

CITY OF NEWBERG
AGREEMENT WITH MWH AMERICAS
TO PROVIDE WATER TREATMENT FACILITY STUDY
CONSULTING SERVICES TO THE CITY OF NEWBERG

THIS AGREEMENT is entered into this 8th day of January, 2002 by and between the City of Newberg, a municipal corporation of the State of Oregon, hereinafter called **City**, and MWH Americas, 111 SW Fifth Ave. Ste. 1770, Portland, Oregon 97204-3604, P: 503-226-7377, F: 503-226-0023, 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.

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, 2002, whichever date occurs first. This fact notwithstanding, the services of **Consultant** shall be authorized and paid on a monthly 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 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:

\$ 57,480.00

The **Consultant** shall not exceed the fee for any task included in the fee proposal amount. If the **Consultant** sees 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 to the proximate extent caused by the negligent acts, errors, or omissions or the wrongful acts 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.

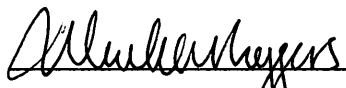
15. **Ownership of Work Product:** All original documents prepared by **Consultant** in performance of this Agreement, including but not limited to original maps, plans, drawing and specifications are the property of **City** unless otherwise agreed in writing. Quality reproducible records copies shall be provided to **City** at **City's** expense, upon request. **City** shall indemnify and hold harmless **Consultant** and **Consultant's** independent professional associates or **Subconsultants** from all claims, damages, losses and expenses including

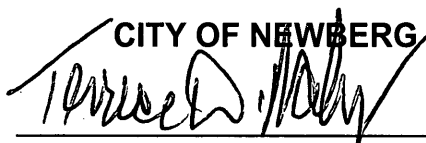
attorney's fees arising out of any unauthorized use of any instruments of professional service.

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.

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

CONSULTANT

By: 
Name: MARK A BIGGERS
Title: SENIOR VEE PRESIDENT
Date: 3 DECEMBER 2001

CITY OF NEWBERG
By: 
Name: Terrence D. Mahr
Title: City Manager, Pro Tem
Date: JANUARY 8, 2002

Approved as to form:


Terrence D. Mahr, City Attorney

PROJECT UNDERSTANDING

The City of Newberg is requesting proposals for consulting engineering services to evaluate the performance of its existing water treatment plant (WTP) and to prepare a plan for the future water treatment needs of the City. The WTP treats groundwater pumped from a wellfield and delivered to the plant in a 24-inch pipeline on a bridge over the Willamette River. The groundwater contains significant concentrations of iron and trace amounts of manganese which must be removed by the treatment plant before distribution. The City recently expanded the wellfield to a maximum pumping capacity of approximately 7 mgd and will soon be able to pump approximately 9 mgd. However, the newer Well #7 has significantly higher concentrations of iron (approximately 15 mg/L) than the older wells and created treatment challenges at the plant this past summer which reduced the reliable production capacity to less than 5 mgd. With very high iron concentrations, the plant may only be able to reliably produce 3 mgd. Since the City's recent historical maximum day demand has exceeded 5 mgd, the plant is currently a limiting factor in the overall water supply system during the peak summer season.

In addition to the production capacity limitation, the WTP also faces other challenges which must be resolved. The plant was originally constructed in 1949, and was upgraded in 1960 and in 1980. Hence, it is an older plant which will probably require significant infrastructure and support facility improvements to allow it to provide reliable service into the future. The wellfield has been classified as groundwater by OHD, but it appears to have a hydraulic connection to the Willamette River. It is possible that the wellfield will be determined to be "under the influence of surface water" in the future, especially as the wellfield is further expanded. Therefore, future regulatory requirements which may affect the way the water is treated and delivered need to be considered, such as meeting Surface Water Treatment Rule requirements. Also, the plant's existing solids (sludge) handling and disposal system appears to be inadequate to reliably handle the current solids production, especially with the higher raw water iron levels, and requires significant labor to pump and truck the sludge to the WWTP for ultimate handling and disposal. The City needs to review alternative solids handling and disposal methods to ensure long-term performance.

Lastly, but perhaps most important, the City needs to plan for future increases in water demand as part of the Facilities Study. The City expects to grow in the future and has committed to expanding its supply as evidenced by the additional wellfield capacity recently added. The 1992 Master Plan Update suggested that peak water demands would be approximately 6 to 8 mgd in 2002 depending on the amount of conservation which occurs. By 2012, the peak day demand was expected to increase to 9 to 12 mgd. As evidenced by this past summer's peak day demand of less than 5 mgd compared to other recent peak days of approximately 5.5 mgd, it appears that conservation efforts have been successful in reducing peak demands. Also, the City has not grown as fast as predicted in the early 1990's. Per the RFP, the City wants to develop a plan for increasing the plant's capacity to 9.5 mgd to meet the shorter-term expected growth, and also needs to consider an ultimate treatment capacity of 23 mgd to meet the projected maximum ultimate demand at "buildout". Therefore, the needs for short-term upgrades and possible expansion at the existing WTP should be blended into a longer-term solution for meeting the City's water demands well into the future. Intermediate capacity expansions providing less than 9.5 mgd should also be explored to optimize the "equity" in the existing plant.

The existing WTP is located on a very "cramped" site adjacent to the SP Newsprint facility. While the site may have the ability to accommodate a capacity increase up to 9.5 mgd to meet shorter-term demands, it is unable to support the City's ultimate water demands. Considering the age of the existing plant and its other limitations, it appears likely that a new WTP will ultimately be needed to provide a reliable water supply well into the 21st century. A survey of alternative WTP sites is therefore needed as part of this study and the space required will be a function of the capacity and treatment processes required. Therefore, one of the Facilities Study's primary purposes is to develop a plan for transition from the existing plant to the use of a new plant which can meet the City's economic constraints.

The City desires to have the Facilities Study completed as soon as possible and requires detailed project cost estimates to be completed by March 15, 2002, for fiscal year budgeting purposes. The Study shall be completed no later than June 28, 2002. The City needs to integrate the cost requirements for the WTP with other City water system and utility requirements.

Montgomery Watson Harza has been helping many communities within the Willamette Valley plan for their future water treatment and supply needs under similar circumstances. We have evaluated older WTPs and developed economical improvement and expansion plans using a variety of technologies. We have also successfully designed and implemented many of these improvements using a variety of techniques including design-build (DB), to provide faster completion and lower costs, as well as the traditional design-bid-build (DBB) approach. We can assist the City of Newberg in determining whether fast-track implementation of some of the required plant improvements is feasible and warranted for its situation. We offer an experienced, creative and enthusiastic Project Team who can assist the City with the multiple challenges that this project faces.

KEY ISSUES

Key issues for the City's Water Treatment Facilities Study which the consultant must carefully consider and resolve include treatment process optimization, ability to increase the existing plant capacity concurrent with process improvements, solids handling and disposal, support system evaluation and enhancement, automation and control, regulatory and code compliance, operational and O&M enhancements, site improvements, and developing a prioritized list of capital improvements. Also, planning must be made for a potential future WTP at a different location to determine how the City should proceed to ensure that its water supply and treatment system meets the community's needs for many years to come. The following paragraphs discuss our approach to resolving these key issues with the City of Newberg.

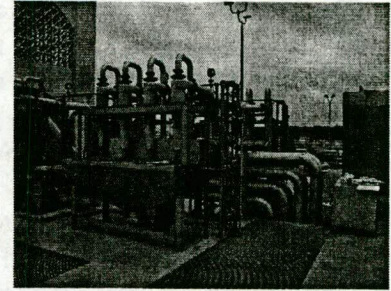
Optimizing the Clarification Process

The existing plant basically functions as a direct filtration plant for the removal of iron. The existing contact basins provide inadequate detention time and overflow rate to optimally reduce the solids loading on to the filters. Generally, direct filtration is appropriate if the raw water iron concentration is less than 2-3 mg/L. Considering the recent significant increase in iron concentrations from new Well #7 (10 to 12 mg/L iron) during peak flows, the filters become overloaded with solids due to inadequate floc settling, resulting in very short filter runs and reduced operating efficiencies. The filters also become susceptible to "shock loadings" during filter backwashes and can not remove the floc efficiently. City staff indicate that filter effluent iron concentrations as high as 1 mg/L were observed during the recent high demand period due to these conditions.

At a minimum, the plant must be modified to provide for acceptable removals of iron floc and solids in the existing contact basins ahead of the filters. This can be accomplished via the addition of high-rate clarification devices such as tubes or lamella plates. Other high-rate clarification processes which could be considered include dissolved air flotation (DAF) and "Actiflo," which uses microsand to provide high rates of settling within a small footprint. This process is currently being installed by MWH at the new Willamette River WTP in Wilsonville. It may also be possible to retrofit the basins with an alternative filtration technology such as immersed membranes (ZeeWeed by Zenon). Use of high-rate clarification can also be used to increase the plant capacity within the existing basin footprint, up to perhaps 10 mgd, with careful selection of design criteria and installation methods.

Clarification improvements can also be enhanced via an increase in pH concurrent with chlorine addition. Iron oxidation and floc formation is more rapid as the pH increases. The current raw water pH of 6.5 to 6.7 is relatively low. Currently, the plant adds caustic soda (NaOH) after filtration for pH adjustment to approximately 7.5 for corrosion control. The point of NaOH addition should be moved to the raw water and the addition of NaOH to the filter effluent can be discontinued as long as the oxidation pH is high enough to meet corrosion control targets. Increasing the pH of the clarified water should also improve the longevity of the existing basins because a higher pH will be less aggressive towards the concrete. Addition of NaOH to the raw water may also reduce chlorine consumption.

With the addition of clarification improvements that will increase solids build-up in the basins, it will then be essential to provide the ability to continuously remove sludge. Currently, the basins are cleaned manually every 3 to 4 months by draining to an adjacent manhole and then pumping to a sludge transfer truck. An automated sludge removal system capable of continuously operating and discharging sludge to the sludge lagoon should be added as part of these improvements. There are a number of systems which could be considered including SuperScraper, Trac Vac, and chain-and-flight. MWH has successfully upgraded existing WTPs with high-rate clarification and sludge removal systems in a number of plants throughout the country.



Actiflo

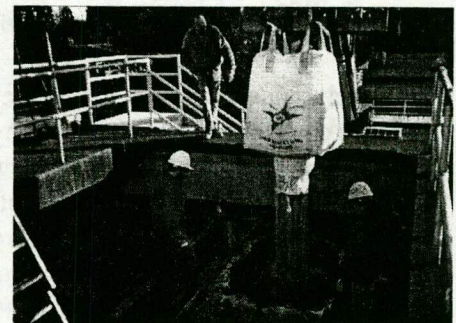
Upgrading the Filters

Besides clarification, filtration is the other key treatment process which must perform optimally to ensure that operational and regulatory requirements are met. Sub-optimal filtration can result in reduced plant capacity, low plant production efficiencies (excessive backwashing) and a risk that water quality may not meet regulatory or aesthetic requirements. Based on our review of performance records and discussions with City staff, we feel that the existing filters are in a degraded condition due to age, excessive solids loading and lack of adequate cleaning ability. For example, the filter runs appear to be very short between backwashes (approximately 6 hours this summer) and this results in excessive “water loss” and overloads the sludge lagoons. The UFRV for 6 hour filter runs at 3 gpm/sf (900 gpm per filter) is approximately 1,200 gal/sf compared to our recommended minimum of 5,000 gal/sf. This results a plant production efficiency less than 90% whereas optimal is 95%-98%. For this plant, a minimum filter run length between backwashes of 24 hours is desirable for optimum operations. **The existing filters should be upgraded to improve operating performance, to extend operational longevity and to enhance the ability of the plant to provide additional capacity. These improvements will also minimize the effects of drawing down the clearwell during frequent backwash situations.**

With the clarification improvements discussed above, the existing filters will still not be able to perform optimally without modifications. Major issues which should be addressed include:

- Replacement of filter media and underdrains due to age and disruption. Based on our experience with filters throughout the region, filters older than 20 years are significantly disrupted. Over time, media is lost and coated, gravel can shift and can change its depth and size classification, resulting in non-uniform backwashing and filtration performance. We observed “boiling” and flow distribution problems in Filter #1 during backwash. Rebuilt filters can provide deeper, more efficient designs which operate longer between backwashes, produce better water quality, and allow higher filtration rates which increase capacity without building new filters.

MWH has successfully re-built numerous filters around the Willamette Valley including Lake Oswego, South Fork Water Board and Joint Water Commission.



Lake Oswego's filter rebuild

- Addition of auxiliary cleaning system. An optimum filter cleaning system includes backwash and auxiliary cleaning systems, such as surface wash sweeps or air scour. Without auxiliary cleaning, it has been proven time and again that filters can not be cleaned properly. This results in long-term buildup of solids on the filter media and degradation of filter performance. If filter aid polymers are used, the auxiliary cleaning is even more essential to avoid "mudballs" and cleaning problems. At the Newburg WTP, the re-built filters should be provided with surface wash sweeps which rotate and agitate the media during backwash. The existing filter design originally called for surface wash systems, which were never installed.

