158706

EXHIBIT 1

AGREEMENT FOR PROFESSIONAL SERVICES

FOR

CITY OF PORTLAND

PORTLAND, OREGON

THIS AGREEMENT, made and entered into at Portland, Oregon, this _____ day of _____, 1986, by and between the **CITY OF PORTLAND** of Multnomah County, State of Oregon, hereinafter called the "City", and R & W Engineering, Inc., a consulting engineering firm, duly authorized to perform professional services in the State of Oregon, hereinafter called the "Engineer".

W I T N E S S E T H T H A T:

WHEREAS, the City desires to retain a consulting engineering firm to provide the following professional services:

1) Review and determine the Groundwater Pumping Station's existing computer program operations, review computer equipment operations manuals, construction plans and specifications, shop drawings and other pertinent materials.

2) Prepare a letter report identifying methods for modifying the existing programmable controller software including revisions to the program logic, formating and editing the contents of the printed output, identifying methods for creating additional memory space, modify and consolidate the color terminal screens, increase the operational speed of the system, revise the alarm system, and allow for an individual operations of the groundwater well field.

3) Modify the existing software program and verify the operations of the modified program as requested by the City.

4) Provide reports and documentation on the final annotated program, detailed flow charts, procedures for adapting and ignoring alarms, and procedures for booting, backing-up or editing the program.

5) Provide an operations seminar on procedures for loading the program, pump station start-up and shutdown, well field operations program alarm operations, trouble shooting utilizing program and loader monitor operations.

WHEREAS, the Engineer does offer to provide such professional services, in accordance with their proposal dated May 12, 1986, a copy of which is attached hereto as "Exhibit B" and made a part hereof.

NOW THEREFORE, it is agreed between the parties hereto as follows:

ARTICLE I - PRECEDENCE OF EXHIBITS

Terms of this Agreement shall be interpreted using the following hierarchy of precedence:

A) Exhibit I - This Agreement for Professional Services
B) Exhibit A - Scope of Engineering Services
C) Exhibit B - Groundwater Pump Station's Software Analysis Proposal

ARTICLE II - REQUIREMENTS OF ENGINEERING SERVICES

1) The Engineer shall provide to the City the Scope of Engineering Services set out in "Exhibit A" hereto. This work shall be specifically provided to and under the direction and review of the Bureau of Water Works.

2) The payment to the Engineer for the work described in "Exhibit A" shall be the "not-to-exceed" amount of $39,756.32. The Engineer shall submit monthly written pay requests to the City's Project Manager (Article V), which

shall include a description of the work accomplished in the preceding month. The pay requests shall be based on the hours worked by the job classification at an hourly rate per classification as shown in Exhibit "B" for the total work completed during the period in which the pay request is made. The total monthly billings shall amount to no more than 90% of the total "not-to-exceed" amount agreed upon herein. The final payment, shall be billed to the City upon the completion of the operations seminar and once the final report, and documentation have been delivered to and approved by the City's Project Manager under Article V. The final payment shall be full compensation for work performed, for services rendered, and for all labor, materials, supplies, equipment, and incidentals necessary to perform the work and services. The total payment to the Engineer shall amount to no more than 100% of the total "not-to-exceed" amount agreed upon herein.

3) The Engineer represents that they have, and will maintain during the term of this Agreement, sufficient staff and personnel qualified to furnish the services described under this Agreement in accordance with the laws and accepted engineering practices of the State of Oregon. The Engineer has identified, in their proposal to the City date May 12, 1986, the key professional staff to be assigned to the project. Any changes in the assignment of key professional staff by the Engineer must be approved in writing by the City.

4) Acceptance of the work performed by the Engineer under this Agreement by the City shall not relieve the Engineer from correcting any errors or omissions by the Engineer with respect to such work. The expense of correction of errors or omissions by the Engineer shall be at the Engineer's sole expense without reimbursement by the City.

5) All work developed, including data, designs, drawings, calculations, and information collected and obtained by the Engineer, and subcontractor(s) to the Engineer, in the performance of this Agreement is to become the property of the City. The Engineer shall deliver all such work, data, and information to the City whenever so requested by the City. The Engineer may retain copies of the work for its records and reference.

6) The work, data, designs, drawings, specifications and information and reports acquired or prepared by the Engineer shall not be shown or distributed to any other public or private person or entity except as previously authorized by the City, and in no event prior to having been first disclosed to the City.

7) The City shall require an advance written notice from the Engineer prior to undertaking any work for which the Engineer requests additional compensation and/or time beyond the limits of compensation and time set forth in "Exhibit A" of this Agreement. Such written notice for additional compensation shall include a description of the work considered by the Engineer to be out of scope, the reasons therefor, the proposed budget for the proposed work and a schedule for completion of the proposed work. The City shall respond in writing with its decision in response to such written notice for additional compensation and/or time by the Engineer. The performance of the work described in a written notice for additional compensation shall not commence prior to the Engineer receipt of the City's approval of such work. The City shall not be responsible for the payment of any claims by the Engineer, or its subcontractor(s) for amounts in excess of the limits for compensation set forth in Article II (7) of this Agreement, which are not approved in writing by the City in advance of the conduct of such work.

8) The Engineer may use subcontractor(s) to assist in performing the work, subject to the written approval of the City. All subcontractor(s) are to function as independent contractors with the Engineer providing all administrative and billing functions for their services.

ARTICLE III - SCOPE AND REQUIREMENT OF CITY SERVICES

1) The City will make all reasonable efforts to provide available reports, data, photographs, notes, and graphic and/or written records pertaining to the design, construction, operation and maintenance of the Groundwater Pump Station and its related facilities, that the City is aware of and that the Engineer consider necessary for the performance of the work described herein.

2) The City will meet with the Engineer to coordinate and establish the detail requirements of the work.

3) The City's Project Manager (Article V) or his designate will provide timely review and response to presentations and submittals so as not to delay the work unnecessarily.

4) The City will provide the Engineer and its subcontractor(s) for access to the site.

5) The City reserves the right to order changes in the work, including reducing or redefining the scope of work, to be performed by the Engineer. If such changes affect the cost or time of performance of the work, adjustments will be made in the compensation or schedule, respectively, at the time such changes are ordered, as mutually agreed to between the City and the Engineer.

ARTICLE IV - TERMINATION OF AGREEMENT

1) Early termination of this Agreement

a. The City and the Engineer, by mutual written agreement, may terminate this Agreement at any time.

b. The City, on ten (10) calendar days written notice to the Engineer, may terminate this Agreement for any reasons deemed appropriate in its sole discretion.

c. Either the City or the Engineer may terminate this Agreement in the event of a breach of the Agreement by the other. Prior to such termination, however, the party seeking the termination shall give to the other party written notice of the breach and of the party's intent to terminate. If the party has not cured the breach within fifteen (15) calendar days of the notice, then the party giving the notice may terminate the Agreement at any time thereafter by giving a written notice of termination.

