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**MSA**

Murray Smith & Associates, Inc.  
Engineers/Planners

175 West B Street, Bldg. K-2 • Springfield, OR 97477-4575

**City of Springfield**  
**Finance Department**  
**Attn: Jayne McMahan, Mgt. Analyst**  
**225 Fifth Street**  
**Springfield, OR 97477**



# Proposal for

## ENGINEERING SERVICES FOR SCOPING, DESIGN AND INSTALLATION OF THE 58th STREET RELIEF SANITARY SEWER LINE & BYPASS MANHOLE Project P21046



City of Springfield, Oregon

February 28, 2011



Murray, Smith & Associates, Inc.  
Engineers/Planners

175 West B Street, Bldg K-2 • Springfield, OR 97477-4575 • PHONE 541.741.2975 • FAX 541.744.3875

February 28, 2011

City of Springfield  
Finance Department  
Attn: Jayne McMahan, Management Analyst  
225 Fifth Street  
Springfield, Oregon 97477

Re: RFP: Engineering Services for Scoping, Design and Installation of 58th Street Relief Sanitary Sewer Line & Bypass Manhole Project P21046 – MSA Proposal for Engineering Services

Dear Ms. McMahan:

Murray, Smith & Associates, Inc. (MSA) is pleased to submit this engineering services proposal to the City of Springfield for the above-referenced relief sewer project. Through MSA's recently completed design and construction management of the extensive sewer rehabilitation program for the City, and current design work on the Jasper Trunk Sewer, we have developed an excellent understanding of the City's expectations of our performance on this type of project. MSA has previously designed and managed the same type of work that is required for the relief sewer project and is highly qualified for this assignment which is a top priority for our firm and our local Springfield office.

Our team includes experienced lead individuals who are familiar with Springfield's standards, procedures and expectations through prior, successful sewer work for the City. Phil Smith, P.E., one of MSA's founding partners, will serve as principal-in-charge, similar to his capacity on MSA's current and prior work for the City. Kyle McTeague, P.E. has over 22 years of experience and will serve as our team's project manager, also in the same capacity as the recent Springfield sewer rehabilitation and current Jasper Trunk Sewer projects. Matt Hickey, P.E., an MSA principal engineer with 16 years of sewage system and pipeline conveyance engineering experience, will serve as project engineer. Bill Evonuk, P.E., an MSA associate engineer with 10 years of experience will serve as the design engineer. MSA's local Springfield office manager, Bill Hollings, P.E., will serve as construction manager. Tom Nevins, P.E. also from our Springfield office, will serve as technical advisor, and Devin Montgomery will be assigned as our team's field inspector. Surveying will be completed by NLV Services who will also provide right-of-way and easement support services as needed. Geotechnical engineering will be provided by Foundation Engineering, Inc., and right-of-way acquisition assistance will be provided by Universal Field Services, Inc. as needed.

Ms. Jayne McMahan  
February 28, 2011  
Page 2

Our firm has an excellent work history with these partner subconsultant firms. This team brings proven performance on prior work for the City and other local/regional public agencies and is excited at the opportunity to serve Springfield on this key project.

Engineering on the project must properly address a number of key issues, including: pipeline sizing due to minimal elevation drop, pipeline routing selection; diversion structure design, confined corridors including utility coordination; ODOT and BPA permitting; and other interests. In addition to our recent sewer work for the City of Springfield, our MSA team has addressed these issues on similar recent projects for the cities of Gresham, Wood Village, the Oregon State Department of Corrections, Salem, Portland, and many others.

Much of MSA's work is completed on fixed and condensed schedules. We are known for our "can-do" attitude and our commitment to delivering complicated projects on time and within budget. We are dedicated to high quality and high value and that is our promise to the City on this project.

**Minimum Mandatory Requirement (Criteria No. 1):** MSA acknowledges that all aspects of the work as outlined in the Request for Proposals and the scope of work will be provided and will be completed within the time schedule indicated in the RFP.

We look forward to the opportunity to review our proposal with the City. In the meantime, if we may offer any further information or answer any questions, please feel free to contact us. Thank you.

Sincerely,

MURRAY, SMITH & ASSOCIATES, INC.



Philip H. Smith, P.E.  
Founding Principal

KPM:jab

Enclosures



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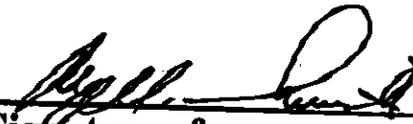




**ATTACHMENT 2**

**Authorization to Legally Bind Proposer**

The person executing this Proposal and the instruments referred to herein on behalf of the Proposer have the legal power, right, and actual authority to submit this Proposal, and to bind the Proposer to the terms and conditions of this Proposal.

  
(Signature of person authorized to bind Proposer)

Feb. 28, 2010  
Dated

Philip H. Smith, P.E.

**Print Name of Person Signing as authorized to bind Proposer**

Murray, Smith & Associates, Inc.  
**Firm Name**

503.225.9010  
**Phone**

121 SW Salmon, Suite 900  
**Address**

503.225.9022  
**Fax**

Portland, OR 97204  
**City, State, Zip**

smithp@msa-ep.com  
**email address**





## FIRM OVERVIEW

*Murray, Smith & Associates, Inc. (MSA)* is a Pacific Northwest firm founded in 1980 with offices in Portland, Oregon; Springfield, Oregon; Everett, Washington; Tacoma, Washington and Boise, Idaho. MSA specializes in municipal engineering and is well known for the firm's capabilities in the public wastewater and stormwater fields. MSA is an Oregon-based corporation that, in 30 years of business, has completed more than 1,200 projects for nearly 200 public agencies.

MSA offers you, the City of Springfield, the kind of experience this project demands. MSA brings to this project our familiarity with the City's wastewater system, our commitment of principal-level staff, our business focus on municipal engineering service to public agencies and our local office location that ensures optimal efficiency and immediate responsiveness.

Most of our firm's current work is repeat business, a testimony to the trust and confidence our clients have in MSA's professional staff and capabilities. We are pleased to have had the opportunity to prove our performance to the City on prior work and will deliver similar top value to Springfield on this assignment.

## PROJECT TEAM

MSA is pleased to include on our team the southern Willamette Valley firm, Foundation Engineering, Inc. (FEI) for geotechnical engineering. We are also pleased to bring to this project NLV Services, Inc. (NLV) for all surveying related tasks. Universal Field Services, Inc. (UFS) will assist with all easement acquisitions. MSA has completed numerous successful projects with this team and we are confident of the superb value we deliver to the City. MSA will conduct and manage all sewage system designs and general civil engineering, will oversee all subconsultant work, and will manage all aspects of the project. Firm profiles for MSA and other subconsultant team members are provided at the end of this section.

## UNIQUE QUALIFICATIONS

MSA offers the following unique set of qualifications and expertise that will yield top value to the City of Springfield.

***Experts in Sewer System Design and Pipeline Routing*** -- MSA is a regional leader in sewer system design. Our engineers apply expert, well-founded judgments as we design system improvements to meet client goals and expectations. Our designs provide minimal operational complications, efficiently functioning at the lowest life-cycle cost. MSA has conducted detailed alternatives analyses for hundreds of miles of pipelines. We know what fatal flaws to look for and what factors are most important in recommending the best pipeline alignments. We know what trade-offs must be considered in selecting preferred alignments and final alignment selection.

**Familiarity with Local Conditions and City Expectations** -- The MSA team is familiar with local area conditions though our current and prior sewer work with the City of Springfield. We are experienced with the City's expectations and we will deliver on those expectations.

**Timely Delivery** -- MSA is well known for our tireless "can-do" attitude and are often hired because our clients trust that we are the only firm that can truly fulfill a promise to get their project done on time. Whether a project requires fast-track production or simply demands that key deliverables are completed on time, MSA reliably delivers successful projects.

**Graphic Illustrations** -- MSA applies the most advanced computer illustration and GIS mapping tools available. We have developed graphic illustration capabilities that are unmatched. Our plan maps and system illustrations are visually pleasing, highly informative and often are instrumental in our ability to "sell" our ideas to our public agency clients, public policy makers and affected citizenry.

**A "Hit-the-Ground-Running" Team** -- The MSA team's familiarity with the local project area, our knowledge of the City of Springfield's wastewater system and our ongoing sewer system work for the City combine to provide a "hit-the-ground-running" team. We are certain that our extensive wastewater system and utility design and routing experience will enable us to quickly provide the important guidance that will ensure that sound long-term design decisions are carried forward to the project's full success.

**Permitting Expertise** -- The MSA team is highly experienced with all aspects of permitting associated with public works projects. We have successfully processed numerous Oregon Department of Transportation (ODOT) and Bonneville Power Administration (BPA) permits applicable for this project on recent similar utility design projects. In the past ten years, our firm has completed designs for over \$115 million dollars of ODOT improvements and we are well aware of the interests associated with permitting utility work in ODOT and BPA corridors.

**Local Office** -- MSA's local Springfield office brings regional engineering expertise directly to the City. This means top quality, value and immediate attention to all project needs.

**Experienced Construction Managers** -- As a mid-sized firm, MSA offers an impressive project record. The firm currently manages an estimated \$50 million or more of construction work annually. We apply formal construction management techniques and have an excellent track record in bringing projects in on time, within budget and with nominal change orders. Our programmed construction manager works locally out of our Springfield office and will be able to effectively manage and respond immediately to construction demands.

#### KEYS TO SATISFIED CLIENTS

- *Understanding and delivering our client's needs*
- *Providing prompt, efficient, responsive service through competent, energetic, courteous and professional staff*
- *Delivering high-quality work products that are visually pleasing and easy to understand*
- *Understanding that communication is more about listening than talking*
- *Honoring commitments on cost, deliverables and schedules*

## PROJECT MANAGEMENT APPROACH

*Our basic goal is very simple... satisfied clients! We do this by:*

- *Understanding our client needs and delivering on those needs*
- *Providing prompt, efficient, responsive service through competent, energetic, courteous and professional staff*
- *Delivering high-quality work products that are visually pleasing and easy to understand*
- *Understanding that communication is more about listening than talking*
- *Religiously honoring commitments on cost, deliverables and schedules*

***Commitment to Quality Assurance*** – MSA applies an ethic of high work quality at every level of our operation. A senior-level project manager is assigned to each and every project in our firm. That project manager maintains complete personal and professional responsibility and “ownership” of each project that they manage and is supported by technical reviewers and advisors on an as-needed basis.

***Project Management Philosophy and Approach*** – At MSA, we work hard to identify approaches, concepts and designs that meet project objectives (short- and long-term) at the lowest life cycle cost. We constantly coach our staff to make sure we are appropriately understanding and responding to our client’s fundamental values. We know that our clients have choices about who they hire. We work very hard in all of our personal interactions and in our firm conduct to be the type of people and organization with which our clients want to work.

***Contract Administration/Management Plan*** – MSA establishes a detailed work plan as an important first step for a successful management plan. The work plan includes: 1) the agreed scope of work; 2) a schedule with milestones and key dates; and 3) a budget by work task. These three documents are used by MSA to monitor progress, schedule meetings and submittal due dates, and make requests for payments.

***What Our Clients Say About MSA*** – Presented below are a few quotes from current/recent MSA clients that offer a further gauge of MSA’s performance.

***“They performed beyond my expectations and deserve a lot of credit for the successful completion of this multi-basin project... MSA is a top notch firm that operates with a high degree of professionalism and integrity.”*** – Paul Von Rotz, P.E., Civil Engineer, City of Springfield, OR

***“This letter serves to express the pleasure it has been to have Murray, Smith & Associates, Inc. (MSA) provide consulting services for our Jenne Road – Pleasant Valley Interceptor project... [MSA has] provided continuous and reliable technical, engineering, and managerial services throughout the duration of the project...The eagerness of MSA to assist in often difficult and contentious scenarios with minimal notice was indicative of their professional investment in the overall success of our project. In addition, the proactive effort to perpetually maintain an open dialogue with regards to the project status is a clear indication of the MSA commitment to customer service. I confidently recommend MSA to any firm or agency in need of professional engineering services.”*** – Jim Montgomery, P.E., Senior Engineer, City of Gresham, OR

***“They have done a wonderful job for us on a highly complex project and continue to do so on current work. They are highly responsive, they keep us well-informed, and overall MSA performs at an exceptional level. I highly recommend MSA to anyone that is looking for a firm that quickly responds to the needs of a municipality or public utility.”*** – Justin Rush, Engineering Project Manager, City of St. Helens, OR

***“MSA has given the job the total package: excellent engineering, professionalism and customer service. I would highly recommend MSA for any project.”*** – Denny Clouse, Operations Manager, Shoreline Water District, Washington

***“I can recommend with confidence the firm of Murray, Smith & Associates, Inc. to approach any potential assignment with evident technical mastery and the desire to create lasting, innovative municipal work.”*** – Neal Wallace, P.E., Public Works Director, City of Seaside, Oregon

***“MSA’s project team performed their work with exemplary style and in keeping with the highest standards of excellent engineering and program management. They have raised the bar of excellence for others to strive toward.”*** – Tim Dodson, P.E., Consultant Project Manager, Oregon Department of Transportation

***“I cannot think of any issue [MSA] did not respond to in a timely, professional manner. I give MSA an A+++++ on this project and this is why we want to continue working with [MSA] on Well #9. I look forward to a long relationship...”*** – Bob Cochran, P.E., Public Works Director, City of Fairview, Oregon

***“MSA’s plans have exceeded my expectation for quality and have always been delivered on time... Their staff answer questions with confidence and a clear understanding of the technical details and their effects on the overall project. Their understanding of how public agencies operate and their dedication to providing well developed work products simplify my duties and boost my confidence that the project will succeed.”*** – Don Ranger, P.E., Project Engineer, City of Bothell Public Works Department, Washington

***“I have had the opportunity to work closely with [MSA] principals, project managers, project engineers, and staff engineers and have been delighted with and very well professionally served by all. They are a pleasure to work with and go out of their way to make sure everything they do is done with care, thought, prudent engineering judgment, client cost sensitivity and professional integrity.”*** – Guy Johnson, Project Leader, Oregon Department of Transportation

## **PROJECT EXAMPLES**

Following are illustrative project descriptions (after firm profile information) for current and recent key projects that demonstrate MSA’s qualifications and capabilities relative to the contemplated City of Springfield work.

**MSA**

**Firm Profiles**

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Murray, Smith & Associates, Inc.  
Engineers/Planners

## Firm Profile



### Offices:

**Portland, Oregon**  
121 S.W. Salmon  
Suite 900  
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(541) 741-2975

**Boise, Idaho**  
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Suite 200  
Boise, ID 83702  
(208) 947-9033

[www.msa-ep.com](http://www.msa-ep.com)

Murray, Smith & Associates, Inc. (MSA) was established in 1980 to provide high quality civil and environmental engineering to municipalities and public agencies. In addition to providing general consultations through our many ongoing continuous service arrangements, MSA offers a full range of services from project inception through construction completion. We have completed many multi-discipline, multi-agency, multi-phase public facilities planning and design assignments and are particularly well known for our ability to effectively and efficiently carry out challenging, complex public infrastructure projects.

### Wastewater

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>▫ Wastewater Facilities Planning</li> <li>▫ Collection System Analysis/Basin Modeling</li> <li>▫ Wastewater Pump Stations</li> <li>▫ Gravity Sewers and Force Mains</li> <li>▫ Sewer Rehabilitation and Trenchless Technologies</li> <li>▫ Innovative Technologies</li> <li>▫ System Conversions</li> </ul> | <ul style="list-style-type: none"> <li>▫ Wastewater Treatment Facilities</li> <li>▫ Effluent and Reclaimed Water</li> <li>▫ NPDES Permitting and Compliance</li> <li>▫ Biosolids Handling and Beneficial Use</li> <li>▫ Combined Sewer Overflow (CSO)</li> <li>▫ Infiltration and Inflow (I&amp;I) Improvements</li> <li>▫ Odor and Corrosion Control</li> </ul> |
|--|--|

### Water

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>▫ Water Supply Planning and Development</li> <li>▫ Distribution System Master Planning</li> <li>▫ Water Resource Management and Conservation Planning</li> <li>▫ Reservoirs, Dams, Pump Stations and Wells</li> <li>▫ Hydraulic Modeling and Analyses</li> <li>▫ Transmission/Distribution Pipeline Routing Studies and Design</li> <li>▫ Corrosion Control/Cathodic Protection</li> </ul> | <ul style="list-style-type: none"> <li>▫ Water Treatment</li> <li>▫ Metering and Flow Control Systems</li> <li>▫ Water Rights</li> <li>▫ Aquifer Storage and Recovery (ASR)</li> <li>▫ River Intakes/Stream Diversions</li> <li>▫ Hydroelectric Feasibility</li> </ul> |
|---|--|

### Stormwater

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>▫ Stormwater Basin Analysis and Master Planning</li> <li>▫ Hydrologic and Hydraulic Modeling</li> <li>▫ On-site Detention, Retention and Water Quality Analysis and Design</li> <li>▫ Drainage Piping and Culvert Design</li> <li>▫ Wetlands Design</li> </ul> | <ul style="list-style-type: none"> <li>▫ Combined Sewer Separation</li> <li>▫ CSO Control/Pollution Control</li> <li>▫ On-site Retention Systems</li> <li>▫ Special Inlet Structures and Outfalls</li> <li>▫ Fish Passage Design</li> <li>▫ Water Resource Management Planning</li> </ul> |
|---|---|

### Transportation

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>▫ Street, Road Planning and Design</li> <li>▫ Traffic, Routing and Alignment Studies</li> <li>▫ Bridge Engineering</li> <li>▫ Downtown Plan Improvements</li> <li>▫ Utility Undergrounding and Streetscaping</li> <li>▫ Intersection Realignments</li> </ul> | <ul style="list-style-type: none"> <li>▫ Signalization Improvements</li> <li>▫ Subsurface Utility Engineering (SUE)</li> <li>▫ Landslide Related Road Repairs</li> <li>▫ Integrated Road and Utility Designs</li> <li>▫ Interagency Coordination</li> <li>▫ Road Culvert/Fish Passage Enhancements</li> </ul> |
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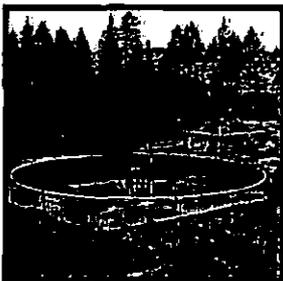
### Specialties

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>▫ On-call General Consulting</li> <li>▫ City/District Engineering</li> <li>▫ Program Management</li> <li>▫ Public Works Construction Contract Administration</li> <li>▫ Plan/Development Reviews</li> <li>▫ Intergovernmental Agreements</li> <li>▫ Rates, Finance, Grants and Loans</li> <li>▫ Vulnerability Assessments and Emergency Action/Response Planning</li> </ul> | <ul style="list-style-type: none"> <li>▫ Seismic Retrofits/Rehabilitation</li> <li>▫ On-site Solar and Auxiliary Power Systems</li> <li>▫ Commercial/Industrial Facilities</li> <li>▫ Marine and Natural Gas Facilities</li> <li>▫ Trenchless Technologies</li> <li>▫ Instrumentation and Control</li> <li>▫ CADD/Mapping/GIS</li> <li>▫ Utility Coordination</li> </ul> |
|--|--|

Serving the Pacific Northwest Public Works Industry Since 1980



## Wastewater



**W**astewater system planning and facilities design is a major component of Murray, Smith & Associates, Inc.'s (MSA's) business. MSA has completed numerous wastewater system facilities plans for Northwest public agencies and the firm has completed design, permitting and construction management services as part of many sewerage system improvement programs. The firm is experienced with all aspects of municipal wastewater collection, conveyance, pumping, treatment and effluent discharge.

In addition to work for several agencies on a long-term continuing services basis, MSA has assisted many local public agencies with the development of wastewater system planning and design standards. MSA proactively applies trenchless technologies and other innovative technologies to the design and construction of sewerage system improvements. MSA has engineered one of the region's largest vacuum sewer systems and has completed numerous successful combined sewer overflow (CSO) projects.

MSA places high importance on low-impact, sustainable, "green" alternatives, such as reclaimed water reuse, applying appropriate technologies with constant view to long-term value, serviceability and sustainability.

### Key Expertise

- Comprehensive Wastewater Facilities Planning
- Collection System Analysis/Basin Modeling
- Wastewater Pump Stations
- Gravity Sewers and Force Mains
- Trenchless Technologies and Sewer Rehabilitation
- On-site Systems and Innovative Technologies
- Wastewater Treatment Facilities
- Water Reclamation and Reuse
- NPDES Permitting and Compliance
- Biosolids Handling and Beneficial Use
- Combined Sewer Overflow (CSO)
- Infiltration and Inflow (I&I) Improvements
- Odor and Corrosion Control



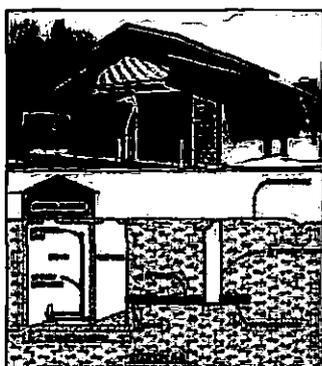
### Alternatives Analysis Studies

- Jasper Trunk Sewer, City of Springfield, OR
- Gravity Sewer Feasibility Study (Linneman Tunnel), City of Gresham, OR
- Wastewater Facility Plan, City of Dundee, OR
- Belfair/Lower Hood Canal Water Reclamation Facility Plan, Mason County, WA
- South Airport Basin Sanitary Sewer Project – Sewerage Facilities Plan, City of Portland, Bureau of Environmental Services, OR
- Royal Highlands Sanitary Sewerage Facilities Plan/Royal Highlands Pump Station and Force Main, City of Portland, Bureau of Environmental Services, OR
- Seely Ditch Sanitary Sewer Replacement Project, City of Wilsonville, OR



### Pipe Conveyance -- Pipeline Design

- Jasper Trunk Sewer, City of Springfield, OR
- Sanitary Sewer Rehabilitation, City of Springfield, OR
- Sewer System Capacity Improvements "K" (Central City Interceptor Sewer), City of Everett, WA
- Garthwick Combined Sewer Project, City of Portland, Bureau of Environmental Services, OR
- Miles Crossing Vacuum Sewer System Project, Clatsop County and Miles Crossing Sanitary Sewer District, Clatsop County, OR
- Wastewater Trunk Sewer Improvements, City of Gresham, OR
- OSCI Sanitary Sewer System Project, Phase 2, Oregon State Department of Corrections



### Pump Stations/Force Main Analysis and Design

- Miles Crossing Vacuum Sewer System Project, Miles Crossing Sanitary Sewer District/Clatsop County, OR
- River Road Pump Station and Force Main Project, Clean Water Services, Washington County, OR
- Sherwood Sewage Pump Station Rehabilitation, Clean Water Services, Washington County, OR
- Sanitary Sewer Lift Station Improvements Project, City of Oregon City, OR
- Willamette Lift Station Evaluation and Upgrade, City of Lake Oswego, OR
- Alternative 4 Sanitary Sewer Improvements, City of Wood Village, OR
- Utilities Service Extension to the Washington State Department of Corrections Stafford Creek Corrections Center, City of Aberdeen, WA



### Hydrologic/Hydraulic Modeling for Project Design

- Sewer Model Review Calibration and Support, Capital Improvement Plan Development, City of Bend, OR
- Wastewater Treatment Plant Outfall Pipeline Improvements, City of Sheridan, OR
- Garthwick Combined Sewer Project, City of Portland, Bureau of Environmental Services, OR
- Jenne Road – Pleasant Valley Interceptor, City of Gresham, OR
- Water Reuse Feasibility Study, City of Cottage Grove, OR



**Firm Profile and Project Experience**  
**Springfield - 58th Street Relief Sanitary Sewer Line and Bypass Manhole**  
**Prepared for Murray, Smith & Associates, Inc.**

Foundation Engineering, Inc. (FEI) is an Oregon-based geotechnical consulting firm providing services to Pacific Northwest clients since 1982. We have offices in both Corvallis and the Portland area (Beaverton). Our staff includes 6 geotechnical engineers, two with Ph.D. degrees in geotechnical engineering, a certified engineering geologist, 3 geotechnical staff, and administrative personnel. Our firm performs geotechnical investigations for a variety of projects including wastewater treatment plants, lift stations, sewerlines, directional bores, buildings, industrial and municipal treatment lagoons, industrial facilities, reservoirs, retaining walls, earth embankments, and infrastructure.

FEI has been involved in 86 wastewater projects throughout the Oregon and Washington. Our experience includes site reconnaissance and siting studies, subsurface exploration, geotechnical investigations, site-specific seismic hazard studies, installation, monitoring and analysis of instrumentation, utility tunneling studies, and construction observation and consultation.

Over the years, FEI has completed foundation investigations and seismic hazard studies for new wastewater treatment facilities, effluent clarifiers, SBR structures, aeration/digester basins, and control buildings, and associated earthwork and pavements.

Our firm has also provided geotechnical services on dozens of sewerline and pipe line projects. FEI provided geotechnical exploration, characterization and consultation for directional bores to install a new sewerline crossing beneath the Yaquina Bay in Newport and for a new sewerline in mountainous terrain in Netarts. As part of the MSA-let team, FEI recently a geotechnical investigation for the new Jasper Trunk Sewer in Springfield, and also completed a study for an industrial wastewater transmission line in Millersburg, Oregon. Selected examples of past sewerline projects include:

- Eugene (MLK) Sanitary Sewer
- Corvallis (Grand Oaks) Sanitary Sewer
- Philomath Sewer System Improvements
- Salem (Lone Oak) Sanitary Sewer
- Portland East Side CSO
- Springfield Jasper Trunk Sewer
- Medford (RWRF) Reuse Pipeline
- Lebanon West Side Interceptor and Phase 2A
- Eugene (MWMC) Transmission Line
- Wah Chang Transmission Line
- Beaverton (Summer Creek) Sewer Relocation
- Corvallis (Philomath Blvd.) Sewer Extension
- Corvallis (Dale Street) Sanitary Sewer
- Jackson Highway (Chehalis, WA) Sanitary Sewer

FEI has also been involved in the siting, design and construction observation for dozens of wastewater-related projects and associated components such as effluent storage lagoons, control buildings, earth embankments, river crossings, landslides, cut slope stability, excavation shoring, control of ground water infiltration and mitigation of challenging site conditions such as soft or compressible soils, elevated ground water, deep fills or expansive clays.

**Firm Profile and Project Experience**  
**Springfield - 58th Street Relief Sanitary Sewer Line and Bypass Manhole**  
**Prepared for Murray, Smith & Associates, Inc.**

**KEY STAFF**

**James K. Maitland, Ph.D., P.E., G.E. – Principal Engineer**

Jim Maitland has 32 years of experience as a geotechnical engineer, including 25 years as Principal and Owner of Foundation Engineering, Inc. Jim's consulting experience includes airports, bridges, buildings, culverts, road construction and pavement studies, water and wastewater systems, and landslide/slope stability projects. Jim has worked on hundreds of projects in Oregon and Washington, including dozens of geotechnical investigations for storage reservoirs, water treatment facilities, lift stations, transmission lines, and other water-related projects. As Principal Engineer, Jim uses his expertise and local experience to provide senior-level review and quality assurance for all projects. Jim has BS, MCE and Ph.D. degrees in civil/geotechnical engineering and is a registered professional engineer and geotechnical engineer in the State of Oregon.

