BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF APPROVING A MULTI-YEAR CONTRACT WITH HARDING LAWSON ASSOCIATES FOR DESIGN OF A LANDFILL GAS PIPE LINE AND COMPRESSOR STATION AND AUTHORIZING THE EXECUTIVE OFFICER TO EXECUTE A CONTRACT	) RESOLUTION NO. 95-2225)))) Introduced by: Mike Burton) Executive Officer))

WHEREAS, Metro is in the process of closing the St. Johns Landfill; and

WHEREAS, The collection and disposal of landfill gas is a required part of the closure plan; and

WHEREAS, Metro wishes to sell the landfill gas available at the St. Johns Landfill to a nearby industrial customer; and

WHEREAS, Prior to entering into an agreement for sale of the gas Metro wishes to verify cost estimates for construction of the pipeline required for sale of the gas and to obtain the services of a firm for design and construction management services for the project; and

WHEREAS, Metro issued a request for proposals for firms to develop such cost estimates and provide design and construction management services should Metro proceed with the project to sell the gas available at the St. Johns Landfill; and

WHEREAS, Metro has selected Harding Lawson Associates (HLA) as the preferred firm in response to its request for proposals; and

WHEREAS, Metro has successfully negotiated an agreement with HLA for design services for a landfill gas pipeline and compressor station attached as Exhibit A; and,

WHEREAS, The resolution was submitted to the Executive Officer for consideration and was forwarded to the Council for approval; now therefore,

BE IT RESOLVED,

The Metro Council authorizes the Executive Officer to enter into the Multi-year Design Services Agreement with Harding Lawson Associates attached as Exhibit A.

ADOPTED by the Metro Council this 26 day of Oct., 1995

J. Ruth McFarland, Presiding Officer

Approved as to Form:

Daniel B. Cooper, General Counsel

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STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 95-2225 FOR THE PURPOSE OF APPROVING A MULTI-YEAR CONTRACT WITH HARDING LAWSON ASSOCIATES FOR DESIGN OF A LANDFILL GAS PIPELINE AND COMPRESSOR STATION AND AUTHORIZING THE EXECUTIVE OFFICER TO EXECUTE A CONTRACT

Date: October 5, 1995 Presented by: Jim Watkins

PROPOSED ACTION

Adopt Resolution No. 95-2225

FACTUAL BACKGROUND AND ANALYSIS

When this RFP for Design Services for a Landfill Gas Pipeline and Compressor Station was issued in August, 1995, staff expected that the resulting contract would be completed by June, 1996. During the review and analysis of proposals and related matters, as more particularly described below, staff determined that the resulting contract should not terminate until October, 1996. Thus, the contract is now a multi-year contract requiring Council approval under Metro code section 2.04.033(a)(1).

The RFP for Design Services for a Landfill Gas Pipeline and Compressor Station, described in Attachment #1 was presented to the Council Regional Environmental Committee in February of this year. The pipeline would take gas generated at the St. Johns Landfill to the Ash Grove Cement Company for use as a fuel. The compressor station is needed to pressurize the gas for transmittal through the pipeline.

Seven proposals were received in response to the RFP. An evaluation committee evaluated the proposals based on the following criteria: Project Work Plan and Approach, Experience of the Staff assigned to the project and the firm's experience on similar projects. Firms were assigned scores in each of these three areas. The three firms receiving the highest ratings were interviewed to obtain additional data. Harding Lawson Associates received the highest ranking based on their written proposal and oral interview. The selection committee determined that their team had the best understanding of Metro's needs, and that they had particularly strong expertise in designing facilities to be located within railroad rights-of-way and in the design of facilities for processing landfill gas. The negotiated contract with Harding Lawson Associates is attached to Resolution No. 95-2225 as Exhibit #1.

The contract specifies that the firm will initially develop a preliminary cost estimate for construction of the pipeline project. This estimate will be used to verify a cost estimate of $1.2 million which was developed during Metro's efforts to develop a joint project with the City of Portland. This estimate has been the basis for negotiating a contract with Ash Grove Cement for

use of the gas. Before finalizing this contract and bringing before the Council for consideration, staff wishes to verify the cost to Metro of developing the project. The contract for design services will be terminated at the completion of this preliminary feasibility phase if the contract with Ash Grove is not feasible. If the preliminary cost estimates indicate that Metro should proceed with the project, staff will finalize the contract with Ash Grove Cement to be forwarded to the Metro Council for approval and proceed with the pipeline design and right-of-way investigations. If the Ash Grove contract is approved, construction of the pipeline would begin in the Spring of 1996 with the sale of gas to begin by the Fall of 1996.

When staff submitted the RFP for this project to the Council it was anticipated that the design contract would be an "A" contract since it was expected to be completed prior to July 1, 1996. Based on information received during the proposal process, it was determined that additional assistance during the construction and start-up of the facilities would be desirable. The additional services also include start-up assistance and preparation of an operation and maintenance manual for the facility. Since construction of the pipeline will take place in FY 1996-97, the contract with Harding Lawson Associates will be a multi-year contract which requires Council approval.

BUDGET IMPACT

The negotiated fee for this contract is $216,438. Adequate funds are available in the current budget.

EXECUTIVE OFFICER RECOMMENDATION

The Executive Officer recommends approval of Resolution No. 95-2225.