2) Payment on Early Termination

a. In the event of termination under Subsection (1) (a) or (b) hereof, the City shall pay the Engineer for work satisfactorily performed, as determined by the City's Project Manager under Article V in accordance with this Agreement prior to the termination date.

b. In the event of termination under Subsection (1) (c) hereof by the Engineer due to a breach by the City, then the City shall pay the Engineer as provided in Subsection (a) of this Section.

c. In the event of termination under Subsection 1 (c) hereof by the City due to a breach by the Engineer, then the City shall pay the Engineer as provided in Subsection (a) of this Section, subject to set off of excess costs provided for in Section 3 (a) hereof.

3) Remedies

a. In the event of termination under Subsection 1 (c) hereof by the City due to a breach by the Engineer, then the City may complete the work either itself or by agreement with another consultant, or by a combination thereof. In the event the cost of completing the work exceeds the amount actually paid to the Engineer hereunder, plus the remaining unpaid balance of the compensation provided under Article II, Section 2, then the Engineer shall pay to the City the amount of the excess.

b. The remedies provided to the City under Sections 2 and 3 hereof for a breach by the Engineer shall not be exclusive. The City also shall be entitled to any other equitable and legal remedies that are available.

c. In the event of breach of this Agreement by the City, then the Engineer remedy shall be limited to termination of this Agreement and receipt of payment as provided in Sections 1 (a) and 2 (b) hereof.

ARTICLE V - CITY PROJECT MANAGER

1) The City Project Manager shall be James L. Doane, P.E., Chief Engineer or such other person as shall be designated in writing by the Chief Engineer of the Bureau of Water Works.

2) The Chief Engineer or his designate is authorized to approve work and billings hereunder, to give notices referred to herein, to terminate this Agreement as provided herein, and to carry out any other City actions referred herein.

ARTICLE VI - COMPLIANCE WITH LAWS

In connection with its activities under this Agreement, the Engineer shall comply with all applicable federal, state and local laws and regulations.

ARTICLE VII - INDEPENDENT CONSULTANT STATUS

1) The Engineer is engaged as an independent consultant and will be responsible for any federal, state and local taxes and fees applicable to payments hereunder.

2) The Engineer and its employees are not employees of the City and are not eligible for any benefits through the City, including without limitation federal social security, health benefits, workers' compensation, unemployment compensation and retirement benefits.

ARTICLE VIII - MAINTENANCE OF RECORDS

The Engineer shall maintain records on a current basis to support its billings to the City. The City or its authorized representative shall have the authority to inspect, audit, and copy on reasonable notice and from time to time any records of the Engineer regarding its billings or its work hereunder. The Engineer shall retain these records for inspection, audit, and copying for 3 years from the date of completion or termination of this Agreement.

ARTICLE IX - AUDIT OF PAYMENTS

1) The City, either directly or through a designated representative, may audit the records of the Engineer at any time during the 3-year period established by Article VIII.

2) If an audit discloses that payments to the Engineer under Article II (2) were in excess of the amount to which the Engineer was entitled, then the Engineer shall repay the amount of the excess to the City.

ARTICLE X - INDEMNIFICATION

The Engineer shall hold harmless, defend, and indemnify the City and the City's officers, agents, and employees against all claims, demands, actions, and suits brought against any of them arising from the Engineer's works under this Agreement.

ARTICLE XI - INSURANCE REQUIREMENTS

1) Public Liability and Property Damage Insurance

a. The Engineer shall maintain public liability and property damage insurance that protects the Engineer and the City and its officers, agents, and employees from any and all claims, demands, actions and suits for damage to property or personal injury, including death, arising from the Engineer's work under this Agreement. The insurance shall provide coverage for not less that $100,000.00 for personal injury to each person, $300,000.00 for each occurrence, and $300,000.00 for each occurrence involving property damages; or a single limit policy of not less than $300,000.00 covering all claims per occurrence. The insurance shall be without prejudice to coverage otherwise existing and shall name as additional insureds the City and its officers, agents and employees. The insurance shall provide that the insurance shall not terminate or be cancelled without thirty (30) calendar days written notice first being given to the City Auditor. Notwithstanding the naming of additional insureds, the insurance shall protect each insured in the same manner as though a separate policy has been issued to each, but nothing herein shall operate to increase the insurer's liability as set forth elsewhere in the policy beyond the amount or amounts for which the insurer would have been liable if only one person or interest had been named as insured. The limits of the insurance shall be subject to statutory changes as to maximum limits of liability imposed on municipalities of the State of Oregon during the term of this Agreement.

b. The Consultant shall maintain on file with the City Auditor a certificate of insurance certifying the coverage required under Subsection (a). The adequacy of the insurance shall be subject to the approval of the City Attorney. Failure to maintain liability insurance shall be cause for immediate termination of this Agreement by the City.

2) Workers' Compensation Insurance

a. The Engineer shall provide workers' compensation coverage in accordance with ORS Chapter 656, and maintain it for the duration of this Agreement. Failure to maintain workers' compensation insurance shall be cause for immediate termination of this Agreement by the City. The Engineer shall provide workers' compensation coverage for all the Engineer(s) or other persons employed in performing the services under this Agreement in accordance with ORS 656.001 to 656.794, either as:

- A carrier-insured employer; or
- A self-insured employer as provided by ORS 656.407.

b. Evidence of coverage as required by Subsection (a) shall be filed with the City and kept current for the duration of this Agreement. The adequacy of the insurance shall be subject to the approval of the City Attorney. In the event of any change in the Engineer's workers' compensation insurance coverage including cancellation, the Engineer shall immediately notify the City Auditor at Room 202, 1220 S.W. Fifth Avenue, Portland, OR 97204.

c. The Engineer agrees to properly complete the City of Portland's Workers' Compensation Insurance Questionnaire prior to commencing work under this Agreement. Questionnaire shall remain attached to this Agreement and become a part thereof as if fully copies herein.

d. In the event the Engineer uses employees or subconsultants or other persons in the performance of this Agreement, the Engineer agrees to hold harmless, defend and indemnify the City and its officers, agents and employees against any liability that may be imposed on them or for any claim or demands which result from the Engineer's use of employees or subconsultants or other persons, including but not limited to workers' compensation claims, and to pay any damages which the City may incur as a result of such liability claims or demands, including attorney fees.

3) Professional Liability

a. The Engineer agrees to hold harmless and indemnify the City, its officers and employees for which claims arise out of the Engineer's professional negligence including errors, omissions or other professional acts while provided in the course of the Engineer's performance of the Agreement.

b. The Engineer shall maintain on file with the City Auditor at Room 202, 1220 S.W. Fifth Avenue, Portland, Oregon 97204, Professional Liability Insurance in the amount of $500,000.00 for each occurrence and aggregate with a deductible not exceeding $50,000.00 each occurrence.

ARTICLE XII - SUBCONTRACTING AND ASSIGNMENT

1) The Engineer shall not subcontract its work under this Agreement, in whole or in part, without the written approval of the City. The Engineer shall require any approved subconsultants to agree, as to the portion subconsulted, to fulfill all obligations of the Engineer as specified in this Agreement. Notwithstanding City approval of a subconsultant, the Engineer shall remain obligated for full performance hereunder, and the City shall incur no obligation other than its obligations to the Engineer hereunder. The Engineer agrees that its subconsultant(s) are employed in the performance of this Agreement, the Engineer and its subconsultant(s) are subject to the requirements and sanctions of ORS Chapter 656, Workers' Compensation.