Jim's local project experience includes the Jasper Trunk Sewer in Springfield, Hawkins Hill Reservoir in Eugene, water storage reservoirs in Lowell and Mapleton, and a new pump station for EWEB in Eugene.

**David L. Running, Ph.D., P.E., G.E. – Senior Engineer**

Dave Running is a Project Manager at the Corvallis office and has over 14 years of geotechnical experience. He has performed a variety of services including foundation and geotechnical investigations, geotechnical reconnaissance, engineering, analysis, design, and construction observation. Dave has worked on dozens of water-related projects and wastewater-related projects throughout Oregon. Dave is available to manage all aspects of the project including field explorations, engineering analysis, seismic hazard studies, report preparation and construction observation. Dave has BS, MS and Ph.D. degrees in civil/geotechnical engineering from Washington State University and is a registered professional engineer and geotechnical engineer in the State of Oregon.

Dave's local area project experience includes ±5.5-mile long, pressurized wastewater transmission line for Metropolitan Wastewater Management Commission (MWMC) in Eugene, construction of the MLK sewer trunk line in Springfield, Laurel Hill and Hawkins Hill Reservoirs in Eugene, EWEB's Hayden Bridge Filtration Plant 2009 expansion and the intake structure improvements in Springfield, water treatment plant improvements in Cottage Grove,



## STATEMENT OF QUALIFICATIONS

*Right of Way Acquisition and Relocation Services*

*Universal owes its continued success to its experienced and dedicated staff members*

- Team Members experienced with projects of all sizes
- Prior experience in the area
- Project management experience
- Experience with similar projects

Universal Field Services, Inc., has been providing Acquisition and Relocation Services throughout the United States since 1958. Incorporated in the State of Oklahoma, our general offices are located in Tulsa, Oklahoma, with additional offices in Sacramento, California; Phoenix, Arizona; Seattle, Washington; Salem, Oregon; Colorado Springs, Colorado; Dallas and Houston, Texas; Cherry Hill, New Jersey; and Atlanta, Georgia. In addition to the above administrative offices, we have numerous project offices located throughout the United States. We are currently qualified to conduct business in 46 of the 50 United States.

Universal has over 350 employees on its professional staff including Project Managers, Appraisers, Acquisition and Relocation Specialists and others. A large number of our personnel are members of the International Right of Way Association (IRWA) and various appraisal organizations including the Society of Real Estate Appraisers and the American Society of Appraisers.

In more than 50 years of offering services, we have never had to decline or not complete a project on time and within budget due to lack of qualified personnel resources. Many of our staff have specialist certifications from the International Right of Way Association in Negotiations and Relocation Assistance.

Although every project has a style, character and structure of its own, it must rest on a solid base of organizational skills, experienced staff and rigid project controls. Universal's Project Team and commitment to quality will allow you to proceed with confidence, knowing that an experienced project team is working on your behalf.

### **Highly Qualified Personnel**

We are known for our project teams. They are experienced professionals, all of whom have worked on similar projects. They have the knowledge and proven ability to ensure the success of major projects because they can identify issues long before they become problems.

### **Corporate Commitment**

Universal provides thorough preparation through a well-organized management plan. We commit our full corporate resources to providing this service in a cost efficient manner.

### **Quality Control Process**

Initial preparation is critical to the successful completion of any project. Early identification and resolution of problem areas through the use of partnering workshops and community involvement are just the first steps in the process. Our extensive Quality Control Program distinguishes our commitment to excellence and sets Universal Field Services apart from the rest of the industry. We are confident that with careful planning and a well-coordinated work effort, we can meet any project schedule the County establishes.

### **Commitment to Minority & Women Owned Business**

Universal is proud of its commitment to minority and women owned businesses and provides assistance whenever sub-contracting opportunities arise. Universal is an Equal Opportunity Employer with an Affirmative Action Plan.

**NLV SERVICES, INC.**  
**SURVEYING – MAPPING**

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5108 SE LOGUS ROAD, MILWAUKIE, OREGON 97222  
PHONE 503-329-5703 FAX 503-654-1727

**FIRM HISTORY**

NLV Services, Inc. is a full service surveying and mapping firm established in 1996. NLV specializes in providing quality design and construction surveys for other professionals in the engineering, architectural and construction community. NLV provides surveying for topographic, cadastral, photogrammetric control, GPS and construction applications. NLV Services, Inc. is an Oregon certified Emerging Small Business (ESB).

NLV Services, Inc. utilizes state-of-the-art robotic total station surveying instruments which allow very quick collection of data and stake-out. GPS capability is also available for large scale projects. NLV uses the very latest Autodesk CADD software for compatibility with the majority of client systems.

Since inception, NLV Services, Inc. has earned a reputation for providing responsive, accurate and cost effective surveying services. Our goal is to continue this high level of service, and to improve upon it.

**RECENT PROJECTS LIST**

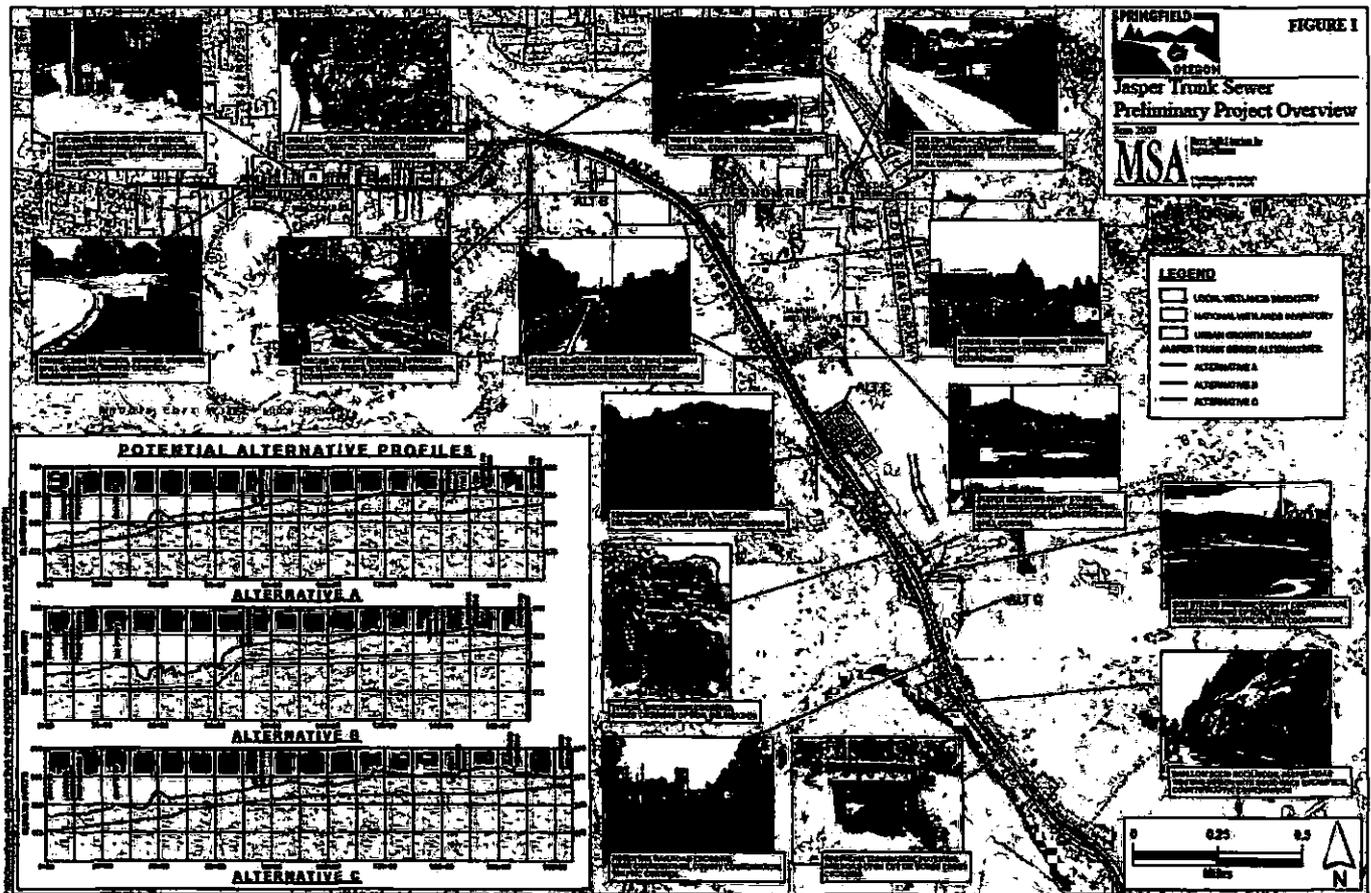
- *City of Springfield, Jasper Trunk Sewer*  
Murray, Smith & Associates, Inc.
- *City of Sherwood, Willamette River Water Supply Pipeline*  
Murray, Smith & Associates, Inc.
- *City of Portland, Bureau of Water Works, Downtown Main Improvements*  
Murray, Smith & Associates
- *Forest Grove, Or, Water Rights Certification Survey,*  
Murray, Smith & Associates, Inc.
- *City of Troutdale, Or, Sewage Pump Station Expansion, Design Survey,*  
Murray, Smith & Associates, Inc.
- *City of McMinnville, Or, McGuire Reservoir Expansion, Design Surveys,*  
Murray, Smith & Associates, Inc.
- *Oregon Air National Guard, F-15 Alert Hanger Complex, Layout, Construction and As-Built Surveys,*  
Engineered Structures, Inc.

- ***Pactrust Olympia, Wa., Storm Drainage Improvements, Design Surveys,***  
Group Mackenzie, Inc.
- ***Northwest Textbook Depository Tualatin, Or, Warehouse Expansion, Design Surveys,***  
Group Mackenzie, Inc.
- ***"Brandon House", Portland, Or, Foundation, Construction and Steel Fabrication Surveys,***  
Mr. Tim Brown
- ***Intel Hillsboro, Or, 229<sup>th</sup> & Ronler Access Intersection Signalization, Design Survey,***  
Group Mackenzie, Inc.
- ***City of Milwaukie, Lava Drive Water Booster Pump Station Modifications, Design Survey,***  
Murray, Smith & Associates, Inc.
- ***Latus Motors Harley Davidson Dealership, New Site and Building Construction Staking,***  
Engineered Structures, Inc.
- ***Sunrise Water Authority, Scouter's Mountain Reservoir Project, Design Surveys,***  
Murray, Smith & Associates, Inc.
- ***Sheridan School District, Chapman School Building Replacement, Design Survey and Construction Staking,***  
Engineered Structures, Inc.
- ***City of North Plains, Water System Improvements, Design Survey and Construction Staking,***  
Murray, Smith & Associates, Inc.
- ***City of Gresham, 30-Inch Water Transmission Main, Design Survey,***  
Murray, Smith & Associates, Inc.
- ***Clatsop County, Vacuum Sewer System, Photo Control and Design Surveys,***  
Murray, Smith & Associates, Inc.
- ***Framer's Inventory, Warehouse Settlement Monitoring,***  
Engineered Structures, Inc.

**MSA**

**Example Projects**

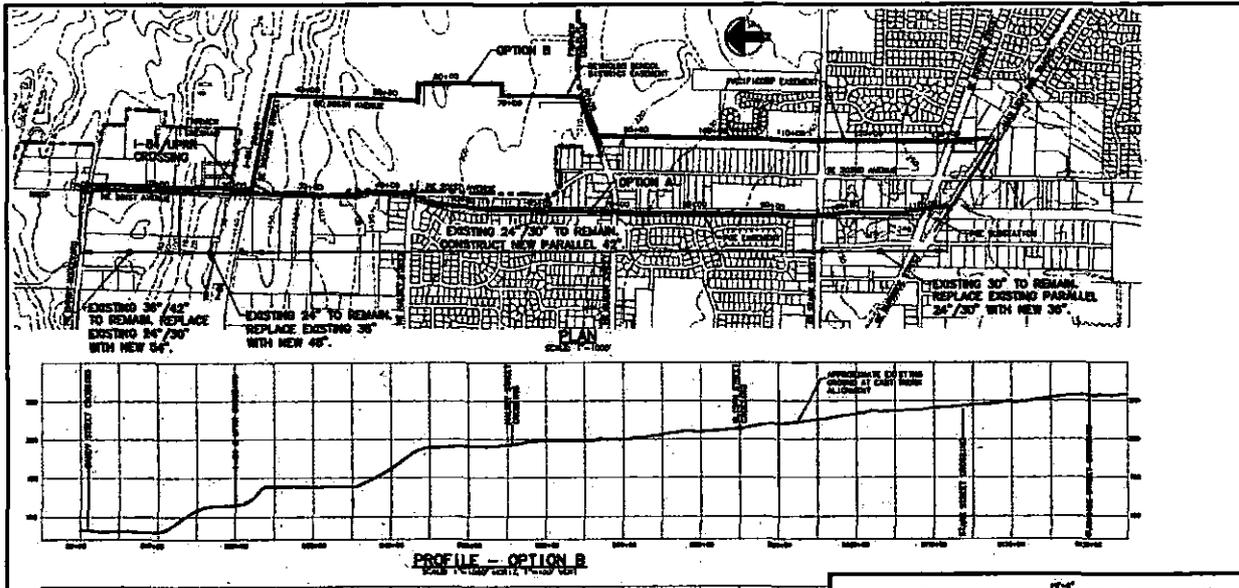
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**Project:** Jasper Trunk Sewer  
**Owner:** City of Springfield, Oregon  
**Contact:** Pamela Eide, P.E., Civil Engineer; 541.736.1028  
**Current Project**

**Description:**

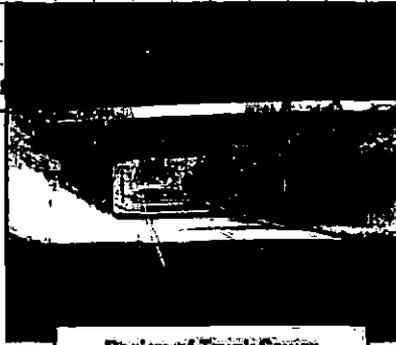
MSA is providing complete engineering services to the City of Springfield for the Jasper Road Trunk Sewer project. Services include detailed alternatives analysis, design, bidding, and construction management. The project consists of approximately 20,000 feet of new gravity trunk sewer ranging from 12 to 27 inches in diameter. The project will provide service to currently unserved areas in the southeast portion of the City and will include additional connecting mains to allow for the abandonment of three existing sewage pump stations. Routing challenges along the proposed trunk sewer corridor include an existing roadway and parallel railroad, underground and overhead utilities, wetlands, areas of shallow solid rock, easements and county right-of-way. The project involves hydraulic modeling, highway and railroad permitting, and environmental permitting. MSA is also providing property acquisition services for easements as well as support to the City for a public information program.



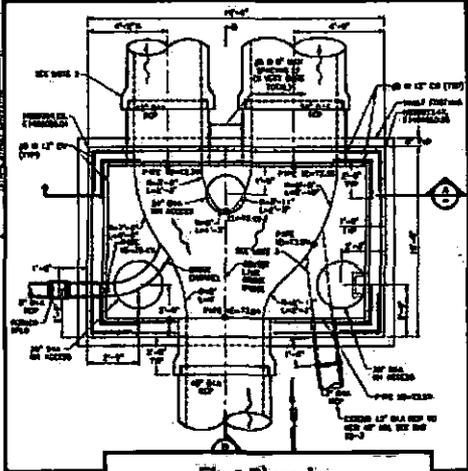
**Sewer Trunk Routing Analysis**



**Installation of 45-inch Diameter Piping and 96-inch Diameter Manhole.**



**Design of Trunk Sewer Through Narrow and Congested Utility Corridor.**



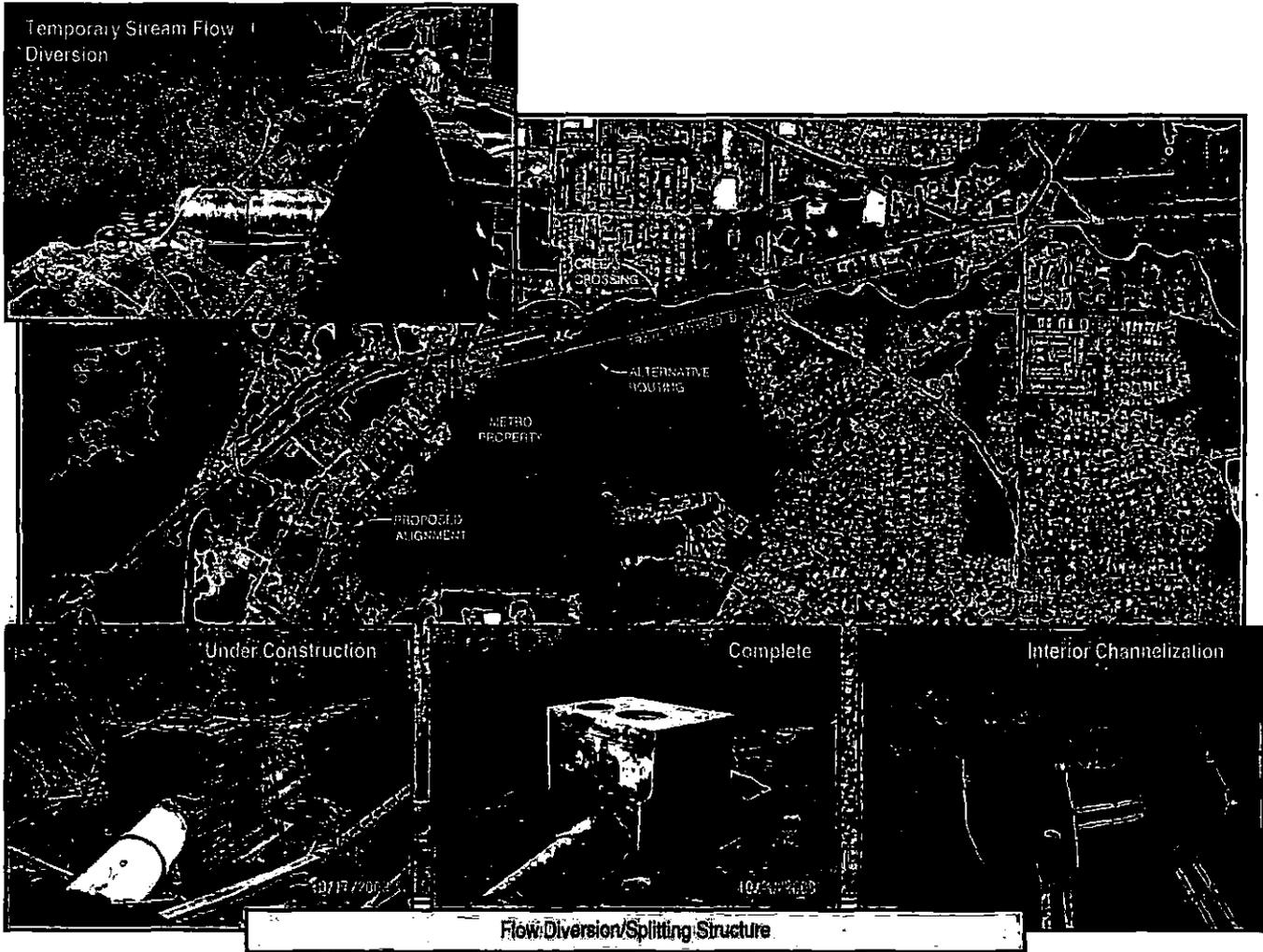
**Flow Diversion Structure**



**Project:** Wastewater Trunk Sewer Improvements  
**Owner:** City of Gresham  
**Contact:** Jim Montgomery, Senior Engineer; 503.618.2437  
*Phases 1-3 complete; Phases 4 and 5 awaiting construction funding*

**Description:**

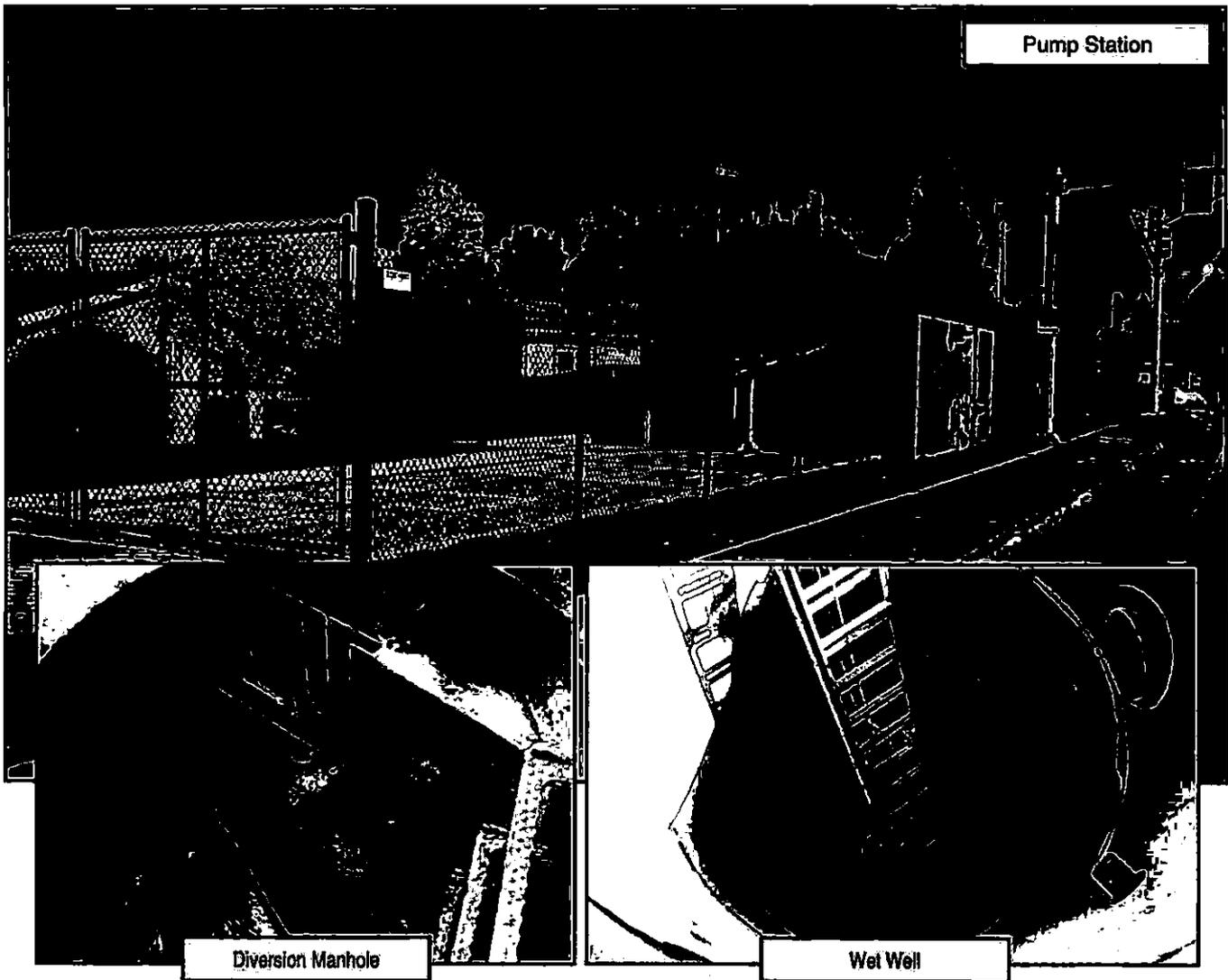
MSA completed evaluations and designs to increase the capacity of the City's sanitary sewer trunk system. Engineering work included a sewer trunk route alternative analysis, sewage trunk capacity SWMM modeling, and analysis and design of the City's primary gravity trunk sewer to the Gresham Wastewater Treatment Plant. The route analysis included evaluation of various alignments through congested corridors based on cost and ability to relieve existing portions of the sewage system where surcharging had been observed or was anticipated based on modeling results. The project involved 12,000 feet of 36-inch to 54-inch diameter reinforced concrete gravity sewer upgrades, flow diversion structures to optimize flow, permitting with multiple jurisdictions, coordination with other utilities, easement acquisitions and a connection to the existing wastewater treatment plant.



**Project:** Jenne Road – Pleasant Valley Interceptor  
**Owner:** City of Gresham  
**Contact:** Jim Montgomery, P.E., Senior Engineer; 503.618.2437  
**Completed 2008**

**Description:**

MSA performed permit application and design services for the City of Gresham, Jenne Road – Pleasant Valley Interceptor Sewer project. Design work involved assisting the City with interceptor design and completing the design for an inverted siphon sewer crossing of Johnson Creek. The creek crossing included a flow diversion/splitting structure to multiple smaller pipes to provide proper flows for the siphon design. MSA prepared permit applications for the Corps of Engineers/DSL 404 wetland permit, NOAA fisheries permit and the City of Gresham Water Quality Resource Area (WQRA) permit for the creek crossing work in the wetlands and along the proposed pipeline alignment. In addition, MSA assisted the City with the City of Portland Parks Bureau permit for work in Springwater Trail Linear Park. MSA's work also consisted of preparing traffic control and detour plan development for closure of SE Jenne Road to submit to City of Portland and Multnomah County transportation departments for approval. Pipes were sized to accommodate build-out flows in the Pleasant Valley area based on MSA's Kelly Creek Trunk Sewer Feasibility Evaluation (which included hydraulic and routing analyses). Design challenges for the 9,500-foot long, 24- to 36-inch diameter trunk sewer included sewer piping up to 20 feet deep in SE Jenne Road and coordination with various agencies related to conflicts with existing utilities.



