CITY OF NEWBERG
CITY RECORDER INDEX NO. 1997

CITY OF NEWBERG
PROFESSIONAL SERVICES AGREEMENT AMENDMENT NO. 1
February 4, 2004

Project: **Water Distribution System Plan Update**
Consultant: **CH2M Hill, Inc.**

Summary of Proposed Changes:

1. Work Involved:

The purpose of this Amendment is to identify the scope of work and compensation for services to evaluate the spring supply source reports and data available and to deliver a letter report of findings and recommendations regarding the final disposition of the spring sources. Detailed Scope of Work is attached as page two of this Amendment.

2. Cost Summary:

Original contract amount:	$155,419.00
Net change by previous amendments:	$ 0.00
Previous total:	$155,419.00
This amendment:	$ 15,000.00
Amended contract amount:	$170,419.00

Compensation for this amendment will be made using the attached 2004 Fee Schedule.

3. Contract Time:

The anticipated schedule is to complete draft report by the March 19, 2004. The final report will be completed within two weeks of the City's final review. This Amendment does not affect the contract schedule.

All other provisions of the professional services agreement remain in force.

ACCEPTANCE SIGNATURES:

CH2M Hill, Inc.

Michael Rosenberger V-P 2-13-04
Date

City of Newberg

2/4/04
Mike Soderquist, P.E., P.L.S., DEE
Community Development Director

2/4/04
James Bennett
City Manager

K:\WP\ADMIN\MISC\TABBY\AGRE-EAS.MNT\CH2M Hill_WMP Am#1.wpd

Scope of Services

Engineer agrees to furnish the Owner with the following services:

1. Review the Department of Health Services Drinking Water Program (DHS) letters to understand their concerns and water quality compliance requirements regarding the Newberg spring water supply sources.

2. Review the updated existing spring production data and the service area demand information to be provided by the City by February 6, 2004. Determine the data origin and assess its accuracy as it relates to the work in the City's report entitled "Riparian Water System Study", January 13, 2002, HDR.

3. Review and evaluate the content of the City's report entitled "Riparian Water System Study", January 13, 2002, HDR. Specifically, the need is to confirm or update the findings for each alternative regarding:
   - Consumption and demand data
   - Treatment requirements per the current drinking water regulations
   - Treatment technologies
   - Cost estimates
   - Schedule

   Evaluate the study recommendations and determine if they are still appropriate. If not, prepare recommendations that are consistent with the updated findings.

4. Prepare a schedule for implementation of the recommended alternative. If directed by the City, prepare an implementation schedule for the second place alternative as well.

5. Deliver a draft letter report to the City by March 19, 2004, given the notice to proceed and required data from the City is received by February 6, 2004.

6. Meet with the City staff up to 3 times during the course of the study to present progress status and to receive input from the staff. Attend a workshop with the City Council in April 2004.

7. Prepare the final letter report based on the outcome of the Council's and City staff reviews and decisions.

Project Summary

(A1.1) City of Newberg - Spring Source Evaluation					
Time and Materials Budget by Task					
CH2MHILL Task	Description	Labor Hours	Labor	Outside Services, Affiliates and Expenses	Total
01	Review DHS Requirements	6	$671	$35	$706
02	Review City Data	6	$630	$85	$715
03	Review HDR report/Make Recommendations	42	$4,495	$298	$4,793
04	Prepare Schedule for Implementation	6	$567	$35	$602
05	Prepare Draft Report	30	$2,904	$277	$3,181
06	Meetings	24	$2,848	$342	$3,190
07	Final Report	15	$1,440	$339	$1,779
08	Task 8 Title	-	$0	$0	$0
09	Task 9 Title	-	$0	$0	$0
10	Task 10 Title	-	$0	$0	$0
TOTALS	Project Total	129	$13,555	$1,411	$14,966

Work Breakdown Structure - Labor

(A1.1) City of Newberg - Spring Source Evaluation

	Fuller, Robert	Devaney, Robert	Berg, Paul	CADD Tech	Office															Total
Review DHS Requirements																				
	1	2	2		1															6
TASK SUBTOTAL	1	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
02	Staff																			
Review City Data																				
		4	2																	6
TASK SUBTOTAL	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
03	Staff																			
Review HDR report/Make Recommendations																				
	1	24	16		1															42
TASK SUBTOTAL	1	24	16	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
04	Staff																			
Prepare Schedule for Implementation																				
		4	1		1															6
TASK SUBTOTAL	0	4	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
05	Staff																			
Prepare Draft Report																				
	2	8	8	10	2															30
TASK SUBTOTAL	2	8	8	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
06	Staff																			
Meetings																				
	4	12	8																	24
TASK SUBTOTAL	4	12	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
07	Staff																			
Final Report																				
	1	4	4	4	2															15
TASK SUBTOTAL	1	4	4	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Total	9	58	41	14	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	129

CH2M HILL Fee Schedule for City of Newberg - 2004

CH2M HILL Rates

Labor Category	$/hour
Principal Consultant	$180
Senior Consultant	$160
Senior Scientist, Senior Planner, Senior Engineer, Senior Geotech	$135
Project Scientist, Project Planner, Project Engineer, Project Geotech	$110
Staff Scientist, Staff Planner, Staff Engineer, Staff Geotech	$94
Scientist, Planner, Engineer, Geotech	$73
Editor	$78
Senior Technician/Graphics/CAD	$88
Technician/Graphics/CAD	$73
Office/Clerical	$58

Note: labor rates are effective through December 31, 2004.

Other Direct Expenses Category	
Communications (phone, cellular, fax, convenience copying, etc.)	$1.30 per hour
General Computers (personal computers, internal printers, etc.)	$4.80 per hour
Computers (CAD/CAE)	$8.00 per hour
Health and Safety Program	$1.80 per hour if applicable
Production copier	$0.045 per page plus labor
Color Copier	$0.35 per page plus labor
Fleet cars	$0.45 per mile or $27.00 per day
Fleet trucks, vans, 4X4s	$0.69 per mile or $41.00 per day
Survey trucks	$0.88 per mile or $53.00 per day
Personal vehicle use for company business (IRS mileage rate)	$0.36 per mile
Other travel costs	At cost
Postage and freight	At cost
Miscellaneous expenses	At cost
Outside services, subconsultants, and subcontractors	At cost plus 10 percent

Note: Rates for Other Direct Expenses subject to annual adjustment.

Vault

CITY OF NEWBERG
CITY RECORDER INDEX NO. 1997

CITY OF NEWBERG

AGREEMENT WITH CH2M-HILL, INC. TO PROVIDE CONSULTING SERVICES TO THE CITY OF NEWBERG

THIS AGREEMENT is entered into this 18th day of March, 2003 by and between the City of Newberg, a municipal corporation of the State of Oregon, hereinafter called **City**, and CH2M-HILL, INC.
(Consultant's name)
825 NE MULTNOMAH, STE 1300
(Address)
PORTLAND, OR 97232-2146 503-235-5000 503-736-2000
(Phone) *(Fax)*

hereinafter called **Consultant**.

RECITALS:

1. **City** has need for the services of a **Consultant** with particular training, ability, knowledge, expertise and experience possessed by **Consultant**.

2. **City** has chosen the **Consultant** using the Request for Proposals and City Staff Evaluation and Recommendation Process to provide services related to WATER DISTRIBUTION SYSTEM PLAN UPDATE PROJECT.

NOW, THEREFORE, in consideration of mutual promises, covenants and agreements of the parties, it is agreed as follows.

1. **Effective Date and Duration**: This Agreement shall become effective on the date that this Agreement has been signed by every party hereto.

Unless, terminated or extended, this Agreement shall expire when the **City** accepts **Consultant's** completed performance or on JUNE 30, 2004, whichever date occurs first. This fact not withstanding, the services of **Consultant** shall be authorized and paid on a phase-by-phase basis as described in Exhibit "A".

Expiration shall not extinguish or prejudice **City's** right to enforce this Agreement with respect to any breach of a **Consultant** warranty or any fault or defect in **Consultant's** performance that has not been cured.

2. **Termination**: This Agreement may be terminated at any time by mutual, written consent of the parties. The **City** may, at its sole discretion terminate this Agreement in whole or part upon a 30-day written notice to **Consultant**. The **City** may terminate immediately upon notice to the **Consultant** that the **City** does not have funding, appropriations, or other necessary expenditure authority to pay for **Consultant's** work. The **City** may terminate Agreement at any time for material breach. This Agreement may be terminated by either party at the end of a project phase as defined in Exhibit "A" or at any time upon a 30-day written notice.