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Contract No: 904562

PERSONAL SERVICES AGREEMENT

THIS AGREEMENT is between Metro, a metropolitan service district organized under the laws of the State of Oregon and the 1992 Metro Charter, located at 600 NE Grand Avenue, Portland, Oregon 97232, and Harding Lawson Associates, referred to herein as "Contractor," located at 227 S.W. Pine Street, 3rd Floor, Portland, Oregon 97204.

In exchange for the promises and other consideration set forth below, the parties agree as follows:

1. Duration. This personal services agreement shall be effective on the last signature date below and shall remain in effect until and including December 31, 1996, unless terminated or extended as provided in this Agreement.

2. Scope of Work. Contractor shall provide all services and materials specified in the attached "Exhibit A -- Scope of Work," which is incorporated into this Agreement by reference. All services and materials shall be provided by Contractor in accordance with the Scope of Work, in a competent and professional manner. To the extent that the Scope of Work contains additional contract provisions or waives any provision in the body of this Agreement, the Scope of Work shall control.

3. Payment. Metro shall pay Contractor for services performed and materials delivered in the amount(s), manner and at the time(s) specified in the Scope of Work for a maximum sum not to exceed Two Hundred Sixteen Thousand Four Hundred and Thirty Eight Dollars ($216,438.00).

4. Insurance.

a. Contractor shall purchase and maintain at the Contractor's expense, the following types of insurance, covering the Contractor, its employees, and agents:

(1) Broad form comprehensive general liability insurance covering bodily injury and property damage, with automatic coverage for premises, operations, and product liability. The policy must be endorsed with contractual liability coverage; and

(2) Automobile bodily injury and property damage liability insurance.

b. Insurance coverage shall be a minimum of $500,000 per occurrence. If coverage is written with an annual aggregate limit, the aggregate limit shall not be less than $1,000,000.

c. Metro, its elected officials, departments, employees, and agents shall be named as ADDITIONAL INSUREDS. Notice of any material change or policy cancellation shall be provided to Metro 30 days prior to the change or cancellation.

d. Contractor, its subcontractors, if any, and all employers working under this Agreement that are subject employers under the Oregon Workers' Compensation Law shall comply with ORS 656.017, which requires them to provide Workers' Compensation coverage for all their subject workers. Contractor shall provide Metro with certification of Workers' Compensation insurance including employer's liability. If Contractor has no employees and will perform the work without the assistance of others, a certificate to that effect may be attached, as Exhibit B, in lieu of the certificate showing current Workers' Compensation.

e. If required by the Scope of Work, Contractor shall maintain for the duration of this Agreement professional liability insurance covering personal injury and property damage arising from errors, omissions, or malpractice. Coverage shall be in the minimum amount of $500,000. Contractor shall provide to Metro a certificate of this insurance, and 30 days' advance notice of material change or cancellation.

5. Indemnification. Contractor shall indemnify and hold Metro, its agents, employees and elected officials 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, or with any patent infringement or copyright claims arising out of the use of Contractor's designs or other materials by Metro and for any claims or disputes involving subcontractors.

6. Maintenance of Records. Contractor shall maintain all of its records relating to the Scope of Work on a generally recognized accounting basis and allow Metro the opportunity to inspect and/or copy such records at a convenient place during normal business hours. All required records shall be maintained by Contractor for three years after Metro makes final payment and all other pending matters are closed.

7. Ownership of Documents. All documents of any nature including, but not limited to, reports, drawings, works of art and photographs, produced by Contractor pursuant to this Agreement are the property of Metro, and it is agreed by the parties that such documents are works made for hire. Contractor hereby

conveys, transfers, and grants to Metro all rights of reproduction and the copyright to all such documents.

8. Project Information. Contractor shall share all project information and fully cooperate with Metro, informing Metro of all aspects of the project including actual or potential problems or defects. Contractor shall abstain from releasing any information or project news without the prior and specific written approval of Metro.

9. Independent Contractor Status. Contractor shall be an independent contractor for all purposes and shall be entitled only to the compensation provided for in this Agreement. Under no circumstances shall Contractor be considered an employee of Metro. Contractor shall provide all tools or equipment necessary to carry out this Agreement, and shall exercise complete control in achieving the results specified in the Scope of Work. Contractor is solely responsible for its performance under this Agreement and the quality of its work; for obtaining and maintaining all licenses and certifications necessary to carry out this Agreement; for payment of any fees, taxes, royalties, or other expenses necessary to complete the work except as otherwise specified in the Scope of Work; and for meeting all other requirements of law in carrying out this Agreement. Contractor shall identify and certify tax status and identification number through execution of IRS form W-9 prior to submitting any request for payment to Metro.

10. Right to Withhold Payments. Metro shall have the right to withhold from payments due to Contractor such sums as necessary, in Metro's sole opinion, to protect Metro against any loss, damage, or claim which may result from Contractor's performance or failure to perform under this Agreement or the failure of Contractor to make proper payment to any suppliers or subcontractors.

11. State and Federal Law Constraints. Both parties shall comply with the public contracting provisions of ORS chapter 279, and the recycling provisions of ORS 279.545 - 279.650, to the extent those provisions apply to this Agreement. All such provisions required to be included in this Agreement are incorporated herein by reference. Contractor shall comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations including those of the Americans with Disabilities Act.

12. Situs. The situs of this Agreement is Portland, Oregon. Any litigation over this agreement shall be governed by the laws of the state of Oregon and shall be conducted in the circuit court of the state of Oregon, for Multnomah County, or, if jurisdiction is proper, in the U.S. District Court for the District of Oregon.