2) The Engineer shall not assign this Agreement, in whole or in part, or any right or obligation hereunder, without the prior written approval of the City.

ARTICLE XIII - OREGON LAW AND FORUM

1) This Agreement shall be construed according to the law of the State of Oregon.

2) Any litigations between the City and the Engineer arising under this Agreement or out of work performed under this Agreement shall occur, if in the State courts, in the Multnomah County court having jurisdiction thereof, and if in the Federal courts, in the United States District Court for the District of Oregon.

ARTICLE XIV - WRITTEN NOTIFICATION

All written notices with respect to this Agreement shall be mailed or otherwise directed to:

For the Engineer:

Mr. Mark C. Wirfs, P.E.
Electrical Engineer
R & W Engineering, Inc.
Suite 100, 6415 S.W. Canyon Court
Portland, OR 97221-1484

For the City:

Mr. Randy D. Poole, P.E.
Senior Engineer
City of Portland
Bureau of Water Works
1120 S.W. 5th Avenue, Room 543A
Portland, Oregon 97204-1926

IN WITNESS WHEREOF, the parties hereto have subscribed their names.

ENGINEER: R&W Engineering, Inc.

BY: Mark A Wish

TITLE: Vice-President

ADDRESS: 6415 SW Canyon Court, #100
Portland, Oregon 97221-1484

DATE: June 19, 1986

City of Portland
Business License No. 3695
Tax I.D. No. 93-0751780

APPROVED AS TO FORM:

CITY OF PORTLAND

BY: _____

TITLE: _____

ADDRESS: _____

DATE: _____

BY: _____

TITLE: _____

ADDRESS: _____

DATE: _____

APPROVED AS TO FORM

Jeffrey L. Rogers RS

CITY ATTORNEY

EXHIBIT A

SCOPE OF SERVICES

FOR

CITY OF PORTLAND

PORTLAND, OREGON

The following constitutes the Scope of Work for the **GROUNDWATER PUMP STATION PROGRAMMABLE CONTROLLER SOFTWARE ANALYSIS.**

PHASE I: Analysis of Existing System

1. Review existing system program listings.

2. Interview and consult with Water Bureau personnel regarding program operation.

3. Review all existing available documentation including, but not limited to, operations manuals, construction plans documents, and shop drawings.

4. Test and analyze existing system performance via "hands-on" operation in cooperation with Water Bureau personnel.

PHASE II: Recommendation for System Modification

1. Identify software and/or hardware limitation of the existing system to provide desired operational control, operator interfaces and data logging functions.

2. Provide recommendations for modifications to color CRT terminal operator interface screen formats.

3. Specifically address alarm handling procedures and capabilities.

4. Provide recommendations on the proposed modifications to hardware and/or software systems including the following issues:

   a. Central Processor upgrade.

   b. Peripheral interface hardware improvements for logging/CRT/printing requirements.

   c. Proposed software modifications.

5. Prepare cost analysis and comparisons of recommended alternatives including an analysis of software modifications or redesign required under this scope of work (see Phase III). This later analysis to compare required Phase III services to budgeted contract funds and recommend modification if necessary.

6. All findings to be submitted to the Water Bureau in a "draft" letter report, ten (10) copies.

7. Meet with Water Bureau representatives and develop final proposed plan of action for hardware and/or software modifications.

PHASE III: **System Modification**

1. Assist Water Bureau in purchase and installation of any required hardware changes.

2. Prepare and install revised or new software in system equipment.

3. Verify system performance via actual operational testing.

PHASE IV: Report and Documentation

1. Provide the Water Bureau with ten (10) copies of a "draft" final report.

2. Meet with Water Bureau personnel to discuss draft report and obtain comments.

3. Prepare and submit a final report twenty five (25) copies, accompanied by ten (10) sets of supporting documentation.

4. Supporting documentation shall include:

   a. A complete annotated program listing(s).

   b. Procedures for modifying alarms including adding and deleting.

   c. A complete memory map of all programmed equipment.

   d. Flowcharts of program operations and logic.

   e. Operating instructions for the system including start-up of the system, backup and reload of system software, and access to historical data on disk.

PHASE V: Operations Seminar

1. A training seminar shall be presented on software/system operations covering the following requirements:

   a. Program loading and backup procedures.

   b. Pump station start-up and shutdown procedures.

   c. Alarm system operations.

d. Use of loader-monitor and trouble-shooting utilizing software documents.

2. Ten (10) sets of manuals shall be furnished to assist in the training seminar.

3. The seminar presentation will consist of four (4) each, four (4) hour presentations by two (2) presenters.

PROJECT SCHEDULE

The following performance schedule is based on the time required for each segment and is exclusive of time required for Water Bureau reviews and delivery and installation of any new hardware. It is understood that availability of site equipment for testing and verification as limited and may affect this schedule. Variations of schedule times may be modified by written request and subsequent approval by City of Portland Bureau of Water Works.

PHASE I AND II	Deliver draft report sixty (60) calendar days from notice to proceed.
PHASE III	Sixty (60) calendar days after approval of proposed plan of action by the Water Bureau.
PHASE IV	Forty (40) calendar days after completion of system verification and testing.
PHASE V	Within fourteen (14) calendar days after completion of Phase IV and subject to availability of the Water Bureau staff to attend training sessions.

NOTE: "Notice to Proceed" is defined as date of receipt of executed contract by consultant.

158706

CITY OF

PORTLAND, OREGON

BUREAU OF WATER WORKS

Dick Bogle, Commissioner
Edward Tenny, Administrator
1120 S.W. 5th Avenue
Portland, Oregon 97204-1926

GW 0.2
GW Consultants

April 8, 1986

RE: Request for Proposal Groundwater Pump Station Vibration Analysis

The City of Portland Water Bureau is formally requesting proposals from consultants experienced in vibrational analysis. Presently, the Bureau's Groundwater Pump Station is experiencing vibration problems in the pumping/generating units and appurtenant piping.

The Groundwater Pump Station, located near 158th Avenue and Marine Drive, was constructed to operate as a reversible pump-generating facility. The project was designed to generate power during periods of high flow. During periods of low water supplies in the Bull Run Watershed, the facility was designed as a booster pump station.

An integral part of this facility is the Bingham-Willamette/Westinghouse generating/pumping units where the apparent vibration problems occur during pumping. Presently, there are six (6) of these units rated at 2350 hp (pumping) and 900 KW (generating) each.

It will be the responsibility of the consultant to identify the nature and magnitude of the vibrations occurring, determine the cause of these vibrations, and provide recommendations and cost estimates to rectify the vibration problems. In addition, the Consultant will be requested during the recommendation stage to project the estimated damage to the system if various vibration problems are not corrected. A draft of the report will be required within forty-five (45) days after selection of the Consultant for review by the Water Bureau with the completed report to be submitted thirty (30) days after the draft report.