These improvements should allow the filters to be capable of processing up to 7 mgd (1200 gpm per filter with all in service, 1600 gpm with one filter out of service during backwash) **without the addition of new filters**. It is likely that new filter(s) will be required to achieve plant capacities in excess of 7 mgd.

Expanding and Improving Solids Handling and Disposal

The plant currently has one lagoon which stores dirty backwash water and allows settling of the solids removed during filtration. The clarified supernatant is discharged to the Willamette River and must meet NPDES discharge permit requirements. The settled solids are currently pumped out of the lagoon via a tanker truck and then transported to the nearby wastewater treatment plant for ultimate solids disposal. Usage of new Well #7 has overtaxed the current system lagoon system jeopardizing the NPDES discharge permit conditions and increasing the required frequency of sludge pumping.

The clarification and filtration improvements discussed above should significantly reduce the stress on the existing lagoon. With reduced backwashing frequency, the lagoon will receive significantly less flow each day and provide for better solids settling and less disruption. Also, the solids removed from the upgraded clarification system will be more concentrated and should settle faster than currently observed. However, additional clarification may be necessary to ensure NPDES permit compliance. The site is space-limited and does not provide many options. Modifications to the existing lagoon such as baffling may reduce solids in the supernatant. Also, there is potentially space available for a high rate clarification process (Actiflo, solids contact basin, etc.). Other options which should be considered include mechanical dewatering such as centrifuge or belt press facilities. Solids disposal options include continued discharge to the WWTP, and the possibility of pumping/piping the solids versus trucking should be given serious consideration. Also, the feasibility of hauling thickened/dewatered sludge to a municipal landfill should be explored.

Automation and Control

The plant has been progressively modernizing and updating the control systems at the plant. Since the plant is not manned 24 hours per day, it has been provided with a SCADA system which allows remote monitoring and control via a laptop PC connected to its Wonderware control software.

Ultimately, all of the plant's main functions and treatment processes should be automated to reduce operator time for basic control and operations. Many plants around the country have been migrating in this direction during the past 5 to 10 years. MWH will review the various features and requirements which will provide the City with options for totally integrating the plant's controls. One specific control improvement identified by the City is the replacement of the existing filter control valves, equipped with pneumatic actuators, with electric actuators. The pneumatic actuators and plant air control system are old and replacement parts and repairs are becoming increasingly difficult to obtain.

MWH recently completed a similar valve and filter control system upgrade project for the City of Lake Oswego's WTP. Various options were evaluated and compared before deciding to replace all filter valves and actuators with new valve/actuator packages. The valves were old and represented a small fraction of the overall project costs due to the relatively high cost of the actuators and control interface requirements. The new valves/actuators are linked to the plant's new SCADA system with a series of programmable logic controllers (PLCs) which provide multiple redundancy in case of software and/or power failure. The electric valves were also tied into a new backup power supply system including direct connection to an uninterruptible power supply (UPS) as well as to the plant's new standby emergency generator. This systems allows the filter control valves to continue to be operated during a power failure rather than lose complete control, providing more flexibility during emergency conditions.

Upgrading Support Facilities

Various components and support facilities of the existing plant are old, outdated and may need replacement. These include various chemical storage and feed systems, electrical supply and motor control systems, HVAC and plumbing systems. Also, building codes and other regulatory code requirements need to be reviewed to determine if various plant systems and functions meet the basic requirements of current codes including electrical, structural/seismic, mechanical and fire/life/safety. The City also needs to determine if the plant will be rated such that it needs to meet American with Disabilities Act (ADA) requirements.

Major plant electrical features such as the high service and backwash pumps may need modernization to improve power efficiency and improve power factor ratings to reduce on-going power costs. The plant also requires a review of essential features to determine the need and capacity for backup power in case of unplanned outages.

The existing chlorine gas storage and feed system, using one-ton cylinders, does not meet current UFC requirements, but has been "grandfathered". If significant plant and building improvements are made, then it is likely that the chlorine system will require modifications to meet regulatory requirements for pressurized corrosive gasses and liquids.

A high priority is the installation of a new caustic soda (NaOH) storage and feed system to replace the "temporary" system installed a few years ago to meet the Lead and Copper Rule. The tank is outdoors and results in operating challenges due to temperature (NaOH crystallizes at relatively high temperatures). The metering pumps can not be controlled automatically, the feed piping is a problem and require replacement with a more permanent system. Ideally, a new bulk storage tank should be installed indoors within a controlled climate, and new metering pumps and piping should be installed for automatic control and flexibility in feeding to different application points. Pete Kreft has designed numerous caustic soda feed systems for clients in the Pacific Northwest including Wilsonville, Portland Water Bureau, Joint Water Commission, City of Tacoma and City of Bremerton.

All of these issues must be reviewed and resolved during the plant evaluation and planning efforts to determine possible capital improvements and O&M requirements to allow the plant to have a long remaining useful life.

Plant Capacity and Remaining Useful Life

The existing 24-inch raw water pipe can deliver at least 10 mgd from the wellfield. We believe there is adequate space at the plant to treat up to 10 mgd with the addition of 2 more filters and with clarification improvements. Solids handling is space limited and requires further review and analysis. Pumping and pipeline capacity to deliver 10 mgd from the WTP requires further analysis since the existing 18-inch finished water pipeline may not be able to efficiently carry this flow without significant headloss. A new pump and a new pipeline are probably required to increase transmission capacity from the plant. Additional clearwell volume may also be warranted as part of a capacity increase.

With improvements, it may be possible to achieve the City's shorter-term capacity goal of 9.5 mgd at the existing plant. Along with the capacity improvements, many of the plant's support systems may need to be upgraded and/or replaced to meet code and longevity requirements. Hence, the City is facing significant capital expenditures for the existing plant to provide the additional required capacity. The City needs to weigh these investments against the fact that much of the plant itself is old. A "remaining useful life" analysis is required to determine the value of making these improvements versus using the funds to construct a new WTP.

Determining Requirements for a New WTP

The City has requested that new treatment facility layouts be developed for two capacity scenarios including 9.5 mgd and 23 mgd. Concurrent with this effort will be an evaluation of suitable property in and around the City on which to develop a new WTP. The costs and time to develop a new WTP will be weighed against the investments needed to keep the existing plant functioning for many years to come. It is likely that a transition plan will be needed to help the City determine when a new plant will be required once the capacity of the existing plant is exceeded, depending on what level of capacity increase is selected for the existing plant.

MWH will review all available iron-removal technologies as part of this analysis and we will focus our attention on high-rate processes which should reduce land requirements, assuming the City will need to purchase property for a new plant. As mentioned earlier, there are a variety of viable processes for consideration including dissolved air flotation, Actiflo, lamella plate settlers, sludge blanket clarifiers, and immersed membranes. MWH has considerable experience with all of these technologies.

MWH has prepared similar plans for numerous communities in the region and in the Pacific Northwest. The most-recent example of this is in Wilsonville where we are now completing construction of a new 15 mgd WTP, expandable to 70 mgd, after significant planning, layout, siting and preliminary design efforts. We are also currently assisting the Portland Water Bureau with planning and site layouts for a new WTP for its Bull Run Supply. We can help the City develop an economical plant using our recent successful experience.

GENERAL DISCUSSION OF APPROACH

Our approach to meeting City's goal of completing the evaluation and planning for cost estimates by mid-March 2002 is based on our recent experiences with similar plant evaluations and facility planning projects, as well as our understanding of The City's water supply and treatment system and the key issues as explained above. We reiterate the important elements of our approach as follows:

- Mobilize quickly upon notice of selection. Even before official Notice to Proceed is issued, MWH will immediately begin to coordinate activities and prepare resources to move as quickly as possible to gain the associated time benefits. We will also start collecting data and interviewing staff.
- Promote on-going, effective project team communications that result in rapid response and action.
- Meet with City staff as soon as possible to discuss and review existing plant performance issues and begin our plant "audit."
- Conduct on-site testing (jar tests, full-scale tests, filter corings and BW profiles) quickly to establish current performance and to assist with defining improvement requirements.
- Summarize the existing plant evaluation and major challenges in a Technical Memorandum and then discuss with City before entering the facilities planning phase.
- Upon NTP, begin to prepare criteria and plant layouts for a new facility with capacities of 9.5 and 23 mgd and preliminary cost estimates, as well as begin identifying possible sites.
- Review and summarize space requirements and availability of alternative sites.

SCOPE OF WORK OUTLINE

This section presents our outline Scope of Work for conducting the Water Treatment Facilities Study. It was developed based on the City's RFP, our discussions with staff, our understanding of the major project goals and the key issues to be resolved, various assumptions which are contained herein. It is also based on numerous other recent successful plant evaluations and facilities planning efforts performed by MWH recently.

All RFP items have been covered in this Proposal, and we have added certain "value added" features based on our experience performing similar plant evaluations and planning studies. Our detailed Scope of Work is contained in the Additional Supporting Information in the Appendix. Our schedule to complete these efforts is presented in Section 5. Our estimated level of effort and costs to perform this Scope of Work is presented in Section 6. Our Scope of Work is divided into 2 Phases with multiple Tasks to be completed for each Phase as shown below. We have also included project management and quality assurance/quality control tasks.

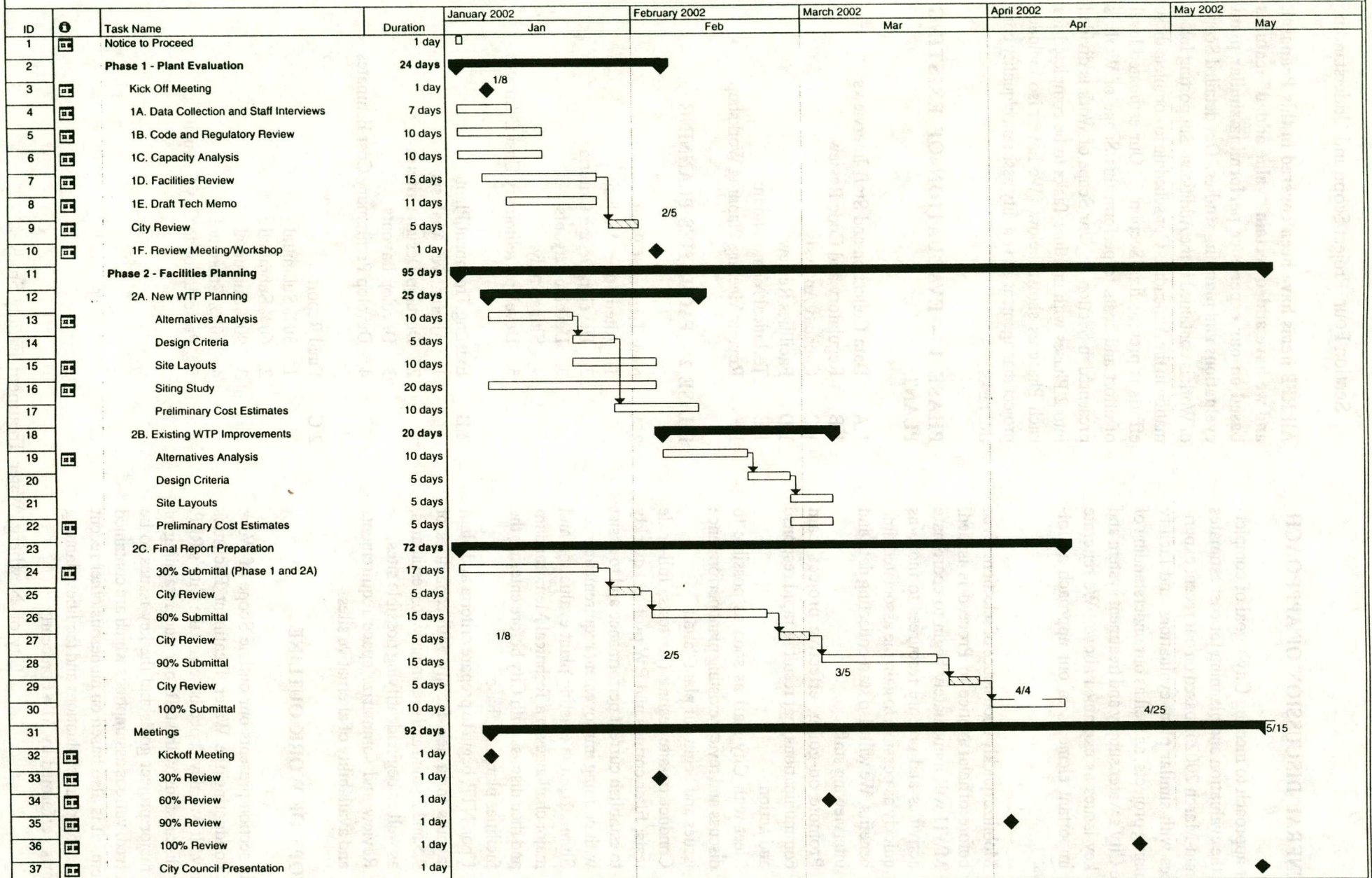
PHASE 1 – EVALUATION OF EXISTING PLANT

- 1.A Data Collection and Staff Interviews
- 1.B Regulatory and Code Review
- 1.C Capacity Analysis
- 1.D Facilities Review
- 1.E Technical Memorandum
- 1.F Review Meeting/Planning Workshop