3. **Scope of Work**: The **Consultant** agrees to provide the services provided in the Scope of Work which is Exhibit "A" and attached hereto and incorporated by this reference. The **Consultant** represents and warrants to the **City** that the **Consultant** can perform the work outlined in the Scope of Work for the fee proposal amount.

4. **Compensation**: The **Consultant** agrees to perform the work for a not-to-exceed fee as indicated in their professional fee proposal obtained in the Scope of Work. The not-to-exceed figure is as follows:

$ 155,419.00

The **Consultant** shall not exceed the fee for any task included in the fee proposal amount. If the **Consultant** foresees that the fee is going to exceed the not-to-exceed figure because the task has changed or is outside the scope, the **Consultant** shall notify the **City** in writing of the circumstances with an estimated amount that the fee is to be exceeded. The **Consultant** shall obtain written permission from the **City** before exceeding the not-to-exceed fee amount. If the **Consultant** does work that exceeds the maximum fee amount prior to obtaining the written permission, the **Consultant** waives any right to

collect that fee amount.

5. **Additional Work Not Shown within the Scope of Work**: If **City** requests or requires work to be done not within the Scope of Work of this project, the **Consultant** shall notify the **City** of such work, provide an estimated fee amount, and obtain written instructions to proceed with work in the form of an Agreement amendment prior to proceeding with work and incurring any costs on behalf of the **City**. If **Consultant** proceeds with work prior to obtaining permission and/or Agreement amendment, the **Consultant** waives any right to collect fees for work performed.

6. **Agreement Documents:** This Agreement consists of the following documents which are listed in descending order of preference: This Agreement with attached Exhibits, the proposal of the **Consultant** (if one was submitted), **and the** Request for Proposal (if one was used). Work is under the sole control of **Consultant**, however, the work contemplated herein must meet the approval of the **City** and shall be subject to **City's** general right of inspection and supervision to secure the satisfactory performance thereof.

7. **Benefits**: **Consultant** will not be eligible for any federal social security, state workers compensation, unemployment insurance, or public employees' retirement system benefits from the Agreement payment except as a self-employed individual.

8. **Federal Employment Status:** In the event any payment made pursuant to this Agreement is to be charged against federal funds, **Consultant** certifies that he or she is not currently employed by the federal government and the amount charged does not exceed his or her normal charge for the type of services provided.

9. **Consultant's Warranties:** The work to be performed by **Consultant** includes services generally performed by **Consultant** in his/her usual line of business. The work performed by the **Consultant** under this Agreement shall be performed in a good and businesses-like manner in accordance with the highest professional standards. The **Consultant** shall, at all times, during the term of this Agreement, be qualified, be professionally competent, and duly licensed to perform the work.

10. **Indemnity**: **Consultant** shall defend, indemnify and hold harmless **City** from and against all liability or loss and against all claims, suits, actions, losses, damages, liabilities, costs, and expenses of any nature whatsoever resulting from, arising out of, or relating to the activities of the **Consultant**, or its officers, employees, subcontractors, or agents under this Agreement.

11. **Independent Contractor**: **Consultant** is not currently employed by the **City**. The parties to this Agreement intend that the **Consultant** perform all work as an Independent Contractor. No agent, employee, or servant of **Consultant** shall be or shall be deemed to be the employee, agent or servant of **City**. **City** is interested only in the results obtained under this Agreement; the manner and means of conducting the work are under the sole control of **Consultant**, however, the work contemplated herein must meet the approval of the **City** and shall be subject to **City's** general right of inspection and supervision to secure the satisfactory performance thereof.

12. **Taxes**: **Consultant** will be responsible for any federal or state taxes applicable to payments received under this Agreement. **City** will report the total of all payments to **Consultant**, including any expenses, in accordance with the Federal Internal Revenue Service and the State of Oregon Department of Revenue regulations.

13. **Insurance**:

a) **Consultant**, its Subconsultants, if any, and all employers working under this agreement are subject employers under the Oregon Workers' Compensation Law and shall comply with ORS 656.017, which requires them to provide workers' compensation coverage for all their subject workers; or by signing this Agreement, **Consultant** represents that he or she is a sole proprietor and is exempt from the laws requiring workers' compensation coverage.

b) **Consultant** will, at all times, carry a Commercial General Liability insurance policy for at least $1,000,000.00 combined single limits per occurrence for Bodily Injury, Property Damage, and Personal Injury. If the policy is written on the new occurrence form then the aggregate limit shall be $2,000,000.00. The **City**, its agents, employees and officials all while acting within their official capacity as such, shall be named as an additional insured on the insurance specified in this paragraph.

c) **Consultant** will, at all times, carry a Professional Liability/Errors and Omission type policy with limits of at least $500,000.00. If this policy is a "claims made" type policy, the policy type and company shall be approved by the City Manager prior to commencement of any work under this Agreement.

d) **Consultant** shall furnish the **City** with Certificates of Insurance upon execution of Agreement. Such Certificates of Insurance evidencing any policies required by this Agreement shall be delivered to the **City** prior to the commencement of any work. A 30-day notice of cancellation clause shall be included in said certificate. The **City** has the right to reject any certificate for unacceptable coverage and/or companies.

14. **Assignment**: The parties hereto each bind themselves, their partners, successors, assigns and legal representatives of such other party in respect to all terms of this Agreement. Neither party shall assign the Agreement as a whole without written consent of the other.

15. **Ownership of Work Product:** All original documents prepared by **Consultant** in performance of this Agreement, including but not limited to original maps, plans, drawing and specifications are the property of **City** unless otherwise agreed in writing. Quality reproducible records copies of final work product, including digital files of text and drawings shall be provided to **City** at the conclusion or termination of this Contract. **City** shall indemnify and hold harmless **Consultant** and **Consultant's** independent professional associates or **Subconsultants** from all claims, damages, losses and expenses including attorney's fees arising out of the City's use of any instruments of professional service for purposes outside the scope of this Contract.

16. **Entire Agreement:** This Agreement constitutes the entire Agreement between the parties and supersedes all prior agreements, written and oral, courses of dealing, or other understanding between the parties. No modification of this Agreement shall be binding unless in writing and signed by both parties.

17. **Notification:** All correspondence and notices related to this Agreement shall be directed to the project manager for the party to whom the correspondence or notice is intended. If directed to the **City**: City of Newberg, P.O. Box 970, Newberg, Oregon 97132. Attn: Jadene Stensland, PE. **If directed to the Consultant:** Attn: Brad Phelps, PE at the address listed above. Each party shall be responsible for notifying the other of any changes in project manager designation.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date first above mentioned.

CONSULTANT

By: David W. Green

Name: DAVID W. GREEN

Title: VICE PRESIDENT

Date: MARCH 17 2003

Division Approval:

Recommended for Approval By:

Michael Soderquist, P.E., P.L.S., DEE
Community Development Director

CITY OF NEWBERG

By: James H. Bennett

Name: J.H. Bennett

Title: City Manager

Date: 3/25/03

Approved as to form:

3/24/03

Terrence D. Mahr
City Attorney

Exhibit A
Scope of Work

City of Newberg
Water Distribution System Plan Project

1. Project Scope and Understanding

Project Understanding

The City of Newberg is preparing to complete an update to its *1992 Water Master Plan Update.* This proposal describes our approach to preparing a *2003 Water Distribution System Plan Update* (Plan). When completed, this plan, combined with the Water Treatment Facilities Plan and the Water Management and Conservation Plan, will complete a trilogy of documents that make up the City's overall Water System Master Plan.

The objective of this Plan is to develop a working document and useful tools that the City can use to address planning, programming, and financing of improvements within the City's water distribution system. To achieve this objective, the Plan must:

- Identify current system deficiencies
- Verify existing demands and operational needs
- Identify future demand and operational needs
- Recommend specific improvements to meet these needs
- Provide cost estimates and a CIP

The Request for Proposal (RFP) outlines several tasks that are typical of a standard Master Plan, as well as some tasks that are extensions of programming a CIP. For purposes of scope definition, we have classified these tasks into two categories:

- **Capital Improvements Planning, including the selection, development, and implementation of a hydraulic model.** Development of the CIP will rely heavily on the both the hydraulics analysis and engineering knowledge of water systems. The hydraulics analysis is used to support good engineering judgement and knowledge of water system operations, and for predicting and analyzing the system needs based on projected growth. The selection and development of a hydraulic model is required as part of any system evaluation. However, it is our understanding that the City desires to take this one step further by having a model developed that can be used by City staff on an ongoing basis as the water system develops. In addition to the hydraulics analysis, the evaluation also requires sound engineering, understanding, and judgement to provide guidance. Engineering judgement also uses an "overall" review of the system in terms of system redundancy, and vulnerabilities which a hydraulics model cannot perform. CH2M HILL engineers have both these tools to assist the City in developing the distribution system plan.

