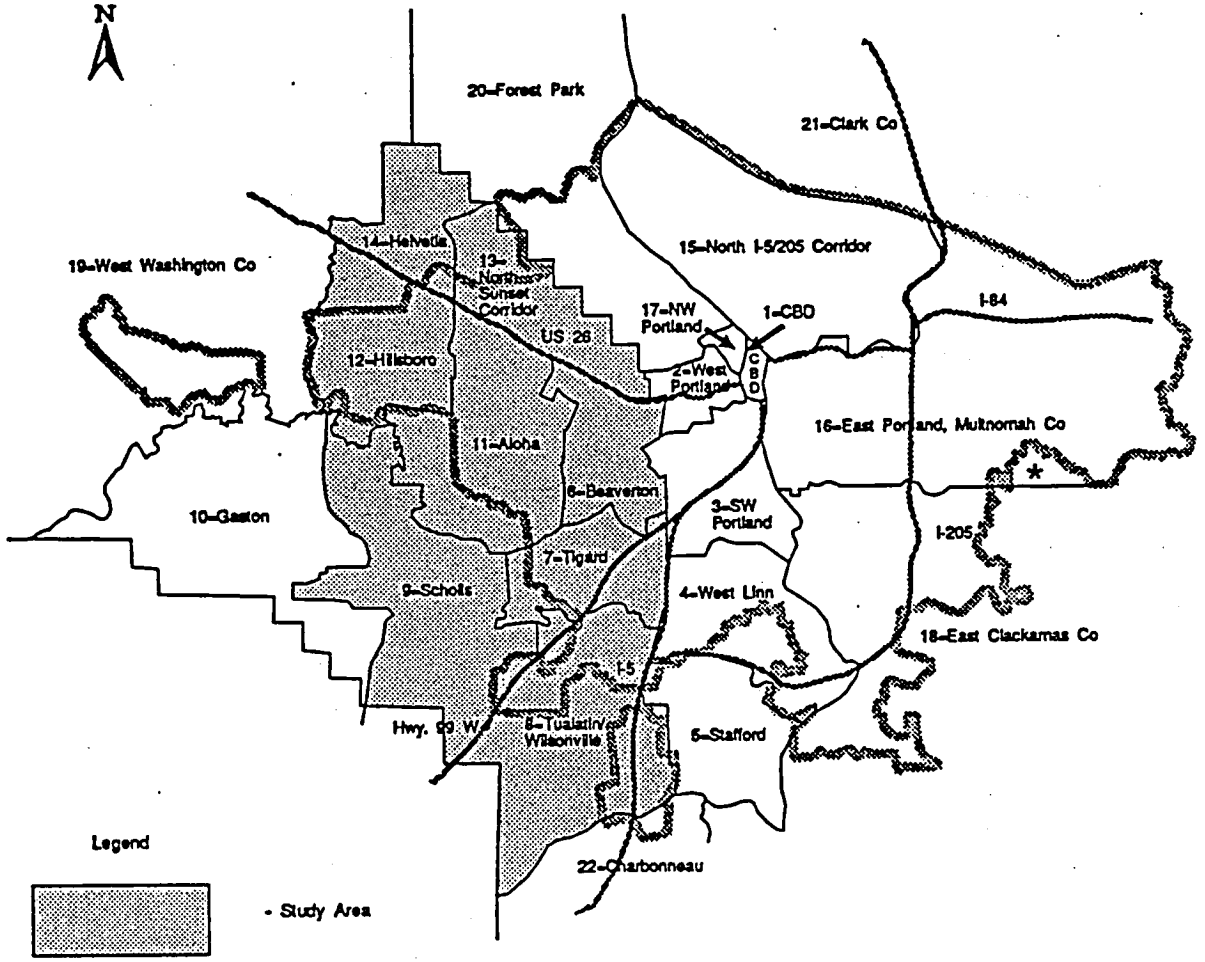


Figure D-1
DISTRICT IDENTIFICATION

Western Bypass Study

PARSONS BRINCKERHOFF

In 1988, during the PM peak hour, almost 64 percent of the total trips on the Tualatin Road and the Tualatin-Sherwood Road began or ended in Tigard, Scholls, Sherwood, King City, and Wilsonville. Almost 16 percent of the total trips were produced or attracted to Clackamas County and another 16 percent were generated or attracted to the Portland area, Multnomah County, and Clark County. Less than 2 percent were distributed to the northwestern portion of the study area along the Sunset Highway corridor. Likewise, only a little more than two percent were destined for locations in the I-5 South Corridor, Gaston, and Western Washington County areas. Of the total trips using these links, over 29 percent stayed within Tigard, Scholls, Sherwood, King City, and Wilsonville.

In comparison, in the year 2010 during the PM peak hour, more than 66 percent of total trips using Tualatin Road and Tualatin-Sherwood Road are expected to begin or end in Tigard, Scholls, Sherwood, King City, and Wilsonville. Fourteen percent will originate in or travel to Clackamas County, and more than 14 percent will travel to or come from the Portland area, Multnomah County, and Clark County. Less than three percent will travel to the northern part of the study area along the Sunset Corridor, and less than three percent will go to the south of the I-5 Corridor. Furthermore, at least 35 percent of the total trips will stay within Tigard, Scholls, Sherwood, King City, and Wilsonville areas.

In conclusion, origins and destinations of trips on connectors between Highway 99W and Interstate 5 are dispersed throughout the region. Trips from the northwest portion of the study area are a small percentage of the total trips using the Tualatin and Tualatin-Sherwood Roads. The majority of all trips using the Tualatin Road and Tualatin-Sherwood Road were generated or attracted to Tigard, Scholls, Sherwood, King City, and Wilsonville, and not the northwest portions of the study area. However, almost a third of the trips were generated or attracted in the Portland area or Clackamas County.

Highway 99W, North and South of Tualatin Road

Highway 99W, north and south of Tualatin Road, demonstrated travel patterns strongly related to the Tualatin, King City, Wilsonville, and Sherwood areas. In 1988, trips within these areas accounted for 44 percent of the total peak hour vehicles using Highway 99W at these locations. This compares to an expected 52 to 55 percent proportion for 2010.

Furthermore, in 1988, about 70 percent of the trips using Highway 99W in the vicinity of the Tualatin Road were generated in the southern portion of the study area. About 27 percent of the trips were generated in areas north and east of the study area, and only about 2 to 3 percent were generated along the Sunset Corridor.

Highway 99W north of Highway 217

Travel patterns on Highway 99W north and south of highway 217 differed significantly from the section north and south of the Tualatin Road intersection. Major trip destinations on the section north of Highway 217 included Beaverton and Tigard, accounting for 52 percent of total trips during the peak hour. Of the total trips, 15 percent originated in Beaverton, 38 percent originated in Tigard. Twenty-two percent were destined for the Portland area, while 14 percent were headed towards the east and north of Portland.

In 2010, travel patterns on this section of Highway 99W remain similar to those in 1988.

Interstate 5, North and South of Nyberg Road

In 1988 during the PM peak hour, approximately 26 percent of the total users on this facility originated in the southwestern part of the study area, 21 percent were produced in Clackamas County, and more than 22 to 26 percent were drawn from the Portland area. Another 13 to 16 percent of the total trips on this portion of I-5 were generated within the I-5 south corridor while the remaining 15 percent originated in areas east and north of Portland, and in the Sunset Corridor.

By the year 2010 during the PM peak hour, travel patterns of traffic using Interstate 5, at the Nyberg Road interchange, will change somewhat. More trips as a percent of the total trips on the link will be produced in the southwestern part of the study area while fewer will be produced in Clackamas County, and from within Portland.

Select Link Analysis: Northern Portion of The Study Area

The analysis of travel patterns in the northern portion of the study area centered on an evaluation of the characteristics of the Sunset Highway near the Canyon Road Interchange and near the 185th interchange, and the northern portion of Highway 217.

Sunset Highway

Because of its primary linkage between the study area and the Portland CBD, the Sunset Highway showed significant numbers of trips interchanging between the Portland area and the Northern part of the study area which create a large amount of east-west movement on this facility. There are fewer trips destined for the southern portion of the study area.

A PM peak hour select link analysis was conducted on the Sunset Highway where it crosses Sylvan Creek, near the Canyon Road interchange. Of the 9900 vehicles using the Sunset Highway at this point during the 1988 PM peak hour, 29.1 percent were destined for the northern portion of the study area, including the Aloha, Hillsboro, Helvetia, and North Sunset Corridor districts. Another 21.4 percent were headed for the Beaverton district.

Only 1.0 percent of the total trips using this facility were headed for the southwest of Beaverton, in the Tigard, Scholls, or Tualatin/Wilsonville districts. This fact suggests that few trips destined for the southern portion of the study area are made via the Sunset Highway.

The remaining 48.5 percent of the vehicle trips using the Sunset Highway near Sylvan Creek during the 1988 PM peak hour were destined for various locations outside the study area. Twenty-four percent were headed for East Portland, the North I-5/I-205 Corridor, and Clark County districts. More than seventeen percent were headed for areas in the Portland CBD, Northwest Portland, West Portland, Forest Park, and Southwest Portland districts. Only 1.7 percent of the vehicles were headed for districts located to the immediate south and west of the Portland CBD, and only 5.6 percent were headed for districts to the west of the study area.

The 2010 PM peak hour distribution of vehicles using the Sunset Highway near Sylvan Creek is similar to the 1988 distribution. 30.9 percent of the traffic was destined for the northern portion of the study area, 19.3 percent for Beaverton, and 1.4 percent for the Tigard, Scholls, and Tualatin/Wilsonville districts. The remaining 46.2 percent of the traffic was destined for various districts to the east of the study area, of which only 2.1 percent was to the southeast.

Traffic using the Sunset Highway near 185th Avenue was similar to that seen near the Sylvan Creek crossing. Traffic at this point on the Sunset suggested that traffic not destined for neighborhoods in the Northern portion of the study area had already left the facility. In 1988, 40.6 percent of the 3,600 vehicles using the facility during the PM peak were destined for the Helvetia, North Sunset Corridor, Hillsboro, and Aloha districts. Another 32.3 percent were headed for districts west of the study area. Only 19.8 percent of the traffic was headed for districts east of the study area and only 7.2 percent was headed for the southern portion of the study area or Beaverton.

In 2010, traffic on the Sunset Highway near 185th Avenue will remain strongly oriented towards the northern portion of the study area. Of the 5,600 PM peak hour vehicles in 2010, 48.1 percent will be destined for the Helvetia, North Sunset Corridor, Hillsboro, and Aloha districts. Approximately 25.3 percent of the trips will be destined for districts to the west of the study area, while 17.6 percent of the trips will be destined for districts east of the study area. Only 9.0 percent of the traffic using the Sunset Highway near 185th Avenue in the 2010 PM peak hour will be destined for the southern portion of the study area and Beaverton.

Highway 217

Highway 217, because of its continuous circumferential link between the northern and southern portions of the study area, can be used to identify potential demand for additional circumferential links within the study area. A significant amount of travel between the northern districts and those districts to the east and south of Beaverton were identified, showing a demand for a circumferential route.

A select link analysis was conducted on Highway 217, north of Hall Boulevard near Scholls Ferry Road. That analysis demonstrated for the 1988 PM peak hour, that 36.5 percent of the 7900 vehicles using Highway 217 near the Hall Boulevard interchange were destined for Beaverton, 20.9 percent were headed for the northern portion of the study area (the Aloha, Hillsboro, Helvetia, and North Sunset Corridor districts), 15.1 percent were headed for Tigard, and that 14.8 percent were headed for districts to the southeast of the study area (the West Linn, Stafford, Charbonneau, and East Clackamas County districts). In addition, 5.2 percent of the vehicles where destined for the Portland CBD and surrounding districts (West Portland, Southwest Portland, Northwest Portland, and Forest Park districts), 1.5 percent were headed for the North I-5/I-205 Corridor, East Portland, and Clark County districts, and only 1.9 percent were destined for districts to the west of the study area. 4.2 percent of the traffic using this portion of Highway 217 was destined for the Tualatin/Wilsonville and Scholls districts.

Traffic distributions in the year 2010 on Highway 217 north of Hall Boulevard and Scholls Ferry Road will be similar to those demonstrated for 1988. Of the 8700 vehicles using this section of Highway 217 during the 2010 PM peak hour, 30.8 percent will be destined for Beaverton, 22.5 percent for the northern portion of the study area, 15.7 percent for Tigard, 18.6 percent for areas to the southeast of the study area and 4.1 percent for the Portland CBD and surrounding districts. Only 1.4 percent will be headed for the North I-5/I-205 Corridor, East Portland, and Clark County districts, 1.4 percent for districts west of the study area, and 5.5 percent to the Tualatin/Wilsonville and Scholls districts.

The 1988 and 2010 select link analyses on Highway 217 also demonstrated that a significant proportion of the traffic using Highway 217 north of Hall Boulevard and Scholls Ferry Road was generated by the northern portion of the study area and by Beaverton (58.6 percent in 1988, and 57.3 percent in 2010).

Trip distributions developed for Highway 217 north of Hall Boulevard and Scholls Ferry Road show that approximately 27.5 percent of the vehicle trips on the facility in 1988 and approximately 30.1 percent in 2010 will be traveling between the Northern portion of the study area (the Aloha, Hillsboro, North Sunset Corridor, and Helvetia districts) and the

districts to the east and south of Beaverton (i.e., Southwest Portland, West Linn, Stafford, Tigard, Tualatin/Wilsonville, Scholls, East Clackamas County, and Charbonneau districts). In addition, another 35.5 percent of the traffic in 1988, and another 32.2 percent in 2010, will be traveling between Beaverton and the districts to the east and south of Beaverton.

Select Link Analysis: Other Radial Routes

Farmington Road between 209th Avenue and Highway 217

Relatively few people are traveling on Farmington Road to go north and south through the study area. Approximately 66 percent of the trips using Farmington Road between 209th Avenue and Highway 217 during the 1988 PM peak hour were produced in the Beaverton and Aloha Districts. Fifteen percent were produced in the Portland area (i.e. the Portland CBD, East Portland, and North Portland districts). Eleven percent were produced in the southern and eastern parts of the study area and five percent in the northern part of the study area (i.e., the Hillsboro, Helvetia, and North Sunset Corridor districts). Only three percent of the trips were generated by districts to the west of the study area.

Only 6 percent of the trips using this section of Farmington Road where traveling between the extreme northern and southern parts of the study area, indicating that the majority of the trips were either headed towards the Portland CBD or using Farmington Road locally.

By the year 2010, there is little change expected in the overall distribution of trips using Farmington Road. Trips traveling between the extreme northern and southern portions of the study area are expected to increase slightly and will make up 7.5 percent of the total trips using the facility.

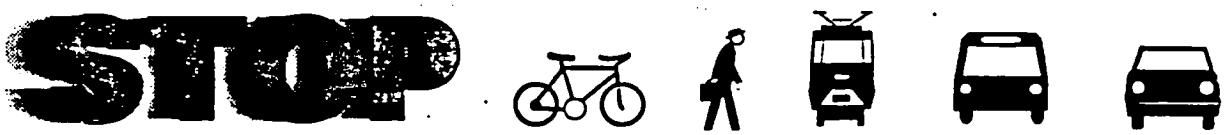
Tualatin Valley (TV) Highway between 219 Avenue and Highway 217

These distributions for the TV Highway indicate that the majority of trips using this facility are traveling east and west accessing residential and employment communities within it.

Trips using this section of the TV Highway were primarily generated or destined for the northern portion of the study area. Twenty-five percent of the 1988 peak hour trips were produced in the Beaverton district, 37 percent in the Aloha district, and 11 percent in the Hillsboro district. The Portland CBD, East Portland, and North Portland districts produced 16 percent of the trips in 1988 along this section of TV Highway. Only 4 percent of the trips were generated by districts in the southern portion of the study area.

Relatively few trips were found to be traveling between the extreme northern portion of the study area and the extreme southern portion of the study area were relatively few. In 1988, only 4 percent of the total trips were of the long circumferential type.

In 2010, distributions of trips are expected to remain similar to those observed in 1988. The Beaverton district is expected to produce 23 percent of the trips, the Aloha district: 44 percent of the trips; and the Hillsboro area: 10 percent of the trips. Again, few trips will be traveling between the extreme northern and southern portions of the study area.



Sensible Transportation Options for People

April, 1991

RESPONSE TO ODOT'S STATEMENT OF PURPOSE AND NEED

SYNOPSIS

ODOT's Statement of Purpose and Need (SOPAN) is a flawed document. It does not clearly identify the transportation needs of the study area and it does not address its own Goals and Objectives in describing the study's purpose.

* ODOT misuses and misrepresents its own statistics to justify predetermined results. It fails to acknowledge that demand for long distance, circumferential travel is only a small fraction of the travel demand in the study area.

* ODOT assumes that the transportation world in 2010 will look exactly like today, with more cars, fewer bikes, and no pedestrians.

* ODOT fails to address the Goals and Objectives identified in public workshops and refined by its advisory committees.

* ODOT ignores the requirements of the Federal Clean Air Act and its impact on regional transportation planning. Ironically, ODOT's study even ignores the Transportation Planning Rule it has developed with the Department of Land Conservation and Development.

In short, ODOT's study is so inadequate, so shortsighted, and so far off the mark as a framework for discussion that it demands reconsideration and revision.

Therefore, STOP recommends that local jurisdictions:

1. Reject the Statement of Purpose and Need as written, since it provides neither an accurate nor complete foundation for the Western Bypass Study.

2. Require ODOT to:

   a. Include all applicable local, regional, state, and federal regulations, including the Federal Clean Air Act and Oregon's Transportation Planning Rule.

   b. Describe the probable effect these regulations will have on the 2010 No Build Scenario.

   c. Clearly describe the purpose of the Western Bypass Study in terms of the study's stated Goals and Objectives.

RESPONSE TO ODOT'S STATEMENT OF PURPOSE AND NEED

In December of 1990, ODOT's Western Bypass Study released its Statement of Purpose and Need (SOPAN). According to ODOT, this document "identifies the need for major transportation improvements within the Western Bypass Study Area, and describes the context in which the project planning is being carried out."

STOP believes this document to be flawed and incomplete for the following reasons:

1. ODOT defines future travel needs in terms of automobile trips, since they are the predominant travel mode in 1988. We question the wisdom of this logic, since it projects our current problems into the future, assuming that this is the future we want. In essence, it confuses trend with destiny.

   A far better approach is to define the future we want, then to develop transportation solutions to create it.

2. ODOT does not address two key state and federal regulations concerned with transportation planning.

   * According to the Federal Clean Air Act, the Portland metropolitan area is currently only a marginal air quality zone -- and getting worse. Locally, 1990 was the worst year in a decade for air quality. Certainly, our marginal air quality cannot tolerate our continuing automobile dependency, especially when the population of the study area is expected to increase 60% by the year 2010.

   * The Transportation Planning Rule developed by ODOT and the Department of Land Conservation and Development (scheduled for adoption by LCDC on April 26) requires local jurisdictions to reduce both parking spaces and VMT (Vehicle Miles Traveled) by 10% by the year 2010. Local jurisdictions will also be required to adopt ordinances to provide better pedestrian, bicycle, and transit access to new residential, commercial, and retail developments <u>within the next two years</u>.

   Certainly, there are numerous state and federal regulations to be met by any proposed transportation solution. But the Federal Clean Air Act and the Transportation Planning Rule will have a significant impact on transportation planning and mode choices -- yet neither is even mentioned in the 2010 No Build Scenario. The result is a highly inaccurate picture of our future, and a fatally flawed framework for discussing transportation solutions.

3. ODOT's document does not reflect the current thinking of decision-makers in the region.

   * Metro's Regional Growth Conference last month focused on new development patterns to reduce our current auto-dependency.

* Governor Roberts' Symposium on Growth last month emphasized the need to move away from an auto-dominated transportation system. Chairman Mike Hollern of the Oregon Transportation Commission asserted that "we can no longer expand capacity to meet demand". Keynote speaker Anthony Downs of the Brookings Institute spoke of the dangers inherent in continuing to develop automobile-dependent communities.

* Metro's Regional Urban Growth Goals and Objectives, currently under discussion throughout the region, emphasize mixed-use zoning and increased density to reduce the escalating VMT throughout the region.

ODOT's 2010 No Build Scenario does not incorporate any of these ideas. The result? Travel projections that remain the same as they have always been: 96% auto-dependent. According to ODOT, the year 2010 will not be very different from today - except that we will have more traffic.

In short, ODOT emphasizes the projected increase in automobile trips, ignores key state and federal regulations that will impact future transportation choices, and totally disregards regionally supported alternatives to continued automobile dependency. The result is a poorly defined problem that can have nothing but a highly auto-dependent solution.

By framing the discussion around the increasing number of automobile trips, ODOT confines the problem statement to accommodating these trips. We can only conclude, then, that the purpose of the Western Bypass Study is to accommodate more cars.

If this is the case, pouring more concrete is probably the best solution. The result will undoubtedly be new freeways, huge interchanges, wider urban arterials, and bigger intersections. The impact of these "improvements" on our entire region will be profound: we will lose not only productive farmland and valuable open space, but vital neighborhoods as well. And we'll still be dealing with increasing traffic congestion.

STOP, however, believes the purpose of the Western Bypass Study is not to accommodate more cars, but to address the Study's own Goals and Objectives. These Goals and Objectives were compiled from ODOT's public workshops and refined by each of the study's three committees. Yet ODOT's Statement of Purpose and Need fails to address a single one!

Following are brief summaries of the Western Bypass Study Goals and Objectives, compared to the "Summary of Purpose and Need" (page 41 of SOPAN): (Full descriptions of the adopted Goals and Objectives are attached.)

Goal 1 addresses the study process, requiring ODOT to allow input from the community; to keep citizens, local, regional, and state agencies and organizations informed; to identify future travel needs; to identify and evaluate the widest range of alternatives that comply with local, regional, state, and federal plans and regulations; and to maintain the study schedule.

How does ODOT's Statement of Purpose and Need address this goal?

* ODOT physically includes the Goals and Objectives as Appendix B of its Statement of Purpose and Need, but never mentions them as part of the study's purpose. Therefore the study has not fulfilled its primary goal of allowing input from the community.

* By ignoring key federal and state regulations, ODOT has not accurately described future travel needs.

* ODOT fails to mention key travel patterns indicated by its data (based on ODOT's assumptions that 96% of all trips will be made by single occupant vehicles):

  1. Over two-thirds of all trips in the study area will be less than 6 miles in length. Of these, fully half will be less than 4 miles in length.

  2. Most trips will begin and end within the urbanized areas.

  3. Through trips will increase only slightly over the next 20 years.

  4. Demand for long-distance "circumferential" travel is only about 3.3% of trips that begin and end in the study area.

  (Details of these travel patterns can be found in the attached document "Transportation Needs in the Western Bypass Study Area".)

  As a result of these omissions, ODOT's analysis of travel patterns is incomplete. How can the Western Bypass Study possibly provide a workable solution if the traffic problems are not accurately defined?

Goal 2 identifies the objectives of a transportation solution:

* To reduce congestion
* To improve access
* To reduce through-traffic diversion to local roads and streets
* To improve safety for both motorized and non-motorized traffic
* To reduce reliance on the private automobile
* To develop alternatives that will meet long-term as well as immediate needs.

ODOT addresses these objectives in the Statement of Purpose and Need (page 41) as follows:

* "The purpose of the study is not to solve every traffic congestion problem in the study area." (Emphasis added)

* ODOT's document makes no mention of improving access, reducing through-traffic diversion, or improving safety.

* ODOT provides only a tentative reference to reducing reliance on private automobiles: "Consider opportunities to ... potentially reduce demand in the study area".

* ODOT describes future travel needs as heavily auto-dependent. In fact, ODOT's language would have the reader believe that longer and more frequent trips are a desirable aspect of a growing region. In describing the projected travel growth, ODOT concludes that "As the study area grows more quickly in both employment and population, there will be more opportunity to travel for work, commercial, retail and recreational activities...." [Emphasis added]

* Only one of ODOT's generalized strategies addresses alternatives to automobile travel:

> "Consider opportunities to not only increase capacity but also potentially reduce demand in the study area, recognizing that there is currently a very heavy reliance on the private automobile."

The other stated purposes focus on meeting the projected automobile demand:

- "Address the demand for north-south or circumferential travel...."

- "Recognize the diversity of trip types and trip lengths... including work versus non-work and local, regional, interregional, and through trips."

- "Consider travel demand in the northeast and in the southeast portions of the study area, as well as travel demand between the northern and southern ends of the study area and through the study area."

Goal 3 addresses the need for the transportation solution to be sensitive to environmental issues, community needs, the built environment, urban services, and the Urban Growth Boundary.

ODOT does not include the Federal Clean Air Act, the Transportation Planning Rule, or Metro's proposed Regional

Urban Growth Goals and Objectives as part of its Statement of Purpose and Need. Therefore, ODOT fails to meet this Goal as well.

Goal 4 addresses the economic and social factors of a solution, including costs, impact on the social fabric of neighborhoods and business communities, and the economic health of the study area communities.

ODOT makes no mention of this goal at all in its Statement of Purpose and Need.

We wonder why ODOT has gone to such publicized efforts to involve the public and its committees in developing Goals and Objectives if it is not going to use them in describing the purpose of the Western Bypass Study.

CONCLUSION

The Statement of Purpose and Need plays a critical role in the Western Bypass Study, for it defines the framework for further discussion and development of alternatives. The ultimate solution to the transportation problems in the study area can only be as creative and effective as the identified needs; a poorly defined problem analysis has no chance of generating a successful solution.

ODOT has stated that the Statement of Purpose and Need is a fluid document, subject to change and revision as the study progresses. The time to revise and improve this document is now, lest the study waste time and scarce dollars pursuing alternatives based on incomplete and inaccurate assumptions.

Therefore, STOP urges you to take the following actions:

1. Reject the Statement of Purpose and Need as written. It provides neither an accurate nor a complete foundation for the Western Bypass Study.

2. Return the Statement of Purpose and Need to ODOT for revision.

3. Require ODOT to:

   a. Include all applicable local, regional, state, and federal regulations, including the Federal Clean Air Act and Oregon's Transportation Planning Rule.

   b. Describe the probable effect these regulations will have on the 2010 No-Build scenario.

   c. Clearly describe the purpose of the Western Bypass Study in terms of the study's stated Goals and Objectives.

APPENDIX B

WESTERN BYPASS STUDY
GOALS AND OBJECTIVES

Goal 1

Conduct the Western Bypass Study in an open, objective and expeditious process allowing input from all sectors of the community and considering all reasonable alternative solutions to transportation problems that comply with local, regional, state and federal plans and regulations.

Objectives

1.1 Keep citizens, local, regional and state agencies and officials, as well as other interest groups, involved in the study process through public forums and workshops and through newsletters and other media.

1.2 Identify and assess major existing and future state, regional and intra-county travel needs, primarily as they relate to north-south or circumferential access within and through the study area.

1.3 Identify and evaluate the widest range of reasonable alternative solutions to transportation problems, including but not limited to, transit/HOV, street, and highway improvements, and transportation demand management measures, regardless of current funding availability.

1.4 Maintain the study schedule in order to move forward towards the implementation of a feasible and effective solution in a timely manner.

Goal 2

Develop a solution to transportation problems related to accommodating major existing and future (year 2010) state, regional, and intra-county travel needs primarily north-south or circumferential within the project study area:

Objectives

2.1 Reduce congestion on existing streets and highways, as compared to a no-action alternative.

2.2 Improve access through, to/from, and within the study area.

2.3 Reduce through-traffic diversion to rural roads and residential streets.

2.4 Improve safety for both motorized and non-motorized traffic.

2.5 Reduce reliance on the private automobile and reduce or delay the need for additional vehicular capacity through support of transit, ride sharing (carpools/vanpools), and other demand management strategies.

2.6 Develop alternatives that have flexibility to be improved to meet longer term, future needs (beyond the year 2010 and looking toward anticipated growth within the urban area).

Goal 3

Develop a solution to transportation problems that is sensitive to local and regional environmental issues and community needs, consistent with local, regional, state, and federal plans and regulations.

Objectives

3.1 Avoid or minimize negative impacts on the natural environment, e.g., wetlands, water, air, energy, noise, visual, agricultural and forest land.

3.2 Avoid or minimize negative impacts on the built environment, e.g., on existing urban and rural land uses and cultural, historical, and recreational resources.

3.3 Support an urban development pattern that provides for the efficient delivery of urban services, including public transportation, in a manner consistent with state-wide planning goals and with local and regional planning.

3.4 Minimize negative impacts or pressures on the Urban Growth Boundary and identify how various alternatives might affect the rate, type or form of urbanization.

Goal 4

Consider economic and social factors in the identification and development of a solution to transportation problems for the study area, consistent with local, regional and state plans.

Objectives

4.1 Consider the construction, operation and maintenance costs of each alternative.

4.2 Avoid or minimize negative impacts on the integrity and social fabric of the diverse neighborhoods and business communities in the study area (urban and rural).

4.3 Support the economic health of the study area and communities that depend on access through the study area.

Transportation Needs in the Western Bypass Study Area

Prepared by Sensible Transportation Options for People, Inc.

SYNOPSIS

The proposed Western Bypass freeway has been promoted as a solution to transportation problems in Washington County. The Western Bypass Study's *Statement of Purpose and Need* shows that traffic in the bypass study area is mostly short local trips taken within the urbanized area. Only about 3% of trips beginning and ending within the study area are long distance trips between the southern and north-northwestern districts. Less than 5% of such trips might use a new rural bypass freeway. Traffic that might use a rural bypass is a small fraction of traffic on critically congested arterials. We conclude that constructing a bypass freeway would not relieve existing congestion. Given the projected funding shortfalls for highway and arterial construction in the Metropolitan region and the state, highway dollars would be better spent solving local congestion problems.

Sensible Transportation Options for People (STOP) is a nonprofit grassroots organization dedicated to promoting a wide range transportation options to meet the needs of Washington County and the Metropolitan region. Originally incorporated in response to the proposed Western Bypass freeway, STOP has grown to view transportation issues as inseparable from land use, growth management, urban form, and a host of related issues. STOP is a participant in the Oregon Department of Transportation (ODOT) Western Bypass Study ("Study").

This analysis examines two documents from the Study to determine the nature of traffic problems in the bypass Study area and the effect a new bypass freeway would have in solving those problems. The bypass Study area includes most of Washington County from Hillsboro eastward and contains most of the county's urbanized area and population. For trip analysis purposes the Study area is broken into eight districts: Tualatin/Wilsonville, Scholls, Tigard, Beaverton, North Sunset, Aloha, Hillsboro, and Helvetia .

The Study document *1988 Existing and 2010 No-Build Forecasting Analysis Results* ("*2010*") uses demographic projections and existing land use designations to forecast traffic conditions in the bypass Study area in the year 2010.

The Study document entitled *Statement of Purpose and Need* ("*SOPAN*") interprets the *2010* numbers to highlight demand for additional circumferential transportation capacity in the Study area. Circumferential travel is defined as "any person trip which is directed between or across radial routes, and is not limited by trip length or purpose" (*SOPAN*, p. 15). A trip from Wilsonville to Hillsboro, for example, would be circumferential. "Radial" is relative to the Portland CBD. A trip from Scholls to downtown Portland, for example, would be radial.

WASHINGTON COUNTY TRAFFIC IN 2010

Data from the *SOPAN* show unequivocally that...

The county will remain extremely auto-dependent entering the 21st century. The greatest concern expressed at Study public workshops held in Washington County was reducing automobile dependency. Single-occupancy-vehicle (SOV) trips will comprise 96% of all person-trips in the Study area, exactly as in 1988 (fig. 1). The proportion of trips using transit will remain essentially unchanged at 1.3% (*2010*, Major Findings and Conclusions, p. 1).

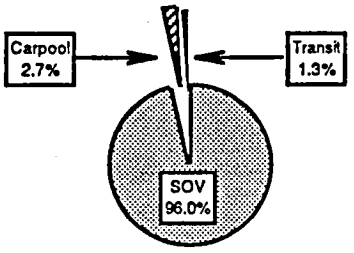


Figure 1
Bypass Study Area Mode Split In 2010

Over two-thirds of all vehicle trips will be local trips less than 6 miles in length in 2010 (fig. 2). Other kinds of trips will be a smaller proportion of all trips in 2010 than they are today (*2010*, fig. 8).

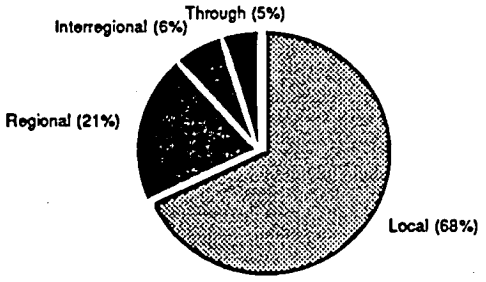


Figure 2
2010 Trip Types

Most trips within the study area will be trips within urbanized areas. Trips within each of the six substantially urbanized districts (Hillsboro, Aloha, North Sunset, Beaverton, Tigard, and Tualatin-Wilsonville), e.g. a trip from Aloha to Aloha or from Beaverton to Beaverton, account for over half of all trips within the study area. Trips between geographically adjacent urbanized districts (e.g. Aloha to Beaverton or Beaverton to North Sunset) account for over a third of all trips within the study area. Together these shorter urban-to-urban trips comprise over 92% of all trips within the study area (fig. 3).

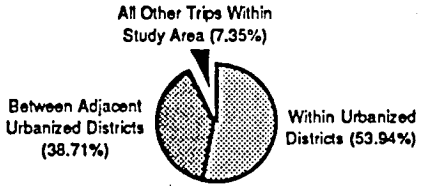


Figure 3
Urban Trips Within the Study Area

Trips entering and/or leaving the Study area will increase only slightly from 1988 to 2010, in contrast to trips beginning and ending within the Study area, which increase greatly. Numbers from the *SOPAN* (fig. 4) demonstrate this disparity in relative increase.

	1988	2010
All vehicle trips (SOPAN Fig. 8)	834,600	1,362,600
Change 1988 to 2010		63.26%
Auto trips beginning and ending within the study area (SOPAN Table 4)	643,173	1,160,225
Change 1988 to 2010		80.39%
Auto trips not beginning and ending within the study area (difference)	191,427	202,375
Change 1988 to 2010		5.72%

Figure 4
Relative Increase Of Trips

Demand for long distance "circumferential" travel is a small fraction of travel demand within the Study area. Data from the Study (*SOPAN*, Table 4) is analyzed in Table 1 (attached) to demonstrate this fact. Trips between the southern end of the Study area and the north-northwestern end comprise about 3.3% of trips beginning and ending within the Study area (fig 5).

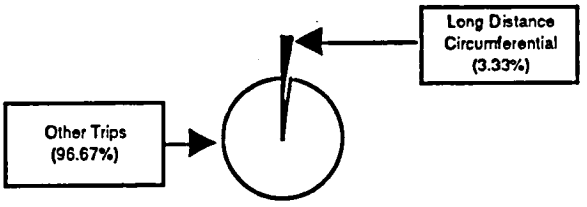


Figure 5
Long Distance Circumferential Trips

Conclusions: Entering the 21st century Washington County will be extremely reliant on the single-occupant private automobile. Most trips will be short single-occupant automobile trips within the urbanized areas. Other kinds of trips will be relatively less important. Long distance "circumferential" trips (from the southern districts to the north-northwest districts) will be a small fraction of trips within the Study area.

HOW MUCH TRAFFIC WOULD USE A RURAL BYPASS FACILITY?

No more than 4.9% of trips beginning and ending within the Study area might use a bypass freeway through the rural area south of Cooper Mountain, between US 99W and TV Highway (fig. 6). Table 2 (attached) uses data from the *SOPAN* to identify trips that would use a bypass, based on origin and destination . All long distance circumferential trips are assumed to use the bypass, as are shorter circumferential trips and local trips near the rural bypass segment. *This assignment of trips to the rural bypass is extremely generous.* Note that Aloha/Tigard and Tigard/North Sunset trips are assumed to use the rural bypass, though for most of these trips use of the bypass would require a great deal of out-of-direction travel. If these trips are not included in the bypass category the percentage of trips using the rural bypass drops to 2.44%.

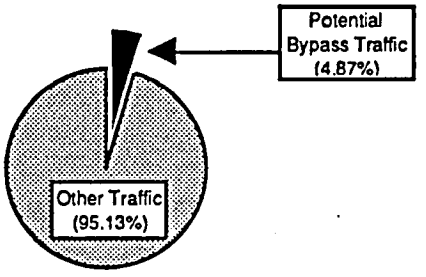


Figure 6
Proportion of Potential Bypass Traffic
Within the Study Area

Potential bypass traffic is not a rapidly growing component of traffic within the Study area. The proportion of person trips within the Study area that would use a rural bypass is approximately constant from 1988 to 2010 (Table 2). In absolute numbers, potential bypass trips will increase by about 25,000 while other trips will increase by about half a million - a twentyfold difference (Fig. 7).

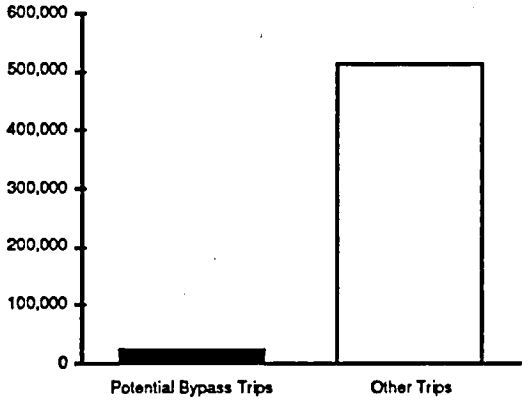


Figure 7
Absolute Growth of Person Trips Within the Study Area - 1988 to 2010

Conclusions: A small fraction of trips beginning and ending within the Study area would use a rural bypass freeway. In absolute terms potential bypass traffic will increase relatively little by 2010, while other traffic will increase dramatically.

OBSERVED CONGESTION IS NOT DUE TO POTENTIAL BYPASS TRAFFIC

Congestion between I-5 and US 99W near Tualatin is not caused by potential bypass traffic. In 2010 during the PM peak hour less than 3% of trips on Tualatin and Tualatin-Sherwood Roads will be traveling to the northern part of the Study area along the Sunset Corridor, and less than three percent will be destined south of the I-5 corridor. Over 66% of such trips will be local traffic beginning or ending in Tigard, Scholls, Sherwood, King City, or Wilsonville (*SOPAN*, Appendix D).

Congestion on 99W near Tualatin Road is not caused by potential bypass traffic. In 1988 about 2 to 3 percent of trips there were generated along the Sunset Corridor. The biggest category of trips was those local to the southern end of the Study area. Local trips will be an even larger percentage of trips in 2010 (*SOPAN*, Appendix D).

Congestion on US 26 near 185th is not caused by potential bypass traffic. In 2010 traffic on this highway will remain strongly oriented towards the northern portion of the Study area. Only 9.0 percent of the traffic in the PM peak hour will be destined for the southern portion of the Study area and Beaverton (*SOPAN*, Appendix D). The Beaverton portion of this 9% would not use a rural bypass.

Congestion on TV Highway is not caused by potential bypass traffic. In 1988 only 4% of PM peak hour trips on TV Highway between 219th Avenue and OR 217 was generated in the southern part of the Study area. Trips on this highway were primarily generated by or destined for districts in the northern portion of the Study area. This situation will remain unchanged in 2010 (*SOPAN*, Appendix D).

Congestion on Farmington Road is not caused by potential bypass traffic. In 1988 only 4% of PM peak hour trips on Farmington Road between 209th Avenue and OR 217 were generated in the southern part of the Study area. Trips on this highway were primarily generated by or destined for districts in the northern portion of the Study area, and will be so in 2010 (*SOPAN*, Appendix D).

Congestion on Oregon 217 is not caused by potential bypass traffic. Although data in the *SOPAN* show a significant fraction of PM peak hour traffic on Oregon 217 in 2010 will be "long distance circumferential trips", much of this traffic would not use a rural bypass. Detailed PM peak traffic data obtained at STOP's request (Table 3) show the *SOPAN* breakout of "long distance circumferential trips" and STOP's breakout of potential bypass trips using Oregon 217 in 2010. The *SOPAN* "long distance circumferential" grouping includes trips for which the rural bypass would be an extremely long out-of-direction detour (e.g. trips between Beaverton and I-5 South). STOP's generous estimate of bypass traffic on 217 at evening rush hour is about 15% of traffic volume, equivalent to much less than one lane of traffic, in contrast to the *SOPAN*'s two full lanes of long distance circumferential traffic.

PM peak hour congestion on 217 (*SOPAN*, fig. 11) is discontinuous and segmented, suggesting that much is due to local and radial traffic. The segment between 99W and Greenburg Road will be extremely congested in both directions in 2010, while the segment between Denny and Allen will be less congested southbound and uncongested northbound. STOP has requested a more detailed data set from ODOT.

Conclusions: The implied promise of relief from congestion when a rural bypass is constructed is an unfortunate misrepresentation. Chronic congestion on the Study area's arterials can not be attributed to traffic that would use a new rural bypass. Even on highway 217, which currently carries nearly all the long distance circumferential traffic, trips that could use a rural bypass are a small component of rush hour traffic. Shorter trips within the existing urbanized area are by far the greatest contributors to rush hour congestion.

SUMMARY

- **Traffic in Washington County is dominated by short urban trips in single occupant automobiles**

- **Traffic that might use a rural bypass is a small fraction of all Washington Country traffic**

- **A rural bypass would have little effect on existing congestion problems**

Long Distance Circumferential Trips				
TRIP ENDPOINTS	1988 TRIPS	2010 TRIPS	PERCENT CHANGE	PERCENT OF ALL TRIPS IN 2010
Aloha / Tigard	11,986	22,478	87.54%	1.94%
Tigard / North Sunset	4,590	5,640	22.88%	0.49%
Aloha / Tualatin	2,008	5,624	180.08%	0.48%
Hillsboro / Tigard	1,616	2,198	36.01%	0.19%
Tualatin / North Sunset	856	1,468	71.50%	0.13%
Hillsboro / Tualatin	500	1,006	101.20%	0.09%
Tigard / Helvetia	90	122	35.56%	0.01%
Tualatin / Helvetia	22	44	100.00%	0.00%
Subtotals ->	21,668	38,580	78.05%	3.33%
Percent of All Trips->	3.37%	3.33%		
Other Trips				
Aloha / Aloha	64,040	175,647	174.28%	15.14%
Beaverton / Beaverton	118,338	138,221	16.80%	11.91%
Hillsboro / Hillsboro	57,062	122,506	114.69%	10.56%
Beaverton / Aloha	76,718	118,816	54.87%	10.24%
Tualatin / Tualatin	30,106	79,530	164.17%	6.85%
Aloha / North Sunset	28,048	77,880	177.67%	6.71%
Aloha / Hillsboro	30,294	72,000	137.67%	6.21%
Beaverton / Tigard	55,202	70,432	27.59%	6.07%
Tigard / Tigard	45,830	66,897	45.97%	5.77%
Beaverton / North Sunset	36,520	47,248	29.38%	4.07%
North Sunset / North Sunset	19,517	43,048	120.57%	3.71%
Tualatin / Tigard	16,882	40,298	138.70%	3.47%
Hillsboro / North Sunset	9,538	20,020	109.90%	1.73%
Beaverton / Tualatin	7,548	12,406	64.36%	1.07%
Beaverton / Hillsboro	9,978	11,764	17.90%	1.01%
Tualatin / Scholls	1,922	4,394	128.62%	0.38%
Aloha / Helvetia	1,536	3,360	118.75%	0.29%
Aloha / Scholls	1,472	3,242	120.24%	0.28%
Hillsboro / Helvetia	2,030	2,742	35.07%	0.24%
North Sunset / Helvetia	2,034	2,450	20.45%	0.21%
Hillsboro / Scholls	828	2,244	171.01%	0.19%
Tigard / Scholls	1,700	2,036	19.76%	0.18%
Scholls / Scholls	1,544	1,586	2.72%	0.14%
Beaverton / Scholls	1,574	1,546	-1.78%	0.13%
Beaverton / Helvetia	612	730	19.28%	0.06%
North Sunset / Scholls	244	300	22.95%	0.03%
Helvetia / Helvetia	372	283	-23.92%	0.02%
Scholls / Helvetia	14	20	42.86%	0.00%
Subtotals ->	621,503	1,121,646	80.47%	96.67%
Percent of All Trips->	96.63%	96.67%		
ALL TRIPS ->	643,171	1,160,226	80.39%	100%

Table 1

Long Distance Circumferential Trips Within The Study Area

Rural Bypass Trips				
TRIP ENDPOINTS	1988 TRIPS	2010 TRIPS	PERCENT CHANGE	PERCENT OF ALL TRIPS IN 2010
Aloha / Tigard	11,986	22,478	87.54%	1.94%
Tigard / North Sunset	4,590	5,640	22.88%	0.49%
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Tigard / Helvetia	90	122	35.56%	0.01%
Tualatin / Helvetia	22	44	100.00%	0.00%
Scholls / Helvetia	14	20	42.86%	0.00%
Subtotals ->	31,258	56,468	80.65%	4.87%
Percent of All Trips->	4.86%	4.87%		
		Other Trips		
Aloha / Aloha	64,040	175,647	174.28%	15.14%
Beaverton / Beaverton	118,338	138,221	16.80%	11.91%
Hillsboro / Hillsboro	57,062	122,506	114.69%	10.56%
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Beaverton / Scholls	1,574	1,546	-1.78%	0.13%
Beaverton / Helvetia	612	730	19.28%	0.06%
Helvetia / Helvetia	372	283	-23.92%	0.02%
Subtotals ->	611,913	1,103,758	80.38%	95.13%
Percent of All Trips->	95.14%	95.13%		
ALL TRIPS ->	643,171	1,160,226	80.39%	100%

Table 2

Rural Bypass Trips Within The Study Area

ENDPOINT	<--> ENDPOINT	SOPAN "Long Distance Circumferential"	POTENTIAL BYPASS TRIPS
West Linn (4)	Beaverton (6)	534	
Tigard (7)	North Sunset (13)	450	
Aloha (11)	I-5 South (32)	436	436
West Linn (4)	Aloha (11)	373	
Beaverton (6)	Tual/Wils (8)	369	
Beaverton (6)	I-5 South (32)	262	
Tual/Wils (8)	Aloha (11)	206	206
West Linn (4)	North Sunset (13)	184	
Tual/Wils (8)	North Sunset (13)	142	142
North Sunset (13)	I-5 South (32)	127	127
Tigard (7)	Hillsboro (12)	101	101
West Linn (4)	Hillsboro (12)	82	
Hillsboro (12)	I-5 South (32)	74	74
North Sunset (13)	99W South (31)	43	43
Aloha (11)	99E South (33)	32	32
Tual/Wils (8)	Hillsboro (12)	29	29
Beaverton (6)	99E South (33)	24	
Tigard (7)	W Wash Co. (19)	24	24
Tigard (7)	US 26 West (26)	20	
Aloha (11)	Oregon 211 (34)	16	16
Aloha (11)	Oregon 213 (35)	14	14
Beaverton (6)	Oregon 211 (34)	12	
Tigard (7)	Helvetia (14)	11	
Stafford (5)	Beaverton (6)	10	
Beaverton (6)	Oregon 213 (35)	10	
Tual/Wils (8)	W Wash Co. (19)	10	10
North Sunset (13)	99E South (33)	9	9
Beaverton (6)	Helvetia (14)	8	
Tigard (7)	Wilson River (27)	8	8
West Linn (4)	Helvetia (14)	7	
Helvetia (14)	I-5 South (32)	7	7
Stafford (5)	Aloha (11)	6	6
Tual/Wils (8)	US 26 West (26)	6	6
Tigard (7)	I-5 North (24)	5	
Stafford (5)	North Sunset (13)	4	4
Tigard (7)	US 30 North (25)	4	
Tual/Wils (8)	Helvetia (14)	4	4
Scholls (9)	North Sunset (13)	4	4
Hillsboro (12)	99E South (33)	4	4
North Sunset (13)	Oregon 211 (34)	4	4
North Sunset (13)	Oregon 213 (35)	4	4
Tual/Wils (8)	Wilson River (27)	3	3
Hillsboro (12)	Oregon 211 (34)	2	2
Hillsboro (12)	Oregon 213 (35)	2	2
North Sunset (13)	Oregon 219 South (30)	2	2
Stafford (5)	Hillsboro (12)	1	1
TOTAL TRIP COUNT ON 217 = 8666			
	COLUMN TOTALS ->	3689	1324
	PERCENT OF TOTAL TRIP COUNT ->	42.57%	15.28%

Table 3

Traffic Breakout for Oregon 217
At PM Peak Hour

SOLID WASTE COMMITTEE REPORT

CONSIDERATION OF RESOLUTION NO. 91-1443A, FOR THE PURPOSE OF AUTHORIZING ISSUANCE OF A REQUEST FOR BIDS FOR WORK ASSOCIATED WITH, AND INCLUDING, PROCUREMENT, TRANSPORT AND STOCKPILING OF SUBGRADE EMBANKMENT MATERIAL AND SAND ON ST. JOHNS LANDFILL

Date: May 22, 1991 Presented by: Councilor McFarland

Committee Recommendation: At the May 21, 1991 meeting, the Committee voted unanimously to recommend Council adoption of Resolution No. 91-1443A. Voting in favor were Councilors DeJardin, Gardner, McFarland, McLain, and Wyers.

Committee Issues/Discussion: The Committee first discussed this Resolution at the May 7, 1991 meeting. At the request of the Solid Waste Department, action was deferred until the May 21 meeting, to allow the Department sufficient time to make final revisions to the proposed Request for Bids.

As discussed at the May 7, 1991 meeting (see interim report from Council staff dated May 14, 1991), the Committee voted to amend Resolution No. 91-1443 to delete a provision which would have waived final Council approval of the contract.

Jim Watkins, Engineering and Analysis Manager, presented a proposed schedule for Committee and Council review of the final contract, which would allow work on the project to begin in July. He said the Department reduced the bid period from six to four weeks. Assuming that Council approves issuance of the procurement documents at its May 23, 1991 meeting, bidders will be required to respond by June 18, 1991 at 10:00 AM. At the public opening that day, the apparent low bidder will be announced. Department staff will then prepare a resolution for Committee consideration at the June 18 meeting and Council consideration at the June 27 meeting, and will submit a ranking of bidders based on dollar amount of the bid.

DBE/WBE information will not be submitted by bidders until June 19, and will not be available to the Committee at the time it reviews the resolution and makes its recommendation. Department staff will evaluate the DBE/WBE information in the interim between the June 18 Committee meeting and the June 27 Council meeting. This information will then be available when the resolution approving the contract is presented for review by the full Council. If there are problems with DBE/WBE certification for the apparent low bidder, the Department will recommend an award to the next lowest responsible and responsive bidder on the list.
Under this scenario, work could begin on July 19, 1991, without the need to waive Council approval in order to expedite the process.

In response to questions from Councilors McFarland and Wyers, Mr. Watkins explained that bidders appear comfortable with the 25 day bid period, and that the bid documents will be released on May 24.

Prior to the Committee meeting, Council staff distributed to all Councilors copies of the RFB originally filed by Department staff. As anticipated, the Department indicated it had revised this document. Dennis O'Neil, Senior Solid Waste Planner, reviewed with the Committee the basis for each revision. This information is summarized in the attached memorandum from Linda M. Pang-Wright to Mr. Watkins and Mr. O'Neil. The Department also provided Council staff with a revised copy of the procurement documents incorporating the changes which Mr. O'Neil described.

METRO

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

Memorandum

TO: Council Solid Waste Committee

FROM: Karla Forsythe, Council Analyst

DATE: May 14, 1991

RE: Interim report - Resolution No. 91-1443, For the Purpose of Authorizing the Issue of a Request for Bids and Execution of a Contract for Work Associated with, and Including, Procurement, Transport, and Stockpiling of Subgrade Embankment Material and Sand on St. Johns Landfill

In accordance with direction from the Committee, I have prepared and attached a proposed amended Resolution for consideration at the May 21, 1991 meeting. This interim report is intended to assist Committee members in recalling the substance of the Committee's discussion at the May 7, 1991 meeting when this Resolution was first presented.

May 7, 1991 meeting

Dennis O'Neil, Senior Solid Waste Planner, explained that the Resolution would permit issuance of a request for bids for site preparation, procurement, transport and placement of 840,000 cubic yards of material for three areas at St. Johns Landfill. He said the Resolution also would waive Council approval of the final contract.

After explaining the technical aspects of the work involved, Mr. O'Neil said that cover removal, road construction and gas trenching need to be accomplished during dry weather. He anticipated that work could begin in early August if Council waived final approval. Otherwise, he believes work could not begin until mid-September.

He indicated that $5.5 million has been budgeted for this work, based on an initial estimate from Parametrix. Since that time, Parametrix has taken a more cautious approach, and now estimates that the material to be procured may cost $6/ton rather than $4/ton.

Councilor McFarland said she is most reluctant to waive Council approval on a $5-$7 million project. She asked how much material would be available if proposals to provide free petroleum-contaminated soils came to fruition.

Mr. O'Neil said that this is a reason to procure half or less of the needed material, since this could be a source for 50,000-100,000 cubic yards of material yearly.

Councilor Gardner said he generally agreed with Councilor McFarland. He thought staff might have used the worst case scenario in developing a timeframe. He indicated that if a bid can be awarded by July 9, and a contract ready on July 16, there is no reason why it cannot come before the Committee at its meeting on that date and then to Council at the next meeting (July 25). Under this timeline, Council approval would take nine days rather than 38 days.

Jim Watkins, Engineering and Analysis Manager, said that the Resolution asks for waiver of review of an award to a low bidder, and that there will be little to review.

Councilor Gardner reiterated that he assumes the Council will be willing to expedite its review, and that the contract can be submitted to the Committee at the time action is requested, without the need for submission in advance. He said the Department had made a good case for beginning work this summer, but that there are ways to work to avoid delay in the approval process.

Councilor DeJardin concurred, and noted that there is no policy issue here.

Councilor McFarland asked whether gas will be used as an energy source or whether it will be flared off. Mr. Watkins explained that gas will be recovered, and that the trenching included in this project must be accomplished in either event.

Councilor Wyers asked what projects would not be funded due to the increased cost. Mr. Watkins said that no projects would be deleted, but that timing could be deferred.

Councilor Wyers said she would not want to waive Council approval, and asked Council staff to prepare a proposed amended Resolution deleting the reference to a waiver.

Proposed Amended Resolution

The attached proposed resolution (No. 91-1443A) would amend the initial Resolution as follows:

1. Amend the title by changing "the issue" to "issuance", and by deleting the reference to authorizing execution of a contract.

2. Delete the third and fourth "Whereas" paragraphs, which contain the Department's justification for the waiver of Council approval.

3. Amend the first "Be it Resolved" paragraph by changing "the issue" to "issuance", by conforming the punctuation, and by deleting the paragraph number.

4. Delete the second "Be it Resolved" paragraph, which provides for waiver of Council approval of the contract.

METRO

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

Memorandum

DATE: May 21, 1991

TO: Jim Watkins, Engineering & Analysis Manager
Dennis O'Neil, Senior Planner

FROM: Linda M. Pang-Wright, Associate Engineer LPW

RE: Summary of the 5/17/91 Revisions to The Procurement and Stockpiling of Soils for the St. Johns Landfill RFB Draft - 5/10/91 version

On 5/10/91, a Draft Document of the RFB was submitted to Legal and Contracts Administration for internal Metro review and to the Solid Waste Committee clerk for filing. The RFB Document consisted of written specifications and a set of plans. The specifications included Division 0 by Metro and Division 1, 2, and 13 by Parametrix.

Revisions to the 5/10/91 Draft have been made by Metro staff. A copy is available of the revised RFB with additions shown shaded and deletions shown struck out. The following is essentially a list of the significant revisions.

ITEM: Completion Date
FROM: Oct. 30, 1992
TO: 365 days after Notice to Proceed
REASON: Avoid interfering with Construction Contractor in 1992.

ITEM: Responsibility for Measurement of Pay Quantities
FROM: Contractor determine all quantities and amounts of completed work.
TO: Contractor determines interim quantities. Engineer determines final payment measurements and quantities.
REASON: Metro retains control of payment determinations.

ITEM: Field Engineering Section
ADDITION: Engineer will provide 1) a preconstruction survey; 2) three Construction stakings for Clearing & Grubbing, Topsoil, and Low Permeable Soil limits.
REASON: Establishes site survey controls and provides a starting point for determining payment quantities.

ITEM: Health and Safety Program, Section 01100
MODIFICATION: Rewrite of entire section.
REASON: Clarification of requirements of the Contractor.

ITEM: Contractor's Quality Control, Section 01400
MODIFICATION: Addition of this section.
REASON: Defines Contractor's responsibilities and requirements for inspection, testing, and assistance in quality control activities.

ITEM: Testing Laboratory Services, Section 01410
MODIFICATION: Delete entire section.
REASON: Redundant with other sections and the General Conditions which define Contractor's responsibility and Metro/Engineer's responsibilities.

ITEM: Inspection Services, Section 01420
MODIFICATION: Delete entire section.
REASON: Redundant with other sections and the General Conditions which define Contractor's responsibility and Metro/Engineer's responsibilities.

ITEM: Observation of Contractor's performance of well extension, well abandonments, and placement of settlement markers.
MODIFICATION: Advance notification will be given to Metro.
REASON: Allows Metro to schedule a representative to observe these sensitive activities.

ITEM: Appendix A, Landfill Bridge - Allowable Loads
MODIFICATION: Replace City of Portland report dated 1980 with a recent study by OBEC Consulting Engineers.
REASON: OBEC study was undertaken for this project to provide a more current bridge evaluation that is specific for the anticipated vehicle traffic configurations. Study was completed 5/20/91.

ITEM: Appendix G, Methodology for Determining Normal Adverse Weather Days For Construction.
MODIFICATION: Addition of section.
REASON: Provides specifics on how adverse weather days will be determined to justify any Contractor's delays.

LPW:aey

cc: Pete Hillman, Construction Coordinator

BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF AUTHORIZING [~~THE ISSUE~~] ISSUANCE OF A REQUEST FOR BIDS [~~AND EXECUTION OF A CONTRACT~~] FOR WORK ASSOCIATED WITH, AND INCLUDING, THE PROCUREMENT, TRANSPORT, AND STOCKPILING OF SUBGRADE EMBANKMENT MATERIAL AND SAND ON ST. JOHNS LANDFILL	RESOLUTION NO. 91-1443A Introduced by Rena Cusma, Executive Officer

WHEREAS, It is in the public interest that the St. Johns Landfill closure process move forward in an expeditious manner; and

WHEREAS, Work associated with and including the purchase, transport, and stockpiling of subgrade embankment material and sand on St. Johns Landfill will expedite proper closure; and

[~~WHEREAS, It is important for this work that the CONTRACTOR be able to begin work as soon as possible to complete certain dry-weather dependent tasks during the dry season; and~~

~~WHEREAS, To allow work to begin as soon as possible, the Metro Council, per Metro Code 2.04.033, may waive the requirement of Council approval of a contract and authorize the Executive Officer to execute a contract; and~~]

WHEREAS, This Resolution along with the Request for Bid and Contract form were submitted to the Executive Officer for consideration, and all were forwarded to the Council for approval; now, therefore,

BE IT RESOLVED, That the Council of the Metropolitan Service District[~~:~~

~~1) Authorizes the issue~~] authorizes issuance of a Request For Bids for work associated with, and including, the procurement, transport, and placement of subgrade embankment material and sand on St. Johns Landfill[~~;~~].

[~~2) Waives the requirement of Council approval of a contract resulting from this Request for Bids and authorizes the Executive Officer to execute the Contract, subject to the conditions that the contract be with the lowest responsive, responsible bidder and that the contract conform to the Metro Code and in a form substantially as contained in the Request for Bids.~~]

ADOPTED by the Council of the Metropolitan Service District this _____ day of _____, 1991.

_____
Tanya Collier, Presiding Officer

\SWC\R91-1443.AMD

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 91-1443A FOR THE PURPOSE OF AUTHORIZING ISSUANCE OF A REQUEST FOR BIDS AND FOR WORK ASSOCIATED WITH, AND INCLUDING, PROCUREMENT, TRANSPORT, AND STOCKPILING OF SUBGRADE EMBANKMENT MATERIAL AND SAND ON ST. JOHNS LANDFILL.

Date: May 8, 1991 Presented by: Jim Watkins
Dennis O'Neil

PROPOSED ACTION

Adopt Resolution 91-1443A, which authorizes issuance of a Request For Bids (RFB) for site preparation, procurement, transport, and placement of approximately 840,000 cubic yards of subgrade embankment material and sand in three areas of St. Johns Landfill. Associated work, such as the construction of several gas collection trenches and the abandonment or extension of several monitoring wells will also be covered by this RFB.

FACTUAL BACKGROUND AND ANALYSIS

As the first step toward construction of closure improvements at St. Johns Landfill, Metro would purchase most of the cover sand and subgrade embankment material and stockpile it on-site in 1991 and 1992. The stockpiles would be located on areas of the landfill where considerable settlement is anticipated. The weight of the stockpiles will be used to accelerate the settlement before final cover is applied. The purpose of this is to reduce the risk that rapid settlement after cover application would cause increased post-closure maintenance because of cover failure. Metro would also gain any cost advantage from buying soil in bulk and from reducing the risk to construction contractors of delayed soil deliveries during future construction seasons. Finally, Metro complies with the DEQ permit requirement to begin construction of gas and leachate control facilities in 1991.

One copy of a Request for Bids to accomplish the above objectives will be filed with the Council clerk by mid May. This RFB will cover the following tasks:

1. Remove existing low-permeability cover from one area of the landfill; stockpile it and protect it from erosion. Later, it will be recycled as a component of the final cover structure.

2. Install several trenches of the gas control system in one area of the landfill which will be covered by the fill added in Task 3.

3. Procure, transport to the site, stockpile in several areas, and protect from erosion the subgrade embankment material (inert soil, rock, sand, etc.) to be used later to achieve proper slopes under the final cover system.

4. Procure, transport, stockpile in several areas, and protect from erosion the fairly permeable sand to be

used later as a protective and drainage layer in the final cover system.

5. Properly abandon several monitoring wells that are of marginal usefulness and will be affected by the soil stockpiles. Extend one monitoring well to allow for the construction of a stockpile.

The table below lists the quantities of subgrade embankment material and sand which will be purchased. The cubic yard figures are approximate based on anticipated densities listed in the table.

MATERIAL	WEIGHT TONS	DENSITY TONS PER CUBIC YARD	VOLUME CUBIC YARDS
Subgrade embankment (compacted)	300,000	1.7	176,000
Subgrade embankment (uncompacted)	655,000	1.65	397,000
Sand	400,000	1.5	267,000
TOTAL	**1,355,000**		**840,000**

The volumes listed above are about 58% of the subgrade embankment material and 50% of the sand that we currently estimate will be needed. To decide how much additional soil to procure we will monitor settlement rates beneath these stockpiles, settlement of other areas of the landfill, and fill rate of construction/demolition/ landclearing solid waste and soil accepted at no charge.

The sand and subgrade embankment material will be purchased on a per-ton basis. By paying the Contractor by weight rather than by volume, Metro can use its on-site scales to verify payment requests rather than rely on measurements of in-place volume, which are complicated by uneven settlement of the landfill. Separate prices will be solicited for the associated tasks of subgrade embankment compaction, mobilization, erosion control measures, site safety and health program, clearing and grubbing, settlement marker installation, cover soil removal, gas trench construction, and well abandonment and extension.

Although the RFB allows the Contractor one full year to complete all tasks, certain tasks such as removal of existing cover, well abandonment, gas trench construction, and any haul road construction must be done before soil is brought in. Most or all of these tasks must be performed before the fall rainy season begins. Therefore, it is important that the selected contractor be able to mobilize as early as possible.

In response to the apparent willingness of Council Solid Waste Committee members to expedite the contract award process, staff has devised a schedule to maximize the dry weather time available to the selected contractor. Assuming Council approval of the RFB on May 23, bidders would be required to submit bids by Tuesday, June 18 (a 25-day bid preparation period, rather than the originally proposed six-week period). That evening, staff would

present the list of bids to the Council Solid Waste Committee and request that the Committee recommend that the Metro Council authorize award of a contact to the lowest responsive, responsible bidder who meets Metro contract procedures. Assuming Council approval on June 27 and three weeks for contract execution and equipment mobilization, work could begin as early as July 19, 1991.

PROPOSED BUDGET

In the proposed fiscal year, 1991-92 Budget, 5.45 million dollars is allocated for tasks included in this RFB. However, Parametrix has estimated that the subgrade embankment material will cost $6.00 per cubic yard instead of the $4.00 per cubic yard that Metro staff used to develop its estimate. As a result Parametrix estimates that the total cost for these tasks will be $7 million by November 1992. If additional funds are necessary prior to July 1992 additional funds can be made available by delaying or reducing the scope of other closure projects currently planned for FY91-92 or by transferring from contingency.

EXECUTIVE OFFICER RECOMMENDATION

The Executive Officer recommends approval of Resolution No. 91-1443A.

DO:gbc
May 8, 1991
STAF0508.RPT

Metro Council
5/23/1991
#7.3

Procurement and Stockpiling of Soils for the St. Johns Landfill

RFB #91B-16-SW

Request for Bids

May 1991

METRO

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

PROCUREMENT AND STOCKPILING OF SOILS

FOR THE ST. JOHNS LANDFILL

#91B-16-SW

Metropolitan Service District
Solid Waste Department
2000 S.W. First Avenue
Portland, OR 97201-5398

INDEX

SECTION 00020

ADVERTISEMENT FOR BIDS
FOR
PROCUREMENT AND STOCKPILING OF SOILS
FOR THE ST. JOHNS LANDFILL
#91B-16-SW

Notice is hereby given that the Metropolitan Service District will receive sealed Bids for the Procurement and Stockpiling of Soils for the St. Johns Landfill, #91B-16-SW. The landfill is located at 9363 N. Columbia Blvd., Portland, Oregon. The work contemplated is the first step towards construction of closure improvements at St. Johns Landfill. The elements of this Request for Bids consists of soil procurement and site preparation of three subareas of the landfill. Procurement of soils shall include up to 955,000 tons of subgrade embankment material and up to 400,000 tons of sand. The procured material will be placed on the site as compacted subgrade fill and as preload.

Sealed Bids must be delivered to the Metropolitan Service District, Solid Waste Department, Room 320, 2000 S.W. First Avenue, Portland, Oregon, 97201-5398, to the attention of Linda Pang-Wright, Engineer, no later than 10:00 a.m., Pacific Standard Time, Tuesday, the 18th day of June, 1991. At that time, the Bids will be opened and publicly read aloud in Room 440, 2000 S.W. First Avenue, Portland, Oregon.

Attendance at a Pre-Bid Conference at Metro at 8:00 a.m. on Monday, June 3, 1991 is mandatory for prospective Bidders.

Potential Bidders may obtain Bid documents by contacting the Solid Waste Department at 221-1646, ext. 208. Metro may reject any bid not in compliance with all prescribed public purchasing procedures and requirements and may reject for good cause any or all Bids upon a finding of the agency that it is in the public interest to do so.

No Bid will be received or considered by Metro unless the Bid contains a statement by the Bidder that the provisions of ORS 279.350, regarding prevailing wage rates, are to be complied with.

Each Bid must contain a statement as to whether the Bidder is a resident Bidder, as defined ORS 279.029.

Bidders and Subcontractors may need to be licensed under ORS 468.883 (regarding licensing of contractors on projects involving asbestos abatement) in the event the soils may be contaminated.

Bidders and Subcontractors must be registered with the Oregon Construction Contractor's Board pursuant to ORS 701.035-80.

SECTION 00030

INVITATION TO BID

Sealed Bids for the Procurement and Stockpiling of Soils for the St. Johns Landfill, #91B-16-SW, addressed to the Metropolitan Service District (Metro), will be received at the Office of the Director, Solid Waste Department, 2000 S.W. First Avenue, Portland, OR 97201-5398, until 10:00 a.m., Pacific Standard Time, on Tuesday, the 18th day of June, 1991, and then will be publicly opened and read aloud in Room 440, 2000 S.W. First Avenue.

The St. Johns Landfill is located at 9363 N. Columbia Blvd., Portland, OR. The work contemplated is the first step towards construction of closure improvements at St. Johns Landfill. The elements of this Request For Bids (RFB) consist of soil procurement and site preparation of three subareas of the landfill for final closure. Procurement of materials shall consist of up to 955,000 tons of subgrade embankment material and up to 400,000 tons of sand.

Site preparation consists primarily of clearing and grubbing; the removal, stockpiling and protection of topsoil and of low permeable soil in one subarea; the procurement, transport, placement, and compaction of subgrade embankment fill to Subgrade contours in all three subareas; and the stockpiling of both subgrade embankment materials and sand as preload in the three subareas. Prior to preloading, construction and installation of settlement markers shall be performed in each of the three subareas. The successful contractor shall be responsible for the construction/improvement of any roads or work pads required. In addition to the work associated with preload activities, the Contractor shall be responsible for the construction of six lateral gas trenches, the extension of a ground water monitoring well and the proper abandonment of additional wells. All work associated with groundwater monitoring wells shall be performed by a licensed well driller. The work described herein and detailed in the drawings and specifications shall be completed no later than 365 calendar days after issuance of the Notice to Proceed.

Drawings and Specifications may be examined at the offices of the Solid Waste Department of the Metropolitan Service District, Room 320, 2000 S.W. First Avenue, Portland, OR 97201-5398. Sets of the Documents may be purchased from Metro at the above address for $30 per set and Drawings may be purchased for $20 per set. The fee for Documents and/or Drawings will be refunded if they are returned in good condition within ten (10) days after Bid opening.

Before a contract is awarded, Metro may conduct such additional investigations as are necessary to determine whether a Bidder is qualified. Upon request, the Bidder shall promptly submit such additional information as deemed necessary by Metro to evaluate the Bidder's qualifications.

Each Bid must be submitted on the prescribed form and accompanied by a certified or cashier's check or Bid Bond executed on the prescribed form, payable to the Metropolitan Service District in the amount of $100,000. The Bid and Bid security should be delivered in a sealed envelope marked "Procurement and Stockpiling of Soils for St. Johns Landfill Bid" to the attention of Linda Pang-Wright.

The successful Bidder will be required to furnish the necessary additional Bonds for the faithful performance of the Contract and for the payment of all persons supplying labor and materials as prescribed in the Contract Documents.

No Bid will be received or considered by Metro unless the Bid contains a statement by the Bidder that the provisions of ORS 279.350, regarding prevailing wage rates, are to be compiled with.

Each Bid must contain a statement as to whether the Bidder is a resident Bidder, as defined in ORS 279.029.

Bidders and Subcontractors may need to be licensed under ORS 468.883 (regarding licensing of the contractors on project involving asbestos abatement), in the event the soils may be contaminated.

Bidders and Subcontractors must be registered with he Oregon Construction Contractor's Board pursuant to ORS 701.035-90.

In the event that any Subcontractors are to be used, Bidders are required to comply with Metro's Disadvantaged Business Program. The program goals are:

Disadvantaged Business Enterprises	10 percent
Women-Owned Business Enterprises	3 percent

The percentage goals are applicable to the total amount of work.

Any questions regarding DBE/WBE requirements should be addressed to the Contracts Officer, Mr. Amha Hazen at (503) 221-1646

As part of the Bid, all Bidders must submit a statement that they will comply with the contract goals or have made good faith efforts to do so. Failure to meet these goals or to demonstrate good faith efforts to do so will constitute a non-responsive bid. See "Instructions to Bidders" for references to applicable procedures.

For any task or portion of a task to be undertaken by a Subcontractor or materials Supplier, the Contractor shall not engage a DBE/WBE Subcontractor or materials Supplier on an exclusive basis prior to Contract Award.

A Pre-Bid Conference for prospective Bidders will be conducted at 8:00 a.m., Pacific Standard Time, on Monday the 3rd of June, 1991 in the Council Chambers at Metropolitan Service District, 2000 S.W. First Avenue, Portland, Oregon 97201. This meeting will be mandatory to meet Metro's Good Faith Effort in contracting to disadvantage businesses. Contract Documents will also be available at this meeting for review by prospective Bidders.

Metro reserves the right to reject all Bids or any Bids not conforming to the intent and purpose of the Contract Documents, to reject for good cause any and all Bids upon a finding of Metro that it is in the public interest to do so or to waive any informality or irregularity in any Bid or Bids. Metro further reserves the right to award the Contract at any time within sixty (60) days following the Bid opening date.

For information concerning the proposed work, or to make an appointment to visit the Site of the proposed work, contact Ms. Linda Pang-Wright, Engineer, or Mr. Pete Hillman, Construction Coordinator at Metropolitan Service District, (503) 221-1646.

Dated on this 24th day of May, 1991.

METROPOLITAN SERVICE DISTRICT

By: _____
Bob Martin, Director
Solid Waste Department

SECTION 00110

INSTRUCTIONS TO BIDDERS

1. DESCRIPTION OF WORK

The work contemplated is an early phase of the final closure work for the St. Johns Landfill. The elements for this RFB consist of soil procurement and site preparation of three subareas of the St. Johns Landfill for final closure. The work includes the procurement of both sand and subgrade embankment; removal and protection of existing soils; extension and abandonment of existing monitoring wells; construction of gas trenches; construction and placement of settlement markers as indicated in the Drawings and Specifications, and transport and placement of the material as fill and preload.

2. DEFINITIONS

Except as otherwise specifically provided herein, all words and phrases defined in the General Conditions shall have the same meaning and intent in these Instructions to Bidders. Bidders should refer to those definitions as they read these Instructions.

3. DOCUMENT INTERPRETATION

The Contract Documents are intended to be complementary and to provide all details reasonably required for the execution of the proposed Work. Any person contemplating the submission of a Bid shall have thoroughly examined all of the various parts of these Contract Documents. If the Bidder has any doubt as to the meaning or the intent of the Contract Documents or finds any inconsistency or discrepancy within the Contract Documents, the Bidder must request Metro's interpretation, in writing at **least ten (10) working days prior to Bid opening.** Such requests for interpretation or substitution shall be mailed or delivered to Metro at 2000 S.W. First Avenue, Portland, Oregon 97201-5398, Attention: Linda Pang-Wright. Any interpretations or changes in the Contract Documents will be made only in writing, in the form of Addenda to the Contract Documents which will be furnished to all Bidders receiving a set of the Bidding Documents and which shall be binding upon all Bidders as if set forth in the original Contract Documents. Bidders shall indicate receipt of all Addenda on their Bids. Metro will not be responsible for any other explanation or interpretation of the Bidding Documents. Bidders shall have no right to rely on any oral interpretation or instructions made by Metro or the Engineer, unless it is also committed to writing and issued as an Addendum.

In the absence of any pre-bid request for clarification, or any interpretation of the Contract Documents, as outlined above, any subsequent interpretation shall be made by Metro, and shall be final and binding on the successful Bidder, and Metro shall pay no extra costs or expenses to such Bidder resulting from such interpretation.

4. EXAMINATION OF CONTRACT DOCUMENTS AND SITE AND COMPLIANCE WITH LAWS

Before submitting a Bid, Bidders shall fully examine and read the Contract Documents; visit the Site of the proposed Work, and examine the Site and the surrounding areas; and fully inform themselves of all conditions on, in, at and around the Site, the surrounding areas, and any work that may have been done thereon. The Bidder acknowledges by the submission of its Bid that it understands the nature and location of the Work, the general and local conditions, conditions of the Site, availability of labor, electric power, water, and the kind of surface materials on the Site, the kind of equipment

needed, and all other matters which may in any way affect the Work or the cost, including utilities not identified in the Contract Documents.

Information derived from inspection of the Contract Documents and any specific sections thereof showing location of utilities and structures will not in any way relieve the Contractor from any risk, or from properly examining the Site and making such additional investigations as it may elect, or from properly fulfilling all the terms of the Contract Documents. Investigation of Site and soil conditions have been conducted for Metro. Bidders may inspect the records of such investigations at locations specified in Section 00200.

Metro does not in any way warrant the accuracy of any information in such investigations and Bidders shall have no right to rely on the information contained in such records or investigations. Furthermore, if the Bidder determines that additional investigations of Site and/or soil conditions are necessary or desirable, Bidder shall cause such additional investigations to be made, at Bidder's expense, prior to submitting a Bid and subject to coordination with Metro.

Any failure of a Bidder to acquaint itself with all of the available information concerning conditions or having such additional investigations of Site and soil conditions conducted, as may be necessary, will not relieve it from responsibility for estimating properly the difficulties or cost of the Work and the Bidder shall, regardless of such failure, be bound to its Bid.

Each Bidder shall inform itself of, and the Bidder awarded a Contract shall comply with, federal, state, and local laws, codes, statutes, ordinances, and regulations, as amended, relative to the execution of the Work. Each Bidder shall prepare its Bid in accordance with, and all Bid prices shall assume compliance with, such laws, codes, statutes, ordinances and regulations. This requirement includes, but is not limited to, applicable regulations concerning minimum wage rates, prevailing wage rates, nondiscrimination in the employment of labor, protection of public and employee safety and health, environmental protection, the protection of natural resources, fire protection, burning and nonburning requirements, permits, fees, and similar subjects.

If any portion of the Contract Documents does not conform to such laws, codes, statutes, ordinances or regulations as amended, the Bidder shall so advise Metro in writing at least ten (10) days before Bids are due. If it is shown that the Contractor, as Bidder, knew or should have known that any portion of the Contract Documents does not conform to such laws, codes, statutes, ordinances or regulations and had failed to so advise Metro, it shall be liable for costs of making any deviation(s) required for compliance with such laws, codes, statutes, ordinances or regulations.

Each Bidder, in submitting its Bid, certifies that the Bidder is not ineligible to receive a contract for a public work, as set forth in ORS 279.361 and agrees, if awarded the Contract, that each of its Subcontractors will be required to certify such compliance, and certification will be filed with Metro prior to such Subcontractor commencing any work under the Contract. A copy of "PREVAILING WAGE RATES for Public Works Contracts in Oregon" is enclosed herein as Appendix and applies to the work performed under the Contract.

5. DISADVANTAGED BUSINESS PROGRAM COMPLIANCE

Metro has made a strong commitment to provide maximum opportunities to Disadvantaged and Women-Owned Businesses in contracting. The successful Bidder will be required to meet Metro's Disadvantaged Business Program goals or clearly demonstrate that a good faith effort has been made to meet the goals. The goals for this Contract are: Disadvantaged Business Enterprises (DBEs) -- ten percent (10%), and Women-Owned Business Enterprises (WBEs) -- three percent

(3%) of the Base Bid Amount. DBEs and WBEs must be certified by the state of Oregon as DBEs/WBEs, at the time of Bid opening, to be counted toward the Contract goals.

The Bid submitted must contain a fully completed Disadvantaged Business Program Compliance form contained herein. Metro will require apparent low bidders to submit completed DBE and WBE Utilization forms (also contained herein) and all good faith efforts documentation by the close of the next working day following Bid opening. Within five working days of Bid opening, such Bidders must submit to Metro signed letters of agreement between the Bidder and the DBE/WBE Subcontractors or Suppliers to be utilized in performance of the Contract. Detailed procedures for completing the forms and for demonstrating good faith efforts are contained in Metro Code 2.04 (Metro's Disadvantaged Business Program) contained in the Appendix. Bidder's special attention is directed to Section 2.04.155 Contract Award Criteria), and Section 2.04.160 (Determination of Good Faith Efforts). Bidders should note that the latter section includes a requirement of:

> Advertisement in trade association, general circulation, minority and trade-oriented, women-focus publications, if any, and through a minority-owned newspaper or minority-owned trade publication concerning the subcontracting or material supply opportunities (on the project) at least ten (10) days before Bids or proposals are due.

The following are minority-oriented and women-focus publications in the Portland metropolitan area Metro is aware of:

The Hispanic News, 9203 S.E. Francis, Portland, OR 97266 (503) 777-6759

The Skanner, 2337 N. Williams Avenue, Portland, OR 97211 (503) 287-3562.

The Portland Observer, P.O. Box 3137, Portland, OR 97208 (503) 283-2486

The American Contractor, P.O. Box 11233, Portland, OR 97211 (503) 208-9000

Pro-Woman, P.O. Box 6957, Portland, OR 97228 (503) 221-1298

The requirement to advertise is but one of the actions necessary to demonstrate good faith efforts under this program.

CAUTION: Failure of the Bidder to comply with all of the requirements of the Disadvantaged Business Program will result in the Bid being deemed non-responsive.

6. PREPARATION OF BIDS

All blank spaces in the Bid Forms must be completed either by typing or in ink. Amounts shall be shown in both words and figures. Any Bids which do not include Bids on all Bid Items will be considered non-responsive and will be rejected. No changes shall be made in the phraseology of the forms.

Any Bid may be deemed non-responsive which contains omissions, erasures, alterations, or additions of any kind, or prices uncalled for, or in which any of the prices are obviously unbalanced, conditioned or which in any manner shall fail to conform to the conditions of the Contract Documents.

Each Bid shall give the full business address of the Bidder and be signed by it with its legal signature.

a. Bids by partnerships must furnish the full name of all partners and must be signed in the partnership name by one of the members of the partnership authorized to sign contracts on behalf of the partnership, or by an authorized representative, followed by the printed name and title of the person signing.

b. Bids by corporations must be signed with the legal name of the corporation, followed by the name of the state of incorporation and by the signature and designation of the president, secretary or other person authorized to bind it in the matter. When requested by Metro, satisfactory evidence of the authority of the officer signing in behalf of the corporation shall be furnished.

c. If a Bid is submitted by a joint venture, a certified copy of the legal agreement constituting the joint venture shall be attached to the Bid.

The name of each person signing shall also be typed or printed below the signature. Signatures of all individuals must be in longhand.

Failure to fulfill any of the above requirements may render the Bid non-responsive.

7. SUBMISSION OF BIDS

All Bids must be submitted not later than the time prescribed, at the place, and in the manner set forth in the INVITATION TO BID. Bids must be made on the forms provided under separate cover as the BID BOOK, these forms are also contained herein as the Bid Forms. Each Bid and all other documentation required to be submitted with the Bid must be submitted in a sealed envelope, so marked as to indicate its contents without being opened, and addressed in conformance with the instructions in the INVITATION TO BID and the ADVERTISEMENT FOR BIDS.

8. MODIFICATION OR WITHDRAWAL OF BIDS

Any Bid may be modified after delivery to the location specified in the Invitation to Bid by delivering to the same location before the time fixed for the Bid opening, a written sealed supplement to the original Bid, marked "Supplement to Bid of (Name of Bidder) for the Procurement and Stockpiling of Soils for the St. Johns Landfill." A supplement shall clearly identify the Bid item(s) that are changed by setting forth the original Bid item(s), and the modified item(s). Metro may reject any Bid supplement that, in its opinion, does not set forth the proposed modifications clearly enough to determine the definiteness and certainty of the item(s) offered by the Bidder. No Bidder shall be allowed to submit more than one (1) Bid for this Contract.

Bids may be withdrawn by the Bidder prior to the time fixed for the receipt of Bids by having an authorized representative of the Bidder with sufficient identification personally pick up the Bid. Bids may not be withdrawn for a period of sixty (60) days from and after the opening of Bids or on or prior to the last date of any extension of such time as may be agreed upon between Metro and the Bidder.

9. BID SECURITY

Bids must be accompanied by a certified check or cashier's check drawn on a bank in good standing, or a bid bond on the form provided herein by Metro, issued by a Surety authorized to issue such bonds in Oregon, named on the current list of approved Surety companies acceptable on federal bonds, and conforming with the underwriting limitations as published in the Federal Register by the audit staff of the Bureau of Accounts and the U. S. Treasury Department, in the amount of not less than One Hundred Thousand Dollars ($100,000). This Bid security shall be given as a guarantee that the Bidder will not withdraw its Bid for a period of sixty (60) days after Bid opening, and that if awarded the Contract, the successful Bidder will execute the attached Agreement and furnish a properly executed Performance Bond and a properly executed Labor and Materials Payment Bond, each in the full amount of the Bid, within the time specified. Bid security deposited in the form of a certified or cashier's check shall be subject to the same requirements as a bid bond.

The Attorney-in-Fact (Resident Agent) who executes these bonds on behalf of the Surety must attach a notarized copy of his/her Power of Attorney as evidence of his/her authority to bind the Surety on the date of execution of the bond.

10. EXPERIENCE AND ABILITY TO PERFORM THE WORK

Within twenty-four (24) hours following request by Metro, any Bidder may be required to present information indicating that the Bidder has the necessary experience and qualifications in the class of Work to be performed, and the ability, equipment, key personnel and financial resources to perform the Work satisfactorily within the time specified. In determining the award of this Contract, such information will be considered, and the Bidder is cautioned to make complete and comprehensive presentation of its abilities and resources. Failure of any Bidder to comply fully and timely with a request for information under this section shall be grounds for rejection of that Bid.

No Bidder will be considered for contract award unless such Bidder is authorized by law to execute the Contract or perform the Work for which such Bid is received. Should it appear, at any time, that any Bidder is not or might not be authorized by law to execute the Contract or perform such Work, then such Bidder may at any time be rejected and Metro may refuse to execute any contract with such Bidder regardless of whether or not the contract had been previously awarded by the Metro Council and without any liability whatever on the part of the Metropolitan Service District, its Council, or any member of its Council, or Metro's officer, employees, or its agents, either as individuals or in official capacities.

11. REJECTION OF BIDS

Metro reserves the right to reject all Bids or any Bid not conforming to the intent and purpose of the contract Documents, to waive any informality or irregularity in any Bid or Bids, to reject any Bid not in compliance with all prescribed public bidding procedures and requirements and, for good cause, to reject any or all Bids upon a finding by Metro that it is in the public interest to do so.

12. BASIS OF AWARD

Metro reserves the right to make Award of this Contract to the lowest responsive, responsible Bidder, based on the lowest Total Bid Amount. Any Bid which does not include bids for all Bid items will be considered non-responsive and will therefore be rejected.

In determining the lowest responsive, responsible Bidder, Metro shall, for the purpose of awarding the Contract, add a percent increase on the Bid of a nonresident Bidder, as that term is defined in

ORS 279.029(6)(c), equal to the percent, if any, of the preference given to that nonresident Bidder in the state in which that Bidder resides. For purposes of determining the percent increases to be applied pursuant to this section, Metro shall rely on the list published by the Oregon Department of General Services pursuant to ORS 279.029(3), and Metro shall not incur any liability to any Bidder by relying on such list.

13. ALTERNATES

[Not Used]

14. LIST OF PROPOSED SUBCONTRACTORS

Metro will require all Bidders to furnish in writing to Metro the names of all Subcontractors and Suppliers which Bidder proposes to use in completing the Work along with a brief description of the subcontract or supply work involved and the subcontract or supply work dollar amount by the close of the next working day following Bid opening. Metro will notify the Bidder in writing within ten (10) days following receipt from Bidder of the above-described information if Metro has any reasonable objection to any such proposed Subcontractor or Supplier. The Bidder shall not subcontract with any proposed Subcontractor or Supplier to whom Metro has made a reasonable objection. In the event of such objection, Bidder shall propose another entity to whom Metro has no reasonable objection. No amounts or prices bid by the Bidder shall be increased by any difference occasioned by such substitution. Failure of Metro to reply within the above-described time period shall be construed to mean that Metro has no objection at that time. Failure of the Bidder to comply with this section shall be cause for rejection of Bidder's Bid and, in such event, the bid security submitted by Bidder shall be taken by Metro and considered as liquidated damages.

Prospective Bidders are encouraged to verify the qualifications of proposed Subcontractors/Suppliers and be prepared to furnish Metro with a list of similar projects performed by the proposed Subcontractors/Suppliers.

15. AWARD AND EXECUTION OF CONTRACT

Within sixty (60) days after the opening of Bids, Metro will accept one of the Bids or reject all of the Bids. The acceptance of the Bid will be by written Notice of Conditional Award, mailed or delivered to the office designated in the Bid. The Notice of Conditional Award shall not entitle the party to whom it is delivered to any rights whatsoever.

The successful Bidder shall, within seven (7) days after receiving Notice of Conditional Award, sign and deliver to Metro the Agreement attached hereto together with an acceptable Performance Bond and a Labor and Materials Payment Bond, certificates of insurance and certified copies of insurance policies as required in these Contract Documents.

Upon receipt of the signed Agreement and all other documents required to be submitted by the successful Bidder, as prescribed herein, Metro shall sign the Agreement and issue a written Notice to Proceed to Contractor. Contractor shall commence work within ten (10) days of issuance of the Notice to Proceed.

In the event of failure of the lowest responsive, responsible Bidder to sign and return the construction Agreement and all other documents required to be submitted, as prescribed herein, Metro may award the Contract to the next lowest responsive, responsible Bidder.

16. PERFORMANCE BOND AND LABOR AND MATERIALS PAYMENT BOND

The successful Bidder shall file with Metro a Performance Bond on the form bound herewith and in the amount described below, as security for the faithful performance of this Contract and to cover all guarantees against defective workmanship or materials, or both, for a period of one (1) year after the date of Final Completion and Acceptance of the Work by Metro. Additionally, the successful Bidder shall file a Labor and Materials Payment Bond on the form bound herewith and in the amount described below, as security for the payment of all persons supplying labor and materials for the construction of the Work. The Surety furnishing these bonds shall have a sound financial standing and a record of service satisfactory to Metro, shall be authorized to do business in the State of Oregon, and shall be named on the current list of approved Surety companies acceptable on federal bonds and conforming with the underwriting limitations as published in the Federal Register by the audit staff of the Bureau of Accounts and U.S. Treasury Department. If more than one Surety is on a bond, then each Surety must agree that it is jointly and severally liable on the bond for all obligations on the bond.

The amount of each bond described above shall be a sum not less than 100 percent of the Contract Amount. The Attorney-in-Fact (Resident Agent) who executes the Performance Bond and the Labor and Materials Payment Bond on behalf of the Surety must attach a notarized copy of his/her Power of Attorney as evidence of his/her authority to bind the Surety on the date of execution of the bond.