PHASE 2 – FACILITIES PLANNING

- 2.A New Treatment Plant
 - 1. Alternatives Analysis
 - 2. Develop Design Criteria
 - 3. Develop Layouts
 - 4. Siting Study
 - 5. Develop Preliminary Cost Estimates
- 2.B Existing Treatment Plant
 - 1. Alternatives Analysis
 - 2. Develop Design Criteria
 - 3. Develop Layouts
 - 4. Develop Preliminary Cost Estimates
- 2.C Final Report
 - 1. 30% Submittal
 - 2. 60% Submittal
 - 3. 90% Submittal
 - 4. 100% Submittal
 - 5. Presentation to City Council

**City of Newberg
Water Treatment Facilities Study**



Project: WTP Study Schedule
Date: Nov 5 '01

Task
Split

Progress
Meetings

Summary
City Task

Rolled Up Split
Rolled Up Progress

Project Summary
Deadline

**CITY OF NEWBERG
WATER TREATMENT FACILITIES STUDY
FEE SCHEDULE**

TASK	TASK NAME	PETE KREFT (Project Manager)	KATHRYN MALLON (Supv. Professional)	SUSUMU KAWAMURA and JOE GLICKER	JUDE GROUNDS (Associate Professional)	CHRIS DEERKOP (Senior Professional)	ED BARNHURST (Supv. Professional)	ADMIN	TOTAL WORK HOURS	LABOR COST	APC/ ODC'S	TOTAL COST
1A	Data Collection/Interviews	4	4		8				16	\$1,600	\$150	\$1,750
1B	Regulatory/Code Review	4	8		8	4			24	\$2,440	\$400	\$2,840
1C	Capacity Review	6	12		32		4		54	\$4,950	\$450	\$5,400
1D	Facilities Review	6	12		24	8	4		54	\$5,150	\$450	\$5,600
1E	Tech Memo	4	10		16	4	2	4	40	\$3,640	\$350	\$3,990
1F	Review Mtg/Workshop	4	4	8					16	\$2,240	\$150	\$2,390
2A	New WTP Planning	18	40	8	32		2		100	\$10,880	\$750	\$11,630
2B	Existing WTP Planning	18	40	8	24		4		94	\$10,550	\$750	\$11,300
2C	Final Report	8	20		32			8	68	\$6,060	\$550	\$6,610
3	QA/QC	8		8					16	\$2,360	\$100	\$2,460
4	Project Management	20						8	28	\$3,260	\$250	\$3,510
TOTAL		100	150	32	176	16	16	20	510	\$53,130	\$4,350	\$57,480

Montgomery Watson Harza's Standard Hourly Rates for 2001 would apply to any additional work conducted on this project this year.

Future years rates would be subject to an increase of the average of Montgomery Watson Harza's yearly salary raises, or 5%, whichever is less.

2001 Standard Hourly Rates

Kawamura Engineering, Inc.

Associate Professional	\$70	\$150
Professional	\$80	
Designer	\$60	
Senior Designer	\$80	
Senior Professional	\$95	
Supervising Professional	\$115	
Principal Professional	\$135	
Project Manager	\$145	
Administrator	\$50	
Secretary	\$45	

Non-salary expenses directly attributable to the project such as

(1) living and traveling expenses of employees when away from the home office on business connected with the project;

(2) printing costs of major reports; and (3) outside services including subconsultants,

are charged at actual costs plus 15% service charge to cover overhead and administration.

Associated project costs (APC) for the use of personal computers, word processors, networks, telephones,

telecommunications, postage, miscellaneous reproduction charges, and other services are charged at the rate of \$7.44 per direct labor hour.

CADD is charged at \$24.00 per hour. Mileage will be charged at the rate of \$0.35/mile, or the federally approved rate in effect at the time of the work.

**MWH**

MONTGOMERY WATSON HARZA

November 5, 2001

City of Newberg, City Hall
Attn: Jadene Torrent Stensland, P.E., Project Manager
414 E. First Street
Newberg, Oregon 97132

Subject: Proposal for Water Treatment Facilities Study

Dear Jadene:

MWH is pleased to submit six bound copies and one unbound copy of our proposal for engineering services to perform a treatment plant facilities study for the City's water system. Our proposal details a proven and cost-effective approach to evaluate the City's plant and to determine the required improvements for increased capacity and improved performance. We are also excited about the opportunity to assist the City in planning for a possible new plant, to allow a comparison of alternatives, and to develop a long-term plan to serve the City's needs for many years to come. For your project, we propose:

- A variety of proven, innovative and economical solutions to improve the existing plant's performance and to maximize the capacity within the site. We believe achievement of 9.5 mgd is feasible at the existing site and will be more economical than construction of a new plant elsewhere.
- Expertise with planning and estimating for new and existing treatment plants, as demonstrated locally and regionally.
- A time-tested process that integrates the City and consultant team for efficient and rapid decision-making.
- Completion of the project in April, with cost estimates prepared by early March.
- A strong desire to work with you to provide the outcome you want to achieve.

We have put our company's best people on the team for this project and we are available to go to work on your project immediately. We are committed to an early successful completion. We encourage you to call our references to determine for yourselves our commitment to quality and timely service.

MWH's federal and state tax ID numbers are 95-1878805. MWH is incorporated in the State of California. MWH is a "resident bidder" as defined in ORS 279.029. This proposal is valid for 90 days after the submission deadline of November 6, 2001. The address, telephone and fax numbers of the Portland office (which will be providing the service and the location of the officer authorized to represent MWH) are listed at the bottom of this page.

Joe Glicker is authorized to negotiate for and to contractually commit MWH. Please contact either Joe or Pete Kreft, our Project Manager, with any questions concerning this proposal. We look forward to discussing our proposal with you and to delivering to you the high quality of service that we pride ourselves on.

MWH AMERICAS, INC.

By: Joe Glicker, P.E.
Vice President
joseph.glicker@mwhglobal.com

111 S.W. 5th Avenue
Suite 1770
Portland, Oregon
97204-3604

Tel: 503 226 7377
Fax: 503 226 0023

Pete Kreft, P.E.
Project Manager
peter.kreft@mwhglobal.com

Delivering Innovative Projects and Solutions Worldwide

Section One Insurance Coverage

Montgomery Watson Harza maintains insurance coverage equal to or greater than the minimum required by the City of Newberg, as listed below:

Type of Insurance Coverage	Policy Limit
Commercial General Liability*	\$2,000,000 \$10,000,000 excess liability
Professional Liability	\$5,000,000 claims made \$5,000,000 excess professional liability
Automobile Liability	\$1,000,000
Worker's Compensation	Statutory limits

*MWH carries Commercial General Liability Insurance with the limits shown. This type of policy is the industry standard. MWH could purchase Comprehensive General Liability coverage for this project. The cost of that policy would be a cost to the project.

Section Two Computer Equipment

The computer equipment and services used by Montgomery Watson Harza are compatible with the equipment and software used by the City of Newberg. Our system is a Windows-based environment using Windows NT 4.0 and the following software, all of which are compatible with the City's software as described in the RFQ:

Function	MWH Software
Word processing	Microsoft WORD 97*
Spreadsheet	Microsoft Excel 97*
Scheduling	Microsoft Project 97*
CADD	Bentley Microstation v. 7.01.01.57 AutoCAD 2000
GIS	ArcView 3.2
Hydraulic modeling	XP-SWMM, EPA-SWMM, H2ONet**, WaterCAD**

* Our office is scheduled for an upgrade to the Microsoft 2000 products by the end of 2001. The Microsoft 2000 products recognize input from Microsoft 97 products. MWH will accelerate its upgrade to the Microsoft 2000 products if needed to be totally compatible with the City of Newberg's software.

**H2ONet and WaterCAD are the industry standard for hydraulic modeling, and are capable of integrating data from spreadsheet-based programs, such as Waterworks for Excel.



Montgomery Watson Harza has built an unmatched water treatment engineering team in its Portland office. This team has the needed expertise in all aspects of a treatment plant - concept, planning, audits and evaluations, alternatives analysis, design, construction, operations and start-up. We have recently performed successful plant facilities planning efforts, as well as design and construction, for numerous other Willamette Valley communities, and we will provide the City of Newberg with the same level and quality of service.

Our local team is available, responsive and committed to a successful and lasting project. We have demonstrated our ability to meet performance expectations to numerous Oregon and Pacific Northwest clients. We have the resources needed to meet the project schedule. We are committed to providing whatever is needed to meet your needs. We encourage you to discuss our commitment to quality work and client service with our local references.



Home of MWH Offices

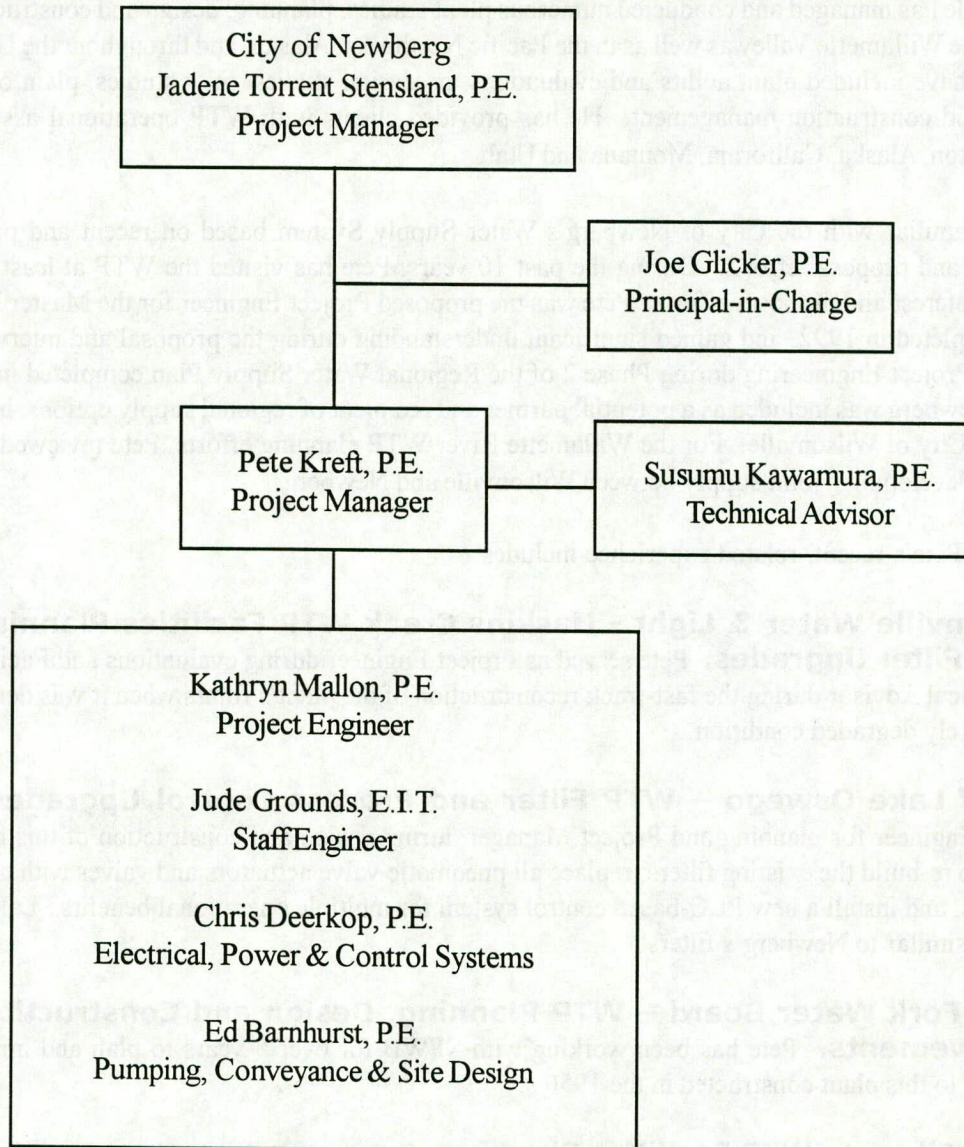
Equally important as our technical skills is the way we conduct our work. We view our role as an extension of your staff. Our team provides people who listen, who communicate openly and honestly, and who will work in a partnership role with you.