- **Documentation and Development of City O&M Procedures.** Item B4 of the RFP requests an extensive review and documentation of the City's current O&M procedures. The City also requests that the consultant develop a tracking system for future use by the City and make recommendations regarding additional O&M programs.

Both of these primary efforts are interrelated and will be coordinated to maximize efficiency and minimize overlap. However, in the interest of clarity, they will be discussed separately. Having a consultant experienced in providing the planning and operations provides the City with a kick-start to completing this project.

Water Distribution System Master Plan Update

It is our understanding that this Plan will address only the water distribution system. Supply, conservation, and treatment issues are addressed in separate documents. Improvement projects identified within these facilities will not be included in this Plan directly, however, they may be considered to the extent that they affect the distribution system.

The distribution system plan development will require gathering and reviewing existing system data (water use, consumption patterns and locations, and system updates), analyzing for existing deficiencies, estimating future demands, assessing the ability of the system to meet those demands, recommending system improvements, providing cost estimates, and developing a implementation schedule to be used for budgetary planning on the prescribed annual basis.

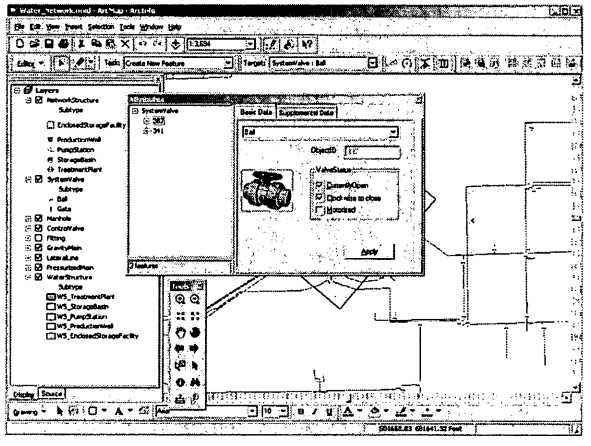
The recently completed Water Conservation and Management Plan will be used for addressing water use in the distribution system plan update. We also understand that the City has high iron content in its supply source water, but you do not see this as being a significant issue in the distribution system analysis.

Development of a Hydraulic Model

The City's desire to invest in tools such as a water system hydraulic model demonstrates foresight and a desire to fully leverage technology for long-term efficiency and benefits. The City has recognized that investment in these tools is worth the initial cost because it provides continuing returns beyond the present master planning effort. If maintained and updated, a hydraulic model linked with the GIS system will provide an accurate inventory and assessment of system performance. Such information benefits the City in many ways. A working hydraulic model will provide flexibility in dealing with changes that arise long after the Plan is finalized. In addition, linking operational data with the GIS provide O&M benefits. Having ready access to accurate information becomes useful for the engineering and operations staff. Starting off in the right direction is imperative with this program, and CH2M HILL has guided numerous municipalities through the process.

Documentation and Development of O&M Procedures

It is our understanding that the City has a great wealth of "institutional knowledge" in tenured operations personnel. While an experienced and knowledgeable crew is invaluable, documentation of this knowledge is important and provides continuity and consistency as the system and personnel evolve. Therefore, the existing operations, maintenance, and repair procedures; documentation methods; and preventative maintenance program should be reviewed and updated, as necessary. The first stage of this process involves conducting interviews and workshops with maintenance staff and documenting existing procedures. The next step is for the consultant to thoroughly review these procedures and make recommendations on additional procedures that may be required by regulations or encouraged by industry standard benchmarks. Finally, a database and tracking system should be developed to provide long-term documentation.



Project Approach

CH2M HILL has a solid and successful working relationship with the City of Newberg that dates back many years. From the completion of the *1992 Water Master Plan Update* to construction of the new 4-MG Corral Creek Road Reservoir, we have gained a thorough understanding of the City's water distribution system and demonstrated our ability to work well with City staff and deliver cost-effective projects on time. Our knowledge of your system and solid working relationships with your staff will save the City valuable ramp-up time and cost in initiating this project.

Water Master Plan Update

Our project team has been involved in more than 75 master plans in Oregon and Washington. On the basis of this experience, we propose preparing six chapters to encompass the project. Each chapter will be sequentially developed and approved by the City. The ultimate goal of the Plan is to create a CIP that will guide development of the City's water system for the next 20 years and beyond. A short description of each chapter is given below.

Chapter 1: Introduction/Existing System

This chapter will document system history, background information, and the current state of the existing system. A facilities inventory will be developed including age, material, condition, and repair history of the individual components, mostly of which will be obtained from the City's GIS system.

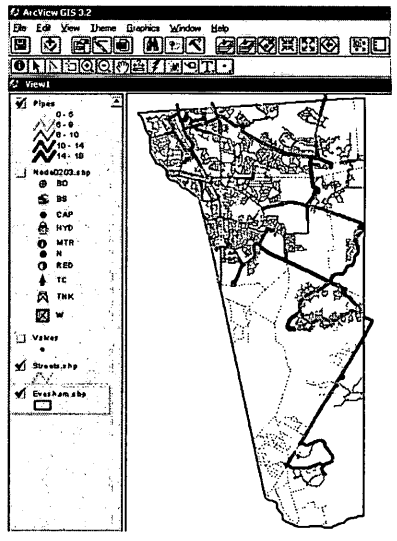
Chapter 2: Population and Water Demand Projections

In this chapter, historical population data (mostly obtained from the Facilities Plan) will be used to develop estimates of current and future demand. Billing and production records will be used to estimate per capita and commercial use characteristics and unaccounted for water. This data will allow distribution of the water demands throughout the City system to be used in the model. It is suggested that demands be organized by Equivalent Residential Use (ERU) so that wastewater planning can be coordinated with the water plan. Total demand projections will correlate with the *2002 Water Treatment Facilities Plan* and the *2002 Water Management and Conservation Plan*, but will require the development of additional parameters such as peaking factors and land use characteristics to anticipate the need for individual facilities located throughout the system.

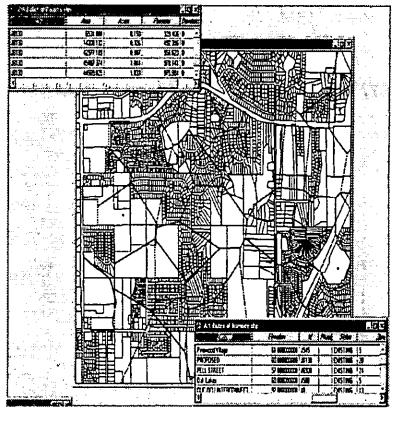
Chapter 3: O&M Plan and Documentation

This chapter will document current operating procedures and make recommendations for additional procedures that will benefit the system. Much of this chapter will include input from the operations staff addressing water quality monitoring plans, cross connection control,

Model Configuration



Demand Preparation and Allocation



Field Testing and Calibration

office/plant and field maintenance procedures, operations procedures, emergency response, lab procedures, complaint response, and others.

Chapter 4: Evaluation of Existing Facilities

Using the hydraulic model and flow distribution estimates developed in Chapter 2, and following calibration of the system model, we will analyze the ability of the system to convey current demands. In addition to hydraulic capacity, the age and condition of the system will be evaluated. Then, depending on the water model chosen, water quality degradation within the system may also be analyzed. The system will also be analyzed for its capacity to provide the required fire flows.

Chapter 5: Alternatives and Costs for New Facilities

Using the hydraulic model and flow projections developed in Chapter 2, the ability of the current facilities to accommodate existing and future demands, including new service areas, will be analyzed. Alternatives for the service of new areas will be developed and recommended alternatives will be identified based on capital and maintenance costs, performance, and reliability.

Chapter 6: Capital Improvement Plan

In this chapter, recommended future improvements and cost estimates will be compiled into a CIP. The CIP is the finale of the Plan and provides the City with a tool for developing its water system to serve current and future Newberg residents for years to come.