17. FAILURE TO EXECUTE CONTRACT AND FURNISH BONDS

The Bidder to whom a Contract is awarded who fails to promptly and properly execute this Contract and furnish the required bonds, certificates of insurance and certified copies of insurance policies shall forfeit the Bid security that accompanied its Bid and the Bid security shall be retained as liquidated damages by Metro. It is agreed that this sum is a fair estimate of the amount of damages Metro will sustain if the Bidder fails to enter into a Contract and furnish the bonds, certificates of insurance and certified copies of insurance policies required.

18. BID BACK-UP (Bid Preparation Documents)

Within six (6) days after Metro's request and as a condition precedent to the award of the Contract, the apparent low responsive and responsible Bidder shall submit to Metro in a sealed envelope their complete Bid summary, along with corresponding back-up including, but not limited to: quantity take-off sheets, pricing sheets and information/data substantiating the Total Bid Amount. The back-up data provided will include that of all Subcontractors listed in the Bid, as well as all lower-tier Subcontractors. This Bid summary and back-up data will be held in strict confidence by Metro in its original sealed envelope and will not be opened except in the event of dispute between Metro and Contractor. Bid Back-Up shall be delivered to Metro, 2000 S. W. First Avenue, Portland, OR 97201-5398, Attention: Linda Pang- Wright, enclosed in a double envelope to prevent accidental opening.

SECTION 00200

INFORMATION AVAILABLE TO BIDDERS

A copy of the following permits and reports are available for review at the Metro Solid Waste Department Offices:

1. PERMITS

   Solid Waste Disposal Site Closure Permit- #116

2. "Contract Documents for Operation of the St. Johns Landfill"; June 1985.

3. "Five Interior Monitoring Wells, As Constructed, St. Johns Landfill, Portland, OR"; October 29, 1990; Cornforth Consultants, Inc.

4. "St. Johns Landfill, Water Quality Impact Investigation and Environmental Management Options"; May 31, 1989; Vol.II - Appendix, Sweet-Edwards/EMCON, Inc.

5. Radiation Test Results of April, 1991; Radiation Control Section, State of Oregon Dept. of Human Resources, Health Division.

6. "Erosion Control Plans Technical Guidance Handbook," November 1989, City of Portland & WA. Co.

SECTION 00300

BID FORMS

NOTE TO BIDDER: Bidders must provide all of the information requested in this Bid. Bidder should preferably type or use BLACK ink for completing this Bid.

To: Metropolitan Service District

Address: 2000 S.W. First Avenue, Portland, OR 97201-5398

Contract: Procurement and Stockpiling of Soils for the St. Johns Landfill

Bidder:

Address:

Bidder's Contract:

Date: Telephone: ( )

BIDDER'S DECLARATION AND UNDERSTANDING

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this Bid are those named herein, that this Bid is, in all respects, fair and without fraud, that it is made without collusion with any official of Metro, and that the Bid is made without any connection or collusion with any person submitting another Bid on this Contract.

The Bidder further declares that it has carefully examined the Contract Documents for the completion of the Work, has personally inspected the Site, has satisfied itself as to the Work involved, and that this bid is made in accordance with the provisions and under the terms of the Contract Documents which are hereby made a part of this Bid.

Any printed matter on any letter or paper enclosed herewith which is not part of the Bidding Documents or which was not requested by Metro is not to be considered a part of this Bid, and the undersigned agrees that such printed matter shall be entirely disregarded and, notwithstanding such printed matter, that the Bid is a Bid to do the Work and furnish the labor and materials and all other things required by the Contract Documents strictly within the time and in accordance with such Specifications. This Bid is irrevocable for sixty (60) days following the date of the opening of Bids.

BID SECURITY

Bid security in the form of a certified check, cashier's check or Bid bond as further described in the Instructions for Bidders and in the amount of $100,000 is enclosed herewith and is subject to all the conditions stated in the Instructions for Bidders.

CONTRACT EXECUTION, BONDS AND INSURANCE

The Bidder agrees that if this Bid is accepted, it will, within seven (7) days after Notice of Conditional Award, sign the Construction Agreement in the form annexed hereto, and will at that time deliver to Metro the Performance Bond and the Labor and Materials Payment Bond required herein and in the form annexed hereto, along with all certificates of insurance and certified copies of insurance policies specified and required in these Contract Documents, and will, to the extent of its Bid, furnish all machinery, tools, apparatus, and other means of operation and construction and do the Work and furnish all the materials necessary to complete all Work as specified or indicated in the Contract Documents.

COMMENCEMENT OF WORK AND CONTRACT COMPLETION TIME

The time frame for the award and execution of this Contract shall be as described in the Instructions for Bidders and in the Contract Documents. The Successful Bidder further agrees to commence the Work within ten (10) days of issuance of the Notice to Proceed and to diligently prosecute the Work to its final completion in accordance with the Contract Documents.

LIQUIDATED DAMAGES

In the event the Bidder is awarded the Contract and fails to complete the Work in compliance with the time required by the Contract Documents, liquidated damages shall be paid to Metro as described in the General Conditions.

SALES AND USE TAXES

The Bidder agrees that all applicable federal, state and local sales and use taxes are included in the stated bid prices for the Work.

LUMP SUM AND UNIT PRICE WORK

The Bidder further proposes to accept as full payment for the Work proposed herein the amounts computed under the provisions of the Contract Documents and based on the listed lump sum and unit price amounts. The amounts shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

PREVAILING WAGES FOR PUBLIC WORK

Bidder hereby certifies that the provisions of ORS 279.350, regarding prevailing wages, shall be complied with on this project.

SCHEDULE OF BID PRICES

The Bidder, whose legal signature binding the Bidder to the bid prices indicated on these pages is found on the signature page, hereby bids as follows:

Item No.	Estimated Quantity	Description of Item	Unit Price	Total Cost
1.	1 L.S.	Mobilization		
(Per Lump Sum)		(Words)	$ (Figures)	$
2.	1 L.S.	Site Safety and Health Program		
(Per Lump Sum)			$	$
3.	5 Ac.	Clearing and Grubbing		
(Per Acre)			$	$
4.	10,000 C.Y.	Top Soil Removal		
(Per Cubic Yard)			$	$
5.	25,000 C.Y.	Low Permeable Soil Removal		
(Per Cubic Yard)			$	$
6.	955,000 Ton	Procure and Deliver Subgrade Embankment Material		
(Per Ton)			$	$
7.	510,000 C.Y.	Compact Subgrade Embankment		
(Per Cubic Yard)			$	$

Item No.	Estimated Quantity	Description of Item	Unit Price	Total Cost
8.	400,000 Ton	Type I Sand (Preload)		
(Per Ton)			$ (Words)	$ (Figures)
9.	6,000 L.F.	Temporary Drainage Ditch		
(Per Lineal Foot)			$	$
10.	100 EA.	Strawbale Sediment Barrier		
(Per Each)			$	$
11.	5,000 L.F.	Sediment Fencing		
(Per Lineal Foot)			$	$
12.	150,000 S.Y.	Plastic Covering		
(Per Square Yard)			$	$
13.	2,000 S.Y.	Erosion Blankets		
(Per Square Yard)			$	$
14.	10,000 S.Y.	Hydroseeding		
(Per Square Yard)			$	$
15.	2,600 L.F.	Horizontal Gas Trenches, In Place		
(Per Lineal Foot)			$	$
16.	1 EA.	Well Extension, H-5		
(Per Each)			$	$

Item No.	Estimated Quantity	Description of Item	Unit Price	Total Cost
17.	3 EA. (Per Each)	Well Abandonment, Complete	$	$
		(Words)		(Figures)
18.	19 EA. (Per Each)	Settlement Markers, In Place	$	$

TOTAL BID AMOUNT $_____

ADDENDA

The Bidder hereby acknowledges receipt and acceptance of Addenda Numbers:

(Insert No. and Date of Each Addendum Received)

_____

_____

_____

_____

SURETY

If the Bidder is awarded a Contract on this Bid, the Surety or Sureties who provide(s) the Performance Bond and Labor and Materials Payment Bond will be:

SURETY	ADDRESS
1.	
2.	

DISADVANTAGED BUSINESS PROGRAM COMPLIANCE FORM

(To be submitted with Bid)

Name of Metro Project: Procurement and Stockpiling of Soils for the St. Johns Landfill

Name of Bidder: _____

Address: _____

Phone: _____

In accordance with Metro's Disadvantaged Business Program, the above-named Bidder has accomplished the following:

____ 1. Has fully met the contract goals and will subcontract _____ percent of the Bid Amount to DBEs and _____ percent to WBEs.

____ 2. Has partially met the contract goals and will subcontract _____ percent of the Bid Amount to DBEs and _____ percent to WBEs. Bidder has made good faith efforts prior to Bid opening to meet the full goals and will submit documentation of the same to Metro within twenty-four (24) hours of Metro's request.

____ 3. Will not subcontract any of the Bid Amount to DBEs or WBEs but has made good faith efforts prior to Bid opening to meet the contract goals and will submit documentation of such good faith efforts to Metro within twenty-four (24) hours of Metro's request.

RESIDENT/NON-RESIDENT BIDDER STATUS

Oregon law requires that Metro, in determining the lowest responsive Bidder, must add a percent increase on the Bid of a non-resident Bidder equal to the percent, if any, of the preference given to that Bidder in the state in which that Bidder resides. Consequently, each Bidder must indicate whether it is a resident or non-resident Bidder. A resident Bidder is a Bidder that has paid unemployment taxes or income taxes in the state of Oregon during the twelve (12) calendar months immediately preceding submission of this Bid, has a business address in Oregon, and has stated in its Bid that the Bidder is a "resident Bidder." A "non-resident Bidder" is a Bidder who is not a resident Bidder (ORS 279.029).

The undersigned Bidder states that it is: (check one)

1. A resident Bidder _____

2. A non-resident Bidder _____

   Indicate state in which Bidder resides: _____

SIGNATURE PAGE

The name of the Bidder submitting this Bid is _____
doing business at

_____
Street City State Zip

which is the full business address to which all communications concerned with this Bid and with the Contract shall be sent.

The names of the principal officers of the corporation submitting this Bid, or of all of the partners, if the Bidder is a partnership or joint venture, or of all persons interested in this Bid as individuals are as follows:

_____ _____

_____ _____

_____ _____

If Individual

IN WITNESS hereto the undersigned has set his/her hand this _____ day of _____, 19___.

_____
Signature of Bidder

_____
Printed Name of Bidder

_____
Title

If Partnership or Joint Venture

IN WITNESS hereto the undersigned has set his/her hand this _____ day of _____, 19___.

_____
Name of Partnership or Joint Venture

By: _____

_____
Printed Name of Person Signing

Title: _____

If Corporation

IN WITNESS WHEREOF the undersigned corporation has caused this instrument to be executed and its seal affixed by its duly authorized officers this _____ day of _____, 19____.

_____
Name of Corporation

_____
State of Incorporation

By: _____

_____
Printed Name of Person Signing

Title: _____

NON-COLLUSION AFFIDAVIT

STATE OF _____)

County of _____)

I state that I am _____ of _____
(Title) (Name of Bidder)

and that I am authorized to make this Affidavit on behalf of the Bidder. I am the person authorized by the Bidder and responsible for the price(s) and the amount of this Bid.

I state that:

(1) The Price(s) and amount of this Bid have been arrived at independently and without consultation, communication or agreement with any other contractor, Bidder or potential Bidder, except as disclosed in the attached appendix.

(2) Neither the price(s) nor the amount of this Bid, and neither the approximate price(s) nor approximate amount of this Bid, have been disclosed to any other person who is a Bidder or potential Bidder, and they will not be disclosed before bid opening.

(3) No attempt has been made or will be made to induce any person to refrain from bidding on this contract, or to submit a Bid higher than this Bid, or to submit any intentionally high or non-competitive bid or other from of complementary Bid.

(4) This Bid is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any person to submit a complementary or other noncompetitive Bid.

(5) _____, its affiliates, subsidiaries, officers, directors and employees
(Name of Bidder)

(as applicable) are not currently under investigation by any governmental agency and have not in the last four years been convicted of or found liable for any act prohibited by state or federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract, except as listed and described in the attached appendix.

I state that I and _____ understand and acknowledge
(Name of Bidder)

that the above representations are material and important, and will be relied on by Metro in awarding the Contract for which this Bid is submitted. Any misstatement in this Affidavit will be treated as fraudulent concealment from Metro of the true facts relating to the submission of Bids for this Contract.

_____
Signature of Affiant

_____
Printed Name of Affiant

Sworn to and subscribed before me this _____ day of _____, 19____.

_____
Notary Public for _____

My Commission Expires: / /

BID BOND

(NOTE: BIDDERS MUST USE THIS FORM, NOT A SURETY COMPANY FORM)

KNOW ALL MEN BY THESE PRESENTS:

We the undersigned, _____,

as Principal, and _____, a corporation organized and existing under and by

virtue of the laws of the State of _____ and duly authorized to do Surety business in the State of Oregon and name on the current list of approved Surety companies acceptable on federal bonds and conforming with the underwriting limitations as published in the Federal Register by the audit staff of the Bureau of Accounts and the U.S. Treasury Department and is of the appropriate class for the bond amount as determined by Best's Rating System, as Surety, hereby hold and firmly bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, unto the METROPOLITAN SERVICE DISTRICT, as Obligee, in the sum of One Hundred Thousand Dollars ($ 100,000) in lawful money of the United States of America, for the payment of which sum well and truly to be made as agreed and liquidated damages.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT whereas the Principal has submitted to the Metropolitan Service District a certain bid for work required for the Soils Procurement and Preloading of the St. Johns Landfill, which work is specifically described in the accompanying bid;

NOW, THEREFORE, if the Metropolitan Service District does not award a contract to the Principal within the time specified in the Instructions to Bidders for the work described in said bid, or in the alternate, if said bid shall be accepted and the Principal, within the time and in the manner described under the Contract Documents, enters into a written contract in accordance with the bid, files the two bonds, one guaranteeing faithful performance of the work to be done and the other guaranteeing payment for labor and materials as required by law, and files the required certified copies of insurance policies and certificates of insurance, then the obligation shall be null and void; otherwise, the same shall remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that the obligation of said Surety and this bond shall be in no way impaired or affected by any extension of the time within which the Metropolitan Service District may accept such bid; and said Surety does hereby waive notice of any such extension.

If more than one Surety is on this bond, each Surety hereby agrees that it is jointly and severally liable for all obligations on this bond.

IN WITNESS WHEREOF, we have hereunto set our hands and seals _____ day of _____, 19____.

_____	_____
SURETY	PRINCIPAL
By: _____	By: _____
Title: _____	Title: _____

DISADVANTAGED BUSINESS ENTERPRISE UTILIZATION FORM

1. Name of Metro Project: Procurement and Stockpiling of Soils for the St. Johns Landfill

2. Name of Bidder _____

   Address _____

3. The above-named Bidder intends to subcontract ___ percent of the Bid to the following Disadvantaged Business Enterprises (DBEs):

Names, Contact Persons, Addresses and Phone Numbers of DBE Firms Bidder Anticipates Utilizing	Nature of Participation	Dollar Value of Participation

Total DBE Participation Amount _____

Amount of Bid _____

DBE Percent of Bid _____

_____
Authorized Signature

_____
Title

_____
Date

THIS FORM IS TO BE COMPLETED, SIGNED AND SUBMITTED WITHIN 24 HOURS OF REQUEST BY METRO

WOMEN BUSINESS ENTERPRISES UTILIZATION FORM

1. Name of Metro Project: Procurement and Stockpiling of Soils for the St. Johns Landfill.

2. Name of Bidder _____

   Address _____

3. The above-named Bidder intends to subcontract ___ percent of the Bid to the following Disadvantaged Business Enterprises (DBEs):

Names, Contact Persons, Addresses and Phone Numbers of DBE Firms Bidder Anticipates Utilizing	Nature of Participation	Dollar Value of Participation

Total WBE Participation Amount _____

Amount of Bid _____

WBE Percent of Bid _____

_____
Authorized Signature

_____
Title

_____
Date

THIS FORM IS TO BE COMPLETED, SIGNED AND SUBMITTED WITHIN 24 HOURS OF REQUEST BY METRO

SECTION 00500

CONSTRUCTION AGREEMENT

This Construction Agreement is made by and between _____

_____ hereinafter called Contractor and the Metropolitan Service District, a political subdivision of the State of Oregon, hereinafter called Metro.

Contractor and Metro agree as follows:

1. Contract Documents

The Contract Documents consist of this Construction Agreement, the Advertisement for Bids, the Invitation to Bid, the Instructions to Bidders, the Bid Forms (including Bid Schedules, Surety, Disadvantaged Business Program Compliance, Prevailing Wage Rate Compliance, Resident/ Non-resident Bidder Status, Signature Page, Non-Collusion Affidavit, Bid Bond, DBE and WBE Utilization), the Performance and the Labor and Materials Payment Bonds, the General Conditions, the Supplementary Conditions, the Technical Specifications, the Drawings, the approved and updated Construction Schedule, and other information and data as listed in the Supplementary Conditions, and any modifications of any of the foregoing in the form of Addenda or Change Orders in accordance with the terms of the Contract. Where applicable, reference to this Construction Agreement herein shall be deemed to refer to all of the Contract Documents.

These documents form the Contract and are, by this reference, expressly incorporated herein. All are as fully a part of the Contract as if attached to this Construction Agreement and repeated fully herein. No amendment made to this Contract nor Change Order issued shall be construed to release either party from any obligation contained in the Contract Documents except as specifically provided in any such amendment or Change Order.

2. Scope of Work

Contractor agrees to provide all labor, tools, equipment, machinery, supervision, transportation, permits, and every other item and service necessary to perform the Work described in the Contract Documents. Contractor agrees to fully comply with each and every term, condition and provision of the Contract Documents.

3. Contract Amount

As consideration for Contractor's performance hereunder, Metro agrees to pay contractor the Contract Amount as adjusted by approved Change Orders issued pursuant to the Contract Documents and subject to the availability of monies in the Construction Fund. Contractor agrees to accept the Contract Amount as full payment for contractor's performance of the above-described Work.

The Contract Amount is _____

and _____/100TH DOLLARS ($_____).

Metro shall make payments to Contractor in the manner and at the times provided in the Contract Documents.

4. Additional or Deleted Work

Contractor shall, when so instructed by Metro under the procedures of the Contract Documents, perform additional Work or delete Work in accordance with the Contract Documents. Any increase or decrease in the Contract Amount shall be determined pursuant to the applicable provisions of the Contract Documents.

5. Time of Completion; Liquidated Damages

Time is of the essence in this Construction Agreement. The Contract Time shall commence upon issuance of the Notice to Proceed. Contractor shall commence work under this Contract within ten (10) calendar days after issuance of written Notice to Proceed. Contractor shall bring the work to substantial completion no later than 365 calendar days after issuance of the Notice to Proceed. By executing this Construction Agreement, Contractor confirms and accepts that the Contract Time so stated is a reasonable period for performance of all of the Work.

If Contractor fails to substantially complete the Work, within the Contract Time, as determined by Metro in accordance with the Contract Documents, Contractor shall be liable for liquidated damages to Metro as described in the Contract Documents.

6. Bonds

Contractor submits herewith a Performance Bond and a separate Labor and Materials Payment Bond, both in a form acceptable to Metro and otherwise in accordance with the Contract Documents and each in the Contract Amount to ensure full compliance, execution and performance of this Contract by Contractor and payment by Contractor of labor and material Suppliers as more fully described in the Contract Documents. The Performance Bond shall stay in force for a period of one (1) year after written acceptance of the Work by Metro as a guarantee of repair or replacement of any item(s) of Work found to be defective by reason of faulty workmanship or defective materials. The Labor and Materials Payment Bond shall remain in force for the time required for actions against the bond to be filed in accordance with ORS 279.536.

7. Remedies for Default

If Contractor fails to perform as specified in the Contract Documents, Metro shall be entitled to all the rights and remedies which this Contract provides, as well as all remedies provided by law. This Contract shall not be construed as limiting or reducing the remedies provided by law which Metro would have in the absence of any provision of the Contract.

8. Laws of Oregon Apply

The law of Oregon shall govern the interpretation and construction of this Construction Agreement and all of the Contract Documents.

9. Entire Agreement

The Contract Documents constitute the final written expression of all of the terms of this Construction Agreement and are a complete and exclusive statement of those terms. Any and all representations, promises, warranties, or statements by either party that differ in any way from the terms of this written agreement shall be given no force and effect. This Contract shall be changed,

amended, or modified only by written instrument signed by both Metro and Contractor. This Contract shall not be modified or altered by any course of performance by either party.

CONTRACTOR	METROPOLITAN SERVICE DISTRICT
By: _____	By: _____
Title: _____	Title: _____
Date: _____	Date: _____

SECTION 00600

PERFORMANCE BOND

(NOTE: CONTRACTORS MUST USE THIS FORM, NOT A SURETY COMPANY FORM)

KNOW BY ALL MEN BY THESE PRESENTS:

We the undersigned _____ as Principal (hereinafter called Contractor), and _____, a corporation organized and existing under and by virtue of the laws of the State of _____, duly authorized to do Surety business in the State of Oregon and named on the current list of approved Surety companies acceptable on federal bonds and conforming with the underwriting limitations as published in the Federal Register by the audit staff of the Bureau of Accounts and the U.S. Treasury Department and is of the appropriate class for the bond amount as determined by Bests Rating System, as Surety, hereby hold and firmly bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, to pay to the Metropolitan Service District as Obligee (hereinafter called Metro), the amount of _____ and _____/100 Dollars ($_____), in lawful money of the United States of America.

WHEREAS, Contractor entered into a contract with Metro dated _____, 19____, which contract is hereunto annexed and made a part hereof, for accomplishment of the project described as follows: Procurement and Stockpiling of Soils for the St. Johns Landfill.

NOW, THEREFORE, the condition of this obligation is such that if the Contractor shall promptly, truly and faithfully perform all the undertakings, covenants, terms, conditions, and agreements of the aforesaid Procurement and Stockpiling of Soils for the St. Johns Landfill, Metro having performed its obligations thereunder, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Whenever Contractor shall be declared by Metro to be in default under the Contract Documents for the project described herein, the Surety may promptly remedy the default, or shall promptly complete the Procurement and Stockpiling of Soils for the St. Johns Landfill in accordance with the Contract Documents and the project specifications. Surety, for value received, further stipulates and agrees that all changes, extensions of time, alterations or additions to the terms of the Contract or specifications for the Procurement and Stockpiling of Soils for the St. Johns Landfill are within the scope of the Surety's undertaking on this bond, and Surety hereby waives notice of any such change, extension of time, alteration or addition to the terms of the Procurement and Stockpiling of Soils for the St. Johns Landfill or to the work or to the specifications. Any such change, extension of time, alteration or addition to the terms of the Procurement and Stockpiling of Soils for the St. Johns Landfill or to the Work or to the Specifications shall automatically increase the obligation of the Surety hereunder in a like amount, provided that such increase shall not exceed twenty-five percent (25%) of the original amount of the obligation without the consent of the Surety.

This obligation shall continue to bind the Principal and Surety, notwithstanding successive payments made hereunder, until the full amount of the obligation is exhausted, or if the full amount of the obligation is not exhausted and no claim is pending resolution, until a date one year after notice is delivered from Metro to Contractor of acceptance of the Work specified in the Contract Documents for the project.

No right of action shall accrue on this bond to or for the use of any person or corporation other than Metro or its heirs, executors, administrators, successors or assigns.

If more than one Surety is on this bond, each Surety hereby agrees that it is jointly and severally liable for all obligations on this bond.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 19_____.

_____	_____
SURETY	CONTRACTOR
By: _____	By: _____
Title: _____	Title: _____

SECTION 00650

LABOR AND MATERIALS PAYMENT BOND

(NOTE: CONTRACTOR MUST USE THIS FORM, NOT A SURETY COMPANY FORM)

KNOW ALL MEN BY THESE PRESENTS:

We the Undersigned _____, as Principal,

and _____, a corporation organized and existing under and by

virtue of the laws of the State of _____, and duly authorized to do surety business in the State of Oregon and named on the current list of approved surety companies acceptable on federal bonds and conforming with the underwriting limitations as published in the Federal Register by the audit staff of the Bureau of Accounts and the U.S. Treasury Department and which carries an "A" rating and is of the appropriate class for the bond amount as determined by Best's Rating System, as Surety, hereby hold and firmly bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, unto the Metropolitan Service District, as Obligee, in the sum of _____ and NO/100 Dollars

($ _____) in lawful money of the United States of America, for the payment of that sum for the use and benefit of claimants as defined below.

The condition of this obligation is such that whereas the Principal entered into a Contract with the said Metropolitan Service District dated _____, 19____, which Contract is hereunto annexed and made a part hereof, for accomplishment of the project described as follows: Procurement and Stockpiling of Soils for the St. Johns Landfill.

NOW THEREFORE, if the Principal shall promptly make payments to all persons, firms, Subcontractors, corporations and/or others furnishing materials for or performing labor in the prosecution of the work provided for in the aforesaid Procurement and Stockpiling of Soils for the St. Johns Landfill, and any authorized extension or modification thereof, including all amounts due for materials, equipment, mechanical repairs, transportation, tools and services consumed or used in connection with the performance of such work, and for all labor performed in connection with such work whether by Subcontractor or otherwise, and all other requirements imposed by law, then this obligation shall become null and void; otherwise this obligation shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is as specified in ORS 279.526.

2. The above-name Principal and Surety hereby jointly and severally agree with the Obligee and its assigns that every claimant as above-specified, who has not been paid in full, may sue on this bond for the use of such claimant, prosecute the suite to final judgement in accordance with ORS 279.536 for such sum or sums as may be justly due claimant, and have execution thereon. The Obligee shall not be liable for the payment of any judgement, costs, expenses or attorney's fees of any such suit.

PROVIDED, FURTHER, that the said Surety for the value received, hereby stipulates and agrees that all changes, extensions of time, alternations to the terms of the Procurement and Stockpiling of Soils for the St. Johns Landfill or to work to be performed thereunder or the specifications accompanying the same shall be within the scope of the Surety's undertaking on this bond, and said Surety does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Procurement and Stockpiling of Soils for the St. Johns Landfill or to the Work or to the Specifications. Any such change, extension of

time, alteration or addition to the terms of the Contract or to the Work or to the Specifications shall automatically increase the obligation of the Surety hereunder in a like amount, provided that the total of such increases shall not exceed twenty-five percent (25%) of the original amount of the obligation without the consent of the Surety.

This obligation shall continue to bind the Principal and Surety, notwithstanding successive payments made hereunder, until the full amount of the obligation is exhausted, or if the full amount of the obligation is not exhausted and no claim is pending resolution, until such time as no further claims can be made pursuant to law with regard to the above described project, by any claimant specified in ORS 279.526.

If more than one Surety is on this bond, each Surety hereby agrees that it is jointly and severally liable for all obligations on this bond.

In WITNESS WHEREOF, we have hereunto set our hands and seals this ____ day of _____, 19_____.

_____	_____
SURETY	PRINCIPAL
By: _____	By: _____
Title: _____	Title: _____

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SECTION 00700

GENERAL CONDITIONS

ARTICLE 1 GENERAL PROVISIONS

1.01 Definitions. Unless otherwise defined or specified in the Contract Documents, the following terms shall have the meanings indicated:

1.01.01 Act of God -- means an earthquake, flood, typhoon, cyclone or other natural phenomenon of catastrophic proportions or intensity.

1.01.02 Addendum (Plural: Addenda) -- means a document issued by Metro during the bidding period which modifies, interprets, supersedes or supplements the Contract Documents and becomes a part of the Contract Documents. It is the Bidder's responsibility to determine how addenda impact the Work. All Bids submitted shall include the cost of the Work included in any addenda issued prior to Award.

1.01.03 Alternates Bids -- are portions of the Work for which a Bidder must submit a separate Bid. Alternate Bid items may or may not be awarded at Metro's discretion.

1.01.04 "As-Builts" or Record Documents -- are those drawings made, revised or annotated by Contractor and approved by Metro during the performance of the Contract, fully illustrating how all elements of the work were actually installed and completed.

1.01.05 Authorized Representative -- is a person, corporation, partnership or other legal entity acting on behalf of another through expressly delegated authority as specified in these Contract Documents.

1.01.06 Bid -- is the written offer of a Bidder to perform the work as defined in these Contract Documents, when made out in accordance with all of the Contract Documents and submitted on the appropriate Bid Forms.

1.01.07 Bidder -- is any individual, partnership, corporation, or joint venture, acting directly or through a duly and legally authorized representative, submitting or intending to submit a Bid for the Work as described in these Contract Documents.

1.01.08 Bidding Documents -- See "Contract Documents."

1.01.09 Bid Forms -- include the following: the Bid, including Schedule of Bid Prices, Disadvantaged Business Program Compliance Form, Resident/Non-Resident Bidder Status form, and Signature Page, the Non-Collusion Affidavit, Bid Bond, Disadvantaged Business Enterprise Utilization Form and the Women Business Enterprise Utilization Form.

1.01.10 City -- means the City of Portland, Oregon.

1.01.11 Change Order -- is a written document signed by Metro and Contractor stating their agreement upon all of the following:

1.01.11.01 a change in the Work;

1.01.11.02 the amount of the increase or decrease in the Contract Amount, if any; and

1.01.11.03 the extent of the adjustment to the Contract Time, if any.

1.01.12 Clarification -- is a written document consisting of supplementary details, instruction or information issued by Metro after the award of Contract which clarifies, or supplements the Contract Documents and becomes a part of the Contract Documents. A Clarification may or may not affect the scope of work.

1.01.13 Completion -- See "Substantial Completion" and "Final Completion and Acceptance."

1.01.14 Construction Coordinator -- The Metro representative on the construction site. The Construction Coordinator will be an employee of Metro, who will represent Metro to the extent of his authority as delegated by the Executive Officer.

1.01.15 Construction Manager -- The Construction Manager will be a representative of Metro, and is the interface with Contractor and will be the conduit for all Change Orders, correspondence, Requests for Information, Clarifications and negotiations.

1.01.16 Construction Schedule or Schedule -- is the timeline described in Section 01310 of the Specifications.

1.01.17 Contract Amount -- is the total amount shown in the Construction Agreement as revised by Change Orders.

1.01.18 Contract Documents or Contract or Bidding Documents -- consist of the Advertisement for Bids, the Invitation to Bid, the Instructions to Bidders, the Bid Forms, the Construction Agreement, the Performance Bond, the Labor and Materials Payment Bond, the General Conditions, the Supplementary Conditions, the Specifications, the Drawings, the approved and updated Construction Schedule, and any modifications of any of the foregoing in the form of Addenda, Clarifications, Change Orders or Force Account Work.

1.01.19 Contractor -- is the party who has entered into this Contract with Metro and who is responsible for the complete performance of the Work contemplated by the Contract Documents and for the payment of all legal debts pertaining to the Work, including its officers, agents, employees and representatives.

1.01.20 Contract Time -- is the period of time, including adjustments approved by Metro, which is allowed in the Contract Documents for Contractor to substantially complete the Work.

1.01.21 Critical Path Method or CPM -- means the critical path method of scheduling as understood and interpreted by standard industry practice.

1.01.22 Days -- means calendar day including Saturdays, Sundays and legal holidays.

1.01.23 Direct Costs -- are those costs of labor (including benefits), material and equipment incurred by the person, corporation, partnership or joint venture whose employees are actually performing the task.

1.01.24 Disadvantaged Business Program -- is Metro's program to provide maximum opportunities to Disadvantaged and Women-Owned Business Enterprises in contracts, which is contained in Metro Code 2.04.

1.01.25 Drawings -- means the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

1.01.26 Engineer -- is a representative of Metro. The Engineer will have authority to act on behalf of Metro only to the extent provided in these Contract Documents.

1.01.27 Equal, Approved, Approved Equal -- is used to indicate that the material or product to be supplied or installed must be equal to or better than that named in function, performance, reliability, quality and general configuration and that the substitute must be approved by Engineer. Equality in reference to the Project design requirements shall be determined by Engineer prior to installation of any material or product in the Project.

1.01.28 Final Completion and Acceptance -- means the completion by Contractor of all of the Work called for under the Contract, whether expressly or impliedly required, including but not limited to, satisfactory operation of all equipment, completion and correction of all punch list items to the satisfaction of Metro, settlement of all claims, delivery of all warranties and agreements to correct Work, equipment operation and maintenance manuals, as-built drawings, required approvals and acceptances by federal, state or local governments or other authorities having jurisdiction over the Work, and removal of all rubbish, tools, scaffolding and surplus materials and equipment from the Site.

1.01.29 Final Payment -- is the balance of the Contract Amount to be paid to the Contractor upon Final Completion and Acceptance of the Work.

1.01.30 Force Account Work -- is work, ordered in writing by Metro, for which Contractor must report its actual costs in accordance with Paragraph 8.04 of the General Conditions.

1.01.31 Furnish -- means, unless the context requires otherwise, supply and deliver materials, systems and equipment to the Site, ready for unpacking, assembly, installation, etc., as applicable in each instance.

1.01.32 General Contractor -- is the party who enters into the Contract with Metro. See also "Contractor".

1.01.33 Geotechnical Engineer -- The Geotechnical Engineer is an agent of the Engineer.

1.01.34 Inclement Weather -- is a meteorological condition or conditions, abnormal to the Portland metropolitan area for the time of year in question, which cannot be reasonably anticipated and which has a significantly adverse effect on the Construction Schedule. Abnormality of the weather is defined as the number of days the weather parameters exceed the normal adverse weather days at the project.

For work under this contract, Metro defines adverse weather days as days on which Contractor is impacted by weather, normally defined as days with an average daily temperature of less than 32°, significant daily precipitation or snow. Contractor will be cognizant of adverse weather days based upon long term averages when preparing project schedule, and shall refer to the annual publication of Local Climatological Data for Portland Oregon available at the Portland Weather Service Office.

1.01.35 Install -- includes, unless the context requires otherwise, unload, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, connect to electrical power and/or piping, and similar operations at the Site, as applicable in each instance.

1.01.36 Lump Sum -- means all costs and expenses of whatever nature, including Overhead and Profit, associated with the Work involved.

1.01.37 Material or Materials -- shall be construed to include machinery, equipment, manufactured articles, materials of construction such as formwork, fasteners, etc., and any other classes of items to be provided in connection with the Contract, except where a more limited meaning is indicated by the context.

1.01.38 Metro -- means the Metropolitan Service District of the Portland metropolitan area, a municipal corporation established and existing under the laws of the State of Oregon, ORS Chapter 268.

1.01.39 Metro Executive Officer or Executive Officer -- means the Executive Officer of Metro.

1.01.40 Metro Council or Council -- means the elected Council of Metro.

1.01.41 Miscellaneous Phrases -- in the Contract Documents shall be interpreted as follows:

Wherever the words "as directed," "as instructed," "as required," "as permitted," or words of like effect are used, it shall be understood that the direction, requirement, or permission of Metro is intended.

The words "sufficient," "necessary," "proper," and the like shall mean sufficient, necessary or proper in the judgement of Metro.

The words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to, Metro.

1.01.42 Notice of Conditional Award -- is the document issued by Metro to the lowest responsive, responsible bidder whose Bid complies with all the requirements prescribed by the Contract Documents. The Notice of Conditional Award shall be given pursuant to the provisions of the Instructions to Bidders. It shall not entitle the party to whom it is given to any payment under the Contract, nor shall Metro be liable to such party or to any person for any alleged damages for any action taken in reliance upon such notice.

1.01.43 Notice to Proceed -- is the written notice given Contractor to commence the prosecution of its Work as defined in the Contract Documents. The Notice to Proceed will also establish the date and time of a preconstruction conference.

1.01.44 Other Metro Contractors -- are all individuals, corporations, partnerships, or joint ventures (except Contractor or Engineer) with whom Metro has a contract to perform work on, or related to, the Project.

1.01.45 Overhead -- when applied to the cost of the work, shall include the following items, when reasonable and necessary for completion of the work:

1.01.45.01 All on-site payroll costs, taxes, insurance fringe benefits and bonuses of same, for supervising, estimating, expediting, purchasing, drafting and clerical/secretarial services where directly incurred in the performance of the Contract.

1.01.45.02 Small tools (less than $250 capital cost per item).

1.01.45.03 Equipment maintenance and repairs.

1.01.45.04 Temporary construction, utilities, and safety requirements.

1.01.45.05 Transportation of materials other than direct identifiable cost of specific deliveries, or as included in price of material.

1.01.45.06 Parking fees for workers (if applicable).

1.01.45.07 Permit fees.

1.01.45.08 Cost of reproduction.

1.01.45.09 Field office costs.

Home or branch office overhead shall not be included, but shall be part of Contractor's profit and shall include, but is not limited to, the following:

1.01.45.09.01 Accounting functions of Contractor's Home and Branch Office.

1.01.45.09.02 General expenses of Contractor's Home and Branch Office.

1.01.45.09.03 Interest on capital.

1.01.45.09.04 Salaries of any home and branch office estimators and administration.

1.01.46 Owner -- means Metro.

1.01.47 Plans -- means Drawings.

1.01.48 Profit -- means that portion of Contractor's Bid price that is not Direct Costs or Overhead.

1.01.49 Project -- means the St. Johns Landfill Procurement and Stockpiling of Soils project in Portland, OR.

1.01.50 Provide -- means furnish and install complete and in place and ready for operation and use.

1.01.51 Punch List -- is the list prepared by the Construction Manager at the time of Substantial Completion which reflects Contractor's incomplete, nonconforming work. Punch list items must be completed to the satisfaction of the Engineer and Metro in order for the Project to reach Final Completion and Acceptance.

1.01.52 Request for Clarification -- is a written request made by Contractor for additional information to clarify an ambiguity in the Contact Documents.

1.01.53 Retainage or Retention -- is the difference between the amount earned by Contractor on the Contract and the amount paid on the Contract by Metro.

1.01.54 Schedule of Values -- is the detailed breakdown of a lump sum contract amount as required in Section 01370 of the Specifications.

1.01.55 Separate Contract -- is a contract between Metro and a party other than Contractor for the construction or furnishing of a portion of the Project.

1.01.56 Shown, As Shown -- work shown on the Drawings which is a part of the Contract Documents.

1.01.57 Site -- is the real property upon which the Project is located.

1.01.58 Special Inspector -- is a representative of the Engineer or Geotechnical Engineer with specialized knowledge applicable to the installation of certain elements of the work (e.g. final cover, gas system, storm drainage, etc.).

1.01.59 Specifications -- are that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services.

1.01.60 Subcontractor -- means a person, partnership, corporation or joint venture which has a direct contract with Contractor to perform a portion of the Work at the Site.

1.01.61 Submittals -- include shop drawings, samples, manufacturer's brochures, pamphlets, catalog cuts, color charts or other descriptive data, clearly defining the article, material, equipment or device proposed by Contractor for use in the Work. "Shop drawings" are the drawings and diagrams showing details of fabrication and erection which Contractor is required to submit to the Engineer.

1.01.62 Substantial Completion -- is the stage in the progress of the Work, as determined by Metro, when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that Metro can occupy or use the Work for its intended use.

1.01.63 Supplier -- means an individual, partnership, corporation or joint venture entering into an agreement with Metro or Contractor for furnishing a portion of the Work which requires no labor at the Site, other than common carriers.

1.01.64 Unit Prices -- are the costs for specific units of work as defined in the Bid and Supplementary Conditions and include all costs, including, but not limited to, equipment, labor, materials, incidentals, Overhead and Profit, for the unit of work described.

1.01.65 Work -- means, unless the context requires otherwise, the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by Contractor to fulfill Contractor's obligations. The Work may constitute all or a portion of the Project as the context requires.

1.02 Intent and Interpretation of Contract Documents

1.02.01 Intent -- The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. The intent of the Contract Documents is to include in the Contract price the cost of all labor and materials, water, fuel, tools, plant, scaffolding, equipment, power, light, transportation, and all other facilities, services and expense as may be necessary for the proper execution of the Work, unless otherwise indicated in these Contract Documents. In interpreting the Contract Documents, words describing materials or work which have a well-known technical or trade meaning, unless otherwise specifically defined in the Contract Documents, shall be construed in accordance with such well-known meaning recognized by Engineer and Metro.

1.02.02 Divisions and Headings -- Titles and headings are for the convenience of organizing the Contract Documents and shall not be construed to limit Contractor's obligations hereunder. The General Conditions are divided into fifteen (15) Articles. The first-tier subheadings of each Article shall be referred to as Paragraphs; the second-tier sub-headings shall be referred to as Subparagraphs; and the third-tier subheadings shall be referred to as Clauses.

1.02.03 Mandatory Nature of Specifications and Drawings -- mention in the Specifications or indication on the drawings of articles, materials, operations, sequence or methods requires Contractor to furnish and install (i.e., provide) each article mentioned or indicated, of quality or according to qualifications noted, to perform each operation called for, in the sequence called for, and to provide therefor, all necessary labor, equipment and incidentals. The determination of the type of operations and methods to be utilized in the performance of the Work shall be the responsibility of Contractor unless the Contract Documents prescribe a specific type of operation, sequence or method, in which case Contractor shall comply with the prescribed operation, sequence or method. Sentences in the imperative tense or command format in these Contract Documents shall be deemed to be directed to Contractor and to require Contractor to perform the services and/or provide the materials described.

1.02.04 Precedence of Contract Documents -- all determination of the precedence of, or discrepancy in, the Contract Documents shall be made by Metro, but in general, precedence will be in accordance with the following list with the highest precedence item at the top:

1.02.04.01 Signed Construction Agreement.

1.02.04.02 Supplementary Conditions.

1.02.04.03 General Conditions, Advertisement for Bids, Instructions to Bidders, Invitation to Bid, Bid Forms, Performance Bond and Labor and Materials Payment Bond.

1.02.04.04 Specifications

1.02.04.05 Drawings.

Detailed information takes precedence over general information and words take precedence over numbers unless obviously incorrect.

Addenda, Clarifications and all Change Orders to the Contract Documents take the same order of precedence as the specific sections that they are amending.

1.02.05 Discrepancies, Errors and Omissions -- the intent of the Contract Documents is to require Contractor to perform and provide every detail and item necessary for completion of the Project. The Contract Documents are not complete in every detail, however, and Contractor shall comply with their intent and meaning, taken as a whole, and shall not avail itself of any manifest errors or omissions to the detriment of the Work. Should any error, omission, discrepancy or ambiguity appear in the Contract Documents, instructions or work done by others, Contractor shall immediately upon discovery submit a Request for Information to Metro pursuant to Paragraph 3.02. If Contractor proceeds with any such work without receiving a Clarification, Contractor shall be responsible for all resulting damage and defects, and shall perform any work necessary to comply with Metro's

Clarifications at no cost to Metro. Any work or material not indicated in the Contract Documents, which is manifestly necessary for full and faithful performance of the Work in accordance with the intent of the Contract Documents shall be indicated by Contractor on the shop drawings and provided by Contractor to the same extent as if both indicated and specified. Any work indicated on the drawings but not specified, or vice versa, shall be furnished in the manner specified above as though fully set forth in both. Work not particularly detailed, marked or specified shall be the same as similar parts that are detailed, marked or specified. In case of discrepancy or ambiguity, in quantity or quality, the greater quantity or better quality as determined by Metro, shall be provided at no extra cost to Metro.

1.02.06 Standards to Apply Where Detailed Specifications Are Not Furnished -- wherever in these Contract Documents or in any directions given by Metro pursuant to or supplementing these Contract Documents, it is provided that Contractor shall furnish materials or manufactured articles or shall do work for which no detailed Specifications are set forth, the materials or manufactured articles shall conform to the usual standards for first-class materials or articles of the kind required, with due consideration of the use to which they are to be put. Work for which no detailed Drawings or Specifications are set forth herein shall conform to the usual standards for first-class work of the kind required.

1.03 Supply of Contract Documents -- Metro shall supply Contractor, without charge, a maximum of ten (10) sets of Contract Documents. Contractor shall contact Metro for additional sets of documents for which Contractor shall be charged the cost of printing. All sets of Contract Documents supplied to Contractor, with the exception of one signed set and those supplied at Contractor's cost, are the property of Metro and shall be returned to Metro upon final completion of the Work.

1.04 Use of Contract Documents -- the Contract Documents were prepared for use in the construction of this Project only. No part of the Contract Documents shall be used for any other construction or for any other purpose except with the written consent of Metro. Any unauthorized use of the Contract Documents is at the sole responsibility of the user and such unauthorized use shall be deemed an activity in the performance of the Contract for purposes of Contractor's duty to indemnify under Article 11.

1.05 Copyright -- all submittals, record documents and any other products or documents produced by Contractor pursuant to this Contract are the property of Metro and it is agreed by the parties hereto that such documents are works made for hire. Contractor does hereby convey, transfer and grant to Metro all rights of reproduction and the copyright to all such documents.

1.06 Severability Clause -- should any provision of this Contract at any time be in conflict with any law, regulation or ruling, or be legally unenforceable for any reason, then such provision shall continue in effect only to the extent that it remains valid. In the event that any provision of this Contract shall become legally unenforceable, in whole or in part, the remaining provisions of this Contract shall nevertheless remain in full force and effect.

1.07 Notice or Service -- any written notice required or allowed under the Contract shall be deemed to have been communicated to the other party and service thereof shall be deemed to have been made if such notice is delivered in person to the individual, a member of the partnership or joint venture, or an officer of the corporation for whom it was intended or if delivered at or sent by regular, registered or certified mail to the last business address of the relevant person or party known to the person or party giving the notice or to Contractor's Site office if the notice is directed to Contractor. The date or time of service for purposes of all notices required or allowed under the Contract shall be the date and/or time upon which the relevant document was mailed or delivered as above-described.

The address given in the Bid is hereby designated as the legal business address of Contractor, but such address may be changed at any time by ten (10) days prior notice in writing, delivered to Metro.

ARTICLE 2 CONTRACTOR'S ORGANIZATION

2.01 Contractor's Authorized Representatives -- prior to commencing any work under this Contract, Contractor shall submit in writing to Metro a list of Contractor's authorized representatives. Such list shall include the name and title of each representative along with the extent to which each representative is authorized to represent, bind and act for Contractor. The description of extent of representation shall include, but not be limited to, the maximum dollar value of Change Orders which the individual may authorize, whether the individual may respond to Request for Proposals and for what maximum dollar amount and whether the individual may submit a claim pursuant to Paragraph 3.03. Contractor shall be fully liable for the acts, omissions and decisions of such representatives to the extent stipulated in the written list submitted to Metro.

Contractor shall at all times be represented at the Site by one or more of such authorized representatives, who, cumulatively, shall have complete authority to represent, bind and act for Contractor in all matters pertaining or related to this Contract. In the event that Contractor does not comply with this paragraph and, consequently, is not fully represented at the Site at all times, Contractor shall be deemed to acquiesce in all actions taken by Metro which pertain or relate to this Contract.

2.02 Contractor's Office at the Site -- prior to commencement of work at the site, Contractor shall establish a field office at the site acceptable to the Construction Coordinator. This office shall be located in a job trailer or temporary building. This office shall be the headquarters of Contractor's representatives authorized to receive notices, instructions, drawings or other communications from the Construction Manager on behalf of Metro or the Engineer and to act on Change Orders or other actions. Such notices, instructions, drawings or other communications given to such a representative or delivered to Contractor's site office in his/her absence shall be deemed to have been given to Contractor.

2.03 Key Personnel -- Contractor shall submit, in writing, to Metro a list of the names, addresses, and telephone numbers of its key personnel who are to be contacted in case of emergencies on the job during non-working hours, including Saturdays, Sundays and holidays and all other key personnel as may be required.

2.04 Contractor's Employees -- Contractor shall enforce strict discipline and good order among Contractor's employees and other persons carrying out the Work. Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

Whenever Metro shall notify Contractor that any employee on the Work is, in the judgment of Metro, incompetent, unfaithful, disorderly or refuses to carry out the provisions of the Contract, such employee shall be discharged or transferred from the Work.

Contractor shall give Metro, at its request at any time, full and correct information as to the number of workers employed in connection with each subdivision of the Work, the classification and rate of pay of each worker, the cost to Contractor of each class of materials, tools and appliances used by it in the Work, and the amount of each class of materials used in each subdivision of the Work.

2.05 Daily Construction Reports -- each day Contractor shall deliver to the Construction Manager a daily construction report which shall include, at a minimum, the following information:

2.05.01 Name of Contractor and Project.

2.05.02 Weather, temperature and any unusual Site conditions for the day in question.

2.05.03 A brief description and location of the day's work activities and any special problems and/or serious accidents or environmental releases, including preventative or mitigation measures taken. (including work of Subcontractors)

2.05.04 A description of significant progress in construction for that day as well as any problems encountered that might affect the progress of the Project as they relate to the Construction Schedule.

2.05.05 Any other information as requested by Metro or its representative.

2.06 Contractor to Supply Sufficient Material and Workers -- Contractor shall at all times keep on the premises sufficient material and employ sufficient supervision and workers to prosecute the Work at the rate necessary to substantially complete the Work herein required within the time specified in the Contract and in accordance with the Construction Schedule. Contractor shall coordinate the Work of its Subcontractors so that information required by one will be provided by others involved in time for incorporation in the Work in proper sequence and without delay of any materials, devices or provisions for future work.

2.07 Construction Plant, Equipment and Methods --the construction plant and equipment provided by Contractor, and Contractor's methods and organization for handling the Work shall be such as will secure a good quality of work and rate of progress which will ensure the completion of the Work within the time specified, in accordance with the Construction Schedule, and without violating state or federal environmental regulation during construction.

Contractor shall give Metro full information in advance as to Contractor's plans for carrying on any part of the Work. If at any time before the commencement or during the progress of the Work, any part of Contractor's plant or equipment, or any of Contractor's methods of executing the Work, appears to Metro to be inadequate to ensure the required quality, environmental protection or rate of progress of the Work, Metro may order Contractor to increase or improve its facilities or methods, and Contractor shall promptly comply with such orders. Neither compliance with such orders nor failure of Metro to issue such orders shall relieve Contractor from obligation or liability to secure the quality of work and the rate of progress required by the Contract. Contractor shall be responsible for overload of any part or parts of structures beyond their safe calculated carrying capacities, and for release of pollutants into surrounding waters resulting from Contractor's activities on the site.

Contractor shall provide temporary utilities pursuant to the Specifications and shall be responsible for the safety and adequacy of its plant, equipment and methods.

2.08 Contractor's Temporary Structures -- Contractor shall obtain all necessary permits for and shall erect and maintain at its own expense, and remove upon completion of the Work or as ordered by Metro temporary structures, sheds, barriers, walks, hoisting equipment, scaffolds, etc., as are necessary for the Work pursuant to these Contract Documents.

Contractor's temporary structures, equipment, stored materials, stored equipment, etc., shall be located so as not to interfere with the prosecution of the Work. If not so located, they shall be moved by Contractor, as directed by Metro, at no cost to Metro. Contractor's temporary structures, equipment or materials that obstruct progress of any portion of the work shall be removed or relocated by Contractor at Contractor's expense.

ARTICLE 3 ADMINISTRATION OF THE CONTRACT

3.01 Authority and Relationships of Metro and Engineer -- the following provisions shall govern the authority of the various officers, agents, representatives, consultants and employees of Metro, and Engineer. Except as specifically provided in this section, no individual acting or purporting to act as an officer, agent, representative, consultant or employee of Metro or Engineer shall have any authority to make representations, statements or decisions of whatever nature binding Metro or Engineer regarding any aspect of this Contract. Except as specifically provided in this Article, Contractor shall have no right to, and shall not rely on any such representation, statement or decision. Any reference to action by Metro in this Contract requires the written approval of the Metro Executive Officer or a person who is designated in writing by the Metro Executive Officer as having authority to act for Metro but only to the extent that such authority is expressly delegated in writing.

3.01.01 Authority of Metro -- except as otherwise provided herein, Metro shall determine the amount, quality, acceptability, fitness, and progress of the Work covered by the Contract. Metro and Engineer will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the work, and they will not be responsible for Contractor's failure to carry out the Work in accordance with the Contract Documents. Metro and Engineer will not be responsible for or have control over the acts

or omissions of Contractor, Subcontractors, or any of their agents or employees, or any other persons performing any of the Work. Nothing contained in this Contract is intended nor shall be construed to create any third-party beneficiary relationship between Metro and Contractor's subcontracting agents or employees.

It shall be the duty of Contractor to comply with all procedures established and/or implemented by Metro as stated above. In the event any such procedures are at variance with other provisions of these Documents, such procedures shall prevail.

Metro may call for meetings of Contractor, Contractor's Subcontractors and Suppliers as Metro deems necessary for the proper supervision and inspection of the Work. Such meetings shall be held at the Site on regular working days during regular working hours, unless otherwise directed by Metro. Attendance shall be mandatory for all parties notified to attend.

Contractor shall immediately comply with any and all orders and instructions given in accordance with the terms of this Contract by Metro.

Contractor has no right to, and shall not, rely on representations of whatever nature made by any individual, whether or not employed by or purporting to represent Metro or Engineer, unless such individual has been specifically and expressly delegated authority to make such representations pursuant to these Contract Documents. Likewise Contractor has no right, and shall not rely on any representations of authorized changes in the contract of whatever size or nature unless such change is in writing and signed by Metro.

Nothing contained in this Paragraph shall obligate Metro or Engineer to supervise Contractor's work under this Contract and Contractor shall remain fully responsible for the complete and proper supervision of all of the Work.

3.02 Clarifications -- should it appear that the Work to be done or any of the matters relative to the Contract Documents are not sufficiently detailed or explained in the Contract Documents, or should there be any questions which may arise as to the meaning or intent of the Contract Documents, Contractor shall immediately submit to Metro a written Request for Information which shall fully describe the information sought. It is Contractor's responsibility to request information under this Paragraph in sufficient time for review by Engineer and Metro so that the orderly progress and prosecution of the Work is not delayed.

The Engineer, in consultation with Metro, shall interpret the meaning and intent of the Contract Documents and shall issue, within ten (10) days of receiving a Request for Information from Contractor, a written Clarification describing such meaning and intent. Additionally, the Engineer, after consulting with Metro, may at any time issue written Clarifications as deemed necessary to carry out the Work included in the Contract Documents. Notwithstanding any dispute or disagreement which Contractor may have concerning any such Clarifications, Contractor shall perform the Work as prescribed and in accordance with all such Clarifications.

If notified by Metro that a Clarification is forthcoming, any related work done before the receipt of the Clarification shall be coordinated with Metro so as to minimize the

effect of the Clarification on work in progress. Any related work not coordinated with Metro done before receipt of the Clarification shall be at Contractor's risk and at no cost to Metro if that work does not conform to the Clarification.

If Contractor proceeds with work which is not sufficiently detailed or explained in the Contract Documents without requesting and obtaining a Clarification pursuant to this Paragraph, Contractor shall do so at its own risk and shall, at no cost to Metro, perform any additional work which may be required by Metro to bring the work into conformance with the intent of the Contract Documents.

3.03 Contractor's Claims

3.03.01 Generally -- no claims of any sort whatsoever by Contractor shall be considered or allowed under this Contract except as specifically provided and prescribed under this Paragraph. Failure to make a claim as specifically prescribed by this Paragraph or failure to perform disputed work, if any, as directed by Metro shall bar Contractor from any recovery of any sort or extension of time resulting from the facts surrounding the claim. Contractor's full and complete compliance with this Paragraph shall be a condition precedent to any right of Contractor to further prosecute any claim against Metro arising out of or related to Work described in the Contract Documents. Every decision and action of Metro shall be considered final unless Contractor makes a claim concerning such decision or action pursuant to this Paragraph.

3.03.02 Types of Claims -- the types of claims which Contractor may make are limited to the following:

3.03.02.01 Claims based upon justifiable delays as described in Subparagraph 3.03.03;

3.03.02.02 Claims based upon differing Site conditions as described in Subparagraph 3.03.04;

3.03.02.03 Claims based upon Clarifications or Change Orders issued by Metro or any other decision, action or failure to act by Metro as described in subparagraph 3.03.05.

As a condition precedent to any such claim, Contractor shall comply with all applicable procedural and substantive requirements of this Contract.

Contractor may make claims which include requests for extensions of the Contract Time and/or requests for increases in the Contract Amount. If Contractor believes that a single circumstance or set of facts gives rise to both a claim for an extension to the Contract Time and an increase in the Contract Amount, Contractor must state both such allegations in one written claim or waive the unstated allegation.

3.03.03 Claims For Justifiable Delays

3.03.03.01 Definition of Justifiable Delay -- if Contractor is significantly and justifiably delayed in the prosecution of the Work due to any of the acts, events or conditions described as justifiable delays below, Contractor may make a claim for an increase in the Contract Time and/or Contract Amount pursuant to Clause 3.03.03.02.

"Justifiable Delay" shall mean, and is limited to, the acts, events or conditions described in sections (a) through (j) below, if such act, event or condition has a materially adverse effect on the ability of Contractor to obtain the benefits of its rights or to perform its obligations under this Contract or materially increases the cost to Contractor to obtain the benefits of such rights or to perform such obligations and if such act, event or condition and its effect:

3.03.03.01.01 are beyond the reasonable control of Contractor (or any third party for whom Contractor is directly responsible);

3.03.03.01.02 do not arise out of (a) strikes, labor disputes or other labor difficulties involving Contractor or its Subcontractors or Suppliers or entities providing transportation to Contractor or its Subcontractors or Suppliers, (b) labor shortages, or (c) changing economic conditions; and

3.03.03.01.03 could not have been reasonably anticipated by Contractor.

The acts, events and conditions are:

(a) An Act of God.

(b) Inclement Weather.

(c) Acts of a public enemy, war (whether or not declared) or governmental intervention resulting therefrom, blockage, embargo, insurrection, riot or civil disturbance.

(d) The failure to issue or renew, or the suspension, termination, interruption or denial of, any permit, license, consent, authorization or approval essential to the Work, if such act or event shall not be the result of the willful or negligent action or inaction of Contractor, or of any third party for whom Contractor is directly responsible, and if Contractor shall be taking or have taken or shall cause to or have caused to be taken, all reasonable actions in good faith to contest such action (it being understood that the contesting in good faith of any such action shall not constitute or be construed as a willful or negligent act of Contractor).

(e) The failure of any appropriate federal, state, municipal, county or other public agency or authority or private utility having operational jurisdiction over the Work or

Site to provide and maintain utilities, services, water and sewer lines and power transmission lines to the Site, which are required for and essential to the Work.

(f) Epidemics or quarantines.

(g) Material, equipment or fuel shortages or freight embargoes.

(h) Priorities or privileges established for the manufacture, assembly or allotment of material by order, decree, or otherwise of the U. S. or by any department, bureau, commission, committee, agent or administrator of any legally constituted public authority.

(i) Changes in the work ordered by Metro if they require additional time to complete the work and adversely impact the Critical Path.

(j) The prevention by Metro of Contractor from commencing or prosecuting the Work.

Acts, events, or conditions outside the control of the Engineer, Construction Manager, Metro or Contractor which are found to be justifiable delay under 3.03.03.01.03 (a) through (h), may result in a time extension but the risk for bearing the cost of extended overhead will remain with Contractor.

No claim for extension of the Contract Time will be considered for Inclement Weather unless Contractor submits documentation that such weather conditions are abnormal for the area and period of time in question; that they could not have been reasonably anticipated; and that the Inclement Weather had a significantly adverse effect on the Construction Schedule.

Delays in delivery of equipment or material purchased by Contractor or its Subcontractors or Suppliers (including Metro-selected equipment) shall not be considered as a just cause for delay if timely ordering would have made the equipment available. Contractor shall be fully responsible for the timely ordering, scheduling, expediting, delivery, and installation of all equipment and materials.

The term "delay" shall specifically not include and no extension of the Contract Time or increase in the Contract Amount shall be allowed for (i) any delay which could have been avoided by the exercise of care, prudence, foresight and diligence on the part of Contractor; (ii) any delay in the prosecution of parts of the Work, which may in itself be unavoidable but which

does not necessarily prevent or delay the prosecution of other parts of the Work, nor the Substantial Completion of the Work of this Contract within the time specified; (iii) any reasonable delay resulting from the time required by Metro for review of Submittals or Shop Drawings submitted by Contractor and for the making of surveys, measurements and inspections; (v) any delay arising from an interruption in the prosecution of the Work on account of the reasonable interference from Other Metro Contractors which does not necessarily prevent the Substantial Completion of the Work of this Contract within the time specified; and (vi) any delay resulting in any manner from labor disputes, strikes or difficulties or any delay resulting in any manner from any labor-related event, act or condition whether or not Contractor has any control over such event, act or condition.

3.03.03.02 Justifiable Delay Claims Procedure -- Contractor shall, within twenty-four (24) hours of the start of the occurrence or Contractor's first knowledge of the occurrence which is the basis of the claim for justifiable delay, which ever is earlier, notify Metro in writing of such delay. The written notice by Contractor shall indicate the cause of the delay and shall estimate the possible time extension requested. Within ten (10) days after the cause of the delay has been remedied, Contractor shall give written notice to the Construction Manager of any actual time extension and any increase in the Contract Amount requested as a result of the aforementioned occurrence in accordance with this Contract.

Within Twenty-one (21) days after Contractor submits to the Construction Manager such a written notice for an extension of time and/or increase in the Contract Amount, the Construction Manager will issue the decision on each request. If Contractor is dissatisfied with such decision, Contractor may preserve its claim as provided and prescribed by Subparagraph 3.03.06.

3.03.04 Claims for Differing Site Conditions -- Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Construction Manager of (i) subsurface or latent physical conditions at the Site which differ materially from those indicated in this Contract, or (ii) unknown physical conditions at the Site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

The Construction Manager shall investigate the Site conditions promptly after receiving the notice. If the conditions do materially so differ as to cause an increase or decrease in Contractor's cost of, or the time required for performing any part of the Work under this Contract, whether or not changed as a result of the conditions, an equitable adjustment shall be made and a Change Order issued.

If Contractor is dissatisfied with the decision of the Construction Manager under this Subparagraph, Contractor may preserve its claim as provided and prescribed by Subparagraph 3.03.06.

3.03.05 Other Contractor Claims -- Contractor claims based upon Clarifications or Change Orders issued by Metro or any other decision, action or failure to act by Metro shall be made according to this Subparagraph.

Contractor shall, within twenty-four (24) hours following discovery of the facts which give rise to its claim, notify the Construction Manager in writing of its intent to make the claim. Within ten (10) days following discovery of the facts which give rise to its claim and prior to commencing the work or conforming to the Clarification on which the claim is based, if any, Contractor shall submit its formal written claim to the Construction Manager. Contractor's formal claim shall include a description of:

3.03.05.01 the factual occurrences upon which Contractor bases the claim including the decision, action or failure to act by Metro or its authorized representatives that allegedly give rise to the claim;

3.03.05.02 how Metro's decision, action or failure to act has affected Contractor's performance or otherwise affected Contractor;

3.03.05.03 whether the claim is for an extension in the Contract Time or increase in the Contract Amount or both and the specific extension or increase requested;

3.03.05.04 the provisions of the Contract upon which the claim is based.

Submission of written notice of intent to make a claim and formal claim as specified above shall be mandatory and failure to comply shall be a conclusive waiver to any claim by Contractor. Oral notice or statement will not be sufficient nor will notice or statement after commencing the work in question.

After the written notification is submitted by Contractor (if the claim is not resolved or withdrawn in writing) and only upon written direction by the Construction Manager, Contractor shall proceed without delay to perform the work pursuant to the direction of the Construction Manager. While the work on an unresolved claim is being performed, Contractor shall keep track of costs and maintain records in the manner set forth in the section on Force Account Work, at no cost to Metro. Such notice by Contractor and the fact that Contractor is keeping track of costs and maintaining records shall not in any way be construed as proving the validity of the claim nor the costs thereof.

Provided the claim or claims have been submitted in accordance with the requirements of this Article, the Construction Manager will consider and investigate the claim or claims of Contractor. Within twenty-one (21) days of receipt of the above-described written notification of claim the Construction Manager will advise Contractor of the Construction Manager's decision to accept or reject the claim or claims, in full or in part. If Contractor is dissatisfied with the decision of the Construction Manager under this Subparagraph, Contractor may preserve its claim as provided and prescribed by Subparagraph 3.03.06.

3.03.06 Preservation of Claims -- Within forty-five (45) days after a rejection of claim, in whole or in part, by Metro under Subparagraphs 3.03.03, 3.03.04 or 3.03.05, Contractor may preserve its claim by submitting a fully documented claim package to Metro. That package shall include substantiating documentation with an itemized breakdown of Contractor and Contractor's Subcontractor's costs on a daily basis which shall include, but not be limited to, labor, material, equipment, supplies, services, Overhead and Profit. All documentation that Contractor believes is relevant to the claim shall be provided in the claim package including without limitation, payroll records, purchase orders, quotations, invoices, estimates, correspondence, profit and loss statements, daily logs, ledgers and journals. Failure to submit the claim package in full compliance with this requirement, and/or maintain cost records as herein required, will constitute a waiver of the claim.

If Contractor elects to pursue any claims by filing a lawsuit against Metro, it must commence such lawsuit within six (6) months after the date of Substantial Completion. Failure to commence a lawsuit within this time limitation shall constitute a waiver of all such claims by Contractor.

3.04 Metro's Rights to Damages

3.04.01 Liquidated Damages for Delay -- Time is the essence of the performance of the Work under this Contract. If Contractor fails to substantially complete the Work within the Contract Time, the actual damage to Metro for the delay will be substantial but will be difficult or impractical to determine. It is therefore agreed that Contractor will pay to Metro, not as a penalty but as liquidated damages, the amount of one thousand ($1,000.00) dollars, for each and every day that the date of Substantial Completion extends beyond the Contract Time.

Permitting Contractor to continue and finish the work or any part thereof after the Contract Time has expired shall in no way operate as a waiver on the part of Metro of any of its rights under this subparagraph or the balance of the Contract Documents.

3.04.02 Payment of Liquidated Damages Not a Bar to Metro's Right to Other Damages -- Payment of liquidated damages shall not release Contractor from obligations in respect to the complete performance of the Work, nor shall the payment of such liquidated damages constitute a waiver of Metro's right to collect any additional damages which it may sustain by failure of Contractor to fully perform the Work, it being the intent of the parties that the aforesaid liquidated damages be full and complete payment only for failure of Contractor to complete the Work on time. Metro expressly reserves the right to make claims for any and all other damages which Metro may incur due to Contractor's failure to perform in strict accordance with this Contract.

3.05 Arbitration -- Both parties shall, in good faith, attempt to negotiate resolutions to all disputes arising out of this Contract. Subject to the conditions and limitations of this paragraph, any controversy or claim arising out of or relating to this Contract which remains unresolved after such negotiations shall be exclusively settled by arbitration under the laws of the state of Oregon, in accordance with the Commercial Arbitration Rules of the American Arbitration Association. All disputes shall be heard and decided by one arbitrator and all arbitration proceedings shall be held in Portland, Oregon. However, all disputes concerning Metro's right to the equitable remedy of specific performance shall not be subject to arbitration, but shall be

decided exclusively by a court of competent jurisdiction in Multnomah County, Oregon, under the laws of the state of Oregon.

Contractor agrees to consolidation of any arbitration between Metro and Contractor with any other arbitration involving, arising from, or relating to this Contract.

In the event that Metro determines, in its sole opinion, that the public interest requires a speedy resolution of any controversy or claim regardless of the amount, Metro shall have the option of electing resolution of the controversy or claim by the Expedited Procedures of the Commercial Arbitration Rules of the American Arbitration Association (Rules 54 through 58).

In no event shall submission of a dispute arising out of this Contract, by either party, relieve Contractor of its obligation to fully perform the requirements of the Contract as directed by Metro, pending resolution of the dispute pursuant to the procedures set forth in this Article. In the event Contractor, in Metro's opinion, fails to fully perform the requirements of the Contract pending resolution of a dispute, Metro shall be entitled to exercise its rights to impose liquidated damages pursuant to Subparagraph 3.04.01, or terminate the Contract pursuant to Article 15 of this Contract.

Each party hereto and Contractor's Surety accepts jurisdiction of the courts of the state of Oregon for the purposes of commencing, conducting and enforcing such arbitration proceedings and agrees to accept notice in writing sent by certified letter addressed to said party of intention to proceed with arbitration and of any other step in connection therewith or enforcement thereof, with the same effect as though personally served therewith in the state of Oregon. The decision of the arbitrator shall be final and binding upon both parties and Contractor's Surety who hereby agree to comply therewith. The parties agree that proper venue for any judicial proceeding to enforce any decision or award made by an arbitrator under this section shall be exclusively in the county of Multnomah in the state of Oregon.

ARTICLE 4 SUBCONTRACTING AND ASSIGNMENT OF THE CONTRACT

4.01 Contractor's Responsibility for the Work -- Contractor shall perform or cause to be performed all labor, services and work of whatever nature and shall provide or cause to be provided all materials, equipment, tools and other facilities of whatever nature necessary to complete the Work and shall otherwise cause the Work to be completed in accordance with the Contract Documents.

Contractor shall take and assume all risk for all work and material involved in the Project until the entire Project has been finally accepted by Metro.

Contractor shall supervise and direct the Work, using Contractor's best skill and attention. Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters.

4.02 Subcontracting -- Contractor shall arrange and delegate its work in conformance with trade practices and union regulations, if applicable, but shall remain responsible to Metro for performance of all work required or implied by the Contract Documents. Contractor shall also be responsible for coordinating the efforts of its Subcontractors and Suppliers.

4.02.01 Objection to Subcontractors or Suppliers -- Metro reserves the right to make reasonable objection to any of Contractor's Subcontractors or Suppliers if Metro discovers any data or information at any time during the performance of the Contract which gives Metro a basis for such reasonable objection.

Metro will notify Contractor in writing if Metro has any reasonable objection to any of Contractor's Subcontractors or Suppliers. Contractor shall not subcontract with any Subcontractor or Supplier to which Metro has made a reasonable objection. In the event of Metro's reasonable objection to any Subcontractor or Supplier, Contractor shall propose another entity to which Metro has no reasonable objection. The Contract Amount shall not be increased by any difference in cost occasioned by such substitution, nor shall the Contract Time be extended.

4.02.02 Substitution, Change or Addition of Subcontractors or Suppliers -- At any time that Contractor intends to substitute, change or add a Subcontractor or Supplier during the performance of the Contract, Contractor shall give Metro prior written notice of such intention. Contractor shall not substitute, change or add any such Subcontractor or Supplier if Metro gives Contractor reasonable objection in writing within ten (10) days after Metro receives such notice.

When any Subcontractor fails to prosecute a portion of the Work in a satisfactory manner, Metro may so notify Contractor. If the Subcontractor fails to cure the unsatisfactory work promptly, Contractor shall remove such Subcontractor immediately upon written request of Metro and Contractor shall request approval from Metro of a new Subcontractor to perform this section of the Work at no increase in the Contract Amount, and with no change in the Contract Time.

4.02.03 Metro Not Obligated to Detect Unsatisfactory Work -- Nothing contained in this Contract shall obligate Metro or place on Metro an affirmative duty to detect or discover unsatisfactory work or materials of Contractor's Subcontractors or Suppliers. Failure of Metro to detect or discover such unsatisfactory work or materials shall not relieve Contractor of any of its obligations under this Contract.

4.02.04 No Contractual Relationships Between Metro and Contractor's Subcontractors and Suppliers --Nothing contained in this Contract is intended nor shall be construed to create any contractual or third-party beneficiary relationship between Metro and any of Contractor's Subcontractors, Suppliers or agents, save and except in relation to the Labor and Materials Payment Bond .

4.02.05 Contractor's Agreements with Subcontractors -- Contractor shall provide in all subcontract and supply agreements that the Subcontractor or Supplier will be bound by the terms and conditions of this Contract to be extent that they relate to the Subcontractor's or Supplier's work. Where appropriate, Contractor shall require each Subcontractor to enter into similar agreements with sub-tier Subcontractors and Suppliers. Contractor shall make available to each proposed Subcontractor and Supplier, prior to the execution of the subcontract or supply agreement, copies of the Contract Documents which apply to the work and materials to be provided by the Subcontractor or Supplier. Subcontractors and Suppliers shall similarly make copies of applicable portions of such documents available to their respective proposed sub-tier Subcontractors and Suppliers.

All Subcontractor's and Supplier's agreements shall also provide that they are assignable to Metro at Metro's option, in the event that Metro terminates the Contract. Contractor will provide to Metro, a copy of all subcontracts and supply contracts for permanent materials.

Nothing contained in this Subparagraph shall be construed as creating a direct or indirect contractual relationship between Metro and any of Contractor's Subcontractors or Suppliers. No such Subcontractor or Supplier shall have, or shall claim to have, any third-party beneficiary rights or status in relations to this Contract, save and except in relation to the Labor and Materials Payment Bond provided by Contractor.

4.03 Assignment -- Contractor shall constantly give its personal attention to the faithful prosecution of the Work. Contractor shall keep the Work under its personal control and shall not assign any or all of Contractor's rights, by power of attorney or otherwise, nor delegate any of its duties except with the prior written approval of the Metro Council.

ARTICLE 5 TIME OF COMPLETION AND SCHEDULE FOR THE WORK

5.01 Prosecution of Work Generally -- Contractor shall commence the Work within ten (10) days after issuance of written Notice to Proceed from Metro and will diligently prosecute the Work to its Final Completion and Acceptance. The start of Work shall include attendance at preconstruction conferences, preparation and submittal of shop drawings, equipment lists, Schedule of Values, CPM construction schedules, requests for substitutions and other similar activities, as described by these Contract Documents.

5.02 Time of Completion -- Contractor shall bring the Work to Substantial Completion within the Contract Time as set forth in the Construction Agreement.

The time limits stated in these Contract Documents are of the essence of this Contract. By executing the Construction Agreement, Contractor confirms that the Contract Time is a reasonable period for performing all of the Work.

Failure of Contractor to substantially complete the Work within the Contract Time and according to the provisions of these Contract Documents shall subject Contractor to damages pursuant to the applicable sections of these Contract Documents.

5.03 Extensions of Time -- Extensions of the Contract Time shall be made pursuant to the procedure and according to the provisions and requirements contained in Articles 3 and 8 of these Contract Documents.

5.04 Project Scheduling -- Contractor shall submit to Metro a detailed Construction Schedule for completion of the work pursuant the Specifications. The Construction Schedule shall, when approved and as updated and approved by Metro, become a part of the Contract Documents.

5.05 Use of Completed Parts of the Work Before Acceptance -- Whenever, in the opinion of Metro, the Work or any part thereof is in a condition suitable for use and it is in the best interest of Metro to require such use, Metro may take possession of, connect to, open for public use, or use the Work or a part thereof. When so used, maintenance and repair due to ordinary wear and tear or vandalism will be made at Metro's expense and Metro will defend liability claims which may result from such use by Metro. The use by Metro of the Work or part thereof as contemplated in this Paragraph shall in no case be construed as constituting acceptance of the

Work or any part thereof. Such use shall neither relieve Contractor of any of its responsibilities under the Contract Documents, nor act as a waiver by Metro of any of the conditions thereof.

ARTICLE 6 COORDINATION WITH OTHER METRO CONTRACTORS

6.01 Other Metro Contractors Generally -- Metro reserves the right to award other contracts in connection with the work. Contractor shall afford all such Other Metro Contractors reasonable opportunity for storage of their materials and execution of their Work, shall provide that the execution of Contractor's Work properly connects and coordinates with work of all Other Metro Contractors, and shall cooperate with Other Metro Contractors to the end of facilitating the Work in such a manner as Metro may direct.

6.02 Duty to Inspect Other Metro Contractors' Work -- Where Contractor's work is associated with that of Other Metro Contractors, or is to interface in any way with such Other Metro Contractor's work, Contractor shall examine, inspect and measure the adjacent or in-place work of such Other Metro Contractors. If Contractor determines that any defect or condition of such adjacent or in-place work will impede or increase the cost of Contractor's performance or otherwise prevent the proper execution of Contractor's Work, Contractor shall immediately, and before performing any work affected by the Other Metro Contractors' work, submit a Request for Information to Metro pursuant to Paragraph 3.02. If Contractor proceeds without examining or inspecting the work and submitting a Request for Information, Contractor shall be held to have accepted the Other Metro Contractors' work or material and the existing conditions, and shall be responsible for any defects in Contractor's Work resulting therefrom and shall not be relieved of any obligation or any warranty under this Contract because of any such condition or imperfection. This provision shall be included in any and all of Contractor's subcontracts for Work to be performed.

The foregoing does not apply to latent defects. Contractor shall report latent defects in any Other Metro Contractors' work at any time such defects become known or Contractor should have known, and Metro shall promptly thereafter take such steps as may be appropriate. If Contractor in the exercise of reasonable care should have known of such defects but did not report them, such defects shall not be considered latent.

6.03 Duty to Maintain Schedule -- It shall be the responsibility of Contractor to maintain its schedule so as not to delay the progress of the Project or the work of Other Metro Contractors. Contractor is required to cooperate in every way possible with Other Metro Contractors. Except as otherwise specifically provided in this Contract, no additional compensation will be paid for such cooperation. If Contractor delays the progress of the Project or the progress of Other Metro Contractors, it shall be the responsibility of Contractor to take all of the steps necessary to bring the affected work into compliance with any affected schedules and to indemnify Metro from all liability for such delays pursuant to Article 11.

Metro shall be under no duty to monitor or detect any delays of Contractor or any Other Metro Contractor on the Project or any lack of coordination on the Project. Consequently, the failure of Metro to so monitor or detect shall not be construed as relieving Contractor of its duties to fully perform all of its obligations under the Contract.

6.04 Failure to Maintain Schedule -- If, in the opinion of Metro, Contractor falls behind the Construction Schedule or delays the progress of Other Metro Contractors and is not entitled to an extension of time pursuant to the Contract Documents, Contractor shall perform all steps which are necessary, in the opinion of Metro, to bring Contractor's Work into compliance with the Construction Schedule or to remedy any delay to the progress of Other Metro Contractors.

Contractor shall submit operation plans to Metro, which plans shall fully demonstrate the manner of intended compliance with this Paragraph. The steps referred to above shall include, but not be limited to:

6.04.01 Increase manpower in such quantities and crafts as will substantially eliminate the backlog of work.

6.04.02 Increase, when permitted, the number of working hours per shift, shifts per working day, working days per week, or the amount of equipment or any combination of the foregoing, sufficient to eliminate the backlog of work.

6.04.03 Reschedule activities to achieve maximum practical concurrence of accomplishment of activities.

6.04.04 Expedite delivery of materials and equipment such as use of air freight.

If Metro directs Contractor to take measures described in this Paragraph, or if Contractor takes such measures without direction from Metro, Contractor shall bear all costs of complying. Metro shall, however, reimburse Contractor for reasonable costs of complying if such directive to accelerate from Metro was issued to overcome delay caused by the acts or omissions of Metro or persons acting for Metro, provided Contractor has complied with all applicable provisions of Articles 3 and 8 of this Contract.

Failure to maintain the construction schedule or to take action to regain the schedule or to furnish a schedule as outlined in the specifications may result in withholding of all or part of the monthly progress payments.

6.05 Failure to Coordinate Work -- If Contractor fails to coordinate its work with the work of Other Metro Contractors as directed by Metro, Metro may, upon written notice to Contractor:

6.05.01 Withhold any payment otherwise due hereunder until Contractor complies with Metro's directions.

6.05.02 Direct others to perform portions of the affected Work and charge the cost of such Work against the Contract Amount or deduct the cost from sums held in Retainage.

6.05.03 Terminate any or all portions of the Work for Contractor's failure to perform in accordance with the Contract.

6.06 Other Metro Contractors' Failure to Coordinate -- If Contractor determines that any Other Metro Contractor on this Project is failing to coordinate its work with the Work of Contractor, Contractor shall immediately and before performing any affected Work submit a Request for Clarification to Metro pursuant to Paragraph 3.02.

6.07 Conflicts Among Contractors -- Any difference or conflict that may arise between Contractor and Other Metro Contractors in regard to their work shall be adjusted as determined by Metro. If directed by Metro, Contractor shall suspend any part of the Work specified or shall carry on the same in such manner as may be prescribed by Metro when such suspension or prosecution is necessary to facilitate the work of Other Metro Contractors.

6.08 Coordination Drawings -- Contractor shall prepare coordination drawings as determined necessary by Metro, to satisfactorily coordinate and interface its Work with the work of all Other Metro Contractors, thereby avoiding conflicts which may arise.

6.09 Conferences -- At any time during the progress of the Work, Metro shall have authority to require Contractor to attend any conference of any or all of Contractors engaged in the Project or related projects.

ARTICLE 7 CONTROL AND QUALITY OF WORK AND MATERIAL

7.01 Quality Control

7.01.01 Generally -- Contractor has the primary responsibility for quality control. Contractor will provide continuous superintendence and inspection to insure that the work in completed in accordance with the plans and specifications, Additionally, during the performance of the Work, Metro, the Engineer, and Special Inspectors, or any other persons deemed necessary by any of them acting within the scope of the duties entrusted to them, including representatives of federal, state, and local agencies having jurisdiction over the Work, may at any time, and for any purpose, enter upon the Site, the shops where any part of such Work may be in preparation, or the factories or sites where any materials for use in the Work are being or are to be manufactured or derived. Contractor shall provide proper and safe facilities therefor, and shall make arrangements with manufacturers or other suppliers to facilitate inspection of their processes and products to such extent as Metro's interest may require.

No claims for extension of the Contract Time or increase in the Contract Amount shall be allowed for any access allowed to Metro under this Paragraph.

7.01.02 Quality Control Plan -- Contractor shall prepare and submit to the Construction Manager within thirty (30) days following Notice to Proceed a Quality Control Plan which describes Contractor's procedures for implementing the Quality Control Program. The Plan shall include, but not be limited to, the Quality Control Organization, inspection procedures, tests anticipated, materials control, contingency plans related to fire protection and remediation of contaminated releases or other environmental improvement, and reports. Metro reserves the right to accept or reject or modify the Quality Control Plan. Contractor will submit an interim Quality Control Plan prior to the start of work to cover the first thirty (30) days of construction.

7.01.03 Quality Control Manager -- Prior to initiation of construction Contractor shall designate in writing a Quality Control Manager who shall be responsible for coordinating Contractor's Quality Control Program. The individual so designated shall be the interface with the Construction Manager on matters relating to submittals, inspection, scheduling, unacceptable work product and corrective actions. Metro reserves the right to accept or reject the Quality Control Manager designated by Contractor.

7.02 Inspection -- Contractor has the primary responsibility for providing inspection and testing, except as otherwise set forth in the specifications. Metro and its agents will also inspect at their discretion or as outlined in the specifications.

7.02.01 Generally -- Contractor shall at all times commencing with the issuance of the Notice to Proceed until Final Completion and Acceptance of the Work, permit Metro, the Engineer, and Special Inspectors, or any other persons deemed necessary by any of them acting within the scope of the duties entrusted to them, including representatives of federal, state, and local agencies having jurisdiction over the Work, to visit and monitor the progress of the Work for conformance of the Work with the Contract Documents.

7.02.02 Special Inspections -- Contractor shall at all times, commencing with the issuance of the Notice to Proceed until Final Completion and Acceptance of the Work, permit Metro, the Engineer, and Special Inspectors, or any other persons deemed necessary by any of them acting within the scope of the duties entrusted to them, including representatives of federal, state, and local agencies having jurisdiction over the Work, to visit and inspect the Work, the materials and the manufacture and preparation of such materials, and subject the Work and materials to inspection and testing to determine if the Work conforms to the requirements of the Contract Documents. Contractor shall maintain proper facilities and safe access for all such inspections. Where the Contract requires work to be inspected or tested, it shall not be covered up until inspected, tested and approved by Metro. Contractor shall be solely responsible for notifying Construction Manager at least two (2) working days prior to performing such work, so that necessary arrangements for inspection and testing can be made. Should any work be covered without such inspection or test and approval, it shall be uncovered and repaired at Contractor's expense.

7.02.03 Notice to Metro for Certain Work Days -- Whenever Contractor intends to perform work on Saturday, Sunday or any legal holiday, it shall give written notice to Metro of such intention at least two (2) working days prior to performing such work, or such other period as may be specified by Metro, so that Metro may make the necessary arrangement for testing and inspection.

7.02.04 Correction of Defective Work Before Acceptance -- Any defective work or work which otherwise fails to conform to the Contract Documents, which is discovered before Final Completion and Acceptance of the Work, shall be corrected immediately by Contractor, and any unsatisfactory materials shall be rejected and replaced with satisfactory materials, notwithstanding that they may have been overlooked by the authorized inspector. The inspection of the Work by Metro, the Engineer or any other agency shall not relieve Contractor of any of its obligations to perform fully all of the terms and provisions of the Contract Documents.

7.02.05 Acceptance Not Implied by Failure to Object -- Failure or neglect on the part of Metro or any of its authorized representatives to condemn or reject defective, improper or inferior work or materials shall not be construed to imply a final acceptance of such work or materials and shall not be construed as relieving Contractor of its duties to perform fully all requirements of the Contract Documents.

7.03 Unsatisfactory Materials and Workmanship

7.03.01 Generally -- Material, work or workmanship which, in the opinion of the Construction Manager, does not conform to the Contract Documents, or is not equal to the samples submitted to and approved by the Construction Manager, or is in any way unsatisfactory or unsuited to the purpose for which it is intended, will be rejected. Contractor shall bear the cost of correcting or removing as deemed necessary by

Metro, all non-conforming materials, work or workmanship. Contractor shall make a close inspection of all materials as delivered, and shall promptly replace all defective materials with conforming materials without waiting for their rejection by Metro.

7.03.02 Removal of Rejected or Non-Conforming Work or Material -- All rejected material or work, and all defective or non-conforming work or material, shall be removed from the Site without delay. If Contractor fails to do so within forty-eight (48) hours after having been so directed by Metro, the rejected material may be removed by Metro and the cost of removal charged against Contractor and deducted from Retainage held by Metro or offset against payments due Contractor, at Metro's option.

If in the judgment of Metro it is undesirable or impracticable to replace any defective or non-conforming work or materials, the compensation to be paid to Contractor shall be reduced by Change Order or Force Account, as applicable, by such amount as, in the judgment of Metro, shall be equitable.

7.04 General Warranty of Contractor -- Contractor warrants to Metro that materials and equipment provided under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects and contaminants not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage. If required by Metro, Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

The warranty made by Contractor under this Paragraph shall be in addition to any other specific warranties and certifications required elsewhere in these Contract Documents.

7.05 Correction of Work by Contractor -- Contractor shall be responsible for and shall promptly correct or replace any defective Work, whether due to faulty or contaminated materials or errors in workmanship, or Work failing to conform to the requirements of the Contract Documents which may be discovered or which may develop within one (1) year after the date of Substantial Completion or within such longer period as is specified below or otherwise in these Contract Documents.

In the case of equipment manufactured by others and supplied and/or installed by Contractor, the one (1) year period shall commence upon the date of first beneficial operation of such equipment by Metro. In the case of Work which is corrected or replaced by Contractor, the one (1) year period shall commence again on the date of acceptance by Metro of such corrected or replaced Work. Testing shall not be construed to mean acceptance.

If Metro does not require correction or replacement of defective Work or Work failing to conform to the Contract Documents, Contractor, if required by Metro, shall repay to Metro such portion of the Contract Amount as is equitable under the circumstances, as determined by Metro.

Contractor's responsibilities under this Paragraph shall not extend to correction or replacement of defects which are attributable to mistreatment by Metro or to normal wear and tear.

7.06 Warranty and Correction Agreements by Subcontractors

7.06.01 Generally -- In addition to any requirements for written warranties required by the Specifications, Contractor shall require all of its Subcontractors and Suppliers of any tier to make the same warranty to Metro as Contractor makes under Paragraph 7.04. Contractor shall also require all of its Subcontractors and Suppliers of any tier to agree to correct or replace defective Work or Work not conforming to the Contract Documents, and to take full responsibility for defective materials, in the same manner as Contractor agrees to correct or replace such Work under Paragraph 7.05.

7.06.02 Form of Submissions -- Contractor shall require all of its Subcontractors and Suppliers of any tier to sign documents evidencing the promises made pursuant to Subparagraph 7.06.01 above and shall submit such documents to Metro with its request for Final Payment. Such documents shall be signed by both Contractor and the applicable Subcontractor or Supplier and shall be in the following form:

"We the undersigned hereby warrant that the _____

_____
(described work performed and/or materials provided)

which we have provided for the construction of the Procurement and Stockpiling of Soil for the St. Johns Landfill has been done in accordance with the Contract Documents and that the work as provided will fulfill the requirements of the warranty included in Article 7 of the Contract Documents.

"We agree to correct or remove and replace any or all of our work, together with any other adjacent work which may be displaced or affected by so doing, that may be defective in its workmanship or materials or which may fail to conform to the requirements of the Contract Documents within a period of one (1) year following the applicable date described in Paragraph 7.05 without any expense whatsoever to Metro, normal wear and tear and mistreatment excepted.

"In the event of our failure to comply with the above-mentioned conditions within twenty (20) calendar days after Metro notifies Contractor in writing, we collectively and separately do hereby authorize Metro to proceed to have said defects repaired and corrected at our expense and we will honor and pay the costs and to dispose of nonconforming materials and charges therefore upon demand."

7.07 Remedies Not Restrictive -- The remedies provided for in this Article shall not be restrictive of but shall be cumulative and in addition to all other remedies of Metro in respect to latent defects, frauds or failure to perform all work as required by the Contract Documents.

7.08 Proof of Compliance with Contract Provisions -- For Metro to determine whether Contractor has complied or is complying with the requirements of the Contract which are not readily enforceable by inspection and test of the Work, Contractor shall, upon request, promptly submit to Metro such properly authenticated documents as may be necessary to demonstrate compliance with the Contract or other satisfactory proof of its compliance with such requirements.