A part of this analysis will require a monitoring and testing program while the facilities are in operation. In order for the Bureau to minimize the power costs, the pumping units will be limited to operating from 10:00 p.m. to 6:00 a.m. during the weekdays or on Saturdays and Sundays. Therefore, the consultant should identify the period of time required to perform the data collection phase during these hours. In addition, the number of pumps will also be limited to one (1) pumping unit at a time, unless the consultant can justify the need for more than one unit. It is also the Bureau's intent not to generate power. Therefore, the consultant will be required to review the existing data collected during the generating mode to determine if it is sufficient as part of the analysis.

Request for Proposal Groundwater Pump Station

The consultant selected may be required to perform as an "expert witness" for future litigation measures regarding the vibration analysis. An hourly rate should be included to provide these additional services, if they should be required.

The Water Bureau therefore requests for your firm to submit a proposal on or before May 9, 1986, for furnishing these professional services. Enclosed is the requested outline for the proposal and the proposed scope of services to be provided for the Groundwater Pump Station Vibration Analysis. Should you wish to visit the site or need additional information, please contact Randy Poole at (503) 796-7417.

Sincerely,

Stan VandeBergh, P.E.
Water Engineer Supervisor
SRV:RDP:rjm GWO/8603E101/VAR-E101

Enclosure

158706

SCOPE OF SERVICES

GROUNDWATER PUMP STATION
VIBRATION ANALYSIS

The consultant's proposal shall contain as a minimum the following information:

1. Project Approach and Schedule - Identify the proposed approach to the project including identifying the proposed schedule of work. Consultant to identify services and milestone items to be performed by the Water Bureau staff members to maintain project schedule.

2. Engineering Team - Consultant to identify those individuals who will perform the proposed scope of work, identify the individual who will be the principal-in-charge, and the projected percentage of involvement for each individual.

3. Qualifications and Experience - Consultant to provide the firm and engineering team members' qualifications and experience in solving vibrational problems similar to those occurring at the Groundwater Pump Station. This should include a list of references who may be contacted. In addition, the experience of the individuals should include the following:

    - Registered Professional Engineers in the State of Oregon in Civil, Structural, Electrical, and Mechanical Engineering.

    - Experienced in the design and construction of pump station facilities including plans, specifications, and reviewing shop drawings.

    - Experienced in serving as an "expert witness" during litigation procedures involving vibrational analysis evaluations.

    - Familiar with the following standards and codes:

        a) American Petroleum Institute Standards 610
        b) Standards of the Hydraulic Institute
        c) American Water Works Association Standards
        d) American Society for Testing Materials Standards
        e) American Society of Mechanical Engineering Standards
        f) ASME Boiler and Pressure Vessel Code for Unfired Pressure Vessels, Sections VIII and IX
        g) American Standards Association
        h) American National Standard Institute
        i) National Electrical Manufacturers Association

    - Experienced in surge analysis.

4. Cost of Service - Consultant shall provide the cost of service to perform the proposed scope of work, including the "not to exceed" amount for said work. Cost of service should identify the amount of time and hourly rate required for each task completed and should include a current rate schedule for the individuals in the firm, reproduction costs and any other expenses for which reimbursement from the Water Bureau will be requested. Consultant is also to include a separate hourly rate for those individuals to perform as "expert witnesses" should litigation occur regarding the construction and design of the Groundwater Pump Station.

5. Insurance Coverage - Consultant to provide $1,000,000 of professional liability insurance to complete the proposed scope of work. Consultant to also provide a minimum of not less than:

   a) $100,000 Workers' Compensation coverage for persons employed in performing the services under this agreement, in accordance with ORS 656.001 to 656.794, either as:

      a) a carrier-insured employer; or
      b) a self-insured employee as provided by ORS 656.407

   b) $300,000 of liability coverage for all damages arising out of property damage, bodily injury, including death, at any time resulting therefrom, sustained by any one person in any one accident; and a limit of liability of not less than $300,000 aggregate for any such damages sustained by two or more persons in any one accident.

6. Certification - Consultant to provide certification as an equal opportunity employer per Chapter 3.100 of the Code of the City of Portland. Details are available from the Contract Compliance Division, City Hall, 1200 S.W. 5th Avenue, Portland, Oregon 97204, telephone (503) 248-4696.

7. Business License - Consultant to show proof of having or obtaining from the City of Portland's Bureau of Licenses a business license to work within the City. Cost for such fees shall be included in the proposal at the time submitted. Details are available from the Bureau of Licenses, 1120 S.W. 5th Avenue, Portland, Oregon 97204, telephone (505) 796-5157.

The consultant's section on Project Approach and Schedule should address the following issues:

1. Data Collection:

   - **Consultant to review construction documents including plans, specifications, shop drawing, submittals, letters and transmittals, contracts, and other pertinent information.**

   - **Consultant to review vibration measurement data monitored during the construction startup and testing phase.**

- Consultant to identify testing required to verify existing vibration measurements which may include additional pressure measurements, angular velocity measurements, vibration or pulsation measurements, and torsional measurements.

- Consultant to identify items of work to be performed by Water Bureau staff members to assist in setting up the verification testing program.

- Consultant to provide all the equipment, labor, and materials necessary to perform and collect all data measurements and readings during the data verification phase.

- Consultant to identify his approach for determining if additional data analysis is required.

2. Data Analysis:

   - Consultant to review data acquired to determine cause and magnitude of vibration problems.

   - Consultant to provide recommendations and cost estimates to mitigate vibrations to acceptable levels per industry standard.

   - Consultant to determine the damages that have occurred and would occur if vibration problems are not corrected.

3. Draft and Final Report:

   - Consultant to meet informally with the Water Bureau staff at the time of identifying his approach for additional analysis.

   - Consultant to provide to the Water Bureau, within 45 days of consultant selection, 10 copies of the draft report.

   - Consultant shall provide a formal meeting with the Water Bureau staff one week after Water Bureau receives the draft report.

   - Consultant to provide to the Water Bureau, within 60 days after the selection of the Consultant, 10 copies of the final report.

The proposal shall be hand-delivered or mailed in an enclosed package identified as follows:

PROPOSAL FOR: Groundwater Pump Station Vibration Analysis
City of Portland Bureau of Water Works
1120 S.W. 5th Avenue
Portland, Oregon 97204
Attention: Randy Poole

ANALYSIS AND MODIFICATION OF PROGRAMMABLE CONTROLLER SOFTWARE AND HARDWARE

CITY OF PORTLAND, OREGON
BUREAU OF WATER WORKS
ANNOUNCEMENT NO. GW.02

MAY 12, 1986

158706

R&W ENGINEERING, INC.
SUITE 100
6415 S.W. CANYON COURT
PORTLAND · OREGON · 97221-1484
503 • 297-5676

0.0D

May 12,1986

City of Portland
1120 SW Fifth Ave, 6th Floor
Portland, Oregon 97204-1926

Attn: Mr. Randy Poole, P.E.