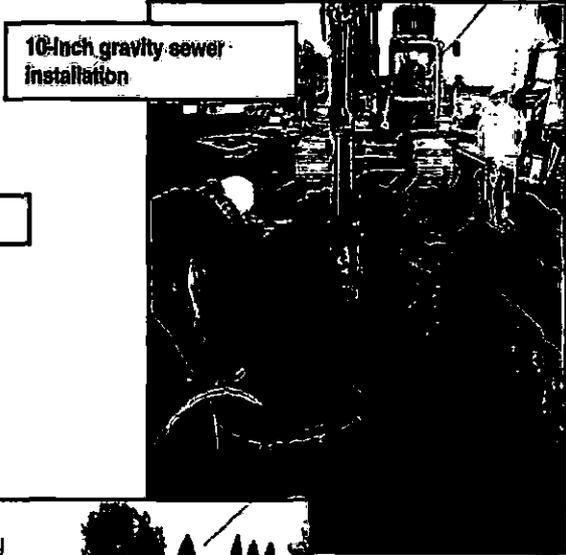
**Project:** Sandy Boulevard Sanitary Sewer Improvements  
**Owner:** City of Wood Village, Oregon  
**Contact:** Randy Jones, Public Works Director; 503.667.6211  
**Completed 2009**

**Description:**

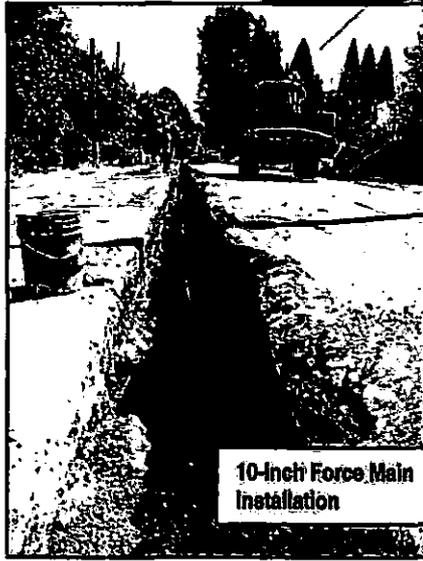
MSA completed design and construction phase services for the Sandy Boulevard Sewer Improvements for the City of Wood Village. The project includes a high flow sewage pump station and 1,730 LF of 10" force main to the City of Gresham Wastewater Treatment Plant. The pump station pumps sewage that is in excess of the capacity of the existing 24-inch Fairview Interceptor in Sandy Boulevard. A flow diversion on the interceptor diverts high flows due to infiltration and inflow in the sanitary sewer system from the interceptor to the station. The station is designed with a backup generator, odor and hydrogen sulfide controls and an automatic fresh water flushing system that flushes the force main during the dry periods of the year to prevent septic conditions in the force main. The project included hydraulic modeling of the existing interceptor to determine the project size and elevation of the sewage diversion piping connecting to existing upstream manholes on the interceptor line. Challenges on the project including placing the facility on a small site, utility conflicts in Sandy Boulevard and permitting the project through Multnomah County.



Diversion Structure



10-Inch gravity sewer installation



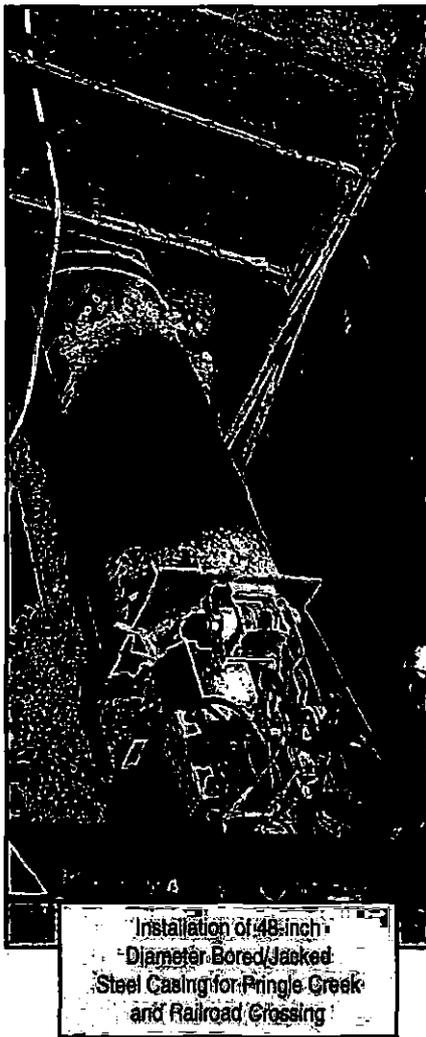
10-Inch Force Main installation



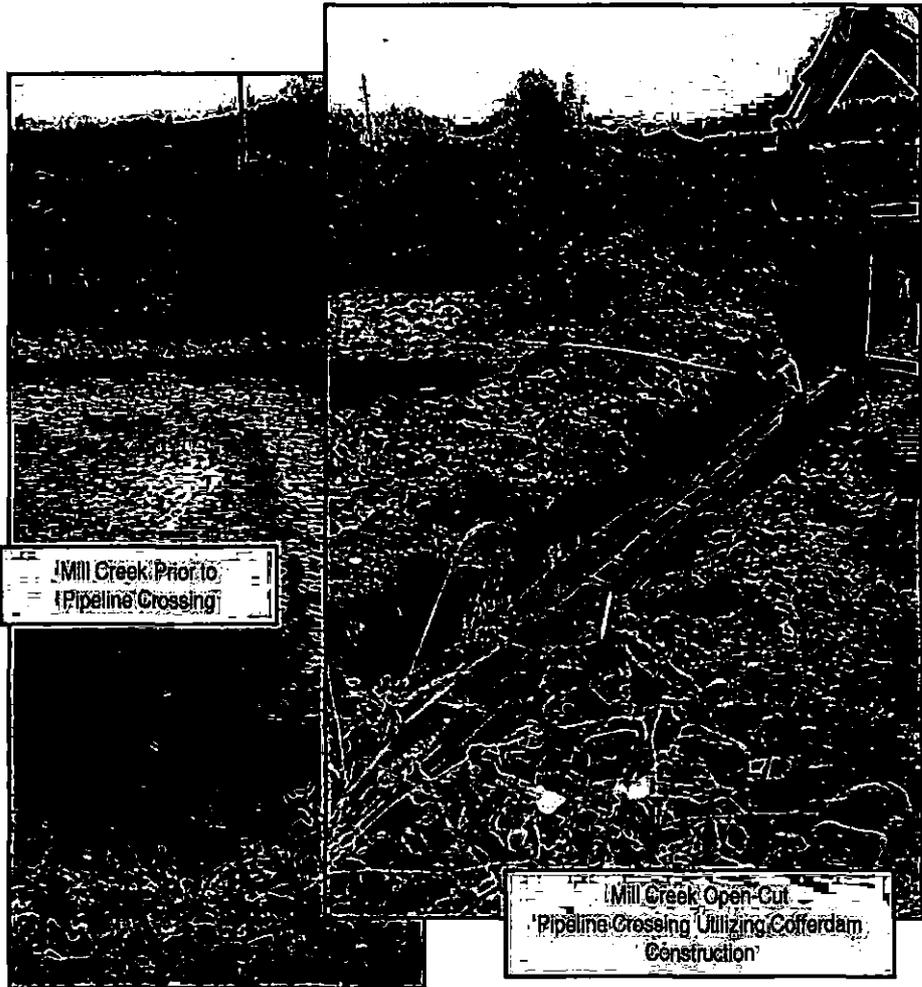
**Project:** Alternative 4 Sanitary Sewer Improvements  
**Owner:** City of Wood Village  
**Contact:** Randy Jones, Public Works Director; 503.667.6211  
**Completed 2006**

**Description:**

MSA prepared designs for sanitary sewer improvements in the City of Wood Village to add system capacity to accommodate build-out and the proposed 87 home Centex Development. MSA reviewed a number of alternatives for increasing the capacity of and relieving the City's trunk sewer system during high flow events. The selected alternative resulted in significant savings to the City and efficiently met the sewer capacity requirements by diverting high sewer flows through an existing highway crossing to a new pump station and force main facilities. Designs included modeling of the sewer system and development of contract documents and design drawings for a 1,200 gpm pump station, 4,300 feet of force main, a flow diversion structure and 800 feet of gravity sewer. The pump station included submersible pumps, an 8-foot diameter wet well, a metering vault and a chemical feed system to control hydrogen sulfide production and odor in the force main.



Installation of 48-inch Diameter Bored/Jacked Steel Casing for Pringle Creek and Railroad Crossing



Mill Creek Prior to Pipeline Crossing

Mill Creek Open-Cut Pipeline Crossing Utilizing Cofferdam Construction



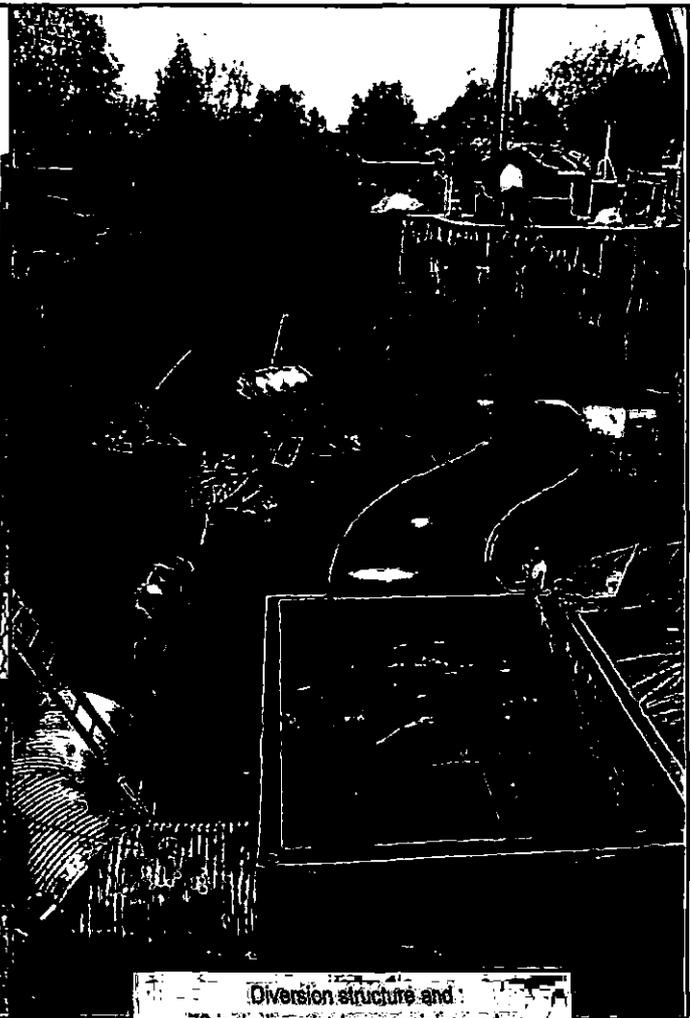
**Project:** OSCI Sanitary Sewer System Project, Phase 2  
**Owner:** Oregon State Department of Corrections  
**Contact:** Scott Young, Project Manager; 503.373.1572 x 7129  
**Completed 1999**

**Description:**

OSCI Sanitary Sewer System Project, Phase Two for the Oregon State Department of Corrections, a joint project with the Cities of Salem and Turner included approximately 2 miles of 18-inch through 36-inch diameter sanitary sewer. The project included basin planning and analysis of multiple alternatives involving trunk sewer routing options and capacity options for accommodating City of Turner wastewater flows. The project was complicated by highway, freeway, railroad, creek and wetlands crossings, required extensive evaluation of various routing alternatives. Successful coordination was completed with numerous agencies including lead agencies, ODOT, the railroad, and permitting agencies. Engineering included design provisions for a parshall flume flow metering station, H<sub>2</sub>S corrosion control and other special provisions for work in environmentally sensitive stream and wetland areas. MSA facilitated a joint three party funding arrangement for this "common" project in support of two intergovernmental agreements between the Oregon Department of Corrections and the Cities of Salem and Turner.



Finished structure with surface mounted electric gate operators



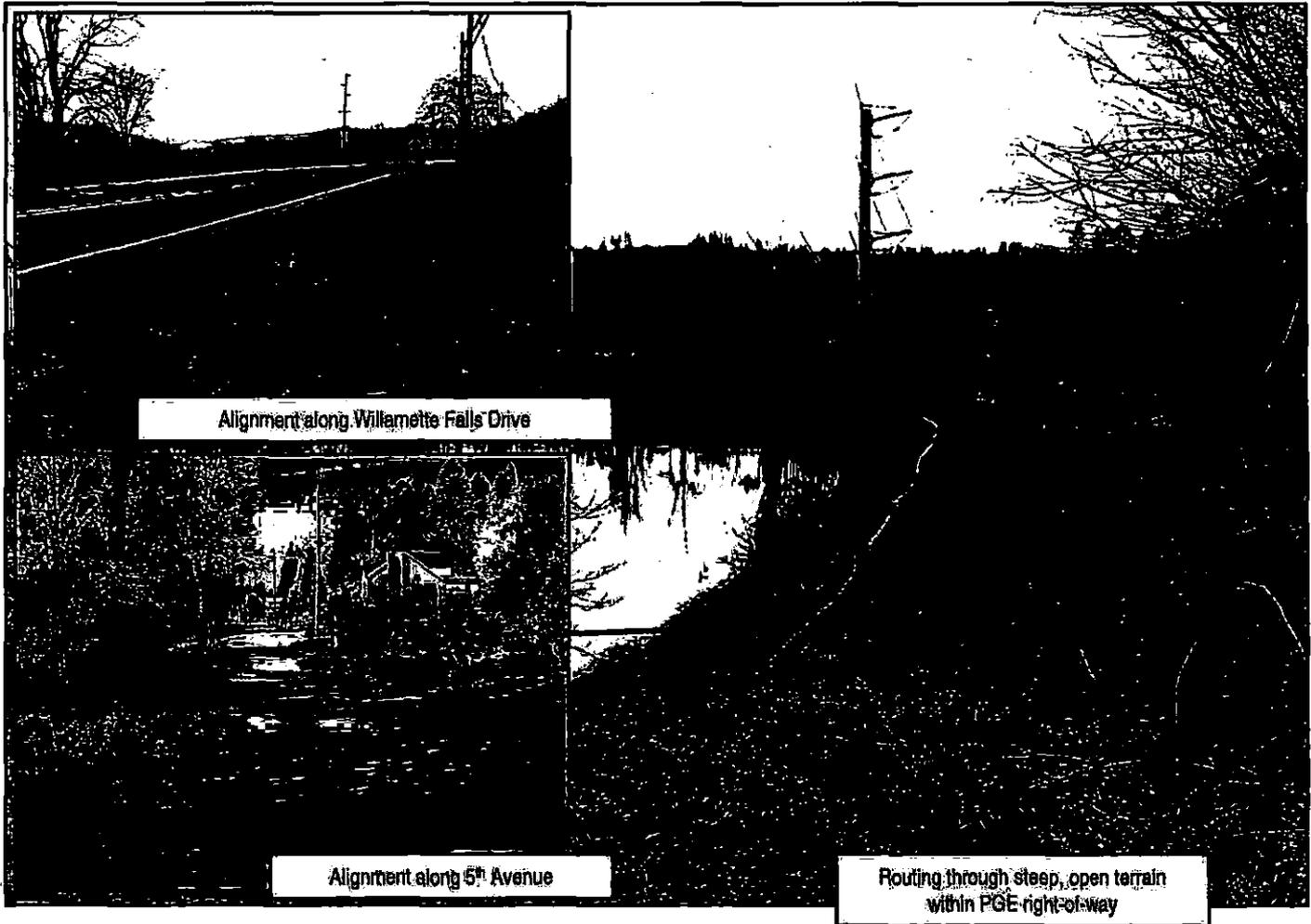
Diversion structure and 72-inch diameter bypass piping under construction



**Project:** North River Road Diversion Structure  
**Owner:** City of Salem  
**Completed 1992**

**Description:**

MSA completed the planning and design of a new sewage diversion structure for the City of Salem. The work was located on the City's main 72-inch diameter interceptor sewer. The work included major modifications to two existing flow control structures, and reconstruction of a section of the existing 72-inch diameter sewer. The project included a new entrance road and other site improvements to City park property within which the project was located. The diversion structure included three electrically actuated fabricated slide gates to provide controlled emergency flow diversion to the Willamette River.



Alignment along Willamette Falls Drive

Alignment along 5th Avenue

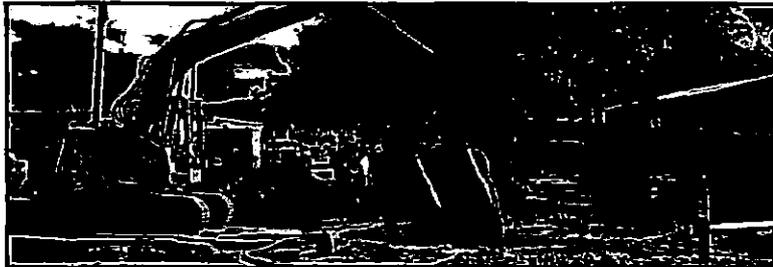
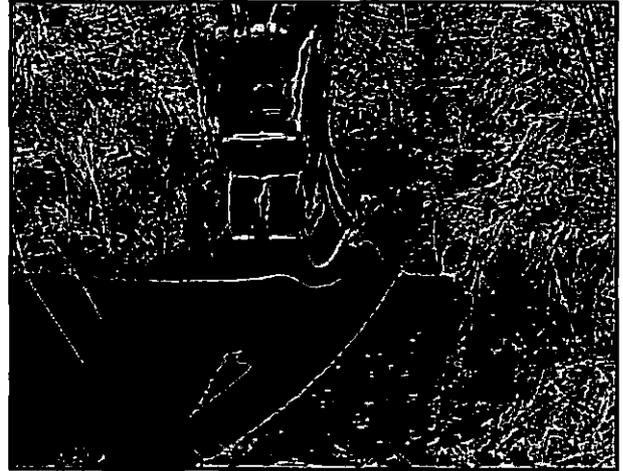
Routing through steep, open terrain within PGE right-of-way



**Project:** Sanitary Sewer Capital Improvements:  
Fourth Street to Willamette Falls Drive  
**Owner:** City of West Linn  
**Contact:** Boris Piatski, P.E.; Civil Engineer; 503.722.5519  
**Completed 2010**

**Description:**

As part of the City of West Linn's planned capital improvements, MSA led the evaluation and design engineering for the upsizing and replacement of 2,700 feet of existing 12-inch inside diameter asbestos cement gravity sewer pipe with larger 15-inch diameter pipe. The sewer parallels Willamette Falls Drive at the east end and passes down steep, rocky terrain along Fifth Avenue to a pump station near the Willamette River. Open trench and pipe bursting installation methods were evaluated and determined feasible, so MSA included contract provisions for bidding alternate methods and alternate materials, using PVC or HDPE pipe, to allow the contractor to select the most cost-efficient approach. The design included several crossings of existing large diameter utilities, including an 18-inch force main sewer, 30-inch drainage culvert, 28-inch private HDPE wastewater line and 10-inch waterline. The project incorporated the reuse of existing manholes, and provisions for rock excavation and coordination with local property owners for rights-of-entry. Project was successfully completed in 2010.



**Project:** Sanitary Sewer Rehabilitation Program  
**Owner:** City of Springfield, Oregon  
**Contact:** Paul von Rotz, P.E., Civil Engineer; 541.736.1017  
**Completed 2010**

**Description:**

MSA was retained by the City of Springfield, Oregon, to plan, design and provide construction management services for a \$9 million sanitary sewer system rehabilitation program for a total 45,000 feet of existing sewer main. Many of the rehabilitated mains are located in older sections of the City where there was substantial infiltration through the deteriorated sewers. A significant portion of the mains are located on back lot lines on narrow easements, which necessitated strict requirements on the construction contractors with respect to construction activities on private properties. MSA developed a rehabilitation program to cost-effectively accomplish the various technical, financial and public interest goals of this project. The sewer rehabilitation program was undertaken and completed on a fast-track basis in order to comply with a regulatory deadline of construction completion by December 31, 2009. The project consisted of 30,000 feet of 8-inch to 16-inch diameter HDPE pipe bursting; 9,500 feet of 8-inch to 18-inch diameter CIPP repair; 2,500 feet of 8-inch diameter PVC open trenching and 3,000 feet of 42-inch diameter CIPP repair. 11,500 feet of 6-inch diameter laterals were also replaced; over 500 two-way clean-outs were installed, 150 new manholes were installed and 32 existing manholes were rehabilitated. A contracting strategy incorporating multiple construction contracts was developed as part of the program to maximize the ability of local construction contractors to participate.

*"Our Infiltration and Inflow reduction project required designs to be done on a very short timeframe, and MSA did a tremendous job in developing thorough designs on time and under budget.*

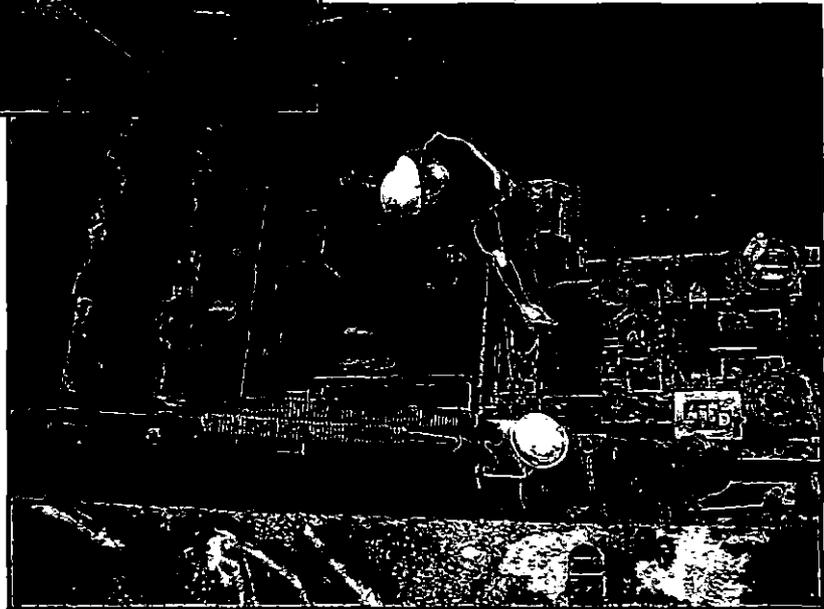
*They performed beyond my expectations and deserve a lot of credit for the successful completion of this multi-basin project...*

*MSA is a top notch firm that operates with a high degree of professionalism and integrity."*

Paul Von Rotz, P.E., Civil Engineer,  
 City of Springfield, OR



Bursting and lining of existing sewer with 14-inch diameter HDPE



Pulling pipe bursting head through existing manhole



**Project:** Garthwick Combined Sewer Project  
**Owner:** Bureau of Environmental Services, City of Portland, Oregon  
**Contact:** John Houle, Supervising Engineer; 503.823.7216  
**Completed 2001**

**Description:**

The Garthwick Combined Sewer project upgraded and rerouted existing combined sewers to significantly reduce frequency of combined sewer overflows to the Willamette River and reduce flows to an existing pump station. Work began with basin analysis and design flow confirmation. The project consisted of replacing existing concrete sewers with approximately 5,600 feet of 12-inch through 32-inch diameter HDPE sewer piping. The project included replacing existing storm drainage inlets and connections to existing sewer laterals. Replacement of existing concrete sewers included approximately 580 feet of pipe bursting with 14-inch diameter HDPE piping. The project was complicated by design of storage piping and a flow control manhole, bored and jacked railroad undercrossing and modifications to an existing combined sewer overflow diversion manhole.



**Project:** Sewer System Capacity Improvements "K" (Central City Interceptor Sewer)  
**Owner:** City of Everett, Washington  
**Contact::** Dave Voigt, P.E, Senior Engineer; 425.257.8983  
**Completed 2009**

### Description:

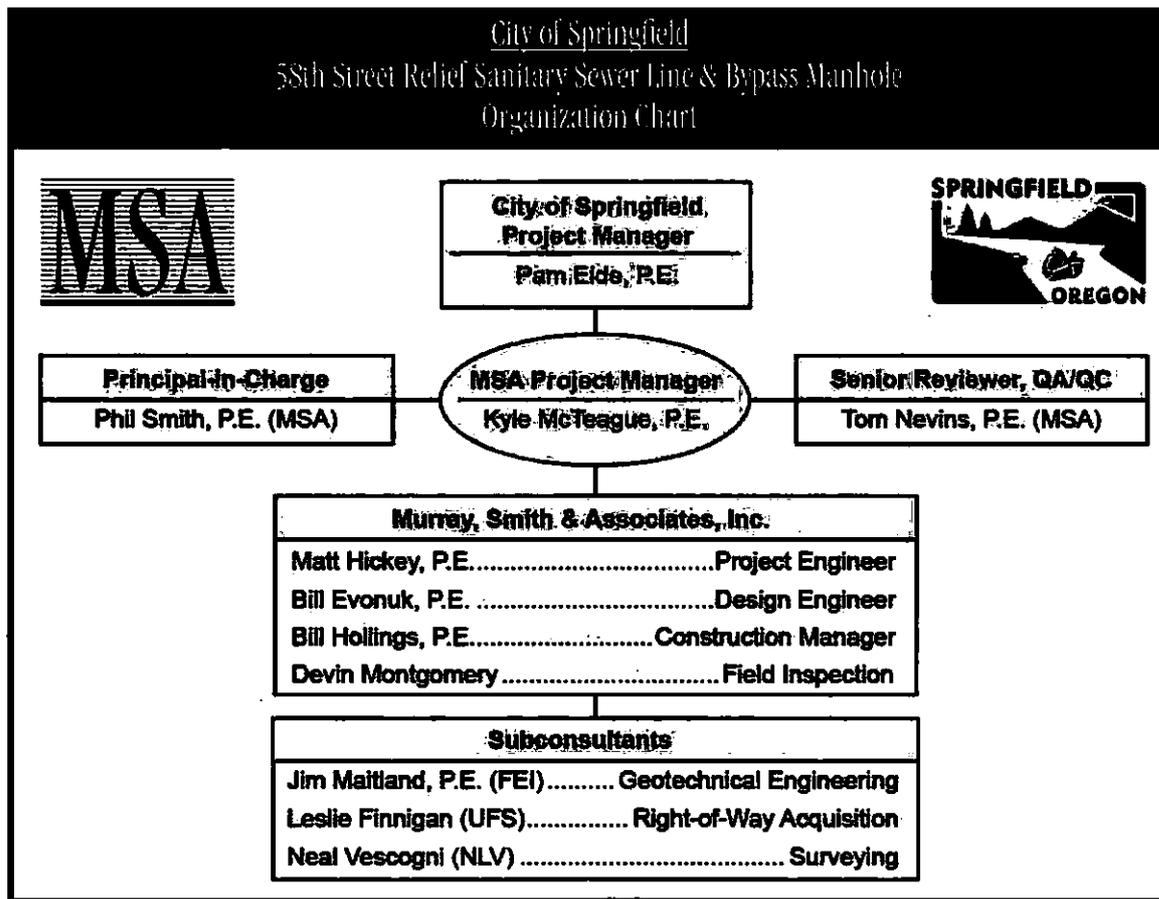
The City of Everett retained MSA to complete preliminary and final design for improvements to a portion of the City's central interceptor system located on 3<sup>rd</sup> Avenue SE, Everett Mall Way and northerly on West Mall Drive and the Interurban Trail. The City's 2006 Comprehensive Sewer Plan called for additional capacity to a section of the interceptor, approximately two miles long, by paralleling the existing sewer with a new sewer. MSA conducted an alternatives analysis to consider all potential capacity improvement alternatives in addition to the paralleling option. Through a workshop session with City staff, all alternatives were reviewed and a preferred alternative was selected. Phasing opportunities were evaluated for the preferred alternatives to consider project scheduling, deferring project costs and implementation. MSA prepared a predesign report documenting the alternatives analysis and selection process and defining the first phase of the project. MSA has completed Phase I of the Sewer "K" Improvements including 3,700 feet of 30-, 24-, and 18-inch gravity sewer, over 300 feet of trenchless installation using jack and bore technology, and extension of a 20-inch force main approximately 3,100 feet. The project also involved replacement of two 42-inch culverts at a stream crossing and utility coordination. MSA assisted the City with public involvement, bidding and construction services on this \$4.5 million project. Construction for Phase I was successfully completed in March 2009 and MSA is currently providing a preliminary plan set for Phase II.