7.09 Patents, Copyrights, Trademarks -- All fees or costs of claims for any patented invention, article or arrangement or any copyrights or trademarks that may be used upon or in any manner

connected with the performance of the Work or any part thereof, shall be included in the Bid for doing the Work. Contractor shall save, keep, hold harmless, and fully indemnify Metro and Engineer from all damages, claims for damage, lawsuits, costs, expenses or liabilities of whatever nature in law or equity, including attorney's fees and court costs, which may at any time arise or be set up for any infringement of the patent rights, copyrights or trademarks of any person or persons in consequence of the use by Metro of articles to be supplied under the Contract and of which Contractor is not the patentee or assignee or has not the lawful right to sell the same. This is in addition to all other hold harmless and indemnification clauses in these Contract Documents.

7.10 Anti-Trust Claims -- By entering into this Contract, Contractor, for consideration paid to Contractor under the Contract, does irrevocably assign to Metro any claim for relief or cause of action which Contractor now has or which may accrue to Contractor in the future, including, at Metro's option, the right to control any such litigation on such claim for relief or cause of action, by reason of any violation of 15 USC Section 1-15, ORS 646.725 or ORS 646.730, in connection with any goods or services that are used, in whole or in part, for the purpose of carrying out Contractor's obligations under this Contract.

Contractor shall require all Subcontractors and Suppliers to irrevocably assign to Metro, as a third party beneficiary any right, title or interest that has accrued or may accrue to the Subcontractors or Suppliers by reason of any violation of 15 USC Section 1-15, ORS 646.725 or ORS 646.730, including, at Metro's option, the rights to control any litigation arising thereunder, in connection with any goods or services provided to the Subcontractors or Suppliers by any person, in whole or in part, for the purpose of carrying out the Subcontractors' or Suppliers' obligations as agreed to by Contractor in pursuance of the completion of the Contract.

In connection with Contractor's, Subcontractors' or Suppliers' assignment, it is an express obligation of Contractor, Subcontractor or Supplier that it will take no action which will in any way diminish the value of the rights conveyed or assigned hereunder to Metro. It is an express obligation of Contractor, Subcontractor or Supplier to advise the General Counsel of Metro:

7.10.01 In advance, of its intention to commence any action on its own behalf regarding such claims for relief or causes of action;

7.10.02 Immediately, upon becoming aware of the fact that an action has been commenced on its own behalf by some other person or persons, of the pendency of such action; and

7.10.03 The date on which it notified the obligor(s) of any such claims for relief or causes of action of the fact of its assignment to Metro.

Furthermore, it is understood and agreed that in the event that any payment under any such claim is made to Contractor, Subcontractor or Supplier, it shall promptly pay over to Metro its proportionate share thereof, if any, assigned to Metro hereunder.

ARTICLE 8 CHANGES IN THE WORK

8.01 Change Orders Generally -- Metro may order changes in the Work herein required, including deletions of work, and may order additional materials and work in connection with the performance of the Work.

If such changes in the Work increase or decrease the cost of any part of the Work or change the time necessary to complete the Work, the Contract Amount shall be increased or decreased

by such amount and the Contract Time changed as Contractor and Metro may agree upon as reasonable in a written Change Order. Contractor shall promptly comply with such Change Orders and carry them out in accordance with the Contract Documents.

No order for any alteration, modification or additional work which shall increase or decrease the Contract Amount or change the Contract Time shall become part of the Contract unless the resulting Change Order shall have been agreed upon in writing and the Change Order signed by Contractor and Metro, unless the work is Force Account work. Metro may, at its discretion, also require the signature of Contractor's surety on the Change Order. Prior to the approval of such Change Order, the Engineer shall have approved any design modifications entailed thereby.

8.02 Procedure for Determining Impact of Change Orders on Contract Amount

8.02.01 Price before Proceeding -- If Metro intends to order changes in the Work, it may request a proposal by Contractor for the proposed added or deleted work before directing Contractor to commence work. Within fourteen (l4) days after issuance of such request by Metro, Contractor shall furnish three copies of a complete breakdown of costs of both credits and additions directly attributable to the change in the Work proposed, itemizing materials, labor, taxes, affect on Contract Time, if any, and Overhead and Profit on a form supplied by Metro and in accordance with the limitations described in the following Paragraph. Subcontract work shall be so indicated and written proposals from Subcontractors or Suppliers shall be included with similar breakdowns provided. Following submission of its cost breakdown, Contractor shall meet with Metro to discuss all aspects of scope, costs, scheduling and construction methods.

8.02.02 Proceed While Pricing -- If Metro finds it necessary to make changes in the Work in an expeditious manner, it may direct Contractor to proceed with the change while preparing a proposal for the added or deleted Work. In such an instance, Metro may assign an estimated value to the change which Contractor shall not exceed without further authorization by Metro. Within fourteen (14) days after issuance of such by Metro, Contractor shall furnish three copies of a complete breakdown of costs of both credits and additions directly attributable to the change in the Work proposed, itemizing materials, labor, taxes, affect on Contract Time, if any, and Overhead and Profit on a form supplied by Metro and in accordance with the limitations described in the following Paragraph. Subcontract work shall be so included with similar breakdowns provided. Following submission of its cost breakdown, Contractor shall meet with Metro to discuss all aspects of scope, costs, scheduling and construction methods.

8.02.03 Unit Prices -- If the proposed additional or deleted work is the subject of Unit Prices stated in the Contract Documents or subsequently agreed upon, such Unit Prices shall be binding upon Contractor in calculating the increase or decrease in the Contract Amount attributable to the proposed additional or deleted work.

8.03 Limitations when Change Orders Impact Contract Amount-- The following limitations shall apply in the calculation of the costs of changes in the Work:

8.03.01 Overhead and Profit -- Contractor will be permitted a reasonable allowance for Profit and Overhead on its increased Direct Cost resulting from any changes in the Work ordered by Metro. Likewise, Profit and Overhead will be deducted for any portion of

the Work which is deleted. In the case of a change involving both credits and extras, Overhead and Profit shall be applied to the net extra after subtraction of credits.

Overhead and Profit for the entity performing the work with its own crews shall not exceed 10 percent of the Direct Cost of the changed work.

Overhead and Profit for Contractor or Subcontractor who has had the work performed by a lower tier Subcontractor shall not exceed ten percent of the Direct Cost of the changed work.

If the Work is performed by a second-tier or inferior Subcontractor, the total Overhead and Profit for all tiers shall in no event exceed 25 percent of the Direct Cost of the changed work. Distribution of this Overhead and Profit among the tiers is the responsibility of Contractor.

8.03.02 Taxes and Insurance -- Federal, state, regional, county and local taxes, including, but not limited to, income taxes, excise taxes, sales and use taxes and payroll taxes and insurance shall be shown separately and will be allowed on extras and shall be credited on credits. No Overhead and Profit will be allowed on taxes and insurance.

8.03.03 Bond Premiums -- The actual rate of bond premium as paid on the additional Direct Cost plus the cost of taxes defined in 8.03.02 will be allowed. No Overhead and Profit will be allowed on such premiums.

8.03.04 Equipment Costs -- The allowance for equipment costs (both rental as well as Contractor-owned equipment) shall be limited to those rates in the Rental Rate Bluebook published by Dataquest Incorporated, 1290 Ridder Park Drive, San Jose, California 95131-2398, (800) 227-8444.

8.04 Force Account Work -- If Contractor does not respond to Metro's RFP with a cost breakdown within the fourteen (14) day period as required above, or if Metro determines that Contractor's breakdown of costs is unreasonable in consideration of the work proposed to be added or deleted, or if Metro determines that the proposed work must be commenced promptly to avoid delay to the Project, Metro may issue an order for Force Account work and Contractor shall promptly perform or delete the work described in such order. Change, if any, in the Contract Amount due to such Force Account work shall be the sum total of the following items:

8.04.01 Actual labor cost, including premium on compensation insurance and charge for social security taxes, and other taxes pertaining to labor.

8.04.02 The proportionate cost of premiums of public liability property damage and other insurance applicable to the extra work involved and required by these Contract Documents.

8.04.03 Actual cost of material, including applicable taxes pertaining to materials.

8.04.04 Actual cost of plant and equipment rental, at rates to be agreed upon in writing before the work is begun or at rates per Subparagraph 8.03.04 above. No charge for the cost of repairs to plant or equipment will be allowed. Equipment items having a capital cost of under $250.00 are considered small tools and classified as Overhead.

8.04.05 Overhead and Profit as provided and limited in Paragraph 8.03.

8.04.06 The proportionate actual costs of premiums for bonds required by these Contract Documents.

Whenever any Force Account work is in progress, Contractor shall furnish each working day to Metro a detailed written report signed by Contractor of the amount and cost of all of the items listed in (1) through (6) above, and no claim for compensation for such extra work will be allowed unless such report shall have been made. Metro reserves the right to provide such materials as it may deem expedient and no compensation, overhead or profit will be allowed to Contractor for such materials.

8.05 Oral Modifications -- No oral statement of any person whomsoever shall in any manner or degree modify or otherwise affect the terms of this Contract.

8.06 Contractor Proposals for Changes in Work

8.06.01 Generally -- At any time during the performance of the Work, Contractor may propose to Metro changes in work which Contractor believes will result in higher quality work, improve safety, shorten the Contract Time, decrease the Contract Amount, or otherwise result in better or more efficient work.

8.06.02 Purpose -- Metro encourages Contractor to submit Value Engineering Change Proposals (VECPs) in order to avail Metro of potential cost saving that may result. Contractor and Metro will share any savings, computed in accordance with instructions herein. Contractor is encouraged to submit VECPs whenever he identifies an area which can be improved, using the format described herein.

8.06.03 Application -- This clause applies to a contractor developed and documented VECP which: (1) requires a change to this Agreement to implement the VECP; and (2) reduces the Contract Price without impairing essential functions or characteristics of the Work, provided it is not based solely on a change in specified quantities.

8.06.04 Documentation -- At a minimum, the following information shall be submitted by Contractor with each VECP: (1) description of the existing requirements of the Contract Documents which are involved in the proposed change; (2) description of the proposed change; (3) discussion of differences between existing requirements and the proposed change, together with advantages and disadvantages of each changed item; (4) itemization of the requirements which must be changed if the VECP is accepted (e.g., Drawing numbers and Specifications); (5) justification for changes in function or characteristics of each such affected item and effect of the change on the performance of the end item; (6) effect of proposed change on life-cycle costs, including operation and maintenance, replacement costs, and life expectancy; (7) date or time by which a Change Order adopting the VECP must be issued in order to obtain the maximum cost reduction, noting any effect on Contract Time or delivery schedule; and (8) cost estimate for existing contract requirements correlated to his lump sum breakdown and proposed changed requirements. Costs of development and implementation by Contractor shall be identified. Estimated Metro costs (e.g., cost of testing and redesign) shall also be identified.

8.06.05 Submission -- To expedite a determination, VECPs shall be submitted directly to Engineer. Proposals will be processed expeditiously; however, Metro will not be liable for any delay in acting upon any proposal submitted pursuant to this clause.

Contractor shall have the right to withdraw, in whole or in part, any VECP at any time prior to acceptance by Metro.

8.06.06 Acceptance -- Metro may accept, in whole or in part, by Change Order, any VECP submitted pursuant to this clause. Until a Change Order is issued, Contractor shall remain obligated to perform in accordance with this Agreement. The decision as to acceptance or rejection of any VECP will be at the sole discretion of Metro and will be final and not subject to review by arbitration or otherwise.

8.06.07 Sharing -- If a VECP submitted by Contractor pursuant to this clause is accepted, Contractor shall proceed with the change and the Contract Price will be adjusted in accordance with the following provisions:

Definitions

8.06.07.01 Estimated Gross Savings to Contractor (GS): The difference between cost of performing the Work according to the existing requirement and the cost if performed according to the proposed change. In each instance, Contractor's profit shall not be considered part of the cost.

8.06.07.02 Contractor Costs (CC): Reasonable costs incurred by Contractor in preparing the VECP and making the change such as cancellation or restocking charges where required.

8.06.07.03 Estimated Net Savings to Contractor (NS): Gross savings (GS) less Contractor costs (CC).

8.06.07.04 Metro's Costs (OC): Reasonable costs incurred by Metro for evaluating and implementing the VECP, such as testing and redesign, where required.

Calculations

8.06.07.05 The Contract Price shall be reduced by an amount equal to 50 percent of (NS) plus 50 percent of (OC), expressed by the formula: Reduction = 0.5 (NS) + 0.5 (OC).

8.06.07.06 Contractor's profit will not be reduced by application of the VECP.

8.06.08 Subcontracts -- Contractor shall include appropriate value engineering incentive provisions in all subcontracts of $25,000 or greater. He may include such provisions in any Agreement. Subcontracts shall contain a provision that any benefits accruing to Contractor as a result of an accepted VECP initiated by a Subcontractor shall be shared by Contractor and Subcontractor. To compute any adjustment in the Contract Price under Paragraph 6.45 above, Contractor's costs of preparation and charge for a VECP shall include any preparation and change costs. Examples are cancellation or restocking charges when required.

8.06.09 Disclosure Restrictions -- Contractor may restrict Metro's right to use any sheet of a VECP or of the supporting data submitted pursuant to this clause, in accordance with the terms of the following legend if it is marked on such sheet:

To the extent allowed by law, data furnished pursuant to the value engineering incentive clause of the Agreement shall not be: (1) disclosed to any outside person or agency, (2) duplicated, or (3) used. Metro may disclose, duplicate, or use furnished data to evaluate a VECP submitted under said clause. This restriction does not limit Metro's right to use information that has been obtained, or is otherwise available, from Contractor or from another source without limitations. If such a VECP is accepted, Metro shall have the right to duplicate, use, and disclose any data reasonably necessary to the full utilization of such VECP as accepted, in any manner and for any purpose whatsoever, and have others so do.

8.07 Impact of Authorized Changes in the Contract -- Changes in the Work made pursuant to this Article and extensions of the Contract Time allowed by Metro due to such changes shall not in any way release any warranty or promises given by Contractor pursuant to the provisions of the Contract Documents, nor shall such changes in the Work relieve or release the sureties of bonds executed pursuant to said provisions. The sureties, in executing such bonds, shall be deemed to have expressly agreed to any such change in the Work and to any extension of Contract Time made by reason thereof.

ARTICLE 9 PAYMENTS AND COMPLETION

9.01 Scope of Payment -- Payment to Contractor of the Contract Amount for performing all Work required under the Contract, as adjusted for any Change Orders approved as hereinbefore specified, shall be full compensation for furnishing all labor, materials, equipment and tools necessary to the Work, and for performing and completing, in accordance with these Contract Documents, all Work required under the Contract, and for all expenses incurred by Contractor for any purpose in connection with the performance and completion of said Work.

Whenever it is specified herein that Contractor is to do work or provide materials of any class for which no price is fixed in the Contract, it shall be understood that Contractor is to do such work or provide such materials without extra charge or allowance or direct payment of any sort, and that the cost of doing such work or providing such materials is included in its Bid.

9.02 Schedule of Values

9.02.01 Generally -- At least 15 days prior to Contractor's application for the first progress payment, Contractor shall submit a detailed breakdown on its lump sum bid items. The format and detail of the breakdown shall be as directed by Metro and in accordance with Section 01370 of the Specifications to facilitate and clarify future progress payments to Contractor. This breakdown shall be referred to as the Schedule of Values.

9.02.02 Review of Schedule of Values -- Metro will review the Schedule of Values to ascertain that the dollar amounts of the Schedule of Values are in fact fair cost allocations for the work item listed. Upon concurrence by Metro, a formal approval of this Schedule of Values will be issued. Metro shall be the sole judge of fair cost allocations. Contractor's monthly progress payment requests shall reflect the cost figures included in the approved Schedule of Values and shall be based upon completed work items or percentages of work items completed prior to the end of the payment period as more fully described below.

9.03 Progress Payment Procedure

9.03.01 Generally -- Subject to the approval of Metro, disbursements shall be made by Metro of progress payments upon written request of Contractor and pursuant to the Contract Documents as specified in Section 01025 of the Specifications.

Before the end of each calendar month, Contractor shall file with the Construction Manager in duplicate on a form approved by Metro, a proposed payment estimate for the period commencing on the 26th day of the previous month through midnight on the 25th day of the calendar month in question. Metro and the Construction Manger shall review Contractor's estimate and shall determine the value of Contractor's work based upon the Schedule of Values and incorporated labor and materials for the payment period. Contractor shall not be paid for any work which is, in Metro's opinion, defective or improper or for work needed to correct Contractor's defective or improper work. Contractor shall be paid 95 percent (95%) of the determined value of work accomplished less any offset or withholding of sums by Metro allowed under the Contract Documents within thirty (30) days after receipt by Metro of Contractor's payment estimate. Metro will routinely withhold five percent (5%) as Retainage.

No inaccuracy or error in any monthly progress payment estimates shall operate to release Contractor or its surety from damages arising from such work or from the enforcement of each and every provision of the Contract Documents, and Metro shall have the right subsequently to correct any error made in any estimate for progress payments.

9.03.02 Retainage -- If, in Metro's opinion, work on the Project is progressing satisfactorily, Metro may eliminate additional Retainage on any remaining monthly progress payments after 50 percent of the Work under the Contract is, in Metro's opinion, completed. Elimination of additional Retainage under this Subparagraph shall be allowed by Metro only upon written application by Contractor, which application shall include written approval of Contractor's surety.

If after Metro allows such an elimination of additional Retainage, Metro determines that progress of the Work is not satisfactory or that Contractor has breached any provision of the Contract, Metro may again retain and continue to retain, in addition to that Retainage already being held by Metro, 5 percent of any future progress payments made to Contractor.

When Metro determines that the Work is 97-½ percent (97-½%) complete, Metro may, at its discretion and without application by Contractor reduce the retained amount to 100 percent (100%) of the value of the Work remaining to be done.

All funds retained by Metro under this section shall be retained in a fund by Metro and paid in accordance with ORS 279.435.

Contractor may elect to deposit bonds or securities of the type described below with Metro or in any bank or trust company to be held in lieu of the cash retainage described above and for the benefit of Metro. In such event, Metro shall reduce the Retainage in an amount equal the value of the bonds and securities and shall pay the amount of the reduction to Contractor in accordance with ORS 279.435. Interest on such bonds or securities shall accrue to Contractor.

Bonds and securities deposited or acquired as described above shall be of a character approved by the Director of Oregon's Department of General Services including, but not limited to:

9.03.02.01 Bills, certificates, notes or bonds of the United States.

9.03.02.02 Other obligations of the United States or its agencies.

9.03.02.03 Obligations of any corporation wholly owned by the federal government.

9.03.02.04 Indebtedness of the Federal National Mortgage Association.

Contractor may elect to require Metro to deposit the accumulated Retainage in an interest bearing account in a bank, savings bank, trust company or savings association for the benefit of Metro. Interest on such an account shall accrue to Contractor.

If Metro incurs additional costs as a result of Contractor's exercise of any of the above-described options, Metro may recover such costs from Contractor by reduction of the Final Payment. Metro shall inform Contractor of all such accrued costs.

9.03.03 Payment for Material Stored Off Site --Payment for material stored off of the Site will not be allowed unless the payment for such material benefits Metro in terms of lead time, scarcity, schedule, etc. Metro has sole discretion as to what materials will be paid for in advance of delivery to or installation on Site. Proof of offsite material purchases (invoice or checks) and appropriate insurance coverage will be required for payment. Title to all equipment and materials shall pass to Metro upon payment therefor or incorporation in the Work, whichever shall first occur, and Contractor shall prepare and execute all documents necessary to effect and perfect such transfer of title. Contractor must provide to Metro written consent from Contractor's surety approving the advanced payment for materials stored offsite.

The maximum prepayment allowed by Metro shall be 75 percent of the actual fair market value of the item being considered. Metro shall be the sole judge of fair market value. Contractor shall protect stored materials from damage, and damaged or otherwise unacceptable materials, even though paid for, shall not be incorporated into the Work.

9.03.04 Other Conditions Precedent to Payment -- It is a condition precedent to Contractor's rights to any payments under the Contract that all bills for labor and materials, including labor and materials supplied by or to Contractor, shall have been paid in full and, if requested by Metro, Contractor shall submit receipted invoices and/or lien waivers, as evidence of payment in full of all such accounts. As a further condition precedent to Contractor's right to any payments under this Contract, if requested by Metro, Contractor shall submit a claims release before any payment, and a final claims release stating Contractor has been paid in full prior to the Final Payment.

Payments to Contractor shall be conditioned upon Contractor complying with all provisions of this Contract regarding scheduling and progress reports submissions and upon Contractor furnishing all other information and data necessary to ascertain actual progress. Metro's determination that Contractor has failed or refused to

furnish the required information, data, schedules or other reports shall constitute a basis for withholding all payments until the required information, data, revised schedules and diagrams, if necessary, and other reports are furnished.

9.03.05 Payment Does Not Imply Acceptance of Work -- The granting of any progress payment, or the receipt thereof by Contractor, shall not constitute acceptance of the Work or any portion thereof, and shall in no way lessen the liability of Contractor to replace unsatisfactory work or material, though the unsatisfactory character of such work or material may or may not have been apparent or detected at the time such payment was made.

9.03.06 Offset of Sums Due Metro from Contractor --In addition to any retention rights allowed Metro under this Contract, it is mutually understood and agreed that Metro may, upon prior written notice to Contractor, offset from any payment otherwise due Contractor, as much as may be necessary to protect and compensate Metro from any costs or expenses it may incur due to any breach of the Contract by Contractor, including applicable liquidated damages. Any sums so offset shall become the property of Metro.

9.04 Substantial Completion -- When Contractor considers the Work to be substantially complete, Contractor shall submit to Metro a written notice that the Work is substantially complete and a punch list of items to be completed or corrected. Within a reasonable time after receipt of such notice, Metro and Engineer will review the Work, including a physical inspection, to determine the status of completion. Should the Engineer and Metro determine that the Work is not substantially complete:

9.04.01 Construction Manager will promptly notify Contractor in writing, giving the reasons therefor and including Engineer's punch list.

9.04.02 Contractor shall remedy the deficiencies in the Work, and thereafter send a second written notice of Substantial Completion to Metro.

The above-described procedure shall be followed until the Work is, in the opinion of Metro and Engineer, substantially complete. At that point:

9.04.02.01 The Engineer will prepare a Certification of Substantial Completion on AIA Document G704, accompanied by the approved punch list of items to be completed or corrected as verified and amended by the Engineer.

9.04.02.02 Metro shall submit the Certificate of Substantial Completion to Contractor for signature. Contractor shall complete the items on the approved punch list.

9.05 Final Completion and Acceptance -- When Contractor considers the Work to be finally complete, Contractor shall submit written certification to Metro that:

9.05.01 Contract Documents have been reviewed.

9.05.02 Work has been inspected for compliance with Contract Documents.

9.05.03 Work has been completed in accordance with Contract Documents to include submission of record documents.

9.05.04 Equipment systems have been tested in presence of Metro and are operational.

9.05.05 Work is ready for final inspection.

Engineer and Metro will promptly review the Work and include a physical inspection to verify the status of completion and shall inform Metro of the conclusions. Metro shall, within fifteen (15) days after receipt of Contractor's certification, either accept the Work or notify Contractor of the work yet to be performed on the Contract as outlined below.

Should the Engineer and Metro consider that the work is incomplete or defective:

9.05.05.01 Construction Manager will promptly notify Contractor in writing, listing the incomplete or defective work.

9.05.05.02 Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to Metro that the Work is complete. Metro will then advise the Engineer.

9.05.05.03 Engineer and Metro will review and reinspect the Work.

The above-described procedure shall be followed until the Work is, in the opinion of Metro and Engineer, finally complete. Contractor shall immediately thereafter prepare and submit Closeout Submittals as described below.

9.06 Closeout Submittals -- Contractor shall submit the following items, as applicable, with its request for Final Payment:

9.06.01 Evidence of Compliance with Requirements of Governing Authorities.

9.06.02 Project record documents in accordance with the Specifications.

9.06.03 Operation and maintenance data in accordance with the Specifications.

9.06.04 Warranties in accordance with requirements of various Specification sections and these General Conditions.

9.06.05 Extra stock and maintenance materials. Contractor shall submit receipts, signed by Metro, for the various specific items.

9.06.06 Evidence of payment and release of claims in accordance with the following section.

9.06.07 Consent of surety to Final Payment.

9.06.08 Certificates of insurance for products and completed operations in accordance with Supplementary Conditions.

9.06.09 If Contractor is a "foreign contractor" as that term is defined in Subparagraph 14.03.06, complete documentation of Contractor's compliance with ORS 279.021.

9.07 Releases -- Contractor and each assignee under any assignment in effect at the time of Final Payment shall execute and deliver, at the time of application for Final Payment, as a condition precedent to Final Payment, a release in form and substance satisfactory to Metro, discharging and releasing Metro and the Engineer of and from all liabilities, obligations and claims arising under this Contract.

In addition to the above-described release, Contractor shall:

9.07.01 Submit to Metro an affidavit certifying that Contractor has paid all federal, state and local taxes including excise, use, sales, and employee withholding taxes.

9.07.02 Deliver to Metro written releases of all rights to file claims against Metro or to file claims on any bonds in connection with the Contract, signed by each Subcontractor and Supplier who performed labor or furnished materials in connection with the work.

9.07.03 Deliver to Metro Contractor's written undertaking, with sureties acceptable to Metro:

9.07.03.01 To promptly pay and obtain a release of claims on any bonds which may in the future affect the premises; and

9.07.03.02 To defend, indemnify and save Metro harmless from any liability or expense because of any claim on any bond or any other claim related to the Contract or the Work.

9.08 Final Payment -- Upon application of Contractor and Contractor's completion of and compliance with all of the provisions of the above Paragraphs, Metro shall pay Contractor the balance of the Contract Amount subject to the availability of monies in the Construction Fund as described in Paragraph 9.01 and less any previous payments, offsets and withholdings allowed Metro under this Contract and Retainage which has been returned to Contractor.

Acceptance of Final Payment by Contractor shall constitute a waiver of all claims of whatever nature which Contractor may have or allege to have against Metro arising out of or related to Work described in the Contract Documents.

9.09 No Waiver of Rights -- Neither the final review by Metro, nor any order or certificate for the payment of money, nor any payment for, nor acceptance of the whole or any part of the Work by Metro, nor any extension of time, nor any position taken by Metro shall operate as a waiver of any provision of this Contract or of any power herein reserved by Metro or any right to damage herein provided; nor shall any waiver of any breach of this Contract be held to be a waiver of any other or subsequent breach. All of Metro's remedies provided in this Contract shall be taken and construed as cumulative; that is, in addition to each and every other remedy herein provided; and Metro shall have any and all equitable and legal remedies which it would in any case have.

ARTICLE 10 SAFETY AND PROTECTION OF THE WORK

10.01 Safety Requirements

10.01.01 Safety Generally -- Contractor shall be solely and completely responsible for the safety of the Work and the Site, including, but not limited to, the safety of all persons and property involved in the Work at the Site at any time until Final Completion and Acceptance of the Work.

All Work shall be performed in full accordance with all applicable safety codes, laws, ordinances and requirements including, but not limited to, the Safety and Health Regulations for Construction, promulgated by the Secretary of Labor under Section 107 of the Contract Work Hours and Safety Standards Act as set forth in Title 29 of the Code of Federal Regulations, federal and state OSHA, Metro's insurance standards, and all other applicable safety codes. Where any of these are in conflict, the more stringent requirement shall be followed. Contractor's failure to thoroughly familiarize itself with the aforementioned safety provisions shall not relieve it from any requirements in the Contract Documents to comply with such safety provisions or from any penalties for failure to so comply.

Contractor shall inspect the Work and the Site daily and immediately correct any unsafe conditions. All job personnel shall be knowledgeable of and comply with the above safety requirements.

The site contains accumulations of potentially flammable gas and refuse. Contractor shall take all precautions to prevent the possibility of fire resulting from contract operations. Contractor shall provide properly maintained emergency fire extinguishing equipment of a readily available type and quantity as necessary to meet potential fire hazards.

10.01.02 Health and Safety Program -- Contractor shall develop, publish and implement the overall Health and Safety Program for the Project. Refer to Section 01100 of the Technical Specifications. This Program shall conform to all applicable codes. Contractor shall submit the written Health and Safety Program to Metro for review and comment within fourteen (14) days after the receipt of the written Notice To Proceed. The Program, as approved by Metro, shall subsequently be distributed to and implemented by Contractor's personnel as well as its Subcontractors and Suppliers. Contractor shall fully implement and comply with the approved Safety Program. The Health and Safety Program will include provisions for submitting a hazard analysis in each new phase of work two weeks prior to starting that phase.

10.01.03 Health and Safety Officer -- Prior to initiation of construction, Contractor shall designate in writing a Site Health and Safety Officer who shall be responsible for coordinating Contractor's Health and Safety Program. The individual so designated shall be the interface with the Construction Manager on matters relating to safety, and Contractors compliance with the approved Safety Program. Metro reserves the right to accept or reject the Health and Safety Officer designated by Contractor.

10.02 First Aid -- Contractor shall maintain on the Site during work operations, a member of its work force who is qualified in administering first aid to its personnel and shall have available in its job office the first aid equipment as required to meet all applicable safety codes. The names and credentials of qualified personnel will be submitted to the Construction Manager.

Contractor shall require or provide adequate clothing and protective gear for all personnel working on the job site. This includes but is not limited to hard hats; substantial boots or shoes, shirts with sleeves at all times; eye and ear protection, gloves, face masks, welding hoods, safety belts as required for the type of work being done.

10.03 Protection of Work, Persons and Property Against Damages -- Contractor shall protect the Work from damage due to construction operations, the action of the elements, including erosion due to normal and extraordinary weather conditions, the carelessness of other contractors, vandalism, or any other cause whatever until Final Completion and Acceptance of the Work.

Contractor shall protect all public and private property insofar as it may be endangered by operations of Contractor including adjoining waterways, and shall be fully responsible for taking proper precautions for the prevention of accidents to persons and/or damage to such property at, on or near the Site.

The specifications for the Project include procedures for preventing release of pollutants from the site, including procedures to prevent erosion into waters adjacent to the site and to monitor materials brought onto the site. The parties recognize that such procedures cannot anticipate all circumstances that may lead to a release of soil, leachate, or other contaminates into waters adjoining the site. Contractor shall make reasonable efforts to anticipate special circumstances in the course of construction that may lead to such releases, and plan accordingly. If, due to Contractor's activities on the site, such releases occur, Contractor shall respond immediately, take all steps determined necessary by the Engineer to prevent further release, and perform all necessary remedial action as specified by any jurisdictionally responsible state or federal agency. All measure necessary to prevent or remedy the release of soil or contaminants from the site resulting from Contractor's activities on the site shall be the responsibility of Contractor under this agreement, with no additional expenses for such release chargeable to Metro or the Engineer.

All federal, state and local safety and environmental protection laws, rules and orders including fire codes, applicable to the Work to be done under the Contract, shall be obeyed, complied with and enforced by Contractor.

Contractor shall provide and maintain such guards, fences, barriers, signs, regulatory and warning lights, and other traffic control and safety devices adjacent to and on the Site as may be necessary to prevent accidents to the public and damage to property. Contractor shall also provide, place and maintain such lights as may be necessary for illuminating the said signs, guards, fences, barriers and other traffic and safety control devices.

Upon Final Completion and Acceptance of the Work, Contractor shall remove all temporary signs, lights, barriers, etc., from the Site.

ARTICLE 11 INDEMNIFICATION AND INSURANCE

11.01 Indemnification -- Contractor agrees that for purposes of the Oregon Tort Claims Act (ORS 30.260 through 30.300), neither Contractor, its officers, agents and employees nor any Subcontractor or Supplier of Contractor of any tier, or its officers, agents or employees, are agents of Metro. Contractor for itself and its officers, agents, employees and its Subcontractors and Suppliers of any tier and their officers, agents and employees will make no claim whatsoever against Metro for indemnification pursuant to ORS 30.260 to 30.300 and Contractor agrees to hold Metro harmless and indemnify Metro from any such claims.

Contractor shall assume all responsibility for the Work and shall bear all losses and damages directly or indirectly resulting to Contractor, Metro, Engineer, their officers, agents and employees, or to others on account of the character or performance of the Work, or accidents, unless such cause is due to the sole negligence of Metro or Engineer.

Contractor shall assume the defense, if requested, indemnify and hold harmless Metro and Engineer from all claims, liability, loss, damage, consequential or otherwise, and injury of every kind, nature and description, directly or indirectly resulting from activities in the performance of the Contract, the ownership, maintenance or use of motor vehicles in connection therewith, or the acts, omissions, operations, or conduct of Contractor or any Subcontractor or Supplier under the Contract or in any way arising out of the Contract, irrespective of whether fault is the basis of the liability or claim.

Any specific duty or liability imposed or assumed by Contractor, as may be otherwise set forth in the Contract Documents, shall not be construed as a limitation or restriction of the general liability or duty imposed upon Contractor by this Paragraph.

Such liabilities and losses from which Contractor shall indemnify and hold harmless the above-described indemnities shall include, but not be limited to:

11.01.01 Special activities by Metro to verify and/or expedite delivery of materials and those losses incurred by Metro as a result of any delays to Other Metro Contractors resulting from acts of Contractor or its failure to act.

11.01.02 Acceleration payments to Other Metro Contractors on the project or related projects resulting from Contractor falling behind the Construction Schedule for causes not entitling it to an extension of time under any provisions of the Contract Documents which cause other Metro Contractors to fall behind the Construction Schedule and who must then accelerate the performance of the work, as directed by Metro, in order to maintain progress.

11.01.03 Violations of the ordinances or regulations of Metro, any federal, state, county or city laws or order of any properly constituted authority in any manner affecting this Contract, in addition to any laws or regulations which might affect this Contract.

11.01.04 Any and all suits, actions, damages or claims of every name and description to which the above indemnified may be subjected or put by reason of injury to persons or property arising out of, in connection with, or incident to the execution of the work or resulting from acts or omissions on the part of Contractor, its Subcontractors, officers, employees or agents and all attorney's fees and court costs incident thereto.

11.02 Insurance

11.02.01 Public Liability and Property Damage Insurance

11.02.01.01 Contractor's Insurance -- Contractor shall obtain, pay for and maintain, until 365 days after the date of Final Completion and Acceptance of the Work, public liability and property damage insurance policy or policies as shall protect Contractor in performing the Work covered by this Contract from claims for bodily and personal injury and property damage which may arise because of the nature of the Work or from operations under these Contract Documents. Such operations shall

include, but not be limited to, use of owned, non-owned or hired automobiles, aircraft and watercraft, whether such operations be by Contractor or by any Subcontractor or Supplier of any tier or anyone directly or indirectly employed by Contractor or any Subcontractor or Supplier of any tier.

Such insurance covering the work shall include, but not be limited to, Blanket Contractual Liability (covering liability assumed by Contractor under Paragraph 11.01 on indemnification); Broad Form Property Damage Liability (including coverage for explosion, collapse, underground and completed operations), Personal Injury Liability, and Products-Completed Operations Liability for two (2) years after Final Completion and Acceptance of the Work by Metro.

11.02.01.02 Insurance for Others -- Contractor shall include as additional insureds under the above policy or policies Metro and Engineer.

Such insurance shall provide coverage for the above-described parties against direct or contingent loss or liability for damages for bodily and personal injury or death, or property damage, arising out of, in connection with, or incident to the execution of the Work until its Final Completion and Acceptance and Final Payment, and shall cover all Work performed by, for or on behalf of Contractor, each of Contractor's Subcontractors of any tier, Suppliers of any tier, and shall cover the supervisory acts of these insureds with respect to the Work. Both bodily and personal injury and property damage must be on an occurrence basis; and said insurance shall provide that the coverage afforded thereby shall be primary coverage (and non-contributory to any existing valid and collectable insurance) to the full limit of liability stated in the declaration, and that if the insureds have other insurance against the loss covered by said insurance, then such other insurance shall be excess insurance only. Said policy or policies shall also include a "cross-liability" clause.

11.02.01.03 Policy Limits -- The policy or policies of insurance described in Clauses 11.02.01.01 and 11.02.01.02 shall provide a combined single limit of coverage, for bodily injury, personal injury and property damage, and the liability assumed by Contractor under Paragraph 11.01 Indemnification, of not less than $1,000,000 per occurrence and in the aggregate for Products and Completed Operations Liability and Contractual Liability. Contractor shall additionally provide Automobile Liability coverage, including Non-owned and Hired autos, in an amount not less than a combined single limit of $1,000,000 per occurrence. In the event that Contractor hires or operates any aircraft or watercraft, Contractor shall provide aircraft liability coverage for Bodily Injury, Personal Injury and Property Damage in an amount not less than a combined single limit of $1,000,000 per occurrence.

11.02.01.04 Subcontractor's Insurance -- Contractor shall require that all of its Subcontractors and Suppliers of any tier provide insurance coverage and conditions identical to Contractor's insurance coverage, except that the policy limits of all Subcontractors' insurance coverage shall be at least

$1,000,000 combined single limit for each occurrence and in the aggregate.

11.02.02 Workers' Compensation and Employer's Liability Insurance -- All employees working under this contract are subject employees that will comply with ORS 656.017. Contractor shall obtain, pay for and maintain full Workers' Compensation Insurance in amounts necessary to provide statutory State of Oregon coverage; and Employer's Liability Insurance coverage with limits of not less than $1,000,000 per occurrence all to cover any compensation that Metro might be liable to pay. Contractor shall require that all of its Subcontractors and Suppliers of any tier provide such coverage also. In the event that Contractor is self-insured, Contractor shall furnish a Certificate to self-insure issued by the Director of Oregon's Department of Insurance and Finance. If Contractor fails to maintain such insurance, Metro may obtain Worker's Compensation Insurance to cover any compensation which Metro might be liable to pay by reason of any employee of Contractor being injured or killed, and may deduct the amount of the premium for such insurance from any sums due Contractor. Furthermore, if Metro is compelled to pay any compensation pursuant to ORS chapter 656 due to Contractor's failure or the failure of any of Contractor's Subcontractors or Suppliers of any tier to comply with this Subparagraph, Metro may deduct and retain from any sums due Contractor under this Contract an amount sufficient to cover such compensation and any other cost Metro may incur in paying such compensation.

If any injury occurs to any employee of Contractor or Contractor's Subcontractor or Supplier of any tier for which compensation is claimed from Metro, to the extent that the claim is not covered by insurance, Metro may retain sums due Contractor under this Contract in an amount sufficient to cover such claim or claims. If it is determined that no compensation is due such employee, the retained amount will be paid Contractor. If Metro is required to pay such compensation, the amount paid shall be charged to Contractor.

Contractor shall not commence work until it has provided to Metro two (2) copies of Certificates of Insurance evidencing the above-described coverage.

11.02.03 Forms of Policies and Other Insurance Requirements -- In addition to filing any other insurance certificates specified elsewhere in these Contract Documents, Contractor shall, within ten (10) days following Notice of Conditional Award of Contract, provide Metro two (2) certified copies of the policies of all insurance herein required to be obtained by Contractor except that Worker's Compensation Insurance may be evidenced by a Certificate of Insurance. At Metro's request, Contractor shall immediately deliver to Metro the receipts for payment of premiums on any or all such policies.

All policies of insurance and Certificates of Insurance shall be satisfactory to Metro. Approval of the insurance by Metro shall not relieve or decrease the extent to which Contractor or Contractor's Subcontractors and Suppliers of any tier may be held responsible for payment of any and all damages resulting from performance of the Work.

Each such policy or Certificate of Insurance shall bear an endorsement precluding its cancellation, expiration or any reduction in its coverage without giving to Metro at least sixty (60) days prior written notice. Contractor shall file with Metro two

certified copies of the required new or renewed policy or two Certificates of Insurance for each such policy, as applicable, before the effective date of such cancellation, change or expiration.

If Contractor neglects to obtain or maintain in force any such insurance or to deliver such policy or policies, certificates and receipts to Metro, then Metro may, at its option, obtain and maintain such insurance. Contractor hereby appoints Metro its true and lawful attorney, to do all things necessary to obtain and maintain such insurance. All monies expended by Metro for such insurance shall be charged to Contractor and Metro may offset its costs in obtaining and/or maintaining such policies from sums due or to become due Contractor under the Contract or otherwise collect such sums from Contractor. Failure of Metro to obtain or maintain such insurance shall in no way relieve Contractor of any of its responsibilities under this Contract.

Contractor's failure to maintain any item of the required insurance shall be sufficient cause for termination or suspension of this Contract.

All insurance required shall be obtained through a company or companies having a policyholders surplus of at least ten (10) times the amount or limit of liability afforded by such insurance company on policies issued for this Contract. Such company shall be duly and legally licensed to transact business in the state of Oregon and shall be acceptable to Metro. Said insurance shall be primary over any insurance or self-insurance of Metro.

ARTICLE 12 DISADVANTAGED BUSINESS PROGRAM

Contractor shall comply with all pertinent provisions of Metro's Disadvantaged Business Program which are contained in Metro Code 2.04 and which are contained in the Appendix to these Contract Documents and which are by this reference expressly incorporated herein and made a part of this Contract.

Contractor shall not replace a disadvantaged or women-owned business enterprise Subcontractor with another Subcontractor, either before Contract award or during Contract performance, without prior written approval of Metro. In replacing a disadvantaged or women-owned business Subcontractor, Contractor shall replace such disadvantaged or women-owned business Subcontractor with another certified disadvantaged or women-owned business Subcontractor or make good faith efforts to do so. Failure to do so shall constitute Contractor's default of this Contract, and Metro, at its option, may terminate this Contract under the procedures set out in Article 15.

Metro reserves the right, at all times during the period of this Contract, to monitor Contractor's compliance with the terms of the Disadvantaged Business Program and enforce the program if Contractor should fail to so comply. Contractor shall be bound by any and all representations made concerning its compliance with the program prior to Contract award and any and all representations made by Contractor concerning the replacement of a disadvantaged or women-owned business Subcontractor during the performance of this Contract.

ARTICLE 13 EQUAL EMPLOYMENT OPPORTUNITY AFFIRMATIVE ACTION REQUIREMENT

Contractor shall be certified as Equal Employment Opportunity Affirmative Action Employers by the City of Portland, Oregon, for the entire term of the Contract. Contractor's Subcontractors and Suppliers shall be certified prior to commencement of any of their Work on the Project and shall remain certified for the entire duration of the Contract.

ARTICLE 14 MISCELLANEOUS STATUTORY RESPONSIBILITIES OF CONTRACTOR

14.01 Generally -- Contractor shall keep itself fully informed of and shall fully comply with all federal, state, regional and local laws, rules, regulations, ordinances and orders pertaining in any manner, to this Contract and those rules, regulations and orders of any agency or authority having jurisdiction over the work or those persons employed or engaged therein. Contractor shall pay all taxes, including federal, state, regional, county, city or taxes of any other governmental entity applicable to the work performed or materials provided under this Contract.

14.02 Environmental Laws -- Contractor shall fully comply with all federal, state and local laws, ordinances and regulations dealing with the prevention of environmental pollution and the preservation of natural resources and all amendments thereto. Contractor shall also fully comply with all rules, regulations and ordinances enacted or to be enacted by any federal, state or local agency dealing with the prevention of environmental pollution and the preservation of natural resources that affect the performance of the Contract. Such statutes, rules, regulations and ordinances shall include, but are not limited to those in 7 USCA Sections 136 to 136Y, 15 USCA Sections 2601 to 2629, 33 USCA Sections 1251 to 1376, 33 USCA Sections 1401 to 1445, 42 USCA Sections 300f to 300j-11, 42 USCA Sections 4321 to 4370a, 42 USCA Sections 4901 to 4918, 42 USCA Sections 6901 to 6991i, 42 USCA Sections 7401 to 7642, 42 USCA Sections 9601 to 9675, 29 USCA Sections 651 et seq., Oregon Administrative Rules Chapter 61, and Title 18 of the City of Portland Code.

Such agencies shall include, but not be limited to, the following:

FEDERAL AGENCIES

Agriculture, Department of
- Forest Service
- Soil Conservation Service

Defense, Department of
- Army Corps of Engineers

Energy, Department of

Environmental Protection Agency

Health and Human Services, Department of

Interior, Department of
- Fish and Wildlife Service
- Heritage Conservation and Recreation Service
- Bureau of Land Management
- Bureau of Indian Affairs
- Water and Power Resource Service
- Office of Surface Mining

Labor, Department of
Occupational Safety and Health Administration
Mine Safety and Health Administration
Transportation, Department of
Coast Guard
Federal Highway Administration

STATE AGENCIES

Agriculture, Department of
Energy, Department of
Environmental Quality, Department of
Fish and Wildlife, Department of
Forestry, Department of
Geology and Mineral Industries, Department of
Human Resources, Department of
Land Conservation and Development, Department of
Soil and Water Conservation Commission
State Engineer
State Land Board and Division of State Lands
Water Resources Board, Department of
Bureau of Labor and Industries

LOCAL AGENCIES

City of Portland
Multnomah County
Metropolitan Service District
Planning Commissions (as applicable)

14.03 Other Provisions of Oregon Law

14.03.01 Generally -- The provisions set out in Oregon Revised Statutes Chapters 187 and 279, as amended or superseded, including the latest additions and revisions, are incorporated by reference as part of these Contract Documents. Such sections include, but are not necessarily limited to, ORS 187.010, 187.020 279.021, 279.312, 279.314, 279.316, 279.318, 279.320, 279.334, 279.338, 279.348, 279.350, 279.352, 279.354, 279.355, 279.356, 279.359, 279.361, 279.365, and 279.400 through 279.435. Contractor shall fully comply with all applicable provisions of these statutes. The specific requirements of certain of these sections are set out below.

14.03.02 Payment to Subcontractors and Laborers -- Pursuant to ORS 279.312, Contractor shall make payment promptly, as due, to all persons supplying such Contractor labor or material for the prosection of the Work provided in this Contract. Contractor shall pay all contributions or amounts due the Industrial Accident Fund (IAF) from such Contractor, Subcontractor or Supplier incurred in the performance of the Contract. Contractor shall not permit any lien or claim to be filed or prosecuted against Metro, the State, County, school district, municipality, municipal corporation, or subdivision thereof, on account of any labor or material furnished. Contractor shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.

14.03.03 Failure to Make Payment for Labor or Services -- Pursuant to ORS 279.314, if Contractor fails, neglects, or refuses to make prompt payment of any claim for labor or services furnished to Contractor or a Subcontractor by any person in connection with this Contract as such claim becomes due, Metro may pay such claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due Contractor by reason of such Contract. Metro's payment of such a claim in the manner authorized by ORS 279.314 shall not relieve Contractor or Contractor's surety from obligation with respect to any unpaid claims.

14.03.04 Hours of Work -- Except as provided in ORS 279.334, no person shall be employed for more than eight (8) hours in any one day, or forty (40) hours in any one week, except in cases of necessity, emergency, or where the public policy absolutely requires it, and in such cases the laborer shall be paid at least time and a half pay for all overtime in excess of eight (8) hours a day and for work performed on Saturday and on any legal holiday specified in ORS 279.334. Contractor shall furthermore comply with any applicable provisions of ORS 279.316, 279.334, 279.336 and 279.338.

14.03.05 Payment for Medical Care -- Pursuant to ORS 279.320, Contractor shall promptly, as due, make payment to any person, co-partnership, association or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to the employees of Contractor, of all sums which Contractor agrees to pay for such services and all monies and sums which Contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying such service.

14.03.06 Requirements for Foreign Contractors -- Pursuant to ORS 279.021, any "foreign contractor" awarded a public contract with a price exceeding $10,000, shall promptly report to the Department of Revenue, on forms to be provided by the Oregon Department of Revenue, the total contract price, terms of payment, length of contract and such other information as may be required before Final Payment can be received on the public contract. Final Payment shall not be made until this provisions has been complied with.

For purposes of this paragraph, a "foreign contractor" is one who is not domiciled in or registered to do business in the state of Oregon.

14.03.07 Prevailing Wage -- Except as limited by Oregon Revised Statutes, Contractor shall pay his/her workers and require his/her Subcontractors to pay its workers the prevailing rate of wage as required in ORS 279.350, and shall comply with all other requirements contained therein. The Appendix to this Contract contains a schedule of the existing prevailing rate of wage which may be paid to workers in each trade or occupation required to perform the Work, either by Contractor or its Subcontractors or any other person doing or contracting to do the whole or any part of the Work contemplated by this Contract, and such workers shall be paid not less than such specified minimum hourly rate of wage. The specifications for each subcontract shall include a copy of the prevailing wage schedule applicable to this project, and each subcontract shall include a clause regarding conformance to the schedule.

14.03.08 Sanitary Facilities -- Contractor shall be responsible for all costs that may be incurred in complying with ORS 654.150 and the rules adopted pursuant thereto including, but not limited to, securing exemption or partial exemption from the requirements of ORS 654.150, (sanitary facilities at construction projects; standards, exemptions).

14.04 Work to Comply with Codes -- All Work shall be in full compliance with any and all codes specified in the Contract Documents and all federal, state and local laws, ordinances, rules, regulations and orders and all amendments to such codes, laws, ordinances, rules, regulations and orders. If Contractor observes or discovers that any portion or portions of the Contract Documents are at variance with any such requirements, Contractor shall promptly submit a written Request for Information to Metro pursuant to Paragraph 3.02 which shall fully describe the variance. If Contractor performs Work contrary to codes, laws, ordinances, rules, regulations or orders without submitting such Request to Metro, Contractor shall assume full responsibility for such Work and shall bear all costs attributable thereto.

Persons authorized by Metro or any governmental body having jurisdiction over the Project may at any time enter upon any part of the work to ascertain whether Contractor is complying with such laws, ordinances, regulations or orders.

14.05 No Additional Compensation Allowed for Compliance with Laws -- The Contract Amount includes full compensation for compliance with all applicable laws, rule, regulations, ordinances and orders and all amendments thereto and Contractor shall not make claim for nor be allowed any additional compensation for such compliance.

ARTICLE 15 TERMINATION OR SUSPENSION OF THE WORK

15.01 For Default of Contractor -- If Contractor should be adjudged bankrupt, or if Contractor should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of insolvency, of if Contractor should refuse to or fail to supply enough properly skilled workers or proper materials for the efficient prosecution of the Work, disregard laws, ordinances or the instructions of Metro, or otherwise be in violation of any provision of the Contract, Metro may, without prejudice to any other right or remedy and after giving Contractor and Contractor's surety on the Performance Bond prior written notice, terminate the Contract or any portion of the Contract, which termination shall be effective ten (10) days after service of such notice. Such notice shall contain the reasons for the termination and shall state that unless, within ten (10) calendar days of service of the termination notice on Contractor, Contractor or its surety on the Performance Bond shall have cured or shall have made, in Metro's opinion, appropriate arrangements for prompt cure of all of the cause(s) for termination cited in the notice of termination, the Contract shall terminate.

Upon termination, Metro may take possession of the premises and of all materials, tools and appliances thereon as well as all other materials whether on the premises or not, for which Contractor has received partial payment, and finish the Work or the portion terminated by whatever method it may deem expedient.

In the event action as above indicated is taken by Metro, Contractor, or Contractor's surety, shall provide Metro with immediate and peaceful possession of all of the materials, tools and appliances located on the premises as well as all other materials whether on the premises or not, for which Contractor has received any progress payment. Upon termination, in the event that the surety does not complete the Contract, at the election of Metro, Contractor shall assign any and all subcontracts and material contracts to Metro or Metro's designee. Further, Contractor shall not be entitled to receive any further payment until the Work is completed. On completion of the Work, determination shall be made by Metro of the total amount Contractor would have been entitled to receive for the Work, under the terms of the Contract, had Contractor completed the Work. If the difference between said total amount and the sum of all amounts previously paid to Contractor, which difference will hereinafter be called the "unpaid balance," exceeds the expense incurred by Metro in completing the Work, including

expense for additional managerial and administrative service, and all other costs, damages and expenses incurred by Metro due to Contractor's failure to complete the Contract, such excess will be paid to Contractor, with the consent of the surety. If, instead, the described expenses incurred by Metro exceed the unpaid balance, the amount of the excess shall be paid to Metro by Contractor or his/her surety. If only a portion of the Contract is terminated, this paragraph shall be deemed to apply to that portion of the Work only.

In addition to the above-mentioned right, Metro shall have the right, at its option, to suspend all or part of Contractor's performance under the Contract should any of the events occur which give Metro the right to terminate the Contract as above-described. In such event Metro shall give Contractor and Contractor's surety prior written notice of such suspension and Contractor shall stop or cause to stop all such work under the Contract immediately on receipt of such notice and shall not commence such work under the Contract again unless and until Contractor shall receive written notice from Metro to proceed. Metro shall not be responsible or liable to Contractor or others for any costs or expenses of whatever nature related to Contractor's failure to stop work as directed by Metro.

After receipt of a notice of termination or suspension, and except as otherwise directed by Metro, Contractor shall as regards those portions of the Contract terminated or suspended:

15.01.01 Stop work under the Contract on the date and to the extent specified in the notice of termination or suspension.

15.01.02 Place no further orders or subcontracts, or suspend the same, as applicable, for materials, services or facilities except as necessary to complete the portion of the work under the Contract which is not terminated or suspended.

15.01.03 Terminate or suspend, as applicable, all orders and subcontracts to the extent that they relate to the performance of such work terminated or suspended.

Metro may, at its discretion, avail itself of any or all of the above rights or remedies and its invoking of any one of the above rights or remedies will not prejudice or preclude Metro from subsequently invoking any other right or remedy set forth above or elsewhere in the Contract.

None of the foregoing provisions shall be construed to require Metro to complete the Work, nor to waive or in any way limit or modify the provisions of the Contract relating to the fixed and liquidated damages suffered by Metro on account of failure to complete the Project within the time prescribed.

15.02 Termination in the Public Interest -- It is hereby agreed that Metro has the right to terminate the Contract in whole or in part when Metro considers it to be in the public interest.

In the event the Contract is terminated as being in the public interest, Contractor shall be entitled to a reasonable amount of compensation for preparatory work and for all reasonable costs and expenses arising out of the termination, excluding lost profits.

In the event of termination under this Paragraph, the amount to be paid to Contractor shall be determined on the basis of the Schedule of Values in the case of any fully completed separate item or portion of the Work for which there is a separate or unit contract price and in respect to any other work under the Contract, Contractor will be paid a percent of the Contract price equal to the percentage of the work completed.

SUPPLEMENTARY CONDITIONS

1. CONDITION: All conditions as set forth in the General Conditions and Division 1 are applicable to all contractors and shall apply to such extent that they are not in conflict with these Supplementary Conditions. In the event of such conflict, these Supplementary Conditions shall take precedence.

TECHNICAL SPECIFICATIONS

DIVISION 1 - GENERAL CONSTRUCTION PROVISIONS

INDEX

SECTION 01001

SPECIFICATION STRUCTURE

1. GENERAL

1.1 FORMAT

A. This specification is organized on the format promulgated by the Construction Specification Institute (CSI Format).

B. This format assigns permanent numbers to all Divisions and Sections and so far as possible assigns all products, processes, activities and construction requirements permanent places in the specifications. A number is assigned which will not change from specification to specification.

C. Division, Section and Subsection numbers which are not required are omitted from the Specification.

D. Reference to an Article is a numbered clause in the General Conditions.

1.2 INDEX

All Sections required for a complete Contract appear in the index. Sections not required are omitted.

1.3 ARRANGEMENT

A. The Project manual is organized as follows:

1. Procedural and legal documents in Division O.

2. Specifications in Divisions number 1 to 16.

B. No attempt has been made in these specifications or plans to segregate Work covered by any trade or Subcontractor under one specification. Such segregation and establishment of subcontract limits shall be solely a matter of specific agreement between Contractor and his Subcontractors and shall not be based upon an inclusion, segregation or arrangement in or of these specifications. Contractor and Subcontractor in each case is warned that work included in any subcontract may be divided between several general specifications and that each general specification or subhead of the Technical Specifications may include work covered by two or more subcontracts in excess of any one subcontract.

C. Contractor shall be responsible for all work shown or specified, regardless of location in the Contract Documents.

1.4 LANGUAGE

A. These Specifications are written in imperative and abbreviated form.

B. This imperative language of the technical sections is directed at Contractor, unless specifically noted otherwise.

C. Incomplete sentences shall be completed by inserting "shall", "Contractor shall", and "shall be", and similar mandatory phrases by inference in the same manner as they are applied to notes on the drawings. The words "shall be" shall be supplied by inference where a colon (:) is used within sentences or phrases.

D. Except as worded to the contrary, fulfill (perform) all indicated requirements whether stated imperatively or otherwise.

* * * END OF SECTION * * *

SECTION 01010

SUMMARY OF WORK

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Coordination: Section 01041

B. Field Engineering Section 01050

C. Construction Schedules: Section 01310

D. Schedule of Values: Section 01370

E. Temporary Electricity: Section 01511

F. Temporary Water: Section 01515

G. Protection and Maintenance of Work and Property: Section 01545

H. Product Requirements/Substitutions: Section 01600

1.2 SCOPE OF WORK

A. The work covers construction work specifically shown on the Contract Drawings and described herein.

B. In general, construction work under this Contract includes procurement of soil materials and their placement at specified locations on the St. Johns Landfill. Additionally, preparatory work is included such as clearing and grubbing, stripping and stockpiling of existing topsoils and low permeable soils (clay), abandonment and extension of existing monitoring wells, installation of horizontal gas trenches, and installation, raising and protection of settlement monitoring indicators. This Contract will require that surface drainage and erosion control measures and devices be installed and maintained during the course of the work and until the conclusion of all work.

1.3 CONTRACTOR'S DUTIES

A. Except as specifically noted, provide and pay for:

1. Labor, materials and equipment.

2. Tools, construction equipment, machinery and fuel.

3. Water, heat, and utilities required for construction.

4. Protection of existing installations such as wells, road systems and drainage, and vegetation and soil covers, as required for construction.

5. Other facilities and services necessary for proper execution and completion of Work.

6. Field Engineering except as provided by the ENGINEER.

7. Quality Control.

8. Testing except as provided by the Engineer.

B. Pay legally required sales, consumer use and other taxes as may be required by law.

C. Give required notices.

D. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of work.

E. Promptly submit written notice to Metro and Engineer of observed variance of Contract Documents from legal requirements.

F. Enforce strict discipline and good order among employees. Employ only skilled personnel of good character. Remove from the jobsite individuals who display poor workmanship or superintendence, repeatedly break rules of discipline or safety, or engage in unlawful acts on or around the jobsite.

1.4 CONTRACTOR FURNISHED

A. Labor, materials and equipment required for the project.

B. Water for construction, fire protection and all field offices.

C. All gates, barricades, fences, handrails, guardrails, and security required by the Contract or by laws and regulations.

D. Sanitary facilities adequate for all workers and complying with all codes and regulations.

E. Shelter and drying facilities for workmen.

F. Guards, marks, shields, protective clothing, rain gear, and other equipment required by law, ordinance, labor contracts, OSHA and other regulations for the maintenance of health and safety.

G. First Aid Kits and equipment required by law and regulations.

1.5 PERMITS AND LICENSES

A. Metro has secured all general permits for the project. Copies of the permits are on file at Metro. All requirements set forth by these permits shall be investigated prior to bidding and are to be strictly enforced by Contractor and his agents.

B. Contractor shall acquire and pay for all specialty permits such as electrical permits, transportation permits, wage and hour regulations permits, and all other permits of a temporary nature relating to the construction of the project.

C. Contractor is invited to review the provisions of the Oregon Mined Land Reclamation (ORS 5.17.750-517.955). The Oregon Department of Geology and Mineral Industries can be contacted to determine if this act is pertinent to Contractor's borrow sources.

1.6 TYPE AND EXTENT OF WORK

A. All work incidental and necessary to the completion of the work described herein and shown on the drawings shall be completed under the bid items listed in the Bid Form and no other compensation will be allowed, except as authorized by formal Change Order.

1.7 WORK UNDER SEPARATE CONTRACTS

A. During the course of this Project, Metro will award separate contracts in connection with other work at the Site. Other Contractors on the Site will be involved in:

1. Landfill Disposal Operations - Disposal of construction debris in SubArea 4 is currently underway and shall continue throughout this Project.

2. Construction of Closure Improvements - Construction of the final landfill cover is anticipated to start in May, 1992.

3. Monitoring of groundwater wells - Periodic MW sampling is currently underway and shall continue through the life of this project.

B. Contractor shall cooperate with Other Metro Contractors in every way possible. It shall be the responsibility of Contractor to maintain its schedule so as not to delay the progress of the Project or the work of Other Metro Contractors. Cooperation shall include, but not limited to:

1. Sharing access routes, designation of laydown areas, and temporary utility corridors.

2. Maintenance of continuous traffic flow onto the Site. The St. Johns Landfill bridge is currently the only road access to the landfill.

C. Regular Coordination meetings will be held on the Site during the course of this Contract with all contractors involved in work at St. Johns Landfill.

1.8 METRO FURNISHED PRODUCTS

A. Metro will furnish no material unless specifically called for in other sections of the specifications or the drawings.

1.9 CONSTRUCT WORK IN STAGES

A. Construction of work in stages will be required as set out in the specifications to accommodate anticipated schedules and weather considerations. The staging shall be coordinated with Metro and reflected in the contract schedule.

1.10 USE OF PREMISES

A. Limitations:

1. Contractor shall confine his apparatus, storage of materials, and construction operations to such limits as may be directed by Metro, and shall not unreasonably encumber the premises with his materials.

2. Contractor shall enforce any instructions of Metro regarding signs, advertising, danger signals, barricades, and shall require all persons employed on the work to comply with all regulations while on the premises.

3. Contractor shall not permit the landfill access bridge structure to be loaded with vehicle weights greater than the allowable loads. Refer to the Allowable Loads in the Appendix.

B. Confine operations at site to areas permitted by:

1. Laws

2. Ordinances

3. Permits

4. Contract Documents

5. Right-of-Way

1.11 CONTRACT DOCUMENTS

A. The precedence for interpretation of the Contract Documents is in accordance with Article 1 of the General Conditions.

B. If apparent conflicts or questions arise, Contractor shall immediately contact the Engineer for interpretation or correction.

C. Contractor with the advice of the Engineer will establish a system for Requests for Information (RFI's) which will be used to seek and receive direction quickly, track and record the action, provide a possible basis for change orders as required, provide documentation for possible claims. Additional information may be found in Article 3 of the General Conditions.

1.12 RECORD DOCUMENTS

A. Record documents in accordance with On-Job Site Documents Section 01720 shall be maintained onsite. Section 01720 describes the record drawings which are required onsite.

B. A working copy of the As-Built Plans and Specifications for use in construction shall be maintained onsite.

*** * * END OF SECTION * * ***

SECTION 01025

MEASUREMENT AND PAYMENT

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Bid Form: Document 00300

B. Payments: Article 9 General Conditions

C. Schedule of Values: Section 01370

1.2 APPLICABLE PUBLICATIONS

A. The following publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

1. American Society for Testing and Materials (ASTM) Publications:

D 698	Standard Proctor
D 2216	Moisture Content Determination
D 4643	Method for determination of water moisture content for soil by the microwave oven method

1.3 MEASUREMENT OF PAY QUANTITIES

A. General:

1. Contractor shall make all measurements, and determine all interim quantities and amounts of completed work done under the Contract. At the time measurements are made for quantity determinations, the Engineer or Metro shall be present to verify such measurements. From quantity figures so ascertained, it will be Contractor's responsibility to prepare a monthly periodical estimate of the work accomplished to date. This estimate and application for payment shall be submitted to the Engineer each month for his review and check not later than the date established at preconstruction conference. The form of such monthly estimates and application for payment to be subject to the approval of the Engineer. The Engineer will take measurements and determine final quantities for payment with Contractor present to verify such measurements.

2. Several feet of settlement of the subgrade is anticipated during the filling operations. Measurement of pay for fill quantities is by weight so Contractor is paid for materials placed as set out in these contract drawings and specifications. The amount of settlement is a function of the rate of filling and therefore the actual fill quantities may vary from the estimated fill quantities given in the schedule of bid prices. Variation in actual required, versus estimated fill quantities shall not be a basis for a claim to Metro.

B. Description of Methods for Measurement of Quantities:

1. When Items are specified to be measured by an area unit (e.g. square yards, acres), direct in-place horizontal measurement shall be employed by the most practical means as determined by the Engineer. Where survey traverse measurements are used for area computation, horizontal measure will be the basis. No allowance for slopes will be made in computing areas. Contractor's bid price shall be adjusted accordingly.

2. For Items specified to be measured by a volume unit (e.g. cubic yards), in-place measurement will be used by the Engineer.

   In-place survey cross-sections will establish final in-place geometry. The quantity for payment will be the calculated difference between this in-place cross-section and the pre-construction cross-section or a prior applicable measurement.

3. Where Items are to be measured by a weight unit (e.g. Tons), material shall be weighed on scales that are accurate within the tolerances required by the State of Oregon. Certification of scale accuracy and its licensing with the State shall be provided to the Engineer upon request. Contractor will be responsible to provide a copy of all certified weigh bills to the Engineer at the time of delivery. All trucks are to be numbered or otherwise uniquely marked for identification purposes.

   All weigh bills shall include a reference to the borrow source, the intended use of the material, i.e. Subgrade Embankment (compacted final subgrade), Subgrade Embankment (temporary preload), or Type I Sand (temporary preload), the delivery vehicle identification, date and time delivered to the landfill.

   At the option of the Engineer, random checks of truck weight and weigh bill accuracy may be performed by weighing an arriving truck at the Metro scale at the landfill entrance. Where a discrepancy is encountered, Metro may elect to adjust all weigh bills received since a prior check date.

   Specific quantities deductions in weight will be made for excess moisture contained in the following three items:
   a. Subgrade Embankment (compacted final subgrade);
   b. Subgrade Embankment (temporary preload);
   c. Type I Sand (temporary preload). The deductions will be made based on material samples taken at the entrance to the landfill site. No provision for adding weight will be made for drier materials.

   The amount of weight deduction for excess moisture will be made as follows:
   a. Compaction curves per ASTM D698 shall be developed by the Geotechnical Engineer for each suitable borrow source of Subgrade Embankment and Type I Sand proposed by Contractor. These tests shall be completed for each borrow area in advance of any materials being brought onto the site from that borrow source.
   b. The optimum moisture content per ASTM D698 shall serve as a basis for weight deductions for borrow source materials brought onto the site. No deduction will be made up to plus-two percent (+2%) by weight moisture above optimum moisture content in Type I Sand, and Subgrade Embankment with more than 50 percent gravel or rock. No deduction will

be made up to plus-four percent (+4%) by weight moisture above optimum moisture content in of Subgrade Embankment with less than 50 percent gravel or rock.

c. Moisture content shall be determined by the Geotechnical Engineer of representative samples of Subgrade Embankment and Type I Sand brought onto the site each day. A compaction check point (ASTM D698) will be carried out for each moisture content determination so that the sample can be matched to the appropriate compaction curve.

d. The moisture content tests shall be by microwave oven method ASTM D4643. The moisture content results from the nuclear test method shall be periodically calibrated using ASTM D2216 run on split samples. One moisture content calibration test per day shall be performed by the Geotechnical Engineer.

e. A minimum of 1 moisture content test per 200 trucks or 1 test per 5,000 tons of material will be carried out. Additional, more frequent, moisture content and check point determinations will be carried out as determined by the Geotechnical Engineer. Moisture content test results for each material for each borrow source shall be averaged over a 24 hour period of work.

f. The average moisture content for each material for each borrow source for each day will be compared to the allowable moisture content in (b) above. The amount over the allowable percentage is the excess percentage (by weight) of moisture. The deduction shall be the excess weight of water calculated by multiplying the excess percentage (decimal) of moisture by the corresponding total weight of each material brought onto the site for that day. The final determination of the excess weight of water deduction shall be made by the Geotechnical Engineer. During construction, all records supporting this determination will be available for inspection by Contractor.

4. For Items specified to be measured by a length unit (e.g. lineal or vertical foot), pay length will be measured along the line and grade of the item involved as actually placed and accepted.

5. Where lump sum is the specified pay unit, complete payment for the work described to be done, completed and accepted, without further measurement will be used. Contractor shall furnish a Schedule of Values in accordance with Section 01370 of this Specification if partial payment is desired by Contractor.

C. No measurement will be made for:

1. Work performed or materials placed outside of lines indicated in the plans or established by the Engineer.

2. Materials wasted, used, or disposed of in a manner not called for under the contract.

3. Rejected materials (including material rejected after it has been placed, if the rejection is due to Contractor's failure to comply with the provisions of the contract).

4. Hauling, handling and placement of materials from or to interim stockpiles.

5. Hauling, handling and disposing of rejected materials.

6. Material on hand after completion of the work.

7. Handling and drainage of over-wet materials. Handling of draining water and sediment from over-wet materials.

8. Any other work or material when payment is contrary to any provision of the Contract.

1.4 ESTIMATED QUANTITIES (UNIT PRICE ITEMS)

The estimated quantities shown in the Bid Forms are estimates only, being given only as the basis for the comparison of Bids, and Metro does not warrant, expressly or by implication, that the actual quantity of work will correspond therewith. The right to increase or decrease the amount of any class or portion of the work, or to make changes in the work required as may be deemed necessary is reserved by Metro as provided elsewhere in these specifications. The basis of payment will be the actual unit bid items of Work performed and measured in accordance with the contract. All prospective Bidders should note that certain bid items may be included in the Bid Form to establish a unit price should use of those items become necessary during construction. Allowance will not be made for loss of anticipated profits or additional compensation should the use of these items be deemed unnecessary.

1.5 PAYMENT FOR LUMP SUM ITEMS

Payment for work items designated by Lump Sum units shall be in accordance with Article 9 of the General Conditions.

1.6 PAYMENT FOR UNIT PRICE ITEMS

Payments to be made to Contractor will be made as set forth in Article 9 of the General Conditions and according to the unit price schedule provided in Section 00300.

1.7 PAYMENT FOR MATERIAL STORED OFF SITE

Refer to Article 9 of the General Conditions.

1.8 DESCRIPTION OF BID ITEMS

A. GENERAL:

1. Payment will be made only under those items listed in the Schedule at Bid Prices, Section 00300 All other items required for the work where a specific bid item was not provided shall be considered incidental to the project and all costs are to be included with the listed Schedule of Bid Prices.

ITEM 1 MOBILIZATION:

1. This item shall consist of preconstruction costs of preparatory work and operations performed by Contractor, including, but not limited to, those necessary for the movement of his personnel, equipment, supplies and incidentals to the project site; for the establishment of his offices, buildings and other facilities necessary for work

on this project; for premiums on bonds and insurance for the project and for work and operations which he must perform or costs he must incur before beginning production work on the various items on the project site. Mobilization costs for all subcontracted work shall be considered to be included.

2. Items which are not to be included in this item include, but are not limited to:
   a. Any portion of the work covered by a specific bid item or incidental work which is to be included in a bid item or items.
   b. Profit, interest on borrowed money, overhead or management costs.

3. The lump sum price bid for "Mobilization," partial payments will be made as follows:
   a. When 5% of the total original contract amount is earned from other bid items, 50% of the amount bid for mobilization, or 3% of the total original contract amount, whichever is the least will be paid.
   b. When 10% of the total original contract amount is earned from other bid items, 100% of the amount bid for mobilization, or 5% of the total original contract amount, whichever is the least, will be paid.
   c. Upon completion of all work on the project, payment of any amount bid for mobilization in excess of 5% of the total original contract amount will be paid.

ITEM 2 SITE SAFETY AND HEALTH PROGRAM:

1. The lump sum price bid for the Site Safety and Health Program shall constitute complete compensation for the investigation of existing conditions and potential hazards, preparation of all required safety and health program elements and implementation of the approved Program throughout the course of Contractors work on the landfill site.

ITEM 3 CLEARING AND GRUBBING:

1. The unit price bid per acre for Clearing and Grubbing shall constitute full compensation for all labor, materials and equipment required to perform Clearing and Grubbing operations within the project site in conformance with the specifications.

2. Disposal of land clearing debris in Subarea 4 shall be included in this bid item.

3. Specifically included but not limited to, is the clearing and grubbing of brush from the PLC and Subarea 5A and wood compost/bark from Subarea 5. This work shall be limited to the immediate area on which subgrade material, preload material or stock piles of stripped existing materials will be placed.

ITEM 4 TOPSOIL REMOVAL:

1. The unit price bid per cubic yard for existing Topsoil Removal shall be full compensation for removing all existing topsoil above the existing low permeable soil in Subarea 5.

2. This bid item shall specifically include, but not be limited to disposal of unsuitable topsoil material in Subarea 4, and all costs of excavating, hauling of suitable material to temporary stockpile.

3. Measurement for payment via survey cross-sections will be made of the volume of material stripped in Subarea 5.

ITEM 5 LOW PERMEABLE SOIL REMOVAL:

1. The unit price bid per cubic yard shall constitute full compensation for all labor, materials, and equipment required to excavate the existing low permeable soil in Subarea 5, disposal of unsuitable material in Subarea 4, hauling of suitable material to temporary stockpile.

2. Measurement for payment via survey cross-sections will be made of the volume of low permeable soil material removed from Subarea 5.

ITEM 6 PROCURE AND DELIVER SUBGRADE EMBANKMENT MATERIALS

1. The unit price per ton, less a weight deduction for excess moisture and scale check differences, shall constitute full compensation for all labor, materials, and equipment required to procure and deliver, dump and spread subgrade embankment materials to locations and grades indicated in the Control Documents.

2. Alternative methods of payment will be considered by Metro if methods of conveyance to the site other than highway legal trucks are proposed by Contractor.

3. The costs for grading and compacting material to subgrade contours are not included.

4. The costs for temporary protection of materials prior to and after placement is included in this bid item.

5. The costs for rough grading the material placed as Preload is included in this bid item.

ITEM 7 COMPACT SUBGRADE EMBANKMENT TO SUBGRADE CONTOURS

1. The unit price per cubic yard shall constitute full compensation for all labor and equipment required for grading and compacting subgrade embankment materials to achieve subgrade contours in accordance with the Contract Documents.

2. All costs for rough grading to the subgrade contours, establishing surface drainage and erosion control features (except as separately bid), and compaction are considered incidental to this bid item.

3. The cost of the subgrade embankment material has been included in a separate bid item.

ITEM 8 TYPE I SAND: (Temporary Preload)

1. The unit price bid per ton, less the deduction for excess moisture where applicable, shall constitute full compensation for providing Type I Sand as "Preload", as shown on the Drawings and in the Specifications.

2. Alternative methods of payment will be considered by Metro if methods of conveyance to the site, other than highway legal trucks, are proposed by Contractor.

3. Specifically included, but not limited to, are all costs of procurement, hauling or transport to site, dewatering if necessary and placement as "preload" in the Powerline Corridor and Subarea 5 areas of the landfill as identified on the Drawings.

4. Preparation of the "Subgrade" on which the "Preload" is to be placed will be paid under separate bid item and is excluded from this bid item.

5. Surface water control measures are excluded from this bid item and will be paid under separate bid items.

ITEM 9 TEMPORARY DRAINAGE DITCH

1. The unit price bid per lineal foot shall constitute full compensation for all labor, materials and equipment required to establish and maintain temporary drainage ditches as shown on the Drawings.

ITEM 10 STRAW BALE SEDIMENTATION BARRIERS

1. The unit price bid per each shall constitute full compensation for all labor, materials and equipment required to establish and maintain temporary sedimentation control.

ITEM 11 SEDIMENT FENCING

1. The unit price bid per lineal foot shall constitute full compensation for all labor, materials and equipment required to establish and maintain temporary sedimentation control.

ITEM 12 PLASTIC COVERING

1. The unit price bid per square yard shall constitute full compensation for all labor, materials and equipment required to cover and protect subgrade, preload or stockpile.

2. The unit price shall also include anchors.

ITEM 13 EROSION BLANKETS

1. The unit price bid per square yard shall constitute full compensation for all labor, materials and equipment required to establish and maintain temporary sedimentation control.

ITEM 14 HYDROSEEDING

1. The unit price bid per square yard shall constitute full compensation for all labor, materials and equipment required to establish and maintain temporary sedimentation control.

ITEM 15 HORIZONTAL GAS TRENCHES:

1. The unit price bid per linear foot for Horizontal Gas Trenches shall constitute full compensation for all labor, material, tools, and equipment necessary for installing the horizontal gas trenches at locations shown on the plans and as specified.

2. All costs associated with trenching through refuse, solid or perforated HDPE pipe and fittings, drainrock, Type 1 Geotextile, backfill and compaction, vertical pipe extensions at each end and other miscellaneous work items are to be included in the unit cost for this item with no additional compensation allowed.

3. Measurement for payment will be along the pipe, horizontally. Vertical extension of the gas pipe at each end of the trenches are incidental to this bid item.

ITEM 16 WELL EXTENSION:

1. The unit price bid per each shall constitute full compensation for all labor, material and equipment required to extend well H-5 as shown on the Drawings and specified herein. Note: Metro will furnish to Contractor all 2-inch diameter stainless steel well casing required for this extension work. Contractor will be responsible for transporting this pipe from the Metro storage yard on the landfill near the entrance to the well H-5 site.

2. This work shall be coordinated with the earthwork operations in its vicinity. Protection of the existing well integrity and the extension during construction work is required. All costs to protect and maintain well H-5 throughout the life of this project are to be included in this bid item.

ITEM 17 WELL ABANDONMENT:

1. The unit price bid per each shall constitute full compensation for all labor, materials and equipment required to abandon wells B-3, B-5 and EPA-R, complete, in accordance with the specifications.

ITEM 18 SETTLEMENT MARKERS:

1. The unit price bid per each shall constitute full compensation for all labor, materials and equipment necessary to provide, install settlement markers, complete in place, as shown on the Drawings.

2. The raising of the settlement markers shall be coordinated with the earthwork operations and the Resident Geotechnical Engineer. All costs for raising maintenance and protection of the settlement markers throughout the life of this project shall be included in this bid item.

*** * * END OF SECTION * * ***

SECTION 01041

PROJECT COORDINATION

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Separate Contracts: Article 6 General Conditions

B. Subcontractors: Article 4 General Conditions

C. Work Under Separate Contracts: Section 01010

D. Job Site Administration: Section 01043

E. Field Engineering: Section 01050

F. Preconstruction Conferences: Section 01210

G. Progress Meetings: Section 01220

H. Shop Drawings, Project Data and Samples: Section 01340

1.2 POLICY IN PRACTICE

A. Engineer is Metro's Advisor and Consultant:

1. Inspection and Testing Laboratories are to furnish data and guidance only and may make no decisions involving interpretations or changes in the Contract.

2. All job located questions or problems shall be handled through the Resident Engineer/Construction Manager.

B. Metro's desires and instructions will be channeled through the Engineer regarding all phases of the Contract.

C. Contract related communication from Contractor shall be handled through the Engineer.

D. Coordination of all Subcontractors is the responsibility of Contractor.

E. Documents of the Contract are directed to Contractor and not the Subcontractors involved.

F. Contractor is solely responsible for construction methods and the results thereof regardless of any advice, information, methodology or scheduling unless such advice, methodology or scheduling is written into the Contract or given in writing by the Engineer or Metro.

G. Metro is solely responsible for reviewing requests for and approving all changes to the Contract Documents. All such changes will be provided in writing via a Contract Change Order.

1.3 COORDINATION OF TRADES AND SUBCONTRACTORS

A. Coordination is the responsibility of Contractor. He shall assure coordination with Suppliers, electrical contractors, mechanical contractors and all trades to the end that:

1. All necessary equipment, work and structures are scheduled, installed and tested in proper sequence.

2. He shall assure that electrical and mechanical equipment, wiring and control equipment, piping and plumbing, grading and landscaping and all problems of supply, installation and scheduling are coordinated and that the relations of all elements are carried out in an orderly manner in accordance with the Contract.

3. Contractor shall coordinate all Suppliers of equipment, controls and electrical supplies before submittal of shop drawings.

1.4 COORDINATION OF UTILITIES

Contractor shall schedule and supply utilities as required in the Contract.

1.5 PUBLIC AGENCIES

A. Contractor shall coordinate his schedule and activities with Metro, the Engineer and various agencies involved as the necessity arises and as required by the Contract:

1. Power
2. Water
3. Sewer
4. Electrical
5. Other Utilities
6. Police
7. Fire
8. Schools
9. County
10. City
11. State
12. Other Public Agencies

*** * * END OF SECTION * * ***

SECTION 01043

JOB SITE ADMINISTRATION

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Supervision: Article 2, General Conditions

B. Summary of Work: Section 01010

C. Project Coordination: Section 01041

D. Inspection Services: Section 01420

E. Temporary Electricity: Section 01511

F. Temporary Water: Section 01515

G. Protection and Maintenance of Work and Property: Section 01545

1.2 REMOVAL OF DEBRIS, CLEANING, ETC.

Upon completion, the site of all work or equipment and material storage areas shall be restored to substantially their original condition.

1.3 TESTS

A. Where the Specifications require work to be specifically tested or reviewed, it shall not be covered up without timely notice to the Engineer of its readiness for inspection, unless the Engineer waives such notice.

B. Should any such work be covered up without such notice, approval or consent, it must, if required by the Engineer, be uncovered for examination at Contractor's expense.

1.4 COMMENCEMENT OF WORK ON PUBLIC AND PRIVATE RIGHT-OF-WAY

A. Work shall not be started on any public or private right-of-way until clearance is given Contractor by the Engineer.

B. It will be the responsibility of Contractor to comply with any special requirements of any permits or easements for the project acquired by Metro. The permits and easements shall be made known to Contractor at Contractor's request.

* * * END OF SECTION * * *

SECTION 01050

FIELD ENGINEERING

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Measurement and Payment: Section 01025

B. Job Site Administration: Section 01043

C. Inspection Services: Section 01420

D. Construction Schedules: Section 01310

1.2 PRECONSTRUCTION SURVEY BY ENGINEER

A. A Preconstruction survey will be performed by the Engineer to include the following:

1. Survey Control Points

2. Existing Site Contours

3. Monitoring Wells to be Abandoned

4. Clearing and Grubbing Limits

1.3 CONSTRUCTION STAKING BY ENGINEER

A. The Engineer will provide the following construction stakes:

1. CLEARING & GRUBBING - boundary stakes to indicate areas to be cleared on which subgrade material, preload materials, or stockpiles of stripped existing materials will be placed.

2. TOPSOIL - boundary stakes to indicate areas of topsoil removal on which subgrade material, preload materials, or stockpiles of stripped existing materials will be placed.

3. LOW PERMEABLE SOIL - boundary stakes to indicate areas of low permeable soil removal on which subgrade material, preload materials, or stockpiles of stripped existing materials will be placed.

4. SUBGRADE EMBANKMENT (subgrade contours) - cut/fill stakes on a 150 foot grid with grade breaks, crests, and toe.

5. PRELOAD - fill stakes on a 150 foot grid with toe, crests, grade breaks.

6. GAS COLLECTION TRENCHES - offset stakes to gas trench locations identified on the Drawings.

7. SETTLEMENT MARKERS - Locations per drawings.

B. Contractor shall request staking, in writing, and shall outline schedule for staking requirements. Any schedule changes shall be provided in writing. Contractors request for stakes shall be a minimum of three working days in advance of need to start construction operations.

1.4 CONSTRUCTION STAKING BY CONTRACTOR

A. Contractor will provide and pay for all survey and field engineering services except as provided by the Engineer. Work will be done by or under the supervision of a licensed land surveyor.

B. Contractor will record changes in location or layout of permanent features or structures on the Project Record Documents.

1.5 GENERAL REQUIREMENTS

A. Contractor shall protect and preserve in their original position all stakes, points, or marks set by the Engineer for the work.

B. If any stakes and markings are destroyed or defaced by Contractor's operations before their use is ended, the full cost of replacing them will be at Contractor's expense.

C. Working operations shall be suspended at different points for such brief and reasonable time as may be required for giving of lines and grades, taking measurements and making inspections. Such delays shall be considered incidental to the Contract and no additional compensation will be allowed.

D. Any claim by Contractor for extra compensation by reason of alterations or reconstruction work allegedly due to error in the Engineer's staking, will not be allowed unless the original control points set by the Engineer still exist, or unless other satisfactory substantiating evidence to prove the error is furnished to the Engineer.

E. Contractor shall transfer lines and grades from the points given to his own work at his own expense.

F. Staking will usually be done after clearing and grubbing has been completed or as identified elsewhere.

1.6 SURVEYS FOR QUANTITY MEASUREMENT

A. Surveys will be performed by the Engineer in conjunction with appropriate unit price bid items which require final volumetric measurement. Refer to Section 01025. The timing of these surveys will vary with Contractors work schedule.

The Engineer will provide surveys for the following final quantity measurements:

1. Topsoil Removal

2. Low Permeable Soil Removal

3. Compact Subgrade Embankment

B. Contractor will make measurements as required for interim progress payments.

*** END OF SECTION ***

SECTION 01070

ABBREVIATIONS AND SYMBOLS

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

Definitions: General Conditions

1.2 ABBREVIATIONS

A. Whenever the following abbreviations are used on the plans, specifications, proposals, and contracts, they shall be construed to mean the words and terms as listed below.

B. Duplicate definitions shall be interpreted in context of use.

A	
AASHTO	American Association of State Highway Transportation Officials
ACI	American Concrete Institute
AITC	American Institute of Timber Construction
AGA	American Gas Association
AGC	Associated General Contractors of America
AGMA	American Gear Manufacturer Association
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AMCA	Air Moving and Conditioning Association
ANSI	American National Standards Institute
APA	American Plywood Association
API	American Petroleum Institute
APWA	American Public Works Association
AREA	American Railway Engineering
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineering
ASHRAE	American Society of Heating, Refrigerator, and Air Conditioning Engineering
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers
AWS	American Welding Society
AWWA	American Water Works Association
B	
BTU	British Thermal Unit
BTUH	British Thermal Units per hour

C	
C	Centigrade
CBMA	Certified Ballast Manufacturers Association
CFM	Cubic feet per minute
CFS	Cubic feet per second
CMP	Corrugated Metal Pipe
CPM	Critical Path method
CRSI	Concrete Reinforcing Steel Institute
D	
DFP	Douglas Fir Plywood Association
DI	Ductile Iron
DIPRA	Ductile Iron Pipe Research Association
E	
EA	Each
EEO	Equal Employment Association
EPA	Environmental Protection Agency
F	
F	Fahrenheit
FED SPEC	Federal Specification
FHWA	Federal Highway Administration
FPM	Feet per minute
FT, FT^2, FT^3	Foot, square feet, cubic feet
G	
GA	Gage, Gauge
GAL	Gallon
GALV	Galvanized
GPD	Gallons per day
GPH	Gallons per hour
GPM	Gallons per minute
H	
HDPE	High Density Polyethylene
HOA	Hand-Off-Auto
HP	Horsepower
HR	Hour
HT	Height
Hz	Hertz
I	
ID	Inside Diameter
IEEE	Institute of Electrical and Electronics Engineers
IN, IN^2, IN^3	Inch, square inches, cubic inches
ISA	Instrument Society of America
J	
JIC	Joint Industry Conference of Hydraulic Manufacturers
K	
KV	Kilovolt
KVA	Kilovolt ampere
KVAR	Reactive Kilovolt amperes
KW	Kilowatt
KWH	Kilowatt hour
L	
L	Length
LB	Pound
LF	Linear feet
LS	Lump sum

M	
M	Thousand
MA	Milliamperes
MBTUH	One thousand British Thermal Units per hour
MGD	Million gallons per day
MGL	Milligrams per liter
MIL	One thousandth of an inch
MIN	Minute
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry
MV	Millivolts
MVA	Megavolt amperes
N	
NAMM	National Association of Metal Manufacturers
NBFU	National Bureau of Fire Underwriters
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NESC	National Electric Safety Code
NFPA	National Fire Protection Agency
NLMA	National Lumber Manufacturers Association
NPC	National Plumbing Code
NPT	National pipe thread
NRS	Non-rising stem
O	
OD	Outside Diameter
OSHA	Occupational Safety and Health Act
OZ	Ounce
P	
PCA	Portland Cement Association
PCF	Pounds per cubic foot
ph	Hydrogen ion concentration
PPM	Parts per million
PSF	Pounds per square foot
PSI	Pounds per square inch
PSIG	Pounds per square inch gauge
PT	Pint
PVC	Polyvinyl chloride
Q	
R	
	Revolutions per minute
S	
SAE	Society of Automotive Engineers
SCBA	Self-contained Breathing Apparatus
SCFM	Standard cubic feet per minute
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SQFT	Square foot
SQIN	Square inch
SQMI	Square mile
SSPC	Steel Structures Painting Council

T		W	
		WCLIB	West Coast Lumber Inspection Bureau
U			
UBC	Uniform Building Code	WWPA	Western Wood Products Association
UL	Underwriter's Laboratory		
		X	
UPC	Uniform Plumbing Code		
V		Y	
V	Volt		
VLDPE	Very Low Density Polyethylene	Z	

*** END OF SECTION ***

SECTION 01090

REFERENCE STANDARDS

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

All Divisions: As referenced

1.2 AUTHORITY

A. Contractor is responsible to conform to all codes and regulations legally in effect at the location of the project.

B. Contractor shall conform to all requirements and regulations of the authority administering such codes and regulations.

1.3 REFERENCE CODES

A. Contractor shall conform to all codes and sections thereof as may be referred to in the specifications.

B. Referenced codes are, by such reference, incorporated into this Contract as if set forth herein in full.

1.4 SPECIFICATIONS INCORPORATED BY REFERENCE

A. Where Federal, AWWA, ASTM, or any other standard specifications are referred to, or included by reference, the latest issue and/or amendment there to published at the date of issue of the Advertisement for Bids shall be incorporated in the Contract by said reference as if set forth herein in full.

*** * * END OF SECTION * * ***

SECTION 01100

HEALTH AND SAFETY PROGRAM

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. General Conditions - Article 10, Safety and protection of the Work

B. Section 1400 Contractor Quality Control

C. Section 01220 progress Meetings

D. Section 0222 Excavating, Backfilling and Compacting for Utilities

E. Section 02150 Shoring

F. Appendix B - Site Characterization/Health and Safety Hazards (Marine and Environmental Testing, Inc.)

G. OSHA Regulations and Applicable Oregon Occupational Safety and Health Codes

1.2 SUBMITTALS

A. Contractor will submit to Metro a written Health and Safety Plan no later than 14 days after Notice to proceed. The plan must be approved before Contractor begins work. please refer to the special requirements for hazardous waste operations in paragraphs 1.8 through 1.10.