As you will see from the remainder of this section, the attributes of our team and its benefits to you include:

- A proven, experienced Project Manager with extensive local and national experience in water treatment plant evaluation, planning, design and construction who has recently performed many similar projects within the Willamette Valley.
- The advice and experience of Dr. Susumu Kawamura, who literally “wrote the book” on water treatment, and who has provided expertise on numerous water treatment plants around the world as well as in the Willamette Valley, including several iron and manganese removal facilities.
- A talented and enthusiastic Project Engineer who has performed numerous plant evaluations, audits, planning studies and designs, and who is currently serving as the Lead Engineer during construction of the Willamette River WTP in Wilsonville just a few miles away from your WTP.
- Experienced local staff to round out our team who have proven abilities in treatment plant evaluation and design, electrical, instrumentation and control systems, and structural/seismic evaluations who have successfully worked together on similar recent projects.

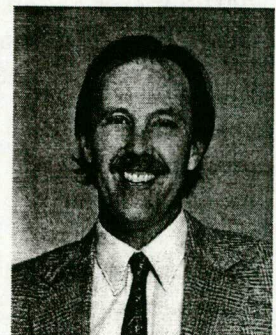
Our proposed project team is shown in the Organization Chart. Montgomery Watson Harza has assembled a team of the highest caliber for this project. Summaries of the qualifications of our team are given in brief descriptions below. Detailed resumes of project team members are provided in the Appendix.

Our team provides people who listen, who communicate openly and honestly, and who will work in a partnership role with you.



A STRONG PROJECT MANAGER IS THE FOUNDATION FOR SUCCESS

PETE KREFT, P.E., will serve as the Project Manager and lead engineer for the plant evaluation and facility planning. In this role, Pete will work closely with City staff to ensure your goals are met, as well as meeting budget and schedule. He will also supervise and actively participate in the evaluations and planning efforts. Pete will provide technical leadership and ensure that the plant evaluation is thorough and ensures regulatory and operational compliance well into the future. He will also ensure that the facility planning makes sense based on anticipated regulations, future growth, water supply options and the City's own contributions to the planning process. Pete is located in our Portland office, and he is available to respond rapidly and effectively to meet the needs of the project and of the City.



Section Three Key Personnel Qualifications

Pete is a registered professional and environmental engineer in Oregon, is a licensed water treatment plant operator, and has over 24 years experience in planning, design, construction and operation of water treatment plants. He has managed and conducted numerous plant studies, planning, design and construction projects, both here in the Willamette Valley as well as in the Pacific Northwest, Alaska, and throughout the United States. These projects have included plant audits and evaluations, predesign studies, pilot studies, plant operations, detailed design and construction management. He has provided clients with WTP operational assistance in Oregon, Washington, Alaska, California, Montana and Utah.

Pete is familiar with the City of Newberg's Water Supply System based on recent and past involvement in planning and proposal efforts. During the past 10 years, Pete has visited the WTP at least 4 times as part of general interest and proposal efforts. Pete was the proposed Project Engineer for the Master Plan Update which was completed in 1992, and gained significant understanding during the proposal and interview process. Pete was the Project Engineering during Phase 2 of the Regional Water Supply Plan completed in the mid-1990's in which Newberg was included as a potential partner and recipient of regional supply options, including an intertie with the City of Wilsonville. For the Willamette River WTP planning efforts, Pete reviewed the feasibility and costs of developing a joint supply between Wilsonville and Newberg.

Some of Pete's recent, related experience includes:

McMinnville Water & Light - Haskins Creek WTP Facilities Planning and Emergency Filter Upgrades. Pete served as Project Engineer during evaluations and Facilities Planning and as Technical Advisor during the fast-track reconstruction of the plant's filters when it was determined they were in a severely degraded condition.

City of Lake Oswego - WTP Filter and Process Control Upgrades. Pete served as Project Engineer for planning and Project Manager during design and construction of this recently-completed project to re-build the existing filters, replace all pneumatic valve actuators and valves with new electric valves/actuators, and install a new PLC-based control system for multiple operational benefits. Lake Oswego's filters are very similar to Newberg's filters.

South Fork Water Board - WTP Planning, Design and Construction of Multiple Improvements. Pete has been working with SFWB for over 5 years to plan and implement numerous upgrades to this plant constructed in the 1950's.

City of Albany - WTP Facilities Planning. Pete is currently completing an evaluation and planning improvements for Albany's plant located along the canal which delivers water from the North Santiam River. The plant was built in numerous stages during the 1900's and is located on a very cramped site.

City of Wilsonville/TVWD Willamette River WTP - Planning and Design. Pete has been involved with this state-of-the-art plant, currently under construction and scheduled for completion in April 2002, for over 5 years. Pete prepared the original plant layout and siting study as part of the Regional Water Supply Plan, participated in the pilot plant studies and further process/layout refinements, and then designed various elements of the plant including the filters and chemical feed systems.

Section Three Key Personnel Qualifications

Other related planning and evaluation projects of significance include:

-
- **City of Portland Bull Run Supply** – WTP Planning, Pilot Studies and Predesign
 - **Joint Water Commission WTP Expansion** – Planning, Design and Construction
 - **Warm Springs WTP** – Design and construction of control and process improvements
 - **Fort Richardson, Alaska WTP** – Evaluation and design of filter and control improvements
 - **Shemya Island, Alaska WTP** – Evaluation, pilot studies and design of groundwater treatment improvements for Fe/Mn removal
 - **City of Brooklyn Park, Minnesota** – Evaluation of 10 mgd groundwater treatment plant for Fe/Mn removal
 - **City of Minot, North Dakota** – Facilities Planning for a groundwater treatment plant for softening and Fe/Mn removal
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During the proposed Study period of January through June 2002, Pete has the following other project commitments:

- Eugene Water and Electric Board - Groundwater Development Planning and Design - 8 to 12 hours per week
- Eugene Water and Electric Board - Santa Clara Reservoir Improvements Construction Phase - 2 to 4 hours per week
- South Fork Water Board - Filter Upgrade Construction Phase - 2 to 4 hours per week
- City of Lake Oswego - Clackamas River Intake Modifications Pre-Construction Phase - 4 to 8 hours per week

These commitments allow Pete to devote at least 25% to 40% of his time to the City's Water Treatment Facilities Study.

Please contact our references listed in the Appendix to understand the level of enthusiasm and commitment Pete brings to each project he works on. He will deliver the same level of service to the City of Newberg.

SUSUMU KAWAMURA, Ph.D., P.E. - Susumu has over 45 years of WTP design and planning experience, including the design of over 25 WTPs. Susumu recently retired from MWH after a 30-year career and is now self-employed with his own firm. He provided technical assistance for the MW&L, Lake Oswego, SFWB, JWC and the Willamette WTP projects. Susumu recently published an engineering textbook entitled "Integrated Design of Water Treatment Facilities." Susumu's specialties include iron and manganese removal, direct filtration, automated and innovative filter designs, pilot studies, process evaluations, plant operation and pre-design studies.

Susumu will provide technical assistance and support during the WTP evaluation and Facilities Planning efforts in conjunction with Pete and Kathryn. Susumu has worked closely with Pete on numerous other water treatment planning and design projects. Susumu's extensive planning and design experience will offer the City a wealth of knowledge for its WTP project which will result in effective, practical, economical solutions.

KATHRYN MALLON, P.E., will serve as **Project Engineer**. Kathryn has over 12 years of treatment plant planning, design and construction experience. She has performed numerous pilot plant studies and plant planning studies throughout the Pacific Northwest. She designed the filter upgrades at Lake Oswego's plant and at the SFWB plant as well as designing numerous aspects of the Willamette River WTP. Kathryn is currently managing the engineering elements during construction of this new state-of-the-art plant in Wilsonville, and she will be readily available to visit Newberg "at a moment's notice." Kathryn and Pete have worked closely together on numerous planning and design projects recently.



Other recent plant evaluations and planning that Kathryn has performed include:

- McMinnville W&L WTP Facilities Plan
- Minot, ND WTP Facilities Plan
- Alameda County, CA WTP Audit
- Seattle/Cedar River Supply and Treatment Planning
- Portland/Bull Run Supply and Treatment Planning

JOE GLICKER, P.E., will serve as **Principal-in-Charge** as well as **Technical Advisor**. He has over twenty-five years experience with a unique blend of regulatory, engineering, strategic planning, operational, public involvement, and utility management expertise. Joe's blend of expertise is extremely valuable during plant planning projects where key project decisions must be made taking a broad range of factors into consideration. Joe served as Project Manager for the South Fork Water Board Master Plan and plant improvements. Joe served as Project Manager during predesign for Lake Oswego's Filter Upgrade Project and was also PM for the Joint Water Commission Water Treatment Plant expansion. Joe is also managing the design and construction of the new Willamette River WTP for the City of Wilsonville and TVWD.



JUDE GROUNDS will serve as staff engineer and will assist Kathryn and Pete during the plant evaluations and facilities planning. Jude is currently working with Pete on the City of Albany WTP Facilities Plan and also prepared the audit of the Fort Richardson WTP near Anchorage, Alaska. Jude performed the pilot study and designed improvements to the Fe/Mn removal plant on Shemya Island, Alaska. He has performed numerous pilot plant studies evaluating filter media design and performance. Jude is also performing design of numerous chemical feed systems at various plants.



CHRIS DEERKOP, P.E., will perform the electrical, power and control system evaluations. Chris is an experienced electrical engineer with an emphasis in medium and high voltage supply and motors, control systems, telemetry systems and backup power systems. He has extensive experience with SCADA systems and PLCs. As a supplement to his electrical/control systems design experience, Chris was a mechanical systems designer/engineer before deciding to emphasize electrical/I&C. Chris has designed the electrical and instrumentation improvements on most of our Pacific Northwest water treatment and supply projects. Chris designed the new power and control systems for the electric valves/actuators at Lake Oswego's WTP which replaced the old pneumatic valve actuators.

ED BARNHURST, P.E., will provide pumping, conveyance and site design expertise. Ed has over 20 years of experience in the planning, design and construction of water and wastewater conveyance systems. Ed has designed over 100 miles of pipeline, over 15 pumping stations and performed civil/site design for numerous treatment facilities. Ed is a citizen of Newberg and is excited about the opportunity to provide service for his community.



PROJECT UNDERSTANDING

The City of Newberg is requesting proposals for consulting engineering services to evaluate the performance of its existing water treatment plant (WTP) and to prepare a plan for the future water treatment needs of the City. The WTP treats groundwater pumped from a wellfield and delivered to the plant in a 24-inch pipeline on a bridge over the Willamette River. The groundwater contains significant concentrations of iron and trace amounts of manganese which must be removed by the treatment plant before distribution. The City recently expanded the wellfield to a maximum pumping capacity of approximately 7 mgd and will soon be able to pump approximately 9 mgd. However, the newer Well #7 has significantly higher concentrations of iron (approximately 15 mg/L) than the older wells and created treatment challenges at the plant this past summer which reduced the reliable production capacity to less than 5 mgd. With very high iron concentrations, the plant may only be able to reliably produce 3 mgd. Since the City's recent historical maximum day demand has exceeded 5 mgd, the plant is currently a limiting factor in the overall water supply system during the peak summer season.

In addition to the production capacity limitation, the WTP also faces other challenges which must be resolved. The plant was originally constructed in 1949, and was upgraded in 1960 and in 1980. Hence, it is an older plant which will probably require significant infrastructure and support facility improvements to allow it to provide reliable service into the future. The wellfield has been classified as groundwater by OHD, but it appears to have a hydraulic connection to the Willamette River. It is possible that the wellfield will be determined to be "under the influence of surface water" in the future, especially as the wellfield is further expanded. Therefore, future regulatory requirements which may affect the way the water is treated and delivered need to be considered, such as meeting Surface Water Treatment Rule requirements. Also, the plant's existing solids (sludge) handling and disposal system appears to be inadequate to reliably handle the current solids production, especially with the higher raw water iron levels, and requires significant labor to pump and truck the sludge to the WWTP for ultimate handling and disposal. The City needs to review alternative solids handling and disposal methods to ensure long-term performance.

Lastly, but perhaps most important, the City needs to plan for future increases in water demand as part of the Facilities Study. The City expects to grow in the future and has committed to expanding its supply as evidenced by the additional wellfield capacity recently added. The 1992 Master Plan Update suggested that peak water demands would be approximately 6 to 8 mgd in 2002 depending on the amount of conservation which occurs. By 2012, the peak day demand was expected to increase to 9 to 12 mgd. As evidenced by this past summer's peak day demand of less than 5 mgd compared to other recent peak days of approximately 5.5 mgd, it appears that conservation efforts have been successful in reducing peak demands. Also, the City has not grown as fast as predicted in the early 1990's. Per the RFP, the City wants to develop a plan for increasing the plant's capacity to 9.5 mgd to meet the shorter-term expected growth, and also needs to consider an ultimate treatment capacity of 23 mgd to meet the projected maximum ultimate demand at "buildout". Therefore, the needs for short-term upgrades and possible expansion at the existing WTP should be blended into a longer-term solution for meeting the City's water demands well into the future. Intermediate capacity expansions providing less than 9.5 mgd should also be explored to optimize the "equity" in the existing plant.