**TEAM PRESENTATION AND ORGANIZATION**

Murray, Smith & Associates (MSA) presents the City of Springfield a highly qualified, experienced, capable and reputable project team to complete this important assignment. The MSA team presents extensive relevant experience in all aspects of the work and our team provides strong local representation. Much of the work, including construction administration, will be completed by MSA personnel reporting from the MSA Springfield office. Personnel from team subconsultant firms will assist with certain specialty aspects of the project. Anticipated project roles are identified in the project organization chart below.



## KEY PERSONNEL

Key staff credentials are highlighted in brief biographical summaries presented below.



**Project  
Manager**

**Kyle McTeague, P.E.**, an MSA associate, will serve as project manager. Kyle is currently managing the design work for the Jasper Trunk Sewer project for the City of Springfield which consists of approximately 20,000 feet of new gravity sewer 12 to 27 inches in diameter and will serve a new area in the southeast portion of the City. The project involves a routing alternatives analysis, hydraulic modeling and highway, railroad and environmental permitting. Kyle also recently managed MSA's wastewater collection system improvement and infiltration and inflow (I&I) reduction program for the City of Springfield, involving the rehabilitation of over 35,000 feet of 8-inch to 15-inch diameter sanitary sewer mains and the replacement of approximately 175 manholes and approximately 25,000 feet of service laterals. The project also included cured-in-place lining of 3,000 feet of 42-inch sewer. Kyle also served as MSA's project engineer for the multi-agency City of Salem/Oregon State Corrections Institute (OSCI)/City of Turner Phase II Trunk Sewer project. This project involved over two miles of 18-inch to 48-inch diameter gravity sewer with three creek crossings and two bored/tunneled highway and railroad crossings. Work involved the analysis of routing alternatives, alternative pipeline material analysis, wetlands permitting, railroad permitting, property acquisition and intergovernmental agreement development. This was a challenging project that was complicated technically and politically. Kyle is currently managing a similar sewer system improvement project for the Oregon Department of Corrections (ODOC) that will reroute part of the OSCI wastewater flow into the City of Salem's existing collection system along State Highway 22.

Kyle serves as MSA's City Engineer representative in North Plains where the firm is currently completing sewer system design work that is being coordinated with Clean Water Services. Kyle has managed similar MSA sewer design work for the Oak Lodge Sanitary District and the City of Portland, Bureau of Environmental Services.



**Project  
Engineer**

**Matt Hickey, P.E.**, an MSA principal engineer with 18 years of experience, will serve as project engineer. Matt has extensive sewer system planning, design and construction administration experience with other local agencies, including the cities of Portland, Gresham and Wood Village. Matt is currently serving as project engineer for the Jasper Trunk Sewer Project. Matt served as MSA's assistant project manager on the City of Gresham's trunk sewer project, which included a feasibility study and design of 12,000 feet of 36-inch to 54-inch diameter gravity sewer with a diversion structure in a congested utility corridor. Matt also managed MSA's Linneman Trunk Sewer Feasibility Analysis project for Gresham. This project involved preliminary engineering for 11,000 feet of 48-inch to 60-inch diameter gravity sewer to replace a large sewage pump station. As project manager for the City of Gresham's Kelley Creek Interceptor Analysis and the City's Jenne Road - Pleasant Valley Interceptor project, Matt was involved in permitting and designs for 9,000 feet of 24-inch to 36-inch diameter gravity sewer including a diversion structure and siphon design for a creek crossing. Matt is MSA's project engineer on the firm's current sewer work at the OSCI Salem facility for ODOC. He was assistant project engineer for MSA's Clatsop County/Miles Crossing Sanitary Sewer District vacuum sewer project. Matt served as MSA's assistant project manager on the Sellwood-Garthwick Unit 3 project for the City of Portland BES, which involved sanitary sewer pipe

bursting within congested utility corridors. He has also managed several sewage system planning and design projects for Wood Village, Milwaukie and Beaverton that involved alternatives analyses, sewage pump station design, gravity sewers, diversion structures and force mains. Matt managed MSA's Sanitary Sewer Capital Improvements project for the City of West Linn, Oregon, which included pipe bursting alternatives. Matt is a well-rounded engineer who has developed broad trust and respect with MSA's public agency clients.



**Design  
Engineer**

**Bill Evonuk, P.E.**, a firm associate, will serve as design engineer. Bill is currently working on the design of the Jasper Trunk Sewer project for the City of Springfield. Bill assisted with MSA's design engineering for the Miles Crossing Vacuum Sewer System, an \$8 million sewer system project with extensive work on private properties. Bill managed the construction for MSA's utility undergrounding and downtown streetscape enhancement work for the City of Sandy, Oregon. Bill is experienced with all aspects of utility engineering and is particularly experienced with the specialty elements of this project, namely, deep excavations, sheeting and shoring systems, dewatering systems, sewer design and construction, drainage systems, other public and private utilities, and roadway improvements. Bill is familiar with the local area through MSA's ongoing sewer system design work for the City of Springfield.



**Principal-in-  
Charge**

**Phil Smith, P.E.**, an MSA founding principal, offers over 39 years of wastewater system engineering experience. Phil has directed key MSA wastewater improvements programming for numerous Pacific Northwest communities, including the firm's recent I&I reduction program and current Jasper Trunk Sewer projects for the City of Springfield. Phil also oversaw MSA's wastewater effluent reuse pipeline project nearby for the City of Cottage Grove. Phil has overseen MSA's recent sewage system design work for the Miles Crossing Vacuum Sewer System project that has involved close coordination with the City of Astoria, Clatsop County, the Miles Crossing Sanitary Sewer District, the Oregon Department of Environmental Quality (DEQ), and other state and federal funding agencies. This project involved extensive work on private properties and across environmentally sensitive waterways and wetlands. Phil has also managed a series of major wastewater and stormwater combined sewer overflow (CSO) planning and improvement projects for the City of Portland, Bureau of Environmental Services (BES) and similar work for the City of Salem. These and other various projects have involved comprehensive facilities plans, complex system alternatives analyses, hydraulic analyses, pipeline routing studies, pump station improvements, gravity sewers and force mains, CSO control improvements, special corrosion control facilities, river crossings, railroad crossings, special environmental permitting and special grant funding programs and administration. For this project, Phil will operate in an important oversight capacity, applying appropriate strategic thinking as various alternatives are developed and considered. Phil's senior level guidance will ensure that practicable solutions are achieved that best fit with the project's unique circumstances. Phil will serve as principal-in-charge.



**Senior  
Reviewer,  
QA/QC  
City of Springfield  
February 2011**

**Tom Nevins, P.E.**, an MSA senior engineering associate at our Springfield office, has been project engineer or manager for the study, design and construction of water and wastewater improvement projects for over 30 years, 20 of which while based in Eugene-Springfield. He has completed design of over 15 miles of sanitary sewers and force mains in Oregon ranging in size from four inches to 84 inches in diameter, and additional projects elsewhere. For Coos Bay, he completed 1,000 feet of 8- and 10-

inch diameter sewer replacement to reduce saltwater infiltration in the area between N. Front Street and N. Bayshore Drive. For Tri-City Service District (Clackamas County, Oregon), Tom completed 25,000 feet of 8-inch and 6-inch diameter PVC sanitary sewer that included special provisions for residential streets, and special erosion control provisions near a protected stream. For Dexter, Iowa, he completed reconstruction and rehabilitation of existing 8-inch and 10-inch diameter sewer. From review of TV inspection records and an assessment of replacement versus relining that considered cost, disruption to surface improvements, property access and available trenchless technologies, 5,700 feet of sewer were replaced by open-trench methods and 5,100 feet were relined using cured-in-place pipe (CIPP) technology.



**Construction  
Manager**

**Bill Hollings, P.E.** is an MSA principal engineer with 32 years of experience in the civil and construction engineering field. Bill manages MSA's Springfield office and will serve as our team's construction manager. He joined MSA in 2000 and has since been a key team member in design and construction of numerous complex public works projects. Bill managed MSA's work on the ODOT I-5 at Beltline Interchange Project in Springfield. MSA provided all utility coordination and utility relocation services for the project as well as stormwater analysis and the design of stormwater management facilities, including new stormwater detention/retention/water quality facilities. Bill provided ongoing construction support to ODOT construction staff throughout the construction phase of the Beltline project. Bill recently oversaw the construction of MSA's sewer rehabilitation work for the City of Springfield and is also programmed as the construction manager for the future Jasper Trunk Sewer project for the City.

Bill has provided construction support services to ODOT for multiple contracts including a current project on I-5 in the Springfield area to be constructed in 2011. Bill also served as MSA's project manager for construction engineering on ODOT's Highway 47 rehabilitation project in Yamhill, Oregon. Bill oversaw and documented all required field testing and placement of construction materials on this project and responded to contractor requests for information, supervised MSA's field inspector and was the primary liaison between ODOT, the City of Yamhill, the contractor, Yamhill County, and the general public. He led and documented weekly construction meetings with the contractor, the City and other interested parties. Bill served as MSA's lead construction engineer on MSA's award-winning McMinnville Water and Light McGuire Reservoir Expansion project, ensuring strict compliance with all Oregon Water Resources Dam Safety requirements for construction quality control and documentation, as well as compliance with all DEQ, Corps of Engineers, ODF&W, NOAA, and other regulatory agency permit conditions.

**Devin Montgomery**, an MSA staff engineer based in Springfield, will serve as field engineer during construction. Devin has overseen major construction during his time (2007 and 2009) with ODOT Region 5 in Ontario, working as a construction inspector directly under the project manager. He was assigned to a variety of ODOT projects including a water exclusion structure for an underpass; multiple highway rehabilitation projects; box culvert upgrades; storm sewer, earthwork, paving, and bridge replacement for an interchange; and bridge and environmental work for a bridge over the John Day River. His responsibilities included inspection of rebar, pipe installation, concrete and asphalt paving, fencing, sign installation, grading, striping, pile driving, verifying and documenting conformance with plans and specifications, as well as quantities for payment. He is currently assigned as MSA's field engineer on the firm's

Woodburn Interchange Subsurface Utility Engineering (SUE) project where he coordinates subcontractors for potholing and surveying as well as personally performing inspection of water valves and storm and sanitary manholes. Devin is also currently performing the design of an irrigation pump station, with all associated valving and piping, for ODOT Region 3 in Ashland.

**Neal Vescogni, PLS, P.E.** of NLV Services, Inc. has over 18 years of land surveying experience and 13 years of experience as a project engineer and project manager, which allows him to provide valuable insight in the planning and execution of the surveying aspects of a wide variety of work. Mr. Vescogni has worked with engineers, architects, planners and contractors, from preliminary design through construction, on many successful projects in both the public and private sector. Mr. Vescogni has assisted Murray, Smith & Associates, Inc. with surveying for water, wastewater, stormwater and road projects for Springfield (Jasper Trunk Sewer), Clatsop County, Miles Crossing Sanitary Sewer District, Seaside, Depoe Bay, Wilsonville, Bend, Tigard, Sherwood, Bend, Woodburn, Portland and others.

**Jim Maitland, P.E.**, principal/owner of Foundation Engineering, Inc. (FEI), will manage the geotechnical engineering for the project. Jim has managed FEI's work on other successful MSA projects including MSA's current design work on the Jasper Trunk Sewer project for the City of Springfield. As such, he is familiar with the project area through this and other recent geotechnical work in the vicinity of Springfield. Jim's work on other sewage systems includes recent projects in the local area for the cities of Netarts, Brownsville, Corvallis, Albany, Junction City, Lafayette, Eugene, Waldport, Philomath, and Monmouth, Oregon.

**Leslie Finnigan, SR/WA** will serve as task lead for right-of-way and easement acquisition-related work. Leslie is a property acquisition specialist with Universal Field Services, Inc. (UFS) who has spent the bulk of her career in the property acquisition field. She has managed similar work on numerous MSA public works projects, including assignments for the cities of Sherwood and Gresham, Oregon, and for Clean Water Services/Joint Water Commission, Clatsop County, the Oregon Department of Transportation and others.

## **PERSONNEL RESUMES**

Detailed resumes for key staff are provided in the appendix.

SECTION 4

SECTION 4

MSA



**SECTION 4**  
**ESTIMATED STAFF HOURS AND COST**

A detailed breakdown of estimated engineering fees by work task and labor classification is shown on the following spreadsheet. The fee estimate is based on the requirements identified in the City's Request for Proposals as well as on MSA's assumptions and clarifications as presented in the scope of work in Section 5. These assumptions and clarifications include the assumed level of effort, the design, bidding and award and construction schedule, work products and other factors that may affect the fee budget.

MSA proposes to perform the work on a time and expenses basis in accordance with the Schedule of Charges included at the end of this section. This schedule will apply for the duration of the project through construction completion, based upon the assumed project schedule as noted elsewhere in this proposal. The total fee amount can be considered a "not-to-exceed" amount. We would encourage further discussion with the City to confirm the details of the City's project requirements and MSA's assumptions, so that the scope of work and fee estimates can be refined, as may be appropriate.

**ENGINEERING SERVICES FOR SCOPING, DESIGN AND INSTALLATION OF THE 58TH STREET RELIEF SANITARY SEWER LINE & BYPASS MANHOLE (PROJECT P21046)**  
**CITY OF SPRINGFIELD**  
**PROPOSED FEE ESTIMATE**

TASK	LABOR CLASSIFICATION (HOURS)										ESTIMATED FEES						
	Princ. \$172	Asst. \$153	Asst. \$153	Asst. \$153	Sup. \$186	Eng. VI \$126	Eng. I \$90	Tech. \$41	Off. \$24	Total Hours	Labo'r	Subcontractors			Expenses	Total	
	D. Smith	M. Morgan	H. Key	M. King	N. King	R. King	M. Montgomery					NAV	FEI	ULS			
<b>Task 1 - Overall Project Management and Pre-design</b>																	
1.1 Project Management and Coordination	4	24							2	30	\$ 4,488					\$ 200	\$ 4,688
1.2 Investigations and Information Compilation and Review		2							2	12	\$ 1,406					\$ 100	\$ 1,506
1.3 Geotechnical Explorations (Phase 1)			2						2	4	\$ 486		\$ 5,542			\$ 50	\$ 6,078
1.4 Identification and Analysis of Various Bypass Sewer Routing Alternatives	4	8	8		4	30	10	10	4	78	\$ 9,566					\$ 350	\$ 9,916
1.5 Identification of Required Permits and Agency Consultations		1	2			10	2		2	17	\$ 2,027					\$ 50	\$ 2,077
1.6 Identification of Easement Needs		1	2			2	2		2	9	\$ 1,019					\$ 50	\$ 1,069
1.7 Preliminary Project Cost Estimating		1	4			4	8			17	\$ 1,989					\$ 50	\$ 2,039
1.8 Sewer Route Selection Report	2	4	10		2	12	24	6	8	68	\$ 7,508					\$ 200	\$ 7,708
<b>Task 1 Subtotal</b>	<b>10</b>	<b>41</b>	<b>32</b>	<b>0</b>	<b>6</b>	<b>58</b>	<b>52</b>	<b>16</b>	<b>20</b>	<b>235</b>	<b>\$ 28,489</b>	<b>\$ -</b>	<b>\$ 5,542</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,050</b>	<b>\$ 35,081</b>
<b>Task 2 - Field Data Collection and Presentation</b>																	
Subtasks 2.1 through 2.9			2			4	8	4		18	\$ 1,894	\$ 14,383				\$ 50	\$ 16,327
Subtask 2.10 - Geotechnical Investigations (Phase 2)			1			2	4			7	\$ 765		\$ 23,673			\$ 50	\$ 24,488
<b>Task 2 Subtotal</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>8</b>	<b>4</b>	<b>0</b>	<b>18</b>	<b>\$ 2,659</b>	<b>\$ 14,383</b>	<b>\$ 23,673</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 100</b>	<b>\$ 40,815</b>
<b>Task 3 - Design</b>																	
Subtasks 3.1 through 3.6	6	50	75		20	130	40	300	16	637	\$ 71,381					\$ 1,500	\$ 72,881
<b>Task 3 Subtotal</b>	<b>6</b>	<b>50</b>	<b>75</b>	<b>0</b>	<b>20</b>	<b>130</b>	<b>40</b>	<b>300</b>	<b>16</b>	<b>637</b>	<b>\$ 71,381</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ 72,881</b>
<b>Task 4 - Easement and Right-of-Way Acquisition (See Contingency Tasks Below)</b>																	
<b>Task 4 Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Task 5 - Permit Applications</b>																	
5.1 ODOT Application and Permit to Occupy or Perform Operations Upon a State Highway		2		4		16		4	2	28	\$ 3,426					\$ 100	\$ 3,526
5.2 Application for Proposed Use of BPA Right-of-Way		2				16		2	2	22	\$ 2,632					\$ 25	\$ 2,657
5.3 Other Permits by Contractor				2		2				4	\$ 558					\$ -	\$ 558
<b>Task 5 Subtotal</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>34</b>	<b>0</b>	<b>6</b>	<b>4</b>	<b>54</b>	<b>\$ 6,616</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 125</b>	<b>\$ 6,741</b>
<b>Task 6 - Bid Documents and Bidding Assistance</b>																	
Bid Package and Contract Documents	1	4	8			12			8	33	\$ 4,032					\$ 1,250	\$ 5,282
Bidding Assistance	1	4	10			14			6	35	\$ 4,462					\$ 100	\$ 4,562
<b>Task 6 Subtotal</b>	<b>2</b>	<b>8</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>68</b>	<b>\$ 8,494</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,350</b>	<b>\$ 9,844</b>
<b>Task 7 - Construction Administration</b>																	
Subtasks A through J		8		40			346			394	\$ 38,484					\$ 3,000	\$ 41,484
Subtask K - Construction Staking							540			6	\$ 4,950	\$ 4,950				\$ 50	\$ 5,540
Subtask L - Survey of Final Construction				4			4			8	\$ 972	\$ 2,750				\$ 50	\$ 3,772
<b>Task 7 Subtotal</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>356</b>	<b>0</b>	<b>0</b>	<b>408</b>	<b>\$ 39,996</b>	<b>\$ 7,700</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 3,100</b>	<b>\$ 50,796</b>
<b>Task 8 - Post-Construction Services</b>																	
Subtasks A & B - As-Constructed Drawings				4			16	20	4	44	\$ 4,128					\$ 500	\$ 4,628
Subtasks C & D - Project Records and Documentation				2			8		4	14	\$ 1,282					\$ 100	\$ 1,382
<b>Task 8 Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>20</b>	<b>8</b>	<b>58</b>	<b>\$ 5,410</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 600</b>	<b>\$ 6,010</b>
<b>TOTAL - ALL TASKS</b>	<b>16</b>	<b>101</b>	<b>107</b>	<b>56</b>	<b>26</b>	<b>232</b>	<b>430</b>	<b>316</b>	<b>60</b>	<b>1478</b>	<b>\$ 119,035</b>	<b>\$ 22,083</b>	<b>\$ 23,216</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 7,025</b>	<b>\$ 162,169</b>

Contingency Tasks: As per the Scope of Work, easement acquisition services are presented below on a per each easement basis as contingency work.

Contingency Tasks 4.1 and 4.2 - Legal Descriptions, Easement Maps and Acquisition (Per Each Easement)		2				8		4	1	15	\$ 1,742	\$ 1,760			\$ 5,808	\$ 25	\$ 9,335
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## 2011 SCHEDULE OF CHARGES

### Personnel:

Labor will be invoiced by staff classification at the following hourly rates, which will be valid throughout the duration of the project and will not increase.

Senior Principal	\$187.00
Principal	172.00
Principal Associate/Senior Associate	161.00
Principal Engineer/Associate	153.00
Senior Engineering Associate	146.00
Senior Engineer	140.00
Engineer VII	133.00
Engineer VI	126.00
Engineer V	117.00
Engineer IV	110.00
Engineer III	104.00
Engineer II	98.00
Engineer I	90.00
Senior Technician	110.00
Technician	91.00
Junior Technician	73.00
Administrator	79.00
Clerical	64.00

### Project Expenses:

Expenses incurred in-house that are directly attributable to the project will be invoiced at actual cost. These expenses are included in the proposed fee estimate and include the following:

Mileage	Current IRS Rate
Postage and Delivery Services	At Cost
Printing and Reproduction	At Cost

All computer/AutoCAD and other such equipment charges are included in the hourly rates of staff.

### Outside Services:

Outside technical, professional and other services will be invoiced at actual cost plus 10 percent to cover administration and overhead.



**BACKGROUND AND UNDERSTANDING**

The City of Springfield's Wastewater Master Plan, dated June 2008, describes this project as follows: "Project 9 is a diversion proposed to convey flow from the Thurston Trunk to the Main St. Trunk to avoid more costly improvements along both trunk lines." The 58th Street Relief Sanitary Sewer Line & Bypass Manhole project will include approximately 4,900 feet of 15 inch diameter sewer, approximately 10 to 20 feet deep, roughly 17 manholes (per the WWMP), a flow diversion structure/manhole, and possibly service lateral connections if a portion of the existing sewer along 58th Street is replaced by this project. The elevation of the diversion weir will be determined during design. The project will divert flows from the Thurston Trunk at the intersection of Thurston Road and 58th Street and will route those flows into the Main Street Trunk at the intersection of Main Street and 54th Street. The City is seeking a qualified professional civil engineering consultant to assist with an alternatives analysis, preliminary and final designs and contract documents, bidding and award services, and construction phase engineering and inspection services for the project.



In addition to our understanding of the technical aspects of this project, we have developed a good understanding of the City's expectations of our performance through our prior and current work with the City. It is our understanding that the City expects the project to be well managed, coordinated properly with City staff and other affected utilities, designed for efficiency and economy while meeting the City's desired goals, and be completed on time and within budget. Throughout the duration of this project the City expects to receive quality guidance from established, trusted experts in the field of sanitary sewer planning and design. The City expects the engineer to facilitate good communication with an emphasis on listening to the City's needs. In short, the City expects the engineer to operate as their partner on this project.



We know that the City desires for the construction to be completed with minimal change orders. It is expected that the City intends to implement this project with a minimal amount of disruption to existing streets, traffic, utilities, and the general public. We also understand that the City expects sound professional judgment to be applied to any potential challenge that may become evident throughout the course of the project. The City expects proactive thinking on the part of the engineer to anticipate potential conflicts and to develop and implement creative solutions ahead of time. Finally, we expect that the City hopes this project is one that ultimately the City can be proud of.

## **KEY ISSUES AND APPROACH**

Based upon our understanding of the project, the following is a discussion of key issues and our approach:

### ***Pipeline Sizing/Capacity/Standards***

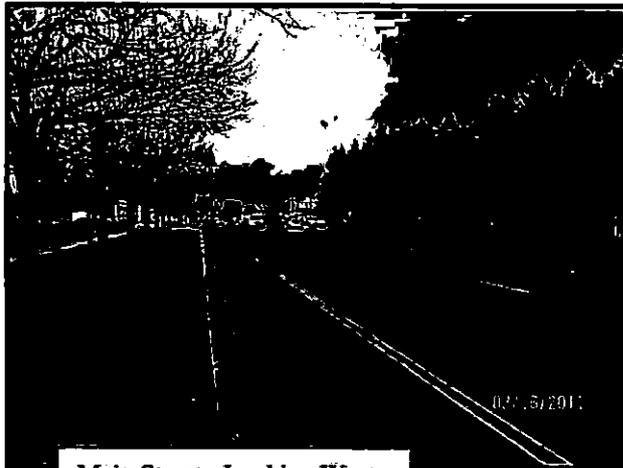
If the invert elevations shown on existing City sewer mapping are verified as correct, then this project will require special design considerations that will likely not meet City standards. It appears that the overall elevation drop between the end points of the proposed bypass sewer is not enough to achieve the City standard minimum slope for 15 inch diameter pipe of 0.15ft/100ft. The minimum standard slope for 18 inch diameter pipe (0.12ft/100ft) could possibly be maintained if the slope was carried through the manholes along the length of the bypass line; however, this is non-standard practice and the pipeline would be larger than planned. Table 6.2 of the City's WWMP identifies the required capacity of the bypass for future land use conditions at 1.4 MGD. It will be very important to first confirm existing system invert elevations, required bypass flow capacity, potential diversion structure geometry, and other design details to help ensure that this project meets all of the functional goals of the City. We will work closely with the City to seek out and develop creative solutions that best meet the goals of this project.

### ***Pipeline Alignment/Routing Features/Challenge Areas***

As described above, this relief sanitary sewer project is intended to transfer excess flows from the Thurston Trunk at the intersection of Thurston Road and 58<sup>th</sup> Street to the Main Street Trunk at the intersection of Main Street and 54<sup>th</sup> Street. A sewer route study will evaluate alternative routes in addition to the route identified in the RFP. For this proposal a total of four preliminary routes have been identified for further study.



Key issues to consider as part of a routing alternatives analysis include construction impacts to traffic, potential utility conflicts, coordination and permitting with ODOT, Bonneville Power Administration (BPA), and Lane County, existing right-of-way width, potential need for easements, future access and maintenance, future potential system connections, impacts to local businesses and residences, and the City's desire to replace the existing sewer along 58<sup>th</sup> Street. Existing topography in the general vicinity of this project is relatively flat, thus the depth of the



Main Street-- Looking West

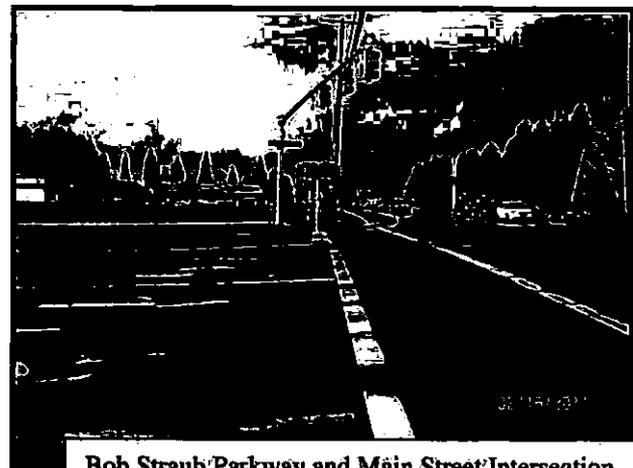
bypass sewer should remain in the range of 10 to 20 feet along its length. However, certain existing features along the potential routing corridors present challenges that warrant close study.

Figure 1, which is presented at the end of this section, presents four alternative routing options: Alternative Routes A, B, C and D.