B. Contractor will submit the name and qualifications of the proposed Site Health and Safety Officer as soon as possible but no later than 14 days after Notice to Proceed. This individual must be approved by Metro and appointed before Contractor begins work.

C. Contractor will submit the names and qualifications of first aid trained personnel who will be available for administering first aid on each shift prior to beginning work. Include a list of first aid equipment available. Coordinate with and provide contact information for local health and safety agencies as follows:

1. Emergency Medical Treatment and Evacuation

2. Hospital

3. Fire Department

4. Law Enforcement

D. Contractor will develop a detailed activity hazard analysis on each new phase of work prior to the start of work on that phase. This is in addition to the more preliminary hazard analysis included in the Health and Safety Plan. These hazard analyses will be reviewed with Metro and upon approval become a part of the Health and Safety Plan.

E. Furnish reports of weekly tool box safety training as completed.

1.3 HEALTH AND SAFETY LAWS AND REGULATIONS, AND REQUIREMENTS FOR HAZARDOUS WASTE OPERATIONS

A. The St. Johns Landfill is classified as a sanitary landfill. Most of the work involved in the project falls under OSHA and Oregon OSHA rules pertaining to ordinary construction, and Contractor shall conform to such rules when completing ordinary construction tasks. Some of the tasks involve the possibility of exposure to known and unknown materials that may be considered hazardous substances. These tasks include, but are not limited to,

1. Work around gas and water monitoring wells.

2. Intentional excavation and work in refuse such as excavation of the gas trenches and laying pipe.

3. Inadvertent excavation of refuse during grading operations

4. Diversion, removal and disposal of leachate.

For this type of work, Contractor shall ensure compliance with all requirements of the Federal Occupational Health and Safety Act of 1970 (OSHA), as amended including, OSHA 29 CFR Part 1910 Hazardous Waste Operations and Emergency response, Final rule, Oregon Administrative Rules (OAR) 437-02-100 et. seq. and with any other applicable Oregon Industrial Health and Safety provisions as they apply to health and safety provisions for hazardous waste operations, and all other applicable federal, state, county, and local laws, ordinances, codes, the requirements set forth herein, and any regulations that may be specified in other parts of this Contract. If any of these requirements are in conflict, the more stringent requirements shall apply. Contractor's failure to thoroughly familiarize himself with the aforementioned health and safety provisions shall not relieve Contractor of responsibility for full compliance with the obligations and requirements set forth therein. Where "Hazardous Waste Operations" is mentioned in the regulations listed above, it shall be interpreted in this Specification to include any person potentially exposed to hazards including, but not limited to, landfill gas, landfill gas condensate, or leachate at the St. Johns Landfill. Contractor is cautioned that the aforementioned OSHA and other referenced regulations require, among other items, the following:

1. A site specific Health and Safety Plan. (Note: This plan is to be written in sufficient detail to satisfy all requirements of OSHA 29 CFR Part 1910.120, and must be submitted for review by Metro prior to start of work on this site.)

2. A Site Health and Safety Officer as described in paragraph 1.5 these Specifications.

3. A provision for Personal Protective Equipment, Level "B" which shall include, at a minimum:
   - Positive pressure, full-facepiece SCBA or positive pressure supplied-air respirator with escape SCBA.
   - Chemical-resistant clothing (overalls and long-sleeved jacket; hooded, one or two-piece chemical splash suit; disposable chemical-resistant one-piece suit).
   - Inner and outer chemical-resistant gloves.
   - Chemical-resistant safety boots/shoes.
   - Hard hat.
   - Two-way radio.

4. Medical surveillance exams as described in OSHA 29 CFR Part 1910.120, Paragraph (f).

5. Hazardous Waste Operator Training as described in OSHA 29 CFR Part 1910.120, Paragraph (e).

B. The provisions mentioned above are considered minimum requirements for this project.

1.4 PRESENT SITE CHARACTERIZATION

A. The possibility exists of encountering gases, leachates and/or other substances that may be potentially hazardous to the health and safety of personnel during work at the St. Johns Landfill. Tables of known substances and gases at the maximum concentration levels found at the landfill site are included in the Appendix and should be considered in preparing the Health and Safety Program. The information in the Appendix represents only the substances and gases identified to date. Since other substances and gases may be present and may be found during work pursuant to the Contract, Contractor should consider the possibility of encountering other substances or gases in preparing the Health and Safety Program. Contractor is solely and completely responsible for meeting all applicable laws, regulations and requirements of Paragraph 1.3 above for employee health and safety during the work performed under this Contract. Contractor shall provide all personnel working on the project with required orientation and training on the potential hazards anticipated and the appropriate use of safety equipment.

1.5 CONTRACTOR'S RESPONSIBILITY FOR HEALTH AND SAFETY FOR HAZARDOUS WASTE OPERATIONS

A. Contractor shall have sole responsibility for the safety, efficiency, and adequacy of Contractor's plant, appliances, and methods, and for any damage or injury resulting from their failure, or improper maintenance, use, or operation. Contractor shall be solely and completely responsible for the conditions at the site including health and safety for the authorized persons and property in performance of the Work. This requirement shall be continuous, and shall not be limited to normal working hours. The required or implied duty of the Engineer or Metro to review or approve Contractor's performance or any submittal of Contractor shall not be construed as relieving Contractor of full responsibility for worker safety and compliance with applicable laws, regulations and requirements.

B. Contractor shall observe and comply with all applicable laws, regulations and requirements of Paragraph 1.3, above. Such information, interpretation, or representation of laws, regulations, or ordinances referenced in the Contract Documents shall not take precedence over the law, regulation, or ordinance itself, nor relieve Contractor of responsibility for determining the true current construction and content of such laws, regulations, and ordinances.

C. Contractor shall appoint a Site Health and Safety Officer who has experience in industrial hygiene, such as an Industrial Hygienist certified by the American Industrial Hygiene Association or approved equal and who is qualified by experience and training in hazardous waste operations in accordance with the applicable laws, regulations, and requirements of Paragraph 1.3, above. The Site Health and Safety Officer shall be qualified and authorized to monitor, supervise and enforce compliance with the site Health and Safety Program.

D. Contractor, through his Health and Safety Officer shall be solely responsible for the detection of contaminated gases, soils or liquids. Contractor shall provide for the protection and the health and safety of all workers and other authorized persons at the job-site from exposure to potentially hazardous substances.

E. Contractor shall be responsible for ensuring that all necessary monitoring equipment, protective clothing, and other supplies and equipment up to the appropriate level of protection as defined by the applicable laws, regulations, and requirements of Paragraph 1.3 above are available to implement the plan. No work shall take place in areas where hazardous substances may potentially be present unless the Site Health and Safety Officer is present and monitoring of the site conditions is accomplished.

F. Contractor, through the Site Health and Safety Officer, shall not permit any employee, in the performance of the Contract, to work under conditions which are hazardous to the employee. Should violations of the health and safety requirements be called to the Site Health and Safety Officer's attention by Metro or Engineer or any authorized representative of a regulatory agency, Contractor shall immediately correct the identified conditions.

G. In the event Contractor fails or refuses to promptly comply with any compliance directive, Metro may issue an order to stop all or any part of the work. When compliance with the directive is accomplished an order to resume work will be issued. Contractor shall not be entitled to any extension of time or any claim for damage or to any additionally compensation for either the directive or the work suspension order. Failure of Metro to order discontinuance of any or all of Contractor's operations shall not relieve Contractor of responsibility for safety.

H. Contractor shall maintain in a manner acceptable to Metro an accurate record of, and shall report to Metro and Engineer, all cases of death, occupational diseases, or traumatic injury to employees or the public incident to the performance of work under this Contract. Records to be kept by the Site Health and Safety Officer shall include as a minimum: daily log; all gas analyses; reports of variances in conditions; report of any illnesses, disease, injury, pulmonary disorder or death to any person on the site.

I. The Site Health and Safety Officer shall immediately notify Metro and Engineer of any emergencies as soon as possible following an incident. The site specific Health and Safety plan must also describe the emergency reporting procedures and actions to be taken in the event of an emergency.

1.6 HEALTH AND SAFETY PLAN FOR HAZARDOUS WASTE AND CONVENTIONAL OPERATIONS

A. Contractor shall develop and implement for the duration of the work on or around the existing landfill a Site Health and Safety Plan for hazardous waste and conventional operations for its employees that is in compliance with the laws, regulations and requirements of Paragraph 1.3 above. The plan shall incorporate the requirements of the applicable laws, regulations and requirements as well as the following items for its employees involved in hazardous waste operations. The items include, as a minimum:

- Site Characterization and Health Risk and Hazard Analysis
- Site Control Measures
- Training
- Medical Surveillance
- Engineering controls, work practices and personal protective equipment

- Monitoring Program
- Informational Program/Hazard Communication Program
- Material Handling
- Decontamination Procedures
- Emergency Response
- Illumination
- Sanitation
- Site Excavation
- Contractors and Sub-Contractors
- Standard operating procedures for health and safety
- Names of key personnel and alternatives responsible for site health and safety
- Personal protective equipment program
- Confined space entry procedures
- Spill containment program

B. In the event the Health and Safety Program implemented for the duration of the work on or around the existing landfill is determined by Metro or a regulatory agency to be inadequate to protect the employees and the public, then such plan shall be promptly modified to meet the requirements of Metro or those regulatory agencies.

1.7 MONITORING FOR HAZARDOUS WASTE OPERATIONS

A. As a part of the Health and Safety Program, Contractor shall perform monitoring so that employees are not exposed to levels which exceed established Permissible Exposure Limits or published exposure levels for hazardous substances.

B. Identification of areas of potentially hazardous substances shall be made through observations and through a continuous ongoing monitoring program designed to detect contaminated air, soil, and surface water. Contractor shall develop a monitoring program in accordance with the requirements outlined in these Contract specifications that will provide Metro with certain information, as specified herein, that is needed to identify these potentially contaminated areas, as well as to provide information necessary to comply with relevant worker health and safety regulations. Contractor shall require all workers to report any observations of potentially hazardous substances or odors. Such observations will be reported to Contractor's On-Site Monitor who shall be qualified and responsible for conducting a regular monitoring program and to the site Health and Safety Officer.

C. Contractor shall develop as part of the Site Health and Safety Plan a monitoring program that will provide for detection of the presence of potentially hazardous substances during excavation operations. The program shall include, at a minimum, the following elements:
   - Instruction of workers in observing and reporting potentially hazardous substances such as refuse, oily sheen or color on soils or water, and oily or chemical odors.
   - Monitoring of excavated soils using a portable continuous analyzer, such as an HNU photo-ionization detector (PID), or an approved equivalent to detect the presence of non-methane organic vapors which could indicate chemical contamination. Monitoring devices shall be capable of detecting 0.1 ppm benzene and shall be calibrated daily by qualified personnel.
   - Periodic monitoring with a combustible gas indicator such as an MSA Model 361, or an approved equivalent with both audible and visual alarms during operations where the soil surface is being disturbed or when work is being performed below ground level. Calibrate the instrument in accordance with manufacturer's

instructions prior to use. Set audible alarm at 20 percent LEL (lower explosive limit).

- Development of action levels for worker safety when potential contamination is detected by monitoring equipment.
- Development of an emergency medical care and treatment plan.
- Submittal of copies of all monitoring records to the Engineer on a weekly basis.

D. During construction, Contractor's soil and gas monitoring shall consist of inspection for visual abnormalities, odors and gases using a photo-ionization detector (PID) and a combustible gas meter. The visual and odor inspection will be an ongoing responsibility of all Contractor's employees. In addition, the air quality will be monitored continuously for all trench excavations, suspect soils, and area identified as known refuse soils. The meters shall be calibrated in accordance with manufacturer's instructions.

E. In addition to the minimal requirements outlined herein, Contractor shall fully comply with the laws, regulations, and requirements of Paragraph 1.3 above relating to worker health and safety and the potential presence of contaminated air, soil, and/or water.

1.8 NOTIFICATION AND SUSPENSION

A. In the event Contractor's monitoring program detects the presence of a potentially hazardous substance at concentrations at or above established Permissible Exposure Limits or published exposure levels, Contractor shall immediately notify the Engineer and Metro. Following such notifications by Contractor, Metro may notify the various governmental and regulatory agencies concerned with the presence of potentially hazardous substances. Depending upon the type of the problem identified, Metro may further suspend the work in the vicinity of the material discovery.

B. Following completion of any further testing necessary to determine the nature of the material, Metro will decide the manner in which the substance will be handled or disposed of and the actual procedures to be used in resuming the work.

C. Although the actual procedures used in resuming the work shall depend upon the nature and extent of the potentially hazardous substance, Metro foresees the following alternatives operation as possible:

- Contractor to resume work as before suspension.
- Contractor to move work operations to another portion of the site until measures to eliminate any hazardous conditions can be affected.
- Metro will direct Contractor to dispose of the excavated refuse material at locations determined by Metro or at other appropriate and approved sites.

D. If suspect air, soils and/or liquid is identified by the monitoring program and construction activity is terminated at the suspect location by Metro and Contractor cannot move his operation to another portion of the work, Contractor shall be compensated for idle time of all equipment in actual use at the time of the potentially hazardous substance identification at the potentially hazardous substance location. Contractor shall be compensated for those hours or days the equipment is idled until a determination of the condition is made. Labor that is idled and cannot be diverted to other work will be paid through the one-half shift of the day during which the work is suspended. No compensation will be made for overhead, profit and/or any other general expenses. Contractor shall maintain records in such a manner as to provide the Engineer and Owner with a daily report sheet itemizing the equipment (size, type and identification number) idled and the charges for equipment rental.

Said daily report sheets shall be signed by Contractor or an authorized agent of Contractor. The charges for equipment rental shall not exceed the rates allowed under Force Account Work set forth in the General Conditions.

1.10 CORRECTIVE ACTIONS

Appropriate corrective actions are dependent upon the nature and extent to the contamination identified, and will be determined on a case-by-case basis by Contractor, Metro and the regulatory agency having jurisdiction.

*** END OF SECTION ***

SECTION 01210

PRECONSTRUCTION CONFERENCES

1 GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Summary of Work: Section 01010

B. Measurement and Payment: Section 01025

C. Project Coordination: Section 01041

D. Job Site Administration: Section 01043

E. Progress Meetings: Section 01220

F. Shop Drawings, Project Data and Samples: Section 01340

G. Schedule of Values: Section 01370

H. Product Requirements/Substitutions: Section 01600

1.2 SCHEDULE

A. Metro will schedule a preconstruction meeting after execution of the Contract.

B. Present at the meeting to represent Contractor shall be at least the official in charge of the project, the project superintendent, a representative of each Subcontractors, and other representatives as required.

C. Appropriate representatives of Metro, the Engineer and the Geotechnical Engineer will be present.

D. Proceedings of meeting to be recorded and distributed to interested parties.

1.3 AGENDA

A. Introduction:

1. Roster - Sign in names, addresses, phone numbers.

2. Introduction of key representatives. Metro will introduce Metro representatives and representatives of regulatory agencies. Contractor will introduce their own representatives and Subcontractors who are present.

B. Construction Schedule

1. Notice to Proceed Date of Record:

2. Schedule of Work
   a. Required Completion Date
   b. Date for Starting Subsequent Contract
   c. Preliminary Schedule
   d. Initial or Zero Progress Construction Schedule
   e. Schedule Updates
   f. Two Week Schedule
   g. Daily Work Plan

3. Working Hours/Overtime/Additional Shifts

C. Coordination

1. Landfill Operations in Hub Area 4

2. Existing Utilities

3. Existing Conditions of Site and Adjacent Area

4. Bridge Access/Limitations

5. Traffic Control/Haul Roads

6. Site Layout

7. Permits

8. Regulatory Agencies

D. Communications

1. Lines of Authority Between Metro, Engineer and Contractor

2. Correspondence Routing

3. Submittals/Shop Drawings

4. Requests for Information/Clarification

E. Contract Administration/Finances

1. Contract, Bonds, Insurance

2. Scope of Work

3. Payments
   a. Process
   b. Formats
   c. Timing

4. Change Order Procedure

5. Schedule of Values

6. Insurance

F. Construction

1. Contractor's Plan of Operation

2. Survey and Layout

3. Contractors Quality Control

4. Metro Quality Assurance

5. Safety and Security

6. Progress Meetings

7. Record Documents

8. Delivery of Permanent Materials
   a. Borrow Sites
   b. Measurement and Payment for Sand and Subgrade Embankment Material
   c. Inspection and Receiving Reports

9. Housekeeping/Maintenance of Access Roads

10. Clean up and Disposal

11. Final Acceptance

12. Records

G. Environmental Issues

1. Hazardous Materials/Health & Safety Program

2. Leachate Control

3. Site Drainage and Erosion Control

H. Contractors Questions

I. Comments and Closing Remarks

*** * * END OF SECTION * * ***

SECTION 01220

PROGRESS MEETINGS

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Summary of Work: Section 01010

B. Project Coordination: Section 01041

C. Construction Schedules: Section 01310

D. Project Record Documents: Section 01720

E. Preconstruction Conferences: Section 01220

1.2 MEETINGS

A. There will be scheduled Progress Meetings every other week at mutually agreed time.

B. Special Meetings in addition to the regular Progress Meetings may be held at the discretion of Metro or other involved parties.

C. Location of meetings: As designated during preconstruction conference.

D. Attendance:

1. Metro
2. Engineer and his Subconsultants
3. Contractor
4. Subcontractors as pertinent to agenda
5. Safety Representative
6. Representatives of Governmental or Regulatory Agencies
7. Other Contractors (if any)
8. Other invited parties

1.3 MINIMUM MEETING AGENDA

A. Review minutes from previous meeting

B. Review progress since previous meeting

C. Review the construction schedule. Contractor will hand out copies of the proposed two week schedule at this time.

D. Discuss problems which impede planned progress such as:

1. Submittals

2. Requests for Information

3. Claims or Changes

4. Material or equipment delivery

E. Discuss quality of work

F. Review field observations

G. Administrative, safety and housekeeping problems

H. Other Current Business

*** END OF SECTION ***

SECTION 01310

CONSTRUCTION SCHEDULES

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Summary of Work: Section 01010

B. Project Coordination: Section 01041

C. Field Engineering: Section 01050

D. Progress Meetings: Section 01220

E. Shop Drawings, Project Data and Samples: Section 01340

F. Schedule of Values: Section 01370

G. Product Requirements/Substitutions: Section 01600

1.2 PRELIMINARY SCHEDULE

A. Contractor shall submit within ten (10) days after Notice to Proceed, a preliminary project schedule in graphic form (e.g. bar chart) showing proposed schedule of anticipated progress to include all major operations and items and time of anticipated completion of major portions of the work. Metro and the Engineer shall review and Contractor's preliminary schedule prior to beginning work.

B. The preliminary schedule shall be accompanied by a narrative work plan which will include the following information:

1. Manpower levels planned to achieve durations shown in the preliminary schedule.

2. Equipment utilization planned for each activity taking place onsite.

3. Identification of work planned for overtime or additional shifts.

4. Identification of planned assets for import delivery including planned borrow sites, numbers and types of trucks forecasted.

5. Plans for wet weather work.

6. Identification of critical work or supply activities.

C. The preliminary schedule will be reviewed within five (5) days by the Engineer and Metro. Comments will be forwarded to Contractor for his consideration and action.

1.3 CONSTRUCTION SCHEDULE

A. Contractor shall submit within 30 days of Notice to Proceed an overall project schedule in both graphic and tabular form.

B. The schedule shall utilize a standard Critical Path Method (CPM) computer program using either the Arrow Diagram Method (ADM) or Precedence Diagram Method (PDM) which will furnish a mathematical analysis and identification of the critical path.

C. Reports to be furnished with the CPM schedule will include:

1. Work Item Number in ascending order
2. Total Float/Early Start in ascending order
3. Early Start in ascending order
4. Late start in ascending order
5. Predecessor report
6. Successor report

D. The graphic schedule will be of a format suitable for use by Contractor and acceptable to Metro.

E. The work activities in the CPM will provide a complete sequence of construction, as well as submittal and delivery activity.

F. Information shown for each activity on the CPM will include description, responsibility, duration, float, early and late start dates, early and late finish dates, preceding and succeeding activities and relationships, percentage complete or remaining duration.

G. The Construction Schedule will be accompanied by an narrative similar in format to the provided in the Preliminary Schedule reflecting any refinements or changes to the planning process.

H. The Engineer and Metro will review the Construction Schedule and provide comments to Contractor. Once reviewed and determined acceptable by Metro, this schedule will be designated the initial or zero progress schedule.

I. Contractor will update the CPM on a monthly basis. CPM will be accompanied by a narrative report which will include:

1. Description of work completed during the past month.
2. Discussion of problem areas including current and anticipated delay factors.
3. Description of schedule revisions made for this months update.
4. Actions planned to mitigate delays or to facilitate construction progress.

1.4 CONTRACTOR TO SCHEDULE WORK

A. Contractor shall keep the Engineer informed sufficiently in advance of the time and places at which he intends to work in order that the necessary measurements for record and payment may be made with the minimum of inconvenience and delay to both the Engineer and Contractor.

1.5 SUBMITTALS BY CONTRACTOR

A. Submit Preliminary Schedule prior to starting work.

1. Engineer will review overall schedule and may return reviewed copy with suggested revisions within 5 days after receipt.

2. If required by the Engineer, contractor shall resubmit within 5 days after return of reviewed copy.

B. Submit initial or zero progress construction schedule within 30 days of Notice to Proceed.

C. Submit monthly updated overall schedules accurately depicting progress to first day of each month and anticipated work schedules.

D. Submit a Two Week Schedule every week. Hand carry to Engineer at the Progress Meeting.

E. Submit six copies of schedules to Engineer.

1.6 DISTRIBUTION BY CONTRACTOR

A. Distribute copies of reviewed schedules to:

1. Job site file

2. Other contractors

3. Subcontractors

4. Other concerned parties

*** END OF SECTION ***

SECTION 01340

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Project Coordination: Section 01041

B. Job Site Administration: Section 01243

C. Construction Schedules: Section 01310

D. Testing Laboratory Services: Section 01410

E. Project Record Documents: Section 01720

F. Product Requirements/Substitutions: Section 01600

1.2 SUBMITTAL REGISTER AND SCHEDULE

A. Contractor will review the Contract Documents and identify all requirements for submittal of information to the Engineer and Metro. Contractor will arrange the listing of these submittals in order by section and paragraph beginning with the General Conditions, Supplementary Conditions and finally, the Technical Specifications in numerical order by section and paragraph. This document will be identified as the Submittal Schedule and will include the following information about each required submittal.

1. Specification Section and Paragraph

2. Transmittal Number (leave blank until submittal is made)

3. Description

4. Responsibility (Contractor, Sub or Supplier)

5. Schedule Date - Date on which Contractor plans to submit

6. Approval Required - Date approval is required to deliver the material by required date.

7. Material Required - Date material is needed onsite.

8. Submittal Date - Leave blank until submittal is actually made.

9. Review Status - No Exceptions Taken, Make Corrections Noted, Rejected, Revise and Resubmit, Submit Specified Item.

10. Action Date - Date on which Metro actually returned the reviewed submittal to Contractor.

11. Comment - Cross reference on notes as required.

B. The Submittal Schedule will be submitted no later than 15 days after Notice to Proceed and should be coordinated with the information presented in the Construction Schedule.

C. Sufficient lead time should be allowed for review and approval by Metro. Allow 30 days for review and approval. Specifically identify those submittals which will require an expedited review process.

D. The Submittal Schedule upon acceptance by Metro will form the basis for the Submittal Register. Contractor will keep track of submittals as submitted by sequential number. Contractor will update his submittal Schedule with information from the Submittal Register on a monthly basis and furnish a copy to Metro.

1.3 SUBMITTALS

A. All submittals including shop drawings, data and samples shall be submitted attached to a form furnished by the Engineer entitled "Shop Drawing Transmittal". Location by drawing number and paragraph of specification shall be shown on the form for the product or material being submitted. Each transmittal shall be assigned a unique number in sequential order.

B. Shop drawings shall be submitted and reviewed in the following manner:

1. Contractor shall review, stamp with his approval and submit postpaid with such promptness as to cause no delay in his work or in that of any other contractor, the required number of copies of all shop drawings, schedules, data, and samples required for the work of the various trades determined necessary by the Engineer, required in the General Conditions and/or described elsewhere in the Project Specifications.

2. Shop drawings shall establish the actual detail of all manufactured or fabricated items. All shall be drawn to scale and be completely dimensioned.

3. Sheet sizes of shop drawings shall be in multiples of 8 1/2 by 11 inches, preferably not exceeding 22 by 34 inches unless there is a special requirement for larger size sheets.

4. Provide on each drawing a clear space for the Engineer's review and approval stamps and comments.

5. Four (4) copies of shop drawings, manufacturer's literature, brochures, catalog cuts, and other pertinent printed matter or data shall be submitted in addition to the number of copies Contractor wishes returned to him.

6. Shop drawings may be submitted to the Engineer in the form of a reproducible transparency, along with one blackline or blueline print. Mylars are preferred.

7. The Engineer shall review the shop drawings with reasonable promptness and will affix the Shop Drawing Review Stamp with notations thereon indicating "No Exceptions Taken", "Make Corrections Noted", "Revise and Resubmit", "Rejected" or "Submit Specified Item". He will then obtain the prints he requires from the

transparency and forward it along with one marked-up copy of the reviewed copies of the other material, in excess of four, to Contractor.

8. When shop drawings and/or other submittals are required to be revised or corrected and resubmitted, Contractor shall make such revisions and/or corrections and resubmit the drawings or other material in the same manner as specified above.

9. Contractor shall obtain and provide such number of prints or copies of drawings as is required for his field distribution.

10. It shall be Contractor's responsibility to clearly note on the shop drawings, and in writing specifically call to the Engineer's attention, any changes and deviations that vary from the Contract Drawings and Specifications. No review of the shop drawings by the Engineer shall relieve Contractor of full responsibility and at his own cost and expense to comply with the Contract Documents.

11. If corrections are required, Contractor shall make the corrections required by the Engineer and file with him the same number of corrected copies as indicated above. Contractor shall direct specific attention in writing or, on resubmitted Shop Drawings to revisions other than the corrections requested on previous submissions. The Engineer will return to Contractor copies of drawings in the same manner and number as before.

12. Shop Drawings shall be give complete information necessary for the fabrication and installation of all component parts of the equipment, structure, facility, etc. In the case of structural drawings, they shall include the location, type, and size and extent of all welds, if any are necessary. Manufacturer's standard details, catalogues, advertising literature, etc., shall not necessarily constitute all of the shop drawings required for any unit or facility. Additional shop details designed for the particular project shall be furnished when required by the Engineer. Shop drawings of electrical equipment shall include complete diagrams of electrical circuitry.

13. The Engineer's review of and placement of shop drawing review stamp on any shop drawing is understood to be an acceptance of the character of the details and not a check of any dimension or quantity and will not relieve Contractor from responsibility for errors of any sort in shop drawings data or schedules, whether or not such errors are found by the Engineer in his review of such details.

14. No changes will be made in any shop drawing after it has been reviewed except by the consent or direction of the Engineer in writing.

C. Samples shall be submitted in the same manner as shop drawings.

1. Samples to be physical examples to illustrate materials, equipment or workmanship, and to establish standards by which completed work is judged.
   a. Office samples: of sufficient size and quantity to clearly illustrate:
      (1) Functional characteristics of product of material, with integrally related parts and attachment devices.
      (2) Full range of color samples.
      (3) After review the Engineer will retain two samples and return the remainder to Contractor.

b. Field samples and mockups
   (1) Erect at project site location acceptable to Engineer.
   (2) Construct each required sample or mock-up complete, including work of all trades required in finished work.
   (3) Coordinate sampling of natural materials with Field Engineer.

2. If any test sample fails to meet the specification requirement, all previous approvals will be withdrawn and such materials or equipment, which fail the testing, shall be subject to removal and replacement by Contractor with materials or equipment meeting the specification requirement.

3. Affected finish work shall not be commenced until the Engineer has given written approval for the field samples.

1.4 CONTRACTOR RESPONSIBILITY

A. All submittals shall be attached to a "Shop Drawing Transmittal" form provided by the Engineer.

B. Contractor shall review and approve shop drawings before submittal. Submittal directly from Subcontractor or Suppliers will not be accepted.

C. By approving and submitting Shop Drawings and Samples, Contractor thereby represents that he has determined and verified all field measurements, field construction criteria, materials, catalog numbers and similar data, or will do so, and that he has checked and coordinated each Shop Drawing with the requirements of the Work and of the Contract Documents and that there is no conflict with other submittals that may affect the work of another contractor of Metro.

D. A copy of each approved shop drawing and each approved sample shall be kept in good order by Contractor at the job site and shall be available to the Engineer.

1.5 LIMITATION

A. Two submittals (initial and revised) of each item requiring samples and/or shop drawings will be reviewed by the Engineer in the regular course of the Contract. However, all subsequent reviews of the same item over two will be reviewed at the expense of Contractor unless the right to an additional review without charge was previously approved in writing by the Engineer. Contractor will be billed by Metro at the Engineer's current established rates.

*** * * END OF SECTION * * ***

SECTION 01370

SCHEDULE OF VALUES

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Measurement and Payment: Section 01025

B. Project Coordination: Section 01041

C. Job Site Administration: Section 01043

D. Progress Meetings: Section 01220

E. Construction Schedules: Section 01310

1.2 TIMING

Submit to the Engineer a Schedule of Values for all Lump Sum bid items, at least 15 days prior to submitting first Application for Payment.

1.3 SUPPORT

Upon request by Engineer, support values given with data that will substantiate their accuracy.

1.4 DETAILED BREAKDOWN OF LUMP SUM BID PRICES

A. Except in cases where unit prices form the basis for payment under the Contract, Contractor shall, within 15 days prior to First Application for Payment, submit a complete breakdown of all lump sum bid prices showing the value assigned to each part of the work including an allowance for profit and overhead.

B. Each breakdown shall include, where applicable, separate items for Field Tests and Adjustments and Cleaning Up which shall total at least five percent of each breakdown's total price.

C. The form of the breakdown shall separate labor from materials to arrive at a total for each unit. Breakdown shall be so organized as to facilitate assessment of work and payment of Subcontractors.

D. Breakdown shall be balanced so that progress payments will not create a condition where sufficient funds are not available to complete the work. Contractor shall provide documentation substantiating the cost allocation if the Engineer believes that the costs are unbalanced.

E. Upon acceptance of the breakdown of the lump sum bid prices by the Engineer, it shall be used as a basis for all requests for partial payment.

* * * END OF SECTION * * *

SECTION 01400

CONTRACTOR'S QUALITY CONTROL

1. GENERAL

1.1 Related Requirements Specified Elsewhere

A. General Conditions - Article 7 Control and Quality of work and Material.

B. Technical Specifications pertaining to the work.

1.2 Responsibilities

A. Contractor is primarily responsible for quality control and will provide for sufficient supervision and control measures on a daily basis to ensure that the Work is completed in accordance with the Contract Documents.

B. Metro and the Engineer are responsible for quality control assurance, and will monitor the quality of Work. Their activities in no way relieve Contractor of his quality control responsibilities.

1.3 Requirements

A. Quality Control Plan - Contractor will prepare and submit a plan of action to establish and maintain a Quality Control Program. The program as a minimum will contain:

1. The quality control organization chart beginning with the responsible corporate officer.

2. The names and qualifications of personnel selected to implement the program onsite.

3. Authority and responsibility of the quality control staff.

4. A breakdown of the schedule of work which includes proposed inspections, tests or other means of controlling the quality of work for each phase.

5. Provides controls for each phase of work by establishing a system of inspections as follows:

a. Preparatory Inspection - This inspection will be conducted by Contractor prior to starting any new phase of work. Contractor's Quality Control Manager will review the contract documents to ensure that required materials, equipment and procedures have been submitted and approved, are onsite and checked, that a reasonable, coordinated work plan has been prepared, that all previous work has been completed, inspected and tested as required. Contractor will schedule a preparatory conference with the Engineer and/or Metro Construction Coordinator to discuss the findings and to develop a material understanding on execution of the work and the quality standards which will be used. The hazard analysis will also be presented and discussed at this meeting. The inspection results and minutes of the conference will be documented by Contractor and a copy

furnished to the Engineer and Metro Construction Coordinator. Subsequent to the conference, but prior to start of work, all involved working personnel and inspectors will be briefed on the work plan and the quality standards expected.

b. Initial Inspection - This joint inspection by Contractor and the Engineer/Metro Construction Coordinator will be made as soon as a representative portion of the work has been accomplished. This inspection will be repeated if new crew member(s) are assigned to the work or if acceptable standards of workmanship are not being met. Contractor will, as a minimum, document this inspection in the daily Quality Control Report.

c. Followup Inspections - Contractor will perform daily inspections of the work until completion

6. Establishes a system of Quality Control Deficiency Reports to report deficiencies in the work or materials to determine appropriate correction and to track the execution of the correction.

B. Documentation

1. Daily Quality Control Report - This report will be furnished by Contractor in a suitable format on a daily basis over the signature of the Quality Control Manager or onsite Quality Control Representative. It shall be delivered to the onsite Metro Representative or Engineer by 10:00 a.m. on the following work day, and will contain as a minimum:
   a. Weather
   b. Manpower (listed by craft for Contractor and total for each Subcontractor).
   c. A summary of activity for each shift and evaluation of the workmanship.
   d. A record of any inspections which were made
   e. Results of tests.
   f. Identification of deficiencies or rejections.
   g. Proposed remedial sections.
   h. Corrective actions taken.
   i. Safety related issues.
   j. Permanent materials deliveries and inspections.

2. Preparatory Inspection Meeting Record - This record will be delivered to the onsite Metro Representative or Engineer prior to the start of that phase of work but not later than three work days after the meeting. The hazard analysis separately described in Section 01100 can be delivered at the same time.

3. Test Reports - A record of all tests shall be kept by Contractor on the job site. A copy of all test reports done by Contractor shall be provided to Metro.

4. Quality Control Deficiency Reports - Contractor will prepare a deficiency report on all deficiencies in the work or in the quality of materials. The report will be logged and numbered and submitted to Metro along with the recommended remedy. Contractor will track the action through to completion, submitting a final report of inspection on the work in question.

C. Duties and responsibilities of the Quality Control Manager or a designated representative includes:

1. Have the authority to stop or reject work.

2. Be onsite during normal working hours and will be assigned full time to the project.

3. Establish the Quality Control Plan and execute the Quality Control Program.

4. Review all submittals, including shop drawings and materials submittals. Reject those submittals not in accordance with the Contract Documents, approve and submit those which are in accordance. Maintain a jobsite submittal file.

5. Ensure that line, grade, depth and compaction, density and composition of materials are in accordance with the Contract Documents.

6. Ensure that all work to be inspected includes an opportunity for Metro to check work prior to covering the work.

7. Coordinate required tests and inspections with the Engineer and Metro's Construction Coordinator.

8. Inspect the work of Contractor and all Subcontractors.

9. Submit all required quality control documentation and maintain records.

10. Verify that all permanent materials delivered to the jobsite are in accordance with the Contract Documents. Submit certifications and test reports as required.

11. Accompany the Engineer and/or Metro Construction Coordinator on jobsite inspections as required.

12. Prepare and submit the project punch lists prior to job completion and acceptance.

13. Furnish representative samples for testing as required by the Contract Documents or Metro.

2. INSPECTION

2.1 Contractor will provide continuous inspection over his daily operations, including overtime and additional shifts.

A. Inspections will include but not be limited to:

1. Inspection of borrow materials entering the jobsite.

2. Inspection of placement and compaction of borrow materials.

3. Inspection of topsoil, low permeable soil and unsuitable materials as they are stripped and assurance that they end up in appropriate stockpiles.

4. Trenching, installation and backfilling pipes and culverts.

5. Installation of geotextiles.

6. Site drainage and erosion control.

7. Protection of site utilities above and below ground.

8. Well extension and abandonment (with oversight by Metro or the Engineer).

9. Installation of settlement indicators (with oversight by Metro or the Engineer).

10. Compliance with provisions of the Health and Safety Program for Hazardous Waste Operations when working below the landfill cover (during trenching or excavation).

11. Protection of existing landfill cover during Contractor operations.

B. Inspection by Contractor for Quality Control (QC) will be supplemented by the Engineer and Metro representatives. Other regulatory agencies may also inspect as required by law and custom. The inspection by any of the above does not relieve Contractor of the requirement to inspect and to produce work in accordance with the plans and specifications. Contractor shall at all times provide safe access and assistance to Metro, the Engineer, and other authorized inspectors for inspection of the work.

3. TESTING

3.1 Metro will provide and pay for the services of an independent testing laboratory. This laboratory will provide testing services which will include:

A. For Imported Borrow Materials:

1. Compaction Curve per Standard Proctor, ASTM D698 - for each borrow source.

2. Moisture Content Test by Microwave Oven method, ASTM D4643 with periodic calibration per ASTM D2216 - a minimum of one test per 200 truckloads or one test per 5,000 cubic tons of material for each borrow source per day.

3. Compaction Check Point Tests per ASTM D698 will be carried out for each moisture test.

B. In Place Density Determination: Nuclear Test ASTM D2922 - with periodic calibration by the Sand Cone Method ASTM D1556. Conduct these tests at a frequency of one test per acre per lift for placement of materials to subgrade. Metro or the Engineer may reduce this requirement if the manner of performance and visual inspection consistently produces satisfactory results.

3.2 Contractor will be responsible for all other testing which may be required. Contractor will submit the qualifications of an independent test laboratory to provide testing services as required. Services may include but not be limited to the following:

A. Gradation Tests at borrow sites

B. Certify or tests for hazardous materials or contaminants at borrow sites

C. Testing and monitoring for potentially hazardous substances in accordance with the jobsite health and safety plan.

D. Testing which may be required by other regulatory agencies.

3.3 Contractor will facilitate testing by Metro or the Engineer as follows:

A. Cooperate with the Geotechnical Engineer or laboratory personnel and provide safe access to the work.

B. Provide representative samples of materials to be tested in required quantities. Notify Metro/Engineer in advance of changing material sources to allow testing before use of the material.

C. Furnish labor and facilities as required for access, gathering samples, and storage of test samples.

3.4 The Engineer may conduct additional testing to check on the quality of work, materials or testing. The Engineer will visually inspect, then test and develop compaction curves for material from Contractor's proposed borrow sites which appear to be adequate.

3.5 Metro is concerned that only safe materials, with no hazardous substances or hydrocarbon contaminants, are used in the closure and cover of the St. Johns Landfill. Contractor is cautioned to provide only clean materials and to test any materials which may be contaminated. If Metro suspects that materials are contaminated, the Engineer may test. If the results are negative, Metro will pay for the testing. If materials tested are found to contain hazardous materials, Contractor will pay for the testing, immediately remove the material and properly dispose of it offsite and be solely responsible for any resultant impact on the work or schedule.

4. EXECUTION

The planning, execution and results of Contractor's Quality Control Program are considered incidental to the payment for the work as indicated by the bid items. Failure to comply with the Quality Control Program may result in withholding of all or a portion of the monthly progress payments by Metro at its discretion and Metro may use these withheld funds to contract or pay for this work outside of this Contract.

*** END OF SECTION ***

SECTION 01511

TEMPORARY ELECTRICITY

1. GENERAL

1.1 TEMPORARY SYSTEM

A. Contractor to provide an adequate temporary electrical system for the duration of the Contract.

B. Contractor will furnish power and/or light for:

1. All construction requirements.

2. Safe working conditions.

3. Security.

4. Field Office for contractors operations.

5. Temporary field office for Metro/Engineer. (Section 01590)

C. Power source to be arranged by Contractor.

D. Costs paid by Contractor.

1.2 REQUIREMENTS OF REGULATORY AGENCIES

A. Obtain permits and easements if required.

B. Comply with codes and utility regulations in force.

1.3 USE OF PERMANENT SYSTEM

A. Construct temporary system to prevent interference with orderly work progress.

B. Do not use existing system (if available) without specific written permission.

C. Construct and use any portion of permanent system on the supply side of the permanent meter and use that construction for a portion of the temporary supply.

D. Leave permanent service in condition as good as new.

2. PRODUCTS

2.1 MATERIALS

A. General:

1. Materials may be new or used, but must be adequate in capacity for required purposes, and must not create unsafe conditions or violate requirements of applicable codes.

2.2 EQUIPMENT

A. Provide appropriate enclosures for environment in which used, in compliance with NEMA standards.

B. Provide ground fault protection.

C. Provide adequate short circuit duty for capacity of supply transformers in use.

3. EXECUTION

3.1 GENERAL

A. Install work in neat and orderly manner.

B. Modify and extend service as work progress requires.

C. Maintain to give continuous service and to provide safe working conditions. Provide adequate temporary lighting for all operations which are conducted during the hours of darkness. Applicable OSHA and local ordinances will apply.

3.2 INSTALLATION

A. Temporary service and distribution may be overhead or underground.

B. Locate to avoid interference with:

1. Traffic and work areas.

2. Storage areas.

3. Work under other contracts.

C. Do not run branch circuits on floor or on ground.

3.3 REMOVAL

A. Completely remove temporary materials and equipment upon completion of construction.

B. Repair damage caused by installation, and restore to specified, or original condition.

* * * END OF SECTION * * *

SECTION 01515

TEMPORARY WATER

1. GENERAL

1.1 DESCRIPTION OF SYSTEM

Contractor shall make arrangements for and provide all necessary facilities for water supply, for both personal consumption and job-site needs, at his own expense, unless otherwise provided.

1.2 COSTS

A. Pay costs of temporary water services, including costs of installations, maintenance and removal of facilities.

B. Contractor may secure water from any suitable source. If Contractor purchases water from a water utility at a fire hydrant on or near the project, all arrangements shall be made by him at his own expense and payment be made to the utility in accordance with their rate schedule.

2. PRODUCTS

2.1 MATERIALS

Materials for temporary water supply may be new or used but must be adequate for purpose required, sanitary and must not violate requirements of applicable codes.

3. EXECUTION

3.1 GENERAL REQUIREMENTS

A. The water utility shall be contacted to determine if sufficient water is available at the particular time before any use.

B. Contractor shall use only those hydrants designated by the agency in charge of water distribution and in strict accordance with its requirements for hydrant use.

C. Contractor shall use hydrant wrenches only in open hydrants. He shall also make certain that the hydrant valve is open "full", since "cracking" the valve causes damage in the valve. An approved auxiliary valve shall be provided on the outlet line for control purposes. Fire hydrant valves must be closed slowly to avoid a surge in the system which creates undue pressure on the water lines. Contractor shall carefully note the importance of following these directions.

D. If one of Contractor's employees shall knowingly or unknowingly use the wrong wrench on a hydrant and thereby damage the hydrant valve stem, Contractor will be responsible. He shall immediately notify the water utility so that the damage can be repaired as quickly as possible.

E. Upon completing the use of the hydrants, Contractor shall notify the water distribution agency, so that the hydrants may then be inspected for possible damage. Any damage

resulting from the use of the hydrants by Contractor will be repaired by the water agency and the cost thereof shall, if necessary, be withheld from the final payment to Contractor.

F. Contractor shall furnish all connectors, wrenches, valves, and small tools that may be necessary to meet the requirements of the water distribution agency pertaining to hydrant use.

G. Violation of these requirements will result in fines and will lay Contractor liable for damage suits because of malfunctioning of damaged fire hydrants, in the event of fire or other emergencies.

3.2 REMOVAL

Completely remove temporary materials and equipment upon completion of construction.

*** END OF SECTION ***

SECTION 01545

PROTECTION OF WORK AND PROPERTY

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Protection of Work, Property and Person: Article 10 General Conditions

B. Access and Haul Roads: Section 01550

C. Temporary Controls: Section 01560

D. Existing Utilities/Facilities - Underground and Overhead: Section 02760

1.2 PUBLIC AND PRIVATE PROPERTY

A. Contractor shall protect and maintain all underground or aboveground utilities and structures affected by the work and all private property crossed by or adjacent to his operation, and any damage shall be repaired and restored by Contractor, at his expense, to the satisfaction of Metro.

B. Contractor will be responsible for all damage to roads, highways, ditches, walls, vegetation, engineered soil covers, bridges, culverts, utilities, lights, or other property, caused by the work, whether such damage be at the site of the work or caused by transporting or hauling to or from the work; and he shall repair or replace, or arrange for the repair or replacement of all such damage to the satisfaction of Metro. Any material damaged by Contractor's operations shall be replaced with new material at Contractor expense.

C. Whenever construction work under this Contract is undertaken on easement or right-of-way all work shall be accomplished so as to cause the least amount of disturbance and a minimum amount of damage. All requirements stipulated by easements shall be met.

D. Contractor shall take adequate precautions to protect adjoining sloughs and wetlands, and to avoid damage thereto, and he shall at his own expense completely repair any damage thereto caused by his operation.

E. Access for fire fighting equipment or personal health emergency vehicles shall be maintained at all times.

* * * END OF SECTION * * *

SECTION 01550

ACCESS AND HAUL ROADS

1. GENERAL

1.1 PUBLIC ACCESS AND HAUL ROADS

A. Comply with all laws and regulations.

B. All off-site streets and on-site access roads used by Contractor's trucks or any other equipment hauling material to and from the construction area shall be kept reasonably clean and shall be swept and/or flushed periodically to the satisfaction of the R/W jurisdiction involved. Contractor shall provide truck washing facilities if and when hauling operations create nuisance levels of mud on nearby off-site or on-site roads.

C. Unsurfaced roads may receive an application of dust oil or shall be sprinkled with water as needed to allay dust.

D. Any damage to roadway surfaces, surfaced or unsurfaced, as a result of Contractor's operation shall be repaired by Contractor at his expense to the satisfaction of the responsible agency.

E. Haul roads on-site at the landfill shall generally be located at the existing road corridors wherever possible. Temporary haul roads proposed to be located elsewhere by Contractor may be allowed by Metro providing that adequate protection is provided for the existing interim cover. If deemed necessary by Metro, removal of temporary haul roads and restoration of existing interim cover may be required.

F. Contractor shall submit to Metro, for review and approval, the proposed on-site hauling plan. This is to be handled as a submittal in accordance with Section 01340 of the Specifications. Plan shall identify ingress/egress routes, temporary access/haul routes (if any), traffic control measures, vehicle flow patterns and rates and anticipated quantities of materials involved. This hauling plan is applicable primarily to transport and placement of procured soil materials (sand and subgrade embankment). Periodic updates and resubmittals are to be provided as needed to keep Metro and Engineer fully informed of planned hauling activities.

1.2 OTHER FORMS OF ACCESS AND CONVEYANCE

A. Contractors are encouraged to consider other forms of access or materials conveyance onto, or close to the site, such as rail, conveyor, barge, large off-road vehicles, pipelines, etc. Pumping of water/slurry directly onto the landfill shall not be permitted.

B. Contractors shall submit to Metro, for review and approval, any proposed alternative access and conveyance plans. Contractor shall be responsible to obtain all permits, licenses, permission for access or construction onto adjacent properties, permission for crossing the Slough(s) at alternate locations other than the existing bridge, and permission to drain water into, float, construct within, or otherwise disturb the Slough(s). Contractor shall be responsible for restoration, to the condition prior to construction, of all areas affected by the alternative access.

*** END OF SECTION ***

SECTION 01560

TEMPORARY CONTROLS

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Summary of Work: Section 01010

B. Project Coordination: Section 01041

C. Job Site Administration: Section 01043

D. Protection of Work and Property: Section 01545

E. Access and Haul Roads: Section 01550

1.2 LAWS

Requirements of federal, state and local statutes and regulations dealing with temporary controls described in this section shall be strictly adhered to by Contractor.

1.3 AIR POLLUTION CONTROL

A. Contractor shall not discharge smoke, dust or other contaminants into the atmosphere that violate the regulations of the applicable city, county or state authority.

B. All excavations, embankments, stockpiles, haul roads, access roads, plant sites, waste areas, borrow areas, and other work areas shall be maintained free from dust which would cause a hazard or nuisance. Approved temporary methods of stabilization such as sprinkling, chemical treatment, light bituminous treatment or similar methods shall be used to control dust. Sprinkling, to be approved, must be repeated at such intervals as to keep all parts of the disturbed area damp at all times, and sufficient equipment must be on the job to accomplish this. Dust control shall be performed as the work proceeds, wherever and whenever a dust nuisance or hazard occurs.

C. Contractor shall comply with specific requirements of air quality control laws.

D. Contractor shall be responsible for any damage resulting from any dust originating from his operations.

1.4 EROSION CONTROL

A. Contractor shall provide temporary erosion control work shown in the plans and as may be required by state or local agencies during the life of the contract. This work is intended to provide prevention, control, and abatement of water pollution/erosion within the limits of the project, and to minimize damage to the work, adjacent property, and adjacent sloughes.

B. Contractor shall coordinate this temporary water pollution/erosion control work with the existing drainage and erosion control measures to the extent practicable to ensure that effective and continuous water pollution/erosion control is maintained during the construction of the Project.

C. Clearing and grubbing operations shall be so scheduled and performed that embankment and grading operations and temporary erosion control features can follow immediately.

D. If the Engineer or applicable regulatory agencies determines that water pollution and/or erosion could occur due to seasonal limitations, the nature of the material, or Contractor's progress, temporary water pollution/erosion control measures shall be taken immediately.

E. Metro may require Contractor's operations to be scheduled so that temporary erosion control features will be installed concurrently with or immediately following grading operations.

F. Compliance with the requirements of this section shall not relieve Contractor from his responsibility to comply with other provisions of the contract.

1.5 NOISE CONTROL

A. Comply with applicable state, city and county requirements as to allowable noise levels during construction at all times.

B. Equip all internal combustion engines in vehicles and construction equipment used at the project site with effective mufflers.

1.6 SANITARY PROVISIONS

Contractor shall provide and maintain in a neat and sanitary condition such temporary accommodations for the use of his employees, Metro and Engineer as may be necessary to comply with the requirements and regulations of the agencies or organizations having jurisdiction over sanitary and health conditions. He shall permit no public nuisances.

1.7 PROVISION FOR WATER COURSES

A. Contractor shall provide for the flow of all existing surface water courses, sewers or drains, intercepted or disturbed by Contractor during the progress of the work, and shall replace the same in as good condition as he found them or shall make such final provisions for them as necessary.

B. Contractor shall make provisions to take care of all surplus surface water, mud, silt, or other runoff pumped from excavations or resulting from other operations, and shall be responsible for any damage, of whatever nature, resulting from his failure so to provide. Waters which may come into contact with solid waste and/or leachate waters, shall be handled as leachate water and will be disposed of in the sanitary sewer system as required by permit.

C. No direct payment shall be allowed for the above work. Payment for the cost thereof shall be included in the prices bid for the various items which comprise the improvement.

1.8 TRAFFIC CONTROL

A. Contractor shall not unnecessarily interfere with use of any public traffic facility (sidewalks, streets, pavements, etc.) required for vehicular or pedestrian traffic. If such interference becomes necessary to perform the work in a safe, proper and convenient way, and no satisfactory detour route exists, Contractor shall provide a satisfactory detour, as approved by City of Portland Approvals and Permits, and Metro. The cost of this detour, required permits and the maintenance thereon shall be borne by Contractor.

B. Contractor is responsible to keep all public traffic facilities (sidewalks, streets, pavements, etc.) in the general vicinity of the site clean and clear at all times from debris, soils, etc., resulting from the work of his contract.

C. Contractor shall provide qualified flagmen and/or crossing guards, as necessary, to maintain proper and safe control of vehicular and pedestrian traffic during his construction operations.

D. Contractor shall provide warning lights, barricades, signs, etc., as necessary (beyond what is existing) to maintain such control about the perimeter roads of the site for his work.

* * * END OF SECTION * * *

SECTION 01590

FIELD OFFICES/VEHICLE

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Temporary Electricity: Section 01511

B. Temporary Water: Section 01515

1.2 CONTRACTOR FIELD OFFICE/BUILDINGS

Contractor shall furnish at his own expense all offices, sheds, storage buildings, shelters and protection for workers that he may require for his own use or may deem fit.

1.3 ENGINEER'S FIELD OFFICE

A. Contractor shall provide at his expense a separate field office trailer for the Engineer and Metro's use.

B. Trailer shall be minimum of 12 feet by 42 feet in size.

C. Provide the following:

1. Four desks (30"x60" size minimum) with padded chairs.
2. Four side tables (30"x72" size).
3. Two two-drawer legal file cabinets.
4. One 8-foot conference table with 8 chairs (min.).
5. Electric lighting and 120v power supply.
6. Heating/air conditioning facilities.
7. One touch-tone telephone line, separate from contractor telephone, with 2 phones (min.)
8. Windows for normal lighting and ventilation.
9. Locking access doors with 4 keys provided.
10. Provide at least two separate walled off spaces within trailer; one for office use (12'x10') and one for conference meeting use (12'x15').
11. Provide sanitary facilities, such as toilet, sink, hot and cold water (min.)
12. Potable water supply.

13. Eight folding metal chairs.

D. Facilities shall be maintained (including utility service charges) by Contractor and at the disposal of the Engineer/Metro until completion of the Contract. Provide hookups to sanitary provisions, potable water, power, telephone. Arrange weekly cleaning and trash removal.

E. Trailer with required furnishings and hookups shall be in place and ready for occupancy before construction starts and shall remain in place until construction completion unless prior approval is given by Metro for removal.

F. A storage shed for test samples and equipment shall be furnished for the use of Metro and/or the Engineer. The shed will be at least 8 feet by 20 feet.

G. No direct payment shall be allowed for the above field offices, sheds, etc. and appurtenances. The cost thereof, including erection, maintenance, telephone and utilities, and removal of building shall be included in the price bid for mobilization.

1.4 VEHICLE

A. Contractor shall provide a 4WD vehicle for the on-site use of the Engineer and Metro.

B. Vehicle shall meet the following minimum requirements:

1. 4 passenger, minimum, with 4 doors.

2. 1985 or newer.

3. Good running condition, street legal.

4. Heating and air conditioning.

C. Contractor shall maintain vehicle in good running condition providing all required maintenance and repairs. Engineer will provide fuel as needed.

D. Vehicle to be provided for use at the same time the field office is made available and shall remain available to Engineer and Metro until construction completion unless prior approval is given by Metro for removal. All costs for site vehicle to be included in the Mobilization bid item.

*** * * END OF SECTION * * ***

SECTION 01600

PRODUCT REQUIREMENTS/SUBSTITUTIONS

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Royalties and Patents: Article 7 General Conditions

B. Project Coordination: Section 01041

C. Shop Drawings, Project Data, Samples: Section 01340

D. Schedule of Values: Section 01370

1.2 GENERAL PRODUCT REQUIREMENTS

A. Unless otherwise specifically provided, all workmanship, equipment, and materials incorporated in the work covered by the Contract are to be new and of the best available grade of their respective kinds.

B. For products specified only by reference standards, select any product meeting standards, by any manufacturer.

C. For products specified by naming one or more products, but indicating the option of selecting equivalent products by stating "or equivalent" after specified product, Contractor must submit request, as required for substitution, for any product not specifically named.

D. For products specified by naming only one product and manufacturer, there is no option, and no substitution will be allowed.

1.3 SUBSTITUTIONS REVIEW AND APPROVAL PROCEDURE

A. Within thirty (30) days after Notice to Proceed, Engineer will consider formal requests from Contractor for substitution of products in place of those specified. Provide complete list of all products which are proposed for installation as substitutions or product options. Tabulate list by each specification section.

B. Submit detail request for substitution in accordance with requirements for submittal of shop drawings (Section 01340) and the following additional requirements.

1. For construction methods:
   a. Detailed description of proposed method.
   b. Drawings illustrating methods.

2. Itemized comparison of proposed substitution with product or method specification.

3. Data relating to changes in construction schedule.

4. Accurate cost data on proposed substitution in comparison with product or method specified.

C. In making request for substitution, Contractor shall specifically represent:

1. He has personally investigated proposed product or method, and determined that it is equivalent or superior in all respects to that specified.

2. He will provide the same guarantee for substitution as for product or method specified.

3. He will coordinate installation of accepted substitution into work, making such changes as may be required for work to be complete in all respects.

4. He waives all claims for additional costs related to substitution which consequently becomes apparent.

5. Cost data is complete and includes all related costs under his Contract.

D. Substitutions will not be considered if:

1. They are indicated or implied on shop drawings or project data submittals without formal request submitted in accord with Section 01340.

2. Acceptance will require substantial revision of Contract Documents or redesign by the Engineer, without substantial benefit to Metro.

3. Requests are submitted beyond 30 days after Notice to Proceed.

E. The above shall not be construed to mean that any substitution for materials and equipment will be allowed. The Engineer reserves the right to reject and disapprove any request he deems irregular or not in compliance with the Specifications.

* * * END OF SECTION * * *

SECTION 01700

CONTRACT CLOSEOUT

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Liquidated Damages: Article 3 General Conditions

B. Payments: Article 9 General Conditions

C. Certification and Final Payment: Article 9 General Condition

D. Project Coordination: Section 01041

E. Protection of Work and Property: Section 01545

F. Project Record Documents: Section 01720

1.2 SUBSTANTIAL COMPLETION

A. Contractor:

1. After testing and startup, submit written certification to Engineer that Project or designated portion of Project is substantially complete.

2. Submit punch list of items to be completed or corrected.

B. Engineer will make an inspection after receipt of Contractor's certification, together with Metro's representative.

C. If it appears to the Engineer and Metro that work is substantially complete:

1. The Engineer may request of and Contractor shall prepare and submit to the Engineer, a list of items to be completed or corrected as determined by the inspection.

2. If the Engineer then considers the work to be substantially complete, the Engineer may, with Metro's approval, issue a Certificate of Substantial Completion, with appropriate conditions, accompanied by a list of the items to be completed and corrected, as verified and amended by Engineer. Omission of any item from the list shall not relieve Contractor from responsibility to complete all the work in accordance with the Contract.

3. Metro occupancy of Project or designated portion of Project:
   a. Metro may use all or part of the work within the time designated in the Certificate of Substantial Completion, upon notice to the insurance company or companies as provided in Article 9 of the General Conditions.

4. Contractor shall complete all the work within the time designated in the Certificate, or if not so designated within a reasonable time.

D. Should the Engineer and Metro consider that work is not substantially complete:

1. Engineer shall notify Contractor, in writing stating reasons and list of items.

2. Contractor shall complete work and send second written notice to Engineer and Metro certifying that Project or designated portion of Project is substantially complete.

E. Warranties: Under Article 7 of the General Conditions guarantee and warranty periods begin with the date of final acceptance. However, in connection with any specific equipment certified by the Engineer as completed and its use or operation thereof for its intended purpose is assumed by Metro, the warranty period for such equipment shall begin with the beginning date of such use or operation.

1.3 FINAL INSPECTION

A. Contractor shall submit written certification that:

1. Contract Documents have been reviewed.

2. Work has been completed in accordance with Contract Documents.

3. Equipment and systems have been tested in presence of Metro's representative and are operational.

4. Project is completed, and ready for final inspection.

B. Engineer will make final inspection within a reasonable time after receipt of certification.

C. Should Engineer consider that work is complete in accordance with requirements of Contract Documents, Engineer shall request Contractor to make project closeout submittals.

D. Should Engineer and Metro consider that work is not complete:

1. Engineer shall notify Contractor, in writing, stating reasons.

2. Contractor shall take immediate steps to remedy the stated deficiencies, and send second written notice to Engineer certifying that work is complete.

3. Engineer will reinspect work.

1.4 REINSPECTION COSTS

In addition to any overtime inspection due under Article 9 of the General Conditions, should Engineer be required to perform second inspections because of failure of work to comply with original certifications of Contractor, Metro will compensate Engineer for additional services as stated in said article and charge Contractor for such fees at the Engineer's currently established billing rate.

1.5 CLOSEOUT SUBMITTALS

A. Project Record Documents: To requirements of Section 01720.

B. Guarantees and bonds required by these specifications: See Article 7 of General Conditions and specific equipment or material specifications.

C. Easement Release: Section 01545 (where applicable).

D. At the close of the Contract Contractor shall:

1. Pay all utility bills.

2. Remove all electrical, sanitary, gas, telephone, water, offices and any other temporary service equipment that may remain.

3. Arrange for transfer of electrical, water and other applicable utility accounts to Metro's name.

E. Deliver evidence of compliance with requirements of governing authorities (where applicable).

1.6 FINAL ADJUSTMENT OF ACCOUNTS

A. Submit final statement of accounting to Engineer.

B. Statement shall reflect all uncompleted adjustments:

1. Additions and deductions resulting from:
   a. Previous Change Orders.
   b. Cash Allowances.
   c. Unit Prices.
   d. Other Adjustments.
   e. Deductions for Liquidated Damages.

2. Unadjusted sum remaining due.

1.7 FINAL APPLICATION FOR PAYMENT

Contractor shall submit final application for payment in accordance with requirements of General Conditions and shall reflect the final adjustment of accounts in Paragraph 1.6.

1.8 FINAL CERTIFICATE FOR PAYMENT

A. Engineer will issue Final Certificate in accordance with provisions of General Conditions.

B. Should final completion be materially delayed through no fault of Contractor, Engineer may issue a Final Certificate for Payment, in accordance with provisions of General Conditions and existing laws.

1.9 POST-CONSTRUCTION INSPECTION

A. Prior to expiration of one year from Date of Substantial Completion or Final Acceptance, Engineer may make visual inspection of Project in company with Metro and Contractor to determine whether correction of work is required, in accordance with warranty/guarantee provisions of General Conditions.

B. For guarantees beyond one year, Engineer will make inspections at request of Metro, after notification to Contractor.

C. Metro will promptly notify Contractor, in writing, of any observed deficiencies.

*** * * END OF SECTION * * ***

SECTION 01720

PROJECT RECORD DOCUMENTS

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Closeout Submittals: Article 9 General Conditions and Section 01700.

B. Project Coordination: Section 01041

C. Shop Drawings, Project Data, and Samples: Section 01340

D. Measurement and Payment: Section 01025

1.2 MAINTENANCE OF DOCUMENTS

A. Contractor shall maintain at job site, one record copy of:

1. Contract Drawings.

2. Project Specifications.

3. Addenda.

4. Reviewed Shop Drawings.

5. Change Orders.

6. Other Modifications to Contract.

7. Field Test Records.

8. Certified Weight Bills

B. Store record documents apart from working documents used for construction.

C. Provide files and racks for storage of documents.

D. Maintain documents in clean, dry, legible condition.

E. Do not use record documents for construction purposes.

F. Make documents available at all times for inspection by Engineer and Metro.

1.3 RECORDING

A. Do not permanently conceal any work until required information has been recorded.

B. Keep record documents current.

C. Contract Drawings: Legibly mark to record actual construction:

1. Horizontal and vertical location of underground utilities and appurtenances and references to permanent surface improvements.

2. Field changes of dimension and detail.

3. Changes made by Change Order.

4. Details not on original Contract Drawings.

D. Specifications and Addenda: Legibly mark up each Section to record:

1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.

2. Changes made by Change Order.

3. Other matters not originally specified.

E. Shop Drawings: Maintain as record documents; legibly annotate drawings to record changes made after review.

1.4 SUBMITTAL

A. At completion of project, deliver record documents to Engineer.

B. Accompany submittal with transmittal letter signed by Contractor or his authorized site representative.

* * * END OF SECTION * * *

DIVISION 2 - SITEWORK

INDEX

SECTION 02010

SUBSURFACE INVESTIGATION

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Information Available to Bidders: Section 00200

B. Job Site Administration: Section 01043

C. Inspection Services: Section 01420

D. Shoring: Section 02150

1.2 GEOTECHNICAL REPORTS

A. Details of geotechnical and/or subsurface conditions are provided in the technical reports listed in (B) below. The boring logs and related information depict subsurface conditions only at these specific locations at the time of exploration. Soil conditions at other locations can be expected to differ from the conditions at the boring locations. The inferred lateral continuity away from the borings is for design purposes, and some variation from these assumed conditions should be expected. The conditions should also be expected to change with time.

Groundwater (and leachate levels) reported on the boring logs and sections are factual data for the dates shown. Groundwater levels can vary seasonally and may be higher during the winter and spring than in the summer and fall.

B. Available technical reports may be reviewed at the Metro offices. Included, but not limited to, are the following reports or related documents:

- Sweet-Edwards, EMCON. May, 1989. Environmental Management Options, St. Johns Landfill, Volumes I and III.
- Cornforth Consultants, October 1990, Technical Memorandum for Leachate Migration, Perimeter Dike, St. Johns Landfill.
- Cornforth Consultants, October 1990, Geotechnical Investigation for Proposed Motor Blower/Flare Facility, St. Johns Landfill.
- Cornforth Consultants, October 1990, Five Interior Monitoring Wells, As Constructed, St. Johns Landfill.
- Metro Solid Waste Department. 1990. Various topographic maps of the St. Johns Landfill site dated 1979 to 1990. Provided by Metro.
- Metro Solid Waste Department. September, 1989. Revised Closure and Financial Assurance Plan for the St. Johns Landfill.
- CH2M Hill. 1986. Final Report, St. Johns Landfill National Dioxin Study, Portland, Oregon. EPA Contract No. 68-01-6692.
- CH2M Hill. April, 1980. Contract Documents for Construction of the St. Johns Sanitary Landfill Expansion Area. Prepared for the Metropolitan Service District, Portland, Oregon.

These reports were obtained only for use by the Engineer in design and are not a part of the Contract Documents.

C. Additional Investigation:

1. Contractor should visit the site and acquaint himself with site conditions before submitting a bid and the submission of a bid will be prima facie evidence that he has done so.

2. Prior to bidding, Contractor may make his own subsurface investigations to satisfy himself with site and subsurface conditions. This would be carried out at Contractor's expense. Contact Metro to arrange for this investigation. Refer to Instructions for Bidders for the Metro contact person.

* * * END OF SECTION * * *

SECTION 02150

SHORING

1. GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

A. Health and Safety Plan: Section 01100

B. Excavating, Backfilling and Compacting for Utilities: Section 02222

1.2 QUALITY ASSURANCE

Contractor's sheeting and shoring plans where necessary shall be designed by a structural engineer registered in Oregon with experience in the work.

2. PRODUCTS

2.1 TRENCH SHORING

Materials and methods used shall be at Contractor's option.

3. EXECUTION

3.1 SAFETY REQUIREMENTS

A. Shoring shall be placed in accordance with Oregon OSHA, federal, state and local excavation safety requirements.

B. Contractors' Health and Safety Program shall apply specifically where excavating in refuse. Refer to Section 01100.

3.2 CRIBBING AND SHEETING

A. Unless otherwise provided, Contractor shall provide all cribbing and sheeting needed to protect the work, adjacent property and improvements, utilities, pavement, etc., and to provide safe working conditions in the trench.

B. Removal of all cribbing and sheeting from the trench shall be accomplished in such a manner as to fulfill all of the above requirements and shall also be accomplished in such a manner as to prevent any damage to the work.

C. Damages resulting from improper cribbing or from failure to crib shall be the sole responsibility of Contractor.

3.3 SPECIAL REQUIREMENT FOR FLEXIBLE PIPE

A. Shoring to be removed, or moveable trench shields or boxes, shall be located at least 2-1/2 pipe diameters away from the pipe if the bottom of the shoring, shield or box extends below the top of flexible pipe, unless a satisfactory means of reconsolidating the bedding or side support material disturbed by shoring removal can be demonstrated.

B. Damages resulting from improper shoring or failure to shore shall be the sole responsibility of Contractor.

* * * END OF SECTION * * *

SECTION 02220

EMBANKMENT AND GRADING

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Subsurface Conditions: Section 02010

B. Excavating, Backfilling, and Compacting for Utilities: Section 02222

1.2 APPLICABLE PUBLICATIONS: The following publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

A. American Society for Testing and Materials (ASTM) Publications:

D 698	Standard Proctor
D 4318	Liquid Limit, Plastic Limit and Plasticity Index of Soils
D 1556	Density of Soil In-Place by the Sand-Cone Method
D 1140	Grain Size Distribution (Fines Content)
D 422	Grain Size Distribution (Sieve/Hydrometer Analyses)
D 2922	Density of Soil and Soil-Aggregate in place by Nuclear methods (shallow depth)
D 2216	Moisture Content Determination
D 2217	Wet Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants
D 2487	Classification of Soils for Engineering Purposes
D 4643	Moisture Test - Microwave Oven Method
E 548	Generic Criteria for Use in the Evaluation of Testing and Inspection Agencies

1.3 QUALITY CONTROL

A. Soils and Backfill: Compaction standard ASTM D698 method unless otherwise specifically approved, grain size distribution ASTM D422, and moisture content determination ASTM D2216.

B. In-place Density Determination: Sandcone method ASTM D1556 or Nuclear method ASTM D2922.

C. Classification of Soils ASTM D2487, and Liquid Limit, Plastic Limit, and Plasticity Index of Soil ASTM D4318.

D. Quality Control monitoring of subgrade, backfill, embankment materials and construction will be by the Geotechnical Engineer.

E. Contaminated borrow materials shall not be accepted on the jobsite. If any material is found to contain hazardous material or hydrocarbons, all costs for testing, removal, disposal and impact on the work will be borne by Contractor.

F. Contractor shall insure that materials containing excessive free water are not brought on the site.

1.4 SCOPE

The work includes: Clearing and grubbing; existing topsoil removal, and stockpiling; low permeable soil removal and stockpiling; excavation and grading of temporary roadways, ditches, channels, drains; placement and compaction of Subgrade Embankment material for final subgrade and placement of preload materials.

1.5 DEFINITIONS

A. REFUSE

Refuse is defined as any natural or manmade material making up any part of the contents of the landfill, including waste fills, daily cover materials, and any soil materials that has been contaminated to any degree by contact with any part of the waste fill.

B. CLEARING

Clearing means removing and disposing of all unwanted native material from the landfill surface, such as trees, brush, grass, down timber, coarse wood compost, bark or other natural material.

C. GRUBBING

Grubbing means removing and disposing of all unwanted vegetative matter from underground, such as stumps, roots, buried logs, or other debris.

D. ON-SITE DEBRIS

On-site Debris means all nonuseable natural material produced by clearing, grubbing, or cleanup.

E. LEACHATE

Leachate is defined as any liquid, regardless of quality, that has come in contact with any part of the refuse, and includes all groundwater encountered on site, and any surface water that contacts any part of the landfill not covered by existing interim cover or sufficient subgrade embankment or low permeable soil as determined by the Engineer. Surface water draining from preloaded areas which have been covered with plastic sheeting shall not be considered leachate and may be discharged into adjacent waterways.

F. DEGREE OF COMPACTION

The Degree of Compaction is the percentage of the maximum density obtained by the test procedure presented in ASTM D698, and is abbreviated as a percent of laboratory-determined maximum density.

G. SUBGRADE EMBANKMENT

Subgrade Embankment shall be that material meeting these specifications used to 1) achieve final subgrade contours as shown on the plans and 2) placed as "preload" as shown on the plans. Material used for Subgrade Embankment may consist of clay, sand, gravel, pit run rock or a combination of these items meeting the requirements of these Specifications. Subgrade Embankment to be used to achieve subgrade contours during wet weather conditions, shall be limited to clean, granular materials. During wet weather conditions, Subgrade Embankment for use as "preload" shall consist of any soil materials which will allow construction equipment trafficability.

H. TYPE I SAND

Type I Sand shall be material meeting these specifications that will be initially placed as "preload"; later to be used during future work to cover and protect the geosynthetic components of the landfill final cover system.

I. EXISTING TOPSOIL

Topsoil consists of existing suitable on-site topsoils that will be used in the construction of the future final cover system. Suitable topsoil materials are organic, friable and fertile in nature and fully capable of supporting the growth of surface grasses at the St. Johns Landfill.

J. EXISTING LOW PERMEABILITY SOIL

Existing Low Permeability Soil consists of suitable on-site clayey soil that was placed as part of the existing interim cover of the landfill as shown on the Drawings and that will be used in the construction of the future final cover system at the landfill.

The Geotechnical Engineer will provide quality control of the Existing Low Permeable Soil to determine its suitability for use in the final cover system for the Landfill.

K. EXISTING DAILY COVER

Existing Daily cover consists of a minimum of six (6) inches of compacted cover material which was put onto all exposed refuse at the end of each day during active landfill operations.

L. EXISTING INTERIM COVER

Existing Interim Cover consists of approximately 18-inches of compacted Low Permeability Soil and approximately six-inches of existing topsoil material or chipped wood waste.

1.6 SUBMITTALS

A. Excavation, Embankment and Grading Plan - Contractor will provide an overall plan for the earthwork required for this project at least seven (7) days prior to the start of excavation and stockpile of top soil and low permeability soil and/or placement of subgrade embankment materials. The plan will include as a minimum:

1. Procedures and equipment

2. Location of haul roads and traffic control

3. Location of stockpiles

4. Plan for site drainage and surface water control

5. Survey control procedures to ensure excavations and embankments are made to the proper line and grade

B. Proposed Borrow Sources - Contractor will submit the name, location and owner of all proposed borrow sources with an estimate of the quantity of suitable materials available. The submittal will include gradation tests for both Type I sand and for Subgrade Embankment materials as well as Certification by Contractor that the proposed borrow sources contain no hazardous contaminants or hydrocarbons. This submittal shall be sent in at least 14 days prior to required delivery to allow Metro time for their investigation and evaluation of the site.

C. Site Drainage/Leachate Control Plan - Contractor will prepare a plan for preventing releases of contaminants or leachates into the surrounding waters and for immediate action to mitigate the damage in the event that a release occurs. The purpose is to plan for the intentional excavation into refuse such as for the gas trenches or for inadvertent exposure of refuse in grading operations. This plan must be submitted no later then fourteen (14 days) after Notice to Proceed. Contractor will include procedures for working in excavated refuse or in handling leachates in the Health and Safety Plan (Section 01100)

2. MATERIALS

2.1 EXISTING TOPSOIL

Existing topsoils consist of suitable surface soils obtained above the existing low permeable soil at St. Johns Landfill. Suitable existing topsoils are free of low permeable subsoil, clay lumps, gravel, rocks, objects over 3" in diameter, or other objectionable material.

2.2 TYPE 1 SAND

A. Shall consist of a durable clean, coarse to fine sand, with not more than 5 percent passing the No. 200 sieve, based on wet sieve analysis. The sand shall conform to the following gradation limits:

Sieve Size	% Passing (by weight)
1/2"	100
No. 4	80 - 100
No. 10	50 - 100
No. 40	10 - 80
No. 100	0 - 12
No. 200	0 - 5

B. Satisfactory Type 1 Sand materials may consist of river dredged sand, "screenings" sand and/or pit run sand, provided they meet the above specifications. Contractor shall provide gradation test results for all proposed borrow sources to the Engineer.

C. Each proposed borrow source for Type 1 Sand will be visually inspected and tested for compliance with the Specifications by the Geotechnical Engineer. Materials from borrow sources which do not meet the Specifications, as determined by the Geotechnical Engineer based on visual inspection and test results, shall not be suitable for use as Type 1 Sand.

D. Compaction curves per ASTM D698 will be developed by the Geotechnical Engineer for each suitable borrow source.

E. Materials from borrow sources which have not been visually inspected and tested by the Geotechnical Engineer, or which are not suitable as stipulated in (C) above, shall not be brought onto the landfill site.

F. Since the Geotechnical Engineer cannot inspect all materials coming from the borrow source(s), the inspection and testing program shall not relieve Contractor's responsibility to provide Type 1 Sand to the site which meet all requirements stipulated in the Specifications.

2.3 SUBGRADE EMBANKMENT

A. Shall consist of soils free of organic matter, contaminants, refuse, and rock pieces larger than 10" in diameter. Subgrade Embankment may consist of clay, sand, gravel, pit run rock, or a combination of the same. The Subgrade Embankment Material shall consist of materials which can be readily excavated using scrapers, hauled, clumped, spread and compacted.

B. Each proposed borrow source for Subgrade Embankment will be visually inspected and tested for compliance with the Specifications by the Geotechnical Engineer. Materials from borrow sources which do not meet the Specifications, as determined by the Geotechnical Engineer based on visual inspection and test results, shall not be suitable for use as Subgrade Embankment.

C. Compaction curves per ASTM D698 will be developed by the Geotechnical Engineer for each suitable borrow source.

D. Materials from borrow sources which have not been visually inspected and tested by the Geotechnical Engineer, or which are not suitable, as stipulated in (B) above, shall not be brought into the landfill site.

E. Since the Geotechnical Engineer cannot inspect all materials coming from the borrow source(s), the inspection and testing program shall not relieve Contractor's responsibility to provide Subgrade Embankment to the site which meet all requirements stipulated in the specifications.

2.4 DRAIN ROCK

A. Shall consist of a clean, well-graded gravel, or rounded rock, having hard, strong, durable pieces, free from clay, silt, bark, sticks, organic matter or other objectionable material. Drain Rock shall conform with the following gradation limits:

Sieve Size	% Passing (By Weight)
1-1/2" square	100
U.S. No. 200	0 - 5

3. EXECUTION

3.1 WEATHER CONDITIONS

A. **Contractor is advised that the Embankment and Grading work described in these Specifications is scheduled to continue through the winter season of 1991/1992.** Contractor shall include allowances for winter weather conditions in the bid price for all applicable items described in the Specifications and shown on the Drawings.

B. The Geotechnical Engineer will monitor wet weather conditions during the Contract Period. If the quality of the work is susceptible to degradation due to deficient construction procedures, or if undue damage to existing installations such as haul roads, vegetation covers, or engineered soil covers is occurring, the Engineer shall recommend to Metro that the work be stopped.

C. Certain construction operations described in these Contract Documents such as hauling and placement of Type I Sand Preload Fill are more suited to wet weather operations than others such as stripping of topsoil, stripping and stockpiling of Low Permeable Soil, placement and compaction of Subgrade Embankment, and construction of the Horizontal Gas Collection Trenches. Contractor shall schedule the work so that operations best carried out in dry weather are completed during the drier weather times of the Contract Period, typically early May through mid-October.

3.2 CLEARING

A. Contractor shall clear work areas to receive final subgrade embankment or preload materials as shown on the plans. This work includes protecting from harm any trees, bushes, shrubs, monitoring wells and other objects located outside of these work areas. Monitoring well H-5 shall be protected during clearing work in Subarea 5.

B. Contractor shall dispose of all organic debris, by hauling to Subarea 4.

C. Stumps, if found, are to be removed to a minimum depth of 3 feet below subgrade elevation.

D. In general, clearing work is anticipated to involve brush removed in the Power Line Corridor and in Subarea 5A and wood compost/bark removal from the northerly portion of Subarea 5 as shown on the Drawings.

3.3 TOPSOIL REMOVAL AND STOCKPILING (Subarea 5 only)

A. Contractor shall develop and follow an approved plan for stripping areas of existing on-site topsoil from Subarea 5 and stockpiling of suitable topsoil for future use.

B. Contractor shall remove suitable topsoil to a depth sufficient to insure that most of the topsoil has been removed from the surface of the underlying existing low permeable soil. Approximately 6 inches thickness of topsoil will be stripped.

C. Existing grass vegetation may be removed with the underlying suitable topsoil provided it is cut to a height not exceeding 3 inches at the time of topsoil removal, and thoroughly mixed with the underlying topsoil prior to or during the topsoil removal process. Grass clippings resulting from cutting the grass to the specified height, may also be mixed with the underlying topsoil provided the clippings are mulched and evenly spread over the mowed area in a layer not exceeding 1.5 inches thick prior to the topsoil removal process. In areas where coarse bark or other wood compost products cover the existing ground surface (e.g north end of SA-5) Contractor shall separate these materials as they are unsuitable for future topsoil use and are not to be stockpiled with other suitable topsoils. The bark/wood compost material shall be stripped and disposed of in Subarea 4.

D. Topsoil deemed unsuitable for reuse by the Engineer shall be disposed of onsite in Subarea 4. Unsuitable topsoil means soil material which appears to be unable to support the required growth of surface grasses. Topsoil suitable for reuse shall be placed in a stockpile at a location shown on the Drawings. Stockpiled topsoil shall be kept free of contamination by refuse or other objectionable materials. Temporary covering with plastic sheeting and anchors to prevent erosion will also be necessary.

E. Topsoil will only be stripped from Subarea 5 as shown on the Drawings.

3.4 EXCAVATION IN REFUSE

A. The variety of refuse disposed of within the landfill is unknown. Where excavation in refuse is required, Contractor shall remove and dispose of all materials encountered in the refuse. Excavated refuse shall be disposed of in Subarea 4 as directed by the Engineer.

B. Contractor shall follow the approved Health and Safety Plan during the excavating, handling, and disposing of the refuse, and whenever working in proximity to exposed refuse. **Contractor is cautioned that the possibility of encountering potentially harmful gases, liquids or wastes exists.**

C. Excavation into refuse will be required for the gas trenches (Section 02680) and may be required to obtain a portion of the grades shown on the plan.

D. Excavation into refuse may require surface water/leachate diversion and groundwater/leachate removal.(e.g. gas trenches). Contractor shall submit for approval to the Engineer, a plan of the methods, installations, and details of the proposed water control system, and intended disposal methods for contaminated water/leachate collected. Contractor shall follow the plan approved by the Engineer. Water/leachate control activities shall be performed in accordance with Contractors' approved Health and Safety Plan.

3.5 LOW PERMEABLE SOIL REMOVAL AND STOCKPILING (Subarea 5 only)

A. The surface of the existing low permeable soil shall be mostly free of all topsoil and other extraneous matter, and shall be approved by the Engineer, prior to commencing the removal and stockpiling of low permeable soil for future use.

B. Contractor shall remove the Low Permeability Soil to within two (2) inches of the underlying daily cover/refuse material. Approximately 18-inches of Low Permeability Soil exists above the refuse in the area shown on the Drawings. This thickness may vary.

C. Contractor shall insure that the low permeable material remains clean and free from topsoil, refuse, and other extraneous matter throughout the stripping, haul, and stockpile operations. Stripping shall be carefully performed so that refuse or other materials below the existing low permeable soil is not picked up and mixed with the low permeable material.

D. Stripping and stockpiling of low permeable soils will only be required in Subarea 5.

3.6 SUBGRADE EMBANKMENT PLACEMENT (To Subgrade Contours)

A. Fills or embankments to achieve subgrade contours within Subarea 5, 5A and the Power Line Corridor as shown on the Drawings shall consist of subgrade embankment materials defined above. The completed fill or embankment shall conform to the shape of the typical sections and contours indicated on the Drawings. The material shall be placed in successive horizontal layers of 12 inches in loose depth and shall be compacted as required. Each layer shall be compacted to the specified requirement before the overlaying lift is placed.

Subgrade Embankment material delivered to the site during construction will be visually inspected by the Geotechnical Engineer. Material which is outside the specifications, as determined by the Geotechnical Engineer, will be rejected based on the visual inspection. Rejected materials shall be disposed of in Subarea 4 by Contractor or hauled offsite and legally disposed of at Contractor's expense. The Geotechnical Engineer may also reject materials that contain excessive free water.

The Geotechnical Engineer will monitor wet weather conditions during placement of the final Subgrade Embankment. If the soils are susceptible to degradation during work occurring in the wet weather, the Engineer may recommend to Metro that the work be stopped.

B. In any areas where excavation of existing refuse or soils is necessary to reach the subgrade contours, the excavated material shall be moved and placed in Subarea 4 as directed by the Engineer.

C. Compaction, less than 50% gravel and rock: Each layer of fill shall be compacted by rolling with compaction equipment as approved by the Geotechnical Engineer. Each layer shall be compacted to not less than 90 percent of the standard Proctor maximum dry density. Placement and compaction shall be observed by the Geotechnical Engineer. The compacted soil shall be tested as required by the Geotechnical Engineer.

The tests will be by nuclear methods (ASTM D2922) or the Sand-Cone method (ASTM D1556). The results from the nuclear test method will be periodically calibrated using a sand cone test run adjacent to the nuclear test. The number of sand cone calibration tests shall be a determined by the Geotechnical Engineer.

D. Compaction, greater than 50 percent gravel and rock: Each layer of fill shall be compacted with 2 (two) passes of compaction equipment approved by the Geotechnical Engineer.

E. Material which complies with the subgrade embankment specification which is procured and brought on-site, and which is not needed to achieve final subgrade contours shall be considered preload material and shall be placed in accordance with the following Paragraph 3.7.

F. Compacted Subgrade Embankment Placement shall be closely coordinated with installation of Settlement Markers to avoid disturbance of the Settlement Markers. During installation

of riser pipes, construction of berms, and survey measurements, no preload shall be placed within 100 feet of the Settlement Markers.

G. Settlement Markers which are disturbed during construction shall be replaced at Contractor's expense.

3.7 PRELOAD PLACEMENT

A. Preload to be placed in Subarea 5 shall be Subgrade Embankment material. Preload to be placed in Subarea 5A and the Powerline Corridor shall be Type 1 sand material.

B. Type I Sand and Subgrade Embankment materials delivered to the site for preload placement shall be visually inspected by the Geotechnical Engineer. Based on the visual observation, materials outside the specification shall be rejected. The Geotechnical Engineer may also reject materials that contain excessive free water. Rejected materials shall be disposed of in Subarea 4 by Contractor, or hauled offsite and legally disposed of at Contractor's expense.

C. Preload materials are to be placed and graded to achieve the required preload contours shown on the Drawings. During material placement, interim surface water and erosion control measures shall be implemented to prevent significant erosion during adverse weather. Refer to Section 02275.

D. During wet weather, preload materials may be added to the preload fill provided that they are sufficiently dry to be placed and spread by earthmoving equipment. Materials which are too wet for construction equipment shall not be placed within the preload fill. Minimal compaction of areas within 20-feet of the preload side slopes may be required, as directed by the Geotechnical Engineer, to achieve a stable slope condition. Other compaction required during preload placement will be limited to that achieved during normal spreading by the spreading equipment.

E. Preload placement shall be closely coordinated with installation of Settlement Markers to avoid disturbance of Settlement Markers. During installation of riser pipes, construction of berms and survey measurements, no preload shall be placed within 100 feet of the Settlement Indicator.

F. Settlement Markers which are disturbed during construction shall be replaced at Contractor's expense.

3.8 PROTECTION:

A. During construction, fills, embankments, and excavations shall be kept shaped and drained. Newly graded areas of final subgrade embankment shall be protected from undue traffic and erosion, and any settlement or washing away that may occur from any cause, prior to acceptance, shall be repaired and grades reestablished to required elevations and slopes. All work shall be conducted in accordance with environmental protection requirements of the Contract. Existing ditches and drains shall be maintained in such a manner as to drain effectively at all times. The finished subgrade shall be protected and maintained by Contractor in a satisfactory condition until preload materials are placed. Preload materials shall not be placed until the final subgrade has been checked and approved by Contractor and Engineer.

B. Existing structures such as wells, control points, benchmarks, culverts, manholes and utilities poles with and adjacent to the construction area shall be clearly marked and protected from damage.

C. Abandon Wells EPA-R and B5 in Subarea 5 and B-3 in the Power Line Corridor prior to starting work in those areas.

D. Construct Settlement Markers and protect from damage during life of the Contract.

E. Extend and protect Well H-5 in Subarea 5 during placement of Subgrade Embankment and Preload material.

* * * END OF SECTION * * *

SECTION 02222

EXCAVATING, BACKFILLING AND COMPACTING FOR UTILITIES

1. GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

A. Health and Safety Program 01100

B. Subsurface Conditions: Section 02010

C. Embankment and Grading: Section 02220

D. Sedimentation Control: Section 02275

E. Existing Utilities/Facilities-Underground and Overhead: Section 02760

F. Gas and Condensate Collection System: Section 02680

1.2 CLASSIFICATION

A. All excavation is unclassified unless separate bid item is included in bid form.

B. The terms earthwork or excavation include all materials excavated or removed regardless of material characteristics.

C. Contractor shall make his own estimate of the kind and extent of materials which will be encountered in the excavation.

1.3 QUALITY CONTROL ASSURANCE

A. Soils and Backfill: Compaction standard ASTM D698 method unless otherwise specifically approved.

B. In-place Density Determination: Sandcone method ASTM D1556 or Nuclear method ASTM D2922.

C. Classification of Soils: ASTM D2487

D. Quality control monitoring of subgrade backfill and embankment materials and construction by Geotechnical Engineer.

2. PRODUCTS

2.1 BEDDING MATERIAL (DRAIN ROCK)

A. Bedding material, required by the Drawings or elsewhere in this Specification, shall conform to Section 02220 for Drain Rock.

3. EXECUTION

3.1 TRENCHING - GENERAL

A. Material shall be excavated from trenches and piled adjacent to the trench and maintained so that the toe of the slope of the spoil material is at least two (2) feet from the edge of the trench.

B. Contractor shall keep gas trench excavations free of water or leachate during bedding and pipe laying operations and until trench backfill is placed.

C. Contractor is responsible for shoring in accordance with Section 02150.

D. Contractor is responsible for Safety and Health in accordance with Section 01100. No trench excavation will take place until the Health and Safety Plan is approved.

3.2 TRENCHING FOR GAS PIPES

A. Trenches must be of sufficient width to permit proper jointing of the gas pipe and backfilling of material along the sides of the pipe.

B. Trench width at the surface of the ground shall be kept to the minimum amount necessary to install the pipe in a safe manner, ordinarily accomplished by sloping the trench sides to the angle of repose of the material encountered or alternatively, to allow placement of shoring in the trench.

C. The length of gas trench excavated in advance of the pipe laying shall be kept to a minimum, and in no case shall it exceed 200 feet unless specifically authorized by the Engineer.

D. Trenches shall be excavated below the barrel of the pipe a sufficient distance to provide for bedding material, (e.g. drain rock) and geotechnical fabric.

3.3 PIPE BEDDING

A. Placement of bedding material (e.g. drainrock) in the pipe zone shall be as specified in the section regarding the pipeline being constructed or as shown on the Drawings. Material will be hand tamped in place.