Subject: Groundwater Pump Station
Software Analysis

Gentleman:

We are pleased to present our qualifications to provide software analysis services for your groundwater pump station programmable controller system. Our team members experience makes us uniquely qualified to provide these services. Our key team members toured the site on Friday, May 9, 1986 with Mr. Lou Lake of the Water Bureau. Our detailed response to your proposal request follows. R&W Engineering, Inc. has a current EEO certification form on file with the City of Portland that is valid until September of 1986.

We want to work with you and your staff to complete the modification you desire. R&W Engineering, Inc. can do this project and we look forward to this project.

Sincerely,

Mark C. Wirfs, P.E.
Electrical Engineering

MCW:lv

encl.

PROJECT APPROACH AND SCHEDULE

In the request for proposal your scope of services was very definitive. We compliment you on the specific outline of services and scope of work. We agree with your outline.

In part B. of your scope of services the following criteria were outlined:

1. Data Analysis of Existing Software
2. Recommendations for Program Modification
3. Program Modification
4. Report and Documentation
5. Operations Seminar

In addition, you specifically outlined the time of performance. If the most critical need is speed of performance we can meet your schedule. However, this may limit our ability to effectively analyze and develop the least cost solution. There are some "easy" solutions to your problems that are readily apparent to us, but these solutions may result in significant hardware cost.

We believe that your schedule may compromise the quality of the product by not allowing enough time for the analysis portion. It has been our experience that we can usually reduce total project cost by spending more time on analysis.

While we feel the overall 135 day completion requirement may be achievable we suggest to allow 60 days rather than the proposed 30 days for initial analysis and recommendation and a total of 165 days for the entire project.

Our team considers your two and one-half page outline for the services an excellent and well thought out procedure. This is due to our experience with similar and identical systems. The detail details of time performance are best if left to negotiations with the selected consultant.

Since your approach and procedure has been well prepared we have chosen to concentrate our presentation on our team's qualifications to perform your project. The following section presents these credentials.

THE ANALYSIS AND PROGRAMMING TEAM

The project team of R&W Engineering, Inc. will consist of two key individuals. The first is Mark C. Wirfs, P.E. who serves as overall project leader and will personally take responsibility for the majority of the software modification. The second individual is Mr. Ken Grant. Mr. Grant has been retained by our firm as an outside consultant due to our long professional association with him and the value he will bring to our team with his unique background and capabilities.

Other members of our organization that can provide supporting roles asnecessary are Mr. Donald C. Evans, P.E. and Mr. Gregg Scholz. Both are electrical engineers and have years of experience in either programmablecontrollers or process control computers and systems.

Enclosed in our proposal are standard personnel resumes of the key members and supporting members. In addition, we would like to present the following information on specific key experience by our project team.

Mr. Wirfs is the co-founder and electrical principal of the firm (Mr.Reeder, the other founder and principal is a mechanical engineer). He has designed complete programmable controller systems for a variety of applications. These projects have included system conception, detailed hardware configuration design, operator interface consoles and terminals, software development and installation, and "hands on" field start-up and proving of these systems. In fact, we always insist on total responsibility with our clients to insure that the job is performed correctly and reliability.

Mr. Wirfs' experience includes a variety of large and small applications with a variety of manufacturers. Applications have included grain elevators (four systems), hazardous solvent and process chemical handling (six systems), wastewater treatment or pumping systems (five systems), food processing (three applications), and a grout mixing plant at Hanfords Works, in Washington. Manufacture's have included ISSC, Allen-Bradley, Square D Co., Cutler-Hammer, Texas Instruments, and Westinghouse. In six instances the projects have involved total "turn-key" or "design build" responsibility.

Of these projects the one project that is most relevant to your needs is the waste treatment facility owned and operated by Tektronix, Inc. in Forest Grove, Oregon. This plant treats chemical wastes from a printed circuit board manufacturing facility and is totally controlled by a programmable controller system that was designed, programmed and started up by Mr. Wirfs. The system configuration uses two ISSC Model 300 CPU processors with redundant I-O switcher and two communication processors ("COPs") that are identical to your system. The COP's operate

two ISC Model 8001G CRT terminals which provide all plant analog data to the operators via 17 different display screens. Except for minor hardware problems that have been rectified the plant has been operated by this system successfully for over three years. Recently Mr. Wirfs completed a series of on-site seminars to educate new maintenance personnel to the system wiring, operation and software to facilitate their maintenance and trouble-shooting of the system. This project involved 42 analog data channels and over 640 digital inputs and outputs.

Mr. Ken Grant's background and experience is also exceptional for your needs. With several years experience as a practicing electronics technician he entered the industrial control field as a sales engineer and manager in 1973. While in this position he had sales and applications responsibility for the ISSC programmable controller system equipment in the Northwest.

Mr. Grant's experience and skills while providing application support for ISSC equipment included many situations where he either performed the complete software design or performed trouble-shooting and correction of existing programs. In other instances he provided on-site trouble-shooting and solving of hardware or field wiring problems. Many of these applications included unusual interfacing requirements and several included water pumping or wastewater systems that have similar characteristics to your system. In San Jose, CA, Mr. Grant did on-site investigation and correction of software for a dual Model 300 CPU system similar to the groundwater pumping system configuration.

Mr. Donald Evans joined our firm in October of 1985 after 14 years as an electrical engineer with the Hydroelectric Design Branch of the U.S. Army Corps of Engineers, Portland, Oregon. While in this capacity he was responsible for the design, installation and real-time programming of process control computers for powerhouses. Currently he is performing a study of computer system performance deficiencies for the Chief Joseph Dam powerhouse and will be preparing a design report for a multi-million dollar replacement computer system for that site that is to be operational by 1989. Mr. Evans provides us with additional support in both hardware and software areas with the later including significant knowledge of assembly level (machine language) real-time process control systems.

Mr. Gregg Scholz is also very "conversant" in programmable controller technology. He has recently completed an installation of a programmable controller system that controls a large wastewater pumping station (2-150 HP) for the City of Eugene, Oregon that incorporated variable speed, variable frequency pump controls. He also designed and prepared software for control of the waste treatment plant at Dexter, Oregon. Mr. Scholz also provides experience in data-telemetry having just assisted the

Tri-Cities Service District (Clackamas County) in implementing a radio based communication system to over 30 remote pump stations.

Our two key members have demonstrated experience in successful systems that have identical hardware to your system. The depth of our organization in similar and related computer based systems and technology is unparalleled in the Portland, Oregon area. For these two reasons we are qualified to perform your project.

COST OF SERVICES

As requested we have analyzed and prepared an estimate of dollar value of programmed services. The next pages provide you with a copy of our calculation sheets. This shows you a detailed breakdown of the various tasks and manhours. However, this cost estimate does not include an estimate for program modification. Since your own scope of work in item B.2, (first paragraph) recognizes that part of the project is to determine the software costs (which includes program modification,) or a result of investigation findings we cannot realiably predict at this time the cost until the analysis is performed. Also enclosed is our standard rate schedule.

The estimated "not to exceed" amounts are as follows:

1.	Data Analysis of existing software	$ 8,482.32
2.	Recommendations for Program Mod	$ 7,003.88
3.	Program Modification	$(to be determined) $5,000.00
4.	Report and Documentation	$ 13,176.44
5.	Operating Seminars	$ 6,093.68
	TOTAL	$34,756.32

INSURANCE COVERAGES

R&W Engineering, Inc. has all required insurance coverage in force at this time and will provide appropriate certification when selected.