13. Assignment. This Agreement is binding on each party, its successors, assigns, and legal representatives and may not, under any circumstance, be assigned or transferred by either party.

14. Termination. This Agreement may be terminated by mutual consent of the parties. In addition, Metro may terminate this Agreement by giving Contractor five days prior written notice of intent to terminate, without waiving any claims or remedies it may have against Contractor. Termination shall not excuse payment for expenses properly incurred prior to notice of termination, but neither party shall be liable for indirect or consequential damages arising from termination under this section.

15. No Waiver of Claims. The failure to enforce any provision of this Agreement shall not constitute a waiver by Metro of that or any other provision.

16. Modification. Notwithstanding any and all prior agreements or practices, this Agreement constitutes the entire Agreement between the parties, and may only be modified in a writing signed by both parties.

HARDING LAWSON ASSOCIATES	METRO
_____	_____
Signature	Signature
_____	_____
Print name and title	Print name and title
_____	_____
Date	Date

Contract No. 904562

Exhibit A

Scope of Work

1. **Statement of Work.**

Contractor shall provide engineering services for the design of a landfill gas pipeline and compressor station. These services will include: feasibility studies, design, construction assistance, surveying and assistance in obtaining permits and right of way.

These services are described in Metro RFP #95R-32-REM which is included in this Agreement by reference. The basic services associated with the price shown below under Section 2 of this Exhibit are described in Contractor's Scope of Services which was developed during negotiation and is attached to this Agreement as Exhibit B. The work shall be performed according to the schedule as described in Exhibit B. The dates on the schedule shall be extended so that the starting date is coincident with the date of execution of this Agreement.The Contractor's proposal dated September 7, 1995, is included in this agreement by reference.

All determinations of the precedence of 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. Metro Personal Services Agreement
2. Exhibit A, Scope of Work
3. Exhibit B and attached schedules and exhibits
4. Metro Request for Proposals
5. Contractor's Proposal

Contractor shall maintain Professional Liability Insurance as described in Article 4 of this Agreement.

2. **Payment and Billing.**

Contractor shall provide the above services at the hourly rates shown on the attached Schedule of Charges for a price not to exceed Two Hundred Sixteen Thousand Four Hundred Thirty Eight Dollars ($216,438.00), which is detailed in the Contractor's project budget in Exhibit C. All the charges, fees

and rates set forth in the Schedule of charges and attached tables shall not be increased during the term of this Contract. In the event Metro wishes for Contractor to provide services beyond those which can be accomplished for the price noted above, Contractor shall provide such services as authorized in writing by Metro, at the rates shown in Exhibit C, Schedule of Charges. The price of the work described above and any additional services requested in writing, shall not exceed the maximum price shown in Section 3 of this Agreement, without written amendment.

The maximum price includes all fees, costs and expenses of whatever nature. Each of Metro's payments to Contractor shall be based on the hourly rates for the work performed and the expenses incurred by the Contractor during the billing period. Contractor's billing statements will include an itemized statement of work done and expenses incurred during the billing period, will not be submitted more frequently than once a month, and will be sent to Metro, Attention Regional Environmental Management. Metro will pay Contractor within 30 days of receipt of an approved billing statement. Metro will not pay any late fees or charges, or interest, of any kind or description.

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EXHIBIT B

CONTRACTOR'S SCOPE OF SERVICES

DESIGN SERVICES FOR ST. JOHNS LANDFILL GAS PIPELINE AND COMPRESSOR STATION

This scope of work provides the engineering services necessary for the design of the St. Johns Landfill gas (LFG) pipeline and compressor station. Included in these services is a feasibility study to determine if the sale of LFG is cost effective under the current market conditions, a preliminary and final design of both the LFG pipeline and compressor station, assistance in permitting and right-of-way acquisition, and assistance during construction and start-up.

Listed in the paragraphs that follow are descriptions of the services that will be provided by the project team under this scope of work.

Task 1 - Site Evaluation/Feasibility Study

Under this task, the project team will meet with Metro personnel to establish the design criteria, requirements, and milestones. The primary goal of this task is to evaluate the feasibility of this project. For that, the project team will develop an order of magnitude construction cost estimate (±30 %) for the project. Preliminary equipment sizing and specifications from the data base available on previous projects and prior experience, will be used for budget prices from vendors. Construction cost will be developed using standard factors from prior experience. Similarly, the pipeline costs will be developed based on preliminary sizing and a route analysis. The estimate (feasibility study) will be submitted to Metro. The cost estimate will be revised in Task 2.C by correcting for the final sizing and selection of equipment, pipeline layout and compressor station layout.

1A - Scope Meeting and Project Definition

Key personnel of the project team will meet with the Metro project management staff to confirm the project definition and goals. The primary objectives of the meeting will be as follows:

- Understand the status including terms and conditions of the sales gas contract with the LFG end user.
- Identify potential technical, environmental, and economic concerns.
- Discuss Metro's requirements, expectations and preferences in the design of the compressor station and pipeline.
- Agree on the project schedule and milestones.
- Gather available reports, site drawings, history of operating data and other relevant documents.

1B - Site Inspections

Under this task, the project team will review the flare operation and historic field data to develop a typical gas analysis and identify inlet gas conditions for the compressor station design.

A meeting will be held with Ash Grove Cement Co., the LFG end user to review the site conditions and to understand their mode of operations. This information will be used to define the sales gas requirements at the boundary of the end user site.