B. Pipe bedding, where required, shall be completed before backfilling operations are started.

3.4 BACKFILLING

A. Contractor shall take all necessary precautions to protect the pipe from any damage, movement or shifting. In general, backfilling shall be performed by pushing native material unless otherwise indicated, from the end of the trench into, along and directly over the pipe so that the material will be applied in the form of a rolling slope rather than by side filling which may damage the pipe. Backfilling from the sides of the trench will be permitted after sufficient material has first been carefully placed over the pipe to such a depth as to protect the pipe.

B. Where required, compaction equipment used above the pipe zone shall be of a type that does not damage the pipe.

C. Temporary shoring, cribbing, sheeting, or other timbering shall be removed unless specifically authorized in writing.

D. Dewatering shall be continued until the trench is completely backfilled.

* * * END OF SECTION * * *

SECTION 02272

GEOSYNTHETICS

1. GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

A. Embankment and Grading: Section 02220

B. Shop Drawings: Section 01340

1.2 SCOPE

A. Contractor shall furnish all labor, materials, tools, and equipment to install the Type 1 Geotextile at Horizontal Gas Collection Trenches as indicated on the plans and described in these specifications.

1.3 SUBMITTALS

A. Geotextile

1. Samples and product description for each type.

2. Manufacturer's certification that material meets project specifications.

2. MATERIALS

2.1 GEOTEXTILES (Type 1)

A. The geotextile shall be nonwoven, needle punched, and consist of long chain staple polymeric fibers or filaments composed of polypropylene or polyester. The fibers and filaments shall be oriented into a stable network whereby they retain their positions relative with each other. The geotextile shall be free of any chemical treatment or coating which reduces permeability, be inert to chemicals commonly found in soil, and shall be mildew, insect, and rodent resistant. The geotextile shall conform to the following minimum physical properties (in each principal direction):

PHYSICAL PROPERTY	TEST METHOD	TYPE 1
Weight, OZ/SY	ASTM D-3776	5.9
Tensile Strength, lbs.	ASTM D-4632	155
Elongation, %	ASTM D-4632	50
Puncture Strength, lbs.	ASTM D-4833	80
Mullen Burst, psi	ASTM D-3786	275

PHYSICAL PROPERTY	TEST METHOD	TYPE 1
Trapezoidal Tear Strength, lbs.	ASTM D-4533	60
Coefficient of Permeability, cm/sec	ASTM D-4491	0.20
Flow Rate, gpm/sq.ft.	ASTM D-4491	110
Permittivity, 1/sec	ASTM D-4491	1.3
Apparent Opening Size (AOS), US Std. Sieve	ASTM D-4751	70

B. The geotextile shall be furnished in a protective wrapping to protect it from ultraviolet radiation and from damage due to shipping and handling.

3. EXECUTION

3.1 GEOTEXTILE

A. LABELING AND SHIPPING

1. Geotextile shall be packaged and shipped in protective wrapping, labeled with appropriate identification including manufacturer, fabric weight, and roll length.

B. STORAGE

1. The Geotextile rolls shall be stored in its protective wrapping in a manner that protects the material from dirt, moisture, heat, and any other cause of damage.

C. INSTALLATION

1. Geotextile shall be placed as shown on the project plans. Geotextile shall be laid in the trench smooth without excessive wrinkles and held in place by an approved method until drainrock and pipe installation has been completed. Provide 12-inch minimum overlap at seams.

D. REPAIR

1. Torn geotextile shall be covered with a piece of the same material with at least 12 inch overlap all around.

* * * END OF SECTION * * *

SECTION 02275

SEDIMENTATION CONTROL

1. GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

A. Embankment and Grading: Section 02220

B. Excavating, Backfilling and Compacting for Utilities: Section 02222

1.2 SCOPE

This section covers material and installation requirements for sedimentation control to be installed by Contractor under of this project. In general, this work shall consist of temporary drainage ditches, strawbale sedimentation barriers and plastic sheeting with anchors as shown on the Drawings and noted herein. Additional sedimentation control measures may be necessary depending on Contractors' methods, time of year and type of work activity.

1.3 QUALITY CONTROL

A. Conform to regulatory requirements, specifically City of Portland Bureau of Environmental Services.

B. A general sedimentation control system is shown on the Drawing. Contractor shall review these measures, the City of Portland Erosion Control requirements, his intended methods, work schedule etc., and provide a system to prevent erosion of embankment slopes or ditches and the resulting siltation of surrounding waters. Additional sedimentation control measures may be required to supplement those shown on the Drawings to assure adequate protection of adjacent slough water quality. All requirements set forth in the City of Portland, Bureau of Environmental Services, Erosion Control handbook dated April 1990, shall be satisfied during this contract.

1.4 SCHEDULE

A. Required sedimentation control facilities must be constructed and in operation prior to land clearing and/or other construction to ensure that sediment laden water does not enter the off-site drainage system.

B. Sediment control facilities shall be maintained in a satisfactory condition until construction is completed.

C. The implementation, maintenance, replacement and additions to erosion/sedimentation control systems shall be the responsibility of Contractor.

1.5 SUBMITTALS

A. Temporary measures required to control surface runoff, erosion and sedimentation during construction will be included with the Excavation, Embankment and Grading Plan required in Section 02220. Periodic updates of this portion of the plan may be required.

B. The measures to control surface water and erosion for completed work on this phase of the landfill closure as outlined in the Contract Documents will be submitted in the Sedimentation Control Plan no later than 30 days after Notice to Proceed.

C. Product information for materials required in this section will be submitted and approved prior to purchase.

2. PRODUCTS

2.1 STRAWBALE SEDIMENT BARRIER

Strawbales shall be standard 40 to 60 pound rectangular bales of cereal grain or seed straw.

2.2 PLASTIC SHEETING

A. Shall be polyethylene and have a minimum thickness of 6 mil.

B. Anchors to be sandbags with stakes, tires or other items suitable in size and weight to adequately hold the plastic sheeting in place during windy, wet weather. Anchors shall not have sharp edges, except stakes through sandbags.

2.3 HYDROSEEDING MATERIALS

A. Provide fresh, clean, dry, new-crop seed complying with tolerance for purity and germination established by Official Seed Analysis of North America. Provide grass seed as follows:

1. "Mecklenberger" sheep fescue, 100 pounds (PLS) per acre.

   "Manhattan" perennial ryegrass, 50 pounds (PLS) per acre.

2. The application rates indicated above are given in Pure Live Seed (PLS) rates. PLS rate will be determined by the percent purity times percent germination. For example, a seed mix of 95% purity and 35% germination will equal 33% PLS. Therefore, 3 pounds of the seed mix will be required to equal 1 pound of PLS.

B. All fertilizers shall be of standard commercial manufacturer and grade. Fertilizer shall be furnished in standard, unopened, moisture-proof containers and in dry condition. Granular or pelletized forms shall be free from lumps and caking. Each container shall be marked with the weight and manufacturers guaranteed analysis certifying the percentage of each ingredient. Provide fertilizer as follows:

- Nitrogen, 10% minimum
- Phosphorus, 6% minimum
- Potash, 4% minimum

C. All mulch materials shall be free of noxious weed seeds and plants and shall contain no substance detrimental to plant life. Wood cellulose fibre mulch shall be processed so that the wood fibers will remain uniformly suspended under agitation in water. The mulch shall also blend with seed, fertilizer and other typical additives of a hydroseeding mixture to form a homogeneous slurry.

This processed mulch shall have the ability to cover and hold grass seed in contact with soil. The wood fiber shall also have moisture-absorption and percolation properties to form a blotter-like ground cover. The cellulose fiber shall be colored green to visibly aid uniform application.

Wood cellulose fiber shall be shipped in packages of uniform weight (±5%) and labeled with the manufacturer's name and air-dry weight.

D. Hydro-Slurry Mix:

1. Seed Mix: 150 pounds (PLS) per acre

2. Fertilizer: 50 pounds (PLS) per acre

3. Wood Cellulose Fiber, dyed green: 1500 pounds per acre

4. Tackifier: As required

2.4 EROSION BLANKET

A. Shall be XCEL blanket manufactured by Soil Stabilization Co., or equal.

2.5 SEDIMENT FENCE

A. Conform with City's "Erosion Control Plan", Figure 3-3.

B. Filter fabric material shall conform to Section 02272-2.1.

2.6 PLACING EROSION CONTROL MATTING

A. Seed and fertilizer (Hydroseeding) shall be placed prior to placing of matting.

B. Erosion Control matting shall be unrolled parallel to the flow of water. Where more than 1 strip of matting is required to cover the given area, it shall overlap the adjacent mat a minimum of 4 inches. The ends of matting shall overlap at least 6 inches with the upgrade section on top.

C. The up-slope end of each strip of matting shall be staked and buried in a 6-inch deep trench with the soil firmly tamped against the mat. Three stakes per width of matting (1 stake at each overlap) shall be driven below the finish ground line prior to backfilling of the trench.

D. The Engineer may require that any other edge exposed to more than normal flow of water or strong prevailing winds be staked and buried in a similar manner.

E. Check-slots shall be placed between the ends of strips by placing a tight fold of the matting at least 6 inches vertically into the soil. These shall be tamped and stapled the same as upslope ends. Check-slots must be spaced so that one check-slot or one end occurs within each 50 feet of slope.

F. Edges of matting shall be buried around the edges of catch basins and other structures as herein described. Matting must be spread evenly and smoothly and in contact with the soil at all points.

G. Matting shall be held in place by approved wire staples, pins, spikes or wooden stakes driven vertically into the soil. Matting shall be fastened at intervals not more than 3 feet apart in 3 rows for each strip of matting, with 1 row along each edge and 1 row alternately spaced in the middle. All ends of the matting and check slots shall be fastened at 6-inch intervals across their width. Length of fastening devices shall be sufficient to securely anchor matting against the soil and driven flush with the finished grade.

2.7 HYDROSEEDING

A. Do not use wet seed or seed which is moldy or otherwise damaged in transit or storage (unless soaking seed for quick germination is approved by Metro). Do not use seed from containers opened before delivery to the job site or before hydro-slurry equipment is ready. Retain seed packaging for observation by Engineering.

B. Confirm with Engineer that grade is acceptable prior to commencing the hydroseeding operations. Hydroseed areas as directed by the Engineer.

C. Mix specified seed, fertilizer, and mulch in water using equipment specifically designed for hydro-slurry application. Continue mixing until uniformly blended into a homogeneous slurry suitable through a pressure-spray system providing continuous, nonfluctuating application rate.

D. Apply slurry uniformly at the specified rates using a sweeping, horizontal motion. Clean hydro-mulch off areas not intended for hydroseeding which are inadvertently sprayed during applications.

E. Unless otherwise specified or approved, this work is to be performed prior to October 1. The work shall be performed only at times when local weather and other conditions are not detrimental to seeding and mulching. The work shall not be undertaken when wind velocities would prevent uniform application of the materials or would drift the materials.

3. EXECUTION

3.1 GENERAL EROSION CONTROL

A. Erosion control provisions shall meet or exceed the requirements of the City of Portland, Bureau of Environmental Services. Refer to City's "Erosion Control Plans Technical Guidance Handbook".

B. When provisions are specified and/or shown on the Drawings, they are the minimum requirements.

C. Contractor shall not permit sediment laden waters to enter off-site waterways under any circumstances.

D. As construction progresses and seasonal conditions dictate, additional siltation control facilities may be required. It shall be the responsibility of Contractor to address new conditions that may be created and to provide additional facilities over and above minimum requirements as may be required.

3.2 STRAWBALE SEDIMENT BARRIER

A. Bales to be keyed into existing ground a minimum of 4 inches. Wood stakes are to be driven through the bales and into ground a minimum of 12 inches.

B. At no time shall more than a one foot depth of sediment be allowed to accumulate behind strawbale sediment barriers. Sediment must be removed or new lines of barriers installed uphill of sediment laden barriers.

3.3 PLASTIC SHEETING WITH ANCHORS

A. Plastic sheeting shall be installed and maintained tightly in place by using staked sandbags or tires on ropes (10' max. grid spacing). Other anchor materials may be used which provide similar hold-down characteristics. All seams shall be taped or weighted down full length and there shall be at least a 12-inch overlap of all seams. For seams parallel to the slope contour, the uphill sheet shall overlap the downhill sheet.

* * * END OF SECTION * * *

SECTION 02610

PIPE AND FITTINGS

1. GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

A. Inspection Services: Section 01420

B. Excavating, Backfilling and Compacting for Utilities: Section 02222

C. Gas and Condensate Collection System: Section 02680

1.2 QUALITY ASSURANCE

A. Testing by Manufacturer:

1. Manufacturer shall test all materials as required by these Specifications and the standards referenced.

2. Manufacturer shall submit to the Engineer two (2) copies of all test results which shall include a certification that materials to be delivered are represented by the samples tested and that such delivered materials meet or exceed the specification requirements.

3. No material shall be delivered until test results and certifications are in the hands of the Engineer.

4. Engineer shall have free access to all testing and records pertaining to material to be delivered to the job site.

5. The Engineer may elect to be present at any or all material testing operations.

B. Joint tests are intended for qualification of joint design and shall be considered to be a qualification test to establish the adequacy of the manufacturer's joint design. The manufacturer shall certify that tests have been performed within the last year with pipes equivalent in size and design and that they have passed the test enumerated in the specifications. Tests may be waived for pipes of different strength class if joint design is the same as the pipe tested.

2. PRODUCT

2.1 HIGH DENSITY POLYETHYLENE (HDPE) PRESSURE PIPE

A. Pipe used for the horizontal gas collection piping system (solid wall and "broken back collar" sections) shall be High Density Polyethylene (HDPE) pipe conforming to the following specifications:

1. Pipe sizing shall be in accordance with ASTM F714-83 and ASTM D3035-83.

2. The pipe shall be made from Premium High Density Polyethylene resin qualified as Type III, Category 5, Class C, Grade P34 in ASTM D1248-81.

3. This material shall have a long term hydrostatic strength of 1600 psi when tested and analyzed by ASTM D2837-76 (1981), and listed by the Plastic Pipe Institute as P.E. 3408 resin.

4. The following minimum engineering design specifications are required:

   ASTM D-638 Tensile Strength Yield (2in/min), >3,300 PSI.

   ASTM D-638 Elongation at break, 800%.

   ASTM D-638 Modulus of Elasticity, 120,000 PSI.

   ASTM D-3350 Flexural Modulus, 140,000 PSI.

   ASTM D-1693 Environmental stress crack resistance (E.S.C.R.) Condition C, >5,000 F 20 Hrs.

   ASTM D-2837 Long Term Strength (L.T.H.S.) @73.4 degrees Fahrenheit, 1600 PSI.

5. In addition to the above, the High Density Polyethylene Material shall have the following general characteristics:

   ASTM D-1505 Density with carbon black, 0.955 g/cm 3 (min).

   ASTM D-1238 Melt index (E) Condition, 0.14 g/10 min.

   ASTM D-1238 Melt index (F) Condition, 11.0 g/10 min.

   ASTM D-1525 Vicat softening point, 257 degrees Fahrenheit (min).

   ASTM D-746 Brittleness temperature, -180 degrees Fahrenheit (max).

   ASTM C-177 Thermal conductivity, 2.7 BTU, in/ft 2/hrs./degrees Fahrenheit.

   ASTM D-696 Thermal expansion, 0.8 x 10 4 in/in degrees Fahrenheit (max).

   ASTM D-2240 Hardness shore "D", 63.

   ASTM D-3350 Cell Class, 345434C.

   Resin to be N.S.F. listed.

6. The pipe shall contain no recycled compound except that generated on the manufacturer's own plant from resin of the same specification from the same raw supplier.

7. The HDPE pipe shall be homogenous throughout and free from visible cracks, holes, foreign inclusions, or other injurious defects. The pipe shall be uniform in color, opacity, density, and other physical properties. The following information

shall be continuously marked on the pipe or spaced at intervals not exceeding 5 feet:

a. Name and/or trade mark of the pipe manufacturer.
b. Nominal pipe size.
c. Standard Dimension Ratio (SDR)
d. PE 3408
e. Manufacturer's Standard Reference
f. A production code from which the date and place of manufacture can be determined.

8. Polyethylene compound shall be protected against ultra violet degradation by carbon black in concentration of not less than 2%. The pipe shall have a minimum working pressure of 160 psi at 73.4 degrees Fahrenheit and a minimum SDR of 11.

9. Flanges shall consist of a polyethylene stub end (ribbed face) fused to each length of pipe, with a galvanized steel back-up ring.

10. Flange bolts shall conform to material requirements of ASTM A307 Grade B with ANSI B18.2.1 standard hex head pattern, ANSI B1.1 coarse thread, Class 2 fit. Nuts shall meet the requirements of ASTM A307, ANSI B18.2.2 standard hex head pattern ANSI B1.1 coarse thread and have a Class 2B fit. Flat washers shall be provided with each nut for protection of flanges.

B. Pipe used for the horizontal gas collection trenches (perforated sections) shall be as described below:

Perforated pipe sections shall be corrugated high-density polyethylene pipe, ASTM F405, as manufactured by Advanced Drainage Systems, 1025 Commerce Drive, Madera, California, 93637 or approved equal.

3. EXECUTION

3.1 INSTALLATION

A. Install pipe in accordance with specification section for pipeline being installed.

B. Provide temporary protection, if required, for installed pipes with shallow burials to prevent damage from construction - related equipment until the time of work completion.

* * * END OF SECTION * * *

SECTION 02680

GAS AND CONDENSATE COLLECTION

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

Pipe and Fittings: Sections 02610

1.2 DESCRIPTION

A. This work shall consist of the installation of horizontal gas collection trenches in the Power Line Corridor as shown on the Drawings.

B. All earthwork required, including trench excavation and backfill, shall be in accordance with Section 02222 of the Specification. The installation of erosion control measures shall be in accordance with Section 02275 of this Specification.

1.3 QUALITY CONTROL

A. MATERIAL CERTIFICATION

The manufacturer shall furnish appropriate certification, based on the manufacturer's routine quality control tests, that the pipe and pipe fittings meet the requirements of the pertinent ASTM or ANSI Specifications.

B. Contractor will inspect their own work, but will also notify Metro/Engineer and provide access for Metro's inspection prior to covering the pipe.

2. MATERIALS

2.1 HORIZONTAL GAS COLLECTION TRENCHES

A. Piping material shall conform to Section 02610.

B. Drainrock material shall conform to Section 02220.

C. Geotextile shall conform to Section 02272.

3. EXECUTION

3.1 HORIZONTAL GAS COLLECTION TRENCHES

A. Horizontal Gas Collection Trenches will be installed in the south end of the Powerline Corridor per the Drawings. These trenches are to be installed in refuse, therefore the appropriate safety precautions shall apply.

B. Installation of pipe bedding material (drainrock) shall conform to Section 02222 and as shown on the Plans.

C. Installation of the geotextile shall conform to Section 02272, the manufacturer's recommendations, and as shown on the Plans.

* * * END OF SECTION * * *

SECTION 02760

EXISTING UTILITIES/FACILITIES UNDERGROUND AND OVERHEAD

1. GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Inspection Services: Section 01420

B. Excavating, Backfilling and Compacting for Utilities: Section 02222

1.2 LEGAL REQUIREMENTS - UNDERGROUND FACILITIES

A. Contractor shall, before commencing excavation in any area, comply with the provisions of any applicable laws relating to or governing the identification, location, marking, and responsibility for protecting and repairing of underground facilities.

B. Whenever there may be a conflict between the provisions of any law and the provisions of these specifications, the provisions of law shall control.

1.3 DEFINITIONS

Utility means any facility or item placed above or below ground for use in connection with the storage or conveyance of water, sewage, leachate, electronic, telephonic or telegraphic communication, cablevision, electric energy, petroleum products, gas, gaseous vapors, hazardous liquids, or other substances and including, but not limited to pipes, sewers, conduits, cables, valves, lines, wires, manholes, and attachments.

1.4 IDENTIFICATION

A. All underground utilities known by Metro to be in the proposed work area are identified on the project Drawings.

B. The underground utilities identified on the Drawings have not and cannot be precisely located by Metro or its agents or engineers and location is approximate only. Metro, under this Contract, does not warrant the location of underground utilities.

C. NOTICE: Overhead electrical lines may not be completely shown on the Drawings. Electrical transmission lines which are shown on the Drawings are located by point to point, power pole to power pole connections. The transmission cables or wires may be located on either side of the drawing location depending upon the configuration of the crossarms on the power poles or towers. Line voltage is not shown.

1.5 NOTIFICATION

A. It is the responsibility of Contractor to give adequate notice to the owners of any utilities known or suspected to be within the area of any proposed excavation or construction activities. BPA and PGE maintain lines, poles, and easements through the Powerline Corridor.

B. Contractor is responsible to have the locations of underground utilities marked by the utility owners prior to beginning excavation.

C. Contractor is responsible for determining the extent of any hazard created by electrical power in all areas and shall follow procedures during construction as required by law and regulation. Prior to construction, Contractor shall meet with utility owners and determine the extent of hazards and remedial measures and shall take whatever precautions may be required.

D. Contractor's attention is directed to federal, state, and local safety codes relative to limitations of work in proximity to overhead power lines.

1.6 QUALITY ASSURANCE

A. Contractors shall cooperate with utility owners to aid in locations and maintenance of existing utilities.

1.7 ELECTRICAL TRANSMISSION AND SERVICE LINES

A. Since neither the Engineer nor Metro can anticipate the construction methods or techniques and equipment to be used by Contractor in performing the work, the extent of the possibility of Contractor's equipment and personnel coming in contact with electrical transmission lines cannot be fully anticipated, and there is no representation that all electrical transmission lines are shown on the Drawings.

B. Contractor is charged with the responsibility of observing and investigating the presence of any electrical transmission lines that might impinge on his work whether overhead or underground and shall consult with and utilize the information given by utility owners and operators to determine the extent of any hazards and remedial measures required, and follow appropriate safety procedures.

1.8 ABOVE GROUND UTILITIES

A. Existing above ground utilities, whether shown on the Drawings or not, shall be maintained, relocated, rerouted, removed and restored as may be necessary by Contractor in a manner satisfactory to owners and operators of the utilities.

1.9 UNDERGROUND UTILITIES

A. Existing major underground utilities and appurtenant structures within the area of excavation, whether shown on the Drawings or not shall be maintained, relocated, rerouted, removed and restored by Contractor.

B. Minor underground utility service lines, including but not limited to sanitary sewer services, gas services, water services, drains, leachate force main and electricity or telephone services and culverts shall be maintained, relocated, rerouted, removed and restored by Contractor with the least possible interference with such services.

1.10 RESTORATION BY UTILITY OWNER

A. The right is reserved by owners of public utilities and franchisee to enter upon any street, road, right-of-way, or easement for the purpose of maintaining their property and for making necessary repairs or adjustments caused by Contractor's operations.

B. Contractor shall save Metro harmless of any costs so incurred in restoration of a utility damaged by Contractor subject to the provisions of any law.

* * * END OF SECTION * * *

DIVISION 13 - SPECIAL CONSTRUCTION

INDEX

SECTION 13182

WELL EXTENSION

1. GENERAL

1.1 SCOPE

A. This work shall consist of the extension of existing monitoring well H-5 in Subarea 5 to the elevation shown on the Drawings.

B. This work must be done by a well constructor licensed in the state of Oregon.

C. All phases of this work must be done in the presence of the Geotechnical Engineer. Metro will be notified at least 48 hours in advance of performance of this work to ensure the availability of the Geotechnical Engineer.

D. These recommended extension procedures are specifically designed to eliminate on-site torch cutting and welding work due to the threat of igniting landfill gases and to maintain the integrity of the monitoring well. Contractor shall review the well and the recommended extension procedure prior to starting work. Modification of the procedure, if any, shall be presented by Contractor via the Shop Drawing process described in Section 01340.

E. Comply with Section 01100 as applicable.

F. Contractor shall take adequate precautions to prevent damage to well H-5 during extension activity and during related earthwork activities in the vicinity of H-5.

2. MATERIALS

A. Conform to Section 02610 and 02680 as applicable.

B. Metro will supply Contractor with 2-inch diameter stainless steel well casing.

3. EXECUTION

3.1 RECOMMENDED EXTENSION PROCEDURE

A. H-Series Wells

1. At an off-site location, cut a 3/4-inch wide by 2-foot long slot on one end of a maximum 10-foot long, 5 1/2-inch diameter steel pipe to allow it to slip over the "O" ring hasp on the surface monument. Weld an appropriate threaded coupling to the other end (top) of the steel pipe as shown on the Drawings.

2. Approach the well to be extended from upwind and monitor for hazardous gases emitting from the well cap and surrounding area. Take appropriate personal safety measures as described in Section 01100 of this Specification.

3. Unlock and remove steel pipe cap and PVC slipcap. Determine the vertical elevation of the 2-inch well casing by Survey methods to $\pm$0.01 feet.

4. Thread on a maximum 10-foot long section of 2-inch diameter stainless steel casing with vented PVC slipcap on top.

5. Place a stainless steel centralizer near the top of the 2-inch well casing.

6. Lower the new section of 5 1/2-inch steel pipe over the 2-inch well casing and the 4 1/2-inch steel surface monument. Survey the new top of the 2-inch casing as in (3) above.

7. Pack Type I Sand materials around the steel pipe to form a 3- to 5-foot high and minimum 5-foot radius berm as shown on the Drawings. All material placement against the steel pipe shall be done by hand. For additional protection, place a minimum of four blinking light barricades on the berm around the steel pipe. During construction maintain the berm at a minimum 3-foot height above the surrounding surface. Due to the risk of damage to the well, no heavy construction equipment is to work within 5 feet of the steel pipe.

8. Repeat steps 1-7 of this extension procedure for each successive raise, except the 5 1/2-inch diameter steel pipe would be threaded into the coupling. At the top of the last raise, install a concrete plug as shown and make a new steel pipe cap for the well to be extended (as shown). Paint the new surface monument pipe with rust proof paint and cap pipe.

9. Since the well will be lowered at the end of the Preload, do not grout inside of the steel pipe.

*** END OF SECTION ***

SECTION 13183

WELL ABANDONMENT

1. GENERAL

1.1 SCOPE

A. This work shall consist of the abandonment of existing monitoring wells B-3, B-5 and EPA-R. Refer to Drawings for approximate locations. These wells are to be abandoned in accordance with the recommended Method 1 procedure in Paragraph 3.1 below. Method 1 consists of backfilling each casing with grout.

B. All phases of this work must be coordinated with and performed in the presence of the Geotechnical Engineer. Metro shall be notified at least 48 hours in advance of the work to ensure the availability of the Geotechnical Engineer.

C. Reference "Abandonment of Monitoring Wells" report dated February 7, 1991, prepared by Cornforth Consultants, Inc. for additional monitoring well data and background information.

D. Contractor Requirements

1. Contractor shall be a well constructor licensed in the state of Oregon.

2. Contractor shall obtain all "Start Cards" and shall submit all required well abandonment information as required by the State of Oregon Water Resources Department Administrative Rules, Chapter 690, Division 410.

3. Contractor shall develop and comply with a site specific Health and Safety Plan for the well abandonment work, all in accordance with applicable state and federal regulations.

2. MATERIALS

2.1 GROUT

Provide a grout with a high solids granular sodium bentonite slurry having a minimum mud weight of 9.5 pounds per gallon and containing at least 20 percent solids.

3. EXECUTION

3.1 RECOMMENDED ABANDONMENT PROCEDURE

A. Method 1

1. Refer to Tables 1 and 2 for the necessary abandonment data.

2. Contractor shall check each well for obstructions by lowering a heavy pipe (or equivalent object) down the well to insure that the well is open to the bottom.

3. If a well is found to be plugged, Contractor shall attempt to clear the obstruction by jetting or other appropriate methods.

4. Remove the surface casing and cut the well casing using down-hole tools at the depth of casing cutoff indicated in Table 2.

5. Tremie grout the casing from the bottom with a high solids granular sodium bentonite slurry having a minimum mud weight of at least 9.5 pounds per gallon and containing at least 20 percent solids. Leachate forced out the top, as the grout fills the casing, shall be collected. Spillage of leachate onto the ground shall not be permitted.

6. The grout shall fill the casing from the present casing depth as indicated in Table 1 to within two (2) feet of the depth of casing cutoff indicated in Table 2.

7. While the grout is still liquid, the upper portion of the casing which was cut in part (4) above shall be pulled out.

8. The remaining open hole left after casing removal shall be backfilled with vermiculite or equivalent compressible material to within 5 feet of the surface.

9. The upper 5 feet shall be filled with grout to the surface.

10. Any leachate/water coming out of the wells during clearing, grouting, and removal of casing shall be immediately collected and disposed of in the existing leachate disposal system in Subarea 5.

SEE TABLE NEXT PAGE

*** END OF SECTION ***

Table 1. Abandonment Data, Method 1

Well No.	Casing Diameter/ Material (inches)	Original Casing Depth (feet)	Estimated Well Extension (feet)	Present Casing Depth (feet)	Leachate Depth (feet)	Surface Casing	Remarks
B-3	3" steel	39	--	39[b]	near surface[c]	8" CMP	plugged with bailer at unknown depth
B-5	3" steel	42	2	44[b]	21[c]	6" PVC	
EPA-R	2" stainless	48	10	58[a,b]	28[c]	6-1/2" steel	

[a] Does not include casing stickup

[b] Depth below 1990 ground surface within approximately ± 3 feet

[c] Depth below 1990 ground surface estimated from August 1990 leachate levels measured in adjacent H-Series monitoring wells and adjacent August 1990 slough water levels.

Table 2. Summary of Casing Cutoffs

Well No.	Casing Diameter/ Material (inches)	Present Surface Elevation (feet)	Design Subgrade Fill Above Surface (feet)	Design Fill Depth Above Surface (feet)	Estimated Settlement (feet)	Final Fill Depth Above Surface After Settlement (feet)	Recommended Depth of Casing Cutoff Below Present Ground Surface (feet)
B-3	3" steel	32	38	6	5	1	9
B-5	3" steel	33	37	4	15	-11	21
EPA-R	2" stainless	55	57	2	15	-13	23

SECTION 13184

SETTLEMENT MARKERS

1. GENERAL

This section covers the material and installation requirements for settlement markers to be installed under this project. All work shall be performed in close coordination and cooperation with the Engineer. Metro shall be notified at least forty-eight (48) hours in advance of performance of this work.

2. MATERIALS

2.1 SETTLEMENT MARKERS

Settlement markers shall consist of 3/4" steel plates, 2'x2' in plan, with 2" diameter steel pipe risers in 5-foot increments. Markers shall be manufactured in accordance with details shown in Plans.

2.2 LIGHTED BARRICADES

A. Lighted barricades, three (3) per settlement markers, shall consist of barricades with attached battery driven flashing lights. The lighted barricades used shall be per Contractors' Specification, subject to prior approval by the Engineer.

B. Contractor shall maintain the barricades, batteries, and flashing lights during the contract period.

3. EXECUTION

3.1 INITIAL INSTALLATION

The steel plate shall be placed on firm, level ground within a tolerance of plus or minus one inch. The first 5-foot riser pipe shall then be installed. Immediately after the first pipe is installed, the Engineer will take the initial set of survey readings for the markers.

3.2 PROTECTION BERMS

A. The Engineer will layout the locations of the settlement markers. Contractor shall request stakes at least three (3) calendar days in advance.

B. After the initial set of survey readings is taken by the Engineer, Contractor shall place the first 3-foot high settlement berm as shown in the Plans. Filling of the berm immediately around the settlement riser pipe shall be made by hand. Contractor shall exercise a great deal of care during any work around the markers, to minimize any disturbance to the markers.

C. Once the 3-foot high berm has been completed, Contractor shall place lighted barricades around the settlement pipe stickup as indicated in the Plans. The Engineer will then take a set of survey readings of the pipes.

D. After the pipe survey readings are taken, Contractor shall begin placement of preload fill in the vicinity of the berm. Contractor shall exercise care to minimize disturbance to the berms.

3.3 EXTENSION OF RISER PIPES

A. Once the preload fill is approximately 6 inches below the top of the settlement berm, Contractor shall stop preload placement near the berms. A new 5-foot riser pipe shall then be installed and the same procedure of pipe survey readings and placement of subsequent berms shall be followed in accordance with Paragraph 3.2.

B. Once the entire preload fill has been completed, and all settlement markers have been extended to their full height, a final 2-foot high berm, with lighted barricades, shall be placed by Contractor to allow for protection of the final settlement pipe stickups.

3.4 SETTLEMENT MARKERS MONITORING

A. All survey monitoring of settlement markers above, will be made by the Engineer in close coordination with Contractor.

C. Future survey monitoring of the settlement markers will be the responsibility of the Engineer.

*** END OF SECTION ***

APPENDICES

APPENDIX A

LANDFILL BRIDGE - ALLOWABLE LOADS

OBEC CONSULTING ENGINEERS

Transportation / Structural Engineering
Planning • Environmental Services

May 20, 1991

Linda Pang-Wright, P.E.
METRO
2000 SW First Avenue
Portland, OR 97201-5398

RE: Incinerator Road Bridge
OBEC Job No. 193-2

Dear Ms. Pang-Wright:

Enclosed are the results of our analysis and load rating of the existing Incinerator Road Bridge including one copy of the calculations as well as three copies each of the Load Rating Summary Report and Figure 1 depicting the five rating vehicles (Trucks 1 - 5).

The procedure for evaluating the existing structure was based on design parameters in accordance with AASHTO "Manual for Maintenance Inspection of Bridges 1983." The bridge was load rated by the "Working Stress" method for two service load levels; the Inventory Rating and the Operating Rating. The Inventory Rating is defined as that load which can safely utilize an existing structure for an indefinite period. The Operating Rating is defined as the maximum allowable load to which a structure may be subjected. The live loads used in establishing the Inventory and Operating Ratings for each member are shown in Figure 1. Trucks 2, 3, and 5 represent vehicle configurations that were supplied to OBEC by METRO as specific vehicles anticipated on the structure. Trucks 1 and 4 correspond to typical Oregon Legal Load Types T3 and 3-3 respectively.

Incinerator Road Bridge was built in 1957 and serves to provide access to the St. Johns Landfill. The total width of the bridge is 34'- 2", consisting of a 26' roadway, a 5'- 10" sidewalk and railing on the right side, and a 2'- 6" curb and railing on the left. The bridge superstructure consists of a 94' main span constructed of four 4'- 4" deep composite steel plate girders with a 7-1/2" concrete deck. The 25' approach spans at each end of the structure consist of six 12" x 21" precast reinforced concrete girders with a 7" composite concrete deck. The load rating was based on copies of the original as-built drawings dated 1957 as provided to us by METRO, as well as West Coast Steel shop drawings depicting revisions to the original plate girder details.

The most recent inspection did not reveal any problems that would result in section loss or reduction of capacity.

The longitudinal girders and the concrete decks were load rated in bending, for both impact and without impact. The distribution of wheel loads to the girders was based on current AASHTO factors for a two lane bridge. The steel girder span controlled all of the vehicle ratings both for Inventory and Operating levels. The Summary Report indicates that all of the vehicles except for Truck 3 have sufficient capacity at Inventory level including impact for the two lane loading. Truck 3 rates slightly below the legal load for two lane loading, but is well within the limits when one lane loading is considered.

Based on the results of our analysis and the most recent inspection, we do not see the need to restrict the bridge for any of the five loadings considered. The fact that Truck 3 with impact slightly exceeds the Inventory capacity for two lane loading should not be a problem since the bridge has plenty of reserve capacity before reaching the operating rating. The Inventory Ratings with impact represent the loads that can be permitted on the bridge without further review. We do feel that for any loads in excess of these ratings and for loadings of differing configuration, a review should be made prior to allowing such a vehicle on the bridge. OBEC will be available to perform such reviews under Task 2 of our agreement should the need arise.

Please do not hesitate to call if you have any questions.

Sincerely,

Gayle D. Harley, P.E.
Special Projects Engineer

GDH/djb
Enclosure

LOAD RATING SUMMARY REPORT

Bridge Name INCINERATOR RD. BR. No.

Rated By LHF Date 5/14/91

Checked By GDH Date 5/15/91

	With Impact		Without Impact		Suggested Posting
	Inventory Rating	Operating Rating	Inventory Rating	Operating Rating	
Truck 1 (25T)	34T	65T	41T	80T	-
Truck 2 (40T)	45T	87T	55T	107T	-
Truck 3 (44T)	38T / (49T) *	74T / (95T)	47T / (60T)	91T / (116T)	-
Truck 4 (40T)	40T	78T	49T	95T	-
Truck 5 (52.75T)	57T	110T	70T	135T	-

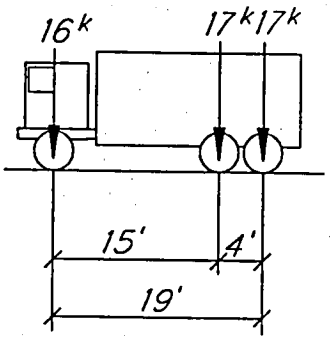
* RATINGS FOR ONE-LANE LOADING

ALL RATINGS CONTROLLED BY STEEL GIRDER SPAN

LOAD RATING VEHICLES

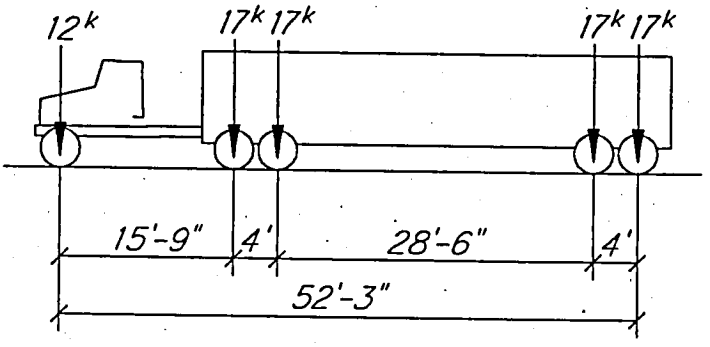
TRUCK 1 (T3)

50^{k} 25^{T}



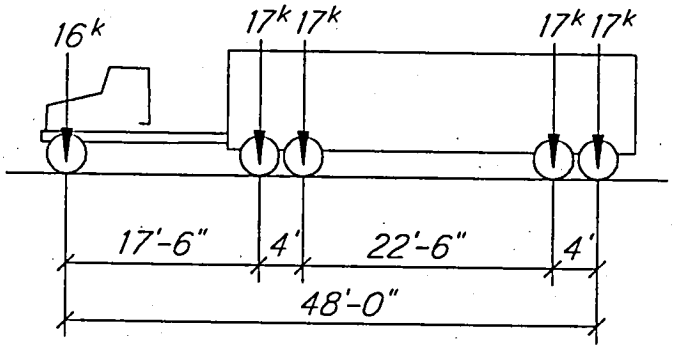
TRUCK 2

80^{k} 40^{T}



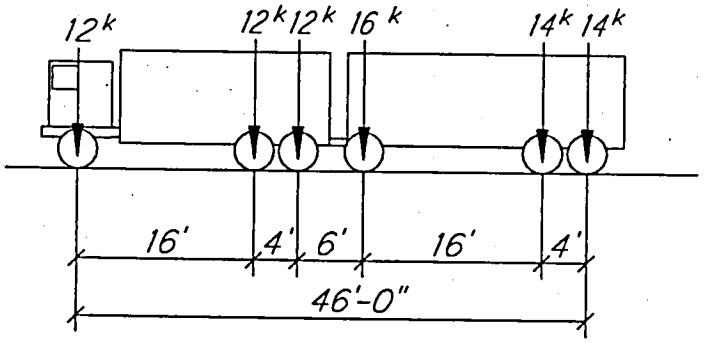
TRUCK 3

88^{k} 44^{T}



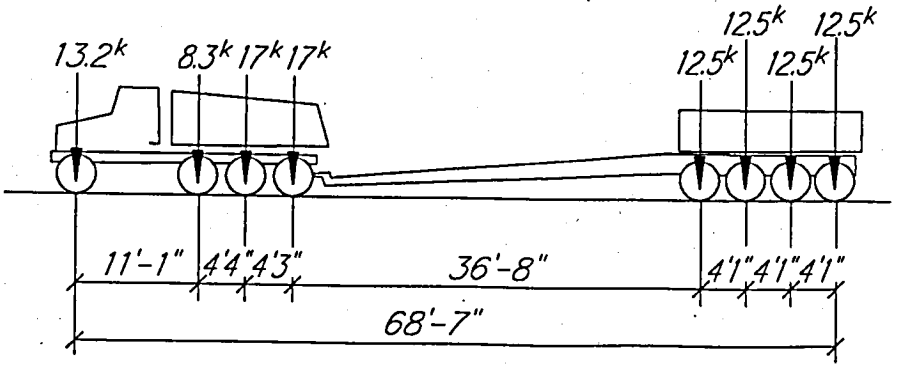
TRUCK 4 (3-3)

80^{k} 40^{T}



TRUCK 5

105.5^{k} 52.75^{T}



APPENDIX B

SITE CHARACTERIZATION/HEALTH & SAFETY HAZARDS

SOURCE:

Site Health & Safety
Plan prepared for Parametrix, Inc.
by Marine & Environmental Testing, Inc.,
July 25, 1990

IV. SITE CHARACTERIZATION

The St. Johns Landfill is located on the extensive floodplain at the confluence of the Columbia and Willamette Rivers. The site is generally flat in the anticipated work areas although there are areas of the site with slops which must be considered when operating heavy equipment. Elevations in the landfill range from 10 feet to 80 feet above sea level. Slops of up to 45° are present along the perimeter of the landfill.

The landfill is known to have accepted drums of 2,4-D manufacturing residues although a study completed by CH_2M Hill did not demonstrate levels of dioxin of concern for site workers. The site also routinely accepts asbestos waste.

Previous groundwater and leachate studies have evaluated water concentrations (see Appendix B). These studies have identified a variety of chemicals, however levels identified are low (part per billion range) and should not constitute a inhalation hazard to site workers.

Studies of the components of the landfill gases have also been conducted. These studies indicate that gases contain a variety of organic chemicals in low concentrations. These chemicals were monitored using passive organic vapor badges. Badges worn by field crew members did not detect any of these organics in the crew's breathing zones; however badges suspended

in monitoring wells overnight showed trace amounts of various organic chemicals. Concentrations of these chemicals were less than 100th of the 8-hour TLV, even though the badges measured a much longer time period. Chemicals detected by the badges included:

Compound	Results (mg/m^3)	TLV (mg/m^3)
1,2-Dichloroethane	0.008	40
Benzene-CCl_4	0.137	30
Isooctane	N.D.	--
Trichloroethylene	0.088	270
Toluene	0.051	375
Octane	0.019	1450
Tetrachloroethylene	N.D.	335
p-Xylene	0.381	435
m-Xylene	0.272	435
o-Xylene	0.230	435
Tetrachloroethane	N.D.	7

As with the leachate/water borne chemicals, these gases do not constitute a significant inhalation hazard. Gases of most concern on this project include **methane (fire hazard)** and **hydrogen sulfide (toxic inhalation hazard)**. These gases will be discussed in the site hazards section of the plan.

V. SITE HAZARDS

Chemical Hazards:

As was discussed in the Site Characterization section, airborne vapors and gases are not expected to be a problem with the exceptions of methane and hydrogen sulfide. Contact with the leachate should be avoided since some chemicals noted by previous studies may be skin absorbed and could also present ingestion hazards.

Hydrogen Sulfide:

Hydrogen Sulfide, (H_2S) is a naturally occurring toxic gas which is often present where sulfur containing organic material has decomposed. The gas is heavier than air and tends to concentrate in confined spaces rather than rise and dissipate. It is commonly found during drilling, well monitoring and excavating operations on municipal land fills. This gas has a characteristic "rotten egg" odor which is detectable at very at low concentrations; however, at higher levels it paralyzes the olfactory nerves so that potential lethal concentrations are not detectable. For this reason, H_2S is considered to have poor warning properties and air-purifying respirators are not allowed

for protection in concentrations above the TLV/PEL. H_2S causes pulmonary paralysis from high level acute exposures (>300 ppm), but is not of a concern from chronic, low level exposures (<STEL). The PEL for hydrogen sulfide is 10 ppm as an 8 hour TWA and 15 ppm as a 15 minute STEL. The Immediately Dangerous to Life or Health value (IDLH) is 300 ppm or 0.03%. These levels can easily be reached in confined spaces or bore holes during landfill operations, although exposures above the TLV in open air are unlikely. Monitoring by M&ET has demonstrated hydrogen sulfide levels at the mouth of monitoring well in the area in excess of the STEL. Workers will be monitored for the 8 hour TWA as well as "real time" monitoring for the STEL or any other peak exposures.

Asbestos Containing Materials:

Since the landfill routinely has accepted and continues to accept asbestos waste, it is possible that drilling or excavating may uncover or damage asbestos containing materials. Asbestos presents an increased risk for respiratory diseases including lung cancer and asbestosis if employees are exposed to friable, airborne asbestos fibers. Any suspect material noted (insulation, wrapped pipes, etc.) will be wetted to prevent fibers from becoming airborne and will immediately be brought to the attention of the Site Health and Safety Officer. If large quantities of asbestos are encountered, the respiratory protection may have to be modified.

Bio-Hazards:

Some areas of the landfill may contain medical wastes. More recently disposed of medical waste presents an increased risk of disease pathogens (microbial, viral, etc.) This type of waste is usually characterized by "Red Bags" and appropriate medical markings. Examples would include spent needles, syringes and wound dressings. Contact with this material should be avoided at all times. If any suspect materials are encountered, the Site Health and Safety Officer should be notified immediately.

Water/Leachate & Refuse Contaminants:

The other contaminants present in the waste residue and leachate are in low levels but still present concern from a high dust level inhalation or skin contact standpoint. If the amount of contaminated dirt that is breathed or skin contact with liquids is minimized (as near "zero" as possible), overexposure to other contaminants on the site is very remote. Use of good work practices such as dust control with water, good decontamination procedures, and personal hygiene practices designed to remove any contaminated soil before going on breaks will adequately protect the workers if there other contaminants present.

PHYSICAL HAZARDS

Fire/Explosion (Methane Gas):

Methane is not toxic but is a highly flammable gas. Methane is often found at landfills or whenever organic materials are decomposing. This gas can be explosive in confined conditions and always presents a significant increased fire risk (LEL: 5%; UEL: 15%); Fire and explosion hazards exist while digging or drilling through pockets of methane. Also, methane may displace air in an excavation pit, making the atmosphere within the excavation oxygen deficient. All drilling and excavating will be monitored for the presence of methane.

Heavy Machinery:

The use of machinery at the site poses hazards which need to be addressed. Only experienced personnel will operate drilling and excavating equipment on the site. All equipment will have operating backup alarms and horns. Barriers and/or banner guard will be placed around the exclusion zone (work area). Roll-over protection will be required on moving equipment such as backhoes when working on sloping surfaces which present increased risks of rollover. Equipment will be equipped with seat belts which will be used by operators. All equipment will have good functioning brakes. Personnel working around the equipment must watch where they are walking so not to step in front of moving equipment.

Heat Stress:

The use of PPE may lead to heat induced illness. This may occur while wearing PPE during heavy exertion, especially in elevated temperatures or if workers are not acclimated or have not had enough liquids in their diet. Alcohol, coffee, tea and caffeine-containing soft drinks should be avoided since they increase the rate of dehydration. The Site Health & Safety Officer will determine if heat stress poses a particular risk during the project, and will monitor the workers' temperature or pulse rate at the start of each break period when heat stress potential is high.

The normal work cycle will be:

work - 2 hours	rest - 15 minutes
work - 2 hours	lunch - 60 minutes
work - 2 hours	rest - 15 minutes
work - 2 hours	

Workers will monitor themselves and their buddy for signs of heat stress. The following guidelines for monitoring heat stress are from NIOSH and should be consulted as a reference.

If the worker's pulse exceeds 110 beats per minute at the start of a break period, the following work period should be shortened by 1/3. If at the start of the following break period the worker's pulse is still 110 beats per minute, shorten the following work period an additional 1/3.

Heat stroke victims are recognized by their dry skin (lesser degrees of heat related illness commonly cause very damp skin). They will be disoriented and probably will not be able to respond to commands or to help themselves.

Heat stroke is life threatening!!! Prompt treatment of heat stroke must be given at the site for anyone stricken by this illness. Treatment includes cooling the victim with whatever is at hand (ice water from on-site ice chest). Do not wait for medical services to arrive to begin treatment.

Falls/Trips:

As with all sites, caution must be exercised to prevent slips on rain slick surfaces, oily spots, etc. Never work on elevated platforms or drill towers without fall protection. All excavations and wells will be properly marked and guarded to prevent the unwary from falling into an open hole.

Noise:

The use of heavy machinery may lead to excessive noise exposure. Personnel in the immediate area must use hearing protection (eg.-foam inserts) if noise levels exceed 85 Db.

Confined Spaces:

Personnel are forbidden from entering any confined space (such as an excavation) unless the space is properly tested by the Site Health & Safety Officer or other competent person and all precautions required by the Site Health and Safety Officer are followed. A safety watch will always be required whenever a worker is in a confined space..

Weather Hazards:

Due to the hazard from electrical storms, site activities will cease if thunderstorms are present. High wind conditions may create a safety hazard for overhead equipment such as cranes or drill towers. Winds may also spread contamination and increase inhalation problems; winds causing excessive dust clouds or risk to operating equipment will require site activities to be curtailed. If excessive dust is a problem, it may be controlled by use of water spray.

Utilities:

No conductive material will be brought closer than 20 feet to any energized or suspect overhead transmission line. No drilling, excavating, etc. will be done where there may be any underground utility such as electrical lines or water/ gas pipes. If underground utilities are suspected, the local utility will be contacted so that they can properly locate the line. Some form of ground penetrating metal locator will be used for suspect areas. If work must be performed in the immediate area, the utility lines will be de-energized.

Task - Risk Analysis

Drilling: The primary hazards associated with drilling on this site include the mechanical hazards associated with heavy equipment operations, H_2S inhalation and fire from methane gas pockets. Exposure to low levels of chemicals in the water or soil pose a lower risk, however all of these hazards are significant and will be controlled by the following methods.

1. Risk - Chemical Exposure

Control- Workers will not eat, smoke, etc. at any time while in the exclusion (contaminated) zone. Workers will avoid any direct contact with leachate or garbage. Proper decontamination practices, followed by a hand and face wash prior to breaks and lunch, will be followed at all times. The Site Health & Safety Officer will closely monitor the work to ensure that these practices are followed. If dust or odors are excessive team members may use 1/2 face air purifying respirators with acid gas/organic vapor cartridges and dust pre-filters.

The use of Level B respiratory protection will be used when monitoring indicates that hydrogen sulfide exposures are above the 10 ppm TLV. Emergency rescue SCBAs will also be maintained in a state of readiness by the Site Health and Safety Officer.

The Site Health and Safety Officer will monitor hydrogen sulfide levels when ever H_2S is noted or expected. He/She will require work stoppage or evacuation as outlined in the monitoring section of the plan.

2. Risk- Methane Fire

Control- The Site Health and Safety Officer will continually monitor for the presence of methane in the work area. Work will be stopped and the site evacuated until adequately ventilated when flammable gas concentrations reach >10% LEL in the general work area atmosphere. Drill holes will be

monitored prior to any welding or hot work. Holes with methane concentrations > 10% LEL will be ventilated with a air hose prior to hot work such as casing welding. The air flow will be maintained in the hole during all hot work.

Suitable fire extinguishers will also be maintained on-site at all times.

3. Risk- Being struck by moving machinery (drill equipment, backhoes, etc.)

Control- Only experienced personnel will operate the equipment. All machinery will have operating backup alarms. Unauthorized personnel will not be allowed in the work area. Workers will be cautioned to look carefully where they walk to avoid moving machinery. The swing radius of moving equipment such as cranes or backhoes will be guarded or marked with barrier tape. The Site Health & Safety Officer will monitor the work to eliminate dangerous work practices; concurrent operations may have to be curtailed to prevent workers from being placed in dangerous proximity to moving heavy equipment.

4. Risk- Heat Stress

Control- Workers and the Site Health & Safety Officer will monitor vital signs such as pulse, and force fluids to prevent heat related illness. A source of cold water will be available to treat heat stroke and/or for liquid replacement. Proper training in limitations of PPE and heat stress will be required and reviewed as a part of this plan. Heat stress conditions will be monitored as outlined in the heat stress paragraph of the site hazards section of the plan. "Breathable" disposable coveralls such as Kleenguard will be used to help minimize the heat stress of the PPE.

5. Risk- Hazardous Atmospheres in Excavations

Hazards: Exposure to oxygen deficient, flammable, or toxic atmospheres.

Control- The Site Health & Safety Officer will test excavations prior to worker entry at the start of each day, and after breaks. Excavations will be ventilated as necessary.

6. Risk- Cave-in of Excavation

Control- Follow all OSHA regulations for shoring/ sloping the walls of the excavation. Use ladders to enter/exit excavations over four feet deep (do not use the bucket of a back-hoe as an elevator).

SOURCE:

Appendix A

Health and Safety Monitoring

Cornforth Consultants, Inc.
Oct. 1990, "Five Interior
Monitoring Wells, As Constructed, St Johns Landfill."

Inhalation of hydrogen sulfide (H_2S), fire from methane gas, and physical hazards associated with drilling and heavy equipment operations were primary hazards associated with installation of monitoring wells in the St. Johns Landfill. Monitoring for these gases was conducted during drilling and installation activities to assure personal and environmental safety. Drilling personnel were monitored with dosimeter tubes to measure personal hydrogen sulfide exposure. A portable combustible gas indicator along with hydrogen sulfide electro-chemical detectors were used to monitor the hazardous gases. Detector tube pumps were also used to monitor for hydrogen sulfide. Detailed notes of environmental and personal monitoring were maintained in the field.

Table A-1 is a summary of gas monitoring during the well drilling activities. Explosive gas was measured at levels greater than 20 percent of the Lower Explosive Limit (LEL), and most often at 100 percent LEL during all well drilling and installation. Prior to well drilling, hydrogen sulfide was detected from two EPA monitoring wells at levels above the OSHA permissible exposure limit (PEL=10 ppm). While drilling monitoring well H-5, hydrogen sulfide was detected at levels above the OSHA ceiling (C=20 ppm). After developing the monitoring wells, hydrogen sulfide was detected from two well casings (H-3 and H-5) at levels above the ceiling.

To decrease our risk of personal exposure, we used the portable gas monitors to outline an area of gas concentrations as a "plume" emitting from the top of the auger, drill hole, or well casing, then blowing downwind and rapidly dissipating. The rate of gas dissipation depended on its concentration and the wind velocity.

Exposure to hydrogen sulfide was minimized by approaching the well hole from the side or upwind and placing a large capacity fan to ventilate gases away from the workers and the drill rig. Occasionally, wafting air current brought hydrogen sulfide momentarily into the workers' breathing zone. However, personal dosimeter tubes showed no hydrogen sulfide exposure to the drill crew during the work. The fan also ventilated methane from around the drill crew and under the drill rig.

Work was performed for the most part in Level D personal protection equipment (PPE). Level C PPE was worn occasionally due to a combination of excessive odor, high concentrations of airborne dust, and exposure to low levels of hydrogen sulfide. Tyvek was worn as particulate protection, and Polycoat Tyvek was often worn to guard against splash.

SOURCE:
Cornforth Consultants, Inc.
Oct. 1990, "Five Interior Monitoring Wells, As Constructed, St Johns Landfill."

Table A-1
Summary of St. Johns Landfill Gas Monitoring

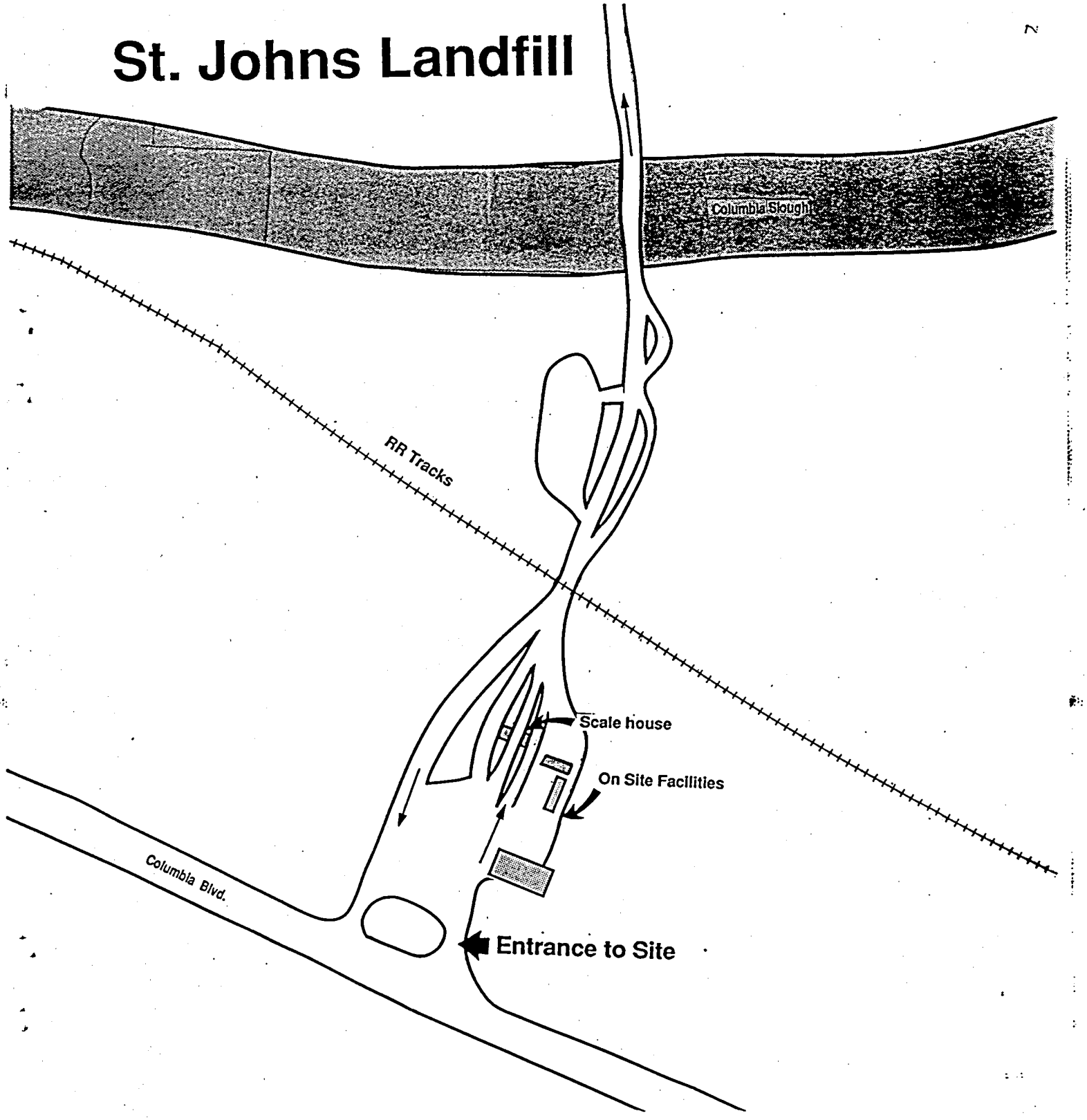
Well Site	H_2S (ppm)	LEL (%)	O_2 (%)	Test* Location	Date(s) (1990)
		OLD EXISTING WELLS			
EPA-B	13	100		1B	7/16
EPA-B	40			1B	7/30
EPA-B	20	100		1B	7/31
B-4		10		2B	7/16
A-2	0	100		2C	7/16
EPA-Q	10	100		2C	7/16
A-1	0	100		2C	7/16
EPA-O	16-18	100		1B	7/16
EPA-P		55-90			7/16
		NEW INTERIOR MONITORING WELLS			
H-1	0-3	100	18	1A	7/27-7/31
H-1	1-2	100	10	2B	8/27, 8/29
H-2	2	10-60		1A, 2A	8/14, 8/16
H-2	0	20		2C	8/29
H-3	1-5	<60		1A	8/20, 8/21
H-3	60-140	60		2C	8/27-8/29
H-4	9-18	100		1A	8/23, 8/24
H-4	1	100		2C	8/27, 8/29
H-5	2-22	100		2A	8/8-8/13
H-5	7-20	100		2C	8/29

*Test Locations:
1A Inside Auger During Drilling Activity
1B Inside Well Casing
2A Top of Auger During Drilling Activity
2B Top of Well Casing
2C Opening in Well Cap

APPENDIX C

SITE ACCESS

St. Johns Landfill



APPENDIX D

METRO CODE SECTION 2.04.100

METRO CODE SECTION 2.04.100
Disadvantaged Business Program
METROPOLITAN SERVICE DISTRICT
Revised February, 1990

2.04.100 Disadvantaged Business Program, Purpose and Authority:

(a) It is the purpose of this ordinance to establish and implement a program to encourage the utilization by Metro of disadvantaged and women-owned businesses by creating for such businesses the maximum possible opportunity to compete for and participate in Metro contracting activities.

(b) The portions of this ordinance which relate to federally funded contracts are adopted pursuant to 49 CFR 23 and are intended to comply with all relevant federal regulations. Federal regulation 49 CFR 23 and its amendments implement section (105)(f) of the Surface Transportation Assistance Act of 1982 relating to the participation by Minority Business Enterprises in Department of Transportation programs.

(c) This ordinance shall be known and may be cited as the "Metro Disadvantaged Business Program," hereinafter referred to as the "Program."

(d) This ordinance supersedes the Metro "Minority Business Enterprise (MBE) Program" dated October 1980 and amended December 1982.

(Ordinance No. 83-165, Sec. 1; amended by Ordinance No. 84-181, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.105 Policy Statement:

(a) Through this Program, Metro:

(1) expresses its strong commitment to provide maximum opportunity to disadvantaged and women-owned businesses in contracting;

(2) informs all employees, governmental agencies and the general public of its intent to implement this policy statement; and

(3) assures conformity with applicable federal regulations as they exist or may be amended.

(b) It is the policy of Metro to provide equal opportunity to all persons to access and participate in the projects, programs and services of Metro. Metro and Metro contractors will not discriminate against any person or firm on the basis of race, color, national origin, sex, sexual orientation, age, religion, physical handicap, political affiliation or marital status.

(c) The policies, practices and procedures established by this ordinance shall apply to all Metro departments and project areas except as expressly provided in this ordinance.

(d) The objectives of the program shall be:

(1) to assure that provisions of this ordinance are adhered to by all Metro departments, contractors, employees and USDOT subrecipients and contractors.

(2) to initiate and maintain efforts to increase program participation by disadvantaged and women businesses.

(e) Metro accepts and agrees to the statements of 49 CFR §23.43(a)(1) and (2), and said statements shall be included in all USDOT agreements with USDOT subrecipients and in all USDOT assisted contracts between Metro or USDOT subrecipients and any contractor.

(Ordinance No. 83-165, Sec. 2; amended by Ordinance No. 84-181, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.110 Definitions: For purposes of this Ordinance, the following definitions shall apply:

(a) APPLICANT -- one who submits an application, request or plan to be approved by a USDOT official or by Metro as a condition to eligibility for Department of Transportation (USDOT) financial assistance; and "application" means such an application, request or plan.

(b) CONSTRUCTION CONTRACT -- means a contract for construction of buildings or other facilities, and includes reconstruction, remodeling and all activities which are appropriately associated with a construction project.

(c) CONTRACT -- means a mutually binding legal relationship or any modification thereof obligating the seller to furnish supplies or services, including construction, and the buyer to pay for them. For purposes of this ordinance a lease or a purchase order of $500.00 or more is a contract.

(d) CONTRACTOR -- means the one who participates, through a contract or subcontract, in the Program and includes lessees.

(e) DEPARTMENT or "USDOT" -- means the United States Department of Transportation, including its operating elements.

(f) DISADVANTAGED BUSINESS ENTERPRISE or DBE -- means a small business concern which is certified by an authorized agency and:

(1) which is at least 51 percent owned by one or more socially and economically disadvantaged individuals, or, in the case of any publicly-owned business, at least 51 percent of the stock of which is owned by one or more socially and economically disadvantaged individuals; and

(2) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

For purposes of USDOT assisted contracts, the term Disadvantaged Business Enterprise shall be deemed to include Women-Owned Business Enterprises.

(g) EXECUTIVE DEPARTMENT -- means the State of Oregon's Executive Department.

(h) JOINT VENTURE -- is defined as an association of two or more businesses to carry out a single business enterprise for profit for which purpose they combine their property, capital, efforts, skills and knowledge. In a joint venture between a DBE/WBE and non-DBE/WBE, the DBE/WBE must be responsible for a clearly defined portion of the work to be performed and must share in the ownership, control, management responsibilities, risks and profits of the joint venture. A joint venture of a DBE/WBE and a non-DBE/WBE must receive Metro approval prior to contract award to be counted toward any DBE/WBE contract goals.

(i) LABOR AND MATERIALS CONTRACT -- is a contract including a combination of service and provision of materials other than construction contracts. Examples may include plumbing repair, computer maintenance or electrical repair, etc.

(j) LESSEE -- means a business or person that leases, or is negotiating to lease, property from a recipient or the Department on the recipient's or Department's facility for the purpose of operating a transportation-related activity or for the provision of goods or services to the facility or to the public on the facility.

(k) OREGON DEPARTMENT OF TRANSPORTATION OR "ODOT" -- means the State of Oregon's Department of Transportation.

(l) PERSONAL SERVICES CONTRACT -- means a contract for services of a personal or professional nature.

(m) PROCUREMENT CONTRACT -- means a contract for the purchase or sale of supplies, materials, equipment, furnishings or other goods not associated with a construction or other contract.

(n) RECIPIENT -- means any entity, public or private, to whom USDOT financial assistance is extended, directly or through another recipient for any program.

(o) SMALL BUSINESS CONCERN -- means a small business as defined pursuant to section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto.

(p) SOCIALLY AND ECONOMICALLY DISADVANTAGED INDIVIDUALS OR DISADVANTAGED INDIVIDUALS -- means those individuals who are citizens of the United States (or lawfully admitted permanent residents) and who are Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans or Asian-Indian Americans and any other minorities or individuals found to be disadvantaged by the Small Business Administration pursuant to section 8(a) of the Small Business Act. Certifying recipients shall make a rebuttable presumption that individuals in the following groups are socially and economically disadvantaged. Certifying recipients also may determine, on a case-by-case basis, that individuals who are not a member of one of the following groups are socially and economically disadvantaged:

(1) "Black Americans," which includes persons having origins in any of the Black racial groups of Africa;

(2) "Hispanic Americans," which includes persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Portuguese-American, Spanish culture or origin, regardless of race;

(3) "Native Americans," which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;

(4) "Asian-Pacific Americans," which includes persons whose origins are from Japan, China, Taiwan, Korea, Vietnam, Laos, Cambodia, the Philippines, Samoa, Guam, the U.S. Trust Territories of the Pacific, and the Northern Marianas; and

(5) "Asian-Indian Americans," which includes persons whose origins are from India, Pakistan, and Bangladesh.

(q) USDOT ASSISTED CONTRACT -- means any contract or modification of a contract between Metro and a contractor which is paid for in whole or in part with USDOT financial assistance.

(r) USDOT FINANCIAL ASSISTANCE -- means financial aid provided by USDOT or the United States Railroad Association to a recipient, but does not include a direct contract. The financial aid may be provided directly in the form of actual money, or indirectly in the form of guarantees authorized by statute as financial assistance services of Federal personnel, title or other interest in real or personal property transferred for less than fair market value, or any other arrangement through which the recipient benefits financially, including licenses for the construction or operation of a Deep Water Port.

(s) WOMEN-OWNED BUSINESS ENTERPRISE or WBE -- means a small business concern, as defined pursuant to section 3 of the Small Business Act and implementing regulations which is owned and controlled by one or more women and which is certified by an authorized agency. "Owned and controlled" means a business which is at least 51 percent owned by one or more women or, in the case of a publicly owned business, at least 51 percent of the stock of which is owned by one or more women, and whose management and daily business operations are controlled by one or more women. For purposes of USDOT assisted contracts, the term Disadvantaged Business Enterprise shall be deemed to include Women-Owned Business Enterprises.

(Ordinance No. 165, Sec. 3; amended by Ordinance No. 84-181, Sec. 2; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1; and Ordinance No. 88-252, Sec. 1)

2.04.115 Notice to Contractors, Subcontractors and Subrecipients: Contractors, subcontractors and subrecipients of Metro accepting contracts or grants under the Program which are USDOT-assisted shall be advised that failure to carry out the requirements set forth in 49 CFR 23.43(a) shall constitute a breach of contract and, after notification by Metro, may result in termination of the agreement or contract by Metro or such remedy as Metro deems appropriate. Likewise, contractors of Metro accepting locally-funded contracts under the Program shall be advised that failure to carry out the applicable provisions of the Program shall constitute a breach of contract and, after notification by Metro, may result in termination or such other remedy as Metro deems appropriate.

(Ordinance No. 83-165, Sec. 4; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.120 Liaison Officer:

(a) The Executive Officer shall by executive order, designate a Disadvantaged Business Liaison Officer and, if necessary, other staff adequate to administer the Program. The Liaison Officer shall report directly to the Executive Officer on matters pertaining to the Program.

(b) The Liaison Officer shall be responsible for developing, managing and implementing the program, and for disseminating information on available business opportunities so that DBEs and WBEs are provided an equitable opportunity to bid on Metro contracts. In addition to the responsibilities of the Liaison Officer, all department heads and program managers shall have responsibility to assure implementation of the Program.

(Ordinance No. 83-165, Sec. 5; amended by Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.125 Directory: A directory of DBEs and WBEs certified by ODOT or the Executive Department, as applicable shall be maintained by the Liaison Officer to facilitate identifying such businesses with capabilities relevant to general contracting requirements and particular solicitations. The directory shall be available to contract bidders and proposers in their efforts to meet Program requirements.

(Ordinance No. 83-165, Sec. 6; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.130 Minority-Owned Banks: Metro will seek to identify minority-owned banks within the policies adopted by the Metro Council and make the greatest feasible use of their services. In addition, Metro will encourage prime contractors, subcontractors and consultants to utilize such services by sending them brochures and service information on certified DBE/WBE banks.

(Ordinance No. 83-165, Sec. 7; amended by Ordinance No. 84-181, Sec. 3; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.135 Affirmative Action and Equal Opportunity Procedures: Metro shall use affirmative action techniques to facilitate DBE and WBE participation in contracting activities. These techniques include:

(a) Arranging solicitations, time for the presentation of bids, quantities specifications, and delivery schedules so as to facilitate the participation of DBEs and WBEs.

(b) Referring DBEs and WBEs in need of management assistance to established agencies that provide direct management assistance to such businesses.

(c) Carrying out information and communications programs on contracting procedures and specific contracting opportunities in a timely manner, with such programs being bilingual where appropriate.

(d) Distribution of copies of the program to organizations and individuals concerned with DBE/WBE programs.

(e) Periodic reviews with department heads to insure that they are aware of the program goals and desired activities on their parts to facilitate reaching the goals. Additionally, departmental efforts toward and success in meeting DBE/WBE goals

for department contracts shall be factors considered during annual performance evaluations of the department heads.

(f) Monitor and insure that Disadvantaged and Women Business Enterprise planning centers and likely DBE/WBE contractors are receiving requests for bids, proposals and quotes.

(g) Study the feasibility of certain USDOT-assisted contracts and procurements being set aside for DBE/WBE participation.

(h) Distribution of lists to potential DBE/WBE contractors of the types of goods and services which Metro regularly purchases.

(i) Advising potential DBE/WBE vendors that Metro does not certify DBE/WBEs, and directing them to ODOT until December 31, 1987, and, thereafter, to the Executive Department.

(j) Specifying purchases by generic title rather than specific brand name whenever feasible.

(k) Establishing an interdepartmental contract management committee which will meet regularly to monitor and discuss, among other issues, potential DBE and WBE participation in contracts. In an effort to become more knowledgeable regarding DBE and WBE resources, the committee shall also invite potential DBE and WBE contractors to attend selected meetings.

(l) Requiring that at least one DBE or WBE vendor or contractor be contacted for all contract awards which are not exempt from Metro's contract selection procedures and which are 1) for more than $500 but not more than $15,001 in the case of non-personal services contracts; and 2) for more than $2,500 but not more than $10,001 for personal services contracts. The Liaison Officer may waive this requirement if he/she determines that there are no DBEs or WBEs on the certification list capable of providing the service or item. For contracts over the dollar amounts indicated in this section, all known DBEs and WBEs in the business of providing the service or item(s) required shall be mailed bid or proposal information.

(m) The Executive Officer or his/her designee, may establish and implement additional affirmative action techniques which are designed to facilitate participation of DBEs and WBEs in Metro contracting activities.

(Ordinance No. 83-165, Sec. 8; amended by Ordinance No. 84-181, Sec. 4; Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.140 Certification of Disadvantaged Business Eligibility:

(a) To participate in the Program as a DBE or WBE, contractors, subcontractors and joint ventures must have been certified by an authorized certifying agency as described in subsection (b) of this section.

(b) Metro will not perform certification or recertification of businesses or consider challenges to socially and economically disadvantaged status. Rather Metro will rely upon the certification and recertification processes of ODOT and will utilize ODOT's certification list until December 31, 1987, and, thereafter, the Executive Department's list in determining whether a prospective contractor or subcontractor is certified as a DBE or WBE. A prospective contractor or subcontractor must be certified as a DBE or WBE by one of the above agencies, as applicable, and appear on the respective certification list of said agency, prior to the pertinent bid opening or proposal submission date to be considered by Metro to be an eligible DBE or WBE and be counted toward meeting goals. Metro will adhere to the Recertification Rulings resulting from 105(f) or state law, as applicable.

(c) Prospective contractors or subcontractors which have been denied certification by one of the above agencies may appeal such denial to the certifying agency pursuant to applicable law. However, such appeal shall not cause a delay in any contract award by Metro. Decertification procedures for USDOT-assisted contractor or potential contractors will comply with the requirements of Appendix A "Section by Section Analysis" of the July 21, 1983, Federal Register, Vol. 45, No. 130, p. 45287, and will be administered by the agency which granted certification.

(d) Challenges to certification or to any presumption of social or economic disadvantage with regard to the USDOT-assisted portion of this Program, as provided for in 49 CFR 23.69, shall conform to and be processed under the procedures prescribed by each agency indicated in paragraph (b) of this section. That challenge procedure provides that:

(1) Any third party may challenge the socially and economically disadvantaged status of any individual (except an individual who has a current 8(a) certification from the Small Business Administration) presumed to be socially and economically disadvantaged if that individual is an owner of a firm certified by or seeking certification from the certifying agency as a disadvantaged business. The challenge shall be made in writing to the recipient.

(2) With its letter, the challenging party shall include all information available to it relevant to

a determination of whether the challenged party is in fact socially and economically disadvantaged.

(3) The recipient shall determine, on the basis of the information provided by the challenging party, whether there is reason to believe that the challenged party is in fact not socially and economically disadvantaged.

(i) If the recipient determines that there is not reason to believe that the challenged party is not socially and economically disadvantaged, the recipient shall so inform the challenging party in writing. This terminates the proceeding.

(ii) If the recipient determines that there is reason to believe that the challenged party is not socially and economically disadvantaged, the recipient shall begin a proceeding as provided in paragraphs (b), (4), (5) and (6) of this paragraph.

(4) The recipient shall notify the challenged party in writing that his or her status as a socially and economically disadvantaged individual has been challenged. The notice shall identify the challenging party and summarize the grounds for the challenge. The notice shall also require the challenged party to provide to the recipient, within a reasonable time, information sufficient to permit the recipient to evaluate his or her status as a socially and economically disadvantaged individual.

(5) The recipient shall evaluate the information available to it and make a proposed determination of the social and economic disadvantage of the challenged party. The recipient shall notify both parties of this proposed determination in writing, setting forth the reasons for its proposal. The recipient shall provide an opportunity to the parties for an informal hearing, at which they can respond to this proposed determination in writing and in person.

(6) Following the informal hearing, the recipient shall make a final determination. The recipient shall inform the parties in writing of the final determination, setting forth the reasons for its decision.

(7) In making the determinations called for in paragraphs (b)(3)(5) and (6) of this paragraph, the recipient shall use the standards set forth in Appendix C of this subpart.

(8) During the pendency of a challenge under this section, the presumption that the challenged party is a socially and economically disadvantaged individual shall remain in effect." 49 CFR 23.69.

(Ordinance No. 83-165, Sec. 9; amended by Ordinance No. 84-181, Sec. 5; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1; and Ordinance No. 88-252, Sec. 1)

2.04.145 Annual Disadvantaged Business Goals:

(a) The Metro Council shall, by resolution each June, establish annual DBE goals and for locally-funded contracts, separate WBE goals for the ensuing fiscal year. Such annual goals shall be established separately for construction contracts, labor and materials contracts, personal services contracts, procurement contracts, and USDOT assisted contracts regardless of type.

(b) Annual goals will be established taking into consideration the following factors:

(1) projection of the number and types of contracts to be awarded by Metro;

(2) projection of the number, expertise and types of DBEs and WBEs likely to be available to compete for the contracts;

(3) past results of Metro's efforts under the Program;

(4) for USDOT-assisted contract goals, existing goals of other local USDOT recipients and their experience in meeting these goals; and

(5) for locally-funded contract goals, existing goals of other Portland metropolitan area contracting agencies, and their experience in meeting these goals.

(c) Annual goals for USDOT-assisted contracts must be approved by the United States Department of Transportation. 49 CFR §23.45(g)(3).

(d) Metro will publish notice that the USDOT-assisted contract goals are available for inspection when they are submitted to USDOT or other federal agencies. They will be made available for 30 days following publication of notice. Public comment will be accepted for 45 days following publication of the notice.

(e) Metro will publish notice regarding proposed locally-funded contract goals not later than ten (10) days prior to adoption of the goals.

(Ordinance No. 83-165, Sec. 10; amended by Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216; amended by Ordinance No. 87-231, Sec. 1; and Ordinance No. 88-252, Sec. 1)

2.04.150 Contract Goals:

(a) The annual goals established for construction contracts shall apply as individual contract goals for construction contracts over $50,000.

(b) The Liaison Officer may set a contract goal for any contract other than construction contracts over $25,000. The setting of such contract goal shall be made in writing prior to the solicitation of bids for such contract. Contract goals for contracts other than construction contracts over $50,000 shall be set at the discretion of the Liaison Officer and shall not be tied, necessarily, to the annual goal for such contract type.

(c) Even though no DBE/WBE goals are established at the time that bid/proposal documents are drafted, the Liaison Officer may direct the inclusion of a clause in any RFP or bid documents for any contract described in this section which requires that the prime contractor, prior to entering into any subcontracts, make good faith efforts, as that term is defined in Section 2.04.160, to achieve DBE/WBE participation in the same goal amount as the current annual goal for that contract type.

(d) Contract goals may be complied with pursuant to Section 2.04.160 and/or 2.04.175. The extent to which DBE/WBE participation will be counted toward contract goals is governed by the latter section.

(Ordinance No. 83-165, Sec. 11; repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1; and Ordinance No. 88-252, Sec. 1)

2.04.155 Contract Award Criteria:

(a) To be eligible for award of contracts containing a DBE/WBE goal, prime contractors must either meet or exceed the

specific goal for DBE and WBE participation, or prove that they have made good faith efforts to meet the goal prior to the time bids are opened or proposal are due. Bidders/Proposers are required to utilize the most current list of DBEs and WBEs certified by ODOT until December 31, 1987, and, thereafter, by the Executive Department, in all of the bidders'/proposers' good faith efforts solicitations. The address where certified lists may be obtained shall be included in all applicable bid/proposal documents.

(b) All invitations to bid or request for proposals on contracts for which goals have been established shall require all bidders/proposers to submit with their bids and proposals a statement indicating that they will comply with the contract goal or that they have made good faith efforts as defined in Section 2.04.160 to do so. To document the intent to meet the goals, all bidders and proposers shall complete and endorse a Disadvantaged Business Program Compliance form and include said form with bid or proposal documents. The form shall be provided by Metro with bid/proposal solicitations.

(c) Agreements between a bidder/proposer and a DBE/WBE in which the DBE/WBE promises not to provide subcontracting quotations to other bidders/proposers are prohibited.

(d) Apparent low bidders/proposers shall, by the close of the next working day following bid opening (or proposal submission date when no public opening is had), submit to Metro detailed DBE and WBE Utilization Forms listing names of DBEs and WBEs who will be utilized and the nature and dollar amount of their participation. This form will be binding upon the bidder/proposer. Within five working days of bid opening or proposal submission date, such bidders/proposers shall submit to Metro signed Letters of Agreement between the bidder/proposer and DBE/WBE subcontractors and suppliers to be utilized in performance of the contract. A sample Letter of Agreement will be provided by Metro. The DBE and WBE Utilization Forms shall be provided by Metro with bid/proposal documents.

(e) An apparent low bidder/proposer who states in its bid/proposal that the DBE/WBE goals were not met but that good faith efforts were performed shall submit written evidence of such good faith efforts within two working days of bid opening or proposal submission in accordance with Section 2.04.160. Metro reserves the right determine the sufficiency of such efforts.

(f) Except as provided in paragraph (g) of this section, apparent low bidders or apparent successful proposers who state in their bids/proposals that they will meet the goals or will show good faith efforts to meet the goals, but who fail to comply with paragraph (d) or (e) of this section, shall have their bids or proposals rejected and shall forfeit any required bid security

or bid bond. In that event the next lowest bidder or, for personal services contracts, the firm which scores second highest shall, within two days of notice of such ineligibility of the low bidder, submit evidence of goal compliance or good faith effort as provided above. This process shall be repeated until a bidder or proposer is determined to meet the provisions of this section or until Metro determines that the remaining bids are not acceptable because of amount of bid or otherwise.

(g) The Liaison Officer, at his or her discretion, may waive minor irregularities in a bidder's or proposer's compliance with the requirements of this section provided, however, that the bid or proposal substantially complies with public bidding requirements as required by applicable law.

(Ordinance No. 83-165, Sec. 12; amended by Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.160 Determination of Good Faith Efforts:

(a) Bidders or Proposers on USDOT-assisted contracts to which DBE goals apply must, to be eligible for contract award, comply with the applicable contract goal or show that good faith efforts have been made to comply with the goal. Good faith efforts should include at least the following standards established in the amendment to 49 CFR §23.45(h), Appendix A, dated Monday, April 27, 1981. A showing of good faith efforts must include written evidence of at least the following:

(1) Attendance at any presolicitation or prebid meetings that were scheduled by Metro to inform disadvantaged and women business enterprises of contracting and subcontracting or material supply opportunities available on the project;

(2) Advertisement in trade association, general circulation, minority and trade-oriented, women-focus publications, if any and through a minority-owned newspaper or minority-owned trade publication concerning the sub- contracting or material supply opportunities at least 10 days before bids or proposals are due.

(3) Written notification to a reasonable number but no less than five (5) DBE firms that their interest in the contract is solicited. Such efforts should include the segmenting of work to be subcontracted to the extent consistent with the size and capability of DBE firms in order to provide reasonable subcontracting opportunities. Each bidder should send solicitation letters inviting

quotes or proposals from DBE firms, segmenting portions of the work and specifically describing, as accurately as possible, the portions of the work for which quotes or proposals are solicited from DBE firms and encouraging inquiries for further details. Letters that are general and do not describe specifically the portions of work for which quotes or proposals are desired are discouraged, as such letters generally do not bring responses. It is expected that such letters will be sent in a timely manner so as to allow DBE sufficient opportunity to develop quotes or proposals for the work described.

(4) Evidence of follow-up to initial solicitations of interest, including the following:

(A) the names, addresses, telephone numbers of all DBE contacted;

(B) a description of the information provided to DBE firms regarding the plans and specifications for portions of the work to be performed; and

(C) a statement of the reasons for non-utilization of DBE firms, if needed to meet the goal.

(5) Negotiation in good faith with DBE firms. The bidder shall not, without justifiable reason, reject as unsatisfactory bids prepared by any DBE firms;

(6) Where applicable, the bidder must provide advice and assistance to interested DBE firms in obtaining bonding, lines of credit or insurance required by Metro or the bidder;

(7) Overall, the bidder's efforts to obtain DBE participation must be reasonably expected to produce a level of participation sufficient to meet Metro's goals; and

(8) The bidder must use the services of minority community organizations, minority contractor groups, local, state and federal minority business assistance offices and other organizations identified by the Executive Department's Advocate for Minority and Women Business that provide assistance in the recruitment and placement of DBEs and WBEs.

(b) Bidders or proposers on locally-funded contracts to which DBE/WBE goals apply shall achieve the applicable contract goal or demonstrate that they have made good faith efforts to achieve the goals. Good faith efforts shall include written documentation of at least the following actions by bidders:

(1) Attendance at any presolicitation or prebid meetings that were scheduled by Metro to inform DBEs and WBEs of contracting and subcontracting or material supply opportunities available on the project;

Documentation required: Signature of representative of bidder or proposer on prebid meeting attendance sheet.

(2) Identifying and selecting specific economically feasible units of the project to be performed by DBEs or WBEs to increase the likelihood of participation by such enterprises;

Minimum documentation required: At least the documentation required under subsection (4) below.

(3) Advertising in, at a minimum, a newspaper of general circulation, and trade association, minority and trade oriented, women-focused publications, if any, concerning the subcontracting or material supply opportunities on the project at least ten (10) days before bids or proposals are due;

Documentation required: copies of ads published.

(4) Providing written notice soliciting sub-bids/proposals to not less than five (5) DBEs or WBEs for each subcontracting or material supply work item selected pursuant to (2) above not less than ten (10) days before bids/proposals are due.

If there are less than five certified DBEs/WBEs listed for that work or supply specialty then the solicitation must be mailed to at least the number of DBEs/WBEs listed for that specialty. The solicitation shall include a description of the work for which subcontract bids/proposals are requested and complete information on bid/proposal deadlines along with details regarding where project specifications may be reviewed.

Documentation required: Copies of all solicitation letters sent to DBE/WBE along with a written statement from the bidder/proposer that all the

letters were sent by regular or certified mail not less than 10 days before bids/proposals were due.

(5) Making, not later than five days before bids/proposals are due, follow-up phone calls to all DBEs/WBEs who have not responded to the solicitation letters to determine if they would be submitting bids and/or to encourage them to do so.

Minimum documentation required: Log showing a) dates and times of follow-up calls along with names of individuals contacted and individuals placing the calls; and b) results attained from each DBE/WBE to whom a solicitation letter was sent (e.g., bid submitted, declined, no response). In instances where DBE/WBE bids were rejected, the dollar amount of the bid rejected from the DBE/WBE must be indicated along with the reason for rejection and the dollar amount of the bid which was accepted for that subcontract or material supply item.

(6) Using the services of minority community organizations, minority contractor groups, local, state and federal minority business assistance offices and other organizations identified by the Executive Department's Advocate for Minority and Women Business that provide assistance in the recruitment and placement of DBEs and WBEs; where applicable, advising and assisting DBEs and WBEs in obtaining lines of credit or insurance required by Metro or the bidder/proposer; and, otherwise, making efforts to encourage participation by DBEs and WBEs which could reasonably be expected to produce a level of participation sufficient to meet the goals.

Minimum documentation required: Letter from bidder/proposer indicating all special efforts made to facilitate attainment of contract goals, the dates such actions were taken and results realized.

(7) Notwithstanding any other provision of this section, bidders and proposers on locally-funded contracts to which DBE/WBE goals apply need not accept the bid of a DBE or WBE on any particular subcontract or material supply item if the bidder/proposer demonstrates that none of the DBEs or WBEs submitting bids were the lowest responsible, responsive and qualified bidders/proposers on that particular subcontract item and that the subcontract item was awarded to the lowest responsible, responsive bidder/proposer.

Metro reserves the right to require additional written documentation of good faith efforts and bidders and proposers shall comply with all such requirements by Metro. It shall be a rebuttable presumption that a bidder or proposer has made a good faith effort to comply with the contract goals if the bidder has performed and submits written documentation of all of the above actions. It shall be a rebuttable presumption that the bidder has not made a good faith effort if the bidder has not performed or has not submitted documentation of all of the above actions.

(Ordinance No. 83-165, Sec. 13; amended by Ordinance No. 84-181, Sec. 6 and Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1; and Ordinance No. 88-252, Sec. 1)

2.04.165 Replacement of DBE or WBE Subcontractors: Prime contractors shall not replace a DBE/WBE subcontractor with another subcontractor, either before contract award or during contract performance, without prior Metro approval. Prime contractors who replace a DBE or WBE subcontractor shall replace such DBE/WBE subcontractor with another certified DBE/WBE subcontractor or make good faith efforts as described in the preceding section to do so.

(Ordinance No. 83-165, Sec. 14; amended by Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.170 Records and Reports:

(a) Metro shall develop and maintain a recordkeeping system to identify and assess DBE and WBE contract awards, prime contractors' progress in achieving goals and affirmative action efforts. Specifically, the following records will be maintained:

(1) Awards to DBEs and WBEs by number, percentage and dollar amount.

(2) A description of the types of contracts awarded.

(3) The extent to which goals were exceeded or not met and reasons therefor.

(b) All DBE and WBE records will be separately maintained. Required DBE and WBE information will be provided to federal agencies and administrators on request.

(c) The Liaison Officer shall prepare reports, at least semiannually, on DBE and WBE participation to include the following:

(1) the number of contracts awarded;

(2) categories of contracts awarded;
(3) dollar value of contracts awarded;

(4) percentage of the dollar value of all contracts awarded to DBE/WBE firms in the reporting period; and

(5) the extent to which goals have been met or exceeded.

(Ordinance No. 83-165, Sec. 15; amended by Ordinance No. 84-181, Sec. 7, and Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.175 Counting Disadvantaged Business Participation Toward Meeting Goals:

(a) DBE/WBE participation shall be counted toward meeting the goals on each contract as follows:

(1) Subject to the limitations indicated in paragraphs (2) through (8) below, the total dollar value of a prime contract or subcontract to be performed by DBEs or WBEs is counted toward the applicable goal for contract award purposes as well as annual goal compliance purposes.

(2) The total dollar value of a contract to a disadvantaged business owned and controlled by both disadvantaged males and non-disadvantaged females is counted toward the goals for disadvantaged businesses and women, respectively, in proportion to the percentage of ownership and control of each group in the business.