Opportunities for staff input will be frequent as the project proceeds. We believe it is important that this Plan reflect the City's values, policy, and direction, because the City and its staff will be implementing the resultant Plan over the next several years. Therefore, we propose facilitating a thorough review by submitting a segment of the plan for review, representing approximately 20 percent, 50 percent, and 90 percent of the overall Plan contents. The proposed schedule for submitting the defined chapters are as follows:

- **Deliverable #1**: Review Chapters 1 through 3 (20 percent)
- **Deliverable #2**: Review Chapter 4 (50 percent)
- **Deliverable #3**: Chapters 1 through 6, including comments incorporated from the first two review sessions (90 percent review)

Workshops will be conducted at each of the three review stages. An advance copy of each submittal and workshop agenda will be provided at least 2 weeks before each workshop, allowing staff time to review the material and ask specific questions during the workshop. Upon incorporation of comments from the final workshop, a completed Draft Plan will be submitted prior to final production.

For all projects, CH2M HILL encourages sustainable practices for communicating with clients and providing deliverables. It is our standard policy to exchange project files electronically, and we are successfully doing this now with Newberg staff on the Corral Creek Reservoir project. We offer electronic deliverables for project files and draft and final plans, searchable pdfs, and Web-based distribution to promote community involvement.

Development of a Hydraulic Model

Our approach to developing a hydraulic model for the City will be to use the existing model as a starting point. The information provided in this model is highly useful and can be transferred to any new model chosen. Elevation data, nodal demands, and pipe connectivity of the 516 pipe model will be

valuable. The model will then be augmented—and transformed to a different model as necessary—with field observations and calibration data.

We understand the City does not desire an extensive modeling exercise. Therefore, we propose controlling expenses on this portion of the project by dividing the process into three specific tasks: selection, development, and training. A selection of the model will be conducted and a memorandum provided to the City describing the strengths and weaknesses of the various available software packages. Upon approval from the City, we will develop the model with the selected software as an integrated effort in the planning process. Finally, we will conduct a training session with staff, and although not requested in the RFP, we strongly recommend the creation of a User's manual written specifically for the City describing how to operate and maintain the model as the system grows. As requested, an allowance will be reserved for technical training along with ongoing technical support.

Commercially Available Hydraulic Analysis Engines:

- H2O Net
- MikeNet
- EPAnet
- WaterCad (SA)
- WaterCad—AutoCAD
- Waterworks

Documentation and Development of O&M Procedures

We propose starting this portion of the work by conducting extensive interviews and workshops with the City's operation staff. Our approach is to review the procedures currently in place, document them, and provide recommendations for addressing any outstanding operations issues or new regulations. Although we may suggest alternative or new approaches to operations, we will only provide recommendations in the final report that the staff agrees are needed. We would emphasize additions or changes to the system only where they increase the long term efficiency of the system and reduce overall operating costs.

CH2M HILL's past experience will provide the foundation for developing the work. Our project engineer, Bob Devaney, recently completed a wastewater master plan for the City of Lacey that successfully incorporated operator input. (In Washington, an Operations Plan is required by the state regulators.) Bob will apply that experience to the City's project to facilitate the incorporation of operations staff input.

In addition, we will be using our sister company OMI, which operates water systems throughout Oregon and the world. These staff have a keen insight into developing operations programs for cities that retain us for their operations management.

Scope of Work

The deliverable work products from this scope of work will be a final *2003 Water Distribution System Plan Update*, a distribution system hydraulic model, a thorough evaluation of the City's O&M procedures, and assistance with developing a new tracking system for those procedures. The new Plan will be prepared in accordance with *Oregon Administrative Rule* OAR 333-61, with an end goal of having the Plan approved by the Oregon Health Division. The following sections present our objectives and approach for each task listed in the RFP. Our assumptions regarding City responsibilities and meetings, as well as CH2M HILL deliverables and team members assigned for each task, are presented near the end of this section.

Task A—Project Orientation

Objective: To establish project goals, identify key issues, and define the preferred approach to achieve the project goals. To define the team responsibilities and establish communication channels.

Approach: We propose working with City staff to prepare a written work plan outlining the key elements of the project. We will provide a memorandum to the City project manager and hold a meeting to receive comments, which will be incorporated and a final work plan issued.

Task B—Evaluate the Existing System and Develop Flow Projections

Objective: To obtain pertinent City data and conduct a review of that data. To develop demand estimates and flow projections. To provide a detailed description of the existing system. To provide an update of the current and forthcoming regulations that may affect system operation.

Approach: We will provide the City with a data request describing specific information needed. This will most likely include reports, production and consumption data, maintenance records, and system information. At least one meeting will be required with the planning department and at least two will be required with maintenance staff.

B.1 Population Projections

Population projections and locations of growth will be defined and provided by the City for the planning period through 2025. This will be obtained from zoning data and input from the planning department. Engineer will conduct evaluation and prepare map of growth areas.

B.2 Water Demand Projections

Historical water use demand estimates will be prepared by customer classification. These will then be converted to ERU basis. Demand projections will be prepared to address the projected growth, which should be similar to the facilities plan.

B.3 Distribution System Information

The basis for developing this information will be a combination of the existing Waterworks model and the City's GIS database, possibly augmented by available as-built drawings. This will include pumping information, storage sizes, and pipeline information (such as installation, pipe type, break history) as available and provided by the City. A description of the existing system will be developed.

B.4 Operation Procedures Documentation and Recommendations

We will conduct a thorough review and document the City operations procedures. This will include the pipe maintenance and replacement program, meter maintenance and replacement program, valve maintenance and exercising program, flushing program, hydrant maintenance and replacement and testing program, leak detection program, and cross-connection control program. We will augment these programs with recommended and agreed additional programs that may include, but are not limited to an emergency response program, equipment purchases, and distribution system sampling program. We will establish labor (full-time equivalent) requirements for all of the above programs and create a Microsoft Access database for City staff to track and maintain this information.

B.5 Design Criteria

We will collect and review system design criteria to indicate the minimum requirements for the planning and design of the City system. This will include criteria for flow projections of developments, supply sizing, fire flow minimum standards, and allowable pipeline flow velocity.

B.6 Review Existing Reports

This task will include a review of existing documents related to the distribution system. A brief review of reports produced since 1992 will be provided in Chapter 1 of the Plan.

B.7 Review Current and Potential Regulations Requirements

This task was not included in the RFP, but is typically included in most planning documents. We propose to provide a brief update of the current and forthcoming regulations that may affect the City's water system operation.

Task C—Evaluate and Recommend Hydraulic Modeling Software

Objective: To assist in selecting a hydraulic modeling software package that best suits the City's needs and technical capabilities.

Approach: Our approach is to conduct an initial meeting with staff to provide a demonstration of available models and discuss the City's needs and technical capabilities. Following the meeting, we will produce a technical memorandum including our recommendation and describing the evaluation process and criteria.

C.1 Review Existing GIS database

We will review the coverages, database, and GIS application software currently used by staff and assess its compatibility with available hydraulic engines for modeling.

C.2 Evaluate City Need and Desires

We will evaluate the City's desires and programming needs that may be required in linking the City's existing water system database and spatial data to the recommended hydraulic modeling engine.

C.3 Evaluate Available Software

We will provide an objective evaluation of the various available hydraulic modeling software packages. The evaluation criteria will include ease of updating model, database accessibility, spatial information and connectivity to GIS, reporting format features, technical support, and interface with the City's presentation or spreadsheet software applications. The selected software will be from a reputable vendor and have sufficient open architecture allowing the City to use it for the next 10 years.

C.4 Recommend Model

As a final product for this task, we will prepare a technical memorandum that identifies the hydraulic models evaluated, the pros and cons of each, cost/benefit comparisons, and a recommendation for the purchase of a hydraulic modeling software program.

Task D—Develop and Calibrate Hydraulic Model

Objective: To develop a calibrated hydraulic model that simulates the City of Newberg water distribution system. To provide an analysis tool that can be used to assess the hydraulic capability of the

existing system to convey water as demanded by the customers. To provide a tool that can be used to plan for future development of the water distribution system.

Approach: Using the existing model definition we currently have for the City, we will convert the model to the new hydraulic engine parameters for input. After initializing and debugging the model, we will perform calibration with existing data provided by the City. Finally, we will present the model and calibration results to staff for review and comment. Minimum allowable calibration for acceptability shall be within 15 percent.

D.1 Acquire Mapping Information

We will acquire digitized water system mapping and database information from the City. We understand that spatial and numeric data are in ArcGIS format as shape-files and/or geo-database.

D.2 Construct Hydraulic Model

We will construct the hydraulic network and model database in the newly acquired hydraulic modeling software format based on the data obtained in Task D1. To reduce costs, we may use the existing Waterworks input file.

D.3 Validate Model

We will validate operation of the model by performing several model runs with assumed data and by identifying and correcting spatial and data errors, as required.