*Alternative A* -- This is the route presented in the RFP and the Wastewater Master Plan, which generally follows 58<sup>th</sup> Street and Main Street. Both Main Street and 58<sup>th</sup> Street are

subject to heavy traffic. Main Street is an ODOT highway with numerous businesses along the route. Also, Bob Straub Parkway, which is a County road, may be impacted by this potential route. As this alternative is evaluated against other options, it will be important to consider impacts to traffic, businesses, utilities and ODOT and county corridors.

Construction along Main Street would significantly impact traffic and access to businesses. If this route were selected it likely makes sense to route along the southerly right-of-way as shown on the graphic included in the RFP because of the Highway 126 ramps on the north side. Thus, this route likely crosses the westbound travel lanes of Main Street once and the eastbound lanes twice. This route also requires a crossing of Bob Straub Parkway, either just inside the ODOT right-of-way or in the county right-of-way. We have discussed this project with ODOT and understand that bored crossings are preferable to open cut. If open cut were allowed, the required 15 to 20 feet wide modified T-Cut and associated traffic control costs may offset any other cost benefits to this option.



Bob Straub Parkway and Main Street Intersection

With this alternative as well as Alternative B, approximately 1,000 feet of existing sewer may be replaced as either a separate parallel sewer or it might possibly be replaced by the bypass sewer. For this line to be replaced by the bypass sewer, the bypass would need to be at least as deep as

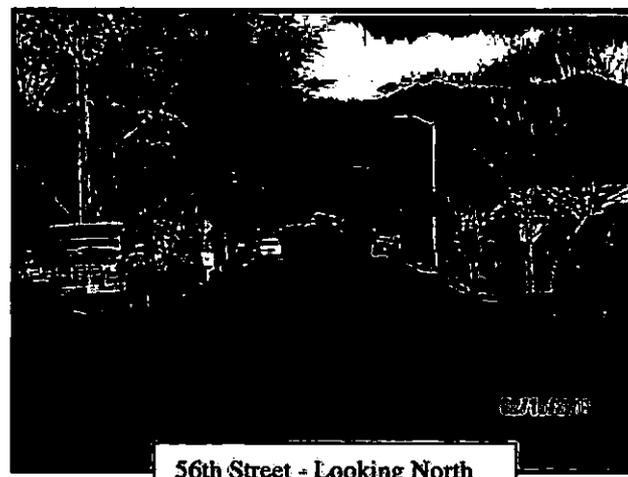
the existing sewer and existing laterals and sewer mains would then be connected directly to the bypass. These flows then would be permanently routed to the Main Street Trunk rather than the Thurston Trunk.

*Alternative B* -- This route also extends southerly along 58<sup>th</sup> Street, but then routes along E Street and 56<sup>th</sup> Street and crosses Highway 126 at A Street (see Figure 1). This route primarily follows local streets through residential areas and only crosses the westbound lanes of Main Street once. This alternative would have fewer impacts to businesses, traffic and ODOT corridors than Alternative A; however, it would involve significant impacts to certain residential areas. This option includes the same potential for replacing the existing sewer in 58<sup>th</sup> Street as Alternative A.



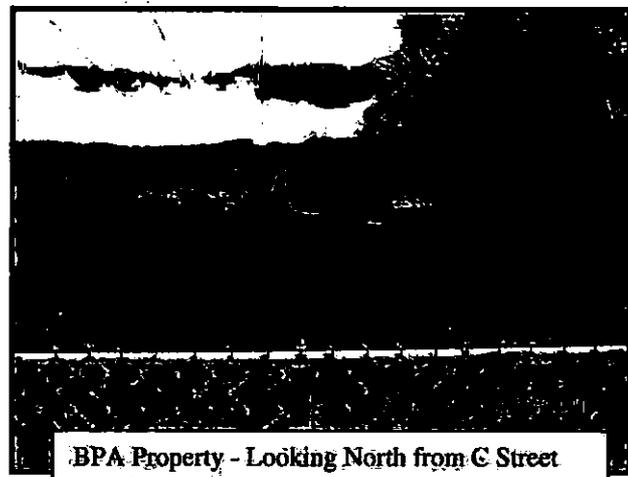
58th Street and E Street Intersection

*Alternative C* -- From the north, this route extends to the west along Thurston Road then south along 56<sup>th</sup> Street to A Street. At A Street this route turns west to cross Highway 126 with a bored crossing, similar to Alternative B (see Figure 1). This route primarily follows local streets through residential areas and only crosses the westbound lanes of Main Street once. Similar to alternative B, this alternative would have fewer impacts to businesses and traffic than Alternative A; however, it would provide significant impacts to certain residential areas. Thurston Road does appear to be recently paved just westerly of 58<sup>th</sup> Street; thus, a grind and resurfacing of one or both lanes may be in order here. To avoid a grade conflict with the Thurston Trunk this alternative likely must route south of the trunk along Thurston road.



56th Street - Looking North

*Alternative D* -- This route extends along Thurston Road; however, it turns to the south at the BPA power transmission line property. The route then extends to the south along the easterly edge of said property to a location just easterly of B Street on the east side of Highway 126. This location allows for a bored crossing without impacts to local streets. This route then continues west along B Street



BPA Property - Looking North from C Street

to 55<sup>th</sup> Street where it turns south to A Street, then follows the similar routes of Alternatives B and C to the connection in Main Street (see Figure 1). Similar to Alternatives B and C, this route would have less impact to traffic and businesses; however, it would affect local streets as well as require special coordination with BPA for the length of sewer in the power transmission corridor. This route also crosses the westbound lanes of Main Street only once. Similar to Alternative C, to avoid a grade conflict with the Thurston Trunk this alternative likely must route south of the trunk along Thurston road. For all of the alternatives that cross the highway north of the intersection with Main Street, Aaron Ketch with ODOT District 5 tells us that trenchless technology would be required.

Our routing alternatives analysis will carefully consider the various benefits and drawbacks of each route to ultimately develop an optimum recommendation that provides the best balance between the functional goals, scheduling risks, financial impacts, maintenance concerns and public impacts.

### ***Diversion Structure***

This project will include the construction of a new wet weather sanitary sewer flow diversion structure at the intersection of Thurston Road and 58<sup>th</sup> Street. The design of this structure is critical to the proper functioning of this bypass sewer project. The overflow weir must be designed properly to divert the desired amount of excess flows to relieve the Thurston Trunk and avoid overflows for both current and future anticipated conditions. MSA has designed a number of diversion structures that provide critical wet weather flow relief. These designs have included features that improve maintenance by reducing the potential for plugging or clogging. We have also designed diversions that include adjustable weirs so that diversion flows can be fine tuned to provide the ideal amount of flow relief. Also, our designs have carefully considered the potential for corrosion.



Prior MSA-Designed Diversion Structure

### ***Utility Coordination***

A key characteristic of this project is that the elevation of the bypass sewer pipe is fixed. With apparently only 6 feet in elevation difference between the end points, the bypass sewer must be installed at a very shallow slope with no significant margin of error. Thus, the design will need to avoid any immovable obstacles such as other gravity

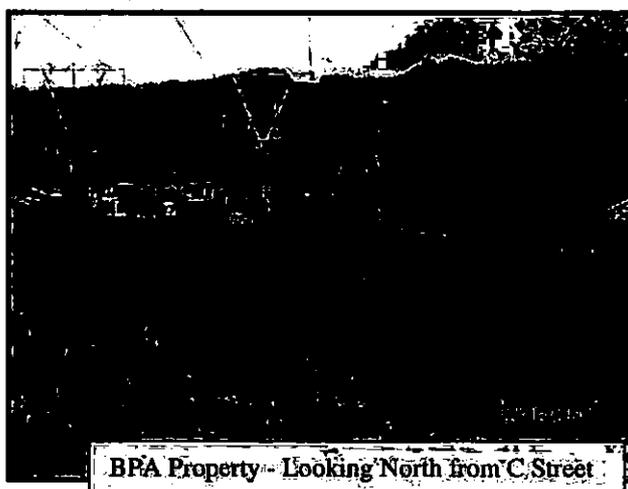


Thurston Road at 58th Street - Looking West

storm and sanitary sewers. For this reason, a targeted utility conflict analysis focusing on these immovable obstacles should be included as part of preliminary design. To accomplish this, MSA recommends a two-phase surveying approach. Key bypass sewer end point information and sewer structure invert elevations are obtained along all routes being considered during the first phase as part of the alternatives analysis. The second surveying phase would include obtaining additional survey information along the preferred alignment for use in detailed design. It is anticipated that the bypass sewer will be beneath most, if not all, existing utilities. MSA has extensive Subsurface Utility Engineering (SUE) experience through our utility design work over the past 30 years, as well as through our extensive design work with ODOT, and we will bring that expertise to this project.

### ***Permitting***

MSA is highly experienced with all aspects of permitting associated with public works projects. We enjoy broad agency respect and hold a solid reputation for presenting logical, defensible, supportable and documented permit applications. At a minimum, this project will require an ODOT permit for work within the Highway 126 right-of-way and coordination with BPA including a possible Land Use Agreement for the crossing of the BPA power transmission line right-of-way. It appears that county right-of-way might be avoided; thus, a Lane County Permit may not be required. It is not expected that environmental permitting would be required for this project; however there could possibly be wetland areas in the BPA power transmission corridor. Sensitive environmental areas will be avoided if found. It is anticipated that the City's 1200-CA permit will be utilized for this project and that a new 1200-C permit will not be required.



BFA Property - Looking North from C Street



Prior MSA Project - Springfield, Sewer Rehabilitation

### ***Geotechnical Conditions***

Geotechnical investigations will need to be conducted to identify groundwater levels, solid rock profiles, sheeting/shoring/trenching conditions, constructability and the potential for soil liquefaction. This project is located in an area of alluvial deposits between the McKenzie River and the Willamette River. Expected soil conditions consist of a thin mantle of fine grained soil followed by a deep deposit of sands and gravel. It is not expected that construction would encounter solid rock; however, geotechnical investigations will

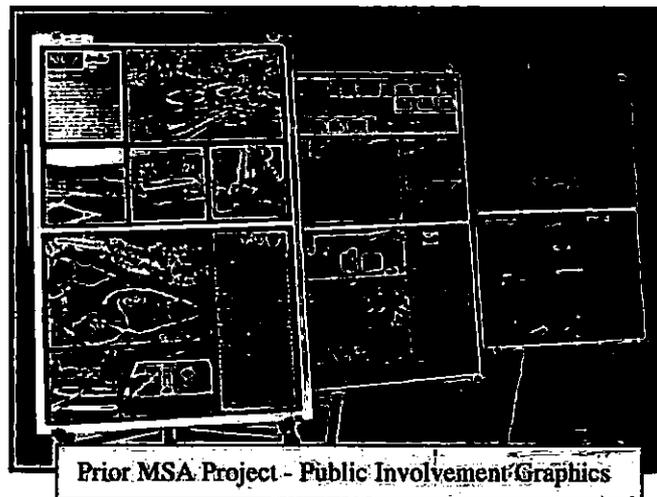
confirm on-site surface reconnaissance and research findings. Borings should be conducted at regular intervals along the route and wherever bored/jacked cased crossings are made.

### ***Easement Acquisitions***

The alternative routes presented herein are along public rights-of-way. Preliminary design work will establish if any easements will be required for this project. Fees for such work are presented in our fee estimate worksheet as contingency costs on a per each easement basis. MSA has served as program manager for many large infrastructure projects with successful easement acquisition programs that have been fully coordinated with our other preliminary engineering, final design and construction administration activities. We routinely operate as "owner's agent" throughout the easement acquisition process, working closely with our partner Universal Field Services, Inc. (UFS) to ensure that acquisitions proceed as smoothly as possible.

### ***Public Involvement Process***

The public involvement process for this project will include a variety of shareholder interest. Both businesses and residents may be impacted by the construction of this project. The MSA team offers extensive experience with public involvement programs of all types. We have facilitated numerous low-key, "open house" informational-style public information forums. We have developed exhibits and slide shows and have led numerous workshop presentations for public officials where the general public is invited to participate. We have presented many projects as part of formal public hearing processes. The form that a particular public involvement program may take for a given assignment is often guided by the style of the managing public agency. MSA often advises on public involvement interests and assists our clients in carrying out the type of public information programming that is judged to best fit a project's needs.



Prior MSA Project - Public Involvement Graphics

### ***Traffic Control***

Depending upon the selected route, impacts to traffic may vary widely. A route along 58<sup>th</sup> Street and Main Street would impact traffic significantly more than the alternative routes presented herein. Traffic flow disruptions will be managed through incorporation of appropriate construction contract provisions developed through coordination with ODOT, the City and the County as may be required. The provisions will require the construction



58th Street and Main Street Intersection - Looking West

contractor to provide full traffic control in accordance with prescribed performance demands. These provisions will require detailed traffic control programming to be developed by the construction contractor, consistent with local work hour and work condition requirements in order to minimize overall project impact on the local community. MSA routinely addresses traffic control requirements in our design projects and we bring 30 years of traffic control and planning expertise to this project.

### ***Schedule***

Per the RFP, the City desires to have bid documents completed by January 6, 2012. This schedule will allow for the construction work to be completed during the 2012 construction season with final completion occurring by November 1, 2012. While the proposed schedule does not appear to be fast-track, MSA is very familiar and has extensive experience with what it takes to complete projects of this nature. We believe that the usual challenges of schedule risk, such as permitting and easement/right-of-way needs, can be accommodated within the City's proposed schedule. MSA completed designs on schedule and on budget for the recent City of Springfield, Sanitary Sewer Rehabilitation – 2009, Contracts A and B work. MSA will complete the 58th Street Relief Sanitary Sewer Line & Bypass Manhole project within the City's desired schedule.

### **SCOPE OF WORK**

The following is the proposed scope of the engineering services to be provided to the City by MSA. In order to provide a fee estimate for this scope of work, clarifications are included that establish the assumed level of effort, the design, bidding and award and construction schedule, work products, and other factors that affect the fee budget.

#### **Task 1 – Overall Project Management and Predesign**

Work under this task includes project management and coordination, investigations, information compilation and review, geotechnical explorations, identification and analysis of various bypass sewer routing alternatives, identification of required permits, identification of easement needs, and preliminary project cost estimating. Results and recommendations, with input from City staff, will be presented in a "Sewer Route Selection Report". Work will include formal presentation of the report to City Council.

Work under this task also includes in-house review and task coordination, quality control, coordination with subconsultants and City staff, tracking of project costs, updating project schedules, and preparation for and attendance at various project-related meetings.

Anticipated subtasks are detailed as follows:

##### ***Task 1.1 Project Management and Coordination***

MSA will effectively manage all elements of the project from project start-up to construction completion. Detailed work programming (scope, planning and design criteria, schedules, costs, etc.) will be developed and coordinated with the City's project manager. All subconsultant work

will be coordinated and managed through MSA's project manager, Kyle McTeague, P.E. As principal-in-charge, MSA's founding principal, Phil Smith, P.E., will personally conduct our firm's internal QA/QC reviews to ensure that all work products and communications meet or exceed the high level of performance demanded by our firm and expected by the City. MSA will actively manage all project work within agreed budgets, completing work within agreed time frames.

***Task 1.2 Investigations and Information Compilation and Review***

Under this task, existing available information regarding the project will be collected. This information will include anticipated flows, available underground utility mapping, base mapping, topographic data, property and tax lot maps, as-constructed drawings from the City of Springfield and others, available subsurface soil condition information, available plans for improvements in the existing right-of-way by utilities or others, and other information relevant to the project.

***Task 1.3 Geotechnical Investigations (Phase 1)***

The geotechnical exploration work will be completed in two phases. The initial phase will include site reconnaissance and review of available information for up to four potential bypass sewer routes. The second phase, included under Task 3, will include field exploration and a more detailed geotechnical investigation focusing on the selected alignment. These services will be provided through MSA's geotechnical engineering subconsultant, Foundation Engineering, Inc. (FEI).

Available information, including geologic maps and reports, water well logs, and any other subsurface information, will be obtained and reviewed. A detailed reconnaissance of each alignment alternative will be completed, including observation of surface features, exposed rock if it exists, and site topography. Pertinent data will be summarized in a preliminary technical memorandum that will address:

- Anticipated subsurface features (soil, rock and ground water)
- Potentially adverse site or subsurface conditions (rock outcrops, embankment fill settlement, difficult access, etc.)
- Comparison of construction issues along alternate routes

***Task 1.4 Identification and Analysis of Various Bypass Sewer Routing Alternatives***

Under this task, a minimum of four feasible pipeline routing alternatives will be identified and assessed and a preferred alignment will be recommended. Figure 1 illustrates the various preliminary routing alternatives, including the route presented in the RFP. It is important to acknowledge that there are potential variations to each alignment that will be reviewed as part of the route study process. It is anticipated that the final alignment may follow some combination of the illustrated preliminary alignment alternatives. Our project management team has toured

the potential bypass sewer pipeline routes, including possible variations to the four routes presented herein.

The alternatives analyses in this task will consider the preliminary route suggested in the RFP that follows 58<sup>th</sup> Street and Main Street (Figure 1, Alternative A). The alternatives analysis will also evaluate the merits of three other routes, two that generally follow local residential streets (Alternatives B and C), as well as another route that follows the BPA power transmission corridor as well as local streets (Alternative D).

Preliminary alternatives will be selected that take advantage of existing roadway rights-of-way and existing green spaces. Work activities anticipated under this task include the following:

- A. *Preliminary General Corridor Review* -- Conduct a general review of available sewer bypass project corridors, incorporating City input and other relevant information that may have a bearing on the project.
- B. *Preliminary Field Reconnaissance* -- Conduct preliminary field reconnaissance, updating and expanding upon field reconnaissance completed to date and incorporating further City input and other relevant information which may have a bearing on the project.
- C. *Preliminary Map Studies* -- Conduct preliminary map studies of potential sewer alignments noting all items of potential interest. Review and study will include the following available mapping sources: City sewer, City land use and zoning maps, topographic mapping, wastewater master plan maps, USGS topographic maps, aerial photography, National Wetlands Inventory mapping, DOGAMI geological maps, Oregon Department of Transportation (ODOT) and Lane County highway/roadway right-of-way maps, Lane County soil survey maps, tax assessors maps (Lane County) and utility maps (electrical power, natural gas, telephone, fiber optics, TV cable, sewer, irrigation, municipal water). Develop composite utility mapping along prospective pipeline routes to assist with localized routing recommendations. The presence of existing utilities will have a bearing on bypass sewer alignment options.
- D. *Utility and Roadway Agency Consultations* -- Consult with potentially impacted utility and roadway interests to review proposed pipeline routing concepts and identify items of interest and/or concern. Investigate any mutually beneficial opportunities and identify any special project coordination needs.
- E. *58<sup>th</sup> Street Sewer Replacement Concept Overview* -- Conduct a preliminary review of the potential to replace the existing sewer along 58<sup>th</sup> Street. A trenchless method such as pipe bursting should be considered if the bypass sewer does not route along 58<sup>th</sup> Street and the City desires to replace the existing sewer. However, if the bypass sewer is routed along 58<sup>th</sup> Street then it likely makes sense for open cut construction. The bypass sewer may serve both as a bypass and as a replacement to the existing sewer if the inverts allow. This option would provide significant savings to the City.
- F. *ODOT Highway 126 Crossing Concepts Assessment* -- Certain highway crossing concepts will be reviewed and assessed as to their potential merit. The highway will

either be crossed near the intersection with Main Street, or at some distance north of Main Street. It is expected that ODOT would require a trenchless crossing for any crossing north of the Main Street intersection where an open cut method would be problematic with respect to traffic impacts. It is expected that the most appropriate trenchless method for crossing the highway is likely to be the bored/jacked/cased option.

- G. *Assessment of Soil Conditions* – MSA will review geotechnical reconnaissance reporting to establish how soil conditions may affect route selection. It is possible that the soil conditions throughout the project area are similar and consistent enough to not impact routing choices. As with much of Springfield, the project area lies between the McKenzie and Willamette Rivers and includes primarily alluvial deposits of gravels, sands, and fine grained soils. At this time it is not expected that solid rock would be encountered on this project.
- H. *Analysis of Challenge Areas/Routing Reaches* – In developing our proposal, MSA has broken the project area into several distinct study areas, each of which present special circumstances that must be considered in selecting a final pipeline route. Under this task, each area or reach will be reviewed, assessed and analyzed in terms of the various pipeline routing considerations. Potential project areas and corridor reaches are listed as follows:
- 58<sup>th</sup> Street - Thurston Road to Main Street
  - Main Street - 58th Street to 54<sup>th</sup> Street
  - BPA Transmission Line Corridor – Thurston Road to B Street
  - Highway 126 Crossing at A Street and B Street
  - 56<sup>th</sup> Street – Thurston Road to A Street
  - A Street – Highway 126 to 54th Street
  - B Street – Highway 126 to 55th Street
  - 55<sup>th</sup> Street - B Street to A Street
  - 54<sup>th</sup> Street - A Street to Main Street

Each of the above alignment options and variations will be reviewed with respect to a variety of evaluation parameters, including: permitting interests; existing road right-of-way interests; private property easement acquisition interests; environmental impacts; local community interests; existing utility interests; roadway impacts; traffic impacts; business/operational impacts; system maintenance and access interests; cost and risk; and other potential special interests.

- I. *Staff and City Reviews* -- Review various findings with City staff, with a focus on matters of particular strategic or sensitive interest. Facilitate two meetings at City offices to address sewer routing interests. Various project stakeholders will be invited as may be appropriate.
- J. *Identification of Preferred Alignment* -- Under this task, the preferred bypass sewer alignment will, in consultations with the City, be selected and described. Overall routing evaluations will be considered in compiling a composite routing alignment that appears

to best balance the various pipeline performance requirements and other project routing interests. Appropriate documentation will be provided to support the permitting, easement acquisition and design work. In presenting the preferred alternatives, we will be diligent in presenting the appropriate "next best" option for a given alignment element; should a particular interest (business impacts, property acquisition, permitting, public sentiment, etc.) stall subsequent processes, decisions can be logically and methodically made to keep the program moving to the successful completion of easement acquisition and required permitting and agency approvals.

**Task 1.5 Identification of Required Permits and Agency Consultations**

Under this task, permitting requirements and special approvals will be inventoried and summarized in preparation for Task 3 – Design work. Preliminary informal consultations will be conducted with appropriate agency representatives. Anticipated sub-tasks are outlined as follows:

- A. *Agency/Permit/Approval Inventory* -- A preliminary list of potentially interested agencies and possible project permits is summarized below:

Interested Agencies	Permits
Oregon Department of Transportation (ODOT)	Application and Permit to Occupy or Perform Operations Upon a State Highway
Bonneville Power Administration (BPA)	Land Use Agreement or Letter of Acceptance from BPA
Oregon Department of Environmental Quality (DEQ)	Current 1200-CA Permit

Note: It is not anticipated that environmental permitting will be required for this project. If sensitive wetland areas are encountered, the project will be designed to avoid them. Also it is not expected that a Facility Permit with Lane County will be required if the pipeline crosses Highway 126 instead of Bob Straub Parkway. If a Lane County permit is required then such will be accommodated within the fee shown for ODOT permit work.

- B. *Preliminary Agency Consultations* -- Under this task, appropriate permitting agency representatives will be contacted to confirm jurisdiction authority, agency interest, permit requirements and anticipated agency roles.

**Task 1.6 Identification of Easement Needs**

Prepare an inventory of properties and identified easement requirements for the various routing alternatives. Identify known "friendly" and/or "adversarial" interests that may have a bearing on routing preferences. We will seek input from both City staff as well as our team partner, UFS.

*Task 1.7 Preliminary Project Cost Estimating*

Prepare a comparative cost analysis of the various routing alternatives to assist in the selection of the preferred bypass sewer routing alternative. A detailed planning level cost estimate analysis will then be developed for the preferred alternative. This analysis will include all elements of the proposed new bypass sewer, including provisions for project management, engineering, construction, permitting, and right-of-way and land acquisition costs. Engineering cost estimates will reflect contracted amounts.

*Task 1.8 Sewer Route Selection Report*

Develop a "Sewer Route Selection Report" that summarizes findings developed in the above tasks. A draft report will be provided to the City for review and comments. A final report will be prepared incorporating City comments and five (5) copies will be provided to the City. MSA will present and/or assist the City Engineer with a project presentation to the City Council. Graphics and presentation materials will be prepared by MSA to support that presentation.

**Task 2 – Field Data Collection and Presentation**

Under this task, topographic surveying will be performed as necessary to support the proposed bypass sewer project. Surveying work will be completed in two phases. The first phase will include topographic survey at the bypass sewer end points so that traffic control for surveying these areas is only needed once. Also, invert measurements at up to 30 structures on existing sewers along the alternative routes will be obtained as part of this phase. This will help establish potential grade conflicts associated with route selection. The second phase of surveying will include topographic survey along the preferred routing alternative which will be combined with the survey obtained during phase 1. Description of the two phases are combined below, however the work will be sequenced as required. Anticipated work includes:

*Task 2.1 Field Surveying*

Conduct field surveys within the public rights-of-way from edge of pavement to edge of pavement, along BPA property if needed, and through anticipated easement areas along the selected route for the bypass sewer, identifying right-of-way, railroad, easement and roadway limits. Research, uncover and tie sufficient survey monuments to position and adjust the approximate rights-of-way locations based on City provided GIS tax lot information. Coordinate with the City and incorporate existing survey information as may be available from the City. Complete surveys at sufficient detail to prepare necessary easement mapping for the project. For the purposes of fee estimating, it is assumed that there will be sufficient found survey monuments for the purposes of the project and that no boundary survey work will be required. If boundary survey work is required, it will be provided as optional additional services. If right-of-way resolution work is required for easement description purposes, it will be provided as contingency task work as part of Task 4 described below.

**Task 2.2**      *Horizontal and Vertical Control*

Establish and document horizontal and vertical control as required, based on City-approved data. Include base benchmark data on design drawings.

**Task 2.3**      *Bench Marking*

Place temporary bench marks approximately every 500 feet along the project route to facilitate construction staking.

**Task 2.4**      *Utilities Surveying*

Survey all existing underground utilities as located by the utility owners, existing overhead utilities and other above-ground structures. Include all rim and invert elevations of storm, sanitary and other subsurface structures.

**Task 2.5**      *Utilities Pipeline Data Collection*

Identify location, size, depth and operating pressures, if known, of all water, gas, steam and other pressure pipelines.

**Task 2.6**      *Topography Identification*

Identify surface elevations every 50 feet along the alignment and at all grade breaks to the nearest 0.1 foot. Locate and identify all critical ground topography and other geographic features that may have a bearing on the pipeline alignment and design.

**Task 2.7**      *Ties*

Provide horizontal and vertical ties to all relevant physical features within easement and right-of-way areas, including manmade structures such as buildings, signs, bridges, culverts, guardrails, sheds, landscaped areas, etc. that exist within the survey limits from edge of pavement to edge of pavement.

**Task 2.8**      *Utilize Existing Data*

Utilize City-provided 2008 digitized aerial maps and as-built drawings and comply with the City Engineering Design Standards and Procedures Manual.

**Task 2.9**      *AutoCAD Drawings*

Prepare drawings in the City's required version of AutoCAD software at a scale of 1 inch = 20 feet.