R & W ENGINEERING, INC.
PROJECT NO. :
0.0D

DATE:
5/11/1986

PROJECT ENGINEERING ESTIMATE

CLIENT: CITY OF PORTLAND, WATER BUREAU

PROJECT: GROUNDWATER PS PC SOFTWARE

158706

FEE CALCULATIONS AND SUMMARY

PROJECT TASKS	MANHOUR P	E	AE	T	D	CL	CMPTR
A. DATA ANALYSIS OF EXIST. SOFTWARE							
PROG. REVIEW, CPU	1	20	40				
PROG. REVIEW, COP	1	40	12				
PERSONNEL INTERVIEWS		8	8				
MANUALS/DWG REVIEWS	.5	12	12				
HARDWARE REVIEW	.5	8	16				
OPERATIONS TESTS		4	4				
	.5						
	.5						

STAFF CLASS	HOURS	RATE	COSTS
(P)	4	$55.00	$220.00
(E)	92	$50.00	$4,600.00
(AE)	92	$38.00	$3,496.00
(T)	0	$27.50	
(D)	0	$23.00	
(CL)	0	$19.00	
(CPTR)	0	$15.00	
TOTAL FEE:			$8,316.00
MISC. EXPENSES:	@	2.00%	$166.32
AIRFARE:	1 @	$.00	
OTHER:	1 @	$.00	
OTHER:	1 @	$.00	
OTHER:	1 @	$.00	
OTHER:	1 @	$.00	
OTHER:.....			$.00
OTHER:.....			$.00
OTHER:.....			$.00
SUBTOTAL EXPENSES:			$166.32
TOTAL COSTS:			$8,482.32

TOTALS:	4	92	92	0	0	0	0

CONTINGENCY: @ .00%

TOTAL BUDGET: $8,482.32

STAFF CLASSIFICATIONS:
(P) : Principal (E) : Engineer
(AE) : Associate Engineer
(T) : Technician (D) : Drafting
(CL) : Clerical (CPTR)/CMPTR : Computer

R & W ENGINEERING, INC.
PROJECT NO. :
0.0D

DATE:
5/11/1986

PROJECT ENGINEERING ESTIMATE

CLIENT: CITY OF PORTLAND, WATER BUREAU

PROJECT: GROUNDWATER PS PC SOFTWARE

158706

FEE CALCULATIONS AND SUMMARY

PROJECT TASKS	MANHOUR P	E	AE	T	D	CL	CMPTR
B. RECOMMENDATIONS FOR PROG. MODIF.							
EXIST. SOFT. PROBLEM	.5	8	8			2	
PRINT FORMATS		4	4			1	
SPACE SAVG PRGM MODS		4	6			1	
SCRN DESIGN CHANGES	1	16	6	24		4	
ALARM ADD-ONS		6	4			1	
PRGM SPEED ENHANCEMN		6	4			1	
ALARM ACK REVISIONS		4	2			1	
DATA LOGGING MODS.		4	4			1	
EXIST HARDWARE COMPT	.5	8	8			2	
BUREAU REVIEW MTG		4	4				
COST ESTIMATES	.5	8	4			1	
TOTALS:	2.5	72	54	24	0	15	0

STAFF CLASS	HOURS	RATE	COSTS
(P)	2.5	$55.00	$137.50
(E)	72	$50.00	$3,600.00
(AE)	54	$38.00	$2,052.00
(T)	24	$27.50	$660.00
(D)	0	$23.00	
(CL)	15	$19.00	$285.00
(CPTR)	0	$15.00	

TOTAL FEE: $6,734.50

MISC. EXPENSES:	@	4.00%	$269.38
AIRFARE:	1 @	$.00	
OTHER:	1 @	$.00	
OTHER:	1 @	$.00	
OTHER:	1 @	$.00	
OTHER:	1 @	$.00	
OTHER:.....			$.00
OTHER:.....			$.00
OTHER:.....			$.00

SUBTOTAL EXPENSES: $269.38

TOTAL COSTS: $7,003.88

CONTINGENCY: @ .00%

TOTAL BUDGET: $7,003.88

STAFF CLASSIFICATIONS:
(P) : Principal (E) : Engineer
(AE) : Associate Engineer
(T) : Technician (D) : Drafting
(CL) : Clerical (CPTR)/CMPTR : Computer

R & W ENGINEERING, INC.
PROJECT NO. :
0.00

DATE:
5/11/1986

PROJECT ENGINEERING ESTIMATE

CLIENT: CITY OF PORTLAND, WATER BUREAU

PROJECT: GROUNDWATER PS PC SOFTWARE

158706

FEE CALCULATIONS AND SUMMARY

PROJECT TASKS	MANHOUR P	E	AE	T	D	CL	CMPTR
D. DOCUMENTATION AND REPORTS							
PROGRAM DOCUMENTS							
PROG. LISTING		12	12			4	
MACH. LANG. EQ.		8	12			2	
ALARM ADPT PROC.	.5	4	4			1	
ALARM SKIP PROC.	.5	2	4			1	
MEMORY MAP		12	8			2	
FLOW CHARTS	.5	16	24	24		4	
OPRTING PROCEDURES		8	12			2	
HIST. DATA RECOVRY		8	8			2	
REPORT-DRAFT	2	30	24			10	
REPORT-REVIEW		4	4				
REPORT-FINAL	.5	12	8			6	

STAFF CLASS	HOURS	RATE	COSTS
(P)	4	$55.00	$220.00
(E)	116	$50.00	$5,800.00
(AE)	120	$38.00	$4,560.00
(T)	24	$27.50	$660.00
(D)	0	$23.00	
(CL)	34	$19.00	$646.00
(CPTR)	0	$15.00	

TOTAL FEE: $11,886.00

MISC. EXPENSES:	@	4.00%	$475.44
PRINTING	8000 @	$.02	$160.00
COVERS:	35 @	$5.00	$175.00
PRINTS:	35 @	$3.00	$105.00
REDUCG:	25 @	$15.00	$375.00
OTHER:	1 @	$.00	
OTHER:.....			$.00
OTHER:.....			$.00
OTHER:.....			$.00

SUBTOTAL EXPENSES: $1,290.44

TOTAL COSTS: $13,176.44

TOTALS:	4	116	120	24	0	34	0

CONTINGENCY: @ .00%

TOTAL BUDGET: $13,176.44

STAFF CLASSIFICATIONS:
(P) : Principal (E) : Engineer
(AE) : Associate Engineer
(T) : Technician (D) : Drafting
(CL) : Clerical (CPTR)/CMPTR : Computer