D.4 Establish Inputs

We will establish and input appropriate model parameters and assumptions, including friction coefficients, fire flows, current and future service demands, reservoir operating levels, and pumping schemes.

C.5 Calibrate Model

Working with City staff, we will calibrate the model to the data provided for fire flow tests and data collected in the field during a high-demand period. We would anticipate model calibration with 15 percent of the field pressure readings to be reasonable accuracy. We anticipate collecting additional calibration data to verify model accuracy. This field work would include isolation of sections of representative aged pipes and conducting fire flow tests. It is anticipated that this field work would be coordinated with either City staff or the Fire Department and one CH2M HILL personnel.

Task E—Analyze Existing System

Objective: To determine the ability of the existing system to accommodate existing and future flow demands, including average day, maximum day, and fire flows. To determine necessary system improvements to meet the current system deficiencies and projected growth needs, including cost estimates for the improvements.

Approach: We will use the hydraulic model to evaluate the existing system and review alternatives for addressing system deficiencies. Model results will be used to develop a list of system improvements and cost estimates will be generated for planning the improvements. The finalized improvements will be provided in a tabular and project-by-project page identifying the location, purpose, and project elements. We will conduct regular meetings with staff to present the model results and proposed improvements, and to receive input.

E.1 Identify Existing System Deficiencies

Using the model inputs and analysis criteria established in the previous task, we will analyze the existing distribution system and identify system deficiencies resulting from population growth and in-fill anticipated in the current service area.

E.2 Evaluate Alternatives

We will evaluate alternatives for system improvements to correct identified deficiencies. The resulting capital improvements will be shown in 1-year increments for the first 6 years, then grouped by 5-year increments for the remainder of the 20-year planning horizon. Where appropriate, facilities will be sized for buildout.

E.3 Evaluate Impact of Servicing

Using the model, we will evaluate the impact to the existing system for incorporating other currently served areas. Modifications to the system and required improvements will be identified.

E.4 Develop Cost Estimates

We will develop cost estimates for improvements recommended to correct existing system deficiencies and to support growth anticipated within the planning boundary. The cost estimate will use industry-accepted costing practices and our recent project experience in the Pacific Northwest to develop conservative opinions of cost. Contingencies, engineering, administrative, and legal costs will be added as directed by the City. Each defined project will be identified on a single page showing the purpose of the improvement, location, size, and estimated cost. These projects will also be provided in tabular chronological form.

Task F—Analyze Future Service Areas

Objective: To determine the most cost-effective method for serving future growth. To prepare a CIP as an end result of the water master plan update. To provide the City with a planning tool to implement recommended capital improvements.

Approach: The recommended capital improvements identified in this and previous tasks will be compiled, prioritized, and tabularized in the alternatives analysis and CIP chapter. We will review the various assumptions behind current CIP improvements and make adjustments to the program as necessary.

We anticipate working closely with City staff in developing the CIP. We will conduct regular meetings with staff, in which we will present the model results, proposed improvements, and receive input. Typically, improvements are categorized as being required for one or more of the following reasons: equipment or facility replacement, growth (increased capacity), regulations, and/or improved operational safety and efficiency.

The City will be consulted extensively in developing the implementation schedule, in order to take into account revenue and other utility financial considerations. We will submit a draft of the entire plan including the addition of the contents of Chapters 5 and 6 to the previous deliverables #1 and #2. Upon review by the City, we will conduct a third and final workshop to receive comments and answer questions. This draft will represent approximately 90 percent of the entire Plan contents.

F.1 Develop Service Scenarios

Using the model inputs and analysis criteria established in the previous tasks, we will analyze the existing distribution system and identify system deficiencies resulting from growth in the current service area and within the City's urban growth boundary (UGB) and urban reserve areas (URA). We will include properties identified by the City as likely to be within future URA/UGB areas by 2025. We will evaluate up to three potential water distribution scenarios to serve these areas based on staff input.

F.2 Evaluate Second Zone

We will include in the analysis a second pressure zone on the lower slope of Chehalem Mountain, with an overflow elevation about 640 feet above mean sea level, served by a 1-MG reservoir to be built in 2012 as identified by the City.

F.3 Identify Improvements

We will identify system deficiencies resulting from population growth and expansion of the water system. Planned capital improvements will also be incorporated into the analysis.

F.4 Develop Cost Estimates

We will develop cost estimates for improvements recommended to correct existing system deficiencies and to support growth anticipated in the current and future service areas. The cost estimate will use industry-accepted costing practices and our recent project experience in the Pacific Northwest to develop conservative opinions of cost. Contingencies and engineering, administrative, and legal costs will be added as directed by the City. These cost estimates will serve as CIPs to guide the City in future planning and budgetary efforts. Each defined project will be identified on a single page showing the purpose of the improvement, location, size, and estimated cost. These projects will also be provided in tabular chronological form.

Task G—Prepare Draft Report Documents

Objective: To provide an opportunity for the City to review the work in progress. To obtain input from staff that will guide the development of the Plan.

Approach: We propose to provide an opportunity for review of the work in progress at three separate and distinct benchmarks before a final draft is produced. The first opportunity will represent approximately 20 percent of the work, when we produce a deliverable for City review of Chapters 1 through 3. The second deliverable will represent approximately 50 percent of the work and include a draft of Chapter 4. The third deliverable will represent approximately 90 percent of the work and include a complete draft of the Plan, with the addition of Chapters 5 and 6 and incorporation of comments from the two previous submittals. A workshop will be held after the City has reviewed each submission. At each workshop, we will answer questions and receive comments from staff.

G.1 Present Summary

In the 20 percent review session, we will present a summary of the planning and engineering criteria, assumptions, goals, and analysis performed in Tasks A and B.

G.2 Discuss Deficiencies

In the 50 percent review session, we will present a summary of the existing system deficiencies as determined in Task E.

G.3 Identify Improvements

In the both the 50 percent and 90 percent review sessions, we will present a summary of the existing system deficiencies as determined in Tasks E and F.

We will discuss recommended improvements to correct system deficiencies and support anticipated growth. Discussion will cover estimated capital costs and schedule of improvements. In the 90 percent review session, we will prepare individual project CIP sheets using an agreed format for all recommended projects.

G.3 Identify Immediate Improvements

In both the 50 percent and 90 percent review sessions, we will present a summary of the immediate improvements required. Discussion will cover estimated capital costs and a schedule of improvements.

G.4 Maps

For all review sessions, we will provide pertinent draft maps and figures showing population and flow projections, as well as major elements of the existing and future water system, including the boundary of the existing and future service area.

Task H—Prepare Final Report Document

Objective: To provide a final draft of the *City of Newberg 2003 Water Distribution System Plan Update.* To provide training and technical support in the implementation of the Plan and the hydraulic model.

Approach: We will address the comments and incorporate changes required as a result of the work performed under Task G. We will then submit a final draft for review. Upon approval by the City, we will produce final copies of the plan and supporting information.

H.1 Final Report

The three deliverables reviewed previously will be compiled into the Master Plan Update report. The report will be provided with the following sections

- Executive Summary
- Chapter 1: Introduction/Existing System
- Chapter 2: Water Demand Projections
- Chapter 3: O&M and Regulations
- Chapter 4: Evaluation of Existing Facilities
- Chapter 5: Alternatives and Costs for New Facilities
- Chapter 6: Capital Improvement Plan
- Appendices

Essentially, the plan will be a summary of the results of Tasks A through F. However, more detailed information that is not appropriate for inclusion in the Plan maybe be provided to the City separately. Individual project cost sheets using a City-approved format will be included in the Appendix of the Final Report. Maps showing major elements of the existing water system, the recommended improvements (by date) and the anticipated growth areas, will also be provided.

Plan formatting will include as a minimum: a detailed table of contents, list of figures and tables, abbreviations and acronyms sheets, cross-referenced sections, index, glossary, labels on section tabs, and individual CD jewel boxes with labels.

H.2 Training

We will provide in-house training for City staff on using the hydraulic model. We assume 16 hours of in-house training on City-supplied hardware at City Hall.

H.3 Technical Support

We will allow 40-hours of technical support and/or follow-up training during the year following submittal of the final Plan.

Deliverables: Executive Summary (30 spiral bound, paper copies and five CDs in searchable .pdf format.). Final Plan, including Executive Summary (20 spiral bound, paper copies; 10 paper copies in heavy-duty EZ-D three-ring binders and five CDs in searchable .pdf format). All electronic files created during development of the Water Distribution System Plan will be provided in Microsoft Word, Microsoft Excel, and other City-approved formats. Three copies of these files will be provided on CD with complete data, including an index. We will provide the hydraulic network and database files in electronic format.