## **Task 2.10 Geotechnical Investigations (Phase 2)**

A more detailed geotechnical investigation will be completed once a preferred alignment has been selected. The scope of the Phase 2 investigation will include:

- Detailed site reconnaissance of the selected route
- Field exploration and sampling (5 auger borings)
- Piezometer installation and monitoring (2 locations)
- Laboratory testing
- Engineering analysis
- Report preparation

A detailed reconnaissance of the selected route will be conducted, focusing on site and topographic features that may impact specific sections of the bypass sewer (rock excavation, cobbles and boulders, shallow ground water, etc.).

Up to 5 exploratory boreholes with a maximum borehole footage of 125 feet will be drilled. Four boreholes will be drilled at strategic locations along the route and one borehole will be drilled at the assumed bored and jacked crossing of the highway. Based upon the estimated depth of the new bypass sewer, an average borehole depth of 25 feet is assumed for estimating purposes. Individual borings will vary according to anticipated bypass sewer depths, but typically would extend at least 10 feet below the bottom of the trench. SPT and Shelby tube samples will be obtained at 2 ½-foot intervals to the anticipated bottom of the trench and at ±5-foot intervals thereafter.

Flush-mounted piezometers will be installed at two of the boring locations to monitor ground water levels. Ground water levels will be measured at the time of drilling and at two subsequent times to establish approximate seasonal fluctuations. Depending on the timing of the measurements, the results will either be included in the geotechnical report or in a supplemental memorandum.

Laboratory testing will be limited to index tests such as water content, Atterberg limits and gradation to characterize the soils that are to be trenched. Field vane shear tests will be run on relatively undisturbed Shelby tube samples to evaluate the shear strength of fine-grained soils in the trench sidewalls.

Engineering analysis of the selected alignment will likely include stability analysis for trench sidewalls and localized stability of existing slopes and/or road embankments. The potential risk of liquefaction of saturated sands if encountered along the selected alignment will also be evaluated.

The results of the Phase 2 investigation will be summarized in a final engineering report. The report will address the following:

- Potential adverse site and topographic features
- Potential seismic hazards (liquefaction and slope instability)
- Anticipated soil and rock conditions along the alignment

- Groundwater levels, seasonal fluctuations and anticipated trench dewatering
- Trench wall stability and anticipated bottom stabilization
- Lateral earth pressures for shoring design by the contractor

The report will be prepared and stamped by a geotechnical engineer licensed in the state of Oregon. Five copies of the report will be provided to the City.

### **Task 3 – Design**

Under this task, the final design of the project will be accomplished. The detailed subtasks are as follows:

#### **Task 3.1 Preliminary City Approvals**

Obtain City approvals of preliminary pipeline route, sizing, grades, potential lateral locations, cost estimate and permitting requirements.

#### **Task 3.2 Construction Drawings and Bid Package**

Prepare construction drawings and a bid package. The bid package will have all information and materials required for a complete set of contract documents, including invitation to bid, instructions to bidders, bid proposal, bonds, certificates of compliance, contract, general conditions, special provisions, special technical specifications, standard drawings and specifications as required, permits and approvals, easements and easement conditions, and final design drawings. Plan and profile drawings will be developed at a horizontal scale of 1 inch = 20 feet and vertical scale of 1 inch = 5 feet. MSA's engineering will comply with the City of Springfield's adopted Engineering Design Standards and Procedures Manual, as modified to suit the particular elements of this project. Drawings will be produced in the City's desired version of AutoCAD. During the design phase, easement appraisals and acquisitions (Task 4) and permit applications (Task 5) will commence. It is assumed that the 58<sup>th</sup> Street replacement sewer will only be included if the bypass sewer is routed along 58<sup>th</sup> Street, and plan and profile drawings of the two will be combined.

#### **Task 3.3 30%, 60% and 90% Reviews**

Prepare the bid package and submit to the City for review at the 30%, 60% and 90% complete levels. An updated construction cost estimate will be provided with each design submittal. MSA will coordinate and conduct design review meetings at the 30%, 60% and 90% complete levels. Agendas and meeting minutes will be prepared by MSA and distributed to all attendees.

#### **Task 3.4 100% Completion**

Complete contract documents to the 100% level in accordance with direction received from City staff and property owners, as required by permit conditions. A final cost estimate will be prepared for the construction contract.

### *Task 3.5 Public Information Process*

Under this task, MSA will prepare for and participate in up to 3 public involvement meetings. Preliminary routing graphics and a project overview presentation that is tailored for the specific needs of this project will be prepared and presented at the meetings. MSA's project presentation and participation will be focused at providing direct support to the City's public relations program associated with this project.

### *Task 3.6 Furnish Records for the City*

Upon request, provide to the City all records pertaining to the project, including reproducible drawings, electronic copies of drawings, and other documents associated with the project.

## **Task 4 – Easement and Right-of-Way Acquisition**

To support easement acquisitions required for the project, our team includes the real estate specialist firm UFS. At this time, it is unclear if any easements will be required for this project. If the bypass sewer is routed entirely within public rights-of-way, the easements would not be needed. For this reason, the fee estimate presents a per easement fee as a contingency cost. The proposed services for acquisition of easements for the project are outlined as follows:

### *4.1 Legal Descriptions and Easement Maps*

Order and review preliminary title reports. Prepare individual property easement maps and legal descriptions on City supplied standard easement forms. Easements will typically include a temporary construction easement that will expire upon completion of construction. Both temporary and permanent easements will be clearly shown on the final design drawings of the project.

### *4.2 Acquisition of Easements*

- A. *Property Appraisals* -- UFS will be using Duncan and Brown Appraisal Services of Eugene for the appraisals for the project. Duncan and Brown is on the City's approved property appraisal list. The appraisers will develop value appraisals of easements based on industry standard methodologies and in accordance with applicable regulations. Appraisal reviews are not required but can be completed as optional work if the City chooses to have a formal review. UFS's project manager will check each appraisal for completeness prior to sending to the City for authorization.
- B. *Offer Presentation* -- With prior approval from the City, prepare individual property owner offer presentation packages and conduct personal offer presentations. Report and coordinate with the City. Offers will be prepared following Oregon State law requirements. UFS will work with each property owner to reach a satisfactory agreement to both the owner and the City. Administrative settlements above the approved amount will need to be authorized by the City. UFS will make recommendations and prepare justification letters as needed.

- C. *Legal Reviews/Title Searches/Final Closing Coordination* -- Coordinate the final closing, final reviews and details with the Title Company and City legal counsel, if necessary. Review updated title reports and set up closing at the title company. Prepare all earnest money agreements and sales agreement documents for property owner, obtain City signatures and process all record filings with the Lane County Recorder's office and pay all associated filing fees. Provide the City with a file of all executed documents for each easement. The fee estimate for the project anticipates an uncontested process for all of the easements. Optional additional engineering and property acquisition services will be provided to the City as needed to support any contested acquisitions.

## **Task 5 – Permit Applications**

Under this task, the necessary permit applications will be prepared and filed. Anticipated potential permits are listed in Task 1.5 above. A discussion of respective permitting work and strategies is provided below. It is anticipated that an ODOT permit will be required for this project for work on Highway 126/Main Street and coordination will be required with BPA for the sewer crossing of the BPA right-of-way. It is assumed that the City will pay all permit fees required by regulatory agencies. Fee estimates include provisions for the following permits and regulatory approvals under the following assumptions:

### **5.1 ODOT Application and Permit to Occupy or Perform Operations Upon a State Highway**

Both Main Street and Highway 126 are under ODOT's jurisdiction. As per ODOT, Main Street is also considered "Highway 126 Business" to the west and a continuation of "Highway 126" to the east of the intersection with McKenzie Highway (Also Highway 126). The impact upon ODOT's facilities consists of possible pipeline routing along Main Street as well as a possible crossing of Highway 126 north of Main Street. Work sub-elements will include the following:

- A. *Interim Predesign Drawing Review* -- Meet with ODOT permitting staff to review preliminary engineering drawings and incorporate input if needed.
- B. *Application Preparation and Submittal* -- Complete the required permit application and submit for ODOT approval. Fee estimates assume a single permit application. It is understood that no application fees are required. MSA will include a draft ODOT permit, including anticipated conditions, in the bid documents for informational purposes. It is assumed that ODOT will approve the permit once the construction contractor is on board and the construction contractor will be responsible for signing and adhering to the permit conditions.

### **5.2 Application for Proposed Use of BPA Right-of-Way**

BPA has a power transmission line right-of-way that runs north/south through the project area. To construct the diversion pipeline between the two required manholes, the pipeline must cross the BPA right-of-way. MSA will prepare and submit the required application and coordinate with BPA regarding the design and anticipated construction requirements. Based on preliminary discussions with BPA staff, it is understood that if the proposed sewer crosses BPA right-of-way

along Main Street, a Letter of Acceptance will likely be issued by BPA. If the sewer crosses at any other point (such as A Street or B Street) or is routed within the BPA right-of-way parallel to the transmission lines, a more formal Land Use Agreement will be required. For the purposes of the fee estimate, it is assumed that a Land Use Agreement will be required and that the City will separately pay for any associated permit fees required by BPA. The Land Use Agreement (or acceptance letter if applicable) will be obtained prior to project advertisement for construction.

### *5.3 Other Permits by Contractor*

Construction contract documents will incorporate special provisions for all other potentially required permits to be acquired by the construction contractor as part of construction work. It should be noted that the City maintains a 1200-CA permit with DEQ for erosion and sediment control associated with sanitary sewer work. The construction contractor will be required to comply with all provisions of the 1200-CA permit, including preparation and submittal of an Erosion and Sediment Control Plan associated with this particular project.

### **Task 6 – Bid Documents and Bidding Assistance**

MSA will prepare a bid package and contract documents suitable for bidding (including, but not limited to, drawings, special provisions and bid proposals) of the project. MSA will submit to the City reproducible vellum construction plans and the master copy of the project bid books. All of the above shall be in accordance with applicable State laws, City codes and the City of Springfield Standard Construction Specifications, 1994 Edition, as modified by contractual special conditions. The specifications will include provisions that require the contractors to have a Spill Prevention and Control and Countermeasure Plan in place and to comply in all respects to the requirements of DEQ and EPA with respect to spills of all types.

MSA will provide engineering services for the bid package and assist in the bid process. The bid documents shall be prepared in the City's bidding format. The City will supply the standard bid document forms. MSA will complete and submit to the City 30 sets of plans and specifications and an electronic file of the bid package will also be provided in PDF format. MSA will send letters notifying utility companies and affected parties of the pre-bid meeting and attend and record the pre-bid meeting. MSA will be available to answer project questions presented by bidders during the bidding for the project and will prepare any needed addenda. The City will advertise for bids in the Register Guard and the Portland DJC, hold a bid opening, check bids and bid bonds, award and process the contract, and send the Notice to Proceed to the contractor.

### **Task 7 – Construction Administration**

MSA will administer the construction phase of the project to help establish that the construction contractor provides for successful completion of the project as designed. MSA anticipates that this project should require one half-time inspector throughout the active construction phase of the project (approximately 4 months), to adequately track the work, and complete other related construction administration tasks. A senior level construction manager should oversee the inspection and all construction administration work for this project. The engineering services work by MSA during construction will include:

- A. Coordination with property owners, contractors, subcontractors, utility companies, Lane Transit District (LTD), School District, USPS. Hold and record a pre-construction meeting with utility companies, contractor, and affected agencies;
- B. Recording by video and digital photo, the pre-construction condition of the construction site, monitoring and inspecting the construction and contractor's schedule, temporary and permanent traffic control, and legal documents;
- C. Providing routine and timely construction inspections, anticipating potential challenges and offering creative solutions;
- D. Ordering and directing construction materials testing and reviewing testing results for conformance with the project;
- E. Maintaining daily and weekly inspection reports of construction activities;
- F. Conducting and recording weekly construction meetings with City and Contractor;
- G. Assuring construction pay quantities are measured and documented prior to backfill or burying;
- H. Determining construction progress payments;
- I. Preparing and administering change of work orders. All construction contract change orders shall be approved by the City Engineer and signed by both the City Engineer and MSA's project engineer;
- J. Re-measuring the unit quantities contained in the contract and calculating a final payment amount when construction is complete and before final payment;
- K. Performing construction staking;
- L. Surveying final construction conditions.

#### **Task 8 – Post Construction Services**

Upon completion of the project, all records pertaining to the project shall be attested to by MSA and submitted in detail to the City Engineer. Such records shall include, but not be limited to, the following:

- A. As-built plans, from which clearly legible prints can be produced.
- B. As-built drawings on disc, compatible with the City's electronic system in an AutoCAD format.
- C. Laboratory and field test reports certified by the Engineer.
- D. Inspection diaries and other documents related to the project.

The as-built drawings in hard copy and electronic files shall conform to the requirements in the City's design manual and shall be submitted to the City.

MSA will provide any other services related to the project as requested by the City Engineer. Services such as redesign after final design, or other services which would not be anticipated or are not included as part of the work scope as described above or in the proposal shall be eligible for payment beyond and outside of the not-to-exceed limit as approved by the City Engineer.

### PROJECT DELIVERABLES SCHEDULE

The proposed deliverables schedule for the project follows. This schedule reflects the City's deliverable schedule in the RFP with completion of bid documents not later than January 6, 2012. The bidding and award and construction phases are included in the schedule to provide a complete project schedule through completion of construction. Assuming a conventional design-bid-build approach, construction of the project can be anticipated by the first of November 2012.

Deliverable	2011												2012										
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
Initial Services																							
Complete Location, Sizing Analysis and Comparative Cost Analysis and Present to City			▲ 2/1/11																				
Complete Field Data Collection and Base Development																							
30% Design and Estimated Cost Review Meeting with City																							
60% Design and Estimated Cost Review Meeting with City																							
90% Design and Estimated Cost Review Meeting with City																							
Complete Bid Documents to City																							
Invitation to Bid Advertised																							
Pre-Bid Conference																							
Bid Opening																							
Notice to Proceed																							
Construction Complete																							

### PRELIMINARY DRAWING LIST

The following is the anticipated list of drawings for the project:

1	G-1	Title Sheet, Vicinity Map, Location Map
2	G-2	Index of Drawings and Drawing Key Map
3	G-3	General Notes, Abbreviations and Legend
4	G-4	Survey Notes and Monumentation Map
5	G-5	Erosion Control Notes and Details
6-13	C-1 to C-9	Plan and Profile – 58th Street Bypass Sewer (4,900 ft. @ 1"=20' - 9 sheets)
14	C-10	Misc. Details 1- Bored and Jacked Casings – Sections & Details
15	C-11	Misc. Details 2 – Road Surface Restoration – Sections & Details
16	C-12	Misc. Details 3 – Diversion Structure
17	C-13	Misc. Details 4 – Miscellaneous Details
18	C-14	Misc. Details 5 – Miscellaneous Details

## **PRELIMINARY BID PACKAGE TABLE OF CONTENTS**

The following Table of Contents example is presented to exhibit the general layout of the anticipated final bid package:

1. Engineer's Seal and City's Concurrence
2. Complete Bid Submittal Notification
3. Invitation to Bidders
4. Instruction to Bidders
5. Unit Price Bid Proposal
6. Bid Item List
7. Bid Bond
8. Proposal Guarantee
9. Certificates of Compliance
  - Prevailing Wage Rate Requirements and Information
  - Nondiscrimination
  - Residency
  - Licensing with Contractor's Board
  - Employee Drug Testing Program
10. First-tier Subcontractor Disclosure Form
11. Contract Form
12. Performance Bond Form
13. Payment Bond Form
14. Statutory Public Works Bond
15. List of Contractors Ineligible to Receive Public Works Contracts
16. Special Provisions
17. Geotechnical Investigation Report
18. Easements
19. Record Drawings
20. Permits and Approvals
  - Draft ODOT Permit
  - BPA Land Use Agreement
  - City 1200-CA Permit



FIGURE 1

**58th Street Sanitary Sewer Line and Bypass Manhole**  
**Preliminary Project Overview**

February 2011







**GENERAL**

Murray, Smith & Associates, Inc. (MSA) is proud of the reputation that we have built since the firm's founding in 1980. Listed below is a summary of client references for whom we have completed recent and relevant project work. These individuals are familiar with our firm through our current and repeat work and will verify MSA's excellent reputation and strong qualifications for the contemplated scoping, design and installation of the 58th Street Relief Sanitary Sewer Line & Bypass Manhole project for the City of Springfield. We encourage you to contact any or all of these individuals.

**Pamela Eide, P.E.**  
Public Works Department  
City of Springfield  
225 Fifth Street  
Springfield, OR 97477-4671  
541.736.1028  
peide@ci.springfield.or.us

**Jim Montgomery, P.E.**  
Senior Engineer  
City of Gresham  
1333 NW Eastman Parkway  
Gresham, OR 97030-3813  
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**Paul von Rotz, P.E.**  
Civil Engineer  
Public Works Department  
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Astoria, OR 97103  
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ewegner@co.clatsop.or.us

**Karl Wieseke**  
Transportation Project Leader  
Oregon Department of  
Transportation  
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541.744.8080  
karl.d.wieseke@odot.state.or.us

**Ken Kohl, P.E.**  
Consultant Project Manager  
Oregon Department of Transportation  
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kenneth.L.kohl@odot.state.or.us

**Randy Jones**  
Public Works Director  
City of Wood Village  
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Wood Village, OR 97060  
503.667.6211  
randyj@ci.wood-village.or.us

**Boris Piatski**  
Civil Engineer  
City of West Linn  
22500 Salamo Road, No. 800  
West Linn, OR 97068  
503.722.5519  
bpiatski@ci.west-linn.or.us

**Scott Woodbury**  
Engineering Project Coordinator  
Clean Water Services  
16060 SW 85th  
Tigard, OR 97224  
503.547.8180  
woodburys@cleanwaterservices.org





**Sample Plans**

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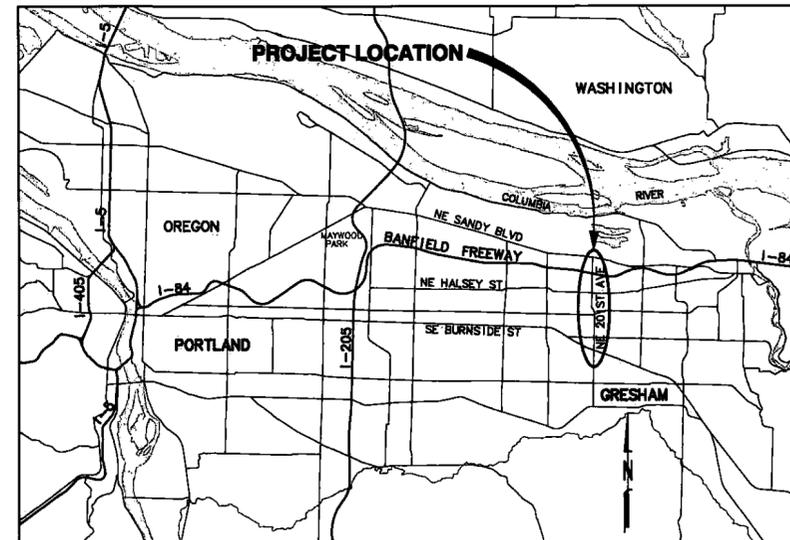




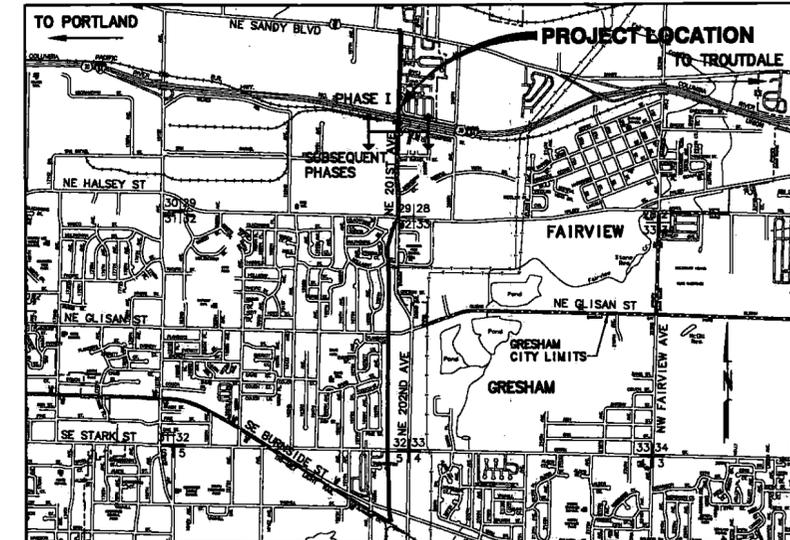


# WASTEWATER SERVICES SEWER TRUNK IMPROVEMENTS PHASE I

MAY 2002



VICINITY MAP  
SCALE: 1"=7,000'



LOCATION MAP  
SCALE: NTS

### SHEET INDEX

#### GENERAL

- |   |     |   |
|---|-----|---|
| 1 | G-1 | TITLE SHEET/VICINITY MAP/LOCATION MAP/SHEET INDEX |
| 2 | G-2 | KEY MAP/ABBREVIATIONS/LEGEND                      |
| 3 | G-3 | GENERAL NOTES/EROSION CONTROL NOTES               |
| 4 | G-4 | EROSION/SEDIMENTATION CONTROL PLAN                |

#### SANITARY SEWER

- |   |      |                                       |
|---|------|---------------------------------------|
| 5 | SS-1 | PLAN & PROFILE STA 1+00 TO STA 4+80   |
| 6 | SS-2 | PLAN & PROFILE STA 4+80 TO STA 9+80   |
| 7 | SS-3 | PLAN & PROFILE STA 9+80 TO STA 15+00  |
| 8 | SS-4 | PLAN & PROFILE STA 15+00 TO STA 20+20 |
| 9 | SS-5 | PLAN & PROFILE STA 20+20 TO STA 25+40 |

#### SANITARY SEWER CONTINUED

- |   |       |                                       |
|---|-------|---------------------------------------|
| • | SS-6  | PLAN & PROFILE STA 25+40 TO STA 30+60 |
| • | SS-7  | PLAN & PROFILE STA 30+60 TO STA 35+80 |
| • | SS-8  | PLAN & PROFILE STA 35+80 TO STA 41+00 |
| • | SS-9  | PLAN & PROFILE STA 41+00 TO STA 46+20 |
| • | SS-10 | PLAN & PROFILE STA 46+20 TO STA 51+40 |
| • | SS-11 | PLAN & PROFILE STA 51+40 TO STA 56+60 |
| • | SS-12 | PLAN & PROFILE STA 56+60 TO STA 61+80 |
| • | SS-13 | PLAN & PROFILE STA 61+80 TO STA 67+00 |
| • | SS-14 | PLAN & PROFILE STA 67+00 TO STA 72+20 |
| • | SS-15 | PLAN & PROFILE STA 72+20 TO STA 77+40 |
| • | SS-16 | PLAN & PROFILE STA 77+40 TO STA 82+60 |
| • | SS-17 | PLAN & PROFILE STA 82+60 TO STA 87+80 |

#### SANITARY SEWER CONTINUED

- |   |       |   |
|---|-------|---|
| • | SS-18 | PLAN & PROFILE STA 87+80 TO STA 93+00   |
| • | SS-19 | PLAN & PROFILE STA 93+00 TO STA 98+20   |
| • | SS-20 | PLAN & PROFILE STA 98+20 TO STA 103+40  |
| • | SS-21 | PLAN & PROFILE STA 103+40 TO STA 108+60 |
| • | SS-22 | PLAN & PROFILE STA 108+60 TO STA 113+80 |

#### DETAILS

- |    |     |                       |
|----|-----|-----------------------|
| 10 | D-1 | STRUCTURAL DETAILS    |
| 11 | D-2 | STRUCTURAL DETAILS    |
| 12 | D-3 | TYPICAL SECTIONS      |
| 13 | D-4 | MISCELLANEOUS DETAILS |
| 14 | D-5 | MISCELLANEOUS DETAILS |

\* THESE SHEETS ARE NOT INCLUDED IN THIS CONTRACT.