R & W ENGINEERING, INC.
PROJECT NO. :
0.00

DATE:
5/11/1986

PROJECT ENGINEERING ESTIMATE

CLIENT: CITY OF PORTLAND, WATER BUREAU

PROJECT: GROUNDWATER PS PC SOFTWARE

158706

FEE CALCULATIONS AND SUMMARY

PROJECT TASKS	MANHOUR P	E	AE	T	D	CL	CMPTR	STAFF CLASS	HOURS	RATE	COSTS
E. OPERATIONS											
SEMINAR								(P)	0	$55.00	
PREPARARTION:								(E)	54	$50.00	$2,700.00
PROG. LOADING		2	4			1					
STARTUP/SHUTDWN		8	4	8		2		(AE)	60	$38.00	$2,280.00
ALARM SYSTEM		8	8			2					
TROUBLESHOOTING		10	10			3		(T)	8	$27.50	$220.00
LOADER MON. OPTNS		4	12			2					
MANUALS		6	6			8		(D)	0	$23.00	
PRESENTATION:		16	16					(CL)	18	$19.00	$342.00
(4 EA. 4 HR SESSIONS											
								(CPTR)	0	$15.00	

TOTAL FEE:			$5,542.00
MISC. EXPENSES:	@	4.00%	$221.68
PRINTG:	500 @	$.05	$25.00
TRANSP:	35 @	$3.00	$105.00
BINDERS:	10 @	$20.00	$200.00
OTHER:	1 @	$.00	
OTHER:	1 @	$.00	
OTHER:........................			$.00
OTHER:........................			$.00
OTHER:........................			$.00
SUBTOTAL EXPENSES:			$551.68
TOTAL COSTS:			$6,093.68

TOTALS:	P	E	AE	T	D	CL	CMPTR
	0	54	60	8	0	18	0

CONTINGENCY: @ .00%

TOTAL BUDGET: $6,093.68

STAFF CLASSIFICATIONS: (P) : Principal (E) : Engineer
(AE) : Associate Engineer
(T) : Technician (D) : Drafting
(CL) : Clerical (CPTR)/CMPTR : Computer

R&W engineering

158706

MARK C. WIRFS

REGISTRATION:

- Oregon (No. 8159)
- Washington (No. 15008)
- California (No. 9017)
- Alaska (No. 5566)
- Arizona (No. 18359)

PROFESSIONAL EXPERIENCE:

- Design and construction supervision services for electrical power, lighting, and control systems, including medium voltage systems (through 25 kV) for industrial, commercial, and health care facilities.
- Lighting and power design for commercial projects.
- Control systems design for industrial projects.
- Process instrumentation design for industrial plants and municipal wastewater and water systems.
- Sizing and specifying engine-generator sets to provide standby power.
- Consultant to the State of Oregon Accident Prevention Division.
- Involved in the design of equipment for use in hazardous locations.

MAJOR PROJECTS:

- Complete power systems, lighting, field wiring, instrumentation, monitoring, and control design services provided via programable controllers for a $2.5 million wastewater treatment facility for chemical waste from a printed circuit board manufacturing facility. Prepared and installed software programs for the microprocessor-based control system to control all processes, and operate two color CRT graphic displays.
- Power systems and lighting for a 120,000-square-foot electronics manufacturing facility, fast-track constructed in six months.
- Power, lighting and control systems for an automated grout-blending facility at Hanford Works, for Department of Energy.
- Design and construction supervision services for complete power, lighting, and control systems for a $16 million wastewater plant expansion—power distribution at 12.5 kV and 480 volts.

EDUCATION:

- B.S. Electrical Engineering, Oregon State University.
- IEEE Course: Protection and Grounding of Distribution Systems
- Education Conference: Electrical Construction
- General Electric Seminar: Protective Relays

PROFESSIONAL AND TECHNICAL ORGANIZATIONS:

- Institute of Electrical and Electronic Engineers
- National Society of Professional Engineers
- Professional Engineers of Oregon
- Instrument Society of America
- Grain Elevator and Processing Society
- Consulting Engineers Council of Oregon

RESUME for Mr. Kendall W. Grant

Present Employment: Programmable Controller Sales and Applications. Taylor Electric Supply, Portland, Oregon.

Sub-Consultant to R&W Engineering, Inc.

Education:

1966-68	Benson Polytechnic School, Portland, OR.
1969	Portland State University
1970-71	Tektronix

Additional Training:

1972	FCC Radio Telephone First Class License
1978	Eaton/Dynamatic, Adjustable Frequency Drive Seminar
1979	Bodine, stepper motor training program
1980	Furnas MCC seminar
1981	ISSC ipc-300 programmable controller, extended instructions
1982	Furnas System/89 MCC seminar
1982-83	Tektronix, Pascal I, 30 hours
1984	ISSC, ipc-620 programmable controller training
1984	Furnas PC/96 programmable controller seminar
1985	Siemens programmable controller seminar

Experience:

1973-85 Donal Company, Portland, OR.
Sales Manager proficient in the application, programming, and sales of ISSC & Furnas MCCs. Maintained an IEEE standard Intel 8085/8086 based computer system running the CP/M family of operating systems. Skilled in assembly language, BASIC and PASCAL programming. Competent in the start-up, debugging, and maintenance of programmable controller based process control systems, operator interfaces, and computer interfacing. Experienced in customer training; has taught ladder language programming, and low voltage motor controls, to both distributors and end customers.

1972-73	Oregon Television, Inc. KPTV Portland, OR Television Engineer familiar with operation of; RCA TK44A color camera, film chains, Ampex VR1200 video tape machines, audio control, and video switching both in the and at remote locations. Also served as Technical Director in master control.

ISSC Systems Related Project Experience (IPC300 Models):

USER	APPLICATION
Crown Zellerbach controls; Camas Mill	Honeywell TDC 2000 interface Lime Kiln 800 I/O
Crown Zellerbach Digester	Honeywell TDC 2000 inteface Kraft controls; 2000 I/O
Crown Zellerbach Liquor	Honeywell TDC 2000 interface Black concentrator; 384 I/O
Crown Zellerbach	Floating Shipping Dock 256 I/O
Crown Zellerbach	Dock Palletizer - retrofit Columbia Machine 384 I/O complete electrical design, software, and start-up supervision by Ken W.Grant under contract.
Great Western Malting	Co-Generation project Master tempcontrol - PID,265 digital, 19 analog I/O; hardware & software + start-up by Ken W. Grant.
Tuality Hospital Hillsboro, Oregon	Boiler Sequencing 96 digital; 6 analog

San Jose, CA.	Sewage Treatment Plant gas compressor control system and boiler sequencing controls. Two IPC 300 processors with redundant switcher. In 1985, personally provided on-site trouble-shooting and corrected software problems.
Tektronix FG-1	Waste water plant; 650 digital, 42 analog I/O, redundantCPUs, redundant communications processors with twin 19" color graphics operator interfaces alarm printer. Provided application support to installing Engineers (R&W Engineers, Inc.)

R&W engineering

DONALD L. EVANS

REGISTRATION:

- Oregon (No. 8937)

PROFESSIONAL EXPERIENCE:

- Supervisory Electrical Engineer for U.S. Army Corps of Engineers, with fourteen years experience in the electrical design of hydroelectric powerhouses. Major emphasis on powerhouse rehabilitation and modernization projects, improvements in generator stator rewind methods, and development of design standards for small hydroelectric powerhouses.
- Experience in application of generators, governors, excitation systems and power transformers.
- Design, programming and start-up of digital computer control and acquisition systems for powerhouses.
- Design of in-plant control, protective relay, and instrumentation systems for large hydroelectric powerhouses. Selected and set protective relays.