The total dollar value of a contract with a disadvantaged business owned and controlled by disadvantaged women is counted toward either the disadvantaged business goal or the goal for women, but not to both. Metro shall choose the goal to which the contract value is applied.

(3) Metro shall count toward its goals a portion of the total dollar value of a contract with an eligible joint venture equal to the percentage of

the ownership and control of the disadvantaged or female business partner in the joint venture.

(4) Metro shall count toward its goals only expenditures to DBEs and WBEs that perform a commercially useful function in the work of a contract. A DBE or WBE is considered to perform a commercially useful function when it is responsible for execution of a distinct element of the work of a contract and carrying out its responsibilities by actually performing, managing and supervising the work involved. To determine whether a DBE or WBE is performing a commercially useful function, Metro shall evaluate the amount of work subcontracted, industry practices and other relevant factors.

(5) Consistent with normal industry practices, a DBE or WBE may enter into subcontracts. If a DBE or WBE contractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of normal industry practices, the DBE or WBE shall be presumed not to be performing a commercially useful function. The DBE or WBE may present evidence to Metro to rebut this presumption. Metro's decision on the rebuttal of this presumption is subject to review by USDOT for USDOT-assisted contracts.

(6) A DBE or WBE which provides both labor and materials may count toward its disadvantaged business goals expenditures for materials and supplies obtained from other than DBE or WBE suppliers and manufacturers, provided that the DBE or WBE contractor assumes the actual and contractual responsibility for the provision of the materials and supplies.

(7) Metro shall count its entire expenditure to a DBE or WBE manufacturer (i.e., a supplier that produces goods from raw materials or substantially alters them before resale).

(8) Metro shall count against the goals 60 percent of its expenditures to DBE or WBE suppliers that are not manufacturers, provided that the DBE or WBE supplier performs a commercially useful function in the supply process.

(9) When USDOT funds are passed-through by Metro to other agencies, any contracts made with those funds and any DBE participation in those contracts shall only be counted toward Metro's goals. Likewise, any

USDOT funds passed-through to Metro from other agencies and then used for contracting shall count only toward that agency's goals. Project managers responsible for administration of pass-through agreements shall include the following language in those agreements:

> (a) Policy. It is the policy of the Department of Transportation that minority business enterprises as defined in 49 CFR Part 23 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with federal funds under this agreement. Consequently, the MBE requirements of 49 CFR Part 23 apply to this agreement.
>
> (b) MBE Obligation. The recipient or its contractor agrees to ensure that minority business enterprises as defined in 49 CFR Part 23 have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with federal funds provided under this agreement. In this regard, all recipients or contractors shall take all necessary and reasonable steps in accordance with 49 CFR Part 23 to ensure that minority business enterprises have the maximum opportunity to compete for and perform contracts. Recipients and their contractors shall not discriminate on the basis of race, color, national origin or sex in the award and performance of USDOT-assisted contracts."

(b) DBE or WBE participation shall be counted toward meeting annual goals as follows:

> (1) Except as otherwise provided below, the total dollar value of any contract which is to be performed by a DBE or WBE is counted toward meeting annual goals.
>
> (2) The provisions of paragraphs (a)(2) through (a)(8) of this section, pertaining to contract goals, shall apply equally to annual goals.

(Ordinance No. 83-165, Sec. 16; amended by Ordinance No. 84-181, Sec. 8; and Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1; and Ordinance No. 88-252, Sec. 1)

2.04.180 Compliance and Enforcement:

(a) Metro shall reserve the right, at all times during the period of any contract, to monitor compliance with the terms of this chapter and the contract and with any representation made by a contractor prior to contract award pertaining to DBE and WBE participation in the contract.

(b) The Liaison Officer may require, at any stage of contract completion, documented proof from the contractor of actual DBE and WBE participation.

(Ordinance No. 83-165, Sec. 17; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

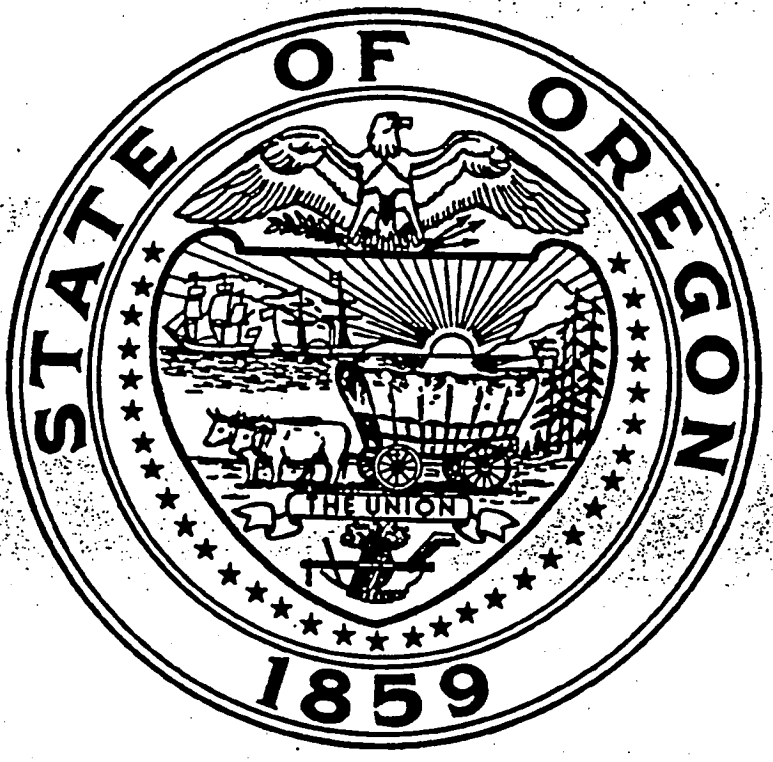
APPENDIX E

PREVAILING WAGE RATES

PREVAILING WAGE RATES

for

Public Works Contracts in Oregon



BOLI

Mary Wendy Roberts
Commissioner
Bureau of Labor and Industries

Effective January 1, 1991

BUREAU OF LABOR AND INDUSTRIES
Mary Roberts, Commissioner

January 1, 1991

This booklet contains the Prevailing Wage Rates for the building and construction trades in the State of Oregon. These rates are effective Jan 1, 1991. These rates have been amended in accordance with ORS 279.348 through ORS 279.365.

Prevailing Wage Rates are the minimum wages that must be paid to all workers employed in the construction, reconstruction, major renovation or painting of any public works. Copies of these rates must be incorporated into all bid specifications when the advertisement for a public works contract is issued. A provision that Prevailing Wage Rates be paid must also be put in the contract. The rates in effect at the time the bid specifications are first advertised are those that apply for the duration of the project, with one exception: if during the bidding process the Prevailing Wage Rates change, the public contracting agency has the option of amending the bid specifications to reflect such changes.

If you identify any errors in the rates published, please bring them to the attention of the Prevailing Wage Rate specialist in Portland (229-6655). If you have any questions about the manner in which the Prevailing Wage Rates are enforced, contact the Wage and Hour Division in Portland (229-5750).

MARY WENDY ROBERTS
Commissioner
Bureau of Labor and Industries

PORTLAND
1400 SW 5th Avenue
Portland, Oregon 97201

SALEM
3865 Wolverine St. NE; E-1
Salem, Oregon 97310

EUGENE
165 E. 7th Street, Suite 220
Eugene, Oregon 97401

MEDFORD
700 E. Main
Medford, Oregon 97504

COOS BAY
320 Central Ave., Suite 510
Coos Bay, Oregon 97420

BEND
1250 NE 3rd, Suite B105
Bend, Oregon 97701

PENDLETON
700 SE Emigrant, Suite 240
Pendleton, Oregon 97801

ANNOUNCEMENT

The Prevailing Wage Rates contained in this booklet generally reflect those rates determined for Oregon by the Secretary of Labor of the United States pursuant to the Davis-Bacon Act; certain changes have been made to better reflect prevailing practices in Oregon. Pursuant to ORS 279.348 to ORS 279.365, these rates have been adopted for use on public works contracts in Oregon. If you have specific questions regarding how rates are determined or if you would like a copy of this booklet, please contact:

Prevailing Wage Rate Analyst
Bureau of Labor and Industries
P.O. Box 800,
Portland, OR 97207-0800

(503)229-6655

The first copy is free. Additional copies are available for 75¢ each.

GENERAL INFORMATION

Information in this section and in the "Commonly Asked Questions" is meant to provide a convenient reference to Oregon's Prevailing Wage Rate Law. It is in no way a complete statement of the laws and rules.

If you have questions about the enforcement of Prevailing Wage Rates, please contact the Wage and Hour Division. Division offices may be reached at the following phone numbers:

Bend	388-6330
Eugene	686-7623
Medford	776-6201
Pendleton	276-7884
Portland	229-5750
Salem	378-3292

Apprentices and Trainees

Apprentices and trainees may be employed on public works. To qualify as an apprentice or trainee, the worker must be registered in a bonafide apprenticeship or training program of the U.S. Department of Labor, Bureau of Apprenticeship and Training (BAT) or with any State Apprenticeship and Training Agency recognized by BAT. The apprentice or trainee is to receive all fringe benefits and a percentage of the journeyman's wage rate; the appropriate percentage shall be determined by the apprenticeship or training committee. All other workers must receive rates as published.

Zone Pay

In certain trades, the basic hourly rate of pay progressively increases based upon the distance between the job site and a designated landmark; this is commonly referred to as zone pay. To determine the hourly wage, find the correct zone based on the number of road miles the job site is from the closest designated city (based either on distance from city hall or from geographical center of the city, depending on the trade) and add the amount for that zone to the basic hourly rate. Zone pay, unlike travel pay, is the basic hourly wage upon which overtime is computed.

Bid Specifications

The specifications for every public works contract must include the current Prevailing Wage Rates in effect at the time the specifications are first advertised. A statement incorporating the existing rates by reference will not satisfy this requirement (ORS 279.352).

NOTE: If a public agency fails to include the Prevailing Wage Rates in the contract specifications or fails to include in the contract the provision that Prevailing Wage Rates must be paid, the liability for any unpaid prevailing wages could be exclusively that of the agency.

Fringe Benefits

Payments for fringe benefits are in addition to the basic hourly rate. Fringe benefits means the amount for:

a) medical or hospital care; pensions on retirement or death; compensation for injuries or illness resulting from an occupational activity, or insurance to provide any of the foregoing;
b) unemployment benefits, life insurance, disability and sickness insurance or accident insurance;
c) vacation and holiday pay;
d) defraying costs of apprenticeship or other similar programs; and
e) other such bona fide benefits.

NOTE: For the purpose of Prevailing Wage Rates, fringe benefits do not include any benefits which may be required by federal, state or local law (e.g. Workers' Compensation, Unemployment Insurance, etc.).

Fringe benefits may be paid to the worker in cash or to a third party administering a fringe benefit program. When an hourly rate in excess of the required prevailing base rate is paid, the amount by which the rate is exceeded may be credited toward payment of fringe benefits.

Overtime

Workers employed on a public works job for more than eight hours in a day or 40 hours in a week must be paid overtime for each additional hour so worked (ORS 279.334). Overtime is calculated at no less than one and one-half times the basic hourly rate as determined by the Commissioner of Labor (not including fringe benefits which are paid at the straight rate for every hour worked). In the computation of overtime, travel pay does not need to be included but zone pay differentials do.

Work performed on Saturday, Sunday or legal holidays must also be compensated at time and one-half. Legal holidays for purposes of Prevailing Wage Rates include the following: 1) New Year's Day on January 1; 2) Memorial Day on the last Monday in May; 3) Independence Day on July 4; 4) Labor Day on the first Monday in September; 5) Thanksgiving Day on the fourth Thursday in November; 6) Christmas Day on December 25.

NOTE: Contractors who are signatory to a collective bargaining agreement may be subject to different overtime requirements (ORS 279.334[3]).

Certification of Payroll

The law requires every contractor and subcontractor to file certain information on wages paid to each worker employed on a public works contract. This statement must completely and accurately reflect payroll records for the work week immediately preceding the submission. A contractor or subcontractor must complete and submit the certified statement contained on Form WH-38 as well as the information required on the weekly payroll side of the form. A copy of Form WH-38 and instructions for completing it are included in the back of this booklet; xeroxed copies may be used for filing.

The schedule for submitting payroll information is as follows: once within 15 days of the date the contractor or subcontractor first began work on the project and once before the final inspection of the project by the public contracting agency; in addition, for projects exceeding 90 days, submissions are to be made at 90 day intervals. Payroll information is to be filed with both the public contracting agency and the Wage and Hour Division, Bureau of Labor and Industries, P.O. Box 800, Portland, Oregon 97201-0800. The payroll information must be kept by the contractor and or subcontractor for three years.

COMMONLY ASKED QUESTIONS

1) What are "Prevailing Wage Rates?"

A prevailing wage rate is the minimum wage, including fringe benefits to be paid workers employed on contracts for public works. Different rates are established for specific trades and specific geographical areas.

2) Who must be paid "Prevailing Wage Rates?"

All employees of a contractor or subcontractor engaged on a public works project when the total price of the project is $10,000 or more must receive at least the Prevailing Wage Rate (PWR) for time worked on the project, unless otherwise exempt.

Supervisory and office/clerical employees are not required to be paid the PWR. A person who owns and operates his/her own truck on construction projects (Owner/Operator) is not required to be paid the PWR.

3) What about contracts when Federal funds are used?

When more than $2,000 of federal funds are involved, the contract is usually subject to the provisions of the Davis-Bacon Act, not Oregon statutes. Further information may be obtained from the U.S. Department of Labor, Wage and Hour Division, Portland, Oregon (326-3057). However, in the event that federal funds are involved, but the contract is not regulated under Davis-Bacon, Oregon's Prevailing Wage Rates Statutes may apply (ORS 279.348 - 279.365).

4) I don't have a pension fund. How do I calculate fringe benefits?

Workers must receive at a minimum the sum of the basic hourly rate plus all fringe benefits for each hour worked on a public works contract. Fringe benefits may be paid either to a third party trust account or in cash directly to the worker.

5) My employees receive health benefits. Do I get credit for the health benefit when I prepare my payroll on a public works project?

Yes. Any expenditures an employer makes for bona fide employee benefits can be charged against the fringe benefit payments designated in the Prevailing Wage Rate Booklet. To learn how to compute the correct hourly charge, call the Wage and Hour Division (229-5750).

6) What if the employees are not paid on an hourly basis?

All workers must receive at least the basic hourly rate of wage and fringe benefits for each hour worked on the project. If an employee is paid other than on an hourly basis, the equivalent hourly rate (for both wages and fringe benefits) must still be at least equal to the rates published.

7) How do I classify workers?

Virtually all of the job classifications/trades normally used in the construction industry are represented by the job classifications used in this PWR publication. These classification titles should be used according to common practice. Try to fit your workers into existing classifications. If you have questions about how to classify workers, contact the Wage and Hour Division at 229-5750 in Portland or at one of the offices listed on page 1 of this booklet.

Laborers who do basic work requiring no specific skills, training or knowledge are generally classified as Group 1 Laborers.

(Note that Landscapers are classified as Laborers, and Ornamental Ironworkers are classified as Ironworkers.)

8) When are new rates determined? How long are they effective?

Prevailing Wage Rates are determined once each year by the Commissioner of the Bureau of Labor and Industries. The Commissioner may amend the rates at any time. The rates are usually amended at least once each year. The rates in effect at the time the bid specifications are first advertised are those that apply for the duration of the contract, with one exception. If during the bidding process the prevailing wage rate changes, the public contracting agency (not the contractor) has the option of amending the bid specifications to reflect such change.

9) How do I post Prevailing Wage Rates?

Every contractor or subcontractor employing workers on a public works project is required to post the applicable Prevailing Wage Rates in a conspicuous and accessible place in or about the work-site. Rates need to be posted for the duration of the job. Contractors and subcontractors who intentionally fail to post the PWR can be made ineligible to receive any public works contract for up to three years.

10) What can I do about a contractor who is not complying with Oregon's PWR law?

File a complaint with the nearest office of the Oregon Bureau of Labor and Industries or contact the Wage and Hour Division, Bureau of Labor and Industries, 1400 S.W. 5th Avenue, Portland, Oregon 97201 (229-5750). Other Bureau offices are located in Bend (388-6330), Coos Bay (269-4575), Eugene (686-7623), Medford (776-6013), Pendleton (276-7884) and Salem (378-3292). You may also complain to the contracting agency, which has the contractual authority to pay PWR claims directly to a contractor's or subcontractor's workers (ORS 279.314).

11) What happens to contractors who do not comply with PWR statutes?

Contractors and subcontractors who pay less than the Prevailing Wage Rates may be liable to the workers affected for the amount found due plus an equal amount as liquidated damages (ORS 279.356). Contracting agencies also have the contractual authority to withhold payments due or to be due to the contractor or subcontractor in order to pay the unpaid prevailing wages directly to the worker (ORS 279.314).

Contractors and subcontractors who intentionally refuse to pay the Prevailing Wage Rate to workers employed on public works or to post the PWR on the job site may be determined to be ineligible to receive any public works contracts for a period of up to three years (ORS 279.361). Workers employed by the contractor or subcontractors have a right of action against the surety of the prime contractor for any unpaid prevailing wages.

A list is kept of all contractors, subcontractors, and other persons ineligible to receive public works contracts and subcontracts. When a contractor or subcontractor is a corporation, the individual officers and agents of the corporation can be debarred, in addition to the corporation. As a result, individuals who intentionally fail to pay or post the PWR are prevented from simply moving from one corporation to another.

12) How much do I pay apprentices?

To qualify as an apprentice, the worker must be registered in a bona fide apprenticeship program of the U.S. Department of Labor, Bureau of Apprenticeship and Training (BAT) or with any State Apprenticeship Agency recognized by BAT. The apprentice is to receive all fringe benefits and a percentage of the journeyman's wage rate; the appropriate percentage shall be determined by the apprenticeship committee. All other workers receive rates as published.

13) What records must I keep? For how long?

Contractors and subcontractors are required to keep records necessary for determining if Prevailing Wage Rates were paid. These records must include the Payroll and Certified Statement Form (WH-38) as well as the following: The name and address of each employee; the work classification(s) of each employee; the rate(s) of wages and fringe benefits paid to each employee; the rate(s) of fringe benefit payments made in lieu of those required to be provided to each employee; total daily and weekly compensation paid to each employee; daily and weekly hours worked by each employee; apprenticeship and training agreements; any payroll and other such records pertaining to the employment of employees upon a public works contract.

These need to be kept for a period of three (3) years from the completion of the public work contract. Records relating to public works contracts must be maintained separately from records relating to private projects/ contracts.

14) What forms are public agencies required to file with the Bureau of Labor and Industries?

Public agencies are required to prepare and file with the Commissioner of the Bureau of Labor and Industries a list of every public improvement that the agency intends to fund during the subsequent budget period (ORS 279.023[2]). If, after the original filing, the agency plans additional public improvements, a revised list is to be submitted (OAR 839-16-008[2]).

The "Notice of Award of Public Works Contract" is to be filed with the Wage and Hour Division within 30 days of the date when a contract is awarded which requires the payment of Prevailing Wage Rates (i.e., is regulated under ORS 279.348 to 279.365).

Copies of the "Planned Public Improvement Summary" (Form No. WH-118), the "Capital Improvement Project Cost Comparison Estimate" (WH-119), and the "Notice of Award of Public Works Contract" (WH-81) can be found at the back of this booklet.

15) Does a contracting agency have any power to enforce payment of Prevailing Wage Rates on its public works projects?

Yes. According to ORS 279.314, all public contracts for work or services must contain a clause or condition permitting the contracting agency to pay a worker's past due wage claim, charging the payment against funds due or to become due to the contractor.

NOTE

There have been several changes in addition to the usual wage and fringe up-dates in the section which follows. We have attempted to make them more noticeable by printing them in bold type. You will find such changes under the following trades.

DREDGING

A zone pay differential has been added.

GLAZIER

A hazard pay differential has been added to both area 1 and area 2.

LABORERS

A Hazardous Waste Removal differential and fringe benefit supplement have been added.

LINE CONSTRUCTION

A change will occur on February 1, 1991, which will affect all six groups' fringe benefits and the basic wage rate of group 3. This has been included.

POWER EQUIPMENT OPERATORS

- The number of groups has been reduced from 18 to 6.
- The group classifications have been completely overhauled.
- The Less-Than-100% base wage rate has been dropped.
- A Hazardous Waste Removal differential and fringe benefit supplement has been added.

SHEETMETAL WORKERS

A hazard pay and unusual job condition differential has been added to Areas 1, 2, and 3.

TENDERS TO MASON TRADES

A hazard pay and unusual job condition differential has been added.

TRUCK DRIVERS

A Hazardous Waste Removal differential and fringe benefit supplement have been added.

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

ASBESTOS WORKERS

Installation of insulation on mechanical systems*

Journeyman Asbestos Worker

o Projects in buildings which are not used for manufacturing, manufacturing services or similar processes (Offices, schools, laboratories, etc.)	17.25	4.68
o Projects in buildings which are used for manufacturing, manufacturing services and similar processes (water treatment plants, electrical generating plants, road maintenance shops, etc.)	18.60	4.68

Removal of insulation on mechanical systems* which are not going to be scrapped.**

o Hazardous Materials Handler Mechanic (in any type of project regardless of value)	12.00	2.45

* Mechanical systems include pipes, boilers, ducts, flues, breechings, etc.

** The removal of all insulation materials from mechanical systems is exclusively the work of Asbestos Workers, unless the mechanical systems are going to be scrapped. It does not matter whether the insulation materials contain asbestos. Laborers do all removal of insulation materials on mechanical systems to be scrapped and any non mechanical (walls, ceilings, floors, beams, etc.) insulation. They also do loading of any insulation materials that have already been removed, bagged and tagged,as well as cleanup at the removal site and all work done at the disposal site. Laborers performing asbestos removal are classified as Group 3 laborers.

BOILERMAKERS

o Erection and repair of storage tanks, tower tanks, standpipes, swimming pools and reservoirs.	20.58	5.27
o All other work	21.79	5.27

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

BRICKLAYERS/STONEMASONS

Area 1 (add $0.75 per hour to Fringe for Refractory repair work.)	18.88	4.58
Area 2	18.00	4.37

Area 1

Baker	Hood River	Polk	Wallowa
Clackamas	Malheur (a)	Sherman	Wasco (b)
Clatsop	Marion	Tillamook	Washington
Columbia	Morrow	Umatilla	Yamhill
Gilliam	Multnomah	Union	

Area 2

Benton	Douglas	Josephine	Linn
Crook	Grant	Klamath	Malheur (c)
Coos	Harney	Lake	Wasco (d)
Curry	Jackson	Lane	Wheeler
Deschutes	Jefferson	Lincoln	

a) North half
b) North of the City of Maupin
c) South half
d) Including the City of Maupin and South thereof

CARPENTERS (see page 16)

CEMENT MASONS

Zone 1 (Base Rate):		
o Group 1	17.14	5.27
o Group 2	17.48	5.27
o Group 3	17.48	5.27
o Group 4	17.83	5.27

Group 1 Cement Masons, hand chipping and patching grouting, end pointing, screed setting, plugging, filling bolt holes, dry packing, setting curb forms, planks, stakes, lines and grades.

Group 2 Composition Workers (includes installation of epoxy & other resinous toppings), and Power Machine Operators.

Group 3 Cement masons working on suspended, swinging and/or hanging scaffold.

Group 4 Cement Masons performing work of both Group 2 and Group 3 at the same time.

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

CEMENT MASONS (continued)

Zone Differential for Cement Masons
(Add to Zone 1 Rate)

Zone 2	.65
Zone 3	1.15
Zone 4	1.70
Zone 5	2.75

Zone 1: Projects within 30 miles of City Hall in the cities listed below.
Zone 2: More than 30 miles but less than 40 miles.
Zone 3: More than 40 miles but less than 50 miles.
Zone 4: More than 50 miles but less than 80 miles.
Zone 5: More than 80 miles.

Cities

Bend	Corvallis	Coos Bay	Roseburg	Eugene
Pasco	The Dalles	Medford	Longview	K. Falls
Salem	Pendleton	Astoria	Portland	Newport

DIVERS & DIVERS' TENDERS

o Divers	44.61	4.02
o Divers' Tenders	19.72	4.02

Depth Pay and Enclosure Pay are added to the Divers' Basic Hourly Rate to obtain the Total Hourly Rate for the diver.

BASIC HOURLY RATE	+	HOURLY DEPTH PAY	+	HOURLY ENCLOSURE PAY	=	DIVERS' TOTAL HOURLY PAY

o Divers' Depth Pay

Depth of Dive	Hourly Depth Pay
50-100 ft	([total ft- 50] x $1.00)/hr.
100-150 ft	$ 50 + ([total ft-100] x $1.50)/hr.
150-200 ft	$125 + ([total ft-150] x $2.00)/hr.

o Divers' Enclosure Pay(working without vertical escape)

Distance Travelled In the Enclosure	Hourly Enclosure Pay
5 - 50 ft	$ .50/hr
50 - 100 ft	$ .63/hr
100 - 150 ft	$ 2.13/hr
150 - 200 ft	$ 4.63/hr
200 - 300 ft	$ 4.63 + ([total ft-200]x $.05)/hr
300 - 450 ft	$ 9.63 + ([total ft-300]x $.10)/hr
450 - 600 ft	$24.63 + ([total ft-450]x $.20)/hr

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

DREDGING

Zone 1 (Base Rate):		
o Leverman-Hydraulic	20.07	5.17
o Leverman-Dipper	20.88	5.17
o Asst. Engineer (including: Watch Engineer, Welder, Mechanic, Machinist)	19.45	5.17
o Tenderman (Boatman, Attending Dredge Plan); Fireman	18.98	5.17
o Assistant Mate (Deckhand); Oiler	18.58	5.17

Zone Differential for Dredging
(Add to Zone 1 Rate)

Zone 2	**1.50**
Zone 3	**1.90**
Zone 4	**2.40**
Zone 5	**3.00**

Zone 1: Center of job site not more than 15 miles from the City Hall of Portland
Zone 2: More than 15 miles but not more than 30
Zone 3: More than 30 miles but not more than 50
Zone 4: More than 50 miles but not more than 70
Zone 5: More than 70 miles.

DRYWALL/WETWALL

o Drywall (Accoustical and Drywall Applicator)	17.55	4.77
o Wetwall (Lather)	16.50	5.82

ELECTRICIANS

Area 1:		
o Electricians	17.90	3.35
o Cable Splicers	19.69	3.43
Area 2:		
o Electricians	20.71	5.63
o Cable Splicers	21.75	5.66
Area 3:	17.35	5.32
Area 4:	19.15	3.77
Area 5:		
o Electricians	21.35	5.74
o Cable Splicers	22.10	5.76
Area 6:		
o Electricians	17.83	4.98
o Cable Splicers	19.61	5.04

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

ELECTRICIANS (continued)

Area 1	Area 2	Area 2(cont)	Area 3
Malheur	Baker	Umatilla	Coos
	Gilliam	Union	Curry
	Grant	Wallowa	Lincoln
	Morrow	Wheeler	Douglas (a)
			Lane (a)

Area 4	Area 5	Area 6
Benton	Clackamas	Harney
Crook	Clatsop	Jackson
Deschutes	Columbia	Josephine
Jefferson	Hood River	Klamath
Lane (b)	Multnomah	Lake
Linn	Sherman	Douglas (b)
Marion	Tillamook	
Polk	Wasco	
Yamhill(c)	Washington	
	Yamhill (d)	

a) Those portions lying west of a line North and South from the NE corner of Coos County to the SE corner of Lincoln County
b) That portion lying east of a line running North and South from the NE corner of Coos County to the SE corner of Lincoln County
c) South half
d) North half

ELEVATOR CONSTRUCTORS

Area 1		
o Mechanic	18.80	5.23 + a
o Helper	13.16	5.23 + a
o Probationary Helper	9.40	-
Area 2		
o Mechanic	20.95	5.23 + a
o Helper	14.67	5.23 + a
o Probationary Helper	10.48	-

a) Plus 8% of basic hourly rate for employees with more than 5 years of service; 6% of basic hourly rate for 6 months to 5 years of service.

Area 1	Area 2
Umatilla	All
Wallowa	Remaining
Union	Counties
Baker	

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

GLAZIERS

Area 1	18.95	3.25
(Add $1.00 to base rate if safety belt is required by State safety regulations)		
(Add $4.00 to base rate for work done from a non-motorized single-man bosun chair)		
Area 2	14.36	2.44
(Add $0.50 to base rate if working at over 35 feet of free fall in height)		

Area 1	Area 2
All Counties except Malheur	Malheur

HIGHWAY AND PARKING STRIPERS

	18.00	2.00

IRONWORKERS

o Structural, Reinforcing, Ornamental, Riggers, Fence Erectors, Signal Men	19.26	6.16

LABORERS (see page 17)

LIMITED ENERGY ELECTRICIANS

May only be used for electrical work not exceeding 100 va in Class II and III installations (as defined in Article 725 of the National Electrical Code):

Area 1	15.77	3.37
Area 2	15.77	3.37
Area 3	10.83	2.30
Area 4	11.12	2.46
Area 5	12.13	2.49
Area 6	10.96	2.62
Area 7	11.34	2.03
Area 8	10.79	2.50
Area 9	15.77	3.37
Area 10	11.26	1.83
Area 11	12.22	1.91
Area 12	14.66	1.94
Area 13	12.38	2.34
Area 14	12.09	2.11

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

LIMITED ENERGY ELECTRICIANS (continued)

Area 1	Clatsop, Columbia, Tillamook
Area 2	Clackamas, Multnomah, Washington, Yamhill (north half)
Area 3	Marion, Polk, Yamhill (south half)
Area 4	Benton, Lincoln, Linn
Area 5	Lane
Area 6	Douglas
Area 7	Coos, Curry
Area 8	Jackson, Josephine
Area 9	Hood River, Sherman, Wasco
Area 10	Crook, Deschutes, Jefferson
Area 11	Klamath, Lake
Area 12	Gilliam, Grant, Morrow, Umatilla, Wheeler
Area 13	Baker, Union, Wallowa
Area 14	Harney, Malheur

LINE CONSTRUCTION

		Fringe Through 1/31/91	Fringe After 1/31/91
Area 1			
o Group 1	21.68	4.91	5.26
o Group 2	19.59	4.84	5.19
o Group 3	(15.73)[1]	4.05	4.06
o Group 4	16.89	3.84	4.09
o Group 5	14.78	3.76	3.51
o Group 6	13.90	3.74	3.99

[1]Increases to 16.12 after 1/31/91

Area 2:		
o Cable Splicers	18.81	3.25
o Journeyman Lineman	17.10	3.18
o Line Equip. Mech. (Right-of-way)	15.40	3.11
o Line Equip. Oper.	15.40	3.11
o Groundman	11.55	2.97

Area 1

All counties except Malheur County

Group 1	Group 2
Cable Splicers	Certified Lineman Welder
Leadman Pole Sprayer	Heavy Line Equipment Man
	Lineman
	Pole Sprayer
Group 3	**Group 4**
Tree Trimmer	Line Equipment Man
Group 5	**Group 6**
Head Groundman	Groundman
Jackhammer Man	
Powderman	

Area 2

Malheur County

MARBLE SETTERS (Includes Granite)

Area 1	19.88	4.58

Area 1

Baker	Hood River	Sherman	Wallowa
Clackamas	Malheur (a)	Tillamook	Wasco (b)
Clatsop	Morrow	Union	Washington
Columbia	Multnomah	Umatilla	Yamhill (a)
Gilliam			

a) North half b) North of the City of Maupin

PAINTERS & DRYWALL TAPERS

Area 1		
o Painters & Drywall Tapers	13.00	2.41
Area 2		
o Brush	15.00	2.44
o Spray, sandblasting, other pressure blasting over 3000 psi, and steam cleaning.	15.50	2.44
o Drywall Tapers	19.30	3.05

Area 1	Area 2
Malheur County	Remaining Counties

PLASTERERS

Area 1	18.58	4.02
Area 2		
o Nozzleman	20.08	4.01
o Swinging scaffold	19.08	4.01
o all other work	18.58	4.01

Area 1	Area 1(cont)	Area 1(cont)	Area 2
Benton	Deschutes	Lincoln (b)	All
Coos	Harney	Linn (b)	remaining
Crook	Jefferson	Wasco (b)	counties
Curry	Klamath (a)	Wheeler (b)	
Douglas	Lane		

a) Northern one-third b) South half

PLUMBERS & STEAMFITTERS/PIPEFITTERS

Area 1 (Both)	19.55	5.05
Area 2 (Both)	21.75	4.91
Area 3 (Both)	19.60	4.90

PLUMBERS & STEAMFITTERS/PIPEFITTERS (cont)

Area 1	Area 2	Area 3
Baker	Grant (b)	All remaining counties
Harney (a)	Morrow	
Malheur	Umatilla	
	Wallowa	
	Union	

a) Except Northwest Portion
b) Except Southwest Corner

POWER EQUIPMENT OPERATORS

(Note that this trade no longer includes Less Than 100% Rate)

Zone 1 (Base Rate):		
o Group 1	19.35	5.42 + a
o Group 2	19.00	5.42 + a
o Group 3	18.40	5.42 + a
o Group 4	18.00	5.42 + a
o Group 5	17.50	5.42 + a
o Group 6	16.80	5.42 + a

a) **Add $0.15 to fringe benefit of all Group classifications for work performed inside a Federally Designated Hazardous Waste Site.**

ZONE RATES AND DESCRIPTIONS
(Add to Zone 1 Rate)

Zone 2	.65
Zone 3	1.15
Zone 4	1.70
Zone 5	2.75

Zone 1: Projects within 30 miles of City Hall in the Cities listed below.
Zone 2: More than 30 miles but less than 40 miles.
Zone 3: More than 40 miles but less than 50 miles.
Zone 4: More than 50 miles but less than 80 miles.
Zone 5: More than 80 miles.

Cities

Albany	Eugene	Longview	Portland
Astoria	Goldendale	Madras	PortOrford
Baker	Grants Pass	Medford	Reedsport
Bend	Hermiston	McMinnville	Roseburg
Brookings	Hood River	Newport	Salem
Burns	Klamath Falls	Oregon City	The Dalles
Coos Bay	LaGrande	Ontario	Tillamook
Corvallis	Lakeview	Pendleton	

POWER EQUIPMENT OPERATORS (Continued)

HAZARDOUS WASTE REMOVAL DIFFERENTIALS
(Type of required protective clothing determines the amount to be added to the base rate)

Class "C" Suit	1.00
Class "B" Suit	1.50
Class "A" Suit	2.00

GROUP CLASSIFICATIONS

ASPHALT

6 Plant Oiler
6 Plant Fireman
6 Pugmill Operator (any type)
6 Truck mounted asphalt spreader, with screed
4 Screed Operator
5 Extrusion Machine Operator
2 Asphalt Plant Operator (any type)
4 Asphalt Paver Operator
5 Roller Operator (any asphalt mix)
4 Diesel-Electric Engineer, Plant
5 Asphalt Burner and Reconditioner Operator (any type),84
4 Roto-Mill, pavement profiler operator, under 6 foot lateral cut
5 Roto-Mill, pavement profiler, ground man
2 Roto-Mill, pavement profiler operator, 6 foot lateral cut and over

BLADE

6 Blade Operator, pulled type
4 Blade Operator
4 Blade Operator, Finish
4 Blade Operator, externally controlled by electronic, mechanical hydraulic means
4 Blade Operator, multi-engine
2 Auto Grader or "Trimmer" Operator

BULLDOZERS

4 Bulldozer Operator
4 Drill Cat Operator
4 Side-Boom Operator
2 Tandem bulldozer operator (quadnine and similar type, D-11)
4 Bulldozer Operator, twin engine (TC 12 and similar type, D-10)
4 Cable-Plow Operator (any type)

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

POWER EQUIPMENT OPERATORS
(GROUP CLASSIFICATIONS continued)

CLEARING

4	Log Skidder Operator	
4	Chipper Operator	
4	Incinerator Operator	
4	Stump Splitter Operator	

COMPRESSORS

6	Compressor Operator (any power), under 1,250 cu. ft. total capacity	
5	Compressor Operator (any power), over 1,250 cu. ft. capacity	

COMPACTORS - Self-Propelled

5	Compactor Operator, including vibratory	
5	Wagner Patcor Operator or similar type (without blade)	
4	Compactor Operator, with blade	
4	Compactor Operator, multi-engine	

CONCRETE

6	Plant Oiler	
6	Assistant Conveyor Operator	
6	Conveyor Operator	
6	Mixer Box Operator (C.T.B., dry batch, etc.)	
6	Cement Hog Operator	
6	Concrete Saw Operator	
6	Concrete Curing Machine Operator (riding type)	
6	Wire Mat or Brooming Machine Operator	
5	Combination Mixer and Compressor Operator, gunite work	
5	Concrete Batch Plant Quality Control Operator	
5	Beltcrete Operator	
5	Pumpcrete Operator (any type)	
5	Pavement Grinder and/or Grooving Machine Operator (riding type)	
4	Mixer Mobile Operator	
5	Cement Pump Operator, Fuller-Kenyon and similar	
5	Concrete Pump Operator	
5	Grouting Machine Operator	
4	Screed Operator	
4	Concrete Cooling Machine Operator	
5	Concrete Mixer Operator, single drum, any capacity	
2	Batch Plant and/or Wet Mix Operator, one and two drum	
1	Batch Plant and/or Wet Mix Operator, 3 units or more	
5	Cast in place pipe laying machine	
5	Maginnis Internal Full Slab Vibrator Operator	
5	Concrete Finishing Machine Operator, Clary, Johnson, Bidwell, Burgess bridge deck or similar type	
5	Curb Machine Operator, Mechanical Berm, Curb and/or Curb and Gutter	

POWER EQUIPMENT OPERATORS
(GROUP CLASSIFICATIONS continued)

CONCRETE(Continued)

5	Concrete Joint Machine Operator	
5	Concrete Planer Operator	
5	Tower Mobile Operator	
5	Power Jumbo Operator setting slip forms etc., in tunnels	
5	Slip Form Pumps, power driven hydraulic lifting device for concrete forms	
5	Concrete Paving Machine Operator	
5	Concrete Finishing Machine Operator	
5	Concrete Spreader Operator	
4	Concrete Paving Road Mixer	
2	Automatic Concrete Slip Form Paver Operator	
2	Concrete Canal Line Operator	
4	Concrete Breaker	
4	Reinforced Tank Banding Machine (K-17 or similar types)	
2	Concrete Profiler, Diamond Head	

CRANE

6	Oiler	
6	Truck Crane Oiler-Driver, 25 ton capacity or over	
6	Fireman, all equipment	
6	A-Frame Truck Operator, single drum	
6	Tugger or Coffin Type Hoist Operator	
5	Helicopter Hoist Operator	
5	Hoist Operator, single drum	
5	Elevator Operator	
5	A-Frame Truck Operator, double drum	
5	Boom Truck Operator	
4	Chicago Boom and similar types	
4	Lift Slab Machine Operator	
4	Boom Type lifting device, 5 ton capacity or less	
4	Cerry Picker or similar type crane-hoist, 5 ton capacity or less	
4	Crane Operator, under 25 ton (except for rough terrain)	
4	Hoist Operator, two drum	
4	Hoist Operator, three or more drums	
4	Derrick Operator, under 100 ton	
4	Hoist Operator, stiff leg, guy derrick or similar rype, 50 ton and over	
4	Cableway Operator, up to 25 tons	
2	Cableway Operator, 25 tons and over	
4	Crane Operator, over 25 tons and including 40 tons	
4	Bridge Crane Operator, Locomotive, Gantry, Overhead	
2	Crane Operator, over 40 tons and including 200 tons	
1	Crane Operator, over 200 tons	

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

POWER EQUIPMENT OPERATORS
(GROUP CLASSIFICATIONS continued)

CRANE (Continued)

2 Tower Crane Operator
2 Whirley Operator, up to and including 150 tons
1 Whirley Operator, over 150 tons
1 Helicopter Operators, when used in erecting work
5 Hydraulic Boom Truck Operator, Pittman

CRUSHER

6 Crusher Oiler
6 Crusher Feederman
4 Generator Operator
4 Diesel-Electric Engineer
4 Grizzley Operator
4 Crusher Plant Operator

DRILLING

6 Drill Tender
6 Auger Oiler
5 Churn Drill and Earth Boring Machine Operator
4 Drill Doctor
4 Boring Machine Operator
4 Driller - Percussion, Diamond, Core, Cable, Rotary and similar type

FLOATING EQUIPMENT

6 Deckhand
6 Boatman
5 Fireman
4 Diesel-Electric Engineer
4 Jack Operator, elevating barges
4 Barge Operator, self-unloading
4 Piledriver Operator (not crane type)
4 Floating Clamshell, etc. Operator, under 3 cu. yd.
4 Floating Crane (derrick barge) Operator, less than 30 tons
2 Floating Clamshell, etc. Operator, 3 cu. yd. and over
2 Floating Crane (derrick barge) Operator, 30 tons but less than 150 tons
1 Floating Crane, 150 tons and over

FORK LIFT

6 Self-Propelled Scaffolding Operator (excluding working platform)
6 Fork Lift or Lumber Stacker Operator
6 Ross Carrier Operator
5 Lull Hi-Lift Operator or similar type
5 Fork Lift, over 5 tons
3 Rock Hound Operator

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

POWER EQUIPMENT OPERATORS
(GROUP CLASSIFICATIONS continued)

GENERATORS

4 Generator Operator
4 Diesel-Electric Engineer

GUARDRAIL EQUIPMENT

6 Oiler
6 Auger Oiler
6 Oiler, combination guardrail machines
4 Guardrail Punch Operator (all types)
6 Guardrail Punch Oiler
4 Guardrail Auger Operator (all types)
4 Combination Guardrail machines. i.e. punch, auger, etc.

HAZARDOUS WASTE REMOVAL

5 Assistant to the Engineer (Oiler)
4 Assistant Incinerator Control Board Operator
3 Incinerator Control Board Operator

HEATING PLANT

6 Temporary Heating Plant Operator
4 Surface Heater and Planer Operator

HYDRAULIC HOES

5 Hydraulic Backhoe Operator, wheel type 3/8 cu. yd. and under with or without front end attachments 2-1/2 cu. yd. and under (Ford, John Deere, Case type)
4 Hydraulic Backhoe Operator, Track Type 3/8 cu.yd. (Note: Over 3/8 cu. yd. takes Shovel Classification rate)

LOADERS

6 Bucket Elavator Loader Operator, Barber-Greene and similar types
5 Loaders, rubber-tired type, 2-1/2 cu. yd. and under
5 Elevating Grader Operator, Tractor Towed requiring Operator or Grader
4 Belt Loader Operator, Kolman and Ko Cal types
4 Loader Operator, front end and overhead, 2-1/2 cu. yd. and under 4 cu. yd.
4 Elevating Loader Operator, Athey and similar types
4 Elevating Grader Operator, Sierra, Euclid or similar types
3 Loader Operator, 4 cu. yd. but less that 6 cu. yd.
2 Loader Operator, 6 cu. yd. and over

POWER EQUIPMENT OPERATORS
(GROUP CLASSIFICATIONS continued)

OILERS

6 Oiler
6 Guardrail Punch Oiler
6 Truck Crane Oiler-Driver, 25 ton or over
6 Auger Oiler
6 Grade Oiler, required to check grade
5 Service Oiler (Greaser)
6 Grade Checker

PILEDRIVERS (Use Crane rates when driving or pulling piling)

4 Hammer Operator
4 Piledriver Operator (not crane type)

PIPE LINE - Sewer Water

6 Tar Pot Fireman
6 Tar Pot Fireman (power agitated)
6 Hydraulic Pipe Press Operator
5 Hydra Hammer or similar types
5 Pavement Breaker Operator
4 Pipe Cleaning Machine Operator
4 Pipe Doping Machine Operator
4 Pipe Bending Machine Operator
4 Pipe Wrapping Machine Operator
4 Boring Machine Operator
4 Back Filling Machine Operator

PUMPS

6 Pump Operator, any power
6 Hydrostatic Pump Operator
5 Pump Operator, more than 5 (any size)
5 Pot Rammer Operator

RAILROAD EQUIPMENT

6 Brakeman
6 Oiler
6 Switchman
6 Motorman
6 Ballast Jack Tamper Operator
5 Locomotive Operator
5 Ballast Regulator Operator
5 Ballast Tamper Multi-Purpose Operator
5 Track Liner Operator
5 Tie Spacer Operator
5 Shuttle Car Operator

POWER EQUIPMENT OPERATORS
(GROUP CLASSIFICATIONS continued)

REMOTE CONTROL

2 Remote controlled earth-moving equipment

REPAIRMEN, Heavy Duty

6 Parts Man (Tool Room)
6 H.D. Repairman Tender
6 Welder's Tender
4 Diesel-Electric Engineer (Plant or Floating)
4 Bolt Threading Machine Operator
4 Drill Doctor (Bit Grinder)
4 H.D. Mechanic
4 H.D. Welder
4 Machine Tool Operator
4 Combination H.D. Mechanic-Welder, when dispatched and/or when required to do both
4 Welder - Certified, when dispatched and/or required

RUBBER-TIRED SCRAPERS

4 Rubber-tired Scraper Operator, single engine, single scraper
4 Self-loading, paddle wheel, auger type under 15 cu. yd.
4 Rubber-tired Scraper Operator, twin engine
4 Rubber-tired Scraper Operator, with push-pull attachments
3 Rubber-tired Scraper Operator with tandem scrapers
2 Rubber-tired Scraper Operator, with tandem scrapers, multi-engine
4 Self-loading, paddle wheel, auger type 15 cu. yd. and over, single engine
3 Self-loading, paddle wheel, auger type, finish and/or 2 or more units

SHOVEL, DRAGLINE, CLAMSHELL, BACKHOE, SKOOPER, ETC., OPERATOR

6 Oiler
6 Grade Oiler (required to check grade)
6 Grade Checker
6 Fireman
4 Diesel-Electric Engineer
4 Stationary Drag Scraper Operator
4 Shovel, Dragline, Clamshell, Hoe etc., Operator under 3 cu. yd.
4 Grade-all Operator
2 Shovel, Dragline, Clamshell, Hoe etc., Operator 3 cu. yd. and over

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

POWER EQUIPMENT OPERATORS
(GROUP CLASSIFICATIONS continued)

SIGNALMAN

6 Bell Boy, phones, etc., Operator
6 Helicopter Radioman (ground)

SURFACING (BASE) MATERIAL

6 Roller Operator, grading of base rock (not asphalt)
5 Roller Operator, Oiling, C.T.B.
6 Tamping Machine Operator, mechanical, self-propelled
6 Hydrographic Seeder Machine Operator, straw, pulp or seed
5 Rock Spreaders, self-propelled
5 Pulva-mixer or similar types
4 Blade Mounted Spreaders, Ulrich and similar types
5 Chip Spreading Machine Operator
5 Lime Spreading Operator

SWEEPERS

6 Broom Operator, self-propelled
5 Sweeper Operator (Wayne type) self-propelled

TRACTOR - RUBBER TIRED

5 Tractor Operator, rubber-tired, 50 H.P. Flywheel and under
4 Tractor Operator, rubber -tired, over 50 H.P. Flywheel
4 Tractor Operator, with boom attachment
4 Rubber-tired Dozers and Pushers (Michigan, Cat, Hough type)

TRENCHING MACHINE

6 Oiler
6 Grade Oiler (required to check grade)
5 Trenching Machine Operator, maximum digging capacity 3 ft. depth
4 Trenching Machine Operator, maximum digging capacity over 3 ft. depth
4 Back Filling Machine Operator
2 Wheel Excavator
2 Canal Trimmer
2 Band Wagon (in conjunction with wheel excavator)

TUNNEL

4 Mucking Machine Operator
6 Conveyor Operator (any type)
4 Shield Operator
6 Air Filtration Equipment Operator

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

POWER EQUIPMENT OPERATORS
(GROUP CLASSIFICATIONS continued)

WELDING MACHINES

6 Welding Machine Operator

UNDERWATER EQUIPMENT

2 Underwater Equipment Operator, remote or otherwise, when used in construction work

ROOFERS

Area 1:		
o Roofers	16.10	4.10
o Handling coal tar pitch	17.20	4.10
Area 2:		
o Roofers (Add $2.00 per hour to Fringe for work with irritable Bituminous material.)	15.04	4.18
Area 3:		
o Roofers (Add $1.50 per hour to Fringe for work with irritable Bituminous material.)	13.44	2.70
Area 4:		
o Roofers (Add $2.00 per hour to Fringe for work with irritable Bituminous materials)	15.00	3.85
Area 5:		
o Roofers (Add $3.00 per hour to Fringe for work with irritable Bituminous materials)	11.90	3.55

Area 1	Area 1(cont)	Area 2	Area 2(cont)
Baker	Multnomah	Benton	Klamath
Clackamas	Sherman	Coos	Lake
Clatsop	Tillamook	Crook	Lane
Columbia	Wasco	Curry	Lincoln
Jefferson	Washington	Deschutes	Linn
Gilliam	Wheeler	Douglas	Marion
Grant		Harney	Polk
Hood River		Jackson	Yamhill
		Josephine	

Area 3	Area 4	Area 5
Malheur	Umatilla	Morrow
	Union	
	Wallowa	

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

SHEETMETAL WORKERS

Area 1	17.90	5.32
(Add $0.75 to base rate for work performed on any swinging platform, swinging chair, or swinging ladder)		
Area 2	16.23	3.87
(Add $1.75 to base rate for work performed whenever it is possible for worker to fall 30 feet or more) **(Add $1.75 to base rate for work performed in an area where epoxy resins or other injurious chemicals are being applied)**		
Area 3	19.01	4.78
(Add $1.00 to base rate for work where it is necessary to wear a chemically activated face mask) **(Add $1.00 to base rate for work where employee is required to wear a fresh air mask due to nuclear related work)** **(Add $.45 to base rate for work on a swinging stage, swinging scaffold or bosun chair in excess of 30 feet above the ground)**		
Area 4	16.92	3.71

Area 1

Benton	Gilliam	Linn	Tillamook
Clackamas	Grant	Marion	Wasco
Clatsop	Harney	Multnomah	Washington
Columbia	Hood River	Polk	Wheeler
Crook	Jefferson	Sherman	Yamhill
Deschutes	Lincoln		

Area 2	Area 3	Area 4	Area 4 (cont)
Baker	Morrow	Coos	Josephine
Malheur	Umatilla	Curry	Klamath
	Union	Douglas	Lake
	Wallowa	Jackson	Lane

SOFT FLOOR LAYERS

Area 1	15.41	4.00 + a
Area 2	12.99	2.01

a) plus 4% of basic hourly rate for employees with less than one year of service, 6% for those with more than one year.

SOFT FLOOR LAYERS (Continued)

Area 1 - All counties except Malheur County
Area 2 - Malheur County

SPRINKLER FITTERS	20.30	4.75

TENDERS TO MASON TRADES

o Tenders for Bricklayers, Tile Setters, Marble Setters and Terrazzo Workers; Topping for Cement Finishers and Morter Mixers.

15.36 4.00

(Add $0.50 to base rate for refractory work) **(Add to base rate an amount equal to that received for safety belt requirements or other unusual job conditions by the mechanic this worker is tending)**

TENDERS TO PLASTERERS	14.87	4.00

TILE SETTERS

Area 1	17.60	4.20

(Add $.50 to base rate if safety belt required by State safety regulations or work involves epoxy, furnane, alkor, acetylene, black grouting and/or steam cleaning.)

Area 2	18.00	4.37

(Add $.24 to base rate if safety belt required by State safety regulations; $.20 if work involves epoxy, furnane, alkor, acetylene, black grouting, and/or steam cleaning.)

Area 1	Area 1(cont)	Area 2	Area 2(cont)
Baker	Polk	Benton	Josephine
Clackamas	Sherman	Coos	Klamath
Clatsop	Tillamook	Crook	Lake
Columbia	Umatilla	Curry	Lane
Gilliam	Union	Deschutes	Lincoln
Hood River	Wallowa	Douglas	Linn
Malheur(a)	Wasco (b)	Grant	Malheur (c)
Marion	Washington	Harney	Wasco (d)
Morrow	Yamhill	Jackson	Wheeler
Multnomah		Jefferson	

a) North half
b) North of Maupin
c) South half
d) Maupin and south thereof

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

TILE & TERRAZZO HELPERS

Area 1 — 13.54 — 2.85

(Add $.50 to base rate if safety belt required by State safety regulations or work involves epoxy, furnane, alkor, acetylene, black grouting and/or steam cleaning.)

Area 1

Baker	Hood River	Sherman	Wallowa
Clackamas	Gilliam (a)	Tillamook	Wasco (b)
Clatsop	Morrow	Umatilla	Washington
Columbia	Multnomah	Union	Yamhill (a)
Malheur (North Half)		Yamhill (North Half)	
Wasco (North of Maupin)			

TRUCK DRIVERS (see next section)

WELDERS; RIGGERS

Receive rate for craft performing operation to which welding and rigging are incidental.

****

CARPENTERS, LABORERS, and TRUCK DRIVERS

Under the following circumstances a rate lower than the basic hourly rate may be used for these three trades:

The lower rate applies to all public works projects of less than $1.0 million. The lower rate also applies to projects under $1.5 million involving the construction, reconstruction, major renovation or painting of buildings, bridges or docks. (When the amount is between $1.0 and $1.5 million the work done on a building, bridge or dock must constitute at least 20% of the total project price to use the lower rates.) In determining the $1.5 million figure, do not include the cost of underground utilities (i.e., the amount of the contract dedicated to facilities for electricity, water, gas, sewerage including storm water, and communications) which are five feet or more outside of and away from the building, bridge or dock and are subordinate and incidental to the major purpose of the project.

NOTE: In determining whether or not the lower rates are applicable, consider the total project cost, and not the cost of any individual contract (or schedule) within that project.

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

CARPENTERS, LABORERS, and TRUCK DRIVERS (Continued)

ZONE RATES AND DESCRIPTIONS

Zone Differential for Carpenters (Groups 1 and 2 only), Laborers and Truck Drivers

(Add to Zone 1 Rate)

Zone 2	.65
Zone 3	1.15
Zone 4	1.70
Zone 5	2.75

Zone 1: Projects within 30 miles of City Hall in the Cities listed below.
Zone 2: More than 30 miles but less than 40 miles.
Zone 3: More than 40 miles but less than 50 miles.
Zone 4: More than 50 miles but less than 80 miles.
Zone 5: More than 80 miles.

Cities

Albany	Eugene	Longview	Portland
Astoria	Goldendale	Madras	Port Orford
Baker	Grants Pass	Medford	Reedsport
Bend	Hermiston	McMinnville	Roseburg
Brookings	Hood River	Newport	Salem
Burns	Klamath Falls	Oregon City	The Dalles
Coos Bay	LaGrande	Ontario	Tillamook
Corvallis	Lakeview	Pendleton	

CARPENTERS (See above for explanation of when the lower rates may be used)

		LESS THAN 100%	100%	
Zone 1 (Base Rate):*				
o	Group 1	15.19	18.17	4.02
o	Group 2	15.31	18.32	4.02
o	Group 3	15.39	18.42	4.02
o	Group 4	15.51	18.57	4.02
o	Group 5	15.27	18.27	4.02
o	Group 6	15.35	18.37	4.02

*NOTE: Zone rates for Carpenter Groups 1 and 2 are listed at the top of this page. Zone rates for Carpenter Groups 3 through 6 are listed below.

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

CARPENTERS (Continued)

Zone Differential for Groups 3 through 6 Only
(Add to Zone 1 Rate)

Zone 2	.85
Zone 3	1.25
Zone 4	1.70
Zone 5	1.95
Zone 6	2.80

Zones for Groups 3, 4, 5 and 6 Carpenters are determined by the distance between the project site and either 1) the worker's residence or 2) City Hall of a reference city for the appropriate group shown below, whichever is closer.

Zone 1: 0-30 miles.
Zone 2: 30-40 miles.
Zone 3: 40-50 miles.
Zone 4: 50-60 miles.
Zone 5: 60-70 miles.
Zone 6: Over 70 miles.

Cities for Groups 3 and 4

Corvallis	Longview	North Bend	The Dalles
Eugene	Medford	Portland	

Cities for Groups 5 and 6

Astoria	Eugene	Newport	Salem
Bend	Klamath Falls	Portland	The Dalles
Coos Bay	Medford	Roseburg	

Group 1

Auto. Nailing Machine
Carpenters
Form Stripper
Manhole Builders
Non-irritating Ins.

Group 2

Floor Layers & Finishers
Stationary Power Saw Operators
Wall & Ceiling Insulators
Irritating Insulation

Group 3

Millwrights
Machine Erectors
Machinists

Group 4

Certified Welders

Group 5

Bridge, Dock & Wharf Builders
Piledrivermen

Group 6

Boom Men

LABORERS[1]

	LESS THAN 100%	100%	
Zone 1 (Base Rate):[2]			
o Group 1	11.82	13.99	5.00+a
o Group 2	12.10	14.34	5.00+a
o Group 3	12.34	14.64	5.00+a
o Group 4	12.54	14.89	5.00+a
o Group 5	10.77	12.40	5.00+a
o Group 6	9.15	9.15	5.00+a

a) **Add $0.15 to fringe benefit of all Group classifications for work performed inside a Federally Designated Hazardous Waste Site.**

HAZARDOUS WASTE REMOVAL DIFFERENTIAL
(There is no Less-Than-100% rate for Hazardous Waste Removal. Type of required protective clothing determines the amount to be added to the 100% base rate.)

Class "C" Suit	1.00
Class "B" Suit	1.50
Class "A" Suit	2.00

Group 1

Asphalt Plant Laborers
Asphalt Spreaders
Batch Weighman
Broomers
Brush Burners/Cutters
Carpenter Tender
Car & Truck Loaders
Change-House Man
Choke Setter
Chipper Operator (a)
Clean-up Laborers ***
Concrete Laborers
Culvert (hand labor)
Curing, concrete
Demolition, wrecking and moving ***
Driller Tender
Dry-shack Man
Dumpers, road oiling crew
Dumpmen for grading crew
Elevator Feeders
Fine Graders
Fire Watch
Form Strippers (b)
General Laborer ***
Guardrail, Median Rail (c)
Leverman or Aggregate Spreader (d)
Material Yard Man (e)
Powderman Tender
Railroad Track Laborers
Ribbon Setters (f)
Rip Rap Man (Hand Placed)
Road Pump Tender
Sewer Laborer
Signalman
Skipman
Slopers
Sprayman
Stake Chaser
Stockpiler
Timber Faller/Bucker (Hand Labor)
Toolroom Man (Job site)
Tunnel Bull Gang (Above Ground)
Weight-Man-Crusher (g)

[1] See page 16 for explanation of Less Than 100% Rates.
[2] See page 16 for zone rates and descriptions.

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

LABORERS (Group 1 continued)

a) Pittsburg or similar types
b) Not swinging stages
c) Reference Post, Guide Post, or Right-of Way Marker
d) Flaherty, Loading Spotters or similar types
e) Including electrical
f) Including steel forms
g) Aggregate when used

*** Laborers can tear off roofs, clean up or handle roofing materials only when at least one new story is added or in demolition work, where no reroofing will occur.

Group 2

Applicators (a)
Brush Cutters (b)
Burners
Choker Splicer
Clary Power Spreader(c)
Clean up Nozzleman-Green Cutter (d)
Concrete Power Buggyman
Crusher Feeder
Demolition/Wrecking (e)
Grade Checker
Granite Nozzleman Tender
Gunite or Pot Tender
Handlers/Mixers (f)
Post Hole Digger, Air, gas or electric
Power Tool Operators (g)
Sand Blasting (wet)
Stake Setter
Tampers
Tunnel Muckers/Brakeman/Concrete Crew/Bull Gang (underground)

a) Including Pot Tender for same, applying protective material by hand or nozzle on utility lines or storage tanks on project
b) Power saw
c) And similar types of spreaders
d) Concrete, rock, etc.
e) Charred Materials
f) Of all materials of an irritating nature including cement and lime
g) Includes, but not limited to: Dry Pack Machine, Jackhammer, Chipping Guns, Paving Breakers, Vibrators (less than 4" diameter)

Group 3

Asbestos Removal
Asphalt Rakers
Bit Grinder
Concrete Saw Operator
Drill Doctor
Drill Operators (a)
Gunite Nozzleman
High Scalers, Strippers, Drillers(b)
Laser Beam (c)
Power Saw Operators (d)
Pumpcrete Nozzleman
Sand Blasting (dry)
Pipe Layers of all Types
Sewer Timberman
Track Liners (e)
Tugger Operator
Tunnel-Chuck Tenders, Nippers, Timberman
Vibrator (4" and larger)

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

LABORERS (Group 3 continued)

Manhole Builder
Powdermen
Water Blaster
Welder

a) Air Tracks, Cat Drills, Wagon Drills, Rubber-mounted drills, and other similar types
b) Covers work in Swinging Stages, chairs or belts, under extreme conditions unusual to normal drilling, blasting, barring-down, or sloping and stripping
c) Pipe laying, applicable when employee assigned to move, set up, align Laser Beam.
d) Bucking and falling
e) Anchor Machines, Ballast Regulators, Multiple Tampers, Power Jacks

Group 4

Laser Beam (Tunnel), applicable when employee assigned to move, set-up, align laser beam
Tunnel Miners
Tunnel Powderman

Group 5**

Flagger

Group 6**

Fence Builder
Landscaping or planting laborer

**Groups 5 and 6 were at one time a single group. Note the difference in rates between the two groups now.

TRUCK DRIVERS[1]

	LESS THAN 100%	100%	
Zone 1 (Base Rate):[2]			
o Group 1	13.34	15.98	5.45+a
o Group 2	13.38	16.03	5.45+a
o Group 3	13.42	16.08	5.45+a
o Group 4	13.46	16.13	5.45+a
o Group 5	13.50	16.18	5.45+a
o Group 6	13.58	16.28	5.45+a
o Group 7	13.66	16.38	5.45+a
o Group 8	13.74	16.48	5.45+a
o Group 9	13.82	16.58	5.45+a
o Group 10	13.96	16.75	5.45+a
o Group 11	14.04	16.85	5.45+a
o Group 12	14.12	16.95	5.45+a
o Group 13	14.20	17.05	5.45+a
o Group 14	14.28	17.15	5.45+a

[1] See page 16 for explanation of Less Than 100% Rates.
[2] See page 16 for zone rates and descriptions.

TRADES	BASIC HOURLY RATE	FRINGE BENEFITS

TRUCK DRIVERS (Continued)

a) **Add $0.15 to fringe benefit of all Group classifications for work performed inside a Federally Designated Hazardous Waste Site.**

HAZARDOUS WASTE REMOVAL DIFFERENTIALS (There is no Less-Than-100% rate for Hazardous Waste Removal. Type of required protective clothing determines the amount to be added to the 100% base rate.)

Class "C" Suit	1.00
Class "B" Suit	1.50
Class "A" Suit	2.00

Work	Group
A-Frame or Hydra-lift Truck w/load bearing surface	2
Battery Rebuilder	1
Bus or Man-Haul Driver	1
Concrete Buggies (Power operated)	1
Drivers and Helpers handling sacked cement--add 15¢ per hour	
Dump Trucks, Side, End and Bottom Dumps, including Semi-Trucks and trains or combinations thereof:	
6 cu. yds. and under	1
Over 6 cu. yds. and inc. 10 cu. yds	3
Over 10 cu. yds. and inc. 20 cu. yds	6
Over 20 cu. yds. and inc. 30 cu. yds	7
Over 30 cu. yds. and inc. 40 cu. yds	8
Over 40 cu. yds. and inc. 50 cu. yds	9
Over 50 cu. yds. and inc. 60 cu. yds	10
Over 60 cu. yds. and inc. 70 cu. yds	11
Over 70 cu. yds. and inc. 80 cu. yds	12
Over 80 cu. yds. and inc. 90 cu. yds	13
Over 90 cu. yds. and inc. 100 cu. yds	14
Dumpsters or Similar Equipment--all sizes	5
Flaherty Spreader Driver or Leverman	4
Lift Jitneys, Fork Lifts--all sizes--used in loading, unloading & transporting material on job site	1
Loader and/or Leverman on Concrete Dry Batch Plant, manually operated	1

TRUCK DRIVERS (Continued)

Work	Group
Low Bed Equipment, Flat Bed Semi-Truck and Trailer or Doubles transporting equipment or wet or dry materials	4
Lubrication Man, Fuel Truck Driver, Driver, Tireman, Wash Rack, Steam Cleaner or combination	2
Lumber Carrier, Driver-Straddle Carrier--used in loading, unloading and transportation of material on job site	4
Oil Distributor Driver or Leverman	4
Pilot Car	1
Slurry Truck Driver or Leverman	3
Solo Flat Bed and Misc. Body Trucks--0-10 tons	1
Transit Mix and Wet or Dry Mix Trucks:	
5 cu. yds. and under	1
Over 5 cu. yds. and inc. 7 cu. yds	5
Over 7 cu. yds. and inc. 9 cu. yds	6
Over 9 cu. yds. and inc. 11 cu. yds.	7
Over 11 cu. yds. and inc. 13 cu. yds	8
Over 13 cu. yds. and inc. 15 cu. yds	9
Team Drivers	2
Tireman, full-time basis	3
Truck Helper	1
Truck Mechanic--Welder--Body Repairman	6
Truck Mechanic Helper	1
Water Wagons (Rated Capacity) up to:	
1600 gallons	1
1600 to 3000 gallons	3
3000 to 5000 gallons	4
5000 to 7000 gallons	6
7000 to 10,000 gallons	7
10,000 to 15,000 gallons	8
Winch Truck--takes classification of truck on which winch is mounted	

PLANNED PUBLIC IMPROVEMENT SUMMARY

FISCAL YEAR_____ - _____ _____ PAGE____OF_____

(Name of State or Local Government Agency)

Project Number	Project Name	Project Type	Project Location	Estimated Project Cost	Agency or Contract Work

ORS 279.023 generally states that not less than 30 days prior to adoption of its budget for the subsequent budget period, each public agency shall prepare and file with the Commissioner of the Bureau of Labor and Industries a list of every public improvement known to that agency that the agency plans to fund in the budget period... If the agency decides to use its own equipment and personnel for constructing projects estimated to cost more than $50,000, the agency shall show that the decision conforms to the policy of the State of Oregon that public agencies shall make every effort to construct public improvements at the least cost to the public agency, and the public agency shall cause to be kept and preserved a full, true and accurate account of the costs of performing the work including all engineering and administrative expenses and a reasonable estimate of the cost [illegible] estimated cost of the equipment used. NOTE: This Improvement Summary together with the project

CAPITAL IMPROVEMENT PROJECT COST COMPARISON ESTIMATE

____
(Name of State or Local Government Agency)

EPARTMENT:
ROPOSED YEAR:
ROJECT DESCRIPTION:

PROJECT NAME:

FUND:
PROJECT NUMBER:

Rough Quantity Estimate	Units	Work Class Description	Agency Force Estimate		Agency Contract Estimate	
			Unit Cost	Total Cost	Unit Cost	Total Cost
				$		$

stimated Construction Period ______________

______________________________ determines that (Agency Forces)(Contractor) can perform this work at the least cost.
(Name of Agency)
(cross out one)

ORM WH - 119 (10/82)

____
(Agency Official)

Bureau of Labor and Industries
Wage and Hour Division

PAYROLL

Payroll and Certified Statement
Form - For Use in Complying
with ORS 279.354

NAME OF CONTRACTOR ☐ OR SUBCONTRACTOR ☐ | ADDRESS

Phone: ( ) -

FOR WEEK ENDING | CONTRACTING AGENCY

Phone ( ) -

PROJECT AND LOCATION | PROJECT OR CONTRACT NO. | DATE CONTRACT SPECIFICATIONS FIRST ADVERTISED FOR BID

(1) NAME, ADDRESS, AND SOCIAL SECURITY NUMBER OF EMPLOYEE	(2) # of W/H EXEMPTIONS	(3) WORK CLASSIFICATION (include group number if applicable)	OT. OR ST.	(4) DAY AND DATE / HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	FEDERAL WITH-HOLDING TAX	STATE WITH-HOLDING TAX	OTHER	TOTAL DEDUC-TIONS	(9) NET WAGE PAID FOR WEEK
			O										
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CERTIFIED STATEMENT

I, _____ (Name or signatory party), _____ (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by _____ (Contractor, subcontractor or surety) on the _____ (Building or work); that during the payroll commencing on the _____ day of _____, 19____, and ending the _____ day of _____, 19____, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said _____ (Contractor, subcontractor or surety) from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as specified in ORS 652.610, and described below:

_____

_____

_____

_____

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for workers contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each worker conform with work performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

FORM WH-38 (3/84)

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS OR PROGRAMS In addition to the basic hourly wage rates paid to each worker listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in Section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH Each worker listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in Section 4(c) below.

(c) EXEMPTIONS

EXCEPTION (CRAFT)	EXPLANATION
REMARKS	

I have read this certified statement, know the contents thereof and it is true to my knowledge.

NAME AND TITLE	SIGNATURE

☐ Contractor ☐ Subcontractor ☐ Surety

File this form with the contracting agency and send a true copy to the Bureau of Labor and Industries, 1400 SW Fifth Ave., Portland, OR 97201

FRINGE BENEFITS -- Contractors who pay all required fringe benefits: A contractor who pays fringe benefits to approved plans, funds, or programs in amounts not less than were determined in the applicable wage decision of the Commissioner of the Bureau of Labor and Industries shall continue to show on the payroll the basic cash hourly rate and overtime rate paid to employees. Such a contractor shall check paragraph 4(a) of the Certified Statement to indicate that he/she is also paying to approved plans, funds, or programs not less than the amount predetermined as fringe benefits for each craft. Any exceptions shall be noted in Section 4(c).

Contractors who pay no fringe benefits: A contractor who pays no fringe benefits shall pay to the employee, and insert in the straight time hourly rate column of the payroll, an amount not less than the predetermined rate for each classification plus the amount of fringe benefits determined for each classification in the applicable wage decision. Inasmuch as it is not necessary to pay time and a half on cash paid in lieu of fringes, the overtime rate shall be not less than the sum of the basic predetermined rate, plus the half time premium on basic or regular rate, plus the required cash in lieu of fringes at the straight time rate. In addition, the contractor shall check paragraph 4(b) of the Certified Statement to indicate that he/she is paying fringe benefits in cash directly to employees. Any exceptions shall be noted in Section 4(c).

Use of Section 4(c), Exceptions

Any contractor who is making payment to approved plans, funds, or programs in amounts less than the wage determination required is obliged to pay the deficiency directly to the employees as cash in lieu of fringes. Any exceptions to Section 4(a) or 4(b), whichever the contractor may check, shall be entered in Section 4(c). Enter in the Exception column the craft, and enter in the Explanation column the hourly amount paid the employee as cash in lieu of fringes and the hourly amount paid to plans, funds, or programs as fringes. The contractor shall pay, and shall show that he/she is paying to each such employee for all hours (unless otherwise provided by applicable determination) worked on the project an amount not less than the predetermined rate plus cash in lieu of fringes as shown in Section 4(c). The rate paid and amount of cash paid in lieu of fringe benefits per hour should be entered in column 6 on the payroll. See paragraph on "Contractors who pay no fringe benefits" for computation of overtime rate.

Column 7 - Gross Amount Earned: Enter gross amount earned on this project. If part of the employees' wage was earned on projects other than the project described on this payroll, enter in column 7 first the amount earned on the project and then the gross amount earned on all projects, thus $63.00/120.00.

Column 8 - Deductions: Four columns are provided for showing deductions made. If more than four deductions should be involved, use first 3 columns; show the balance of deductions under "Other" column; show actual total under "Total Deductions" column; and in the attachment to the payroll describe the deductions contained in the "Other" column. All deductions must be in accordance with the provisions of ORS 652.610. If the employee worked on other jobs in addition to this project, show actual deductions from gross wage, but indicate that deductions are based on gross wages.

Column 9 - Net Wages Paid for Week: Self-explanatory.

Certified Statement Required by ORS 279.354: While this form need not be notarized, the Certified Statement is subject to the penalties provided by ORS 279.990. Accordingly, the party signing this required statement should have knowledge of the facts represented as true.

Space has been provided between items (1) and (2) of the Statement for describing any deductions made. If all deductions made are adequately described in the "Deductions" column above, state "See Deductions column in this payroll." See paragraph entitled "FRINGE BENEFITS" above for instructions concerning filling out paragraph 4 of the Statement.

BUREAU OF LABOR AND INDUSTRIES - WAGE AND HOUR DIVISION

INSTRUCTIONS FOR COMPLETING PAYROLL AND CERTIFIED STATEMENT FORM, WH-38 (Rev 3/84)

General: This form meets needs resulting from the 1983 amendments to the Prevailing Wage Rate Law. Under this amended law, the contractor is required to pay not less than fringe benefits as predetermined by the Bureau of Labor and Industries, in addition to payment of not less than the predetermined rates. The contractor's obligation to pay fringe benefits may be met either by payment of the fringes to the various plans, funds, or programs or by making these payments to the employees as cash in lieu of fringes.

This form provides for the contractor's showing of the payroll and all monies paid to the employees, whether as basic rates or as cash in lieu of fringes and provides for the contractor's representation in the certified statement that he/she is paying to others fringes required by the contract and not paid as cash in lieu of fringes. Detailed instructions concerning the preparation of the form follow:

Fill in all boxes at top of form. Be sure to enter the date the contract was first advertised for bid by the contracting agency. This date should appear on the bid documents.

Column 1 - Name, Address, and Social Security number of Employee: The employee's full name must be shown on each payroll submitted. The employee's address must also be shown on the first payroll submitted. The address need not be shown on subsequent payrolls unless the address changes. Although not required, space is available in the name and address section so that Social Security numbers may be listed.

Column 2 - Withholding Exemptions: This column is merely inserted for the employer's convenience and is not a requirement.

Column 3 - Work Classifications: List classification descriptive of work actually performed by employees. Include group number when appropriate. Consult classifications and minimum wage schedule set forth in contract specifications. If additional classifications are deemed necessary, see Contracting Officer or Agency representative. Employee may be shown as having worked in more than one classification provided accurate breakdown of hours so worked is maintained and shown on submitted payroll by use of separate line entries.

Column 4 - Hours Worked: Enter as overtime hours all hours worked in excess of 8 hours per day, all hours worked on Saturday and Sunday and hours worked on legal holidays as defined in ORS 279.334.

Column 5 - Total: Self-explanatory.

Column 6 - Rate of Pay, including Fringe Benefits: In straight time box, list actual hourly rate paid the employee for straight time worked plus any cash in lieu of fringes paid the employee. When recording the straight time hourly rate, any cash paid in lieu of fringes may be shown separately from the basic rate, thus $12.50/2.35. This is of assistance in correctly computing overtime. See "Fringe Benefits" below. Payment of not less than time and one half the basic or regular rate paid is required for overtime under ORS 279.334. In addition to paying not less than the predetermined rate for the classificaion in which the employee works, the contractor shall pay to approved plans, funds, or programs or shall pay as cash in lieu of fringes amounts predetermined as fringe benefits in the wage decision made part of the contract. See "FRINGE BENEFITS" below.

NOTICE OF AWARD OF PUBLIC WORKS CONTRACT
(For Use by Public Agency in Complying with ORS 279.363)

1. PRIME CONTRACTOR

Name _____

Address _____

City, State, Zip _____

Phone Number ( ) _____

2. CONTRACTING AGENCY

Name _____

Address _____

City, State, Zip _____

Phone Number ( ) _____

Submit this completed notice to:
Wage and Hour Division,
Prevailing Wage Section,
1400 S.W. 5th Avenue - Room 306
Portland, Oregon 97201

FORM WH-81 (Rev. 6/88)

3. CONTRACT INFORMATION

A. Contract Name and Number:

_____

B. Location of work: _____

C. County: _____

D. Amount of the Award: $ _____

E. Source of Funds: (i.e. 100% Federal Funds; 50/50, Federal, State; 100% local)

_____

F. Date Contract Awarded: _____

G. Date Contract Specifications Advertised for Bid:

_____

NOTICE OF AWARD OF PUBLIC WORKS CONTRACT
(For Use by Public Agency in Complying with ORS 279.363)

1. PRIME CONTRACTOR

Name ZAK CONSTRUCTION COMPANY

Address 1234 N.W. Camille Street

City, State, Zip Alexandra, OR 97201

Phone Number (503) 12-4567

2. CONTRACTING AGENCY

Name LOPEZ IRRIGATION DISTRICT

Address 1234 N.W. Shannon Court

City, State, Zip Jamestown, OR 97201

Phone Number (503) 987-6543

Submit this completed notice to:
Wage and Hour Division,
Prevailing Wage Section,
1400 S.W. 5th Avenue - Room 306
Portland, Oregon 97201

FORM WH-81 (Rev. 6/88)

SAMPLE

3. CONTRACT INFORMATION

A. Contract Name and Number:

Dam Repair 100-H

B. Location of work: Becca, Oregon

C. County: Malheur

D. Amount of the Award: $ 25,000

E. Source of Funds: (i.e. 100% Federal Funds; 50/50, Federal, State; 100% local)

100% State

F. Date Contract Awarded: July 16, 1985

G. Date Contract Specifications Advertised for Bid:

July 10, 1985

BUREAU OF LABOR AND INDUSTRIES
1400 S.W. 5th AVENUE
PORTLAND, OREGON 97201

ADDRESS CORRECTION REQUESTED

APPENDIX F

METHODOLOGY FOR DETERIMINING NORMAL ADVERSE WEATHER DAYS FOR CONSTRUCTION

METHODOLOGY FOR DETERMINING NORMAL ADVERSE WEATHER DAYS FOR CONSTRUCTION AT ST. JOHNS LANDFILL

I. Analysis of Weather Impacts

A. General Climatology - The work site is approximately seven miles from the Portland Airport, which is the nearest weather station. The U.S. Weather Service publishes Local Climatological Data for Portland, Oregon yearly. We will use the 1990 issue for our base line data (in particular, page 3, entitled "Normals, Means and Extremes").

B. Rain - Rainfall will have a heavy impact on earth work, due to difficulty in compacting soils, trafficability, possible damage to existing landfill cover, etc. Metro will consider that the category of "Precipitation, .01 Inches or More" will describe the number of rainy days we can expect each month. If the actual number of rainy days experienced during a particular month exceeds those expected, a justifiable delay may have occurred. In this case, the Contractor must show that the rainfall impacted the work by at least 50% on a particular work day. The upper limit for justifiable delay due to rain would be the difference in calendar days between the expected and actual numbers of rainy days. The Contractor would then multiply the number of scheduled work days impacted by a factor to convert work days to calendar days in order to determine the amount of this request.

Example - The weather in April 1992 is extremely rainy. The U.S. Weather Service records rainfall of .01" or more on 17 calendar days, while the Climatology Report tells us to expect 12. The Contractor is rained out and sends his entire work force home on each of six working days. On two more rainy days, a 50% loss of productivity is experienced. The calculations for justifiable delay due to rain would be as follows:

Actual Rain Days	17 calendar days
- Expected Rain Days	12 calendar days
Upper Limit of Rain Delay	5 calendar days

Actual Days of Rain Impact	6	work days x 100%
	2	work days x 50%
	7	work days
	x 1.4	cal days/workdays (5 day work week)
	9.8	cal days > 5 cal days

Justifiable delay for rain is 5 cal days for April 1992.

C. Snow - Snowfall could impact the progress of the work for many of the same reasons as rainfall. In addition, snow may cause visibility or traffic problems for the truck haul, perhaps even preventing the work force from getting to the site. The Climatology Report forecasts the expected frequency of snow or ice pellets over 1" deep for each month. If the Contractor experiences actual delays caused by snow during a particular month, calculations to determine the justifiable delay for snow will be the same as for rainfall.

D. Freezing Temperatures - Excavation, placement and compaction of fill materials in freezing weather is nearly impossible. In addition, freezing temperatures may cause unsafe road conditions. The Climatology Report gives us a monthly forecast of the number of days that the maximum temperature is below 32° F, and the number of days when the minimum temperature is below 32° F for each month. The tendency for soil to remain frozen is great when the temperatures are fluctuating above and below freezing during a 24-hour period. The number of days that the minimum temperature is below 32° F will be used as the criteria for determining if freezing temperatures are a possible source of justifiable delay. If the Contractor experiences actual delays because of freezing temperatures during a particular month, calculations to determine the justifiable delay will be the same as for rain and snowfall.

II. In order for Metro to grant a time extension for inclement weather, the following conditions must be satisfied:

A. The weather at the job site during the Contract period must be found to be unusually severe; that is, more severe than the adverse weather anticipated.

B. The unusually severe (inclement) weather must actually cause a delay to the completion of the project. The delay must be documented and reported to Metro in the daily Quality Control Report as the work progresses. Further, the delay must be beyond the control and without the fault or negligence of the Contractor. The delay must occur on a normal work day, and must prevent work on actual activities for at least 50% of the Contractor's scheduled work day.

III. Enclosed is the schedule of monthly anticipated adverse weather delays based upon Local Climatological Data for Portland, 1990. The Contractor's schedule will reflect this anticipated adverse weather in all weather-dependent activities.

IV. Actual adverse weather delay days must prevent work on critical activities for 50% or more of the Contractor's work day. The calculations for each type of weather delay will

follow the example in Enclosure 2. An actual delay day will only be used in calculations for one type of delay (rain, snow or freezing temperatures). If a day is impacted by more than one factor, the Contractor may choose the factor that brings him the most advantage.

V. The Contractor may rely on the monthly weather records of the U.S. Weather Service for Portland, or upon other proposed records that may be agreeable to Metro for computation of actual adverse weather delays.

VI. Requests for time extension for inclement weather will be prepared on a monthly basis and submitted in a timely manner within the following month. The Contractor will include copies of all supporting documentation in the request.

VII. Article 3 of the General Conditions provides for extensions of time for inclement (unusually severe) weather, but does not provide for compensation.

PH:gbc
Enclosures - 1. Schedule of Monthly Anticipated Adverse Weather Delays for St. Johns Landfill

2. Example of Weather Delay Computation

MONTHLY ANTICIPATED ADVERSE WEATHER DELAYS FOR ST. JOHNS LANDFILL

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rain (.01" or more)	18	16	17	14	12	9	4	5	8	13	18	19
Snow (1" or more)	1	0	0	0	0	0	0	0	0	0	0	1
Freezing Temperatures	13	8	5	1	0	0	0	0	0	1	5	10

Enclosure 1

Example of Weather Delay Computation

Example - The weather in December 1991 is typical for Portland weather. The U.S. Weather Service records the following for the month.

	Actual	-	Expected (climatology)	=	Upper limit of Delay
Rain (>,01")	18 cal days		19 cal days		0 cal days
Snow (>1")	3 cal days		1 cal days		2 cal days
Freezing Temperatures	10 cal days		7 cal days		3 cal days

The Contractor is running behind schedule and has scheduled work for six days per week. During the month, the Contractor calls off work on six working days because of rain. Wet soil prompts Metro to stop work on three additional working days. The Contractor is also prevented from working on two out of the three snow days this month and in addition is prevented from working on two additional work days because of a heavy accumulation of snow which fell at the end of November. On both of the snow impact days in December the ground was frozen and the Contractor could not have worked even if it had not been snowing. The Contractor experienced several other days when the temperatures dropped below freezing at night but was able to continue working. Calculations for weather delays could be made as follows.

A. Rain

Actual days of rain impact	6 working days
Metro stops work - wet soil	+ 3 working days
	9 working days
Conversion factor working days to cal days 7/6	x 1.17
	= 10.5 cal days impact

No time for rain is justified because actual rainfall does not exceed expected.

B. Snow

The Contractor has experienced four working days of impact because of snow. Based upon climatology and the actual weather in December the maximum allowable delay due to snow is only two calendar days. The Contractor decided to claim only the two working days he missed at the beginning of the month for the snow on the ground left over from November.

Actual days of snow impact	2 working days
working days to cal days 7/6	x 1.17
	2.34 cal days impact

The upper limit of delay due to snow in December 1991 is two calendar days. The justifiable delay for snow is therefore two calendar days.

C. Freezing temperatures

Actual days of freezing impact	2 working days
working days to cal days 7/6	x 1.17
	2.34 cal days impact

The upper limit of delay due to freezing temperatures is three calendar days. Therefore the justifiable delay for freezing temperatures is 2.34 calendar days.

D. Recap of justifiable weather delays for December 1991

Rain	0	calendar days
Snow	2	calendar days
Freezing temperatures	2.34	calendar days
TOTAL	4.34	calendar days

which rounds to four calendar days for the month.

METRO

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

Memorandum

DATE: May 20, 1991

TO: Metro Council

FROM: Paulette Allen, Clerk of the Council PA

RE: MAY 23 COUNCIL AGENDA ITEM NO. 7.4; RESOLUTION NO. 91-1455

Attached is Resolution No. 91-1455 Exhibit A, Request for Proposal for Advertising and Public Relations Services. Because of the volume of documentation, the exhibit was not published in the agenda packet. This packet is for your review prior to May 23 and will be available at the Council meeting. The Solid Waste Committee will consider the resolution at its May 21 meeting.

REQUEST FOR PROPOSAL

for

Advertising and Public Relations Services

RFP #91R-17-PA

Metropolitan Service District
2000 S.W. First Avenue
Portland, OR 97201-5398
(503) 221-1646

May 31, 1991

TABLE OF CONTENTS

REQUEST FOR PROPOSAL
for
Advertising and Public Relations Services

I. INTRODUCTION

The Public Affairs Department of the Metropolitan Service district (Metro) is requesting proposals for an advertising and public relations consultant to design and implement recycling and waste reduction education campaigns to support Metro's waste reduction programs. The two-year contract will begin in August 1991.

Proposals will be due on June 28, 1991, no later than 5:00 p.m. PDT, in Metro's business offices at 2000 SW First Avenue.

Metro is the regional government that manages regionwide concerns in the urban areas of Clackamas, Multnomah and Washington counties. The agency is governed by a 12-member council, elected from subdistricts in the region, and an executive officer, elected regionwide.

Metro is responsible for solid waste management, operation of the Metro Washington Park Zoo, transportation and land use planning, and urban growth management. Metro also governs the Metropolitan-Exposition Commission, which operates the Oregon Convention Center, Memorial Coliseum, Portland Center for the Performing Arts, and Civic Stadium.

The Waste Reduction section of the agency's Solid Waste Deparment coordinates and implements regional waste reduction and recycling programs in cooperation with local governments. Those programs are supported and enhanced by the promotion and education programs managed through Metro's Public Affairs Department.

II. BACKGROUND

Over the past five years, Metro has implemented a program to reduce the amount of waste going into landfills in the Portland metropolitan area. Since 1986, Metro has contracted with an advertising agency to develop public education and promotion campaigns to increase recycling and reduce waste.

In 1986 the regional recycling rate was 22%. Since that time the rate has grown to 28%. Metro's long-term goal is to achieve 56% waste reduction by the year 2010. Approximately 16 percent of that reduction will be accomplished through state-of-the-art material recovery operations at Metro transfer stations and the municipal compost facility. Increasing residential and commercial "source-separation" recycling participation is an important part of reaching the 2010 goal.

In the first three years, advertising focused on building awareness of solid waste problems, kicking off residential curbside recycling and establishing Metro's Recycling Information Center as a visible community resource. Curbside promotion focused on glass, tin and newspaper. Secondary emphasis was given to promoting home composting and use of commercially made yard debris compost. Television, radio, print and transit were used to reach the residential consumer market.

In 1990 and 1991, the focus shifted to promoting office paper recycling and recycled paper to the business community. Direct mail, print, outdoor, special events and trade show outreach were used to reach the target audience with strong public relations support. While the level of curbside and yard debris compost promotion was reduced, it was enhanced with a variety of cooperative promotions.

Since 1985, Metro has conducted annual recycling attitudes and awareness research to guide campaign development. Summaries from the 1989 and 1990 surveys are included in Attachment A. Results of the 1991 survey, which will be conducted in June, will be used in developing advertising and promotion programs for FY 91-92. Annual waste characterization and recycling levels studies are also used to identify promotion/education priorities. Results from the most recent studies are included in Attachment B.

III. PROJECT DESCRIPTION

Metro requires an advertising and public relations consultant to assist in waste reduction/recycling education and promotion planning, develop waste reduction and recycling advertising campaigns, design and produce major campaign materials, place media, identify and pursue cooperative promotional opportunities as appropriate, and assist in overall public relations planning and, possibly, implementation.

Campaigns should result in a measurable reduction in waste entering the waste stream (i.e. going to our transfer stations) and/or increased calls to Metro's Recycling Information Center.

Two to three campaigns will be developed each year based on existing Metro research (Attachment A) and new research deemed necessary by Metro staff and the advertising contractor. The two-year contract will be written based on a budget of $200,000 per year pending final Metro Council adoption.

The following areas of campaign emphasis for the first year have been identified based on information currently available. Metro staff and the contractor will prioritize and refine these based on studies and surveys completed in June 1991.

- Yard debris recycling - new recycling options and home composting.
  Rationale: Yard debris is 26% of the residential waste stream.

- Corrugated cardboard recycling - residential curbside and commercial.
  Rationale: Cardboard is 11% of the residential waste stream and 18% of the commercial waste stream.

- Office paper recycling and recycled paper promotion - reinforcement of Paper Train Your Staff and Buy Recycled efforts.
  Rationale: maintain/build on momentum established with business community.

IV. SCOPE OF WORK

The successful proposer (hereinafter referred to as the "Contractor") will provide the following services:

- Analyze solid waste and recycling market research prepared for Metro. This analysis will be reviewed with key staff and used as the basis for campaign development.

- Assist in developing annual promotion plans that incorporate advertising and public relations. Contractor will execute advertising efforts and provide up to 100 hours of public relations assistance.

- Develop at least two public education campaigns each year. First year campaigns will be aimed at one or more of the following: yard debris, corrugated cardboard or office paper recycling, use of recycled paper, or another topic as appropriate. Focus of second year campaigns is to be determined later.