Formal contacts with the Union Pacific Railroad will be established. Our technical staff will present the proposed pipeline route to them and will propose design criteria. Union Pacific Railroad concerns will be identified so that they can be incorporated in the pipeline design analysis.

1C - Compressor Station Feasibility Study

Following the site evaluations, the project team will estimate the equipment and vessel sizing for the compressor station based on previously developed data from other projects and local conditions. Vendors will be contacted by phone for the budget prices of major equipment. The construction cost will be estimated from the preliminary layout schematic, which was shown in the proposal, and equipment cost. The schematic and an order of magnitude cost estimate (±30%) will be presented in a technical memorandum.

1D - Pipeline Route Alternatives Analysis

The project team will identify pipeline route alternatives and prepare conceptual level cost estimates for the pipeline. It is anticipated that a route along the Union Pacific Railroad right-of-way will be identified and evaluated. In addition, two alternative alignments will be evaluated.

A technical memorandum will be prepared that describes the route analysis. Included in the memorandum for each alternative will be a map showing their alignment; a listing of the permits and agreements that would be required for their implementation, along with the procedure and schedule required for their acquisition; and an order of magnitude (±30 %) cost estimate.

Task 2 - Preliminary Design

Under this task, the project team will prepare the preliminary design for the new facilities. The primary goal will be to establish the design criteria for the compressor station and pipeline. The design criteria will identify design standards that will meet the requirements of Metro, the LFG end user (Ash Grove Cement Co.), the Union Pacific Railroad, and local codes and ordinances. As a part of this design task, the project team will develop design criteria and generate a heat and material balance for sizing and specifying equipment. The process flow diagram will show process operating conditions, equipment and line sizes, and critical process controls.

A cursory technical evaluation will be performed to determine the type of compressor for the site. It is our opinion, based on prior experience, that a reciprocating compressor will be cost effective for this application. This assumption will be verified in the limited time budgeted for the compressor evaluation. A technical memorandum will be prepared that describes the characteristics of the compressor selected and the number of units required.

Based on our previous experience, it is anticipated that a chilled water system will be utilized for gas dew point control. The fee estimate assumes that analysis of other types of systems will not be required.

The project team will develop a process flow diagram for the compressor station that will identify key components of the system. Capital and operating costs will be estimated based on the preliminary design of the compressor station and pipeline.

2A - Compressor Station Preliminary Design

The work under this task will include the development of a process flow diagram (PFD) for the compressor station. The PFD will identify major equipment, critical controls, and the interface between the flare and the compressor system. The PFD will also identify the normal process conditions and preliminary line sizing. Once the process scheme is defined, the project team will perform the process simulation and develop a heat and material balance for the compressor station.

In addition, the project team will perform a cursory engineering and economic evaluation to determine the type of compressor(s) to be used for the compressor station. The project team will include in the design a chilled water system for the dew point control of landfill gas.

The project team will prepare a facility plan showing equipment layout and a plot plan requirement for the compressor station. A floor plan for the compressor building will be developed detailing layout of major equipment and other systems that will be housed in the building.

The compressor building will be placed on the landfill and will require a methane barrier and a methane monitoring system for alarm and shutdown of the facility on detection of methane gas.

It is anticipated that the compressor building will be designed as a floating foundation based on previous geotechnical investigations in the area. Settlement is expected to occur in the area that has been set aside for the compressor station due to the decomposition of refuse. Provisions will be made within the design for the re-leveling of equipment and flexible connecting joints for piping, tubing, conduits, etc. to

accommodate minor subsidence of the compressor station slab due to differential settlement.

2B - LFG Pipeline Preliminary Design

The optimum size of the pipeline will be determined after performing an engineering and economic evaluation of line size as a function of pressure drop, cost of pipe, and compressor horsepower. We will also verify our preliminary estimate of the SDR rating of HDPE pipe.

Based on the results of Tasks 1B and 1C, a preliminary design for the preferred alternative will be developed utilizing existing maps and aerial photos that are available. Details showing the method of installation proposed for the bridge crossing will be included in the preliminary design.

For the purposes of the fee estimate, it is anticipated that up to one day of survey crew time will be required to develop mapping in critical areas.

2C - Construction and Operating Cost Estimate

After preparing preliminary design criteria and specifications for the compressor station and pipeline, the project team will review the order of magnitude cost that was developed previously under Task 1. The order of magnitude cost estimate will be estimated to a class II construction cost estimate (±20 %). Operating and maintenance cost will be based on estimated utility consumption, prior experience with similar sites, and the maintenance history of the proposed equipment.

2D - Preliminary Design Report

Under this task, the project team will prepare a preliminary design report that will summarize the findings of this phase of the work. Ten copies will be submitted to Metro for distribution. The preliminary design report will include:

- Design criteria
- Process flow diagram and facility description
- Compressor evaluation and pipeline sizing
- Preliminary specifications of major equipment
- Material and heat balance, including process conditions of major process streams
- A proposed horizontal alignment for the pipeline
- Railroad and bridge crossing details

Task 3 - Final Design

After securing approval of the preliminary design, the project team will proceed with the final engineering design, technical specifications, and construction drawings. Technical specifications will be prepared for the construction contractor to purchase and fabricate the skid-mounted units such as the refrigeration system, dehydration skid, and compressor skid. The construction contractor will be required to provide all shop drawings, including but not limited to the control wiring on the skid and the design and fabrication of respective control panels.