The existing WTP is located on a very "cramped" site adjacent to the SP Newsprint facility. While the site may have the ability to accommodate a capacity increase up to 9.5 mgd to meet shorter-term demands, it is unable to support the City's ultimate water demands. Considering the age of the existing plant and its other limitations, it appears likely that a new WTP will ultimately be needed to provide a reliable water supply well into the 21st century. A survey of alternative WTP sites is therefore needed as part of this study and the space required will be a function of the capacity and treatment processes required. Therefore, one of the Facilities Study's primary purposes is to develop a plan for transition from the existing plant to the use of a new plant which can meet the City's economic constraints.

The City desires to have the Facilities Study completed as soon as possible and requires detailed project cost estimates to be completed by March 15, 2002, for fiscal year budgeting purposes. The Study shall be completed no later than June 28, 2002. The City needs to integrate the cost requirements for the WTP with other City water system and utility requirements.

Montgomery Watson Harza has been helping many communities within the Willamette Valley plan for their future water treatment and supply needs under similar circumstances. We have evaluated older WTPs and developed economical improvement and expansion plans using a variety of technologies. We have also successfully designed and implemented many of these improvements using a variety of techniques including design-build (DB), to provide faster completion and lower costs, as well as the traditional design-bid-build (DBB) approach. We can assist the City of Newberg in determining whether fast-track implementation of some of the required plant improvements is feasible and warranted for its situation. We offer an experienced, creative and enthusiastic Project Team who can assist the City with the multiple challenges that this project faces.

KEY ISSUES

Key issues for the City's Water Treatment Facilities Study which the consultant must carefully consider and resolve include treatment process optimization, ability to increase the existing plant capacity concurrent with process improvements, solids handling and disposal, support system evaluation and enhancement, automation and control, regulatory and code compliance, operational and O&M enhancements, site improvements, and developing a prioritized list of capital improvements. Also, planning must be made for a potential future WTP at a different location to determine how the City should proceed to ensure that its water supply and treatment system meets the community's needs for many years to come. The following paragraphs discuss our approach to resolving these key issues with the City of Newberg.

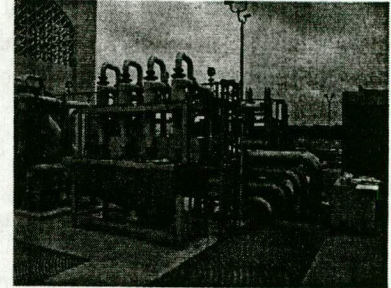
Optimizing the Clarification Process

The existing plant basically functions as a direct filtration plant for the removal of iron. The existing contact basins provide inadequate detention time and overflow rate to optimally reduce the solids loading on to the filters. Generally, direct filtration is appropriate if the raw water iron concentration is less than 2-3 mg/L. Considering the recent significant increase in iron concentrations from new Well #7 (10 to 12 mg/L iron) during peak flows, the filters become overloaded with solids due to inadequate floc settling, resulting in very short filter runs and reduced operating efficiencies. The filters also become susceptible to "shock loadings" during filter backwashes and can not remove the floc efficiently. City staff indicate that filter effluent iron concentrations as high as 1 mg/L were observed during the recent high demand period due to these conditions.

At a minimum, the plant must be modified to provide for acceptable removals of iron floc and solids in the existing contact basins ahead of the filters. This can be accomplished via the addition of high-rate clarification devices such as tubes or lamella plates. Other high-rate clarification processes which could be considered include dissolved air flotation (DAF) and "Actiflo," which uses microsand to provide high rates of settling within a small footprint. This process is currently being installed by MWH at the new Willamette River WTP in Wilsonville. It may also be possible to retrofit the basins with an alternative filtration technology such as immersed membranes (ZeeWeed by Zenon). Use of high-rate clarification can also be used to increase the plant capacity within the existing basin footprint, up to perhaps 10 mgd, with careful selection of design criteria and installation methods.

Clarification improvements can also be enhanced via an increase in pH concurrent with chlorine addition. Iron oxidation and floc formation is more rapid as the pH increases. The current raw water pH of 6.5 to 6.7 is relatively low. Currently, the plant adds caustic soda (NaOH) after filtration for pH adjustment to approximately 7.5 for corrosion control. The point of NaOH addition should be moved to the raw water and the addition of NaOH to the filter effluent can be discontinued as long as the oxidation pH is high enough to meet corrosion control targets. Increasing the pH of the clarified water should also improve the longevity of the existing basins because a higher pH will be less aggressive towards the concrete. Addition of NaOH to the raw water may also reduce chlorine consumption.

With the addition of clarification improvements that will increase solids build-up in the basins, it will then be essential to provide the ability to continuously remove sludge. Currently, the basins are cleaned manually every 3 to 4 months by draining to an adjacent manhole and then pumping to a sludge transfer truck. An automated sludge removal system capable of continuously operating and discharging sludge to the sludge lagoon should be added as part of these improvements. There are a number of systems which could be considered including SuperScraper, Trac Vac, and chain-and-flight. MWH has successfully upgraded existing WTPs with high-rate clarification and sludge removal systems in a number of plants throughout the country.



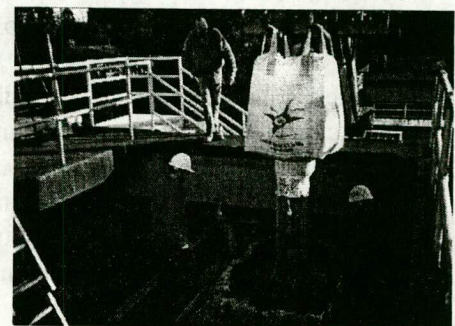
Actiflo

Upgrading the Filters

Besides clarification, filtration is the other key treatment process which must perform optimally to ensure that operational and regulatory requirements are met. Sub-optimal filtration can result in reduced plant capacity, low plant production efficiencies (excessive backwashing) and a risk that water quality may not meet regulatory or aesthetic requirements. Based on our review of performance records and discussions with City staff, we feel that the existing filters are in a degraded condition due to age, excessive solids loading and lack of adequate cleaning ability. For example, the filter runs appear to be very short between backwashes (approximately 6 hours this summer) and this results in excessive “water loss” and overloads the sludge lagoons. The UFRV for 6 hour filter runs at 3 gpm/sf (900 gpm per filter) is approximately 1,200 gal/sf compared to our recommended minimum of 5,000 gal/sf. This results a plant production efficiency less than 90% whereas optimal is 95%-98%. For this plant, a minimum filter run length between backwashes of 24 hours is desirable for optimum operations. **The existing filters should be upgraded to improve operating performance, to extend operational longevity and to enhance the ability of the plant to provide additional capacity. These improvements will also minimize the effects of drawing down the clearwell during frequent backwash situations.**

With the clarification improvements discussed above, the existing filters will still not be able to perform optimally without modifications. Major issues which should be addressed include:

- Replacement of filter media and underdrains due to age and disruption. Based on our experience with filters throughout the region, filters older than 20 years are significantly disrupted. Over time, media is lost and coated, gravel can shift and can change its depth and size classification, resulting in non-uniform backwashing and filtration performance. We observed “boiling” and flow distribution problems in Filter #1 during backwash. Rebuilt filters can provide deeper, more efficient designs which operate longer between backwashes, produce better water quality, and allow higher filtration rates which increase capacity without building new filters.



Lake Oswego's filter rebuild

MWH has successfully re-built numerous filters around the Willamette Valley including Lake Oswego, South Fork Water Board and Joint Water Commission.

- Addition of auxiliary cleaning system. An optimum filter cleaning system includes backwash and auxiliary cleaning systems, such as surface wash sweeps or air scour. Without auxiliary cleaning, it has been proven time and again that filters can not be cleaned properly. This results in long-term buildup of solids on the filter media and degradation of filter performance. If filter aid polymers are used, the auxiliary cleaning is even more essential to avoid "mudballs" and cleaning problems. At the Newburg WTP, the re-built filters should be provided with surface wash sweeps which rotate and agitate the media during backwash. The existing filter design originally called for surface wash systems, which were never installed.

These improvements should allow the filters to be capable of processing up to 7 mgd (1200 gpm per filter with all in service, 1600 gpm with one filter out of service during backwash) **without the addition of new filters**. It is likely that new filter(s) will be required to achieve plant capacities in excess of 7 mgd.

Expanding and Improving Solids Handling and Disposal

The plant currently has one lagoon which stores dirty backwash water and allows settling of the solids removed during filtration. The clarified supernatant is discharged to the Willamette River and must meet NPDES discharge permit requirements. The settled solids are currently pumped out of the lagoon via a tanker truck and then transported to the nearby wastewater treatment plant for ultimate solids disposal. Usage of new Well #7 has overtaxed the current system lagoon system jeopardizing the NPDES discharge permit conditions and increasing the required frequency of sludge pumping.

The clarification and filtration improvements discussed above should significantly reduce the stress on the existing lagoon. With reduced backwashing frequency, the lagoon will receive significantly less flow each day and provide for better solids settling and less disruption. Also, the solids removed from the upgraded clarification system will be more concentrated and should settle faster than currently observed. However, additional clarification may be necessary to ensure NPDES permit compliance. The site is space-limited and does not provide many options. Modifications to the existing lagoon such as baffling may reduce solids in the supernatant. Also, there is potentially space available for a high rate clarification process (Actiflo, solids contact basin, etc.). Other options which should be considered include mechanical dewatering such as centrifuge or belt press facilities. Solids disposal options include continued discharge to the WWTP, and the possibility of pumping/piping the solids versus trucking should be given serious consideration. Also, the feasibility of hauling thickened/dewatered sludge to a municipal landfill should be explored.

Automation and Control

The plant has been progressively modernizing and updating the control systems at the plant. Since the plant is not manned 24 hours per day, it has been provided with a SCADA system which allows remote monitoring and control via a laptop PC connected to its Wonderware control software.

Ultimately, all of the plant's main functions and treatment processes should be automated to reduce operator time for basic control and operations. Many plants around the country have been migrating in this direction during the past 5 to 10 years. MWH will review the various features and requirements which will provide the City with options for totally integrating the plant's controls. One specific control improvement identified by the City is the replacement of the existing filter control valves, equipped with pneumatic actuators, with electric actuators. The pneumatic actuators and plant air control system are old and replacement parts and repairs are becoming increasingly difficult to obtain.

MWH recently completed a similar valve and filter control system upgrade project for the City of Lake Oswego's WTP. Various options were evaluated and compared before deciding to replace all filter valves and actuators with new valve/actuator packages. The valves were old and represented a small fraction of the overall project costs due to the relatively high cost of the actuators and control interface requirements. The new valves/actuators are linked to the plant's new SCADA system with a series of programmable logic controllers (PLCs) which provide multiple redundancy in case of software and/or power failure. The electric valves were also tied into a new backup power supply system including direct connection to an uninterruptible power supply (UPS) as well as to the plant's new standby emergency generator. This systems allows the filter control valves to continue to be operated during a power failure rather than lose complete control, providing more flexibility during emergency conditions.

Upgrading Support Facilities

Various components and support facilities of the existing plant are old, outdated and may need replacement. These include various chemical storage and feed systems, electrical supply and motor control systems, HVAC and plumbing systems. Also, building codes and other regulatory code requirements need to be reviewed to determine if various plant systems and functions meet the basic requirements of current codes including electrical, structural/seismic, mechanical and fire/life/safety. The City also needs to determine if the plant will be rated such that it needs to meet American with Disabilities Act (ADA) requirements.

Major plant electrical features such as the high service and backwash pumps may need modernization to improve power efficiency and improve power factor ratings to reduce on-going power costs. The plant also requires a review of essential features to determine the need and capacity for backup power in case of unplanned outages.

The existing chlorine gas storage and feed system, using one-ton cylinders, does not meet current UFC requirements, but has been "grandfathered". If significant plant and building improvements are made, then it is likely that the chlorine system will require modifications to meet regulatory requirements for pressurized corrosive gasses and liquids.

A high priority is the installation of a new caustic soda (NaOH) storage and feed system to replace the "temporary" system installed a few years ago to meet the Lead and Copper Rule. The tank is outdoors and results in operating challenges due to temperature (NaOH crystallizes at relatively high temperatures). The metering pumps can not be controlled automatically, the feed piping is a problem and require replacement with a more permanent system. Ideally, a new bulk storage tank should be installed indoors within a controlled climate, and new metering pumps and piping should be installed for automatic control and flexibility in feeding to different application points. Pete Kreft has designed numerous caustic soda feed systems for clients in the Pacific Northwest including Wilsonville, Portland Water Bureau, Joint Water Commission, City of Tacoma and City of Bremerton.

All of these issues must be reviewed and resolved during the plant evaluation and planning efforts to determine possible capital improvements and O&M requirements to allow the plant to have a long remaining useful life.