01-0536.471

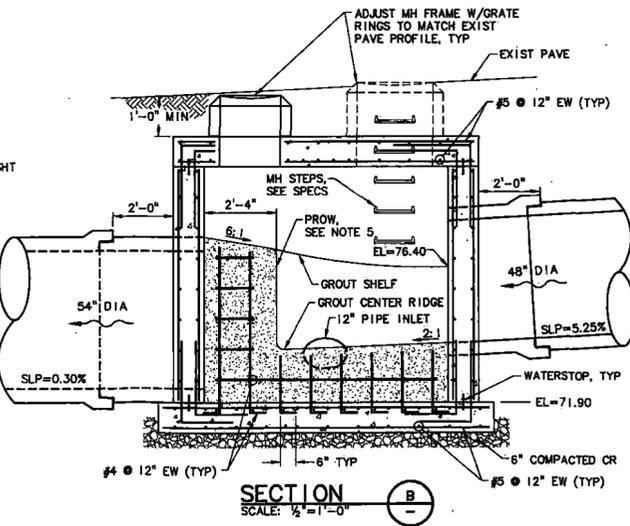
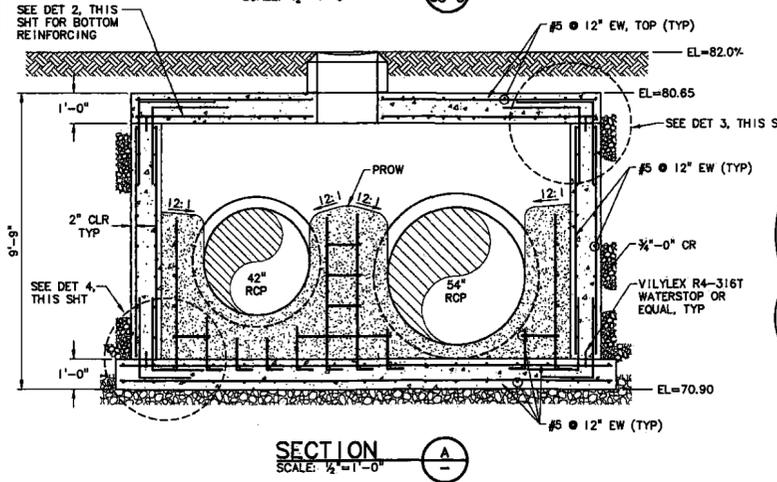
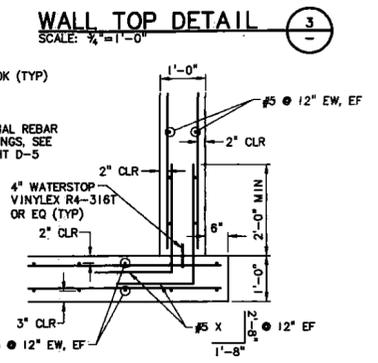
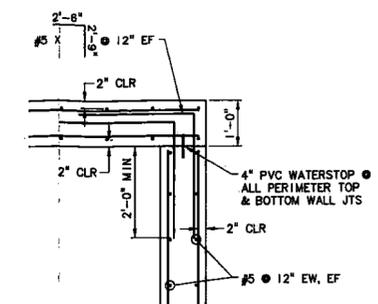
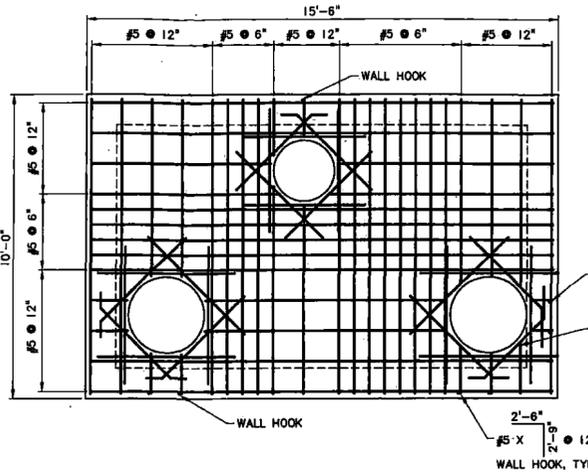
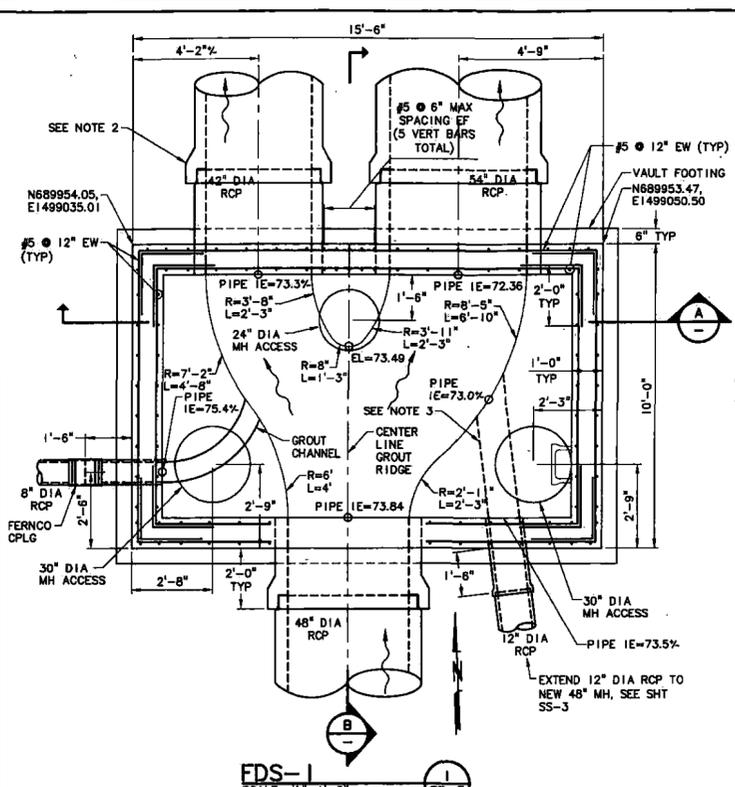
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DESIGNED: LHM	DRAWN: BAW/DOR	CHECKED: TLT	APPROVED: TUB
DATE: MAY 2002	SCALE: NTS	PROJECT NAME: WASTEWATER SERVICES SEWER TRUNK IMPROVEMENTS PHASE I	LOCATION: GRESHAM, OREGON
FILE: 308202	SECTION: TUB	TITLE SHEET/VICINITY MAP/LOCATION MAP/INDEX SHEET	
DESIGNED: LHM	DRAWN: BAW/DOR	CHECKED: TLT	APPROVED: TUB
DATE: MAY 2002	SCALE: NTS	PROJECT NAME: WASTEWATER SERVICES SEWER TRUNK IMPROVEMENTS PHASE I	LOCATION: GRESHAM, OREGON
FILE: 308202	SECTION: TUB	TITLE SHEET/VICINITY MAP/LOCATION MAP/INDEX SHEET	
DESIGNED: LHM	DRAWN: BAW/DOR	CHECKED: TLT	APPROVED: TUB

**CITY OF GRESHAM**  
DEPARTMENT OF ENVIRONMENTAL SERVICES  
ENGINEERING DIVISION  
13330 NW FAIRVIEW AVE  
GRESHAM, OREGON 97030-3225  
(503) 618-2025



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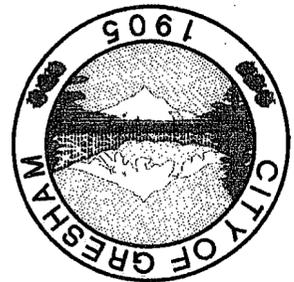
- NOTES:**
1. PROVIDE SMOOTH, ROUNDED GROUT CHANNELS FOR FLOW INTO 42" AND 54" PIPES.
  2. DETERMINE LOCATION OF PIPING JOINT NEAREST TO THE FDS-1 STRUCTURE AND PROVIDE REQUIRED PIPING SECTIONS AND/OR CLOSURE PIECES TO CONNECT TO FDS-1 AT NO ADDITIONAL COST. PROVIDE SUBMITTAL OF CONNECTION MATERIALS AND PROCEDURE FOR CITY REVIEW.
  3. ENCASE 12-INCH PIPING INSIDE GROUT SHELF. CUT AND SHAPE OUTLET END OF PIPE TO MATCH CHANNEL.
  4. SEE SHEET 3 FOR GENERAL STRUCTURAL NOTES.
  5. PROW SHALL BE CAST IN PLACE REINFORCED CONCRETE PLACED IN FORMS. GROUT PLACED BY HAND SHALL NOT BE USED. BOND ALL FRESH GROUT OR CONCRETE TO CURED CONCRETE WITH EPOXY BONDING AGENT.
  6. PROVIDE CDF BACKFILL AROUND VAULT AS REQUIRED TO ENSURE ADEQUATE COMPACTION. PREVENT FLOATATION OF VAULT. CDF SHALL BE INCIDENTAL TO VAULT INSTALLATION.

REVISION BY	DATE	NO.	DESCRIPTION

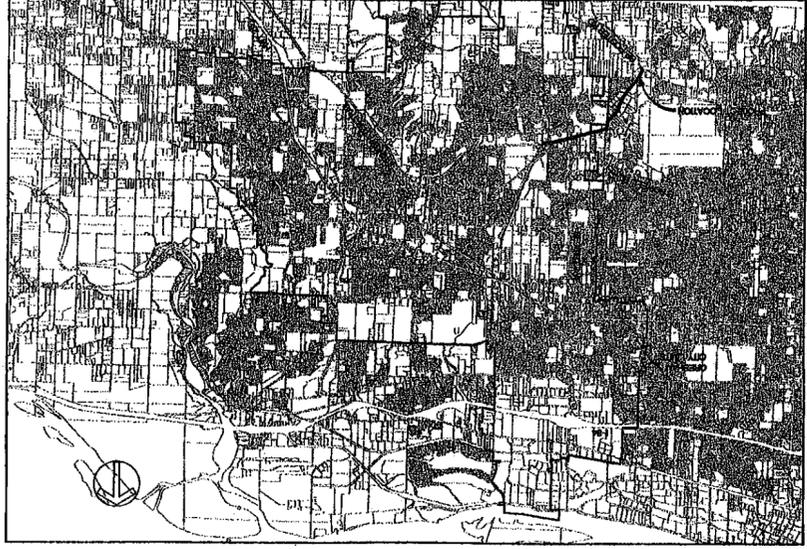
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 PROJECT NAME: WASTEWATER SERVICES SEWER TRUNK IMPROVEMENTS PHASE I  
 LOCATION: GRESHAM, OREGON 97030-3825  
 (503) 816-2825  
 CITY OF GRESHAM  
 DEPARTMENT OF ENVIRONMENTAL SERVICES  
 1333 N.W. EASTMAN PARKWAY  
 GRESHAM, OREGON 97030-3825  
 (503) 816-2825

SHEET D-2  
 OF 14  
 STRUCTURAL DETAILS

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# WASTEWATER SERVICES C.I.P. NO. 314900 JENNE RD - PLEASANT VALLEY INTERCEPTOR



**SHEET INDEX**

**GENERAL**

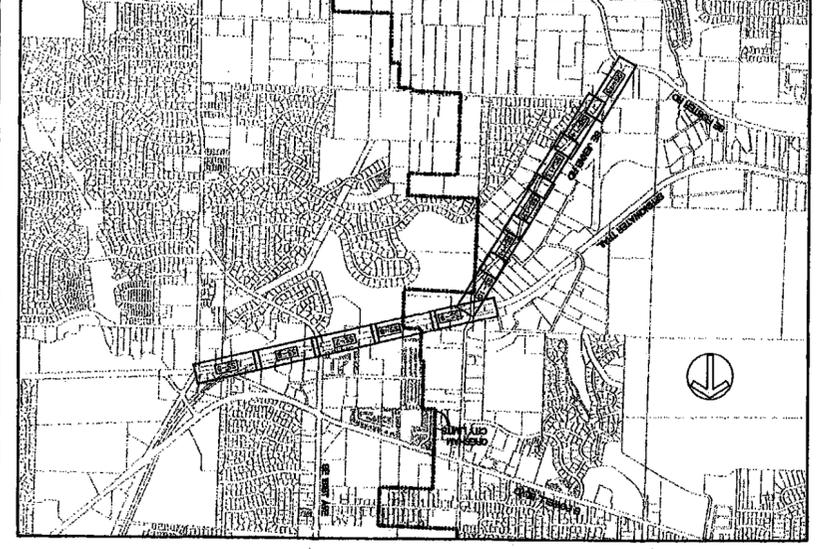
- 1 AREA, MOUNTAIN MAPS, CONTACTS & SHEET INDEX
- 2 APPROPRIATIONS, LEGENDS & LOCATION MAP
- 3 GENERAL NOTES
- 4 SE JENNE ROAD DETOUR PLAN
- 5 TYPICAL EMISSION CONTROL PLANS
- 6 EMISSION CONTROL NOTES & DETAILS
- 7 PLAN & PROFILE STA 0+00 - STA 9+00
- 8 PLAN & PROFILE STA 9+00 - STA 18+00
- 9 PLAN & PROFILE STA 18+00 - STA 27+00
- 10 PLAN & PROFILE STA 27+00 - STA 37+00
- 11 PLAN & PROFILE STA 37+00 - STA 46+00
- 12 PLAN & PROFILE STA 46+00 - STA 54+00
- 13 PLAN & PROFILE STA 54+00 - STA 62+00

**BARRETT CROSS (MS)**

- 14 PLAN & PROFILE STA 62+00 - STA 70+00
- 15 PLAN & PROFILE STA 70+00 - STA 78+00
- 16 PLAN & PROFILE STA 78+00 - STA 88+00
- 17 PLAN & PROFILE STA 88+00 - STA 93+91.00

**CREEK CROSSING**

- 18 CREEK CROSSING PLAN & PROFILE
- 19 OUTLET VALVE PLAN & SECTIONS
- 20 INLET VALVE PLAN & SECTIONS
- 21 INLET & OUTLET VALVE STRUCTURAL DETAILS
- 22 INLET & OUTLET VALVE STRUCTURAL NOTES
- 23 TYPICAL TRENCH SECTIONS & MH-A1 PLAN
- 24 WASTEWATER SERVICES DETAIL
- 25 WASTEWATER SERVICES DETAIL
- 26 WASTEWATER SERVICES DETAIL & EXCAVATION MATERIAL PROCESS SITE



**CONTACTS**

**CITY OF GRESHAM**

JEFF LORTON, P.E., PROJECT ENGINEER  
 503-618-2889  
 503-618-2889  
 503-618-2889  
 503-618-2889  
 503-618-2889  
 503-618-2889

**CITY OF GRESHAM WASTEWATER DIVISION**

MARK LITTLE, PROJECT DESIGNER  
 503-618-2920  
 503-618-2920  
 503-618-2920  
 503-618-2920  
 503-618-2920

**CITY OF GRESHAM STREET DIVISION**

JOE TONG, WASTEWATER MAINTENANCE FOREMAN  
 503-618-2916  
 503-618-2916  
 503-618-2916  
 503-618-2916  
 503-618-2916

**PORTLAND WATER BUREAU**

TOMY SERRA, TAPPING SPECIALIST  
 503-888-3181  
 503-888-3181  
 503-888-3181  
 503-888-3181  
 503-888-3181

**PORTLAND GENERAL ELECTRIC**

HOWARD JORRAL  
 503-869-9220  
 503-869-9220  
 503-869-9220  
 503-869-9220  
 503-869-9220

**WESTERN WATER SERVICES**

SHERRI CLARK  
 503-863-4000  
 503-863-4000  
 503-863-4000  
 503-863-4000  
 503-863-4000

**PORTLAND GENERAL ELECTRIC**

JOE CHAPMAN  
 503-867-9700  
 503-867-9700  
 503-867-9700  
 503-867-9700  
 503-867-9700

**ONE CALL LOCATES**

503-246-8888  
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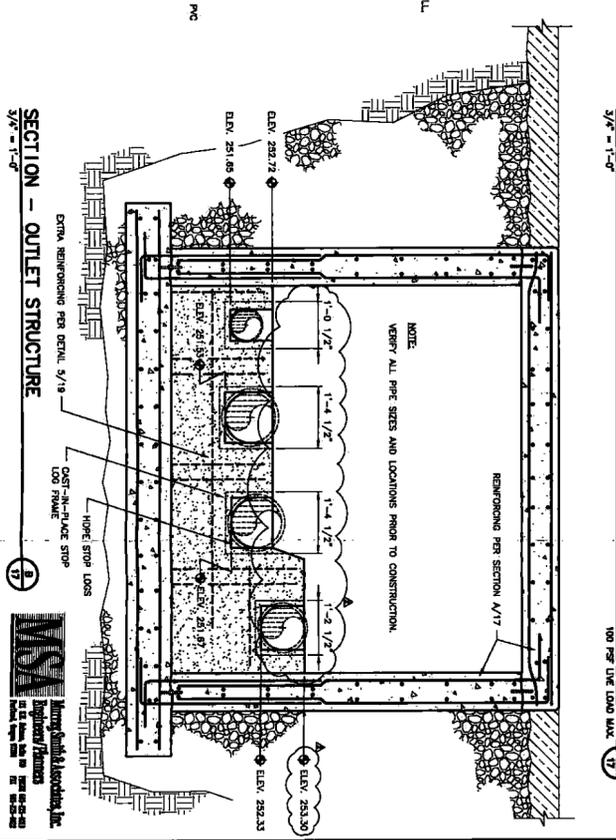
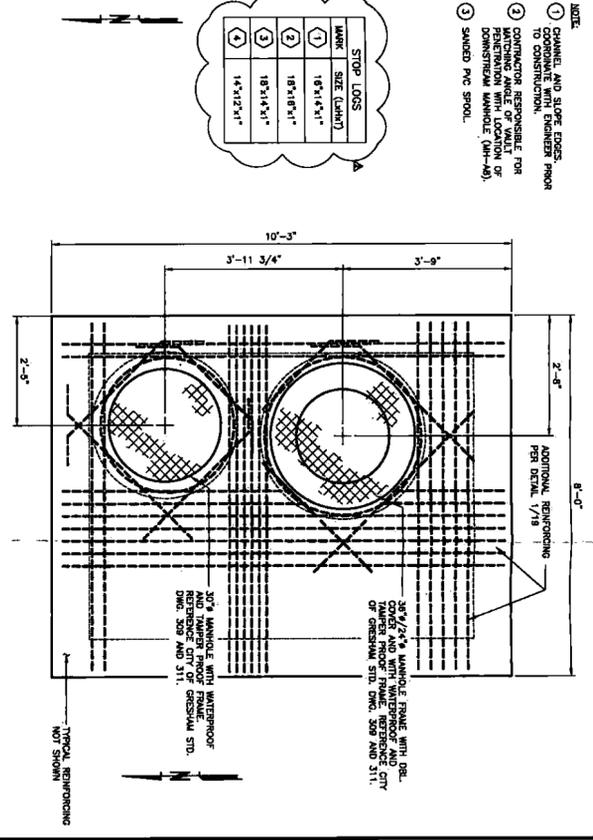
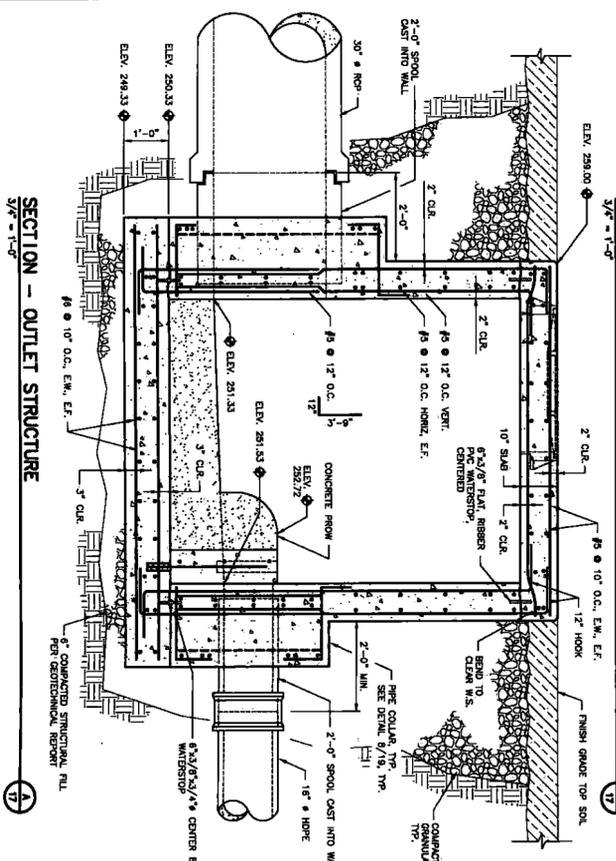
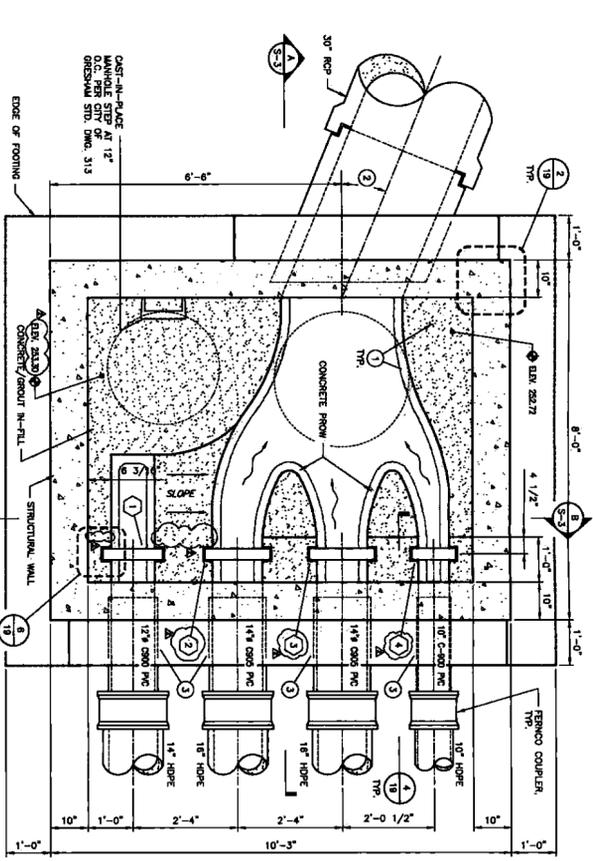
**CITY OF GRESHAM**  
 DEPARTMENT OF ENVIRONMENTAL SERVICES  
 1313 WASTEWATER SERVICES  
 GRESHAM, OREGON 97030-9113  
 (503) 618-2533

**CITY OF GRESHAM**  
 DEPARTMENT OF ENVIRONMENTAL SERVICES  
 1313 WASTEWATER SERVICES  
 GRESHAM, OREGON 97030-9113  
 (503) 618-2533

---

COVER SHEET

PROJECT NAME:	WASTEWATER SERVICES C.I.P. NO. 314900		
LOCATION:	JENNE RD - PLEASANT VALLEY INTERCEPTOR		
SCALE:	AS SHOWN	DATE:	APRIL 2008
PROJECT:	LEAK	DESIGNED BY:	JEFF LORTON
SECTION:	NO. 1	CHECKED BY:	MARK LITTLE
DATE:	APR 9 2008	APPROVED BY:	JEFF LORTON
PROJECT NUMBER:	314900		



NOTE:

1. CURB AND SLOPE EDGE COORDINATE WITH ENGINEER PRIOR TO CONSTRUCTION.
2. CONTRACTOR RESPONSIBLE FOR MAINTAINING ANGLE OF SLOPE OF DOWNSTREAM MANHOLE (H-45).
3. SHAVED PVC SPOOL.

STOP LOSS MARK	SIZE (LAMB)
1	18" x 14" x 1"
2	18" x 18" x 1"
3	18" x 14" x 1"
4	14" x 12" x 1"

<p><b>CITY OF GRESHAM</b> DEPARTMENT OF ENVIRONMENTAL SERVICES 1333 N.W. EASTMAN PARKWAY GRESHAM, OREGON 97030-3813 (503) 618-2525</p>	<p>The information shown was prepared for use by the City of Gresham and for no other purpose. The City of Gresham shall not be responsible for any errors or omissions if used by others. All information MUST BE FIELD VERIFIED by subcontractors for its validity.</p>	<p>SCALE: VERT: AS SHOWN HORIZ: AS SHOWN</p>	<p>DATE: MARCH 2008 PROJECT: 314900</p>	<p>DATE: 2/28/08 NO. 1 REVISION PERMIT</p>	<p>BY: MCM MON RECORD DWG RTM</p>
	<p>PROJECT NAME: JENNE RD - PLEASANT VALLEY INTERCEPTOR C.I.P. NO. 314900 SHEET NAME: OUTLET VAULT PLAN &amp; SECTIONS</p>	<p>SECTION: LEGAL TWP: RANGE:</p>	<p>DESIGNED: RTM DRAWN: MLH CHECKED: MLH APPROVED: JM</p>	<p>VERSION 4.1 12-9-97</p>	<p>SHEET 19 OF 26</p>

PROJECT NAME: JENNE RD - PLEASANT VALLEY INTERCEPTOR      DATE/TIME/FILENAME:      PROJECT NUMBER: 13488



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**City of Wood Village, Oregon**

**ENGINEERING PROJECT NO. 05-0771**

**SANDY BOULEVARD  
SANITARY SEWER IMPROVEMENTS**

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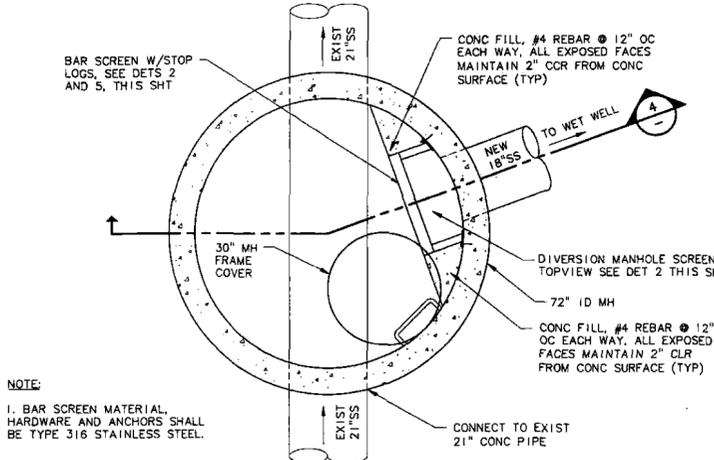
**Volume 2 of 2 Drawings**

**FEBRUARY 2009**

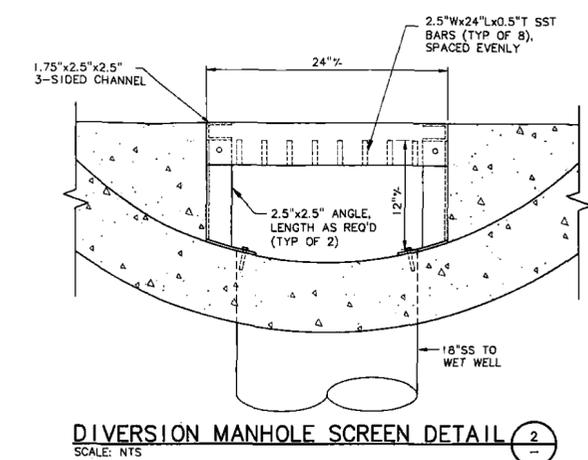


**Murray, Smith & Associates, Inc.**  
**Engineers/Planners**

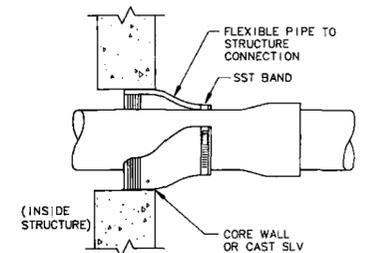
121 S.W. Salmon, Suite 900 PHONE 503-225-9010  
Portland, Oregon 97204 FAX 503-225-9022



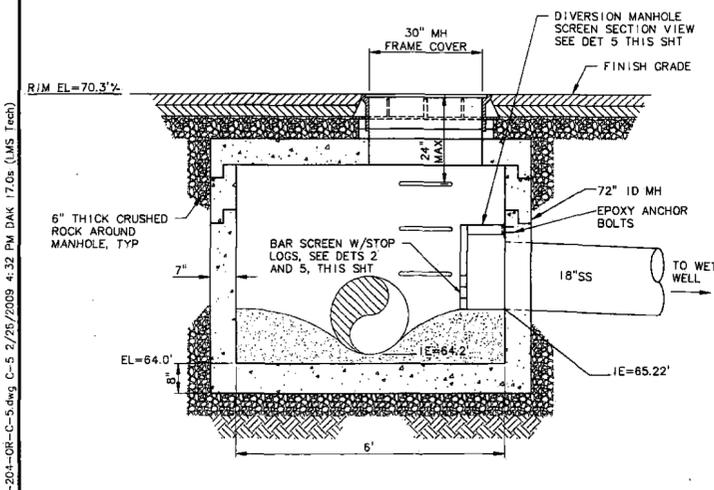
**DIVERSION MANHOLE PLAN (1)**  
SCALE: 3/4" = 1'-0"



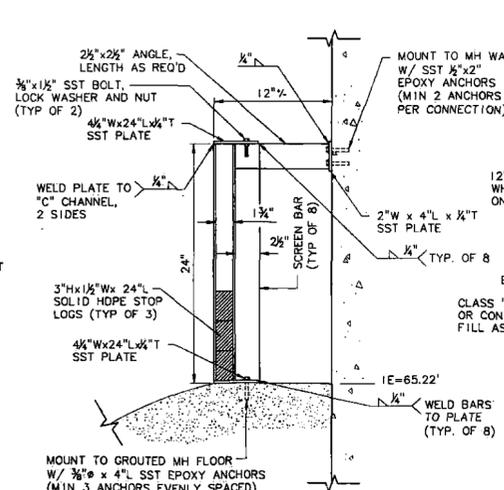
**DIVERSION MANHOLE SCREEN DETAIL (2)**  
SCALE: NTS



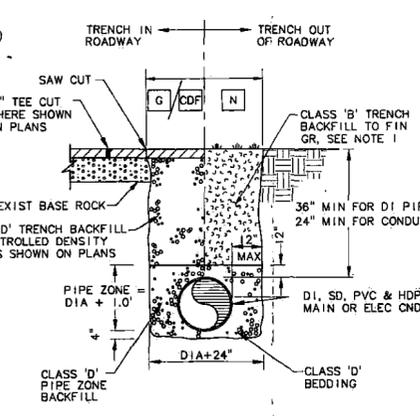
**KOR-N-SEAL BOOT DETAIL (3)**  
SCALE: NTS



**DIVERSION MANHOLE SECTION (4)**  
SCALE: 3/4" = 1'-0"



**DIVERSION MANHOLE SCREEN DETAIL (5)**  
SCALE: NTS



**SINGLE PIPE TRENCH DETAIL (6)**  
SCALE: NTS

**SYMBOL BACKFILL REQUIREMENTS**

**G / CDF** FURNISH AND INSTALL CLASS 'D' BEDDING & PIPE ZONE & CLASS 'D' OR CDF TRENCH BACKFILL AS SHOWN ON PLANS. TO PAVEMENT BASE. COMPACT MATL IN LIFTS TO ACHIEVE 95% OF MAX DENSITY IN ACCORDANCE W/ AASHTO T-99. REPLACE REMOVED ASPHALT W/ 6\"/>

**N** FURNISH & INSTALL CLASS 'D' BEDDING & PIPE ZONE BACKFILL COMPACTED TO 90% OF MAX DENSITY PER AASHTO T-99. FURNISH & INSTALL CLASS 'B' NATIVE TRENCH BACKFILL TO FIN GR COMPACTED TO 90% MAX DENSITY PER AASHTO T-99. REPLACE TOPSOIL & BACKFILL W/ CLASS 'B' NATIVE MATL. FINISH TRENCH SURFACE TO MATCH ORIG CONTOURS. REPLACE EXIST LANDSCAPING.