3A - Base Map Preparation

Under this task, the project team will prepare the base maps for the pipeline and compressor station design. The base map will include major features along the pipeline route, including the bridge crossing, overhead utility/transmission lines and towers, underground utilities, railroad trackage, sideslope pilings, road crossings, edges of water bodies, and steep slope areas. The bridge crossing details will show the location of the roadway and existing hanger locations.

A survey will be performed that will identify x, y, and z coordinate information that is suitable to establish 1-foot contour intervals along the selected route width of 25 feet and 2-foot contour levels for an additional 12.5 feet on each side of the 25-foot strip, or as necessary for final design. The location of available Union Pacific Railroad monumentation and stationing relative to the final route alignment and available monumentation of the North Lombard and Rivergate Boulevard crossings and end user property will be identified.

For the purposes of the fee estimate, it is assumed that the pipeline route will be up to 10,500 feet long and that no major brush cutting will be required.

3B - Process Design

Under this task, process and instrument diagrams and technical specifications for instruments, equipment, and vessels will be developed. The work will also include line sizing and sizing and specification for control valves and relief valves.

3C - Mechanical Design

The project team will prepare overall piping plans with sections and elevations of interconnecting skid piping. The plans will also include instrumentation details and equipment layout.

It is not the intent to provide final piping, structural, instrumentation, and electrical drawings of the vendor-supplied skids. The vendor shall be responsible for these drawings. The project team will review all vendor drawings for conformance to the preliminary drawings, process flow diagrams, and specifications under Task 5.

3D - Electrical Design

The project team will prepare technical specifications for the electrical switch gear, transformers, compressor motor starters, and motor control center. They will perform electrical load calculations and develop wiring and conduit schedules. Drawings will include:

- Single line diagram
- Electrical area classification
- Electrical control schematics
- Wiring and conduit layout
- Grounding plan
- Lighting details
- Control panel details
- Switch gear and motor control center layout details

For the purposes of the fee estimate, it is assumed that 4160, 440 and 110 volt power supplies are available at the site. It is assumed that negotiations with the power company will be performed by Metro personnel.

3E - Civil and Structural Design

The project team will prepare a final grading and drainage plan, foundation design for all equipment and skids, pipe support details, and a compressor building structural plan and details under this task. A methane gas barrier system and a compressor building gas monitoring system will be incorporated into the design.

It is anticipated that the foundation for the compressor building will utilize a floating slab type of design. For the purposes of the fee estimate, it is assumed that no additional geotechnical investigations will be required.

3F - Pipeline Design

Utilizing the base maps prepared under Task 3A, the project team will prepare the design for the LFG pipeline. Technical specifications for the pipe, bridge hangers, and underground rail crossings will be developed. Union Pacific requirements that the construction contractor will need to adhere to will be specified.

Test pits will be excavated and logged along the pipeline route at 1000 foot intervals. For the purposes of the fee estimate, it is assumed that two days of a backhoe with operator will be required.

Drawings will include the following:

- Plan and profile sheets
- Bridge crossing details
- Condensate return system details
- Rail crossing plans and cross-sections
- Geotechnical boring and test pit logs

For the purposes of the fee estimate, it is assumed that up to 11 drawings will be required for the pipeline design.

3G - Preparation of Contract Documents

The project team will compile all the work completed under this phase into a set of plans and specifications that are suitable for bidding. It is anticipated that the documents will be reviewed at

the 35 and 80 percent review stages under this task. Five sets of prints will be provided for each review.

Upon completion, the specifications for the improvements will be provided in Microsoft Word 6.0. Camera-ready mylar originals of the drawings will also be provided.

The bid documents will be set up so that the cost of improvements on the end user's site can be clearly identified.

Task 4 - Right-of-Way Assistance

The project team will assist in the identification of existing real property owners, agencies, or utilities requiring permits or easements to cross or encumber their property or right-of-way under this task. Potential agency or property owners affected may include but are not limited to Union Pacific Railroad, the City of Portland, the Port of Portland, Oregon Department of Transportation, Metro, and telephone, gas, electric, water, and sewer utilities. The project team will assist in the preparation of descriptions, plans, attachments, and permits as they relate to the location of the LFG pipe alignment.

The route alignment, the number of property owners, the number or types of agreements or permits that will be required will not be known until after Task 1D has been completed. For the purposes of the fee estimate, the following time has been allocated to complete this task:

Project Manager	40 hours
Senior Engineer	24 hours
Staff Engineer	24 hours
CAD Drafter	40 hours
Word Processor	8 hours

Preparation of easement descriptions and surveys; wetland surveys; and other environmental field studies; are not part of this scope of work and, if required, will be performed under a separate work authorization.

Task 5 - Construction Management

It is our understanding that Metro will provide construction inspection and contract administration. The project team will assist Metro with the submittal review, evaluation of change order requests, and interpretation of the intent of the design during the bidding and construction phases.

It is anticipated that the project manager will attend the prebid conference and pre-construction conference and will visit the site once a month during the construction of the facility to review the progress of construction and to ensure that the work is being completed in conformance with the construction documents.

In addition, the compressor station design engineers will be available for two site visits during construction and will provide two days of engineering assistance during the facility start-up.

For the purposes of the fee estimate, it is assumed that inspection of the compressors and refrigeration system at the factory will be performed by Metro's engineers.