Plant Capacity and Remaining Useful Life

The existing 24-inch raw water pipe can deliver at least 10 mgd from the wellfield. We believe there is adequate space at the plant to treat up to 10 mgd with the addition of 2 more filters and with clarification improvements. Solids handling is space limited and requires further review and analysis. Pumping and pipeline capacity to deliver 10 mgd from the WTP requires further analysis since the existing 18-inch finished water pipeline may not be able to efficiently carry this flow without significant headloss. A new pump and a new pipeline are probably required to increase transmission capacity from the plant. Additional clearwell volume may also be warranted as part of a capacity increase.

With improvements, it may be possible to achieve the City's shorter-term capacity goal of 9.5 mgd at the existing plant. Along with the capacity improvements, many of the plant's support systems may need to be upgraded and/or replaced to meet code and longevity requirements. Hence, the City is facing significant capital expenditures for the existing plant to provide the additional required capacity. The City needs to weigh these investments against the fact that much of the plant itself is old. A "remaining useful life" analysis is required to determine the value of making these improvements versus using the funds to construct a new WTP.

Determining Requirements for a New WTP

The City has requested that new treatment facility layouts be developed for two capacity scenarios including 9.5 mgd and 23 mgd. Concurrent with this effort will be an evaluation of suitable property in and around the City on which to develop a new WTP. The costs and time to develop a new WTP will be weighed against the investments needed to keep the existing plant functioning for many years to come. It is likely that a transition plan will be needed to help the City determine when a new plant will be required once the capacity of the existing plant is exceeded, depending on what level of capacity increase is selected for the existing plant.

MWH will review all available iron-removal technologies as part of this analysis and we will focus our attention on high-rate processes which should reduce land requirements, assuming the City will need to purchase property for a new plant. As mentioned earlier, there are a variety of viable processes for consideration including dissolved air flotation, Actiflo, lamella plate settlers, sludge blanket clarifiers, and immersed membranes. MWH has considerable experience with all of these technologies.

MWH has prepared similar plans for numerous communities in the region and in the Pacific Northwest. The most-recent example of this is in Wilsonville where we are now completing construction of a new 15 mgd WTP, expandable to 70 mgd, after significant planning, layout, siting and preliminary design efforts. We are also currently assisting the Portland Water Bureau with planning and site layouts for a new WTP for its Bull Run Supply. We can help the City develop an economical plant using our recent successful experience.

GENERAL DISCUSSION OF APPROACH

Our approach to meeting City's goal of completing the evaluation and planning for cost estimates by mid-March 2002 is based on our recent experiences with similar plant evaluations and facility planning projects, as well as our understanding of The City's water supply and treatment system and the key issues as explained above. We reiterate the important elements of our approach as follows:

- Mobilize quickly upon notice of selection. Even before official Notice to Proceed is issued, MWH will immediately begin to coordinate activities and prepare resources to move as quickly as possible to gain the associated time benefits. We will also start collecting data and interviewing staff.
- Promote on-going, effective project team communications that result in rapid response and action.
- Meet with City staff as soon as possible to discuss and review existing plant performance issues and begin our plant "audit."
- Conduct on-site testing (jar tests, full-scale tests, filter corings and BW profiles) quickly to establish current performance and to assist with defining improvement requirements.
- Summarize the existing plant evaluation and major challenges in a Technical Memorandum and then discuss with City before entering the facilities planning phase.
- Upon NTP, begin to prepare criteria and plant layouts for a new facility with capacities of 9.5 and 23 mgd and preliminary cost estimates, as well as begin identifying possible sites.
- Review and summarize space requirements and availability of alternative sites.

SCOPE OF WORK OUTLINE

This section presents our outline Scope of Work for conducting the Water Treatment Facilities Study. It was developed based on the City's RFP, our discussions with staff, our understanding of the major project goals and the key issues to be resolved, various assumptions which are contained herein. It is also based on numerous other recent successful plant evaluations and facilities planning efforts performed by MWH recently.

All RFP items have been covered in this Proposal, and we have added certain "value added" features based on our experience performing similar plant evaluations and planning studies. Our detailed Scope of Work is contained in the Additional Supporting Information in the Appendix. Our schedule to complete these efforts is presented in Section 5. Our estimated level of effort and costs to perform this Scope of Work is presented in Section 6. Our Scope of Work is divided into 2 Phases with multiple Tasks to be completed for each Phase as shown below. We have also included project management and quality assurance/quality control tasks.

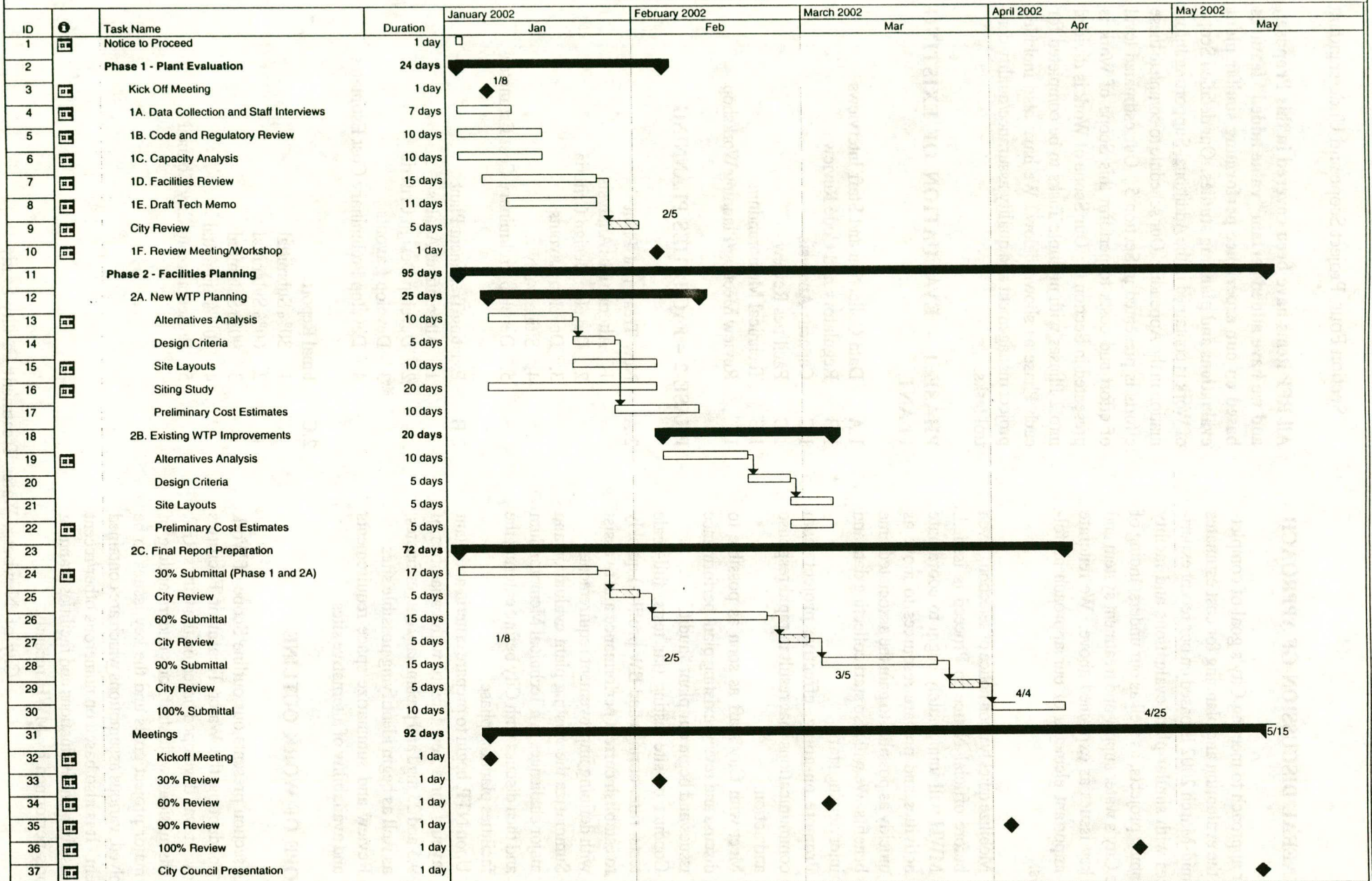
PHASE 1 – EVALUATION OF EXISTING PLANT

- 1.A Data Collection and Staff Interviews
- 1.B Regulatory and Code Review
- 1.C Capacity Analysis
- 1.D Facilities Review
- 1.E Technical Memorandum
- 1.F Review Meeting/Planning Workshop

PHASE 2 – FACILITIES PLANNING

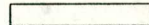
- 2.A New Treatment Plant
 - 1. Alternatives Analysis
 - 2. Develop Design Criteria
 - 3. Develop Layouts
 - 4. Siting Study
 - 5. Develop Preliminary Cost Estimates
- 2.B Existing Treatment Plant
 - 1. Alternatives Analysis
 - 2. Develop Design Criteria
 - 3. Develop Layouts
 - 4. Develop Preliminary Cost Estimates
- 2.C Final Report
 - 1. 30% Submittal
 - 2. 60% Submittal
 - 3. 90% Submittal
 - 4. 100% Submittal
 - 5. Presentation to City Council

**City of Newberg
Water Treatment Facilities Study**

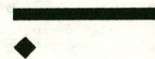


Project: WTP Study Schedule
Date: Nov 5 '01

Task
Split



Progress
Meetings



Summary
City Task



Rolled Up Split
Rolled Up Progress

Project Summary
Deadline



**CITY OF NEWBERG
WATER TREATMENT FACILITIES STUDY
FEE SCHEDULE**

TASK	TASK NAME	PETE KREFT (Project Manager)	KATHRYN MALLON (Supv. Professional)	SUSUMU KAWAMURA and JOE GLICKER	JUDE GROUNDS (Associate Professional)	CHRIS DEERKOP (Senior Professional)	ED BARNHURST (Supv. Professional)	ADMIN	TOTAL WORK HOURS	LABOR COST	APC/ ODC'S	TOTAL COST
1A	Data Collection/Interviews	4	4		8				16	\$1,600	\$150	\$1,750
1B	Regulatory/Code Review	4	8		8	4			24	\$2,440	\$400	\$2,840
1C	Capacity Review	6	12		32		4		54	\$4,950	\$450	\$5,400
1D	Facilities Review	6	12		24	8	4		54	\$5,150	\$450	\$5,600
1E	Tech Memo	4	10		16	4	2	4	40	\$3,640	\$350	\$3,990
1F	Review Mtg/Workshop	4	4	8					16	\$2,240	\$150	\$2,390
2A	New WTP Planning	18	40	8	32		2		100	\$10,880	\$750	\$11,630
2B	Existing WTP Planning	18	40	8	24		4		94	\$10,550	\$750	\$11,300
2C	Final Report	8	20		32			8	68	\$6,060	\$550	\$6,610
3	QA/QC	8		8					16	\$2,360	\$100	\$2,460
4	Project Management	20						8	28	\$3,260	\$250	\$3,510
TOTAL		100	150	32	176	16	16	20	510	\$53,130	\$4,350	\$57,480

Montgomery Watson Harza's Standard Hourly Rates for 2001 would apply to any additional work conducted on this project this year.
Future years rates would be subject to an increase of the average of Montgomery Watson Harza's yearly salary raises, or 5%, whichever is less.
2001 Standard Hourly Rates

		Kawamura Engineering, Inc.
Associate Professional	\$70	\$150
Professional	\$80	
Designer	\$60	
Senior Designer	\$80	
Senior Professional	\$95	
Supervising Professional	\$115	
Principal Professional	\$135	
Project Manager	\$145	
Administrator	\$50	
Secretary	\$45	

Non-salary expenses directly attributable to the project such as

- (1) living and traveling expenses of employees when away from the home office on business connected with the project;
 - (2) printing costs of major reports; and (3) outside services including subconsultants,
- are charged at actual costs plus 15% service charge to cover overhead and administration.

Associated project costs (APC) for the use of personal computers, word processors, networks, telephones, telecommunications, postage, miscellaneous reproduction charges, and other services are charged at the rate of \$7.44 per direct labor hour.

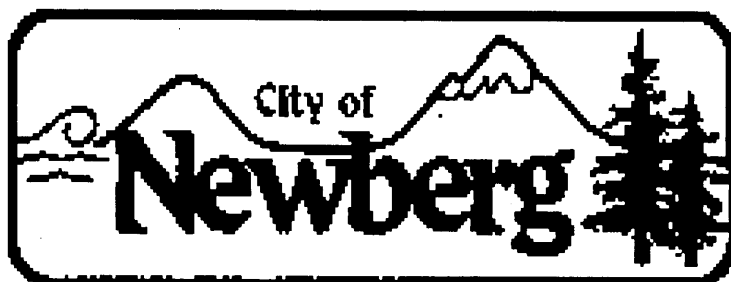
CADD is charged at \$24.00 per hour. Mileage will be charged at the rate of \$0.35/mile, or the federally approved rate in effect at the time of the work.