MAJOR PROJECTS:

- Project Manager for uprating and modernization of Chief Joseph powerhouse. Work included stator rewinds and thrust bearing remachining on 16 generators; replacement of excitation systems, air-blast circuit breakers and power transformers; and retrofitting governors with electronic control.
- Project Manager for John Day generator improvements, including stator rewinds on 12 generators. Innovative approach used to remove, reinsulate, and reinstall original stator winding.
- Lead Design Engineer for generators, governors, and power transformers for Bonneville Second Powerhouse. Responsible for technical administration of supply contracts totaling over $25 million.
- Project Leader for multi-discipline group to design small hydro powerhouses. Work included developing cost estimates, writing design memos, and producing final plans and specifications for equipment procurement and powerhouse construction.

EDUCATION:

- M.S. Electrical Engineering, Oregon State University
  Major: Computer Systems and Applications
- B.S. Electrical Engineering, Oregon State University
- IEEE Course: Applications of Power Circuit Breakers
  Applications of Power/Distribution Transformers
- Corps of Engineers: Value Engineering

PROFESSIONAL AND TECHNICAL ORGANIZATIONS

- Institute of Electrical and Electronic Engineers (Past Section Chairman)

R&W engineering

158706

GREGG H. SCHOLZ

REGISTRATION:

- Engineer-in-Training, Oregon

PROFESSIONAL EXPERIENCE:

- Electrical design for municipal, industrial, commercial and residential facilities.
- Electrical power and lighting-control-design for large electronics manufacturing facilities.
- Telemetering systems for municipal clients.
- Fire and evacuation alarm-systems-design for industrial and residential facilities.
- Control systems design for industrial projects.
- Process instrumentation design for municipal wastewater and water systems.
- Solar heating and cooling systems design of control modifications.
- Design and assistance on energy conservation studies.
- Communications system coordination.

MAJOR PROJECTS:

- Design and coordination for municipal pump stations throughout Oregon.
- Design of electrical programming for sewage treatment facilities.
- Electrical design of a cycle chamber for an electronic manufacturing firm.
- Telemetry system design for 35 pump stations and treatment facilities in Clackamas County.
- Electrical system and lighting control design for cold storage warehouse in Arizona.
- Power distribution design for a 100-room-retirement home, several medical professional buildings, and the new Alaska Tundra exhibit at the Washington Park Zoo in Portland.
- Power distribution design for City of Tualatin Library and Municipal offices.
- Electrical design modifications for USAR Center remodel. Veterans Administration laboratory remodel and Veterans Administration Domicilliary remodel.
- Electrical power distribution and communication coordination for Hayden Island condominium complex.

EDUCATION:

- B.S. Electrical Engineering, Oregon State University
- Seminars: General Electric Low Voltage Protective Relay Applications and Operation Theory. NFPA National Electrical Code. General Electric Low Voltage Protective Device Selection and Coordination.

TECHNICAL ORGANIZATIONS

- Institute of Electrical and Electronic Engineers

ORDINANCE NO. 158706

An Ordinance authorizing an agreement with the firm of R & W Engineering, Inc. for professional services in the amount of $39,756.32 in connection with the programmable controller software analysis at the Groundwater Pump Station, providing for acceptance, and authorizing the drawing and delivery of warrants, and declaring an emergency.

The City of Portland ordains:

Section 1. The Council finds:

1. That an evaluation of the programmable controller software at the Groundwater Pump Station facilities is required.

2. That the firm of R & W Engineering, Inc., 6415 S.W. Canyon Ct, Suite 100, Portland, OR 97221 was selected to perform the required professional services for the evaluation.

3. That the selection was made upon the recommendation of a Consultant Selection Committee established in accordance with Chapter 5.68 of the City Code, Consultant Service Contracts, and that the selection was subsequently approved by the Water Bureau Administrator and Commissioner-in-Charge.

4. That the cost of the consulting services necessary for completion of this evaluation is not to exceed $39,756.32.

NOW, THEREFORE, The Council directs:

a. The Auditor and Mayor are hereby authorized to enter into an agreement with R & W Engineering, Inc. to provide the above-stated professional services substantially in accordance with the agreement attached to the original only of this Ordinance, marked Exhibit "I" and containing the Scope of Engineering Services marked Exhibit "A", and the consultant proposal marked Exhibit "B", and the Request for Proposals marked Exhibit "C", and by this reference made a part hereof.

b. This agreement will not be effective until written notice of acceptance of the Ordinance by R & W Engineering, Inc., is filed with the City Auditor.

c. The work herein shall be charged to the 1985-86 Budget, Water Fund, Bureau of Water Works, BUC No. 18500019, Project No. 3700, (Groundwater Phase I - CIP), Object Code 210.

d. The Mayor and Auditor hereby are authorized to draw and deliver warrants payable to R & W Engineering, Inc., for professional services rendered in accordance with the agreement attached hereto, when demand is presented, approved by the proper authorities.

158706

ORDINANCE No.

Section 2. The Council declares that an emergency exists because any delay in proceeding with this project may result in additional expense to the City; and will unnecessarily deprive the Bureau of Water Works of the benefits of securing necessary information at an early date; therefore, this Ordinance shall be in force and effect from and after its passage by Council, subject to acceptance as set forth in Item (b) herein above.

Passed by the Council, JUN 25 1986

Commissioner Bogle

R. Poole:rjm GWO/8604E265-A
BUC NO. 18500019
PROJECT 3700

Jewel Lansing
Auditor of the City of Portland
By Doris R Clohessy
Deputy

THE COMMISSIONERS VOTED AS FOLLOWS:		
	Yeas	Nays
BOGLE	/	
LINDBERG	/	
SCHWAB	/	
STRACHAN	/	
CLARK		

FOUR-FIFTHS CALENDAR	
BOGLE	
LINDBERG	
SCHWAB	
STRACHAN	
CLARK	

Calendar No. 1320

ORDINANCE No. 158706

Title

An Ordinance authorizing an agreement with the firm of R & W Engineering, Inc. for professional services in the amount of $39,756.32 in connection with the programmable controller software analysis at the Groundwater Pump Station, providing for acceptance, and authorizing the drawing and delivery of warrants, and declaring an emergency.

Filed JUN 20 1986

JEWEL LANSING
Auditor of the CITY OF PORTLAND

By Edna Cervera
Deputy

INTRODUCED BY
COMMISSIONER BOGLE

NOTED BY THE COMMISSIONER
Affairs
Finance and Administration
Safety
Utilities
Works Dick Bogle

BUREAU APPROVAL
Bureau: WATER WORKS
Prepared By: Randy Poole — Date:
Budget Impact Review: ☐ Completed ☐ Not required
Bureau Head: Edward Tenny, Administrator

CALENDAR	
Consent	Regular

NOTED BY
City Attorney
City Auditor
City Engineer