Table 3-1 presents our assumptions regarding City responsibilities and meetings, as well as CH2M HILL deliverables and team members assigned for each task.

TABLE 3-1
CH2M HILL Task Understanding and Deliverables

Task	Assumptions[1]	Newberg Input	Deliverables	Team Members Assigned to Task
A	1 half-day meeting with staff	Input regarding project goals, scope, and schedule	Memo of understanding defining goals, scope, and schedule	Bob Fuller Brad Phelps Bob Devaney
B	4 half-day meetings with staff Billing and production data for the previous 5 years will be provided in electronic format The City will provide all hard copy documentation organized into 3-ring binders with labeled dividers	Attend the workshop, review, and provide input regarding Deliverable #1 The planning department will provide guidance in estimating future growth within the City	Deliverable #1: Chapters 1-3 (20 percent) O&M Memo	Brad Phelps Gary Young Bob Devaney
C	2 half-day meetings with staff	The City will provide input as to needs and technical capabilities at the first model selection meeting	Technical memo describing the model evaluation	Skip Martin Brad Phelps Bob Devaney
D	3 half-day meetings with staff	The City will provide input during the calibration process		Skip Martin Marcela Duran Brad Phelps Bob Devaney
E	2 half-day meetings with staff	Attend the workshop, review, and provide input regarding Deliverable #2 Input regarding contingencies, and engineering, administrative, and legal costs that will be added to the cost estimates Input regarding options for serving future growth	Deliverable #2: Chapter 4 (50 percent)	Skip Martin Marcela Duran Brad Phelps Bob Devaney
F	4 half-day meetings with staff	Attend the workshop, review, and provide input regarding Draft Plan Input regarding contingencies, and engineering, administrative, and legal costs that will be added to the cost estimates Input regarding options for serving future growth areas	Deliverable #3 (90 percent)	Brad Phelps Skip Martin Marcela Duran Bob Devaney
G	3 half-day workshops with staff[2]	Attend the workshop, review, and provide input regarding Deliverable #1 Attend the workshop, review, and provide input regarding Deliverable #2 Attend the workshop, review, and provide input regarding Draft Plan	Deliverable #1: Chapters 1-3 (20 percent) Deliverable #2: Chapter 4 (50 percent) Deliverable #3: Chapters 1 through 6 (90 percent)	Bob Fuller Brad Phelps Bob Devaney
H	The City will purchase the Model directly from the supplier 16-hour model training session 40 hours of technical support	The City will review the final Draft Plan to ensure previous comments were incorporated No additional input will be incorporated after review of the 90 percent Draft Plan	35 final copies as described in the RFP Electronic model files; O&M database files Model training workshop	Bob Fuller Brad Phelps Bob Devaney

[1] We assume in all cases that the City will coordinate review of work product submittals and attendance of appropriate personnel at all meetings.

[2] As discussed in previous tasks

2. Project Schedule

We propose to complete this project within 9 months after notification to proceed. The work flow diagram in Figure 2-1 demonstrates how the various tasks fit together. Each task is shown in the chronological order it would occur, dependent on work conducted in a previous task or if City input is required. Figure 2-2 shows CH2M HILL's proposed project schedule for completing each task.

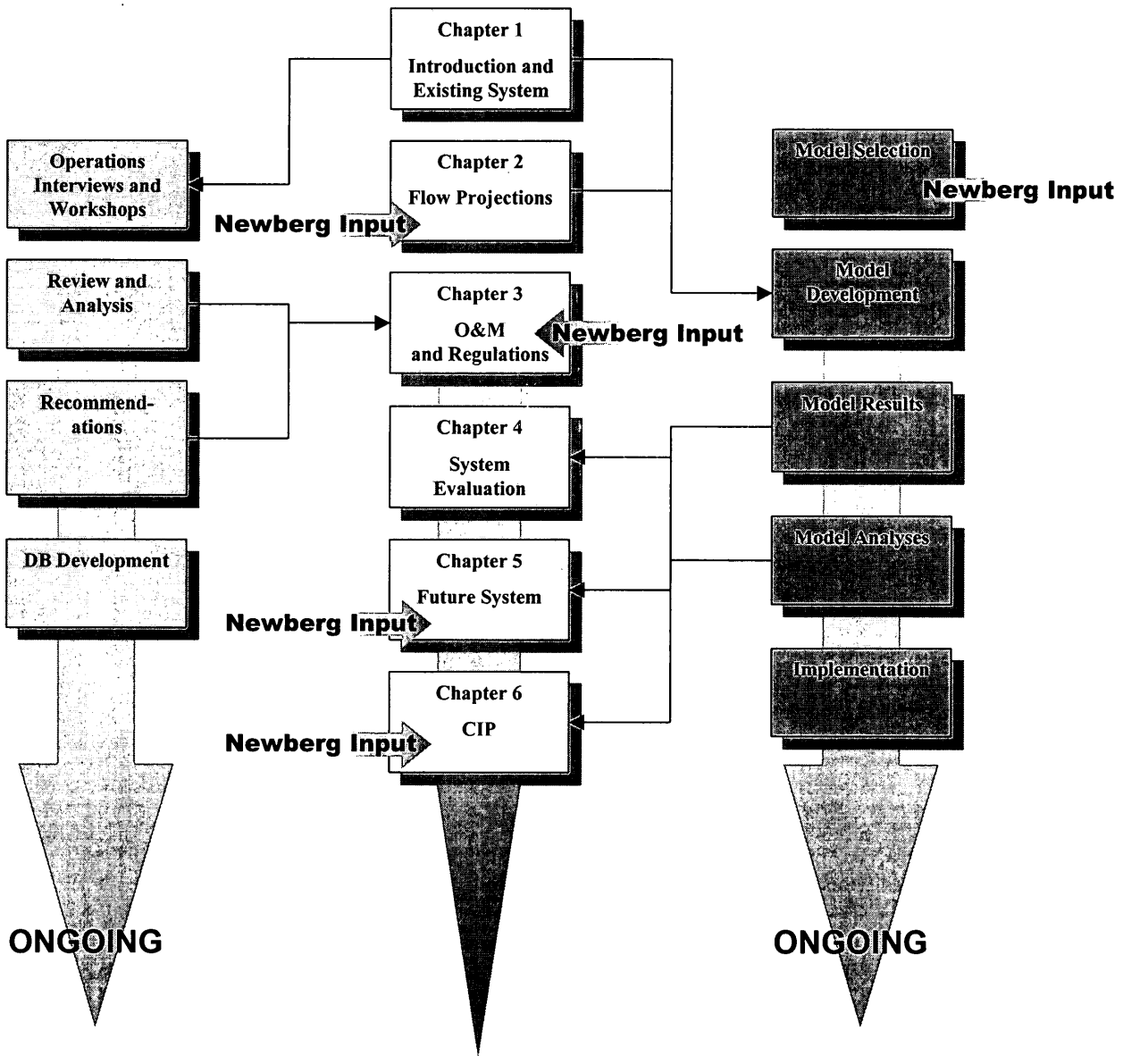


FIGURE 2-1
Task Work Flow and Input Requirements

3. Consultant's Fee

Efficient total project delivery begins with a proven approach to design and adequate budget to accomplish the work. This fee amount is our team's estimate to complete the work as requested and includes additional activities not necessarily identified in the RFP.

Level of Effort and Cost

We understand that the proposal is a public document; however, we request that the overhead and individual billing rate information be withheld for public scrutiny if possible. A cost estimate has been prepared that matches the work plan. As with the schedule, this level of effort (LOE) includes adequate budget to provide the services you have defined in your RFP. The LOE represents major commitment by the project manager, task managers, and support staff.

Basis for Compensation

We have prepared our fee estimate based on a time-and-materials form of compensation. The fee estimate is based on the knowledge of client expectations and our understanding of the project. By using the time-and-materials basis of compensation, we realize that adjustments may be necessary to reflect the work to be completed. As a result, we will not request any unused portion of the fee.

We estimate that the scope of work defined in Section 1 would require approximately 1,308 hours of effort and cost approximately $155,419 to complete. The cost to purchase hydraulic modeling software is not included in our estimate. Table 3-1 breaks down labor hours and expenses by proposed staff and shows the estimated cost per task.