- Conceive, write, design, produce and place print, broadcast, outdoor or direct mail advertising and identify cooperative promotion opportunities where appropriate. Collateral materials may be developed by Metro's graphics staff, with Contractor consultation, when appropriate. Contractor must obtain Metro approval on all materials written or produced in concept, draft, pre-production and final phases.

- Provide Metro with written summaries of client/agency meetings and monthly progress reports, year-to-date budget summaries and billings. The Contractor and Metro project manager will meet periodically to evaluate campaign progress.

- Develop programs that achieve maximum impact within the annual budget of $200,000. This figure include agency fees, out-of-pocket expenses and all materials, production and media costs.

V. POTENTIAL SUBCONTRACTORS

The Contractor will contact the Metro Project Manager prior to negotiating any subcontracts. In the event that any subcontractors are to be used in the performance of this agreement, the Contractor will make a good faith effort, as defined in Metro's Disadvantaged Business Program, Section 2.40.160, Subsection (b) of the Metro Code, (Attachment C), to reach the goals of subcontracting 7% of the contract amount to Disadvantaged Business Enterprises (DBEs) and 5% of the contract amount to Women Owned Business Enterprises (WBEs).

No subcontractor selection may be finalized prior to contract award. For any task or portion of a task to be undertaken by a subcontract, the Contractor shall not sign up a subcontractor on an exclusive basis. The Contractor shall assume responsibility for the day-to-day direction and internal management of the subcontractor effort.

Metro reserves the right, at all times during the period of this agreement, to monitor compliance with the terms of the preceding Subcontractor paragraphs. Contractor shall provide Metro with all inforamtion necessary to determine compliance with Metro's Disadvantaged Business Program.

Further information is available from Metro's Disadvantaged Business Program Liaison Office, Amha Hazen at (503) 221-1646.

VI. PROPOSAL INSTRUCTIONS

Submission of Proposals

Submit five (5) copies of the proposal, printed double-sided, on recycled paper with reusable binding where applicable, to:

Vickie Rocker
Public Affairs Director
Metropolitan Service District
2000 SW First Avenue
Portland, OR 97201-5398

Deadline

Proposals will not be considered if received after 5:00 p.m. PDT, June 28, 1991. Postmarks are not acceptable.

RFP as Basis for Proposals

This RFP represents the most definitive statement Metro will make concerning information upon which proposals are to be based. Any verbal information that is not contained in this RFP will not be considered by Metro in evaluating proposals. All questions relating to the RFP are to be directed to Michel Gregory. Any question that, in the opinion of Metro, warrants a written reply or RFP amendment will be furnished to all parties receiving a copy of this RFP. Metro will not respond to questions received after June 14, 1991.

VII. PROPOSAL CONTENTS

Proposals should contain the following information and must be valid for ninety (90) days:

- **Letter of Transmittal**
  Briefly summarize the key points of the proposal, identify who

will be the account manager and state that the proposal will be valid for ninety (90) days after the transmittal date. The letter should be signed by the the individual(s) with authority to contractually bind the company during the period in which Metro is considering proposals and should include name, title, address and telephone number.

- **Approach**
  State your understanding of the issues affecting this project and briefly describe how your firm will approach this account based on the information presented in this document. Outline your firm's planning, campaign development and evaluation processes.

- **Staffing**
  Include resumes and account responsibilities of key personnel, and estimate what percentage of each person's time this account would require. Identify who would act as account manager.

- **Previous Work**
  Describe similar projects your firm has completed, including objectives and results achieved. Briefly explain how each is relevant to this project. List names and telephone numbers of client references for these projects. Samples are encouraged.

- **Billings/Budget**
  List hourly rates for all personnel assigned to the project, materials markup policy, media billing policies, and proposed terms of compensation. Based on the information in this document and past experience with similar projects, estimate how the annual budget might be allocated.

- **Subconsultants**
  Metro encourages the use of certified DBEs and WBEs. If any portion of the work is to be subcontracted, include a statement regarding the percentage participation by DBE and WBE vendors, or if good faith efforts have been made as defined by the Metro Code, Section 2.04.160 (Attachment C). If applicable, complete the attached DBE/WBE compliance form with your application (Attachment D).

- **Exceptions**
  To facilitate evaluation, please prepare your proposal according to the format outlined in this RFP. Firms wishing to take exception to, or comment on, any aspect of this RFP are encouraged to document their concerns in this part of their proposals. Exceptions or comments should be succinct, thorough and organized.

VIII. GENERAL PROPOSAL/CONTRACT CONDITIONS

Limitations of Award
This RFP does not commit Metro to the award of a contract, nor to pay any costs incurred in the preparation and submission of proposals in anticipation of a contract. Metro reserves the right to accept or reject any and all proposals received as a result of this request, to negotiate with all qualified sources, or to cancel all or part of this RFP.

Contract Type
Metro intends to award a personal services contract with the selected contractor of this project. A copy of the standard contract the Contractor will be required to execute is attached (Attachment E).

Payment Schedule
Payments shall be made monthly after receipt of an itemized billing from Contractor fo all work performed in the previous month.

Validity Period and Authority
The proposal shall be considered valid for a period of at least ninety (90) days and shall contain a statement to that effect. The proposal shall contain the name, title, address and telephone number of an individual or individuals with authority to bind the company during the period in which Metro is evaluating the proposal.

Insurance Requirements
The contractor shall provide (from insurance companies acceptable to Metro) general liability insurance coverage with a combined single limit of not less than $500,000. Before commencing work under this contract, the contractor shall furnish Metro with a certificate of insurance evidencing coverage as specified, naming Metro as an additional insured.

IX. EVALUATION OF PROPOSALS

Evaluation Procedure

Proposals that conform to the proposal instructions will be evaluated. The evaluation will take place using the evaluation criteria identified in the following section. After initial evaluation, Metro will develop a short list of the firms it deems most qualified. Interviews with those firms will be held July 16 and 17. Second interviews may be scheduled with finalists prior to final selection.

Evaluation Criteria

The following is criteria that will be used in evaluating proposals. Presentation guidelines will be sent to short list finalists on July 2.

Approach (25%)
- •Understanding of project objectives
- •Methodology

Staffing (25%)
- •Relevant experience
- •Time distribution

Previous Work (40%)
- •Relevance to Metro project
- •Creativity
- •Results

Budget (10%)
- •Value

X. SCHEDULE

The following is a tentative project schedule.

May 31	RFP advertised/mailed
June 28	Proposals due
July 2	Short list notification
July 16-17	Interviews

July 19	Second round interviews (if necessary)
July 22	Contractor selection
July 22 - August 16	Metro contract approval
August 19	Start-up meeting with Metro
August 19, 1991- June 30, 1992	Execution of contract - Year One
July 1, 1992 - June 30, 1993	Execution of contract - Year Two
June 30, 1993	Termination of contract

ATTACHMENT "A"

1989 Survey

SUMMARY

Recycling

Recycling activity continues to increase steadily.

- The number of people who consider recycling important increased to 77% this year from 71% in 1988.

- The number of people who use curbside recycling increased from 28% in 1986, to 40% in 1988 and 48% in 1989. Awareness of curbside recycling remained unchanged at 80% over the past year. Awareness was 87% among residents of single family dwellings.

- The number of people planning to increase their recycling increased from 20% in 1985, to 35% in 1988 and 41% in 1989.

- Curbside recycling was used most frequently for newspapers, cans and glass. It was used less frequently for cardboard and paper bags, motor oil, plastic, scrap metal and yard debris.

- Yard debris is usually either left on the property or treated as garbage. Only 5% currently recycle yard debris.

Curbside recycling will increase as the public becomes more aware of the specifics of the service and uses it for more items.

- When respondents were asked what would get them to increase curbside recycling, 20% said more information, including 9% who wanted to know when they pick up, 7% who wanted to know what they take and 4% who wanted to know "when and where."

- Only 10% suggested that there was nothing that would get them to increase curbside recycling and 30% didn't know what would influence them.

- When specific motivations were tested, more information on when and what to recycle were most effective, along with having containers provided. Weekly pick up was not a particularly strong motivator.

A 63% majority said they recalled seeing or hearing promotional activity or advertising about recycling in the past several months. This is an increase from 58% in 1988 and 53% in 1986.

- Only 35% could not recall a specific message from the advertising.
- 55% said they saw the promotion on television.

Only 20% recalled any promotional activity or advertising about yard debris. Among those who did, 34% saw it in the newspaper and 68% recalled some specific message.

Thirty-eight percent recalled promotional activity or advertising dealing with hazardous waste collection. Those who did, saw it either in the newspapers (38%) or on television (27%) and 41% recalled the message was where to take such materials.

Solid Waste

Garbage collection rates were perceived reasonable by 57% , unreasonable by 18% and 21% currently pay no garbage collection fees. This is a change from 1988 when rates were perceived reasonable by 63% to 11%. There was no change in the number who pay garbage collection fees.

Most residents (77%) put out only one can of garbage each week, while 13% put out two, 8% three or more and 2% said it depends.

Most residents (58%) were also aware that the cost of picking up recycled items was included as part of their garbage hauling fee, while 7% believe

garbage collection companies charge a fee for the service and 35% weren't sure.

Metro

Fifty-two percent said they were unfamiliar with Metro, 43% familiar and 4% didn't know if they were familiar or not.

A 57% majority could not name even a single Metro service, while 42% could correctly name at least one Metro service.

The vast majority (87%) of area residents have never used the recycling information center, 8% had used it and were satisfied, 1% had used it and were not satisfied, 1% had used it but weren't sure if they were satisfied and 2% didn't know if they had used it.

1990 Survey

EXECUTIVE SUMMARY

As can be seen from the yearly comparisons below, significant increases were seen in the recycling topics covered by the various surveys.

- Overall, 61% of survey participants stated that they were aware of curbside recycling and use it either regularly or periodically. Nearly one-fourth of respondents (24%) said they were aware of the service but did not use it.

- The total percentage of respondents saying that recycling is important has steadily increased since from 71% in 1988 and 77% in 1989 to the current high of 88% in 1990.

- Major increases were seen from 1988 to 1990 among the number of respondents stating they use curbside recycling. This service increased from a usage level of 40% in 1988, 48% in 1989, to a majority of respondents (61%) in 1990 saying they use this service either regularly or periodically.

- Significantly more people mentioned recycling the various materials from the survey conducted in 1988, to 1989, to the current study. The percentages associated with each of these materials is shown in the table below:

Material	1990	1989	1988
Newspaper	79%	75%	57%
Glass	77	69	73
Tin	59	52	--
Cardboard	45	31	26
Aluminum	21	18	--
Motor Oil	16	10	8
Scrap Metal	6	3	--
Plastic	1	6	1

- Plastic products were the number one response (41%) given when people were asked "What items or materials would you like to recycle at the curbside." Other answers to this question included "yard debris" (9%), "magazines" (8%), "styrofoam" (6%), and "phone books" (2%).

- "Inconvenient/too much trouble/too lazy" (76%) was the frequent response given by people asked why they felt others don't recycle. "No desire/not interested" and "lack of information" (both 22%) were also frequently mentioned by survey participants.

- Over half of all respondents (54%) said the reason they recycle was that it was "good for the environment". The "possibility of a landfill shortage" (27%) and the "re-use of limited resources" (23%) were also given as major reasons to recycle.

- Most yard debris is usually left on the property (54%) or is thrown in the garbage (28%). Overall, 8% of respondents in 1990 stated they recycle their yard debris by taking it to a recycling center, this compares with 5% of survey participants in 1989 stating they recycle this material.

- For the current survey, advertising recall was divided into three separate topics: yard clippings or compost, office paper recycling, and Metro Recycling Information Center. A comparison of the previous year's survey was possible only for yard clippings. Awareness of promotional activity in 1990 was 36% compared with 20% in 1989.

- Most respondents gave varied, unspecified responses when asked what the major theme or message was of this promotion.

- Overall, 38% of survey participants said they had seen or heard some advertising or promotion for Office Paper Recycling.

- Advertising or promotion for the Metro Recycling Information Center was recalled by slightly over one-fourth (27%) of respondents.

- Over one-third (37%) of people responding to the recycling survey said they dispose of yard debris by composting or mulching. In contrast to this, 26% said they put this material in the garbage, and 14% stated they haul it to the dump themselves.

- Among people responding to the 1990 survey, 67% stated that the cost of picking up recyclable items at the curbside was included in their garbage collection fee. This figure is significantly higher than the previous year's awareness level of 58%. The percentage of people responding "don't know" to this question was also less in 1990 (26%) than in 1989 (35%).

- Familiarity with Metro increased slightly from 1989 (43%) to 1990 (44%). People saying they were unfamiliar with Metro decreased from the previous year, dropping from 52% in 1989 to 46% in 1990.

- Recall of specific Metro services remained roughly the same from 1989 to 1990. On the 1989 survey, 42% of respondents were able to name a service provided by Metro, compared with 44% in 1990.

ATTACHMENT "B"

1989/90 Waste Characterization

Table 3. Composition of waste (percent of wet weight) of three waste streams: (1) construction/demolition debris, (2) residential waste (excluding construction/demolition), and (3) non-residential waste (excluding construction/demolition) delivered to each of the three study sites.

	Hillsboro			St. Johns			Metro South			Region		
Waste Stream (see code):	C/D	O/R	O/NR	C/D	O/R	O/NR	C/D	O/R	O/NR	C/D	O/R	O/NR
PAPER	6.07	5.83	17.74	11.90	25.79	43.27	11.52	35.20	38.95	7.77	27.56	35.10
food container	0.00	0.00	0.70	0.14	1.06	1.48	0.10	2.41	2.02	0.04	1.59	1.41
corrugated	4.45	3.19	8.71	8.07	11.24	23.91	7.17	12.65	17.47	5.39	10.73	18.03
newspaper	0.33	0.37	1.05	1.29	3.78	3.37	1.41	6.34	3.07	0.64	4.57	2.65
office	0.25	1.85	1.37	2.15	1.64	4.77	0.31	1.61	4.53	0.51	1.66	3.77
magazine	0.00	0.00	0.76	0.00	1.95	0.66	0.20	1.82	1.35	0.03	1.58	0.87
book	0.16	0.13	0.74	0.10	3.20	1.91	0.18	2.32	3.14	0.16	2.27	1.91
other	0.88	0.29	4.41	0.15	2.92	7.17	2.15	8.05	7.37	1.00	5.16	6.46
PLASTIC	2.33	2.24	10.52	4.59	8.68	11.43	3.64	9.80	11.24	2.85	8.28	11.13
food jug	0.00	0.00	0.01	0.03	0.26	0.43	0.00	0.47	0.31	0.00	0.33	0.28
non-food container	0.00	0.00	0.09	0.00	0.14	0.32	0.00	0.20	0.25	0.00	0.15	0.24
durable	0.38	0.82	2.33	1.60	1.29	2.51	1.85	0.88	1.21	0.79	1.00	2.12
film	0.95	0.78	3.47	1.97	4.43	4.64	0.52	4.35	5.71	1.01	3.83	4.60
styrofoam	0.42	0.11	0.92	0.79	0.76	0.86	0.01	0.75	1.51	0.40	0.66	1.05
other food container	0.00	0.00	0.03	0.14	1.01	1.44	0.05	1.42	1.37	0.03	1.07	1.03
other	0.58	0.53	3.67	0.06	0.79	1.23	1.21	1.73	0.88	0.62	1.24	1.81
YARD DEBRIS	4.56	75.06	5.98	6.91	15.61	2.55	2.01	17.49	9.94	4.43	25.74	5.44
prunings	3.29	36.41	2.26	1.90	6.67	1.12	0.49	8.09	4.97	2.63	11.99	2.45
bulky	0.86	5.79	0.06	0.10	0.54	0.24	0.00	1.23	0.10	0.61	1.70	0.15
leaf	0.41	32.86	3.66	4.91	8.40	1.19	1.52	8.17	4.87	1.19	12.05	2.84
WOOD	26.75	4.17	23.61	25.44	7.00	12.66	27.96	2.63	8.85	26.79	4.31	14.67
construction	22.96	4.14	11.38	18.07	3.71	5.18	26.74	2.47	5.88	22.97	3.14	7.07
packaging	3.79	0.03	12.23	7.37	3.29	7.48	1.22	0.16	2.97	3.82	1.17	7.60
TEXTILE	3.66	3.73	4.79	8.71	5.59	5.17	6.72	3.38	4.21	4.85	4.16	4.81
FOOD	0.05	0.12	0.90	0.40	10.53	6.68	0.99	8.51	6.85	0.26	7.89	5.13
DIAPERS	0.00	0.00	0.02	0.00	1.17	0.26	0.52	2.66	0.46	0.09	1.75	0.25
MISC. ORGANIC	17.48	3.24	17.99	6.15	4.18	3.73	10.75	3.39	4.84	14.85	3.63	7.95
GLASS	0.20	0.97	0.52	1.69	2.71	1.62	0.26	4.52	2.14	0.40	3.39	1.46
beverage	0.03	0.00	0.00	0.42	0.74	0.84	0.03	2.08	1.17	0.08	1.32	0.70
non-food container	0.00	0.91	0.01	0.00	0.12	0.07	0.00	0.14	0.08	0.00	0.26	0.06
food container	0.00	0.00	0.05	0.27	0.75	0.30	0.02	1.47	0.61	0.04	1.01	0.31
other	0.17	0.06	0.46	1.00	1.10	0.41	0.21	0.83	0.28	0.28	0.80	0.39
ALUMINUM	0.06	0.00	0.85	0.60	0.91	0.54	0.25	0.57	0.56	0.16	0.60	0.63
food container	0.00	0.00	0.04	0.00	0.73	0.39	0.00	0.49	0.37	0.00	0.50	0.29
other	0.06	0.00	0.81	0.60	0.18	0.15	0.25	0.08	0.19	0.16	0.10	0.34
FERROUS METAL	1.06	3.84	3.11	13.89	4.12	4.13	2.07	5.48	5.53	2.91	4.78	4.21
food container	0.00	0.00	0.14	0.09	1.60	1.27	0.00	2.05	1.56	0.01	1.59	1.03
other	1.06	3.84	2.97	13.80	2.52	2.86	2.07	3.43	3.97	2.90	3.19	3.18
NON-FERROUS METAL	2.36	0.07	1.24	0.88	0.50	0.35	0.27	0.01	0.14	1.81	0.18	0.54
MISC. INORGANIC	35.17	0.72	11.51	17.50	5.64	5.25	31.73	1.22	5.54	32.27	2.60	7.05
APPLIANCE	0.02	0.00	0.00	0.31	0.83	0.03	0.82	1.99	0.26	0.20	1.30	0.08
WHITE GOODS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FURNITURE	0.00	0.00	1.03	1.04	6.65	1.07	0.45	2.76	0.28	0.21	3.62	0.85
HAZARDOUS WASTE	0.23	0.00	0.20	0.00	0.08	0.27	0.00	0.16	0.12	0.16	0.11	0.21
MEDICAL WASTE	0.01	0.00	0.00	0.00	0.01	1.02	0.00	0.03	0.02	0.01	0.02	0.48
OTHER MATERIAL	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.17	0.06	0.01	0.09	0.02

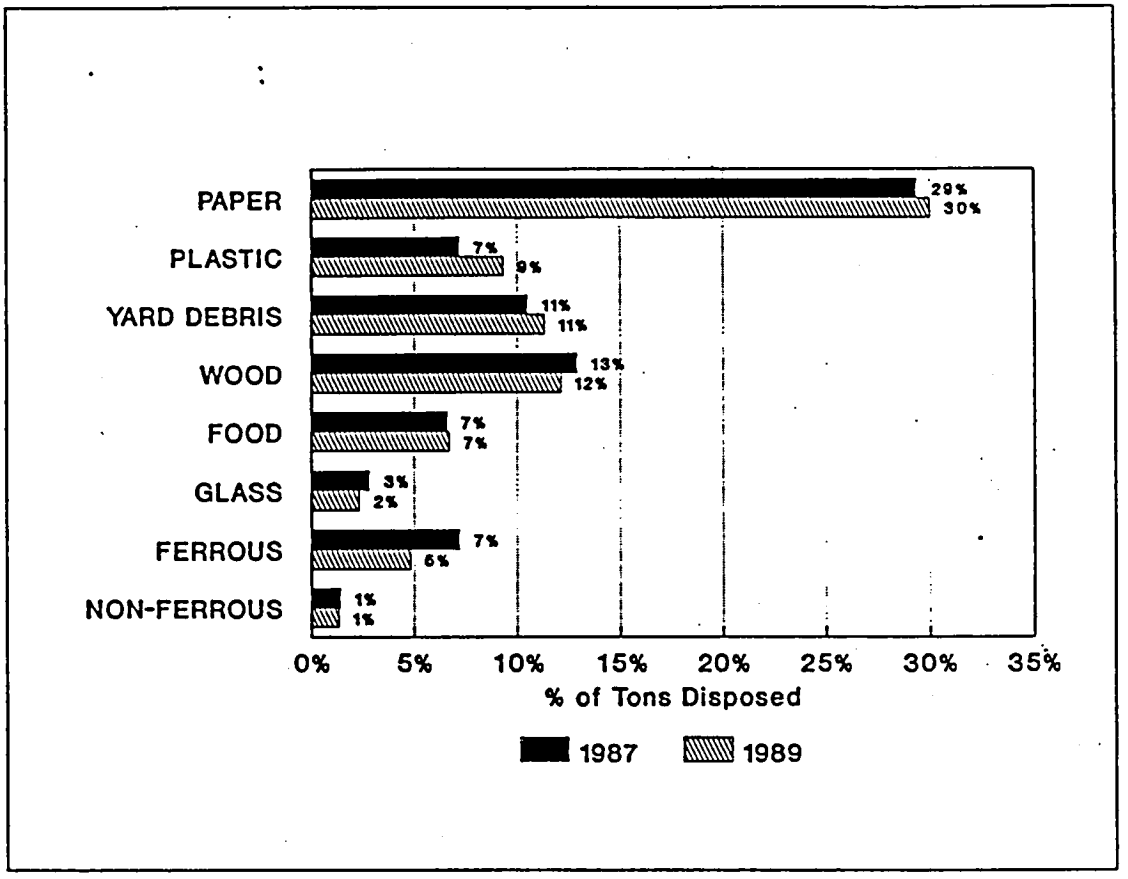
C/D=Construction/Demolition debris (from both residential and non-residential sources);

O/R=Other/Residential waste (all waste from residential generators except for construction/demolition debris)

O/NR=Other/Non-Residential (all waste from non-residential generators except for contruction/demolition debris)

June 15, 1990

Figure 3. Comparison of the 1987 and 1989 waste compositions.



June 15, 1990

RESULTS

The quantity of materials recycled in 1989 and 1988 are compared in Table 1. Historical disposal and recycled tonnages are shown in Figure 1. Details of the calculation of the regional recycling level are presented in Table 1.

Table 1. Comparison of 1989 and 1988 recycling tonnages and levels.

	1988		1989	
Material	Tons	% Recycled	Tons	% Recycled
Corrugated/Kraft Paper	84,000	47	95,000	41
Newspaper	66,000	65	57,000	59
Office Paper	21,000	34	35,000	53
Mixed Waste Paper	10,000	7	11,000	8
Plastics	9,000	11	15,000	13
Yard Debris	38,000	26	48,000	28
Wood	6,000	4	3,000	2
Glass	19,000	40	30,000	54
Ferrous	82,000	51	88,000	72
Tin	1,000	N/A	2,000	10
Aluminum	23,000	69	13,000	62
Non-Ferrous	12,000	74	5,000	42
TOTAL	391,000		402,000	

NOTES:

1) The 1988 conversion factor for wood was 4 cubic yards = 1 ton; the 1989 factor is 9 cubic yards = 1 ton.

2) The 1989 aluminum and non-ferrous tonnages exclude some items included in the 1988 tonnages (e.g. radiators).

3) Tonnage recycled by non-profit charitable recycling organizations is not shown above.

4) Tin disposal tonnage is not available for 1988.

Table 2. Metro region 1989 recycling and resource recovery levels.

Material	% of Waste Disposed	Disposed Tons	Recycled Tons	Generated Tons	Recycling Level (%)
Corrugated/ Kraft Paper	12.3	134,000	95,000	229,000	42
Newspaper	3.5	38,000	57,000	95,000	60
Office Paper	2.8	30,000	35,000	65,000	54
Mixed Waste Paper	11.3	123,000	11,000	134,000	8
Plastics	9.3	101,000	15,000	116,000	13
Yard Debris	11.3	123,000	48,000	171,000	28
Wood	12.1	131,000	3,000	134,000	2
Glass	2.3	25,000	30,000	55,000	55
Ferrous	3.2	35,000	88,000	123,000	72
Tin	1.6	17,000	2,000	19,000	10
Aluminum	0.7	8,000	13,000	21,000	63
Non-Ferrous	0.6	6,000	5,000	11,000	43
Other	29.0	315,000	12,000	327,000	4
TOTAL RECYCLING	100.0	1,086,000	414,000	1,500,000	28%
ADDITIONAL TONNAGE					
Motor Oil			15,000	15,000	
Tires			8,000	8,000	
Marion County Energy Recovery			23,000	23,000	
			46,000	46,000	
TOTAL RESOURCE RECOVERY			460,000	1,546,000	30%

NOTES:

1) "Other" recycled tonnage is material recycled by the coalition of non-profit charitable rehabilitation agencies (Goodwill, St. Vincent DePaul, Salvation Army and Deseret Industries).

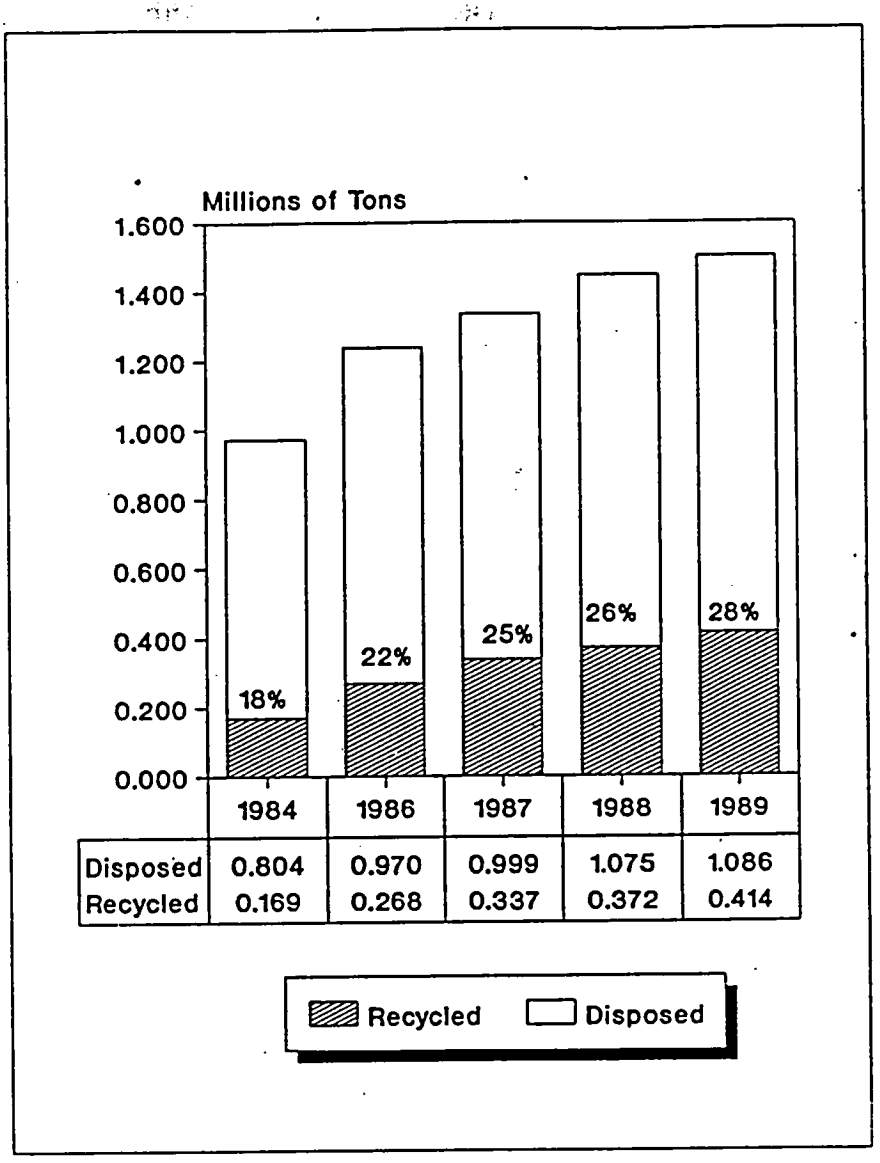
2) Not all oil processors reported tonnages. 15,000 tons represents a minimum for the region.

3) Yard debris recycled and generated tonnage does not include mobile chippers, home composting, and city public works events.

4) Oil generated tonnage is from the Department of Environmental Quality's estimates of oil available for recycling in the Metro Region.

5) Tire generated tonnage is based on the Department of Environmental Quality's estimate of 0.8 tires per capita for Oregon.

Figure 1. Disposed and recycled tonnage in the Metro region during 1984 and 1986-1989.



METRO CODE SECTION 2.04.100
Disadvantaged Business Program
METROPOLITAN SERVICE DISTRICT
Revised February, 1990

2.04.100 Disadvantaged Business Program, Purpose and Authority:

(a) It is the purpose of this ordinance to establish and implement a program to encourage the utilization by Metro of disadvantaged and women-owned businesses by creating for such businesses the maximum possible opportunity to compete for and participate in Metro contracting activities.

(b) The portions of this ordinance which relate to federally funded contracts are adopted pursuant to 49 CFR 23 and are intended to comply with all relevant federal regulations. Federal regulation 49 CFR 23 and its amendments implement section (105)(f) of the Surface Transportation Assistance Act of 1982 relating to the participation by Minority Business Enterprises in Department of Transportation programs.

(c) This ordinance shall be known and may be cited as the "Metro Disadvantaged Business Program," hereinafter referred to as the "Program."

(d) This ordinance supersedes the Metro "Minority Business Enterprise (MBE) Program" dated October 1980 and amended December 1982.

(Ordinance No. 83-165, Sec. 1; amended by Ordinance No. 84-181, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.105 Policy Statement:

(a) Through this Program, Metro:

(1) expresses its strong commitment to provide maximum opportunity to disadvantaged and women-owned businesses in contracting;

(2) informs all employees, governmental agencies and the general public of its intent to implement this policy statement; and

(3) assures conformity with applicable federal regulations as they exist or may be amended.

(b) It is the policy of Metro to provide equal opportunity to all persons to access and participate in the projects, programs and services of Metro. Metro and Metro contractors will not discriminate against any person or firm on the basis of race, color, national origin, sex, sexual orientation, age, religion, physical handicap, political affiliation or marital status.

(c) The policies, practices and procedures established by this ordinance shall apply to all Metro departments and project areas except as expressly provided in this ordinance.

(d) The objectives of the program shall be:

(1) to assure that provisions of this ordinance are adhered to by all Metro departments, contractors, employees and USDOT subrecipients and contractors.

(2) to initiate and maintain efforts to increase program participation by disadvantaged and women businesses.

(e) Metro accepts and agrees to the statements of 49 CFR §23.43(a)(1) and (2), and said statements shall be included in all USDOT agreements with USDOT subrecipients and in all USDOT assisted contracts between Metro or USDOT subrecipients and any contractor.

(Ordinance No. 83-165, Sec. 2; amended by Ordinance No. 84-181, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.110 Definitions: For purposes of this Ordinance, the following definitions shall apply:

(a) APPLICANT -- one who submits an application, request or plan to be approved by a USDOT official or by Metro as a condition to eligibility for Department of Transportation (USDOT) financial assistance; and "application" means such an application, request or plan.

(b) CONSTRUCTION CONTRACT -- means a contract for construction of buildings or other facilities, and includes reconstruction, remodeling and all activities which are appropriately associated with a construction project.

(c) CONTRACT -- means a mutually binding legal relationship or any modification thereof obligating the seller to furnish supplies or services, including construction, and the buyer to pay for them. For purposes of this ordinance a lease or a purchase order of $500.00 or more is a contract.

(d) CONTRACTOR -- means the one who participates, through a contract or subcontract, in the Program and includes lessees.

(e) DEPARTMENT or "USDOT" -- means the United States Department of Transportation, including its operating elements.

(f) DISADVANTAGED BUSINESS ENTERPRISE or DBE -- means a small business concern which is certified by an authorized agency and:

(1) which is at least 51 percent owned by one or more socially and economically disadvantaged individuals, or, in the case of any publicly-owned business, at least 51 percent of the stock of which is owned by one or more socially and economically disadvantaged individuals; and

(2) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

For purposes of USDOT assisted contracts, the term Disadvantaged Business Enterprise shall be deemed to include Women-Owned Business Enterprises.

(g) EXECUTIVE DEPARTMENT -- means the State of Oregon's Executive Department.

(h) JOINT VENTURE -- is defined as an association of two or more businesses to carry out a single business enterprise for profit for which purpose they combine their property, capital, efforts, skills and knowledge. In a joint venture between a DBE/WBE and non-DBE/WBE, the DBE/WBE must be responsible for a clearly defined portion of the work to be performed and must share in the ownership, control, management responsibilities, risks and profits of the joint venture. A joint venture of a DBE/WBE and a non-DBE/WBE must receive Metro approval prior to contract award to be counted toward any DBE/WBE contract goals.

(i) LABOR AND MATERIALS CONTRACT -- is a contract including a combination of service and provision of materials other than construction contracts. Examples may include plumbing repair, computer maintenance or electrical repair, etc.

(j) LESSEE -- means a business or person that leases, or is negotiating to lease, property from a recipient or the Department on the recipient's or Department's facility for the purpose of operating a transportation-related activity or for the provision of goods or services to the facility or to the public on the facility.

(k) OREGON DEPARTMENT OF TRANSPORTATION OR "ODOT" -- means the State of Oregon's Department of Transportation.

(l) PERSONAL SERVICES CONTRACT -- means a contract for services of a personal or professional nature.

(m) PROCUREMENT CONTRACT -- means a contract for the purchase or sale of supplies, materials, equipment, furnishings or other goods not associated with a construction or other contract.

(n) RECIPIENT -- means any entity, public or private, to whom USDOT financial assistance is extended, directly or through another recipient for any program.

(o) SMALL BUSINESS CONCERN -- means a small business as defined pursuant to section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto.

(p) SOCIALLY AND ECONOMICALLY DISADVANTAGED INDIVIDUALS OR DISADVANTAGED INDIVIDUALS -- means those individuals who are citizens of the United States (or lawfully admitted permanent residents) and who are Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans or Asian-Indian Americans and any other minorities or individuals found to be disadvantaged by the Small Business Administration pursuant to section 8(a) of the Small Business Act. Certifying recipients shall make a rebuttable presumption that individuals in the following groups are socially and economically disadvantaged. Certifying recipients also may determine, on a case-by-case basis, that individuals who are not a member of one of the following groups are socially and economically disadvantaged:

(1) "Black Americans," which includes persons having origins in any of the Black racial groups of Africa;

(2) "Hispanic Americans," which includes persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Portuguese-American, Spanish culture or origin, regardless of race;

(3) "Native Americans," which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;

(4) "Asian-Pacific Americans," which includes persons whose origins are from Japan, China, Taiwan, Korea, Vietnam, Laos, Cambodia, the Philippines, Samoa, Guam, the U.S. Trust Territories of the Pacific, and the Northern Marianas; and

(5) "Asian-Indian Americans," which includes persons whose origins are from India, Pakistan, and Bangladesh.

(q) USDOT ASSISTED CONTRACT -- means any contract or modification of a contract between Metro and a contractor which is paid for in whole or in part with USDOT financial assistance.

(r) USDOT FINANCIAL ASSISTANCE -- means financial aid provided by USDOT or the United States Railroad Association to a recipient, but does not include a direct contract. The financial aid may be provided directly in the form of actual money, or indirectly in the form of guarantees authorized by statute as financial assistance services of Federal personnel, title or other interest in real or personal property transferred for less than fair market value, or any other arrangement through which the recipient benefits financially, including licenses for the construction or operation of a Deep Water Port.

(s) WOMEN-OWNED BUSINESS ENTERPRISE or WBE -- means a small business concern, as defined pursuant to section 3 of the Small Business Act and implementing regulations which is owned and controlled by one or more women and which is certified by an authorized agency. "Owned and controlled" means a business which is at least 51 percent owned by one or more women or, in the case of a publicly owned business, at least 51 percent of the stock of which is owned by one or more women, and whose management and daily business operations are controlled by one or more women. For purposes of USDOT assisted contracts, the term Disadvantaged Business Enterprise shall be deemed to include Women-Owned Business Enterprises.

(Ordinance No. 165, Sec. 3; amended by Ordinance No. 84-181, Sec. 2; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1; and Ordinance No. 88-252, Sec. 1)

2.04.115 Notice to Contractors, Subcontractors and Subrecipients: Contractors, subcontractors and subrecipients of Metro accepting contracts or grants under the Program which are USDOT-assisted shall be advised that failure to carry out the requirements set forth in 49 CFR 23.43(a) shall constitute a breach of contract and, after notification by Metro, may result in termination of the agreement or contract by Metro or such remedy as Metro deems appropriate. Likewise, contractors of Metro accepting locally-funded contracts under the Program shall be advised that failure to carry out the applicable provisions of the Program shall constitute a breach of contract and, after notification by Metro, may result in termination or such other remedy as Metro deems appropriate.

(Ordinance No. 83-165, Sec. 4; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.120 Liaison Officer:

(a) The Executive Officer shall by executive order, designate a Disadvantaged Business Liaison Officer and, if necessary, other staff adequate to administer the Program. The Liaison Officer shall report directly to the Executive Officer on matters pertaining to the Program.

(b) The Liaison Officer shall be responsible for developing, managing and implementing the program, and for disseminating information on available business opportunities so that DBEs and WBEs are provided an equitable opportunity to bid on Metro contracts. In addition to the responsibilities of the Liaison Officer, all department heads and program managers shall have responsibility to assure implementation of the Program.

(Ordinance No. 83-165, Sec. 5; amended by Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.125 Directory: A directory of DBEs and WBEs certified by ODOT or the Executive Department, as applicable shall be maintained by the Liaison Officer to facilitate identifying such businesses with capabilities relevant to general contracting requirements and particular solicitations. The directory shall be available to contract bidders and proposers in their efforts to meet Program requirements.

(Ordinance No. 83-165, Sec. 6; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.130 Minority-Owned Banks: Metro will seek to identify minority-owned banks within the policies adopted by the Metro Council and make the greatest feasible use of their services. In addition, Metro will encourage prime contractors, subcontractors and consultants to utilize such services by sending them brochures and service information on certified DBE/WBE banks.

(Ordinance No. 83-165, Sec. 7; amended by Ordinance No. 84-181, Sec. 3; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.135 Affirmative Action and Equal Opportunity Procedures: Metro shall use affirmative action techniques to facilitate DBE and WBE participation in contracting activities. These techniques include:

(a) Arranging solicitations, time for the presentation of bids, quantities specifications, and delivery schedules so as to facilitate the participation of DBEs and WBEs.

(b) Referring DBEs and WBEs in need of management assistance to established agencies that provide direct management assistance to such businesses.

(c) Carrying out information and communications programs on contracting procedures and specific contracting opportunities in a timely manner, with such programs being bilingual where appropriate.

(d) Distribution of copies of the program to organizations and individuals concerned with DBE/WBE programs.

(e) Periodic reviews with department heads to insure that they are aware of the program goals and desired activities on their parts to facilitate reaching the goals. Additionally, departmental efforts toward and success in meeting DBE/WBE goals

for department contracts shall be factors considered during annual performance evaluations of the department heads.

(f) Monitor and insure that Disadvantaged and Women Business Enterprise planning centers and likely DBE/WBE contractors are receiving requests for bids, proposals and quotes.

(g) Study the feasibility of certain USDOT-assisted contracts and procurements being set aside for DBE/WBE participation.

(h) Distribution of lists to potential DBE/WBE contractors of the types of goods and services which Metro regularly purchases.

(i) Advising potential DBE/WBE vendors that Metro does not certify DBE/WBEs, and directing them to ODOT until December 31, 1987, and, thereafter, to the Executive Department.

(j) Specifying purchases by generic title rather than specific brand name whenever feasible.

(k) Establishing an interdepartmental contract management committee which will meet regularly to monitor and discuss, among other issues, potential DBE and WBE participation in contracts. In an effort to become more knowledgeable regarding DBE and WBE resources, the committee shall also invite potential DBE and WBE contractors to attend selected meetings.

(l) Requiring that at least one DBE or WBE vendor or contractor be contacted for all contract awards which are not exempt from Metro's contract selection procedures and which are 1) for more than $500 but not more than $15,001 in the case of non-personal services contracts; and 2) for more than $2,500 but not more than $10,001 for personal services contracts. The Liaison Officer may waive this requirement if he/she determines that there are no DBEs or WBEs on the certification list capable of providing the service or item. For contracts over the dollar amounts indicated in this section, all known DBEs and WBEs in the business of providing the service or item(s) required shall be mailed bid or proposal information.

(m) The Executive Officer or his/her designee, may establish and implement additional affirmative action techniques which are designed to facilitate participation of DBEs and WBEs in Metro contracting activities.

(Ordinance No. 83-165, Sec. 8; amended by Ordinance No. 84-181, Sec. 4; Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.140 Certification of Disadvantaged Business Eligibility:

(a) To participate in the Program as a DBE or WBE, contractors, subcontractors and joint ventures must have been certified by an authorized certifying agency as described in subsection (b) of this section.

(b) Metro will not perform certification or recertification of businesses or consider challenges to socially and economically disadvantaged status. Rather Metro will rely upon the certification and recertification processes of ODOT and will utilize ODOT's certification list until December 31, 1987, and, thereafter, the Executive Department's list in determining whether a prospective contractor or subcontractor is certified as a DBE or WBE. A prospective contractor or subcontractor must be certified as a DBE or WBE by one of the above agencies, as applicable, and appear on the respective certification list of said agency, prior to the pertinent bid opening or proposal submission date to be considered by Metro to be an eligible DBE or WBE and be counted toward meeting goals. Metro will adhere to the Recertification Rulings resulting from 105(f) or state law, as applicable.

(c) Prospective contractors or subcontractors which have been denied certification by one of the above agencies may appeal such denial to the certifying agency pursuant to applicable law. However, such appeal shall not cause a delay in any contract award by Metro. Decertification procedures for USDOT-assisted contractor or potential contractors will comply with the requirements of Appendix A "Section by Section Analysis" of the July 21, 1983, Federal Register, Vol. 45, No. 130, p. 45287, and will be administered by the agency which granted certification.

(d) Challenges to certification or to any presumption of social or economic disadvantage with regard to the USDOT-assisted portion of this Program, as provided for in 49 CFR 23.69, shall conform to and be processed under the procedures prescribed by each agency indicated in paragraph (b) of this section. That challenge procedure provides that:

> (1) Any third party may challenge the socially and economically disadvantaged status of any individual (except an individual who has a current 8(a) certification from the Small Business Administration) presumed to be socially and economically disadvantaged if that individual is an owner of a firm certified by or seeking certification from the certifying agency as a disadvantaged business. The challenge shall be made in writing to the recipient.
>
> (2) With its letter, the challenging party shall include all information available to it relevant to

a determination of whether the challenged party is in fact socially and economically disadvantaged.

(3) The recipient shall determine, on the basis of the information provided by the challenging party, whether there is reason to believe that the challenged party is in fact not socially and economically disadvantaged.

(i) If the recipient determines that there is not reason to believe that the challenged party is not socially and economically disadvantaged, the recipient shall so inform the challenging party in writing. This terminates the proceeding.

(ii) If the recipient determines that there is reason to believe that the challenged party is not socially and economically disadvantaged, the recipient shall begin a proceeding as provided in paragraphs (b), (4), (5) and (6) of this paragraph.

(4) The recipient shall notify the challenged party in writing that his or her status as a socially and economically disadvantaged individual has been challenged. The notice shall identify the challenging party and summarize the grounds for the challenge. The notice shall also require the challenged party to provide to the recipient, within a reasonable time, information sufficient to permit the recipient to evaluate his or her status as a socially and economically disadvantaged individual.

(5) The recipient shall evaluate the information available to it and make a proposed determination of the social and economic disadvantage of the challenged party. The recipient shall notify both parties of this proposed determination in writing, setting forth the reasons for its proposal. The recipient shall provide an opportunity to the parties for an informal hearing, at which they can respond to this proposed determination in writing and in person.

(6) Following the informal hearing, the recipient shall make a final determination. The recipient shall inform the parties in writing of the final determination, setting forth the reasons for its decision.

(7) In making the determinations called for in paragraphs (b)(3)(5) and (6) of this paragraph, the recipient shall use the standards set forth in Appendix C of this subpart.

(8) During the pendency of a challenge under this section, the presumption that the challenged party is a socially and economically disadvantaged individual shall remain in effect." 49 CFR 23.69.

(Ordinance No. 83-165, Sec. 9; amended by Ordinance No. 84-181, Sec. 5; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1; and Ordinance No. 88-252, Sec. 1)

2.04.145 Annual Disadvantaged Business Goals:

(a) The Metro Council shall, by resolution each June, establish annual DBE goals and for locally-funded contracts, separate WBE goals for the ensuing fiscal year. Such annual goals shall be established separately for construction contracts, labor and materials contracts, personal services contracts, procurement contracts, and USDOT assisted contracts regardless of type.

(b) Annual goals will be established taking into consideration the following factors:

(1) projection of the number and types of contracts to be awarded by Metro;

(2) projection of the number, expertise and types of DBEs and WBEs likely to be available to compete for the contracts;

(3) past results of Metro's efforts under the Program;

(4) for USDOT-assisted contract goals, existing goals of other local USDOT recipients and their experience in meeting these goals; and

(5) for locally-funded contract goals, existing goals of other Portland metropolitan area contracting agencies, and their experience in meeting these goals.

(c) Annual goals for USDOT-assisted contracts must be approved by the United States Department of Transportation. 49 CFR §23.45(g)(3).

(d) Metro will publish notice that the USDOT-assisted contract goals are available for inspection when they are submitted to USDOT or other federal agencies. They will be made available for 30 days following publication of notice. Public comment will be accepted for 45 days following publication of the notice.

(e) Metro will publish notice regarding proposed locally-funded contract goals not later than ten (10) days prior to adoption of the goals.

(Ordinance No. 83-165, Sec. 10; amended by Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216; amended by Ordinance No. 87-231, Sec. 1; and Ordinance No. 88-252, Sec. 1)

2.04.150 Contract Goals:

(a) The annual goals established for construction contracts shall apply as individual contract goals for construction contracts over $50,000.

(b) The Liaison Officer may set a contract goal for any contract other than construction contracts over $25,000. The setting of such contract goal shall be made in writing prior to the solicitation of bids for such contract. Contract goals for contracts other than construction contracts over $50,000 shall be set at the discretion of the Liaison Officer and shall not be tied, necessarily, to the annual goal for such contract type.

(c) Even though no DBE/WBE goals are established at the time that bid/proposal documents are drafted, the Liaison Officer may direct the inclusion of a clause in any RFP or bid documents for any contract described in this section which requires that the prime contractor, prior to entering into any subcontracts, make good faith efforts, as that term is defined in Section 2.04.160, to achieve DBE/WBE participation in the same goal amount as the current annual goal for that contract type.

(d) Contract goals may be complied with pursuant to Section 2.04.160 and/or 2.04.175. The extent to which DBE/WBE participation will be counted toward contract goals is governed by the latter section.

(Ordinance No. 83-165, Sec. 11; repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1; and Ordinance No. 88-252, Sec. 1.)

2.04.155 Contract Award Criteria:

(a) To be eligible for award of contracts containing a DBE/WBE goal, prime contractors must either meet or exceed the

specific goal for DBE and WBE participation, or prove that they have made good faith efforts to meet the goal prior to the time bids are opened or proposal are due. Bidders/Proposers are required to utilize the most current list of DBEs and WBEs certified by ODOT until December 31, 1987, and, thereafter, by the Executive Department, in all of the bidders'/proposers' good faith efforts solicitations. The address where certified lists may be obtained shall be included in all applicable bid/proposal documents.

(b) All invitations to bid or request for proposals on contracts for which goals have been established shall require all bidders/proposers to submit with their bids and proposals a statement indicating that they will comply with the contract goal or that they have made good faith efforts as defined in Section 2.04.160 to do so. To document the intent to meet the goals, all bidders and proposers shall complete and endorse a Disadvantaged Business Program Compliance form and include said form with bid or proposal documents. The form shall be provided by Metro with bid/proposal solicitations.

(c) Agreements between a bidder/proposer and a DBE/WBE in which the DBE/WBE promises not to provide subcontracting quotations to other bidders/proposers are prohibited.

(d) Apparent low bidders/proposers shall, by the close of the next working day following bid opening (or proposal submission date when no public opening is had), submit to Metro detailed DBE and WBE Utilization Forms listing names of DBEs and WBEs who will be utilized and the nature and dollar amount of their participation. This form will be binding upon the bidder/proposer. Within five working days of bid opening or proposal submission date, such bidders/proposers shall submit to Metro signed Letters of Agreement between the bidder/proposer and DBE/WBE subcontractors and suppliers to be utilized in performance of the contract. A sample Letter of Agreement will be provided by Metro. The DBE and WBE Utilization Forms shall be provided by Metro with bid/proposal documents.

(e) An apparent low bidder/proposer who states in its bid/proposal that the DBE/WBE goals were not met but that good faith efforts were performed shall submit written evidence of such good faith efforts within two working days of bid opening or proposal submission in accordance with Section 2.04.160. Metro reserves the right determine the sufficiency of such efforts.

(f) Except as provided in paragraph (g) of this section, apparent low bidders or apparent successful proposers who state in their bids/proposals that they will meet the goals or will show good faith efforts to meet the goals, but who fail to comply with paragraph (d) or (e) of this section, shall have their bids or proposals rejected and shall forfeit any required bid security

or bid bond. In that event the next lowest bidder or, for personal services contracts, the firm which scores second highest shall, within two days of notice of such ineligibility of the low bidder, submit evidence of goal compliance or good faith effort as provided above. This process shall be repeated until a bidder or proposer is determined to meet the provisions of this section or until Metro determines that the remaining bids are not acceptable because of amount of bid or otherwise.

(g) The Liaison Officer, at his or her discretion, may waive minor irregularities in a bidder's or proposer's compliance with the requirements of this section provided, however, that the bid or proposal substantially complies with public bidding requirements as required by applicable law.

(Ordinance No. 83-165, Sec. 12; amended by Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.160 Determination of Good Faith Efforts:

(a) Bidders or Proposers on USDOT-assisted contracts to which DBE goals apply must, to be eligible for contract award, comply with the applicable contract goal or show that good faith efforts have been made to comply with the goal. Good faith efforts should include at least the following standards established in the amendment to 49 CFR §23.45(h), Appendix A, dated Monday, April 27, 1981. A showing of good faith efforts must include written evidence of at least the following:

(1) Attendance at any presolicitation or prebid meetings that were scheduled by Metro to inform disadvantaged and women business enterprises of contracting and subcontracting or material supply opportunities available on the project;

(2) Advertisement in trade association, general circulation, minority and trade-oriented, women-focus publications, if any and through a minority-owned newspaper or minority-owned trade publication concerning the sub- contracting or material supply opportunities at least 10 days before bids or proposals are due.

(3) Written notification to a reasonable number but no less than five (5) DBE firms that their interest in the contract is solicited. Such efforts should include the segmenting of work to be subcontracted to the extent consistent with the size and capability of DBE firms in order to provide reasonable subcontracting opportunities. Each bidder should send solicitation letters inviting

quotes or proposals from DBE firms, segmenting portions of the work and specifically describing, as accurately as possible, the portions of the work for which quotes or proposals are solicited from DBE firms and encouraging inquiries for further details. Letters that are general and do not describe specifically the portions of work for which quotes or proposals are desired are discouraged, as such letters generally do not bring responses. It is expected that such letters will be sent in a timely manner so as to allow DBE sufficient opportunity to develop quotes or proposals for the work described.

(4) Evidence of follow-up to initial solicitations of interest, including the following:

(A) the names, addresses, telephone numbers of all DBE contacted;

(B) a description of the information provided to DBE firms regarding the plans and specifications for portions of the work to be performed; and

(C) a statement of the reasons for non-utilization of DBE firms, if needed to meet the goal.

(5) Negotiation in good faith with DBE firms. The bidder shall not, without justifiable reason, reject as unsatisfactory bids prepared by any DBE firms;

(6) Where applicable, the bidder must provide advice and assistance to interested DBE firms in obtaining bonding, lines of credit or insurance required by Metro or the bidder;

(7) Overall, the bidder's efforts to obtain DBE participation must be reasonably expected to produce a level of participation sufficient to meet Metro's goals; and

(8) The bidder must use the services of minority community organizations, minority contractor groups, local, state and federal minority business assistance offices and other organizations identified by the Executive Department's Advocate for Minority and Women Business that provide assistance in the recruitment and placement of DBEs and WBEs.

(b) Bidders or proposers on locally-funded contracts to which DBE/WBE goals apply shall achieve the applicable contract goal or demonstrate that they have made good faith efforts to achieve the goals. Good faith efforts shall include written documentation of at least the following actions by bidders:

(1) Attendance at any presolicitation or prebid meetings that were scheduled by Metro to inform DBEs and WBEs of contracting and subcontracting or material supply opportunities available on the project;

Documentation required: Signature of representative of bidder or proposer on prebid meeting attendance sheet.

(2) Identifying and selecting specific economically feasible units of the project to be performed by DBEs or WBEs to increase the likelihood of participation by such enterprises;

Minimum documentation required: At least the documentation required under subsection (4) below.

(3) Advertising in, at a minimum, a newspaper of general circulation, and trade association, minority and trade oriented, women-focused publications, if any, concerning the subcontracting or material supply opportunities on the project at least ten (10) days before bids or proposals are due;

Documentation required: copies of ads published.

(4) Providing written notice soliciting sub-bids/proposals to not less than five (5) DBEs or WBEs for each subcontracting or material supply work item selected pursuant to (2) above not less than ten (10) days before bids/proposals are due.

If there are less than five certified DBEs/WBEs listed for that work or supply specialty then the solicitation must be mailed to at least the number of DBEs/WBEs listed for that specialty. The solicitation shall include a description of the work for which subcontract bids/proposals are requested and complete information on bid/proposal deadlines along with details regarding where project specifications may be reviewed.

Documentation required: Copies of all solicitation letters sent to DBE/WBE along with a written statement from the bidder/proposer that all the

letters were sent by regular or certified mail not less than 10 days before bids/proposals were due.

(5) Making, not later than five days before bids/proposals are due, follow-up phone calls to all DBEs/WBEs who have not responded to the solicitation letters to determine if they would be submitting bids and/or to encourage them to do so.

Minimum documentation required: Log showing a) dates and times of follow-up calls along with names of individuals contacted and individuals placing the calls; and b) results attained from each DBE/WBE to whom a solicitation letter was sent (e.g., bid submitted, declined, no response). In instances where DBE/WBE bids were rejected, the dollar amount of the bid rejected from the DBE/WBE must be indicated along with the reason for rejection and the dollar amount of the bid which was accepted for that subcontract or material supply item.

(6) Using the services of minority community organizations, minority contractor groups, local, state and federal minority business assistance offices and other organizations identified by the Executive Department's Advocate for Minority and Women Business that provide assistance in the recruitment and placement of DBEs and WBEs; where applicable, advising and assisting DBEs and WBEs in obtaining lines of credit or insurance required by Metro or the bidder/proposer; and, otherwise, making efforts to encourage participation by DBEs and WBEs which could reasonably be expected to produce a level of participation sufficient to meet the goals.

Minimum documentation required: Letter from bidder/proposer indicating all special efforts made to facilitate attainment of contract goals, the dates such actions were taken and results realized.

(7) Notwithstanding any other provision of this section, bidders and proposers on locally-funded contracts to which DBE/WBE goals apply need not accept the bid of a DBE or WBE on any particular subcontract or material supply item if the bidder/proposer demonstrates that none of the DBEs or WBEs submitting bids were the lowest responsible, responsive and qualified bidders/proposers on that particular subcontract item and that the subcontract item was awarded to the lowest responsible, responsive bidder/proposer.

Metro reserves the right to require additional written documentation of good faith efforts and bidders and proposers shall comply with all such requirements by Metro. It shall be a rebuttable presumption that a bidder or proposer has made a good faith effort to comply with the contract goals if the bidder has performed and submits written documentation of all of the above actions. It shall be a rebuttable presumption that the bidder has not made a good faith effort if the bidder has not performed or has not submitted documentation of all of the above actions.

(Ordinance No. 83-165, Sec. 13; amended by Ordinance No. 84-181, Sec. 6 and Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1; and Ordinance No. 88-252, Sec. 1)

2.04.165 Replacement of DBE or WBE Subcontractors: Prime contractors shall not replace a DBE/WBE subcontractor with another subcontractor, either before contract award or during contract performance, without prior Metro approval. Prime contractors who replace a DBE or WBE subcontractor shall replace such DBE/WBE subcontractor with another certified DBE/WBE subcontractor or make good faith efforts as described in the preceding section to do so.

(Ordinance No. 83-165, Sec. 14; amended by Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.170 Records and Reports:

(a) Metro shall develop and maintain a recordkeeping system to identify and assess DBE and WBE contract awards, prime contractors' progress in achieving goals and affirmative action efforts. Specifically, the following records will be maintained:

(1) Awards to DBEs and WBEs by number, percentage and dollar amount.

(2) A description of the types of contracts awarded.

(3) The extent to which goals were exceeded or not met and reasons therefor.

(b) All DBE and WBE records will be separately maintained. Required DBE and WBE information will be provided to federal agencies and administrators on request.

(c) The Liaison Officer shall prepare reports, at least semiannually, on DBE and WBE participation to include the following:

(1) the number of contracts awarded;

(2) categories of contracts awarded;
(3) dollar value of contracts awarded;

(4) percentage of the dollar value of all contracts awarded to DBE/WBE firms in the reporting period; and

(5) the extent to which goals have been met or exceeded.

(Ordinance No. 83-165, Sec. 15; amended by Ordinance No. 84-181, Sec. 7, and Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

2.04.175 Counting Disadvantaged Business Participation Toward Meeting Goals:

(a) DBE/WBE participation shall be counted toward meeting the goals on each contract as follows:

(1) Subject to the limitations indicated in paragraphs (2) through (8) below, the total dollar value of a prime contract or subcontract to be performed by DBEs or WBEs is counted toward the applicable goal for contract award purposes as well as annual goal compliance purposes.

(2) The total dollar value of a contract to a disadvantaged business owned and controlled by both disadvantaged males and non-disadvantaged females is counted toward the goals for disadvantaged businesses and women, respectively, in proportion to the percentage of ownership and control of each group in the business.

The total dollar value of a contract with a disadvantaged business owned and controlled by disadvantaged women is counted toward either the disadvantaged business goal or the goal for women, but not to both. Metro shall choose the goal to which the contract value is applied.

(3) Metro shall count toward its goals a portion of the total dollar value of a contract with an eligible joint venture equal to the percentage of

the ownership and control of the disadvantaged or female business partner in the joint venture.

(4) Metro shall count toward its goals only expenditures to DBEs and WBEs that perform a commercially useful function in the work of a contract. A DBE or WBE is considered to perform a commercially useful function when it is responsible for execution of a distinct element of the work of a contract and carrying out its responsibilities by actually performing, managing and supervising the work involved. To determine whether a DBE or WBE is performing a commercially useful function, Metro shall evaluate the amount of work subcontracted, industry practices and other relevant factors.

(5) Consistent with normal industry practices, a DBE or WBE may enter into subcontracts. If a DBE or WBE contractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of normal industry practices, the DBE or WBE shall be presumed not to be performing a commercially useful function. The DBE or WBE may present evidence to Metro to rebut this presumption. Metro's decision on the rebuttal of this presumption is subject to review by USDOT for USDOT-assisted contracts.

(6) A DBE or WBE which provides both labor and materials may count toward its disadvantaged business goals expenditures for materials and supplies obtained from other than DBE or WBE suppliers and manufacturers, provided that the DBE or WBE contractor assumes the actual and contractual responsibility for the provision of the materials and supplies.

(7) Metro shall count its entire expenditure to a DBE or WBE manufacturer (i.e., a supplier that produces goods from raw materials or substantially alters them before resale).

(8) Metro shall count against the goals 60 percent of its expenditures to DBE or WBE suppliers that are not manufacturers, provided that the DBE or WBE supplier performs a commercially useful function in the supply process.

(9) When USDOT funds are passed-through by Metro to other agencies, any contracts made with those funds and any DBE participation in those contracts shall only be counted toward Metro's goals. Likewise, any

USDOT funds passed-through to Metro from other agencies and then used for contracting shall count only toward that agency's goals. Project managers responsible for administration of pass-through agreements shall include the following language in those agreements:

> (a) Policy. It is the policy of the Department of Transportation that minority business enterprises as defined in 49 CFR Part 23 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with federal funds under this agreement. Consequently, the MBE requirements of 49 CFR Part 23 apply to this agreement.
>
> (b) MBE Obligation. The recipient or its contractor agrees to ensure that minority business enterprises as defined in 49 CFR Part 23 have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with federal funds provided under this agreement. In this regard, all recipients or contractors shall take all necessary and reasonable steps in accordance with 49 CFR Part 23 to ensure that minority business enterprises have the maximum opportunity to compete for and perform contracts. Recipients and their contractors shall not discriminate on the basis of race, color, national origin or sex in the award and performance of USDOT-assisted contracts."

(b) DBE or WBE participation shall be counted toward meeting annual goals as follows:

> (1) Except as otherwise provided below, the total dollar value of any contract which is to be performed by a DBE or WBE is counted toward meeting annual goals.
>
> (2) The provisions of paragraphs (a)(2) through (a)(8) of this section, pertaining to contract goals, shall apply equally to annual goals.

(Ordinance No. 83-165, Sec. 16; amended by Ordinance No. 84-181, Sec. 8; and Ordinance No. 86-197, Sec. 1; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1; and Ordinance No. 88-252, Sec. 1)

2.04.180 Compliance and Enforcement:

(a) Metro shall reserve the right, at all times during the period of any contract, to monitor compliance with the terms of this chapter and the contract and with any representation made by a contractor prior to contract award pertaining to DBE and WBE participation in the contract.

(b) The Liaison Officer may require, at any stage of contract completion, documented proof from the contractor of actual DBE and WBE participation.

(Ordinance No. 83-165, Sec. 17; all previous Ordinances repealed by Ordinance No. 87-216, Sec. 1; amended by Ordinance No. 87-231, Sec. 1)

ATTACHMENT D

DISADVANTAGED BUSINESS PROGRAM COMPLIANCE FORM

(To be submitted with Bid or Proposal)

Name of Metro Project: _____

Name of Contractor: _____

Address: _____

Phone: _____

In accordance with Metro's Disadvantaged Business Program, the above-named contractor has accomplished the following:

_____ 1. Has fully met the contract goals and will subcontract _____ percent of the contract amount to DBEs and _____ percent to WBEs.

_____ 2. Has partially met the contract goals and will subcontract _____ percent of the contract amount to DBEs and _____ percent to WBEs. Contractor has made good faith efforts prior to bid opening (or proposal submission date, as applicable) to meet the full goals and will submit documentation of the same to Metro within two working days of bid opening (or proposal submission date).

_____ 3. Will not subcontract any of the contract amount to DBEs or WBEs but has made good faith efforts prior to bid opening (or proposal submission date, as applicable) to meet the contract goals and will submit documentation of such good faith efforts to Metro within two working days of bid opening (or proposal submission date).

_____ _____

Authorized Signature Date

ATTACHMENT E

Contract No. _____

PERSONAL SERVICES AGREEMENT

THIS AGREEMENT dated this _____ day of _____ 19__, is between the METROPOLITAN SERVICE DISTRICT, a municipal corporation, hereinafter referred to as "METRO," whose address is 2000 S.W. First Avenue, Portland, OR 97201-5398, and _____, hereinafter referred to as "CONTRACTOR," whose address is _____ _____, for the period of _____, 19__, through _____, 19__, and for any extensions thereafter pursuant to written agreement of both parties.

W I T N E S S E T H :

WHEREAS, This Agreement is exclusively for Personal Services;

NOW, THEREFORE, IT IS MUTUALLY AGREED AS FOLLOWS:

CONTRACTOR AGREES:

1. To perform the services and deliver to METRO the materials described in the Scope of Work attached hereto;

2. To provide all services and materials in a competent and professional manner in accordance with the Scope of Work;

3. All applicable provisions of ORS chapters 187 and 279, and all other terms and conditions necessary to be inserted into public contracts in the State of Oregon, are hereby incorporated as if such provision were a part of this Agreement, including but not limited to ORS 279.310 to 279.320.

Specifically, it is a condition of this contract that Contractor and all employers working under this this Agreement are subject employers that will comply with ORS 656.017 as required by 1989 Oregon Laws Chapter 684.

4. To maintain records relating to the Scope of work on a generally recognized accounting basis and to make said records available to METRO at mutually convenient times;

5. To indemnify and hold METRO, its agents and employees harmless from any and all claims, demands, damages, actions, losses and expenses, including attorney's fees, arising out of or in any way connected with its performance of this Agreement, with any patent infringement arising out of the use of CONTRACTOR'S designs or other materials by METRO and for any claims or disputes involving subcontractors;

6. To comply with any other "Contract Provisions" attached hereto as so labeled; and

7. CONTRACTOR shall be an independent contractor for all purposes, shall be entitled to no compensation other than the compensation provided for in the Agreement. CONTRACTOR hereby certifies that it is the direct responsibility employer as provided in ORS 656.407 or a contributing employer as provided in ORS 656.411.

In the event CONTRACTOR is to perform the services described in this Agreement without the assistance of others, CONTRACTOR hereby agrees to file a joint declaration with METRO to the effect that CONTRACTOR services are those of an independent contractor as provided under Chapter 864 Oregon Laws, 1979.

METRO AGREES:

1. To pay CONTRACTOR for services performed and materials delivered in the maximum sum of _____ AND ____/100THS ($_____) DOLLARS and in the manner and at the time designated in the Scope of Work; and

2. To provide full information regarding its requirements for the Scope of Work.

BOTH PARTIES AGREE:

1. That METRO may terminate this Agreement upon giving CONTRACTOR five (5) days written notice without waiving any claims or remedies it may have against CONTRACTOR;

2. That, in the event of termination, METRO shall pay CONTRACTOR for services performed and materials delivered prior to the date of termination; but shall not be liable for indirect or consequential damages;

3. That, in the event of any litigation concerning this Agreement, the prevailing party shall be entitled to reasonable attorney's fees and court costs, including fees and costs on appeal to an appellate court;

4. That this Agreement is binding on each party, its successors, assigns, and legal representatives and may not, under any condition, be assigned or transferred by either party; and

5. That this Agreement may be amended only by the written agreement of both parties.

CONTRACTOR NAME	METROPOLITAN SERVICE DISTRICT
By: _____	By: _____
Date: _____	Date: _____

APPROVED AS TO FORM:

By: _____

Date: _____

AMH:jp
PERSONAL.FOR
6/1/90

SOLID WASTE COMMITTEE REPORT

CONSIDERATION OF RESOLUTION NO. 91-1455, FOR THE PURPOSE OF AUTHORIZING ISSUANCE OF A REQUEST FOR PROPOSAL FOR ADVERTISING AND PUBLIC RELATIONS SERVICES TO DESIGN AND IMPLEMENT RECYCLING AND WASTE REDUCTION EDUCATION CAMPAIGNS TO SUPPORT METRO'S WASTE REDUCTION PROGRAMS

Date: May 23, 1991 Presented by: Councilor McFarland

Committee Recommendation: At the May 21, 1991 meeting, the Committee voted unanimously to recommend Council adoption of Resolution No. 91-1455. Voting in favor were Councilors DeJardin, Gardner, McFarland, McLain and Wyers.

Committee Issues/Discussion: Vickie Rocker, Public Affairs Director, explained that this contract will be a continuation of a five year Metro public relations campaign. Work under the contract is anticipated to begin in August, 1991.

Councilor DeJardin asked whether previous advertising campaigns have met expectations. The office paper recycling campaign resulted in a 500% increase in calls to the Recycling Information Center, and has been Metro's most successful advertising campaign to date. Councilor DeJardin asked about anticipated competition. Ms. Rocker said that firms are eager for this work, and the process should be quite competitive.

Councilor McLain asked how the next public relations campaign will relate to previous efforts. Ms. Rocker said that corrugated cardboard is a new area of focus. She explained that Metro sets the goal, and the contractor proposes how to accomplish it.

Councilor Gardner noted that the procurement documents refer to measures of effectiveness, including reduction in targeted materials. He asked about the measure of effectiveness in previous years. Ms. Rocker said it is not easy to quantify how a campaign results in waste reduction, and that the number of telephone calls to the RIC has been used as an effectiveness measure.

Councilor Gardner asked why the final selection committee does not include a representative from the Solid Waste Committee, although a representative from MERC is on the committee. Ms. Rocker noted that in structuring the selection committee, she was concerned about size. Also, she was looking for people with particular backgrounds. MERC works with an ad agency, so she thought this expertise might be helpful. Also, she wanted to include an experienced person from outside Metro. Councilor Gardner suggested that a Solid Waste Committee member be included.

Councilor Wyers indicated that although she supports the focus on cardboard and yard debris, she would also like Metro to encourage tin can recycling. She believes public relations funding should be increased in future years.

METRO

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

Memorandum

DATE: May 20, 1991

TO: Metro Council

FROM: Paulette Allen, Clerk of the Council

RE: MAY 23 COUNCIL AGENDA ITEM NO. 7.7; RESOLUTION NO. 91-1451A

Attached is Resolution No. 91-1451A Exhibit A, Request for Proposals for the Acquisition of High Performance Computers and Networks for a Multi-Departmental System. Because of the volume of documentation, this exhibit was not published in the agenda packet. This packet is for your review prior to May 23 and will be available at the Council meeting. The resolution and Exhibit A were amended at the May 16 Finance Committee meeting.

Exhibit A
Revised
May 16, 1991

RFP No. 91-007

Request for Proposals for the Acquisition of High Performance Computers and Networks for a Multi-Departmental System

Metropolitan Service District
2000 SW First Avenue
Portland, OR 97201-5398
503-221-1646

May 16, 1991

Table of Contents

RFP No. 91-007

Section One
Call for Proposals

The Metropolitan Service District is seeking proposals from one or more vendors for computers, communication networks, equipment installation, and software to support a diverse array of applications in five departments. Proposals will be due on June 10, 1991, 5:00 p.m. PDT in Metro's business offices at 2000 S.W. First Avenue. Details concerning the project and proposal are contained in this document.

The proposal will be separated into two parts:

1. UNIX computer platforms with disks and peripherals

2. Network elements to achieve three primary objectives;

    * network installation in two departments currently using stand-alone DOS PC's
    * improvements to the DOS PC network in the Solid Waste Department and the Macintosh local talk network in Public Affairs
    * integration of all work group networks through an internet

Figure 1 is a generalized schematic of the envisioned network topology. Existing equipment and networks are shown and their functional relationship to new equipment is indicated. The proposed internet for connecting each work group is simply shown as a line connecting each server. However, It is anticipated that the logical topology is a hierarchical star LAN, having a router at its center and connecting twisted pair hubs in each work group.

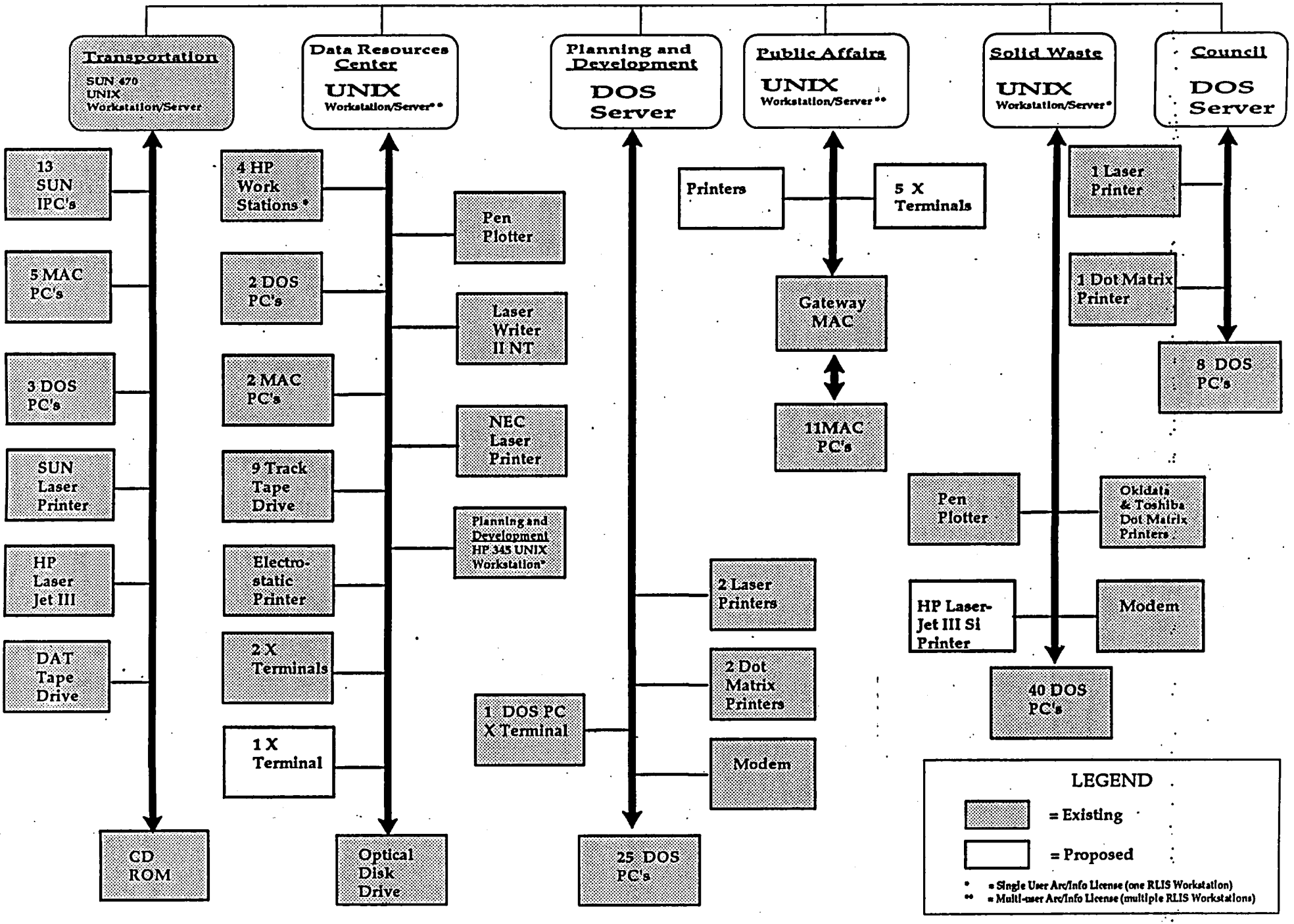
The five departments have seven semi-autonomous work groups, with four of the seven now having LANs for office automation and specialized software applications. The remaining three are now seeking to implement LANs within their work group and all seven wish to establish peer-to-peer communications and sharing of files and peripheral devices across the work groups. Each work group's current configuration and functional requirements are presented in detail in Section Four, Project Description.

This RFP is not intended to address all of Metro's intra-work group and interdepartmental communications needs, but is an initial and decisive step toward this end. Due to the urgency and compressed time frame for accomplishing this work, care must be taken to avoid short sighted decisions capable of precluding future options or causing premature obsolescence. Therefore, only those proposals utilizing industry-wide distributed computing standards will be considered. Adherence to broadly

May 8, 1991

Figure One

The STRAP Network



accepted open computing standards will assure upward compatibility and support integration of multi-vendor computer architectures now and in the future.

It is intended to enter into a three-year lease for most of the hardware items and lease cost must be quoted. Outright purchase cost should also be included for hardware and any necessary software.

Copies of the RFP are available from Karen Thackston, 503-221-1646.

Section Two
Instructions to Proposers

A. INTRODUCTION

Proposers must study carefully and conform to this "Instruction to Proposers," so that their proposals will be regular, complete and acceptable.

B. PROPOSALS

All proposals shall be legibly written in ink or typed and comply in all regards with the requirements of this solicitation.

C. DELIVERY OF PROPOSALS

Each proposal must be submitted to the attention of Metropolitan Service District, c/o Jeff Booth, Metro Information Systems Division, 2000 SW First Avenue, Portland, OR 97201.

Proposers must observe the following submission instructions:

1. No proposals will be accepted after 5:00 p.m. PDT, June 10, 1991.

2. Seven (7) copies of the proposal are to be supplied.

3. The proposer(s) selected as Metro's first choice will be notified in writing. The selected proposer(s) will be given the first chance to enter into negotiations with Metro.

4. Metro reserves the right to solicit additional information from the proposers, or any one proposer, should it deem such information necessary.

D. SUBMISSION OF QUESTIONS

1. All questions regarding the request for proposals should be directed in writing no later than 5:00 p.m., June 3, 1991 to the person identified as the contact for that Department's portion of the RFP, at the Metropolitan Service District, 2000 SW First Avenue, Portland OR, 97201. Questions may be submitted by FAX at 503-241-7417.

- Following are the persons to contact:

  Questions regarding the STRAP internet or other inquiries which are not specific to a department's sub-networks -- Jeff Booth, Information Systems Division; or Keith Lawton, Transportation Department.

  Solid Waste -- Jeff Stone

  Planning and Development -- Henry Marcus

  Data Resource Center -- Dick Bolen

  Recycling Information Center -- Dick Bolen

  Council Office -- Audrey Lloyd

2. Questions posed by vendors and the response to those questions will be supplied by the person listed as responsible for that portion of the project to all vendors who have requested this request for proposals. Response to questions will not reveal the identity of the firm or individual posing the question.

E. BUDGET

Funds for procurement of the equipment, software and services being sought are contained in the fiscal year 1991-92 budgets of the four departments cooperating in this RFP for a total amount of $226,000.

F. GENERAL

1. Ideally, a single vendor or systems integrator will present a total solution to the requirements stated in this request for proposals. However, proposals need not address all items listed in this RFP; vendors offering products that meet one or more RFP requirements are encouraged to submit a proposal for those products. Vendors submitting partial proposals will be required to work cooperatively with Metro and other selected vendors to assure compatibility of all system elements.

2. If a proposer is unable or unwilling to meet any RFP requirement, an explicit statement to that effect must be made in the proposal as an exception.

3. All costs associated with the system must be unambiguously stated in the vendor proposal outlined in Section Two, F.

4. This request for proposals and all supplemental information in response to this RFP will be a binding part of the final contract entered into by the selected proposer and Metro.

5. Any vendor-supplied material that is to be considered confidential must be so marked. All contracts entered into by the Metropolitan Service District are open for scrutiny under the Oregon Public Records Law.

6. Metro reserves the right to reject any or all proposals, and to accept the proposal(s) deemed most advantageous to Metro.

7. Proposers must identify any potential conflicts of interest involving appointed or elected officials, employees, or current contractors of Metro.

G. PROPOSAL CONTENTS

1. The proposer must format the proposal to correspond to the Table of Contents contained in this section. For each specific request, the proposer may:

   a. Describe the equipment and software necessary to meet Metro's needs, with or without options.

   b. Propose a totally different alternative, e.g., a product that might eliminate that particular need.

   c. Take exception to the RFP requirement entirely and choose not to even try to meet that particular need. Exceptions must be noted and explained.

2. The proposer must identify any and all special conditions which might relate to the configuration required.

3. The proposer must summarize the major benefits of its proposal answering why Metro should acquire their system or product over that of their competition.

4. Proposers must provide the names, addresses and phone numbers of three references using the proposed equipment in a situation as similar to Metro's as possible.

TABLE OF CONTENTS FOR PROPOSALS

I. PROPOSAL SUMMARY

Concise summary of the response. Address the project objectives; and the major reasons that this is the best solution for Metro needs.

II. BACKGROUND OF PROPOSER AND RANGE OF SERVICES

III. HARDWARE PROPOSED

A. Depending on the items proposed, proposals will contain one or more of the following sections:

1. UNIX Compute Servers

Vendor proposals will include:

Narrative description and vendor specification sheets detailing the

configuration;
architecture;
input/output subsystems;
performance characteristics;
maximum expansion of the proposed system;
description of other, related computer systems offered by the vendor that offer further expansion capability; and
statement of the availability of SAS;
relational database managers with SQL capability.

Itemized quotation of system components including, but not limited to:

central processing unit;
memory proposed;
incremental costs of additional memory;
on-line storage;
incremental cost of additional storage;
multiplexors and/or network interface;
system software (operating system, utilities and networking);
documentation;
FORTRAN and C compilers.

A quotation for a three-year hardware and software maintenance plan for the system including cost, response times, parts replacement policy.

2. Network

Proposals must contain:

a. Scale diagram showing routing of cable, location of network devices and assignment of terminals, printers, modems, etc., to servers.

b. Itemized list, including costs, of all network components.

c. Installation schedule with associated installation costs.

d. Suggested three-year maintenance plan for network devices, including cost, response times and parts replacement policy.

3. X-terminals

Vendor proposals will include:

a. a vendor specification sheet which details the operational, performance and physical characteristics of the proposed devices;

b. a quotation for the device;

c. a quotation for a three-year maintenance plan for the device, including cost, response times, parts replacement policy.

V. SYSTEMS IMPLEMENTATION

A. Recommended plan and time frames

1. Major tasks of implementation, with costs.
2. Hours of support provided.
3. Estimated staff support required.
4. Proposed training plan.
5. Time line schedule from date of contract.

B. Names of key proposer personnel to be assigned to the project with estimated hours and cost.

VI. REFERENCES

A. Current users (at least three) of the proposed hardware including contact names, addresses, phone numbers and user profile.

B. References/resumes for key personnel assigned to this project. Indicate the time commitment per assigned employee, and who will serve as project manager.

VII. COSTS AND TRAINING/SUPPORT

A. Description of pricing/cost/fee policies
B. Proposed costs for training
C. Payment terms and schedules.

IX. COPY OF CONTRACT(S) FOR ORIGINAL SOFTWARE, HARDWARE AND MAINTENANCE

H. EVALUATION OF PROPOSALS

The proposer should state clearly the advantages to Metro of accepting the proposed hardware option. Hardware performance, in support of the application software packages, will be a significant part of hardware evaluation. Responses should address these areas and how these needs will be met by the proposed hardware. The following items will be evaluated by the evaluation team. A major deficiency in any one area can disqualify a proposer.

1. Hardware Characteristics

   a. Suitability of Configuration
   b. Expandability: position of proposed system within range of systems available
   c. Flexibility: ability to add to the system as new technologies become available
      Ability to support and provide file service for DOS PC's and PC networks
   d. Disk Capacity
   e. Data Communication
   f. Ability to support Arc/Info and NexPert
   g. Availability of SAS or SPSS, WordPerfect and 20/20 or functional equivalents
   h. Availability of office automation software

2. Performance Characteristics

   a. Processor speed
   b. Backup/archives ability
   c. Environmental requirements
   d. Noise

3. Systems Software

   a. Availability of Compilers
   b. Availability of Utilities
   c. Availability and suitability of networking software, including software to optimize utilization of computing resources on the LAN
   d. X-Windows support and adherence to an industry standard GUI

4. Support--Hardware

   a. Technical Support
   b. Maintenance Support
   c. Response Time
   d. Documentation
   e. Training - availability of local training opportunities

5. Support--Software

   a. Technical Support
   b. Documentation
   c. Training

6. Costs

   a. Equipment
   b. Training
   c. Supplies
   d. Three-year maintenance and lease
   e. Personnel for support of system

7. References

   - Primary Reference Response

8. Delivery Time (4 weeks from day of contract award is sought)

After the preliminary evaluation, those vendors whose proposals have been identified as most closely meeting the requirements stated in this request for proposals may be required to provide the evaluation team with an extensive on-site presentation and demonstration of their product.

STRAP NETWORK
(RFP)

PROPOSAL EVALUATION MATRIX

Maximum Points: 100

FIRM:_____

		MAXIMUM POINTS	SCORE
1.	Adherence to Specifications.	20	____
2.	Performance.	25	____
3.	System design & integration methodology.	20	____
4.	Cost of components proposed to provide.	25	____
5.	Overall quality and completeness of proposal.	10	____
	Total	100	100

What are the three primary reasons you have for recommending this firm's proposal?

What are the three primary reasons you have for rejecting this firm?

General Comments/Clarifications/Questions:

Name of Evaluator Date

Section Three
General Conditions

A. General

Proposers shall submit their proposals in accordance with this RFP. The structure of the RFP is intended to assure a fair and thorough evaluation of the responses.

1. Limitation and Award -- This RFP does not commit Metro to the award of a contract, nor to pay any costs incurred in the preparation and submission of proposals in anticipation of a contract. Metro reserves the right to accept or reject any or all proposals received as the result of this request, to negotiate with all qualified sources, or to cancel all or part of this RFP.

2. Contract Type -- A copy of the standard form contract which the successful proposer will be required to execute is attached.

3. Billing Procedures -- Proposers are informed that the billing procedures of the selected firm are subject to the review and prior approval of Metro before reimbursement of services can occur.

4. Payment Schedule -- The successful proposer and Metro will negotiate a payment schedule based upon the phased implementation of this work program.

5. Validity Period and Authority -- The proposal shall be considered valid for a period of at least ninety (90) days and shall contain a statement to that effect. The proposal shall contain the name, title, address, and telephone number of an individual or individuals with authority to bind any company contacted during the period in which Metro is evaluating the proposal.

B. Proposals

Advertising brochures and generic specifications that are included with the proposals will not be an alternative to specific responses to the questions and features described in this request. At a minimum, the proposer must guarantee to resolve all conflicts arising from support, maintenance and implementation of the system.

C. Payments

It is intended to enter into a three-year lease and lease costs must be quoted. Outright purchase cost should also be quoted.

Hardware purchase or lease payments will be made within thirty (30) days after the vendor's invoice. Invoices will be accepted following installation of hardware and the installation of appropriate operating system and demonstration of its functionality. Invoice amounts will reflect completion of planning, design, and implementation of software modules and training of Metro personnel.

D. Terms

Proposals must include the following items of information:

1. The proposer must include all prices, terms and time frame for each deliverable defined in the proposal.

2. The proposer may choose to bid alternative (i.e., more than one) hardware packages. Each proposal must clearly identify the cost of each complete package.

3. The proposer must provide a detailed explanation of all guaranties/warranties in simple language.

4. The proposer must stipulate and supply copies of all application source code licensing requirements, copyrights or any other legal agreement regarding software that Metro is expected to sign.

5. The proposer must supply ongoing maintenance contract options with associated costs. Anything that would constitute justification for additional charges with each option is required to be listed.

6. The proposer must provide a recommended on-site training program for Metro personnel along with the associated costs.

7. All hardware and software provided by the successful vendor shall meet or exceed the following terms and standards, as determined by Metro, prior to final payment:

   Hardware:

   a. The proposer shall certify, in writing, that the equipment is installed and ready to use. A trial period of sixty (60) consecutive calendar days shall commence on the first day following certification.

b. If a system operates at an average level of effectiveness of ninety-five percent (95%) or more, for the trial period specified above, it shall be deemed to have met Metro's acceptance criteria. Metro shall notify the vendor, in writing, of the successful completion of the acceptance. The average effectiveness level is a percentage figure determined by dividing the total operational use time by the total operational use time plus associated downtime. Total operational use time shall be determined by Metro.

c. During this time, the equipment shall operate in conformance with Metro's contract specifications, the proposal, proposer's performance claims and any product specifications.

d. During the successful performance period all preventive maintenance time shall be excluded from the performance hours. Equipment failure downtime shall be measured by the intervals, during the performance period, between the time the vendor is notified of the equipment failure and the time that the equipment is returned to Metro in operating condition.

e. The equipment shall not be accepted by Metro and no final payment will be paid by Metro until the acceptance standard is met. Upon successful completion of the acceptance, Metro shall notify the vendor in writing, of acceptance of the equipment and authorize payment to begin as of the first day of successful acceptance period.

General:

a. Any contractual agreement concerning payments must be conditional on approval of corresponding funds as part of the respective year's budget appropriation.

b. Proposers shall be responsible for resolving all conflicts arising from all support, maintenance and implementation of the system.

c. Responsibility for insurance coverage and timeliness of such coverage must be included in the response to this request for proposal.

d. The proposer shall describe their expectation as to Metro staff support and Metro staff availability.

e. Metro is to be kept whole and held harmless with respect to the proposer's conduct of the work program described herein.

E. Disadvantaged Business Program Goals

Metro has made a strong commitment to provide maximum opportunities to the State of Oregon certified Disadvantaged Business Enterprises (DBEs) and Women-Owned Business Enterprises (WBEs) in its contracting activities. In the event that any subcontractors are to be used in the performance of this agreement, the Contractor will reach Metro's goals of subcontracting seven (7) percent of the contract amount to Disadvantaged Businesses (DBEs) and five (5) percent of the contract amount to Women-Owned Businesses (WBEs) or make a good faith effort, as that term is defined in Metro's Disadvantaged Business Program, as contained in Metro's purchasing policies.

A subcontractor is any person or firm proposed to work for the prime proposer on this project. Metro does not wish any subcontractor selection to be finalized prior to contract award. For any task or portion of a task to be undertaken by a subcontractor, the prime proposer shall not sign up a subcontractor on an exclusive basis. The proposer must assume responsibility for any subcontractor work and be responsible for the day-to-day direction and internal management of the proposer's effort.

The proposer will contact Metro prior to negotiating any subcontracts. Metro reserves the right, at all times during the period of this agreement, to monitor compliance with the terms of this paragraph and Metro's Disadvantaged Business Program.

Failure to comply with all of the requirements of Metro's Disadvantaged Business Program will constitute a non-responsive proposal. Further, failure on the part of the successful proposer to carry out the applicable provisions of the program shall constitute a breach of contract and, after notification by Metro, may result in termination or such other remedy as Metro deems appropriate.