It is anticipated that the equipment suppliers will provide operation and maintenance manuals for their equipment. An O&M manual will be prepared by assembling vendor-supplied O&M manuals and providing overall process description, control strategy, and start-up sequence. A camera-ready copy of the originals will be submitted to Metro upon completion.

EXHIBIT C
LANDFILL GAS PIPELINE AND COMPRESSOR STATION AT JOHNS LANDFILL
SCHEDULE OF CHARGES

Professional Services	Staff Engineer and Scientist	$ 60.00/hour
	Project Engineer and Scientist	75.00/hour
	Senior Engineer and Scientist	95.00/hour
	Associate Engineer and Scientist	105.00/hour
	Principal Engineer and Scientist	125.00/hour
	Consulting Vice President	150.00/hour
Technical Services	Clerical	$40.00/hour
	Technical Word Processor	45.00/hour
	Drafter/CAD Operator	50.00/hour
	Administrator/Coordinator	50.00/hour
	Technical Editor	50.00/hour
	Technician	50.00/hour
	Senior Technician	60.00/hour
Contract Labor	From time to time, Harding Lawson Associates retains outside Professional and Technical labor on a temporary basis to meet peak work load demands. Such contract labor will be charged at regular Schedule of Charges rates.	
Litigation Support	Expert testimony in (and preparation for) depositions, hearings, mediation, and trials will be charged at 200 percent of the above rates.	
Travel Time	Travel time will be charged as regular hourly rates, for actual time involved.	
Equipment	CAD/Microcomputer	$25.00/hour
	Personal Computer	15.00/hour
	Truck and Field Test Equipment	15.00/hour
	4-Wheel Drive Truck	15.00/hour
	1/2- to 1-Ton Pickup Truck	10.00/hour
	Automobile	10.00/hour
	Geophysical Equipment	Separate Schedule
	Geotechnical and Environmental Monitoring Equipment	Separate Schedule
	Other Computer Services	Separate Schedule
Outside Services	Rental of equipment not ordinarily furnished by Harding Lawson Associates and all other costs such as special printing, common photographic work, travel by carrier, subsistence, subcontractors, etc.	cost + 5%
Communication & Reproduction	In-house costs for long distance telephone, telex, telecopier, postage, and printing	project labor charges x 3%
Terms	Billings are payable upon presentation and are past due 30 days from invoice date. A finance charge of 1.5 percent per month, or the maximum amount allowed by law, will be charged on past-due accounts. Harding Lawson Associates makes no warranty, either expressed or implied, as to its findings, recommendations, specifications or professional advice, except that they are prepared and issued in accordance with generally accepted professional practice.	

Harding Lawson Associates reserves the right to revise its Schedule of Charges with changes in its practice.

Project Schedule

ID	Task Name
1	**Task 1 - Preliminary Design**
2	Project Scoping
3	Site Inspections
4	Route Survey
5	Compressor Station
6	LFG Pipeline
7	Cost Estimates
8	*Metro Review*
9	Design Report Preparation
10	Submittal to Metro
11	*Metro/ Union Pacific Review*
12	**Task 2 - Final Design**
13	Base Map Preparation
14	35 % Review Drawings Prep
15	*Metro Review*
16	80 % Review Documents Prep
17	*Metro Review*
18	Final Documents Prep
19	Submittal for Bidding
20	**Task 3 - Right of Way Assistance**
21	**Task 4 - Construction Management**
22	Bid Advertisement
23	Contract Negotiations
24	Construction
25	Final Inspection
26	**Begin LFG Plant Operation**