TABLE 3-1
Work Breakdown Structure—Labor

	Principal-in-Charge	Project Manager	Project Engineer	Senior Modeler	Modeling Support	Administration Support	Operations Support	Expenses	Total Hours	Fee
Assumed Rate	**$182.40**	**$158.40**	**$96.00**	**$147.20**	**$80.00**	**$64.00**	**$121.60**			
Task A Project Orientation Kickoff Meeting	2	22	28	0	0	24	6	$545	82	$9,348
Task B Compile and Evaluate Data and Records	4	14	108	0	0	46	64	$1,575	236	$25,617
Task C Identify and Evaluate Hydraulic Modeling Software	0	8	4	14	0	10	0	$355	36	$4,707
Task D Assemble Spatial Database	0	10	44	38	88	7	0	$4,471	187	$23,361
Task E Analyze Existing System	2	16	40	36	56	29	0	$1,412	179	$19,786
Task F Analyze Potential Future Service Areas	3	22	28	8	28	33	0	$879	122	$13,129
Task G Prepare Drafts	10	30	78	15	26	104	0	$5,589	263	$30,597
Task H Prepare Final Report	4	26	80	24	0	69	0	$8,398	203	$28,875
Total	**25**	**148**	**410**	**135**	**198**	**322**	**70**	**$23,224**	**1308**	**$155,419**

Additional work will be negotiated based on revised labor hour estimates and the rates given in Table 3-2. Note that these rates are average rates for the labor classifications shown. Rates for the specific staff working on your project may vary somewhat. Approval of scope and fee for additional work will be obtained prior to starting additional work. Assuming that most of the work will be performed in 2003, no cost of living adjustment has been made. Annual salary adjustments for staff normally occur at the beginning of each calendar year.

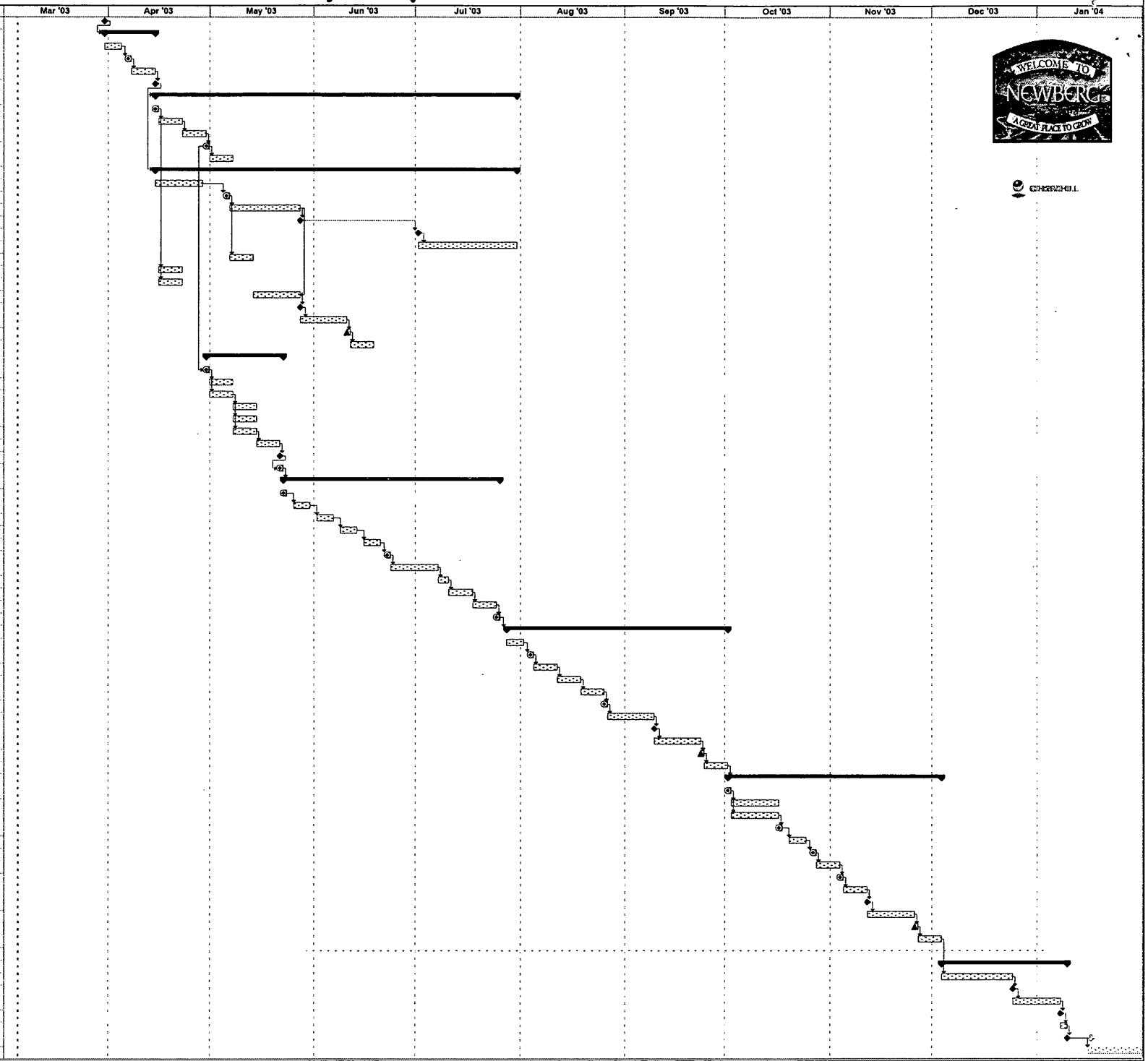
TABLE 3-2
CH2M HILL 2003 Rate Schedule

Role/Classification	Hourly Rate[a] ($)
Staff Rates	
Principal-In-Charge/Senior Consultant	150 - 185
Senior Engineer/Project Manager	130 - 160
Project Engineer	85 - 105
CADD/Technician	50 - 80
Administrative/Office Support	55 - 65
Expenses	
Mileage	$0.53/mile - fleet vehicle $0.67/mile - survey vehicle $50/day - rental vehicle
Direct Expense	Cost
Outside Services to CH2M HILL	10% Markup

[a] This is a range of hourly rates for staff that will be working on this project. Actual rates will vary based on specific personnel involved. These rates will remain in effect through December 31, 2003.

Figure 2-2 Project Schedule

ID	Task Name
1	Notice to Proceed
2	**Task A—Project Orientation**
3	Issue draft memo/ meeting agenda
4	Kickoff meeting
5	Prepare Workplan
6	Deliver Workplan
7	**Task B—Evaluate the Existing System Develop Flow Projections**
8	Meeting with planning department
9	B.1 Population Projections
10	B.2 Water Demand Projections
11	Meeting to obtain distribution system information
12	B.3 Distribution System Information
13	**B.4 Operation Procedures Documentation and Recommendations**
14	Review Existing Procedures and Programs
15	Meeting with O&M team
16	Prepare Information
17	Deliver O&M evaluation memo
18	Meeting Concerning Development of database systems
19	Create Database systems
20	B.5 Design Criteria
21	B.6 Review Existing Reports
22	B.7 Review Current and Potential Regulations Requirements
23	**Prepare Deliverable #1**
24	Deliverable #1 - Issued to City
25	City review period
26	20% Workshop
27	Revise and incorporate comments
28	**Task C—Evaluate and Recommend Hydraulic Modeling Software**
29	Meeting to discuss city needs, obtain data base info
30	C.1 Review Existing GIS database
31	C.2 Evaluate Programming Needs
32	C.3 Evaluate Available Software
33	C.4 Evaluate Available Software Support
34	C.5 Recommend Model
35	Prepare model selection technical memo
36	Deliver model selection technical memo
37	Meet to discuss recommendations and select model
38	**Task D—Develop and Calibrate Hydraulic Model**
39	Meeting to receive information
40	D.1 Acquire Modeling and Mapping Information
41	D.2 Construct Hydraulic Model
42	D.3 Validate Model
43	D.4 Establish Inputs
44	Meeting to discuss calibration procedure
45	D.5 Calibrate Model
46	Calibrate to Existing Data
47	Collect Field Data
48	Calibrate to Field Data
49	Meeting to present and discuss calibration results
50	**Task E—Analyze Existing System**
51	E.1 Identify Existing System Deficiencies
52	Meeting to discuss alternatives
53	E.2 Evaluate Alternatives
54	E.3 Evaluate Impact of Servicing
55	E.4 Develop Cost Estimates
56	Meeting to discuss improvement plan
57	Prepare Deliverable #2
58	Deliverable #2
59	City review period
60	50% Workshop
61	Revise and incorporate comments
62	**Task F—Analyze Future Service Areas**
63	Meeting to discuss scenarios
64	F.1 Develop Service Scenarios
65	F.2 Evaluate Second Zone
66	Meeting to discuss alternatives
67	F.3 Identify Improvements
68	Meeting to discuss alternatives and costs
69	F.4 Develop Cost Estimates
70	Meeting to discuss cost estimates and draft CIP
71	Prepare draft Plan
72	Deliver draft Plan
73	City review period
74	Draft Plan workshop
75	Revise and incorporate comments
76	**Task G—Prepare 20%, 50%, and 90%Drafts**
77	**Task H—Prepare Final Document**
78	H.1 Final Report
79	Deliver draft final Plan
80	final review by City
81	DELIVER FINAL PLAN
82	H.2 Training
83	Project Completion
84	H.3Technical Support



MARSH

CERTIFICATE OF INSURANCE

CERTIFICATE NUMBER
SEA-000650016-01

PRODUCER
MARSH USA, INC.
1225 17TH STREET, SUITE 2100
DENVER, CO 80202-5534

15114 -00124-ALL-2000 PDX 650016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER OTHER THAN THOSE PROVIDED IN THE POLICY. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES DESCRIBED HEREIN.