Section Four
Project Description
Synopsis

Due to the complexity of this multi-departmental request for proposal, this section provides a succinct synopsis of its two parts, the UNIX computer platforms and peripherals and, second, the network elements to support intra-work group and interdepartmental communications. The following subsections are organized by department, with the UNIX hardware and network requirements described for each.

The ability to access and run RLIS applications in Arc/Info is the primary capability being sought by most of the work groups. The UNIX hardware will be the platforms running the RLIS applications. The network elements will provide access to the RLIS database in the Data Resource Center (Transportation Dept.), provide interdepartmental communications, and support intra-work group needs, such as office automation and peripheral sharing. Delivery time is an important factor as some applications are to be operational by late summer to early fall. Therefore, a four week delivery time from date of award is desired.

Each component presented below is labeled for cross reference to the detailed specifications listed in Section Five, Detailed Specifications.

Disk capacities stated in this RFP are required for user files. The vendor will estimate and propose additional storage for UNIX system files, swap space and free space held for disk management schemes.

I. UNIX Hardware and Arc/Info Components (by Department)

A. Data Resource Center (DRC) in the Transportation Department

1. One UNIX file server/graphic workstation with 2000MB of hard disk storage, 32 MB RAM, CD ROM, DAT, and graphic accelerator, (DRC 1)

2. One UNIX graphic workstation with 800MB to 1500MB of hard disk storage, 24MB of RAM, 19" color monitor (DRC 2)

3. Two X terminals, 16 inch color (DRC 3 & 4)

4. One laser printer capable of serving the UNIX, DOS, and Macintosh PCs and capable of handling both standard and Postscript output on the DRC Ethernet network (DRC 5)

5. One Arc/Info multi-user license upgrade to more powerful server (from HP 9000/380 to DRC 1 above) (DRC 6)

6. One Arc/Info single-user license for new workstation, DRC 2 above (DRC 7)

7. One Arc/Info Network license upgrade from single user on a HP 9000/380 to multi-user on the DRC 1 server (DRC 8)

8. One Arc/Info TIN license upgrade from single user on a HP 9000/345 to multi-user on the DRC 1 server (DRC 9)

9. Bundled UNIX computer system hardware (next day) and software maintenance (DRC 10)

B. Recycling Information Center (RIC) in the Public Affairs Department

1. One UNIX file server/graphics workstation with 1000MB of hard disk storage, 48 MB RAM, and DAT (RIC 1)

2. Five X terminals, 16 inch color (RIC 2,3,4,5 & 6)

3. One Interface (RS232) to telephone switchboard RAM unit (RIC 7)

4. One laser printer capable of serving the UNIX and Macintosh PCs and capable of handling both standard and Postscript output on the RIC network (RIC 8)

5. One Arc/Info multi-user license for server, RIC 1 above (RIC 9)

6. Bundled UNIX computer system hardware (4 hour) and software maintenance (RIC 10)

7. One NEXPERT expert system software developer's license for the server and one application license for the server (RIC 11)

8. Three user Word Perfect license for UNIX server

C. Solid Waste Department

1. One UNIX graphic workstation with 1000MB to 1500MB of hard disk storage, 48MB of RAM, 19" color monitor, include costs for RAM upgrades in 1MB units and for disk storage greater than 800 MB by component offered (SW 1)

2. One Arc/Info single-user license, with TIN and Network modules included for workstation, SW 1 above (SW 2)

3. Bundled UNIX computer system hardware (next day) and software maintenance. (SW 3)

4. One HP LaserJet IIISi printer with 5 MB of RAM, integrated PostScript, duplex printing and interface to network. Must be capable of serving both UNIX and DOS "seats" on the network (SW 4)

II. Network Components

The proposed internet provides peer-to-peer communications across the seven work groups and is presented below as a separate free-standing component, distinct from the individual work groups. This internet has acquired the acronym STRAP at Metro and this name will be used in further references to it.

A. STRAP Network -- This internet is depicted on Figure 1 as a line connecting the servers for each work group. Proposals are sought on this simple approach and other LAN topologies deemed suited to the communications needs of users on this internet. It is expected that a router may be necessary to achieve an adequate level of network service.

1. All equipment and software for an Ethernet network including cable, network cards and/or dedicated server, linking the seven work groups into an internet using TCP/IP protocol and twisted pair cabling, . (STRAP 1)

2. Installation of the STRAP internet and rendering the system operational (STRAP 2)

3. Ongoing maintenance and support for the internet (STRAP 3)

B. Data Resource Center

1. All equipment needed to convert existing thin cable Ethernet LAN to twisted pair wiring using 10Base-T hubs (DRC 11).

2. Ongoing maintenance and support for the LAN (DRC 12)

C. Planning and Development Department

1. All equipment needed to network the Department's 26 DOS PCs, HP 345 and printers, including a server with 300MB hard disk, cards, cabling and software (P&D 1).

2. Ongoing maintenance and support for the LAN (P&D 2)

D. Solid Waste Department

1. Replace existing 3COM server with a UNIX workstation (SW 1) to provide network service to 60 DOS PC users while simultaneously supporting CAD/CAM, SAS, or Arc/Info applications (SW 3).

2. Ongoing maintenance and support for the LAN (SW 2)

3. To the maximum extent practical, use and supplement existing thin Ethernet system (now employs 3C505B cards in each PC connected via BNC connectors and thin Ethernet to an ACCY 3C588 repeater base unit) or, entirely replace this system using vendor supplied cable, wiring and hubs. (SW 5)

4. Install Windows 3.0 (80386 PCs) and standard (8086 & 80286 PCs) menus on all Solid Waste Department PCs in accordance with figures SW-2 and SW-3. Supply and install software to enable the workstation/server to concurrently support SAS and Arc/Info, and support the network depicted in SW-2 and SW-3 (SW 6)

E. Metro Council Office

1. All equipment needed to network the Department's eight DOS PCs and printers, including a server, cards, cabling and software (MC 1).

2. Ongoing maintenance and support for the LAN (MC 2)

F. Public Affairs/Recycling Information Center

1. Ethernet cabling/hub for connection of 6 X-Terminals

2. Gateway/Bridge and connections to the Public Affairs network (Mac Plus & Mac SE) and the Graphics network (Mac IIs). The graphics network will have at least one MAC II configured to act as an X-Terminal for access to departmental workgroup UNIX servers.

Section 5
Specifications List

The specifications are listed according to the labeling system used in Section 4, Synopsis.

Disk capacities stated in this RFP are required for user files. The vendor will estimate and propose additional storage for UNIX system files, swap space and free space held for disk management schemes.

Hardware

DRC 1 UNIX server/graphics workstation having the following characteristics:

- 32 MB RAM
- 2 gigabytes on-line disk storage
- Minimum processing speed of 70 MIPS, 70 SPECmarks, and 20 MFLOPS
- 19" color monitor
- Graphics accelerator unit
- Ethernet support, TCP/IP, NFS
- CD ROM
- DAT data back-up system

RIC 1 UNIX server/graphics workstation having the following characteristics:

- 48 MB RAM
- 2 gigabytes on-line disk storage
- Minimum processing speed of 70 MIPS, 70 SPECmarks, and 20 MFLOPS
- 19 color monitor
- Ethernet support, TCP/IP, NFS
- CD ROM
- DAT data back-up system

DRC 2 Two UNIX graphic workstations having the following characteristics:

- 48 MB RAM
- 1000 MB on-line disk storage
- Minimum processing speed of 70 MIPS, 70 SPECmarks, and 20 MFLOPS
- 19 color monitor
- Ethernet support, TCP/IP, NFS

X-Terminals: (pp 20&21)

Six X-Terminals having the following specifications:

X-Server 11.4 allowing backing store, save under and off-screen graphics, implementation by download boot from host.
Display: Minimum 16 in., minimum 1024X768 pixels, dot-pitch in the order of .26mm, high refresh rate (quote), non-interlaced, flat screen, 256 colors.
Memory: At least 4MB.
Interfaces: Ethernet TCP/IP 10BaseT (twisted pair), SNMP support, remote serial (discuss compression options for such operation), 3-button mouse.

Provide common performance benchmarks.

Terminals must be demonstrated to proposed users for subjective visual evaluation before a final decision to procure will be made.

DRC 5 & RIC 4 Two laser printers capable of serving the UNIX and Macintosh PCs and handling both standard and Postscript output on the RIC and DRC networks.

RIC 7 Metro telephone exchange interface (RS232)

SW 4 One HP LaserJet IIISi printer with 5 MB of RAM, integrated PostScript, duplex printing and interface to network. (SW 4)

SW 5 To the maximum extent practical, use and supplement existing thin Ethernet system (now employs 3C505B cards in each PC connected via BNC connectors and thin Ethernet to an ACCY 3C588 repeater base unit) or, entirely replace this system using vendor supplied cable, wiring and hubs.

SW 6 Install Windows 3.0 (80386 PCs) and standard (8086 & 80286 PCs) menus on all Solid Waste Department PCs in accordance with figures SW-2 and SW-3. Supply and install software to enable the workstation/server to concurrently support SAS and Arc/Info, and support the network depicted in SW-2 and SW-3

Network Components

STRAP 1 The STRAP "internet" refers to the parts of the network which are designed to provide a peer to peer link for the seven workgroup sub-nets and allow the transparent

sharing of data and documents, and workstation access from within one workgroup to the compute resources (hardware and software) of other workgroups. In short, a distributed computing environment. This would include the necessary software for overall network management as well as cabling, any necessary bridges, routers or other equipment as recommended by the proposer. The layout of the workgroups is such that the bulk of traffic is expected to occur within workgroup.

Network Location: The network will be located at 2000 SW First Avenue, Portland, Oregon, where the workgroups are spread over 4 floors. A floor plan with computer equipment in use and proposed is shown for each of the departments in Section Six: Detailed Project Description.

A. Site Characteristics:

36" return air plenum
9` non-bearing metal stud internal walls
Reinforced concrete structual core (elevators, wells)
6" concrete floors

B. Network Characteristics:

The network will conform to IEEE 802.3 electrical, physical and access control standards and operate at a minimum transfer rate of 10 Mbits/sec.

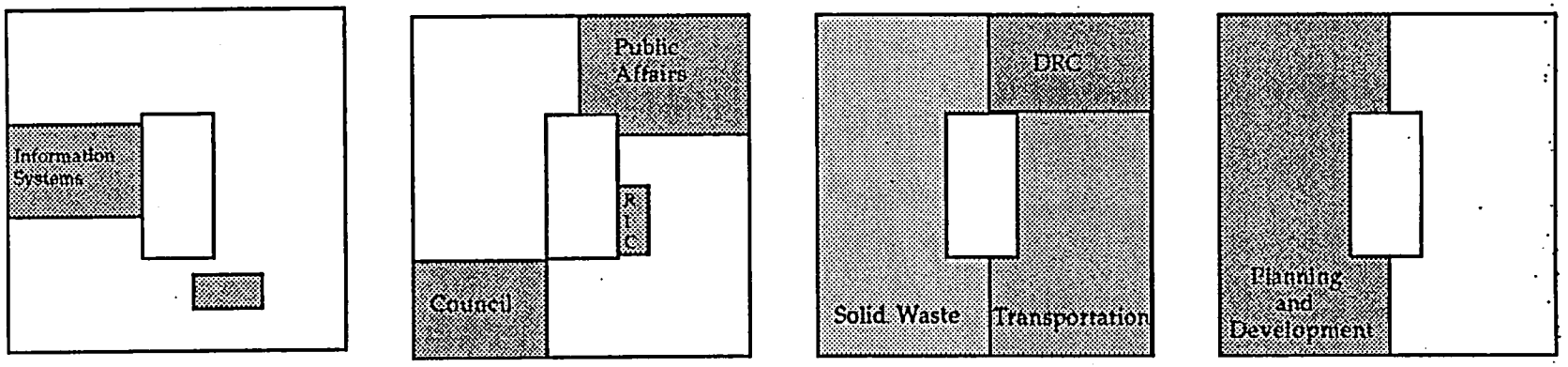
C. The network will use Ethernet technology with TCP/IP protocol.

D. Functional Requirements:

The network, in cooperation with host operating systems and system software will provide: Transparent file access and transfer within and among workgroups, workstation/terminal access to major computing resources (hardware and software) within and among workgroups. (Sun NFS is currently in use on the existing SUN and HP workgroup networks in the Transportation Department). Network management software for use by the Information Systems Division support staff. It is likely that migration from NFS to AFS will be desired at some future time, the ability to support this should be discussed. It is intended that this network will eventually support e-mail, calendaring etc., that will have to be functional for sub-networks that are UNIX, Macintosh

Department Location

2000 SW First Avenue, Portland, OR



Floor 1 Floor 2 Floor 3 Floor 4

N

and DOS based, in a wide area network that includes off-site Metro departments such as the Zoo, Convention Center and Metro Exposition and Recreation Commission.

All workgroups are connected via one or more ICC Unicard equiped PCs to the Unisys A4 containing financial information in the accounting department. The possibility of having a more global network connection to this resource should be investigated. The implications of this connection to both the internet and/or the workgroup subnets should be investigated and included in the proposal.

E. Goods and Services to Be Provided:

All necessary cable, hardware and software proposed. Installation of the network components, bringing the network to full operation.

DRC 11 Equipment needed to convert existing thin LAN Ethernet TCP/IP network on the HP system to twisted pair using 10BaseT hub(s) and transceivers.

P&D 1 This workgroup will have 26 DOS (286 & 386) workstations, one HP345 UNIX workstation (currently thin-lan connected to DRC in Transportation), two laser printers two dot-matrix printers and two modems. Two of the DOS workstations will be configured to emulate X-Terminals for access to the various UNIX applications both within and outside this workgroup. It is not expected that the X-Terminal use will be heavy and continuous as this group will not be developing applications or databases in the UNIX resources, but accessing applications as users.

A. Functional Requirements:

1. Transparent access to major office productivity software via a menu environment. The staff is essentially non-technical: file sharing, communications etc. need to be transparent. Common office productivity software will include, but will not be limited to Wordperfect 5.1, Wordperfect Office 3.0, and Lotus.

2. Ability to support both X-Terminal and common alpha terminal emulation access to any of the UNIX resources in the internet.

3. Ability for file access/sharing with other workgroups.

4. Network diagnostic/management tools must be included and be useable via the internet by support staff located in the Information Processing Division (IPD).

5. DOS diagnostic/management tools (such as Norton or PC Tools Deluxe) should not be included, but must be functionally useable both internally and by IPD staff via the internet.

6. Support expected upgrade path: Move to an MS-Windows 3.0 (or newer) environment for the DOS members of the workgroup. Addition of workstations to a total of 40, both DOS and Macintosh. Ability to support auto-dialing to shared modems over the network for access to external (to Metro) resources. Addition of extra peripherals such as more printers, plotters, etc.

B. Goods and Services to be provided:

1. All cabling, network cards, hardware needed to complete the network.

2. Any necessary hardware/software upgrades to the HP345 to use it as a workgroup server, or a DOS network server computer with associated software in the event a server/slave network is recommended.

3. Network manager software, with network diagnostic tools.

4. Installation of the network components, bringing the network to full operational status. Include menu access to software, file transfer and modems using Wordperfect Office 3.0.

5. Training: Prepare users manual and provide training for the workgroup users.

6. Provide system documentation for network administrator.

7. The question of DOS workstation environment RAM needs when using resident programs such as the network software, Wordperfect Office 6.0, a disk utility program (such as PC Tools Deluxe or Norton), and a Wordperfect 5.1 or Lotus application should be addressed.

C. Support:

Three year phone and on-site service, including network manager and utility upgrades, network equipment element repair, and technical support to the network administrator (ISD).

SW 3

This department currently has 40 PCs networked using a 3-COM server on a twisted pair system using ethernet boards. It is intended to install a UNIX compute server for several departmental applications (Arc-Info, SAS, and CAD applications). It is intended that this be the file server for the existing office applications. It is expected that over time, the PC network will expand to 60 workstations.

A. Functional requirements:

1. Transparent access to major office productivity software via a menu environment. The staff is essentially non-technical: file sharing, communications etc. need to be transparent. Common office productivity software will include, but will not be limited to Wordperfect 5.1, Wordperfect Office 3.0, and Lotus.

2. Ability to support both X-Terminal and common alpha terminal emulation access to any of the UNIX resources in the internet.

3. Ability for file access/sharing with other workgroups.

4. Network diagnostic/management tools must be included and be useable via the internet by support staff located in the Information Processing Division (IPD).

5. DOS diagnostic/management tools (such as Norton or PC Tools Deluxe) should not be included, but must be functionally useable both internally and by IPD staff via the internet.

6. Support expected upgrade path: Move to an MS-Windows 3.0 (or newer) environment for the DOS members of the workgroup. Addition of workstations to a total of 60, (DOS). Ability to support auto-dialing to shared modems over the network for access to external (to Metro) resources. Addition of extra peripherals such as more printers, plotters, etc.

B. Goods and Services to be provided:

1. All cabling, network cards, hardware needed to complete the network.

2. Any necessary hardware/software for the UNIX server for use as a workgroup server, or a DOS network server computer with associated software in the event a server/slave network is recommended. (A recommendation in this regard is sought from the proposer).

3. Network manager software, with network diagnostic tools.

4. Installation of the network components, bringing the network to full operational status. Include menu access to software, file transfer and modems for 8086 or 80286 machines. Windows 3.0 access for 80386 machines.

5. Training: Prepare users manual and provide training for the workgroup users.

6. Provide system documentation for network administrator.

7. The question of DOS workstation environment RAM needs when using resident programs such as the network software, Wordperfect Office 6.0, a disk utility program (such as PC Tools Deluxe or Norton), and a Wordperfect 5.1 or Lotus application should be addressed.

C. Support:

Three year phone and on-site service, including network manager and utility upgrades, network equipment element repair, and technical support to the network administrator (ISD).

Metro Council Office

This group will have an independent group of 7 DOS-based PCs. Their need is to be networked and connected to the internet, probably with the addition of an 8th PC to act as network/print server for the group, with the intention to be a part of the e-mail/calendaring communications in the WAN when that occurs.

A. Functional Requirements:

1. Transparent access to major office productivity software via a menu environment. The staff is essentially non-technical: file sharing, communications etc. need to be transparent. Common office productivity software will include, but will not be limited to Wordperfect 5.1, Wordperfect Office 3.0, and Lotus.

2. Support of common alpha terminal emulation access to any of the UNIX resources in the internet.

3. Ability for file access/sharing with other workgroups. Access to external modems for both Metro users and for public access to official Metro documents/files.

4. Network diagnostic/management tools must be included and be useable via the internet by support staff located in the Information Processing Division (IPD).

5. DOS diagnostic/management tools (such as Norton or PC Tools Deluxe) should not be included, but must be functionally useable both internally and by IPD staff via the internet.

6. Support expected upgrade path: Move to an MS-Windows 3.0 (or newer) environment for the DOS members of the workgroup. Addition of more workstations. Ability to support auto-dialing to shared modems over the network for access to external (to Metro) resources. Addition of extra peripherals such as more printers, plotters, etc.

B. Goods and Services to be provided:

1. All cabling, network cards, hardware needed to complete the network.

2. A DOS network server computer with associated software.

3. Network manager software, with network diagnostic tools.

4. Installation of the network components, bringing the network to full operational status. Include menu access to software, file transfer and modems using Wordperfect Office 3.0.

5. Training: Prepare users manual and provide training for the workgroup users.

6. Provide system documentation for network administrator.

7. The question of DOS workstation environment RAM needs when using resident programs such as the network software, Wordperfect Office 6.0, a disk utility program (such as PC Tools Deluxe or Norton), and a Wordperfect 5.1 or Lotus application should be addressed.

C. Support:

Three year phone and on-site service, including network manager and utility upgrades, network equipment element repair, and technical support to the network administrator (ISD).

Public Affairs/Recycling Information Center

These workgroups currently have two appletalk networks (Public Afairs (seven Mac SEs)and Graphics (four Mac IIs)). The third workgroup will be using a UNIX server via six X-Terminals. All three work groups need networking and internet connection. At least one of the Mac IIs will be configured for use as an X-Terminal.

A. Functional Requirements:

1. File sharing, communications etc., need to be transparent.

2. Ability to support both X-Terminal and common alpha terminal emulation access to any of the UNIX resources in the internet.

3. Ability for file access/sharing with other workgroups.

4. Network diagnostic/management tools must be included and be useable via the internet by support staff located in the Information Systems Division (ISD).

5. Support expected upgrade path: Increase X-Terminal users to ten.

B. Goods and Services to be provided:

1. All cabling, network cards, hardware needed to complete the network.

2. Any necessary software for the UNIX server to enable use as a workgroup server, any necessary software for the MACs to allow them to interface outside the workgroup.

3. Network manager software, with network diagnostic tools.

4. Installation of the network components, bringing the network to full operational status.

5. Training: Prepare users manual and provide training for the workgroup users.

6. Provide system documentation for network administrator.

C. Support:

Three year phone and on-site service, including network manager and utility upgrades, network equipment element repair, and technical support to the network administrator (ISD).

Arc/Info and NEXPERT Software

DRC 6,7,8,9 & RIC 9,11 & SW 2 The Arc/Info and NEXPERT licensing required to support the RLIS applications in the three work groups listed includes:

One Arc/Info multi-user license upgrade to more powerful server (from HP 9000/380 to DRC 1 above)

One Arc/Info single-user license for workstation, DRC 2 above

One Arc/Info Network license upgrade from single user on a HP 9000/380 to multi-user on the DRC 1 server

One Arc/Info TIN license upgrade from single user on a HP 9000/345 to multi-user on the DRC 1 server

One Arc/Info multi-user license for server, RIC 1 above

One Arc/Info single-user license with TIN and Network modules for workstation, SW 1 above

NEXPERT developer's and applications license for the RIC server

DRC 10, RIC 10, SW 3 For each of the UNIX systems a single contract for hardware and software maintenance is sought (bundled agreements). In cases of systems providing both workstation and server functions, this contract includes all of the applicable software.

Section 6
Detailed Project Description

This section describes each department's mission and activities as they relate to this RFP. The focus is on work group functions and communication requirements both within and outside to other groups.

Planning and Development Department

The Planning and Development Department of the Metropolitan Service District (Metro) has identified the following critical information system needs:

1. A local area network (LAN) for the Department to provide electronic mail and group scheduling, to share printers and a modem, to transfer files and use multi-user data bases, to allow remote log-on, to take advantage of network application software, and to provide for centralized file storage and backup.

2. Providing the ability for our staff to use the Metro Transportation Department Data Resource Center's (DRC) Regional Land Information System (RLIS) for programs including regional growth management, emergency planning, natural area preservation, economic development, water resources planning, housing and solid waste planning.

3. Giving our staff the capability to use data from the Metro Solid Waste Department (SWD) and the jointly developed Solid Waste Model for regional solid waste planning.

I. MISSION OF METRO'S PLANNING & DEVELOPMENT DEPARTMENT

The mission of the Department is to provide regional planning services for Washington, Multnomah and Clackamas Counties, 24 cities, Tri-Met, Port of Portland, special districts, and state agencies whose programs affect land use. The following breakdown is based on the adopted 1991-1992 budget.

A. Administration -- 2.0 FTE which is the department director and an administrative assistant.

B. Land Use Division -- 5.75 FTE working on growth management, the regional urban growth boundary, housing, economic development, intergovernmental coordination and citizen involvement.

C. Urban Services Division -- 9.25 FTE responsible for emergency planning; and regional solid waste planning

including system design, local regulation of facility siting, yard debris, illegal dumping, hazardous waste and finance.

D. Environmental Division -- 10.0 FTE plus a person on loan from the Portland Audubon Society working on water resources and natural areas planning and management.

II. DATA & COMPUTING REQUIREMENTS

A. Planned Inter-Departmental STRAP Network.

1. Regional Land Information System (RLIS) -- P & D has one UNIX workstation (HP 345) for RLIS applications. The RLIS database and Arc/Info software are accessed over the Ethernet LAN from the Data Resource Center server (currently HP 380 to be DRC 1). P & D has a single user Arc/Info license. While the majority of work using RLIS data and Arc/Info software will be done on the department's UNIX workstation, some less compute intensive work may take place using a DOS PC X windows terminal, and the DRC's server where a multi-user arc/Info license is available. This access is subject to the availability of spare computing resource on the DRC server.

2. Solid Waste Department (SWD) Model & Data -- Ability to transfer Rbase, Lotus, SAS, Excel and Arc/Info files including data on facilities, waste characterization, curbside collection, high grade, and yard debris processing. Ability to run the new Arc/Info "Solid Waste Flow Model" on the UNIX server to be shared with RIC (RIC 1) and using the multi-user Arc/Info license (RIC 9).

3. Public Affairs -- Ability to send and receive word processing and graphics files. We publish two newsletters (each one 4 times a year), prepare materials for the annual growth management conference, and various marketing materials and research documents.

B. Planned Planning & Development Department Network

1. Electronic Mail and Group Scheduling -- All staff; using Wordperfect Office 3.0.

2. Printer Sharing -- All staff; two laser and two dot matrix printers; using Wordperfect 5.1, Wordperfect Office 3.0, Lotus 123 v2.2, Rbase 3.1, Harvard Graphics 2.3, Paradox 3.5, and Quattro Pro 2.0.

3. Modem Log On -- Allow remote access to network by Department staff.

4. Modem Sharing -- All staff; using PC Tools Deluxe 6.0 utility.

5. File Sharing -- All staff. Wordperfect 5.1 newsletter and report assembly; final printing of documents by support staff. Also Office, Lotus, Rbase, Paradox, Quattro Pro and Harvard Graphics.

6. Mailing Lists -- After installation of LAN, will upgrade to multi-user data base (now Rbase 3.1 on one computer with 4500+ names and growing). May use multi-user dedicated mailing list program. Set up with "read only" access except staff designated for list maintenance.

7. RLIS Workstation Data -- Ability to move data to and from DOS PC's (one or more), our HP 345 RLIS workstation, DRC-RLIS and SWD-Model.

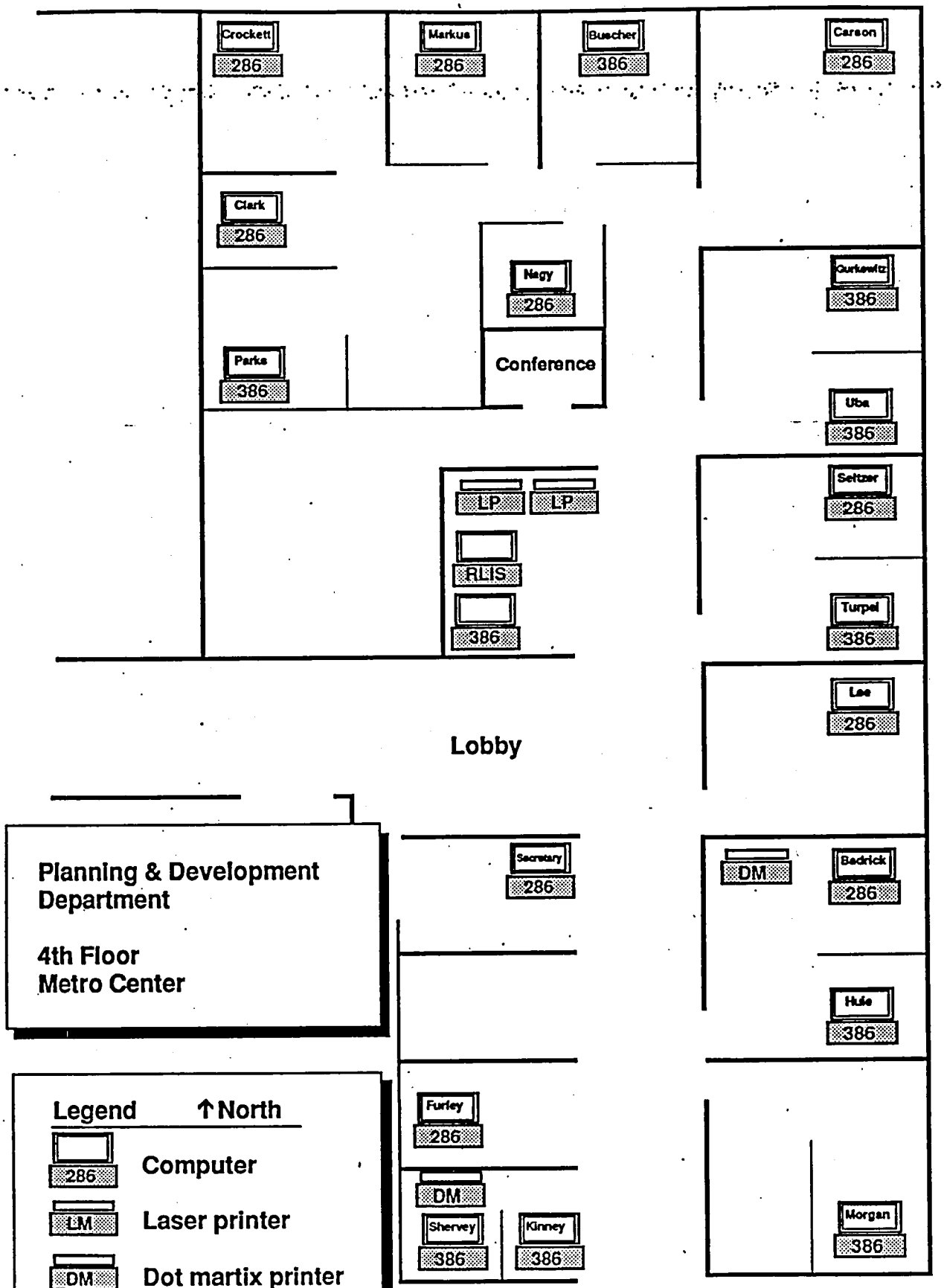
8. File Backup -- Automatic daily incremental backup and weekly full backup.

III. CURRENT SYSTEM

A. Existing Equipment & Software -- HP 345 RLIS workstation, ten 386 DOS computers and ten 286 DOS computers (purchase of two computers in process); please refer to attached computer inventory summary for more information. Printers -- HP LaserJet III, Panasonic LaserPartner, Okidata Microline 293 dot matrix, Output Technology Corporation OT-700e dot matrix, and 2 Buffalo SL mk II boxes for printer sharing. Wordperfect 5.1 is on each computer; please refer to attached software inventory summary for more information.

B. New Equipment & Software (<u>not</u> part of RFP) -- Acquire six 386 computers and purchase or upgrade software in July 1991 so that every computer may use PC Tools Deluxe 6.0, Wordperfect Office 3.0 and Wordperfect 5.1.

C. Office Layout -- Please see figure PD-1.


Crockett
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386
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RLIS
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Seltzer
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Turpel
386
Lee
286
Lobby
Planning & Development Department
4th Floor
Metro Center
Secretary
286
DM
Bedrick
286
Hale
386
Furley
286
DM
Shervey
386
Kinney
386
Morgan
386
Legend
↑North
286
Computer
LM
Laser printer
DM
Dot martix printer
RLIS
HP 345

Public Affairs Department
(Recycling Information Center)

The Public Affairs Department of the Metropolitan Service District has identified the need for computer equipment and software to support the Recycling Information Center (RIC) switchboard and network departmental MacIntoshes. The following components have been identified.

A. A high performance, multi-user UNIX platform which supports ARC/INFO and expert system applications that will provide service to X-window workstations utilized for quick information access in response to recycling hot-line callers. The system will also include networked support and a gateway to departmental MacIntoshes. (Other software requiring support on the network is Word Perfect.) Office automation tools such as electronic mail, central scheduling and calendaring, mailing lists, and other types of record keeping will also require network support.

B. Networking to other UNIX computers on the STRAP network (see diagram) for both file and peripheral access, and fail-safe system redundancy over the network in case the hardware base for the call response application fails. Due to the high volume of incoming calls, downtime beyond a few minutes cannot be tolerated.

C. At least five X-terminal workstations that will provide completely flexible access to both graphic and character based applications on the UNIX platform and other UNIX computers on STRAP.

D. ARC/INFO software and compatible expert system capabilities for call response service from the Recycling Information Center (RIC). Flexible database design features of the knowledge base will be important as more refined and additional categories of new information is often added to the system. Call response application software based on these software products will be developed in-house.

E. Interface (RS232) to telephone switchboard RAM unit for ability to upload incoming call data for retention and analysis.

F. Ability to provide at least two standard modem interfaces with computers outside Metro for data transfer and information sharing with local jurisdictions and other recycling information services such as electronic libraries.

G. A Laser printer with at least 300 dpi resolution accessible to all networked components. Must handle both standard output and Adobe postscript output. The ability to accommodate large sheet paper is desirable.

H. A backup unit, either optical disk or cartridge tape, for quick and reliable backups capable of holding the data from the entire Public Affairs local network.

I. All cabling, consulting, software, installation and implementation services, including training and documentation to provide a completely functional system for Public Affairs.

J. All support services needed for on-going maintenance of the system.

K. A clear path of upgrade options for increasing storage capacity, memory, processing power, speed, and additional workstations should growth of demands on system require extra resources to maintain a consistent response time-range of 2 to 4 seconds.

Mission

The mission of the Public Affairs Department is to communicate the goals of the Metropolitan Service District to the public and to respond to the needs of other Metro departments. The Public Affairs Department has six major programs to accomplish this:

A. **Management and Administration** - provides management, administrative and clerical support to accomplish department program objectives.

B. **Waste Reduction Promotion** - develops advertising and public relations campaigns, community outreach activities and informational materials to support the Recycling Information Center and waste reduction programs developed by the Solid Waste and Public Affairs departments.

C. **Waste Reduction Education** - provides services to educate students, teachers, administrators and community groups within the region about Metro's waste reduction activities.

D. **Graphic Design and Production** - provides a complete range of graphic design and publication services to Metro departments including the provision of visual communications support services for Metro facilities, operating departments, programs, and administration and management of Metro's visual identity.

E. Recycling Information Center - This center is a customer service and public relations program that is a clearinghouse for recycling information in the Metro region. The Recycling Information Center is the major public outreach tool for solid waste issues and is a part of the Waste Reduction Plan adopted by the Metro Council.

The most significant and complex function that the new system must address for Public Affairs is the RIC call response application. The following describes the general purpose of the system and some of the issues that are involved.

I. PROGRAM DESCRIPTION: RECYCLING INFORMATION CENTER

A. The center maintains informational repositories for more than 250 recycling depots, drop sites, markets, collection and hauling services available in the region. The center offers a telephone hotline and provides informational materials and exhibits to the public, businesses, government agencies, teachers and students.

B. The Recycling Information Center is the first point of contact for people requesting information about recycling, landfills, transfer stations, household hazardous waste collection, waste reduction and solid waste issues. It is a key point for customer service and public relations for Metro.

II. GROWTH ISSUES: RECYCLING INFORMATION CENTER.

A. Promotions regarding recycling and waste reduction issues conducted by Metro, local government agencies and haulers increase the number of calls received by the center. Last year the number of calls received totaled over 69,000. The rate of growth in the number of calls for the past several years has been an almost 50% increase per year. At this rate the number of calls for the next year projects to well over 100,000 calls that the RIC will be expected to handle.

B. Waste reduction priority programs such as residential curbside recycling, multi-family dwelling recycling, office paper and business recycling, yard debris recycling and processing, waste wood and select waste recycling, household hazardous waste disposal and alternatives, institutional purchasing and recycling markets assistance programs heighten public awareness and result in increased calls to the center.

C. The department will request additional weekend coverage for the Recycling Information Center to meet the demand of increased phone calls originating from within the region.

D. If mandated by the Oregon legislature, the Recycling Information Center may serve as a state-wide clearing-house for recycling and waste reduction information.

III. DATA AND COMPUTING REQUIREMENTS/CURRENT AND PROPOSED SUPPORT

A. The Recycling Information Center recycler/hauler information

(sources: computer database and hardcopy)

Major Elements:
1. Name of facility
2. Material types (minimum of 16 and growing)
3. Hours of operation
4. Areas of operation
5. Method of Disposal
6. Location/Address of Site(s)
7. Material specifications and preparation

The RIC is commissioned to quickly provide information requested by callers. The kinds of information usually supplied are the names and locations of the nearest recycling and solid waste disposal facilities for a given material. Often the distance from the caller's origin as well as directions to the selected facility are also requested. The caller may also request additional general information of a narrative nature about curbside recycling, multi-family dwelling recycling, office paper and business recycling, yard debris recycling and processing, waste wood and select waste recycling, household hazardous waste disposal and alternatives, institutional purchasing and recycling assistance marketing programs, and legislative trends. The RIC also provides referrals to other government agencies and community resources. There are over 250 recycling and disposal faculties within the Portland Metropolitan area. In the future, the data may be expanded to include information for all of Oregon.

In the proposed system, the current recycler/hauler data will be incorporated in Metro's Regional Land Information System (RLIS) to provide spatial aspects to the data. RLIS is maintained in the Transportation department along with other associated data such as the TIGER and map layer files derived from TIGER files. Auxiliary software with flexible abilities to inquire into a recycling information

knowledge base will be used to access more generalized information over a broad and wide-ranging variety of subjects.

The system must be fast. The time to access information, including graphic displays, and present it on the screen to an operator should require no more than 2-4 seconds to avoid holding up callers. This standard should be maintained even during peak periods of demand.

B. Statistical data collection and reporting:

Call referral information
(sources: Rbase database and manual hardcopy)

Major Elements:
1. Number of calls received.
2. Types of information requested by caller.
3. Number of calls lost due to busy lines.
4. Time and day of week calls were received.
5. Zip code/location of caller.
6. Referral information.
7. Number and types of mailings requested.

Statistical reports which summarizes the above information are periodically compiled and provided to Metro staff, state, county and city governments, wasteshed representatives, businesses, and individuals. Most of the information is recorded by hand as calls are processed and are analyzed in Lotus spread sheets. In response to special recycling advertising campaigns, call data is also compiled in the referral database and the results and effectiveness of those campaigns are tracked in survey reports. The amount of data is proportional to the number of calls received.

In the proposed system, statistical data will be captured automatically by the call response application software based on ARC/INFO and stored in related relational databases maintained and accessed by ARC/INFO routines.

Some call data, especially lost call data, will be uploaded from the telephone switchboard into the RIC system.

C. Recycling Library Checkout (sources: Rbase and manual):

Major Elements:
1. Name of book
2. Subject/Author/Title
3. Book classification
4. Book shelf #
5. Borrower's name, address, etc.
6. Date in/out
7. Annotated Bibliography

A library of publications concerning solid waste, hazardous waste, recycling and waste reductions is maintained for the Metro staff and the general public. A computer-based checkout system based on Rbase tracks the flow of materials. Currently over one thousand books are tracked in this system.

D. Mailing Lists (Rbase):

Major Lists:
1. Daily general public (generated from names of callers who request mailed materials; changes daily)
2. Hauler/recyclers
3. Hazardous waste interest groups
4. Neighborhood associations
5. Monthly report recipients
6. Bi-yearly Metro newsletter recipients (thousands)

Public Affairs and the RIC both manage several dozens of mailings lists. The RIC currently maintains their lists as Rbase files. Public Affairs uses word processing text files. The Metro newsletter list is handled by an outside mailing service.

E. Materials and Exhibits Inventories (Manual):

Special inventories of exhibit, educational, and promotional materials available for use by the public is maintained. The volume of data for this purpose is minimal.

F. Special Projects Tracking (Rbase and Manual):

These are projects which usually occur on a seasonal or periodic basis. Examples of such projects are the disposal of Christmas trees, phone books, yard debris, or hazardous waste

Throughout the year data in regard to the conduct and coordination of special projects is collected and summarized by geographical area. Currently the data for

each project is collected in a Rbase database and usually consists of no more than several hundred records.

G. Other Requirements:

Personal productivity tools for extensive work in Word, Works, Excel, and a variety of desktop publishing tools and graphics software will continue to be required. These tools should be available for use by the user on a stand-alone basis with files accessible from anywhere in the network including the MacIntoshes. Word Perfect should be available to users over the network.

H. Currently, implementations exist for functions B through F, either in Rbase, in a manual mode, or in a mixture of both. Public Affairs plans to duplicate the current implementation of each function on the relational database portion of the ARC/INFO software with possible enhancement at some later date.

IV. DESCRIPTION OF CURRENT COMPUTER SYSTEMS

The Public Affairs department currently accomplishes its work with the aid of:

A. A MacIntosh network of Mac II's in the Graphics Division which employs a variety of graphic design and publishing tools. A gateway from this network to a UNIX-based SUN SPARC workstation network in the Transportation department is planned.

B. A MacIntosh network of primarily SE's for the general non RIC staff which employs personal productivity tools in the areas of word processing, spreadsheet, graphics design, and small database applications.

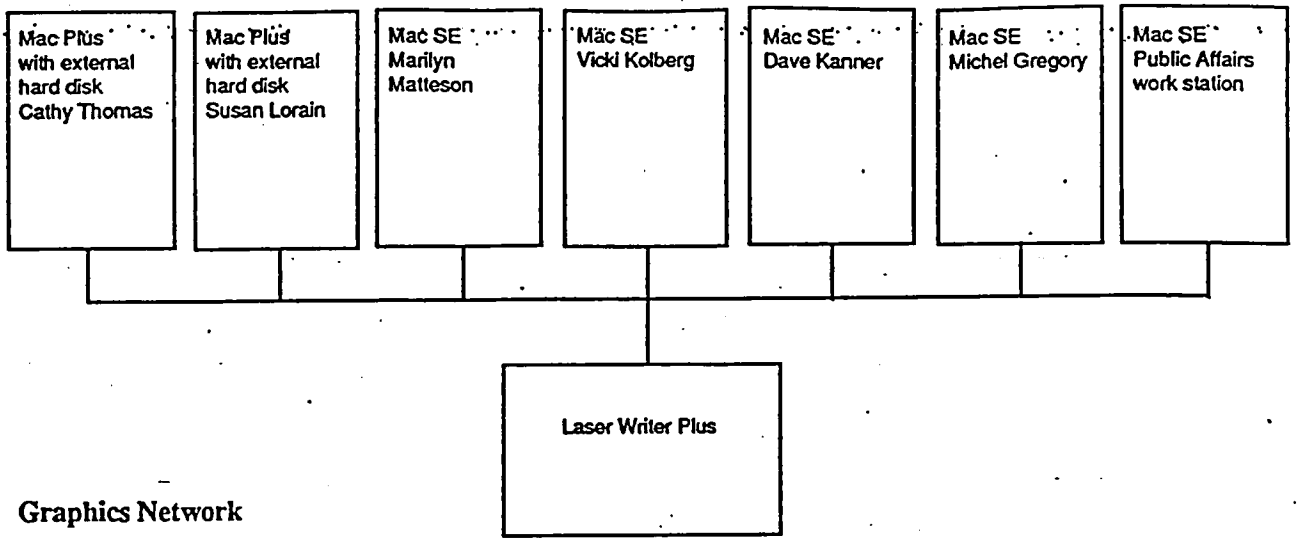
C. A PC-MOS system for the RIC group consisting of one 386 IBM compatible PC with its 20MB hard disk as a server for three Wyse terminals. Some of the data for the RIC applications is implemented on this system, but is not fully utilized because of the limitations and slowness of the system.

D. As an additional note, none of the networks described above are linked to each other, nor to any other network. All presently operate in isolation from each other, although they share the same printers.

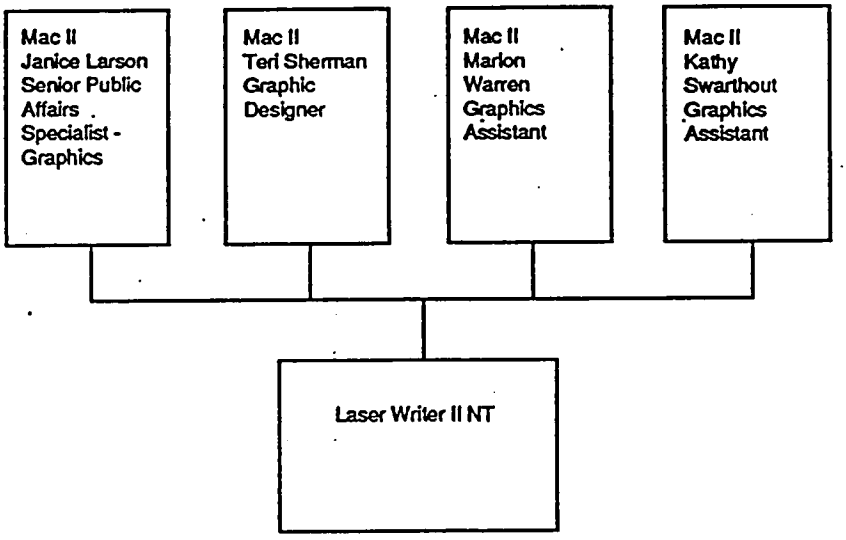
There are no plans to retain the PC-MOS system after the implementation of the new system.

Please refer to the diagrams (PA-1 thru PA-4) for illustrations of the existing computer configurations and the structure of the department personnel.

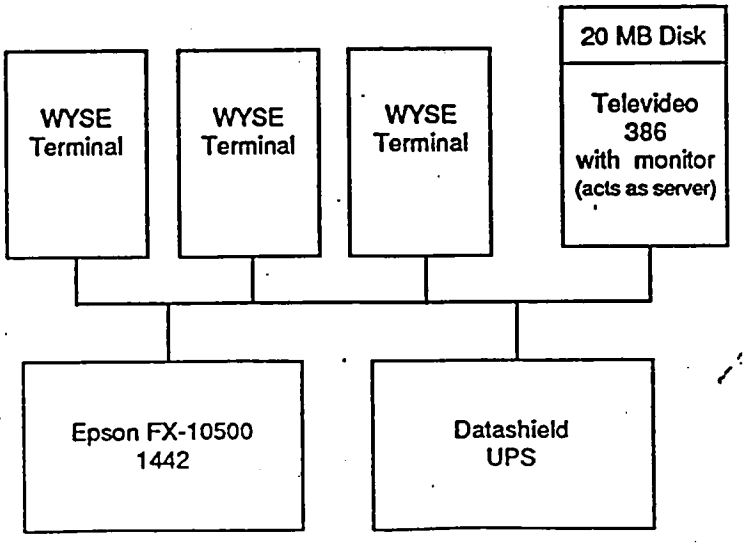
Public Affairs Network



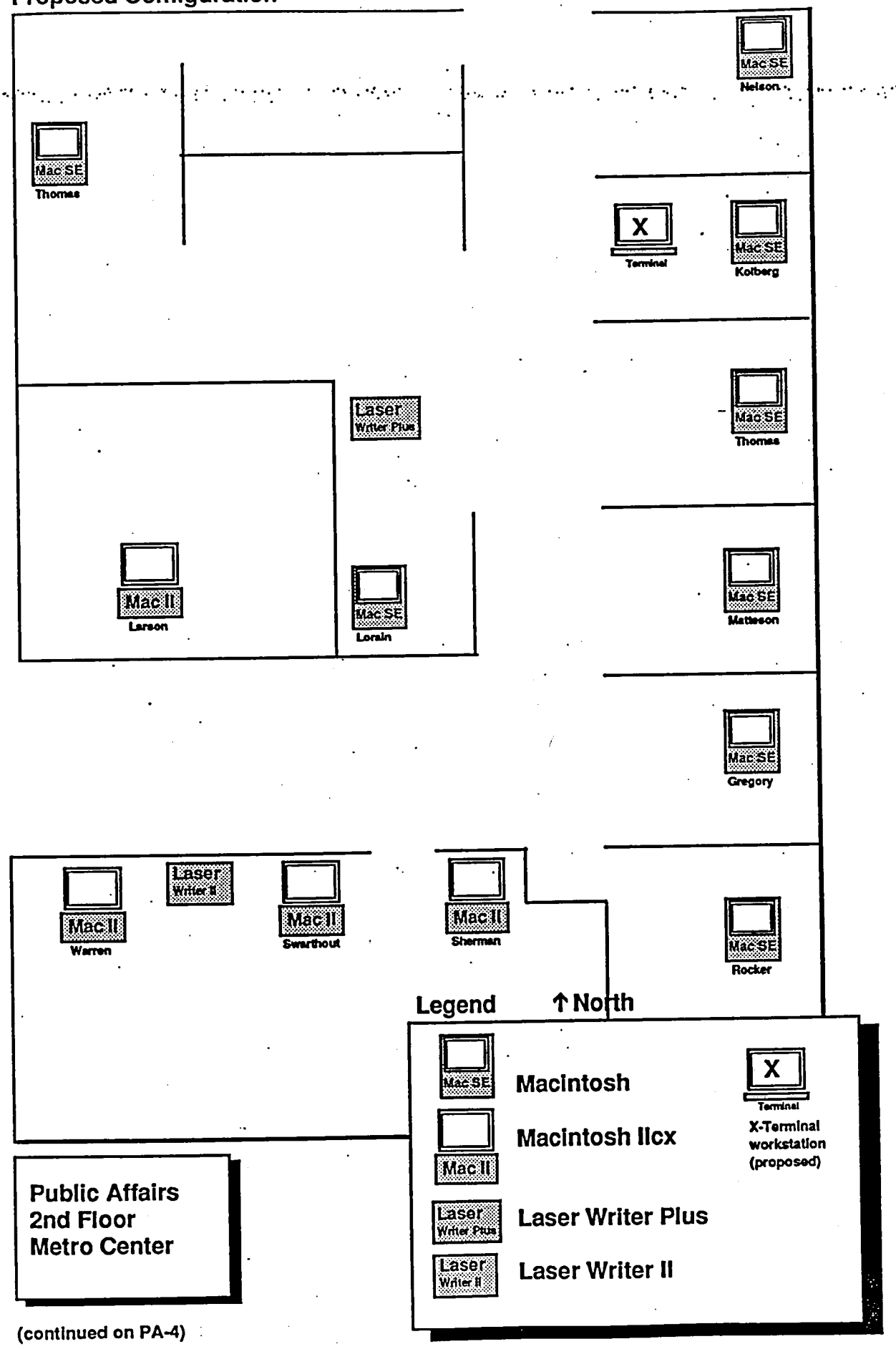
Graphics Network



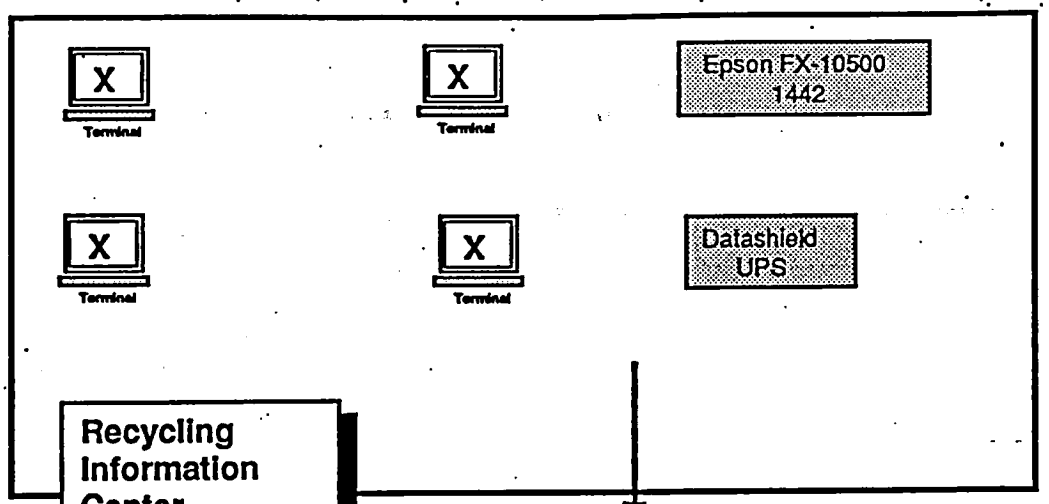
Current RIC Configuration, 1991



Proposed Configuration



(continued on PA-4)



*See diagram SW- 2 for location of RIC STRAP Server/workstations .

x- Terminal located in Transportation Data Resourse Center 3rd Floor

Metro's Transportation Department

I. DEPARTMENT'S MISSION

Metro, designated by the governor as the region's metropolitan planning organization (MPO), is responsible for receipt and distribution of federal transportation funds in the tri-county area. The Transportation Department is responsible for the coordination and technical support required to discharge Metro's authority as an MPO. The following divisions of the Department provide the support required by the transportation systems planning process:

A. Planning (staff of 5): Works with technical committees and member jurisdictions to develop transportation projects and plans, carry out project and plan evaluation.

B. Transportation Systems Analysis (staff of 7): Develops and applies transportation models used in long range planning and evaluation of alternative transportation strategies.

C. Data Resource Center (DRC) (staff of 8): Responsible for supplying the basic planning and forecast data needs (population, employment, land use) of the Transportation Department, Metro's Planning and Development Department and member jurisdictions. The Regional Land Information System (RLIS) is being developed in this section and is due to become operational in October of this year.

D. Administration (staff of 6): Directs and coordinates the production of the above groups through preparation and management of the Transportation Improvement Plan, provision of technical direction for transportation plans and projects, and preparation of the departmental budget.

II. DATA AND COMPUTING REQUIREMENTS/CURRENT SUPPORT

The Department is dependent on the following data and application systems:

A. Regional Land Use - ARC/INFO

The Regional Land Information System (RLIS) significantly expands Metro's service to business and government users through the integration of land based data from multiple sources such as county assessors, U.S. Census and utility providers.

RLIS is implemented in ARC/INFO on a cluster of three Hewlett-Packard 9000-3XX series workstations with attached Macintosh and personal computers emulating Tektronix terminals. These PCs and MACs are being equipped with

Ethernet cards and X terminal emulation software for LAN connection in the current fiscal year.

The RLIS network (Ethernet) has been extended to an HP workstation in the Planning and Development Department and provides for the cooperative use of ARC/INFO and RLIS data for water quality planning.

A network link between the SUN LAN and the RLIS system provides the ability to download network capacity and volume information from the EMME/2 transportation model to enable analysis of transportation and land use relationships. This network also provides for sharing of computing resources and peripherals.

The equipment included in this RFP for the Data Resource Center is to provide two addition seats for database maintenance staff being hired and to provide the additional computational power which will be needed as RLIS becomes operational and complex queries are made upon its large database. For these latter functions high performance is essential and "fast" workstations are therefore being sought. Both computational speed and delivery time are high priority considerations.

B. Transportation Models

One of the critical success factors for the Transportation Department is the ability to implement, calculate and graphically display the output from its mathematical models of the region's highway and transit systems. The transportation models are implemented on a network of Sun 470 and 13 Sun IPC's.

C. Statistical Analysis/Data Base:

The Transportation Department maintains a variety of socioeconomic data as the basis for its transportation model and as a marketable service to private and government customers. These data are drawn from sources such as travel behavior surveys, Oregon Employment Division, and the U.S. Census Bureau.

Much of these data are subjected to rigorous statistical analysis. The availability of the Statistical Analysis System (SAS), SPSS or functional equivalent has been identified as a major requirement of the new transportation computer system.

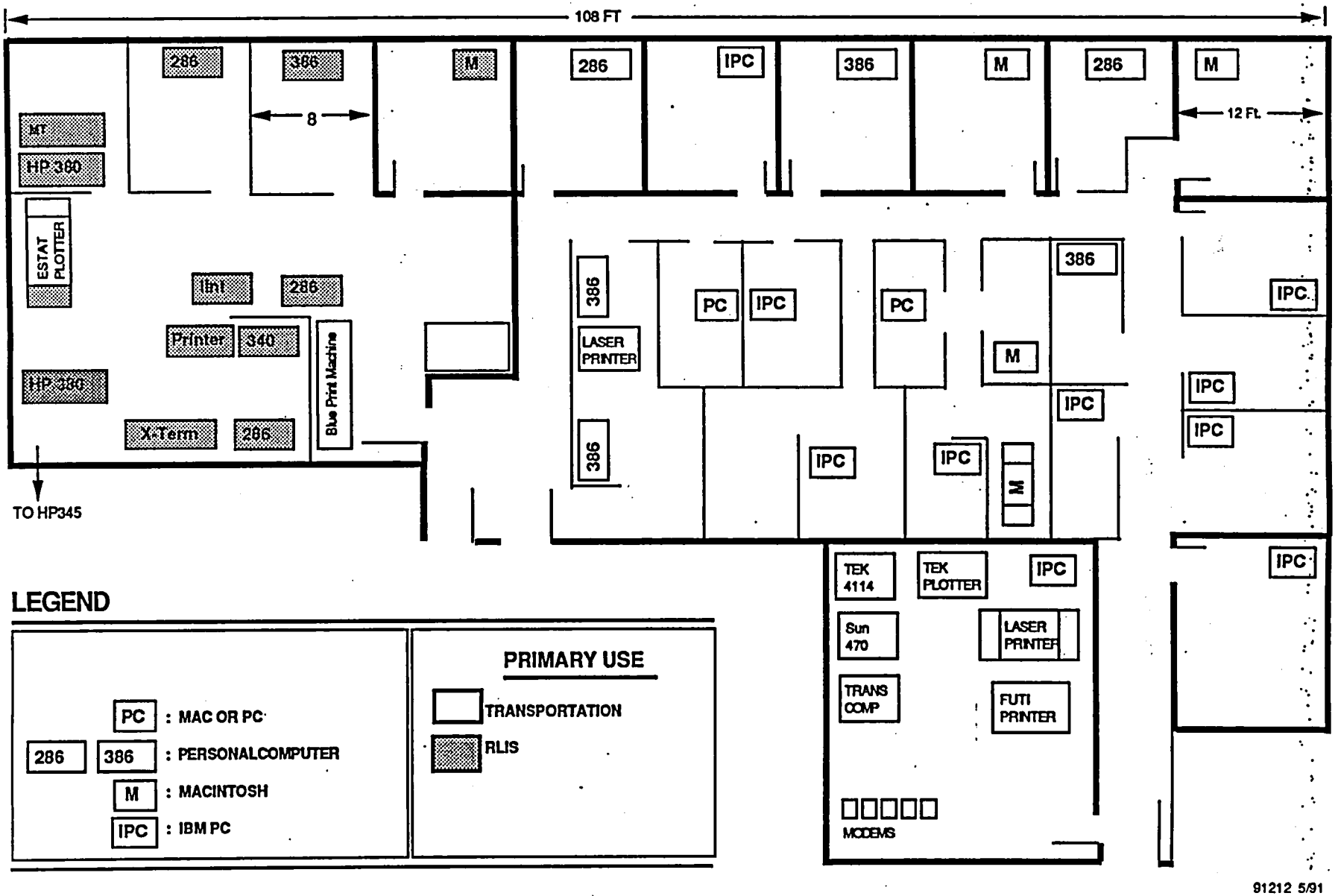
A major element of Metro's responsibility as an MPO is the Transportation Improvement Plan (TIP), an automated system of accounting for the receipt and use of federal, state

and local monies. This system is currently implemented in the Unify relational database management system on the SUN 470.

Productivity tools for data manipulation and report generation:

As a professional organization with a creative, well educated staff, the Transportation Department relies heavily on DOS based and Macintosh personal computers for word processing, spread sheet, data base and graphics applications. Networking of the personal computers with the transportation and RLIS systems is beginning to enable planners to download EMME/2 and ARC/INFO graphics for inclusion in reports as well as access data on those systems.

Transportation Department Device Location



LEGEND

PC : MAC OR PC

286 386 : PERSONALCOMPUTER

M : MACINTOSH

IPC : IBM PC

PRIMARY USE

TRANSPORTATION

RLIS

91212 5/91

Solid Waste Department

The Solid Waste Department of the Metropolitan Service District (Metro) has identified the need to significantly upgrade and integrate its computer systems. This includes:

A. Replacing its existing 3COM server with a UNIX platform to provide file and printer service to sixty (60) personal computers (PCs) while simultaneously supporting, with no noticeable degradation of processing capability, highly complex CAD/CAM, SAS, or ARC/INFO workstation applications. The service provided to the PCs includes networked support of applications such as Electronic Mail, RBASE, WordPerfect, and LOTUS 1-2-3. The platform will also interface with a IBM XT bridge between the PCs and Metro's accounting system which runs on a UNYSIS A4 minicomputer.

B. Possibly reconfiguring the existing 3COM server in such a way that it can be directed by the UNIX platform to provide print spooling and tape backup support to the PCs. Vendors must address the feasibility and costs of this approach in their proposals.

C. Networking the other Metro departments' UNIX computers, files, and peripherals.

D. Providing a laser printer capable of supporting networked PCs at a rate of up to 17 pages per minute.

The hardware and system software required to implement items one through four above are the subject of this request for proposals.

I. METRO'S SOLID WASTE DEPARTMENT

The department is responsible for the coordination and technical support required to discharge Metro's responsibilities related to the generation, reduction, processing, flow, and disposal of solid waste. The Department is comprised of Management Services, Budget and Finance, Engineering and Analysis, Operations, and Waste Reduction divisions. The primary functions of these divisions are as follows:

A. Management Service

Overall administration or management of the Department and providing support services to all of its divisions.

B. Budget and Finance

Develop, monitor, and evaluate the financial functions and activities of the Department. This includes formulating, recommending, and implementing financial policies and procedures; performing financial analyses; and preparing and tracking the Department's annual budget. Also included are responsibilities related to computers and the estimation of tonnage flows throughout the Tri-County area served by Metro.

C. Engineering and Analysis

Responsible for developing major facility components within Metro's solid waste disposal system, including general and limited purpose landfills, waste transport services, material recovery facilities and transfer stations. Program staff take facility development projects from a planning to an operational stage. The program also provides technical assistance in coordinating the different contractual obligations between contractors for major system contracts.

D. Operations

Performs the following tasks with respect to facilities operated by Metro: Scalehouse operations, transfer and material recovery facility operations, waste transport operations, disposal operations, and hazardous waste depot operation.

E. Waste Reduction

Specific programs include: 1) curbside, multi-family and commercial recycling, 2) waste reduction programs for local governments, 3) post collection materials recovery facility development and procurement, 4) yard debris recycling, 5) market development, 6) system measurement and analysis, 7) 1% For Recycling, 8) alternative technology.

II. DATA AND COMPUTING REQUIREMENTS/CURRENT SUPPORT

A. Solid Waste Information System (SWIS) Model

The Department's most data and computer intensive applications relate to the generation and disposal of solid waste. A nested logit model using ARC/INFO software is currently under development. The NETWORK module (vehicle routing, etc.) and TIN module (3-D for terrain modelling) of ARC/INFO will be used. Statistical Analysis System (SAS) and ALOGIT software will be used for

statistical analysis. It is expected that this model will address as many as 1,500 waste generation zones, seven (7) different types of waste, 500 different waste haulers, four (4) different types of transport, 12 different destinations for waste, and an undetermined number of variables affecting when and where waste is delivered (such as economics, travel time, administrative constraints, etc.).

The primary data relating to the spatial aspects of the model are part of Metro's Regional Land Information System (RLIS), which resides on the Transportation Department's UNIX platforms and is accessed through ARC/INFO software. Other associated Transportation data includes extensive TIGER and map layer files.

- Data for this model and other uses of the server/ workstation are expected to require at least one gigabyte (1 GB) of hard drive storage space. In order to run the model it is expected that a UNIX platform capable of at least seventy million instructions per second (70 MIPs) and 70 SPECmarks will be required.

B. Operations Data

Approximately 25,000 transaction records are received from the Metro gatehouse computers each month. These transactions address haulers, tonnages, waste types, and fees charged/received for each load of waste delivered to each Metro solid waste facility. In addition, data are received from non-Metro facilities which operate throughout the Tri-County region. These data are accessed for a variety of purposes on an on-going basis. It is summarized in a quarterly report (the SWIS report) for distribution to the public as well as Metro Councilors and other in-house staff.

Forecasts in SAS is used for development of the SWIS report. RBASE is used to access the transactional data and to produce summary data sets in a format suitable for subsequent processing in LOTUS 1-2-3 Version 3.1. Data storage requirements for this and other users of the server/ workstation are expected to be 8000 MB but could exceed 1 GB during fiscal year 1991-92.

C. Engineering Data

CAD/CAM and an anticipated landfill monitoring model are expected to put heavy demands on the system's data and CPU capacities.

D. Other Requirements

The Administration and Waste Reduction Divisions require extensive RBASE, LOTUS, and WordPerfect processing capabilities and storage space.

The Department also requires that its current WINDOWS operating environment be maintained on networked PCs in such a way as to afford the choice of either operating via the network or on a stand-alone basis. Applications which normally would reside on the network would be RBASE, WordPerfect, and LOTUS. Applications which normally would only reside on selected PCs' hard drives include CHARISMA, Excel, and Ami Pro (desktop publishing). The capability must remain to retrieve files from the network, process the files using applications which only exist on a PC's hard drive on a stand-alone basis, and then use the network to print the output and store resultant files.

III. CURRENT SYSTEM

Figure SW-1 illustrates the Solid Waste Department's existing computer layout and functionality. This system's 250 MB hard drive space is almost completely used, even though many WordPerfect and several large (> 33 MB) RBASE files have been taken off the system. The current server does not support SAS and its four year old architecture could not begin to provide the computational support needed by the SWIS model. All PC's have hard drives and 3C505B Ethernet boards. PC's with 8086 or 80386 processors boot up with network drivers and a standard menu of applications. PC's with 80386 processors boot up with network drivers in a WINDOWS version 3.0 enhanced 386 environment.

IV. REQUIRED SYSTEM

Figure SW-2 illustrates the general configuration and implies the desired functionality of the proposed system. Among these requirements:

A. UNIX Platform

Provide a UNIX platform capable of supporting sixty (60) PCs while concurrently 1) providing complex ARC/INFO, SAS, or CAD/CAM workstation capabilities utilizing large datasets, 2) networking with other STRAP resources, 3) communicating with an IBM XT bridged to a UNISIS A4 minicomputer, and 4) possibly using the existing 3COM hardware as a print server and tape backup device. The platform must include a high resolution monitor (at flat

screen, at least 19"), card, and software (including drivers for WINDOWS, ARC/INFO, and CAD/CAM). The existing 3COM repeater/concentrator must be used if at all possible.

B. Support WINDOWS On 80386-based PCs and Standard Menus on 8086 or 80286-based PCs

As mentioned in Section III., PCs must be able to operate in a WINDOWS environment while accessing files, software, and printers through the network. Refer to Figure SW-3 for alternatives which must be addressed by proposers.

C. Provide And Install A LaserJet III Si Printer

Must have five MB of memory, integrated Adobe PostScript, and duplex printing.

D. Turnkey Installation

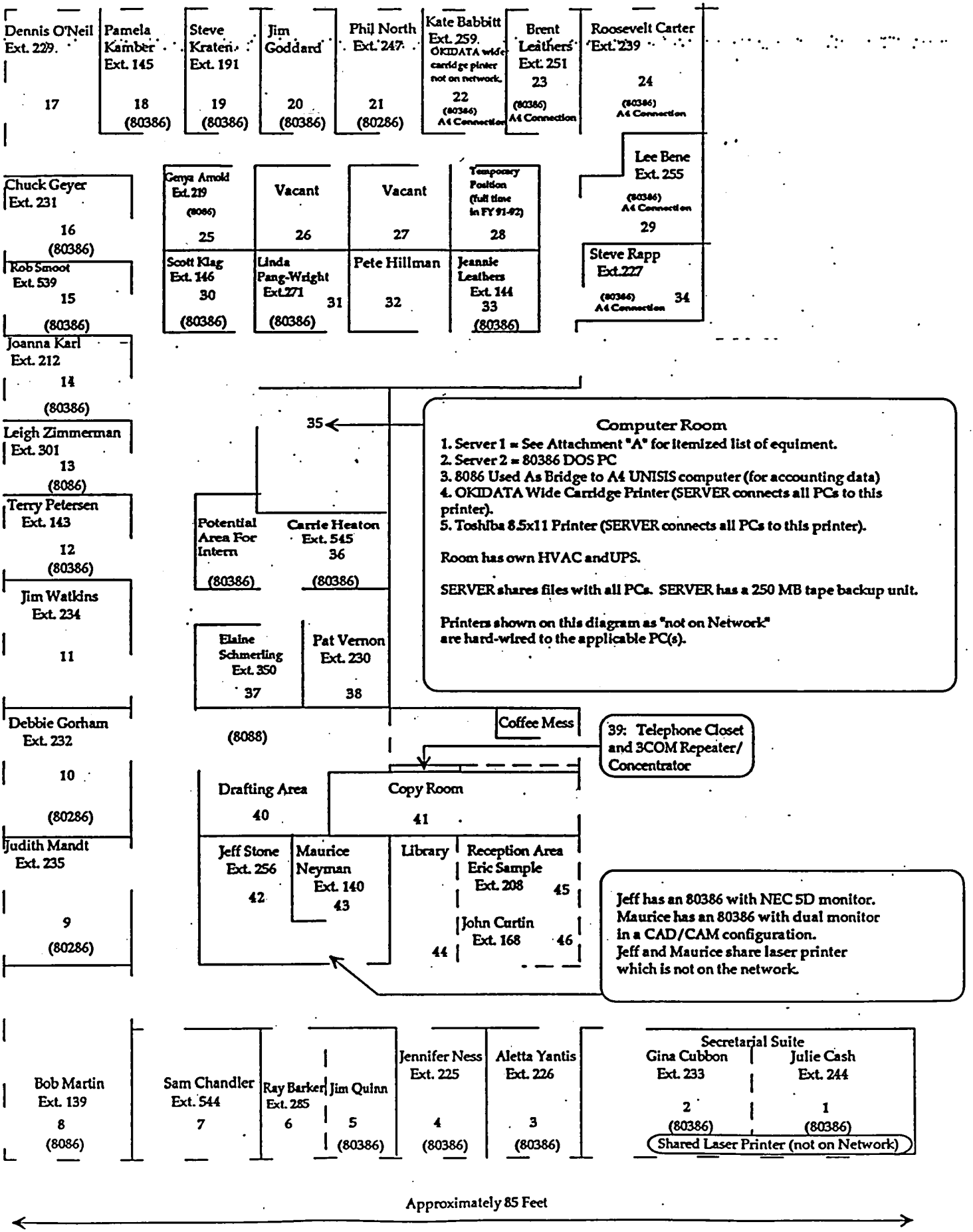
The vendor has complete responsibility for getting the entire Solid Waste Department network operating (includes software, cables, etc.). Although changeover work can proceed to the extent practicable concurrent with current operations of the network, at some time it will be necessary to ask PC users to work in stand-alone mode. The period that users will be in this mode (off the current 3COM network but not yet on the UNIX network) must not exceed seven (7) calendar days and must be identified a week in advance.

April 28, 1991

Figure SW-1

Metro Solid Waste Department
Current Computer Layout

PC Processors indicated in (parentheses), All have hard drives and 3C505B ethernet cards.



Computer Room

1. Server 1 = See Attachment "A" for itemized list of equipment.
2. Server 2 = 80386 DOS PC
3. 8086 Used As Bridge to A4 UNISIS computer (for accounting data)
4. OKIDATA Wide Carridge Printer (SERVER connects all PCs to this printer).
5. Toshiba 8.5x11 Printer (SERVER connects all PCs to this printer).

Room has own HVAC and UPS.

SERVER shares files with all PCs. SERVER has a 250 MB tape backup unit.

Printers shown on this diagram as "not on Network" are hard-wired to the applicable PC(s).

Jeff has an 80386 with NEC 5D monitor.
Maurice has an 80386 with dual monitor in a CAD/CAM configuration.
Jeff and Maurice share laser printer which is not on the network.

April 28, 1991

Figure SW-2

Metro Solid Waste Department
PROPOSED Computer Layout

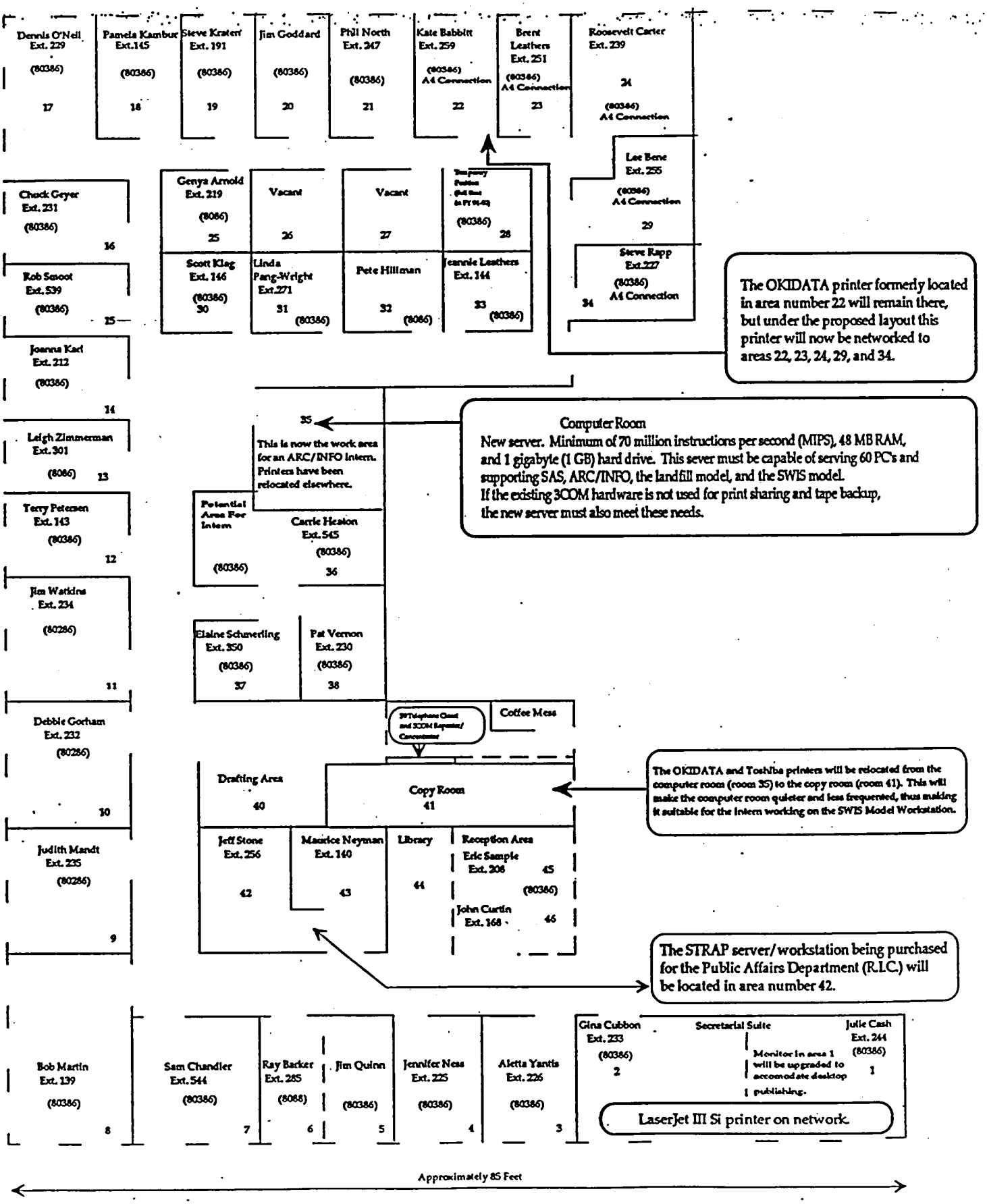
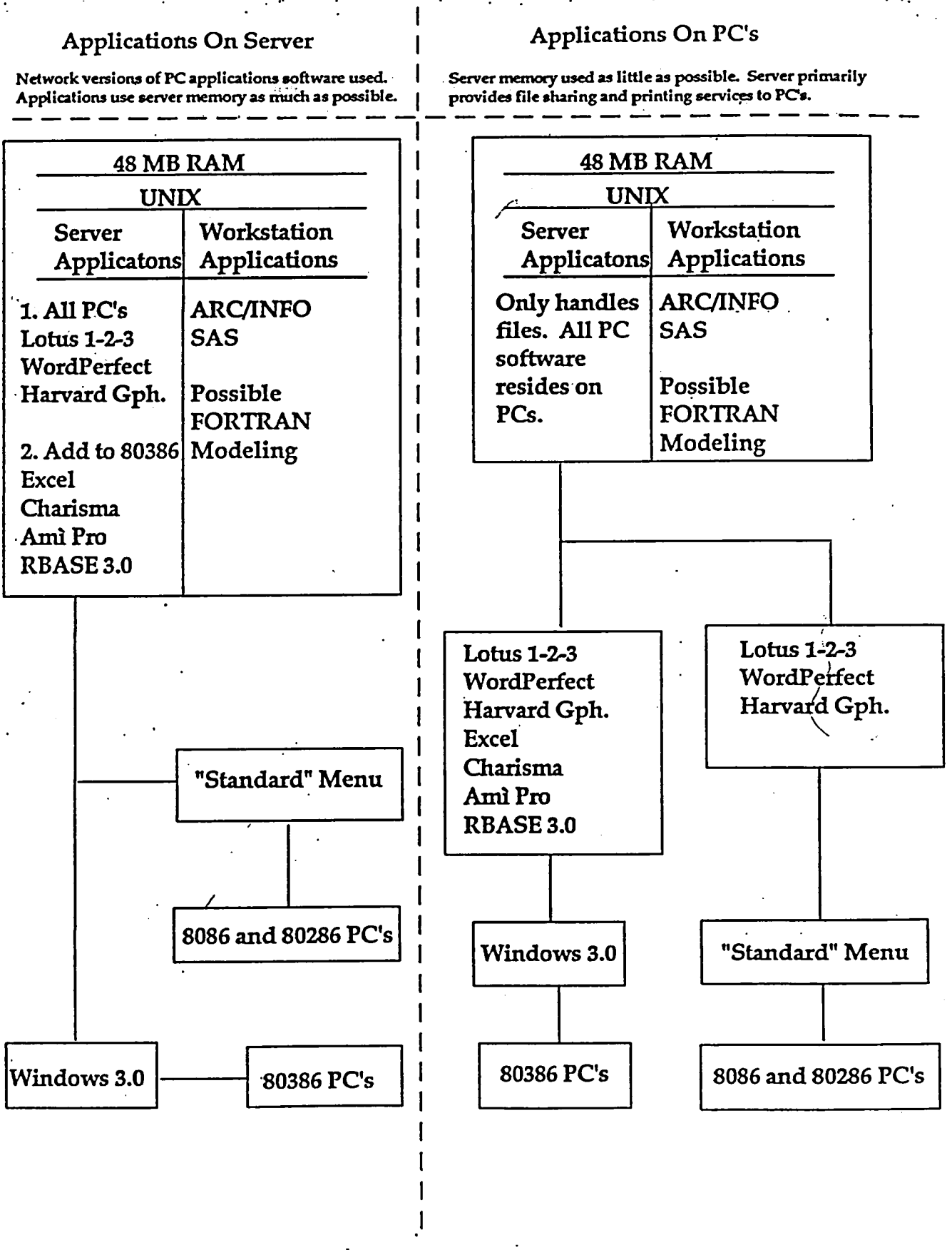


Figure SW-3

Metro Solid Waste Department
-Alternative Software Solutions-



Attachment "A"
List of Existing 3COM Server Components

3C1006 Server

TC03C1230A Tape Backup

3C1011 Cachecard 3SERV3

TC03C1022 3COM Expansion Disk

3C1050N 3Server Port Expansion

Hayes U-Series 9600 External Modem

3C2001B 3+Share 3Server Software

3C2100A 3+Mail/PC and 3 Server

3Plus Remote PC Software

3Plus Remore Server Software

ACCY 3C588 Repeater Base Unit

ACCY 3C582 Thin Ethernet Modul

Metro Council Office

The Council Department of the Metropolitan Service District has identified the need to upgrade and integrate its computing capabilities. The focus is on extensive networking both local and agency-wide, shared file access, document production tools (textual and graphic), document exchange, electronic mail, centralized event management, centralized mailing list management, procedural analysis tools, the development of document information retrieval systems, and the development of connections to other information systems inside the agency and outside the agency. The following needs are critical:

A. A local area network (LAN) of the current DOS-PC's in the Department to allow the sharing of information, printers, and a modem, to transfer files, and to provide local electronic mail and centralized calendaring and scheduling for the work group.

B. An interconnection with the networks of other Metro departments (STRAP) for the ability to access electronically documents that require Council review and action, to allow other departments electronic access to a centralized database containing the offical records of the Metropolitan Service District including minutes, ordinances and resolutions, agenda packets, and the Metro Code, and to provide staff analysts with intra-agency electronic mail services.

C. A modem to allow remote communications with the public for access to records that are public information, and for possible inter-agency transmission of official documents.

D. An additional DOS-PC for the Council Administrator; may be designated as server for the local network.

E. Software to provide an integrated mailing list system that consolidates maintenance of the many current lists into a single function; conversion of current lists to new system.

F. Provision of full security features on the network to ensure that official records and sensitive documents are protected from accidental or intentional unauthorized access, modification, or deletion.

G. Automatic periodic backup and archive services over the STRAP network using the cartridge tape or optical disk devices available to STRAP users.

H. Software for in-house development of Council record management system that provides electronic indices for

storage and retrieval and convenient agency-wide access of official Council records including the Metro Code, ordinances, resolutions, minutes, and agendas.

I. All software, equipment, and services to implement turnkey installation of local network including but not limited to cards, cabling, tranceivers, routers, upgrade of staff PC's, gateway to STRAP, network, utility, and application software.

I. PURPOSE OF METRO COUNCIL

The Metro council is the 12-member governing body of the Metropolitan Service District. The purpose of the Council is to establish policies for the operations of the District's existing programs and functions; to develop long-range plans for the District's future activities; to assure the financial integrity of the District through adoption of the budget, levying of taxes, user charges and other revenue measures; and to oversee the operation of District activities to assure that adopted policies and programs are carried out.

To carry out its purpose, the Metro Council has organized itself into five (5) standing committees including Finance, Intergovernmnetal Affairs, Solid Waste, Convention and Visitor Facilties, and Zoo.

The Council Department has been created to assist the Council and its committees in carrying out the purpose and responsibilities of the Council. The Council Department consists of the following full-time regular employees: a council admnistrator, 3 council analysts, a council clerk, 2 committee clerks, and a council secretary. In addition, the Council Department employs a part-time temporary office assistant.

To carry out its duties, the Council Department has three programs:

A. General Administration: The purpose of this program is to provide administrative support for the Council and Council Department including supervising, organizing and scheduling of work and employees, budgeting and fiscal control, and the maintenance of Council and District records. Included are the following activities:

1. Prepare and maintain Council Department budget; prepare periodic budget reports for Presiding Executive Officer of the District;

2. Conduct annual performance evaluations for Council staff;

3. Maintain accurate and up-to-date records of Council activities including Metro Code, ordinances and resolutions, committee meetings, and Council notebooks;

4. Process Councilor per diem and expenditure requests and all Council Department purchases;

5. Maintain Council Department mailing lists and distribute Council and committee agenda packets as required;

6. Communicate with Councilors and staff on scheduled meetings, make meeting arrangements including room reservations, ordering lunches, and setting up meeting rooms.

B. Policy Making and Program Oversight: The purpose of this program is to establish policy for the operation of District programs and carry out program oversight responsibilities of programs and policies implemented by Metro departments; adopt long range plans; amend the annual budget and enact District revenue measures. This program is carried out through the operation of the five standing committees (defined above) and special task forces. The following tasks are included in this program:

1. Staff and estimated 30 Council meeting (regular and special) during the year, and 108 Council standing committee meetings (regular and special) including preparation of agendas and agenda packets.

2. Prepare staff reports and committee reports on items before the committees; prepare resolutions and ordinances introduced by the Council and committee members; prepare meeting minutes and action reports.

3. Perform policy and fiscal analysis for Council and Council committees; analyze proposals and programs to see that they meet Metro policies and procedures. This activity involves considerable telephone, face-to-face, and written communication with respective staff. It also requires convenient access to budget and accounting information.

4. Assist Presiding Officer and committe chairs in developing Council and committee work programs and meeting agendas.

C. Performance Auditing: The purpose of this program is to conduct one performance audit of a Metro department or program during each fiscal year in conformance with the Performance Audit Plan and Guidelines adopted by the

Council. Last fiscal year, an audit of Finance and Administration department programs was performed; this year Solid Waste programs are being audited.

II. INFORMATION AND COMPUTING REQUIREMENTS/CURRENT SUPPORT

At present, most of the information received, used, and distributed by the Council Department is in form of text documents. This text is produced, edited, or otherwise manipulated in departmental PC's using Word Perfect. Recently, the Department has started to store this information on floppy disks. Information is transferred between PC's using floppy disk transfers. The nature of the work is to produce many staff reports, agenda packets, ordinances and resolution for consideration by the Council and other users. The staff keeps official records for the District including minutes, signed copies of ordinances and resolutions, agenda packets, and the Metro Code as well as other documents.

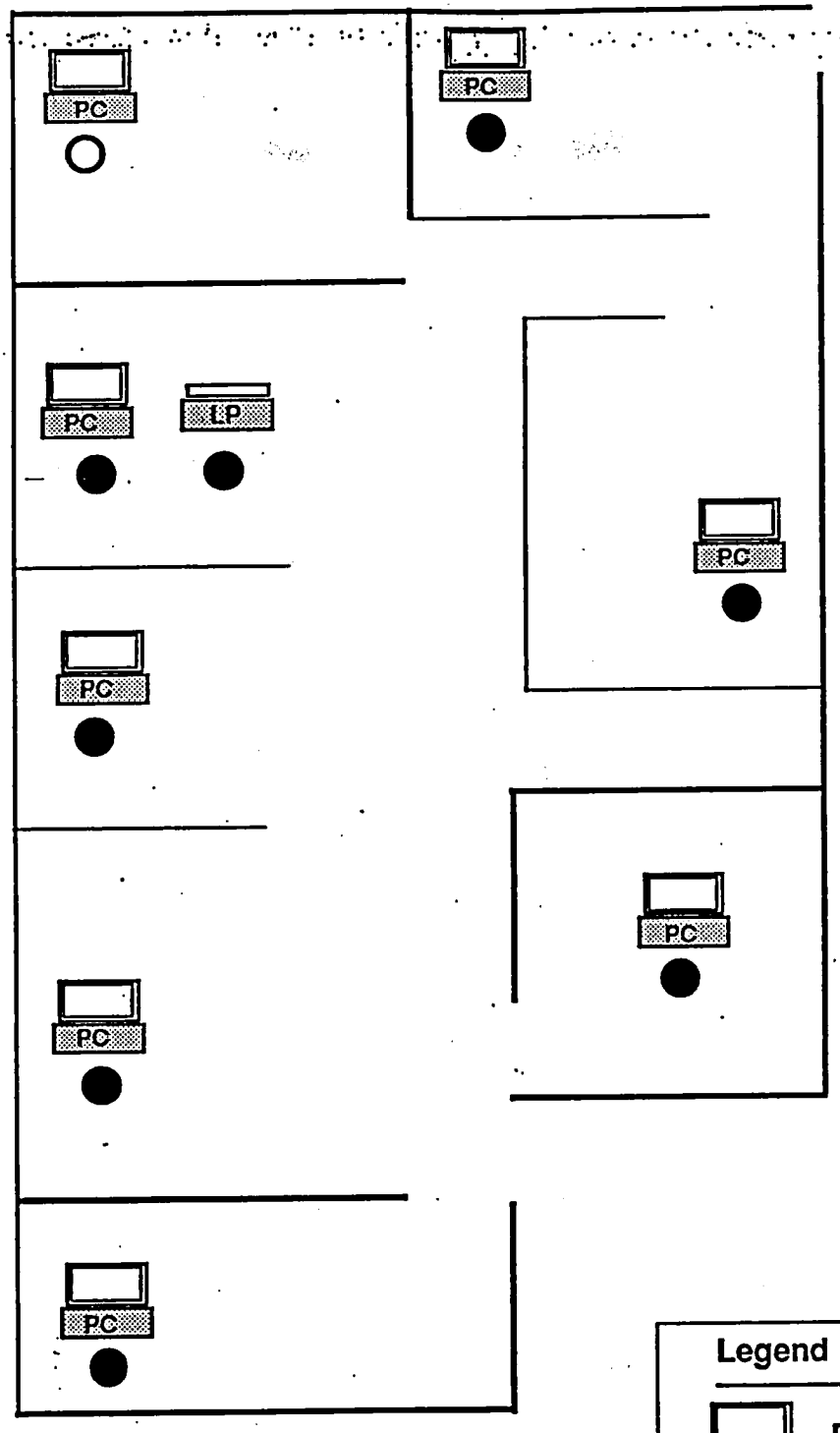
The department also maintains various mailing lists for distributing information, a chronological index of ordinances and resolutions, and file cabinets full of hard copy information. There is currently no automated system for keeping track of these documents either in the computer or for the hardcopy.

The department has two PCs which have on-line access to the Finance and Accounting Information System on the agency's A4 mainframe computer. However, this access is not utilized because staff members have not received the necessary training. Budget and other financial information is derived from hardcopy reports.

Several copies of Lotus 123 on department PC's allow staff analysts to analyze budget information.

It is desired to supplement some reports with illustrative charts and diagrams. One copy of Harvard Graphics has been obtained for this purpose but is not yet utilized for lack of training.

The computer support for these functions consists of eight standalone 286 DOS personal computers with one dot-matrix wide-carriage printer primarily for printing labels, and one desktop laser printer. All computers are equipped with Word Perfect, two computers have Lotus 123, one computer has Harvard Graphics, and two computers are equipped with communication access to the mainframe A4 for financial information.



Council Office

2nd Floor
Metro Center

Legend ↑North

PC

286

LM

Laser printer

Existing PC's

Proposed PC

METRO

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

Memorandum

Council
5/23/91
#8

DATE: May 17, 1991

TO: Metro Council

FROM: Councilor Richard Devlin R.D.

RE: HB 3342

This is to advise you that the Governmental Affairs Committee voted at its May 16 meeting to move HB 3342 from "Support" to "Monitor." HB 3342 would extend pollution control tax credits through 1997; the credits are now to end December 31, 1995. The Committee's reason for withdrawing support for the bill is that the tax credits are primarily used by companies to compensate for pollution control activities they are to be doing anyway. Governor Roberts has announced her opposition to the bill, and upon further examination, the Governmental Affairs Committee believe that it is not in the District's best interests to continue to support it.