CITY OF NEWBERG, OREGON

COMMUNITY DEVELOPMENT DEPARTMENT

REQUEST FOR PROPOSALS

WATER TREATMENT FACILITIES STUDY



October 2001

Address proposals to:

City of Newberg, City Hall

Attn: Jadene Torrent Stensland, P.E., Project Manager ... 503-554-8881

Location: 414 E. First Street, Newberg, OR 97132

Mailing: P.O. Box 970, Newberg, OR 97132

Proposals due: Tuesday, November 6, 2001, at 11:00 AM, local time

Envelopes must be sealed, plainly marked: "WATER TREATMENT FACILITIES STUDY", sent to the attention of the Project Manager, and includes the name and address of the proposer. Respondents must submit six (6) sets of the proposal. The City of Newberg reserves the right to reject any or all proposals.

City of Newberg
414 E. First Street
P.O. Box 970
Newberg, OR 97132

City Manager
(503) 538-9421

(503) 538-5013 FAX

TO PLANHOLDERS

WATER TREATMENT FACILITIES STUDY
ADDENDUM NO. 1
October 17, 2001

This addendum, as delivered by e-mail on October 17, 2001, forms a part of the Request for Proposal Documents. It modifies the original documents as follows:.

- | ITEM # | DESCRIPTION OF CHANGE |
|--------|---|
| 1 | <u>Section 1.10, add to the last sentence of the first paragraph:</u> "..., in most cases, without modifications. Supplemental terms to the Professional Service Agreement, may be considered, at the City's discretion, but are not usually accepted. Supplemental terms may be attached to the Project Scope and Understanding section of the proposal." |
| 2 | <u>Section 2.1, delete the following from the fourth paragraph</u> - "These services will include, but not be limited to, developing a plan that determines the procedures needed to perfect the water rights, preparation of the Water Management and Conservation Plan, preparation of any reports or management plans as required as part of the certification process, and preparation of all final proof surveys as also required as part of the certification process." |
| 3 | |
| 4 | <u>Section 3.3.7, add the statement in bold</u> , "Indicate proposer's all-inclusive fee for which the requested work will be done, including sub-consultant fees, broken down as follows:" |
| 5 | You are strongly encouraged to attend an one hour pre-proposal tour of the Newberg Water Treatment Plant, scheduled for Tuesday, October 23, 2001 at 2:00 p.m. Meet at the <u>Wastewater</u> Treatment Plant at 2301 Wynooski Rd., Newberg, OR 97132, plant phone 503-537-1252. Car-pooling into the WTP will be encouraged, due to limited parking. |
| 6 | <u>Modify through-out entire RFP document</u> - Seven (7) sets of the proposal shall be required. One set of the proposal shall be an un-bound, black & white, plain paper copy using only 8.5" x 11" paper, so the City can easily make additional copies. |

Proposers shall acknowledge that they have received this addendum, by e-mailing a reply immediately to muellet@ci.newberg.or.us.

Thank you,
Jadene Torrent Stensland, P.E.

TABLE OF CONTENTS

SECTION 1 GENERAL INFORMATION

- 1.1 Proposal Request
- 1.2 Proposer's Proposal
- 1.3 Schedule
- 1.4 Issuing Office
- 1.5 Response Date
- 1.6 Proposal Withdrawal
- 1.7 Interview
- 1.8 Rejection or Acceptance of Proposals
- 1.9 Selection of Consultant
- 1.10 Execution of Contract
- 1.11 Public Records
- 1.12 Tax ID Number
- 1.13 Recycled Products Statement
- 1.14 Local/State/Federal requirements
- 1.15 Payment For Services

SECTION 2 SCOPE OF WORK

- 2.1 General
- 2.2 Scope of Professional Services
- 2.3 Services to be provided by the City

SECTION 3 PROPOSAL REQUIREMENTS AND EVALUATION

- 3.1 Proposal Submittal
- 3.2 Costs Incurred
- 3.3 Content of Proposals
 - 1. Introductory Letter
 - 2. Insurance Coverage
 - 3. Computer Coverage
 - 4. Key Personnel Qualifications
 - 5. Project Scope and Understanding
 - 6. Project Schedule
 - 7. Consultant Fee
 - 8. Supporting Information

APPENDIX A: Sample Professional Services Agreement

APPENDIX B: Vicinity Map

SECTION 1 GENERAL INFORMATION

1.1 Proposal Request

Written proposals and cost schedules (six copies) are to be submitted by **11:00 a.m. local time on Tuesday, November 6, 2001**, to the City Hall, City of Newberg, Attn: Jadene Stensland, P.E., Utility Engineer, 414 East First Street, P.O. Box 970, Newberg, Oregon, 97132. For more information please contact Jadene at (503) 554-8881.

1.2 Proposer's Proposal

Proposers responding to this proposal request must follow the rules stated within this RFP. Adherence to these rules will ensure a fair and objective analysis of your proposal. Proposals should provide a clear, concise description of your firm's capabilities to satisfy the requirements of the RFP.

All responses must be made in the format outlined in Section 3. Failure to comply with or complete any part of this request may result in rejection of your proposal.

Proposals should be prepared simply and economically, providing a straightforward, concise description of the key personnel's capabilities to satisfy the requirements of the City. Special bindings, colored displays, promotional materials, etc., are not necessary. Emphasis should be on completeness, brevity, and clarity of content.

1.3 Schedule

Proposal Due	Tuesday, November 6, 2001
Interviews	Friday, November 16, 2001*
Staff Recommendation	Monday, November 26, 2001*
City Council Approval	Monday, December 17, 2001*
Notice to Proceed	Thursday, January 3, 2002*
Project Completion	Friday, June 28, 2002

**These dates are approximate and subject to change.*

1.4 Issuing Office

All correspondence pertaining to this RFP should be directed to Jadene Stensland, P.E., Project Manager, City of Newberg, 414 East First Street or P.O. Box 970, Newberg, Oregon 97132. jadene@ci.newberg.or.us Direct: 503-554-8881 FAX: 503-537-1277.

1.5 Response Date

To be considered, proposals must arrive at the City on or before the date and time specified in this RFP. Proposers mailing proposals should allow delivery time to ensure timely receipt of their proposals. ***No proposal or correction received after the closing date and time will be considered.***

1.6 Proposal Withdrawal

Any proposal may be withdrawn at any time before the "Proposal Due" date and time specified in the Schedule, by providing written request for the withdrawal of the proposal to the City. The request shall be executed by a duly authorized representative of the firm. Withdrawal of a proposal will not prejudice the right of the proposer to file a new proposal.

1.7 Interview

Up to three firms, selected for final evaluation, may be required to make oral presentations of their proposals to the City's Selection Committee. Such presentations provide an opportunity for the firms to clarify the proposals and to ensure mutual understanding. The presentation will be an informal question and answer meeting; no power-point presentations are expected or desired. The City will schedule the times and location for this meeting.

1.8 Rejection or Acceptance of Proposals

The City expressly reserves the following rights:

1. To reject any and/or all irregularities in the Proposals.
2. To reject any and/or all the Proposals or portions thereof.
3. To base awards with due regard to quality of services, experience, compliance with specifications, and other such factors as may be necessary in the circumstances.

1.9 Selection of Consultant

The City's Selection Committee will recommend to the Newberg Community Development Director that the contract award be made to the proposer that is in the Committee's opinion, best qualified. The Newberg City Council must approve any selection.

1.10 Execution of Contract

Within 30 days after the City Council approval of the selection, the City and proposer will finalize the professional services contract. Appendix A of the RFP contains a copy of the City's standard professional services agreement for proposer's information only. The City will require the successful proposer to sign this contract.

If the selected proposer fails to execute a contract with the City within 30 days after the award has been made, the City may give notice to the proposer of the City's intent to award the service contract to the next best proposal, or to call for new proposals. The 30-day time period may be extended at the City's sole option.

1.11 Public Records

Any material submitted by a proposer shall become the property of the City unless otherwise specified. During the evaluation of proposals and the selection of the

consultant, the proposals shall be confidential. After the selection process has been completed, the proposals shall be open to public inspection. Proposals should not contain any information that the consultant does not wish to become public. If it is necessary to submit confidential information in order to comply with the terms and conditions of this RFP, each page containing confidential information should be clearly marked "NOT FOR PUBLIC DISCLOSURE CONFIDENTIAL TRADE SECRETS". The City accepts no liability for the inadvertent or unavoidable release of any confidential information submitted, and claims arising out of any public record request for such information shall be at the consultant's expense.

1.12 Tax ID Number

Proposals must state the proposer's Federal/State of Oregon Taxpayer Identification Number.

1.13 Recycled Products Statement

In accordance with ORS 279.555(2), Consultants shall use recyclable products to the maximum extent economically feasible in the performance of the contract work set forth in this document.

1.14 Local/State/Federal Requirements

The selected proposer shall comply with all federal, state and local laws, regulations, executive orders and ordinances applicable to the work under this contract, including, without limitation, the provisions of ORS 279.312, 279.314, 279.316, 279.320, and 279.555. In addition, proposers agree to comply with: (1) Title VI of the Civil Rights Act of 1964; (ii) Section V of the Rehabilitation Act of 1973; (iii) the American with Disabilities Act of 1990 and ORS 659.425; (iv) all regulations and administrative rules established pursuant to the foregoing laws; and (v) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations. Proposer is subject to the Oregon Worker's Compensation Law and shall comply with ORS 656.017, which requires the provision of Worker's Compensation coverage for all employees working under this contract. The City of Newberg's programs, services, employment opportunities and volunteer positions are open to all persons without regard to race, religion, color, national origin, sex, age, marital status, disability or political affiliation.

1.15 Payment For Services

The City will pay a consultant for services performed based on approved rates and scope of work. The City will make monthly progress payments within thirty (30) days following receipt of proper invoices.

Payments for extra work not described in the agreed upon scope of services will only be made when authorized in advance and in writing by the City Project Engineer/Manager.

SECTION 2 SCOPE OF WORK

2.1 GENERAL

The City of Newberg's water treatment facility was built in 1949, and upgraded in 1960 and 1970. Due to development in the area, the facility is located within the SP Newsprint facility with gated security. Additional information is available in the 1992 Water Master Plan.

The City expanded the well-field in June 2001 and can now provide approximately 7.0 million gallons per day (MGD) of raw water. However, the existing water treatment facility can treat 3 – 5 MGD, depending on the iron concentration. Additional wells and a reservoir are planned in the near future. Therefore, the City needs to address existing and future production needs as well as, new drinking water regulations.

The ideal consulting firm will provide a highly qualified and experienced team that will remain involved throughout the duration of the project. They will have a track record of strong customer/client philosophy and will have a proven track record in meeting project schedules and milestones with planned involvement by City staff. Qualified consultants will have strong public relations skills and excellent presentation abilities.

All information produced must be in accordance with Oregon Water Resources Department (OWRD) and the Department of Human Services – Drinking Water Program (DHS-DWP) formerly, Oregon Health Division (OHD).

2.2 SCOPE OF PROFESSIONAL SERVICES

The City of Newberg plans to retain consulting engineering services to perform the Water Treatment Facilities Study. The proposer shall provide adequate personnel and resources to accomplish the objectives of the project. Work for the project generally includes all personnel and materials necessary to successfully implement the project as outlined below.

The consultant shall provide a wide range of professional services including, but not limited to, project management, research and analyze existing systems as well as alternatives, site surveying, construction cost estimates, and other items that may be necessary to complete the project as outlined below.

The City desires to have the water treatment facility study completed as soon as possible, but no later than the June 28, 2002. For fiscal year budgeting, detailed project cost estimates must be completed by March 15, 2002.

The primary objectives of the project will be the following:

- A. Evaluate existing treatment plant processes and performance. - This evaluation will include, but not limited to, site visits to the existing treatment plant; interviews with plant and engineering personnel; review of existing reports, City Codes, regulatory documents, master plans and existing record drawings of plant construction.
- B. Prepare a technical memorandum

1. Create a strategic plan to identify appropriate treatment technologies which could be implemented, at existing and/or a new water treatment facility location, to address existing and future drinking water regulations and production needs, under two capacity scenarios, i.e., 9.5 MGD and 23 MGD.
2. Create layout, location and sizing of facilities on existing City property, or recommend acreage needed to suit design, which reflect recommended treatment processes and technologies. Include recommendations for redundancy in each treatment process or system.
3. Recommendations for rehabilitation or replacement of existing chemical storage and feed facilities, i.e., chlorine system, NaOH system, polymer system and other chemical systems. Include recommendations for new storage and feed systems and identify required building modifications, code compliance, required modifications to existing plant SCADA system and electrical, HVAC and plumbing for operation, monitoring and control and back-up power source.
4. Recommendations for rehabilitation and expansion or replacement of existing sedimentation basins, filters and clear well. Include discussion of alternatives evaluated and evaluation criteria, redundancy, location and size, required modifications to existing plant site piping and operations.
5. Recommendations for rehabilitation, expansion and/or replacement of existing backwash pond, and/or recommendations for a new location for the backwash pond. Include recommendations for removal methods and disposal of sediment and supernatant. Include discussion of alternatives evaluated and evaluation criteria, redundancy, location and size, storage, transmission line and/or treatment, required modifications to plant site piping and operations.
6. Recommendations for improvements to existing pneumatically actuated valving system. Include recommendations for upgrading to electronically actuated valving system and identify required building modifications.
7. Recommendations for back-up power for all facility operations and identify required building modifications.
8. Identify associated site improvements to accommodate recommended plant capital improvements, e.g., plant access, site piping and valving, landscaping, back-up power, etc.
9. Identify associated electrical improvements to accommodate recommended plant capital improvements, e.g., flow monitoring, automation, back-up power, etc. Include recommendations for efficiency of electrical systems and an electrical monitoring program. Evaluate the Power Factor requirements to minimize utility rate charges and/or penalties.
10. Evaluate the compatibility of the new equipment with the existing equipment, as well as, the systems that connect them.
11. Identify preliminary construction cost estimates for the recommended improvement alternatives.
12. Create a priority list and planning level schedule to implement alternative treatment technologies and processes.