INSURED
CH2M HILL, INC.
825 N.E. MULTNOMAH, SUITE 1300
PORTLAND, OR 97232-2146

COMPANIES AFFORDING COVERAGE

COMPANY A ZURICH AMERICAN INSURANCE COMPANY

COMPANY B

COMPANY C

COMPANY D

COVERAGES This certificate supersedes and replaces any previously issued certificate for the policy period noted below.

THIS IS TO CERTIFY THAT POLICIES OF INSURANCE DESCRIBED HEREIN HAVE BEEN ISSUED TO THE INSURED NAMED HEREIN FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THE CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, CONDITIONS AND EXCLUSIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY					
A	[X] COMMERCIAL GENERAL LIABILITY	GLO8378563-07	05/01/02	05/01/03	GENERAL AGGREGATE	$ 2,000,000
	[ ] CLAIMS MADE [X] OCCUR				PRODUCTS - COMP/OP AGG	$ 5,000,000
	OWNER'S & CONTRACTOR'S PROT				PERSONAL & ADV INJURY	$ 750,000
	[X] $250,000 SIR				EACH OCCURRENCE	$ 750,000
					FIRE DAMAGE (Any one fire)	$ 750,000
					MED EXP (Any one person)	$
A	**AUTOMOBILE LIABILITY**					
	[X] ANY AUTO	BAP8378516-07 (AOS)	05/01/02	05/01/03	COMBINED SINGLE LIMIT	$ 2,000,000
	ALL OWNED AUTOS	TAP8378560-07 (TX)	05/01/02	05/01/03	BODILY INJURY (Per person)	$
	SCHEDULED AUTOS	BAP8378561-07 (VA)	05/01/02	05/01/03		
	HIRED AUTOS	MA8378562-07 (MA)	05/01/02	05/01/03	BODILY INJURY (Per accident)	$
	NON-OWNED AUTOS				PROPERTY DAMAGE	$
	GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	$
	ANY AUTO				OTHER THAN AUTO ONLY:	
					EACH ACCIDENT	$
					AGGREGATE	$
	EXCESS LIABILITY				EACH OCCURRENCE	$
	UMBRELLA FORM				AGGREGATE	$
	OTHER THAN UMBRELLA FORM					$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				[X] WC STATUTORY LIMITS [ ] OTHER	
A		WC8378566-08	05/01/02	05/01/03	EL EACH ACCIDENT	$ 1,000,000
A	THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: [X] INCL [ ] EXCL	WC8378565-07	05/01/02	05/01/03	EL DISEASE-POLICY LIMIT	$ 1,000,000
					EL DISEASE-EACH EMPLOYEE	$ 1,000,000
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

RE: WATER DISTRIBUTION SYSTEM PLAN; PM: BRAD PHELPS.
CERTIFICATE HOLDER IS NAMED AS ADDITIONAL INSURED AS THEIR INTEREST MAY APPEAR TO THE AUTOMOBILE LIABILITY AND AS PER THE BLANKET ENDORSEMENT TO THE GENERAL LIABILITY POLICY.

CERTIFICATE HOLDER

CITY OF NEWBERG (OR)
P.O. BOX 970
NEWBERG, OR 97132

CANCELLATION

SHOULD ANY OF THE POLICIES DESCRIBED HEREIN BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE INSURER AFFORDING COVERAGE WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED HEREIN, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER AFFORDING COVERAGE, ITS AGENTS OR REPRESENTATIVES, OR THE ISSUER OF THIS CERTIFICATE.

MARSH USA INC.
BY: Dorothy A. Stevens Dorothy A. Stevens

MM1(3/02)

VALID AS OF: 03/14/03

MARSH

CERTIFICATE OF INSURANCE

CERTIFICATE NUMBER
SEA-000650017-01

PRODUCER

MARSH USA, INC.
1225 17TH STREET, SUITE 2100
DENVER, CO 80202-5534

15114 -00005-ALL1-2000 PDX 650017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER OTHER THAN THOSE PROVIDED IN THE POLICY. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES DESCRIBED HEREIN.

COMPANIES AFFORDING COVERAGE

COMPANY A: ZURICH AMERICAN INSURANCE COMPANY

COMPANY B:

COMPANY C:

COMPANY D:

INSURED

CH2M HILL, INC.
825 N.E. MULTNOMAH, SUITE 1300
PORTLAND, OR 97232-2146

COVERAGES This certificate supersedes and replaces any previously issued certificate for the policy period noted below. 1

THIS IS TO CERTIFY THAT POLICIES OF INSURANCE DESCRIBED HEREIN HAVE BEEN ISSUED TO THE INSURED NAMED HEREIN FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THE CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, CONDITIONS AND EXCLUSIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY				GENERAL AGGREGATE	$
	☐ COMMERCIAL GENERAL LIABILITY				PRODUCTS - COMP/OP AGG	$
	☐ CLAIMS MADE ☐ OCCUR				PERSONAL & ADV INJURY	$
	☐ OWNER'S & CONTRACTOR'S PROT				EACH OCCURRENCE	$
	☐ _____				FIRE DAMAGE (Any one fire)	$
					MED EXP (Any one person)	$
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT	$
	☐ ANY AUTO					
	☐ ALL OWNED AUTOS				BODILY INJURY (Per person)	$
	☐ SCHEDULED AUTOS					
	☐ HIRED AUTOS				BODILY INJURY (Per accident)	$
	☐ NON-OWNED AUTOS					
	☐ _____				PROPERTY DAMAGE	$
	GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	$
	☐ ANY AUTO				OTHER THAN AUTO ONLY:	
	☐ _____				EACH ACCIDENT	$
					AGGREGATE	$
	EXCESS LIABILITY				EACH OCCURRENCE	$
	☐ UMBRELLA FORM				AGGREGATE	$
	☐ OTHER THAN UMBRELLA FORM					$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				☐ WC STATUTORY LIMITS ☐ OTHER	
	THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: ☐ INCL ☐ EXCL				EL EACH ACCIDENT	$
					EL DISEASE-POLICY LIMIT	$
					EL DISEASE-EACH EMPLOYEE	$
A	OTHER PROFESSIONAL LIABILITY*	EOC3829621-00	05/01/02	05/01/03	$1,000,000 EACH CLAIM AND TOTAL FOR ALL CLAIMS	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

RE: WATER DISTRIBUTION SYSTEM PLAN; PM: BRAD PHELPS.
*FOR PROFESSIONAL LIABILITY COVERAGE, THE AGGREGATE LIMIT IS THE TOTAL INSURANCE AVAILABLE FOR CLAIMS PRESENTED WITHIN THE POLICY PERIOD FOR ALL OPERATIONS OF THE INSURED. THE LIMIT WILL BE REDUCED BY PAYMENTS OF INDEMNITY AND EXPENSE.

CERTIFICATE HOLDER

CITY OF NEWBERG (OR)
P.O. BOX 970
NEWBERG, OR 97132

CANCELLATION

SHOULD ANY OF THE POLICIES DESCRIBED HEREIN BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE INSURER AFFORDING COVERAGE WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED HEREIN, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER AFFORDING COVERAGE, ITS AGENTS OR REPRESENTATIVES, OR THE ISSUER OF THIS CERTIFICATE.

MARSH USA INC.
BY: Dorothy A. Stevens Dorothy A. Stevens

MM1(3/02) VALID AS OF: 03/14/03