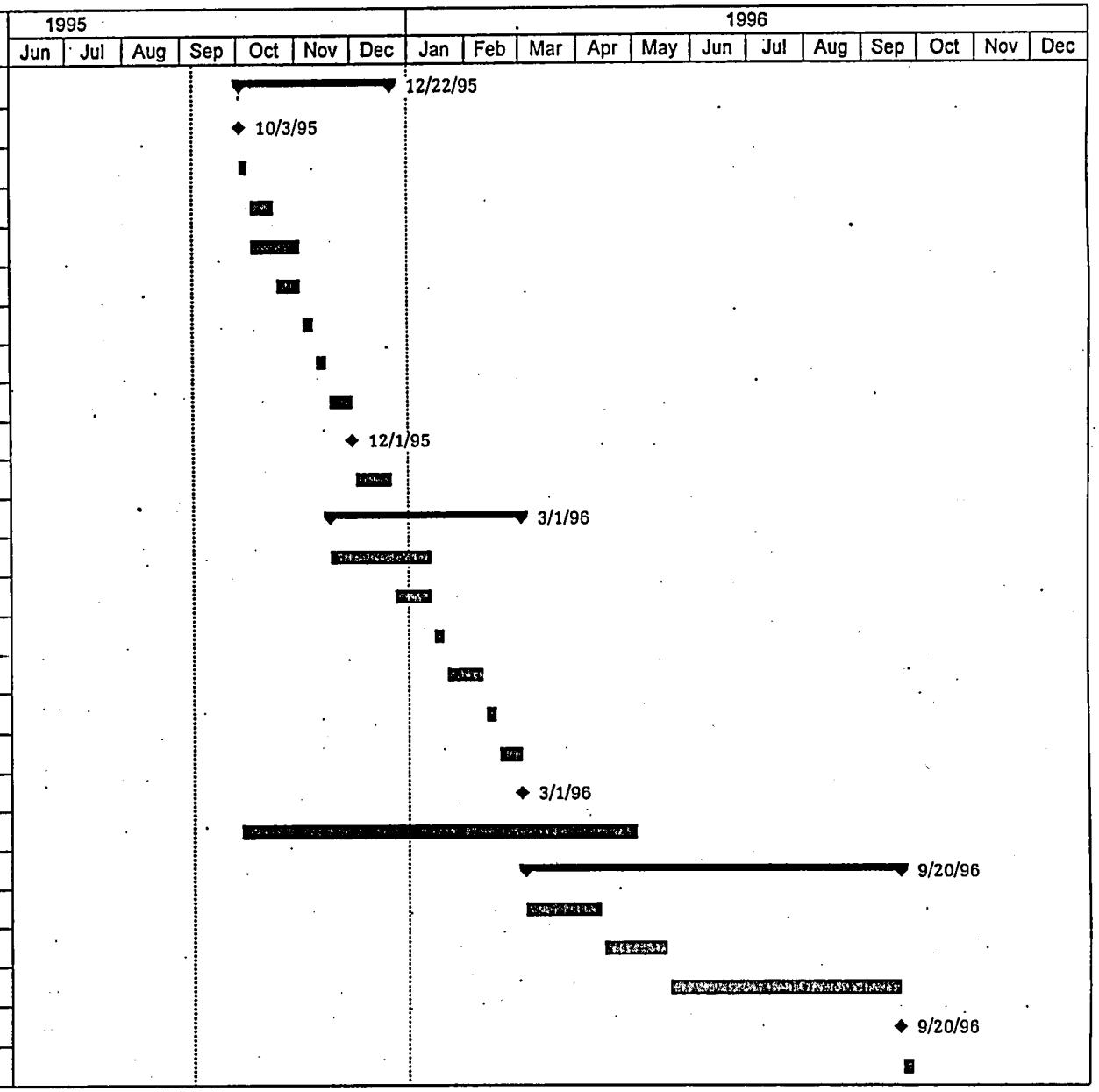

TABLE 1: ESTIMATED HLA HOURS FOR ST. JOHNS LANDFILL GAS PIPELINE AND COMPRESSOR STATION

Description	Vice President	Principal	Associate Engineer	Senior Engineer	Project Engineer	Staff Engineer	Administrator	Technical Editor	CADD Drafter	Word Processor	Total Manhours
Task 1 - Feasibility Studies											
1A - Project Scoping	0	2	16	0	0	0	4	0	0	4	26
1B - Site Inspections	0	0	12	8	0	0	0	0	0	0	20
1C - Compressor Station	0	0	2	4	0	0	0	0	0	0	6
1D - Route Analysis	0	0	16	16	0	40	0	0	24	4	100
Subtotal- Task 1	0	2	46	28	0	40	4	0	24	8	152
Task 2 - Preliminary Design											
2A - Compressor Station	0	1	4	4	16	0	2	0	4	0	31
2B - LFG Pipeline	0	2	24	16	12	60	2	0	40	4	160
2C - Cost Estimates	0	0	2	0	0	8	0	0	0	0	10
2D - Design Report	0	1	16	0	0	8	0	2	8	4	39
Subtotal- Task 2	0	4	46	20	28	76	4	2	52	8	240
Task 3 - Final Design											
3A - Base Map Preparation	0	0	8	0	0	0	2	0	8	0	18
3B - Process Design	0	2	12	0	0	0	2	0	0	0	16
3C - Mechanical Design	0	0	0	0	0	0	0	0	0	0	0
3D - Electrical Design	0	0	0	0	0	0	0	0	0	0	0
3E - Civil/Structural Design	0	0	4	12	24	16	0	0	40	0	96
3F - Pipeline Design	0	0	40	40	0	80	0	0	80	8	248
3G - Contract Document Prep	0	0	24	0	0	24	8	4	24	16	100
Subtotal - Task 2	0	2	88	52	24	120	12	4	152	24	478
Task 4 - Right of Way Assistance	0	0	40	24	0	24	0	0	40	8	136
Task 5 - Construction Management	0	0	60	0	0	16	0	0	16	8	100
TOTAL	0	8	280	124	52	276	20	6	284	56	1106