Additional:

The Consultant shall, at a minimum, meet with the City for the following meetings:

- ◆ Project Kick-Off;
- ◆ Preliminary draft review submittal (30%);
- ◆ Intermediate draft review submittal (60%);
- ◆ Final draft review submittal (90%);
- ◆ Final Review presented (100%); and
- ◆ Presentation to Newberg City Council.

City staff requires a minimum of seven (7) calendar days for review of each submittal. The consultant shall include this time in their schedule.

Following the completion of each City, agency, and/or any other meetings, the Consultant shall be responsible to prepare a review summary. This summary shall be submitted, via e-mail in MS Word 2000 format, to the City's project manager within 5 business days.

The consultant must manage and coordinate all components of the project and take a proactive role in keeping all tasks on schedule. Project risks shall be identified as early as possible in the design process and action plans developed to avoid or minimize identified risks.

Key project management tasks include, but not limited to, the following:

- ◆ Project leadership.
- ◆ Proactive management of stakeholders.
- ◆ Keep a clear and accurate record of all meetings and follow-up on action items.
- ◆ Schedule management.
- ◆ Manage sub-consultants.
- ◆ Ensure quality control.
- ◆ Analyze and track project budget and expenditures.
- ◆ Provide every-other-week status reports and monthly progress reports.

The City will form a staff committee that will work closely with the consultant during the life of the project. This staff committee will be the primary group providing review and comment on most Consultants prepared work products delivered for City approval.

1. Agendas and meeting minutes will be prepared by the Consultant for all project-related meetings. Agendas and supporting information shall be distributed by the Consultant through the City project manager to all invited attendees at least ten full business days in advance of any meeting. Meeting minutes shall be distributed to meeting attendees and other interested parties within five business days of the meeting date.
2. The consultant must manage and coordinate all components of the project and take a proactive role in keeping all tasks on schedule. Project risks shall be identified as early as possible and action plans developed to avoid or minimize identified risks.
3. With each monthly invoice, provide a summary report of work completed since last submitted invoice, work anticipated for the next period and any issues or concerns that may affect the progress of the project.

4. Prepare a detailed project schedule using Microsoft Project 2000 software. Update the project monthly and submit to the City Project Manager.

Documents Furnished by Consultant:

All documents and photographic negatives shall be delivered to and be permanently retained by the City. All documents shall be provided in written and/or electronic format, as requested by the City. If necessary, provide final drawings in digital format and on 22" x 34" – 4 mil archival quality Mylar.

Prior to all submittals, the Consultant shall perform a complete quality control review of all documents to ensure they are complete and accurate. The City's review is only to determine general level of compliance with project scope and quality requirements and does not relive the Consultant from producing a complete, high quality set of project documents.

2.3 SERVICES TO BE PROVIDED BY THE CITY

The City will provide the following services for specific projects:

1. Provide a Project Manager who is responsible for overall project management and will provide coordination between the consultant and the City.
2. Provide input on the strategy for each work element.
3. Provide City staff member(s) to provide timely response to any questions and to be available for any meetings requested by the consultant. All meetings will take place at the Newberg City Hall Building.
4. Make available water use records, mapping and design information previously developed.
5. Make available guidelines, policies, and regulations to be used in developing the plans.
6. Conduct public hearings and prepare Council agenda items.
7. Conduct Council workshops.
8. Pay all permit fees to agencies, by internal transfer at the City of Newberg, or by check to outside agencies, upon the request of Consultant.
9. Legal review of all contracts, bid forms, and real property conveyances.
10. Maintain records and process payment requests.
11. Perform other tasks, as negotiated.

SECTION 3 PROPOSAL REQUIREMENTS AND EVALUATION

3.1 Proposal Submittal

To receive consideration, submit proposals in accordance with the following instructions:

Proposals should be prepared simply and economically, providing a straightforward, concise description of proposer's capabilities to satisfy the requirements of the RFP. Emphasis should be on completeness and clarity of content.

The City, at its sole discretion, has the right to negotiate with any or all proposers regarding their Proposals. Additionally, the City may reject or accept any or all Proposals or parts thereof, submitted in response to this RFP.

The City recognizes that in the submittal of Proposals, certain information is proprietary to the proposer and that the safeguarding of this information is necessary. Accordingly, the City will make every effort to prevent any disclosure of data supplied by any proposer where the proposer identifies those portions of its Proposal that are proprietary.

Six (6) proposals are due at **11:00 a.m. local time on Tuesday, November 6, 2001.** Proposals submitted after this time will be returned to the proposer unopened. Proposals must be submitted in a sealed envelope bearing the name, address, phone, fax and e-mail of the proposer and the name of the project to:

If your submittal is **mailed**, it must be addressed to:

Jadene Stensland, P.E., Project Manager
City of Newberg
P.O. Box 970
Newberg, Oregon 97132

Any mail addressed to the street address will be delayed by Post Office. Proposers mailing proposals should allow normal mail delivery time to ensure timely receipt of their proposals.

If your submittal is **hand delivered**, it must be brought to:

Jadene Stensland, P.E., Project Manager
Newberg City Hall
414 East First Street
Newberg, Oregon 97132

3.2 Incurred Costs

The City is not liable for any costs incurred by proposers in the preparation and/or presentation of their proposals.

3.3 Content of Proposals and Evaluation Criteria

The six (6) proposals shall include the information requested in each of the items identified in the following table and in the order indicated.

There are a maximum number of pages and minimum text font size permitted for each item of information. **A proposal exceeding the specified number of pages and text font size less than 11 will be considered non-responsive and the proposal will not be considered.** Supporting information shall be in a separate section, at the end of the proposal, and not counted in the page limit requirements. Front and back covers, as well as, section dividers are not counted in the page limit requirements. A one page table of contents is not counted in the page limit requirements. Each page shall be 8.5" x 11", unless otherwise noted. When using double-sided printing, each side of the page is counted as one page.

Each proposal will be judged on the completeness and quality of content, and as a demonstration of the consultant's qualifications.

The items of information to be included in each submittal, evaluation criteria, maximum points, and page limitations are shown on the chart below. An explanation of each item appears immediately following the chart.

CONTENT AND EVALUATION CRITERIA	MAXIMUM NO. OF PAGES	MAXIMUM SCORE
1. Introductory letter	1	0
2. Insurance coverage	0.5	(see note below)
3. Computer equipment	0.5	(see note below)
4. Key personnel qualifications	5	35
5. Project Scope and Understanding	7	35
6. Project schedule (11" x 17" allowed)	1	15
7. Consultant's fee (11" x 17" allowed)	1	15
8. Additional Supporting information	No Limit	0
Totals	16	100

NOTE: Each proposal will initially be reviewed based upon the criteria of correct number of pages, insurance coverage, and computer equipment. Firms may be excluded from further consideration if the number of pages in each section is not correct, the firm's insurance coverage is unsatisfactory, or if the firm's computer equipment lacks compatibility with the City's system.

1. Introductory Letter

The introductory letter shall include, but need not be limited to, the following information.

The name of the firm, as well as, the signature, printed name and title, telephone and fax number of the officer authorized to represent the consultant in any correspondence, negotiations and sign any contract that may result. The address of the office that will be providing the service, a project manager's name, telephone number, fax number, e-mail address. The federal and state tax ID numbers, and the state of incorporation, if applicable, must also be included. Indicate whether the proposer is a "resident bidder" as defined in ORS 279.029 and provide a statement that the proposal is valid for ninety days after the submission deadline.

The proposer may use this section to introduce the Proposal or to summarize the key provisions of the proposal.

2. Insurance Coverage

Provide a statement indicating that the firm has in effect or can obtain insurance coverage required by the City. If the consultant is unable to provide this coverage, the consultant must describe the insurance coverage that can be provided, and explain why the City's preferred coverage cannot be provided.

City of Newberg's required insurance coverage is described in the sample professional services agreement contained in Appendix A. Insurance coverage includes the following categories of insurance:

- A. Comprehensive general liability - \$2,000,000.00
- B. Professional Errors and Omissions and Liability- \$500,000.00
- C. Automobile liability - \$500,000.00
- D. Worker's compensation - as required by ORS 656.017

Once selected, the consultants shall provide certification for all coverage and shall include City of Newberg, its officials, employees, and agents, as ADDITIONAL INSURED on all except workers compensation insurance policies.

3. Computer Equipment

Provide a statement verifying that the firm's computer equipment and services are compatible with current City equipment.

The selected consultant's computer services and submittals must be compatible with current City equipment. All documents and drawings shall be provided in the following formats. The City has largely converted to the Microsoft NT, version 4.0, environment and uses the following software:

- Word processing with Microsoft Word 2000.
- Financial tracking and other spreadsheets with Microsoft Excel 2000.
- Scheduling with Microsoft Project 2000.
- The City's computer aided design system consists of a windows based environment utilizing Windows NT, AutoCAD 2000 and most current version of Bentley Microstation.
- The City's geographical information system consists of a windows based environment utilizing Windows NT, Arc View 3.2, and Arc Info 7.2.1.

- The City's hydraulic modeling software is Waterworks.

4. Key Personnel Qualifications

Provide a statement that portrays how the qualifications and experience of the firm's key personnel relate to the described work. The response should address the following:

- A) Key personnel experience with this type of project, and familiarity with the City of Newberg.
- B) A brief resume outlining the experience and qualifications of the person who would be directly responsible for this project. Identify any applicable registrations. Indicate the number of other projects that will be managed by this person during the time he or she would be managing this project.
- C) A listing of other individuals on the team that would support the completion of this project, with a summary of each team member's area of responsibility, expertise, experience and qualifications for this work.

5. Project Scope and Understanding

- A) Include a statement of understanding of the project.
- B) Provide a detailed work plan that describes how the consultant will organize and conduct the project by task. This plan must include all major phases of the project, with targeted completion dates for each phase and tasks of the project, as well as for each required deliverable. If the project can be completed in a shorter timeframe than the above mentioned schedule (see **1.3. SCHEDULE**), please indicate the proposed schedule.
- C) Include an explanation of any modifications of the work items and scope of work presented in this request for proposal.
- D) Provide a definition of how the consultant will ensure project progress and quality control.
- E) Provide a description of the consultant's approach and methodology of managing work tasks and coordination, sequencing and control of field operations used to accomplish the work in a timely manner.
- F) Describe how you would propose to use City personnel, if at all, to assist you during the project and indicate the approximate time requirement.
- G) Include a separate and specific description of each point in the RFP that is not completely met by the Proposal. If, in your project description you proposed an alternate approach to the RFP tasks, indicate that in this Proposal section.
- H) If the proposer has covered all items in the RFP, then this section should include the statement "All RFP items have been covered in this Proposal".

6. Project Schedule

Prepare a project schedule for each significant segment of the work, from Notice to Proceed to completion.

City staff requires a minimum of seven (7) calendar days for review of each submittal. The consultant shall include this time in their schedule.

7. Consultant's Fee Schedule

Indicate proposer's all-inclusive fee for which the requested work will be done, broken down as follows:

- A) Cost estimate including hours by task and total hours.
- B) Identify by personnel category the total hours multiplied by your proposed hourly billing rate.
- C) The fee should include all out-of-pocket costs (travel, printing, etc.) and a fee should be stated for each segment of the project.
- D) Describe the method you would use in charging for any special requests, reports or broadening of the scope of work beyond that described in this RFP.

8. Additional Supporting Information

Supporting materials should include only resumes, references and public client list. The reference list shall have no more than five clients with projects similar to this one. Please include the name, address, phone number, fax number and e-mail of the contact person for each reference. Detail the type of work done that supports the listed mandatory requirements in this RFP. In addition, include a total public client list and contact person for the last two years or the last ten clients, whichever is least. If there is no additional information to present, state "There is no additional information we wish to present".