TABLE 2: ESTIMATED LABOR FEES FOR HARDING LAWSON ASSOCIATES PERSONNEL

Description	Vice President	Principal	Associate Engineer	Senior Engineer	Project Engineer	Staff Engineer	Administrator	Technical Editor	CADD Drafter	Word Processor	Labor Fees
	$150.00	$125.00	$105.00	$95.00	$75.00	$60.00	$50.00	$50.00	$50.00	$45.00	
Task 1 - Feasibility Studies											
1A - Project Scoping	$0	$250	$1,680	$0	$0	$0	$200	$0	$0	$180	$2,310
1B - Site Inspections	$0	$0	$1,260	$760	$0	$0	$0	$0	$0	$0	$2,020
1C - Compressor Station	$0	$0	$210	$380	$0	$0	$0	$0	$0	$0	$590
1D - Route Analysis	$0	$0	$1,680	$1,520	$0	$2,400	$0	$0	$1,200	$180	$6,980
Subtotal- Task 1	$0	$250	$4,830	$2,660	$0	$2,400	$200	$0	$1,200	$360	$11,900
Task 2 - Preliminary Design											
2A - Compressor Station	$0	$125	$420	$380	$1,200	$0	$100	$0	$200	$0	$2,425
2B - LFG Pipeline	$0	$250	$2,520	$1,520	$900	$3,600	$100	$0	$2,000	$180	$11,070
2C - Cost Estimates	$0	$0	$210	$0	$0	$480	$0	$0	$0	$0	$690
2D - Design Report	$0	$125	$1,680	$0	$0	$480	$0	$100	$400	$180	$2,965
Subtotal- Task 2	$0	$500	$4,830	$1,900	$2,100	$4,560	$200	$100	$2,600	$360	$17,150
3A - Base Map Preparation	$0	$0	$840	$0	$0	$0	$100	$0	$400	$0	$1,340
3B - Process Design	$0	$250	$1,260	$0	$0	$0	$100	$0	$0	$0	$1,610
3C - Mechanical Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3D - Electrical Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3E - Civil/Structural Design	$0	$0	$420	$1,140	$1,800	$960	$0	$0	$2,000	$0	$6,320
3F - Pipeline Design	$0	$0	$4,200	$3,800	$0	$4,800	$0	$0	$4,000	$360	$17,160
3G - Contract Document Prep	$0	$0	$2,520	$0	$0	$1,440	$400	$200	$1,200	$720	$6,480
Subtotal - Task 2	$0	$250	$9,240	$4,940	$1,800	$7,200	$600	$200	$7,600	$1,080	$32,910
Task 4 - Right of Way Assistance	$0	$0	$4,200	$2,280	$0	$1,440	$0	$0	$2,000	$360	$10,280
Task 5 - Construction Management	$0	$0	$6,300	$0	$0	$960	$0	$0	$800	$360	$8,420
TOTAL	$0	$1,000	$29,400	$11,780	$3,900	$16,560	$1,000	$300	$14,200	$2,520	$80,660

TABLE 3: SUMMARY OF ESTIMATED FEES FOR ST JOHNS LFG PIPELINE AND COMPRESSOR STATION

Description	HLA Labor			HLA Computer		Subcontractor			# of					Total
	Labor	Fee	Subtotal	Hours	Charges	DPA	TWI	HLA Fee	Trips	Travel	Other	Fee	Subtotal	Fees
		3%						5%				5%		
Task 1 - Feasibility Studies														
1A - Project Scoping	$2,310	$69	$2,379	0	$0	$2,220	$0	$111	0	$0	$50	$3	$53	$4,763
1B - Site Inspections	$2,020	$61	$2,081	0	$0	$1,591	$0	$80	1	$250	$250	$25	$525	$4,276
1C - Compressor Station	$590	$18	$608	0	$0	$3,698	$0	$185	0	$0	$0	$0	$0	$4,491
1D - Route Analysis	$6,980	$209	$7,189	4	$60	$0	$0	$0	1	$250	$100	$18	$368	$7,617
Subtotal- Task 1	$11,900	$357	$12,257	4	$60	$7,509	$0	$375	2	$500	$400	$45	$945	$21,146
Task 2 - Preliminary Design														
2A - Compressor Station	$2,425	$73	$2,498	0	$0	$15,100	$0	$755	0	$0	$0	$0	$0	$18,353
2B - LFG Pipeline	$11,070	$332	$11,402	0	$0	$1,329	$0	$66	1	$250	$100	$18	$368	$13,165
2C - Cost Estimates	$690	$21	$711	4	$60	$2,441	$0	$122	0	$0	$0	$0	$0	$3,334
2D - Design Report	$2,965	$89	$3,054	0	$0	$1,689	$0	$84	0	$0	$300	$15	$315	$5,142
Subtotal- Task 2	$17,150	$515	$17,665	4	$60	$20,559	$0	$1,028	1	$250	$400	$33	$683	$39,994
Task 3 - Final Design														
3A - Base Map Preparation	$1,340	$40	$1,380	0	0	$0	$20,000	$1,000	0	$0	$50	$3	$53	$22,433
3B - Process Design	$1,610	$48	$1,658	0	0	$12,113	$0	$606	0	$0	$0	$0	$0	$14,377
3C - Mechanical Design	$0	$0	$0	0	0	$14,070	$0	$704	0	$0	$0	$0	$0	$14,774
3D - Electrical Design	$0	$0	$0	0	0	$15,079	$0	$754	0	$0	$0	$0	$0	$15,833
3E - Civil/Structural Design	$6,320	$190	$6,510	16	240	$3,502	$0	$175	0	$0	$0	$0	$0	$10,427
3F - Pipeline Design	$17,160	$515	$17,675	24	360	$2,966	$0	$148	0	$0	$3,000	$150	$3,150	$24,299
3G - Contract Document Prep	$6,480	$194	$6,674	8	120	$7,415	$0	$371	0	$0	$500	$25	$525	$15,105
Subtotal - Task 2	$32,910	$987	$33,897	48	$720	$55,145	$20,000	$3,757	0	$0	$3,550	$178	$3,728	$117,247
Task 4 - Right of Way Assistance	$10,280	$308	$10,588	8	120	$0	$0	$0	2	$500	$0	$25	$525	$11,233
Task 5 - Construction Management	$8,420	$253	$8,673	4	60	$17,173	$0	$859	0	$0	$50	$3	$53	$26,817
TOTAL	$80,660	$2,420	$83,080	68	$1,020	$100,386	$20,000	$6,019	5	$1,250	$4,400	$283	$5,933	$216,438