SHEET NOTE: ALL SST TO BE TYPE 316.

G:\05\0771\204\CAD\05-0771-204-08-C-5.dwg C-5 2/25/2009 4:32 PM DAK 17.0e (LMS Inc)

NO.	DATE	BY	REVISION

**NOTICE**  
IF THIS BAR DOES NOT MEASURE 1\"/>

**MDS DESIGNED**  
**MBE/BAH DRAWN**  
**MLH CHECKED**

**REGISTERED PROFESSIONAL ENGINEER**  
Murray Smith & Associates, Inc.  
121 S.W. Salmon, Suite 900  
Portland, Oregon 97204  
PHONE 503-225-9010  
FAX 503-225-9022

**SANDY BOULEVARD SANITARY SEWER IMPROVEMENTS**

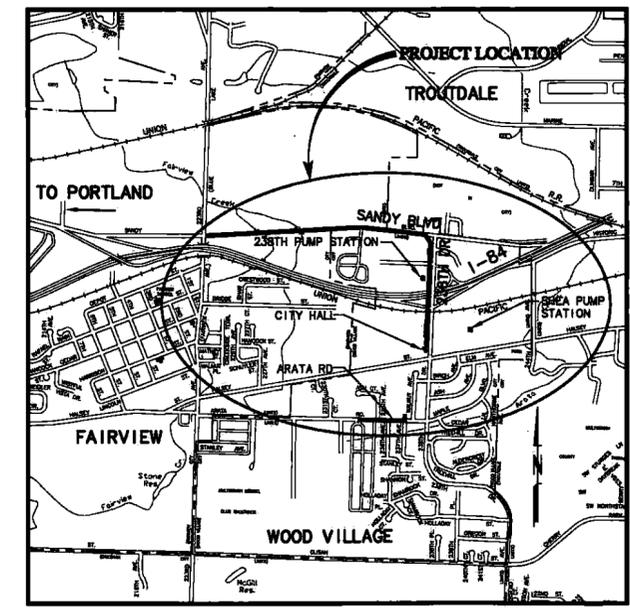
**City of Wood Village**



# ALTERNATIVE 4 SANITARY SEWER IMPROVEMENTS

VOLUME 2 of 2

APRIL 2005



VICINITY MAP  
SCALE: 1"=1000'

**MSA** Murray, Smith & Associates, Inc.  
Engineers/Planners  
121 S.W. Salmon, Suite 900 PORTLAND, OREGON 97204  
PHONE: 503-225-9110 FAX: 503-225-9122

**INDEX OF DRAWINGS**

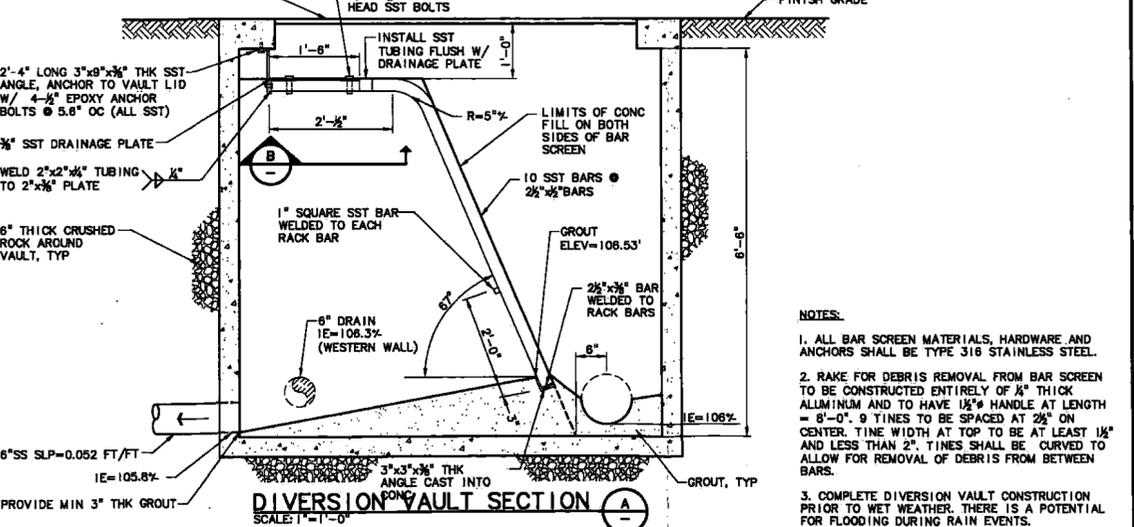
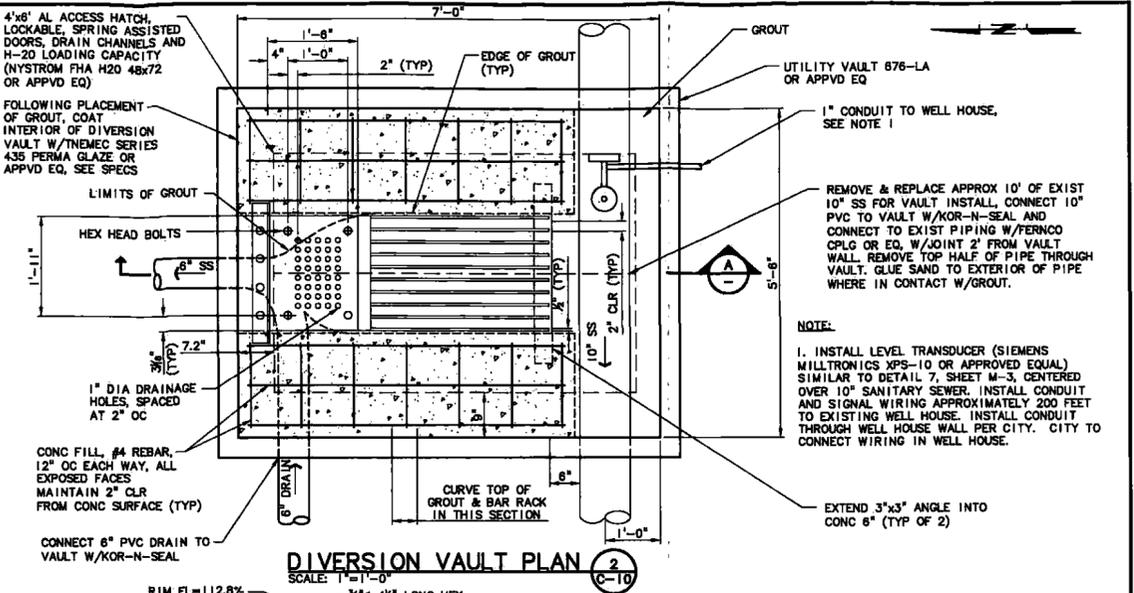
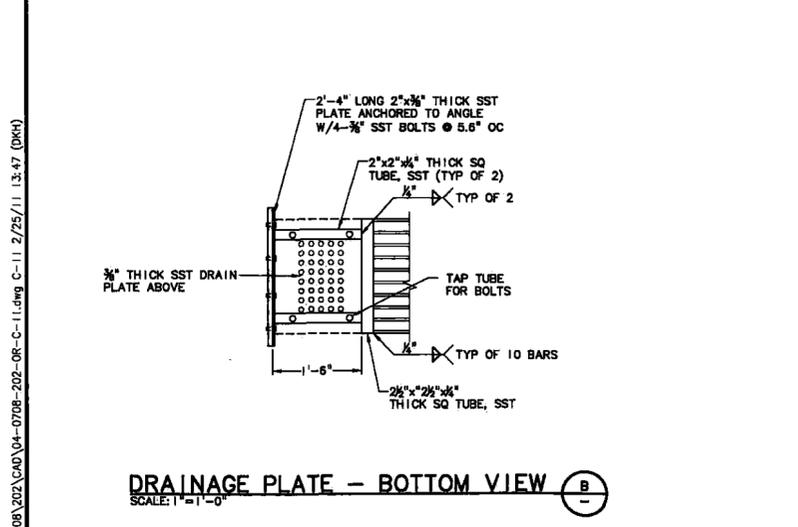
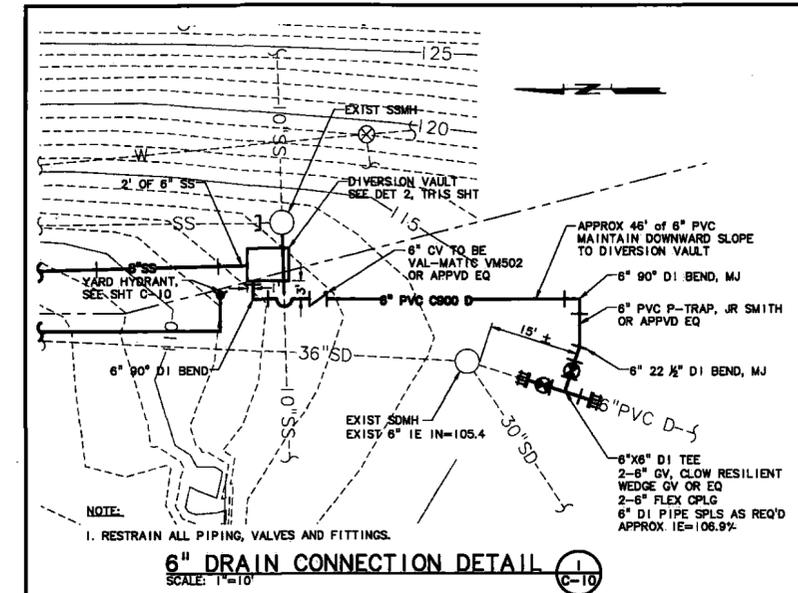
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- 6 C-3 FORCE MAIN PLAN AND PROFILE STA A11+20 TO STA A16+80
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- 8 C-5 FORCE MAIN PLAN AND PROFILE STA A22+40 TO STA A28+00
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**DESIGN DATA SUMMARY TABLE**

BASIN CHARACTERISTICS	
BASIN AREA	136 ACRES
AVERAGE DAILY FLOW (ADF)	121,000 GPD
PUMP STATION	
LOCATION	CITY OF WOOD VILLAGE - 238TH AVE & I-84
PUMP STATION TYPE	DUPLEX SUBMERSIBLE
PUMP TYPE	(2) VARIABLE SPEED NON-CLOG SUBMERSIBLES
DESIGN PEAK HOURLY INFLUENT FLOW	1200 GPM
PUMP CAPACITY (PER PUMP)	1200 GPM @ 89 FT TDH
MAXIMUM REQUIRED PUMP HORSEPOWER	40 HP @ 1775 RPM
MAXIMUM PUMP STARTS PER HOUR	10
MOTOR HORSEPOWER	40 HP
WET WELL LEVEL CONTROL TYPE	SUBMERSIBLE LEVEL TRANSDUCER W/ULTRASONIC BACKUP
WET WELL OPERATING VOLUME	1050 GAL
OVERFLOW POINT	PUMP STATION WET WELL HATCH
OVERFLOW DISCHARGE ELEVATION	72'
AVERAGE TIME TO OVERFLOW	134 MIN @ 85 GPM
AUXILIARY POWER TYPE	DIESEL GENERATOR - CAT
AUXILIARY POWER LOCATION	ON SITE
AUXILIARY POWER OUTPUT	150 KW
AUXILIARY POWER FUEL TANK CAPACITY	24 HOURS
AUXILIARY POWER TRANSFER SWITCH	AUTOMATIC
ALARM TELEMETRY TYPE	AUTO-DIALER
EPA RELIABILITY CLASS	CLASS 1
FORCE MAIN	
TYPE AND LENGTH	PVC 4300 LF
PROFILE DESCRIPTION	ASCENDING & DESCENDING
AVERAGE DETENTION TIME (WET WELL & FORCE MAIN)	4 HRS @ 67 GPM
AIR AND VACUUM RELEASE VALVES	2
DISCHARGE LOCATION	MANHOLE AT INTERSECTION OF SANDY BLVD & 223RD AVENUE
CHEMICAL FEED SULFIDE CONTROL	
TYPE	BIOXIDE (CALCIUM NITRATE)
PUMP TYPE	BELLOW METERING
CAPACITY	2 GPH
REACTION TIME	15 MIN
DOSE CONTROL	STROKE COUNTER

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G:\PDX\_Proj\04-0708\202\CAD\04-0708-202-0R-C-11.dwg C-11 2/25/11 13:47 (DKK)

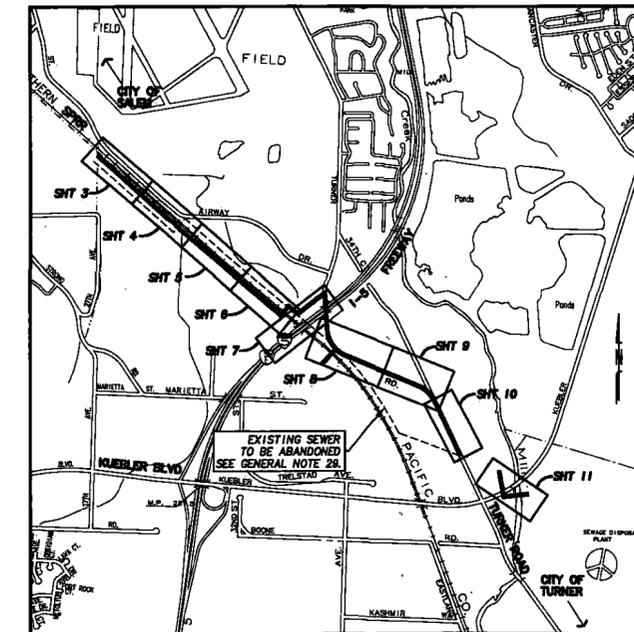


NOTICE IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE		LS DESIGNED MBE DRAWN MLH CHECKED			<b>Murray Smith &amp; Associates, Inc.</b> Engineers/Planners 121 S.E. Schum, Suite 200 Portland, Oregon 97204 PHONE 503-225-9610 FAX 503-225-9222		<b>CITY OF WOOD VILLAGE</b> <b>ALTERNATIVE 4</b> <b>SANITARY SEWER</b> <b>IMPROVEMENTS</b>	<b>GRAVITY SEWER AND DIVERSION</b> <b>DETAILS</b>	SHEET <b>C-11</b> 14 of 45
A 04/11/08 MLH REVISED FOR PUBLIC BID NO. DATE BY REVISION		PROJECT NO: 04-0708.202 SCALE: AS SHOWN DATE: APRIL 2008							

STATE OF OREGON  
DEPARTMENT OF CORRECTIONS

O.S.C.I.  
SANITARY SEWER SYSTEM PROJECT  
PHASE 2

MARCH 1997



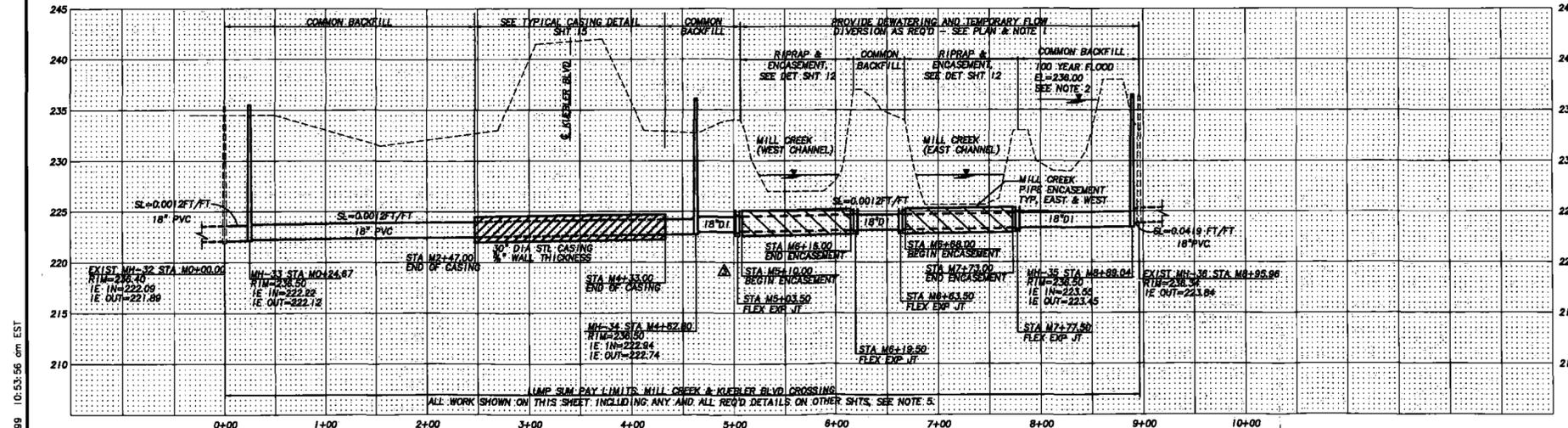
INDEX MAP  
SCALE: 1" = 1000'

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- 3) PLAN & PROFILE STA 0+00 TO STA 8+50.00
- 4) PLAN & PROFILE STA 8+50.00 TO STA 19+50.00
- 5) PLAN & PROFILE STA 19+50.00 TO STA 30+25.00
- 6) PLAN & PROFILE STA 30+25.00 TO STA 42+65.00
- 7) PLAN & PROFILE STA 42+65.00 TO STA 53+53.84
- 8) PLAN & PROFILE STA 53+53.84 TO STA 66+53.84
- 9) PLAN & PROFILE STA 66+53.84 TO STA 76+53.84
- 10) PLAN & PROFILE STA 76+53.84 TO STA 85+02.62
- 11) PLAN & PROFILE STA 85+02.62 TO STA 100+00
- 12) MISCELLANEOUS SECTIONS AND DETAILS
- 13) METERING STATION SITE PLAN AND SECTION
- 14) MISCELLANEOUS SECTIONS AND DETAILS
- 15) MISCELLANEOUS SECTIONS AND DETAILS
- 16) METERING ENCLOSURE SECTIONS AND DETAILS

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PROFILE  
SCALE: 1"=50'H, 1"=5'V

COMMON BACKFILL  
SEE TYPICAL CASING DETAIL  
SHT. 15  
PROVIDE DEWATERING AND TEMPORARY FLOW DIVERSION AS REQ'D - SEE PLAN & NOTE 1

RIPRAP & ENCASEMENT, SEE DET. SHT. 12  
COMMON BACKFILL  
RIPRAP & ENCASEMENT, SEE DET. SHT. 12  
100 YEAR FLOOD EL.=230.00' SEE NOTE 2

WILL CREEK (WEST CHANNEL)  
WILL CREEK (EAST CHANNEL)  
WILL CREEK PIPES ENCASEMENT TYP. EAST & WEST

SL=0.0012 FT/FT  
SL=0.0012 FT/FT  
SL=0.0012 FT/FT  
SL=0.0419 FT/FT

EXIST. MH-32 STA. M0+00.00  
RIM EL.=236.10  
IE IN=222.09  
IE OUT=221.89

MH-33 STA. M0+24.87  
RIM EL.=236.00  
IE IN=222.22  
IE OUT=222.12

STA. M2+47.00  
END OF CASING

30" DIA. STL. CASING  
3/4" WALL THICKNESS

STA. M4+33.00  
END CASING

MH-34 STA. M4+82.80  
RIM EL.=236.40  
IE IN=222.94  
IE OUT=222.74

STA. M5+10.00  
BEGIN ENCASEMENT

STA. M6+18.00  
END ENCASEMENT

STA. M7+73.00  
END ENCASEMENT

MH-35 STA. M8+89.04  
RIM EL.=236.50  
IE IN=223.55  
IE OUT=223.45

STA. M7+73.00  
FLEX EXP. JT.

STA. M6+18.00  
FLEX EXP. JT.

EXIST. MH-36 STA. M8+95.96  
RIM EL.=236.34  
IE IN=223.84  
IE OUT=223.84

SL=0.0419 FT/FT  
18" PVC

LUMP SUM PAY LIMITS, WILL CREEK & KUEBLER BLVD. CROSSING  
ALL WORK SHOWN ON THIS SHEET INCLUDING ANY AND ALL REQ'D DETAILS ON OTHER SHTS. SEE NOTE 5.



PLAN  
SCALE: 1"=50'

EXIST. MH-32 STA. M0+00  
N454583, E1358234  
CONNECT TO EXIST. MH.  
DISCONNECT & PLUG  
EXIST. 12" FROM SOUTH.  
RECONSTRUCT BASE &  
FORM NEW CHANNEL AS REQ'D  
NEW IE IN=222.09  
EXIST. IE OUT=221.89

MH-33 STA. M0+24.87  
N454582, E1358222  
RIM EL.=236.00  
IE IN=222.22  
IE OUT=222.12

STA. M2+47.00  
BEGIN CASING

NEW 30" DIA. STL. CASING  
3/4" WALL THICKNESS. SEE  
SPECS & TYPICAL CASING  
DETAIL, SHT. 15

EXIST. MH  
N454115, E13582300  
RIM EL.=236.40  
IE IN=223.01  
IE OUT=222.91

GRAVEL  
TURN  
AROUND

MH-34 STA. M4+82.80  
N454108, E1358288  
RIM EL.=236.40  
IE IN=222.94  
IE OUT=222.74

STA. M4+33.00  
END CASING

STA. M5+10.00  
BEGIN ENCASEMENT

STA. M6+18.00  
END ENCASEMENT

STA. M7+73.00  
END ENCASEMENT

MH-35 STA. M8+89.04  
N454118, E1358708  
RIM EL.=236.50  
IE IN=223.55  
IE OUT=223.45

STA. M7+73.00  
FLEX EXP. JT.  
18" DIA.  
DIPA IRON "FLEX-TEND"  
OR APPROVED EQUAL, 4" (TYP. & LOCATIONS) SEE SPECS.

STA. M6+18.00  
FLEX EXP. JT.

EXIST. MH-36 STA. M8+95.96  
N454124, E1358711  
RIM EL.=236.34  
IE OUT=223.84  
PLUG EXIST. 12" OUTLET TO WEST W/CONC.  
CHIP OUT PORTION OF EXIST. MH BASE AS REQ'D  
& FORM NEW CHANNEL FOR 18" DIA. SEWER. CONNECT  
NEW 18" DIA. SEWER TO EXIST. MH

12" CONC. SS

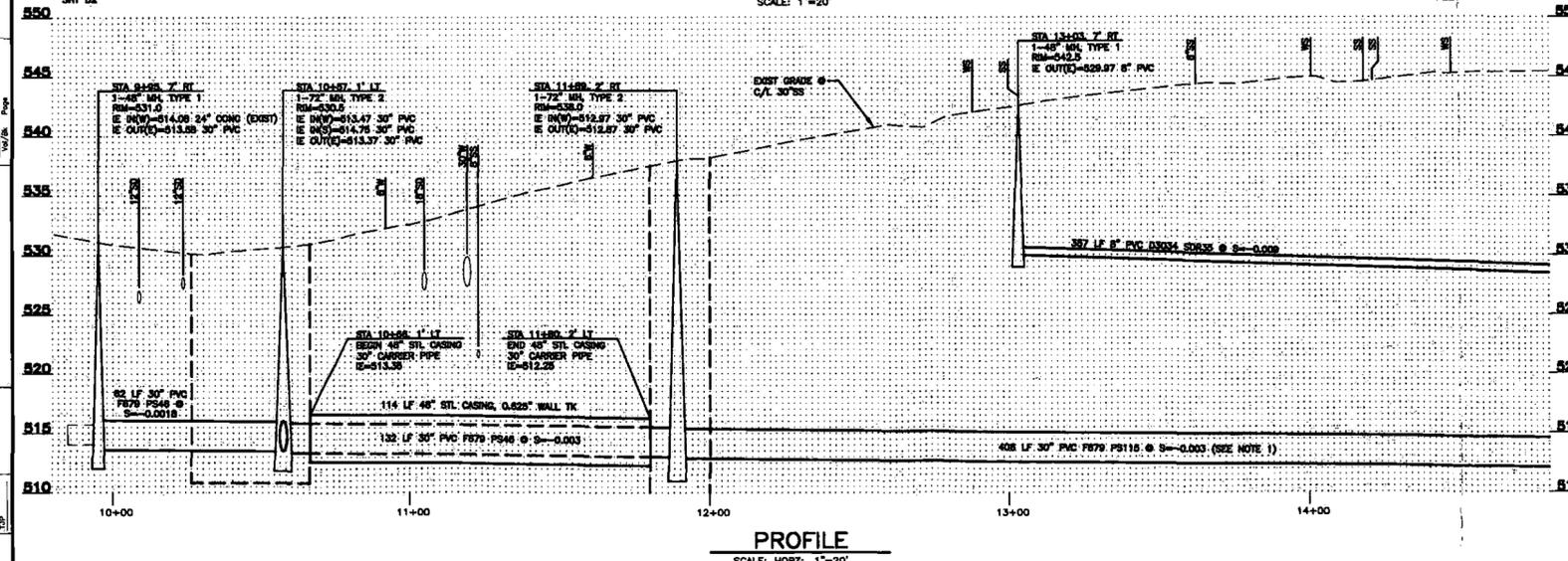
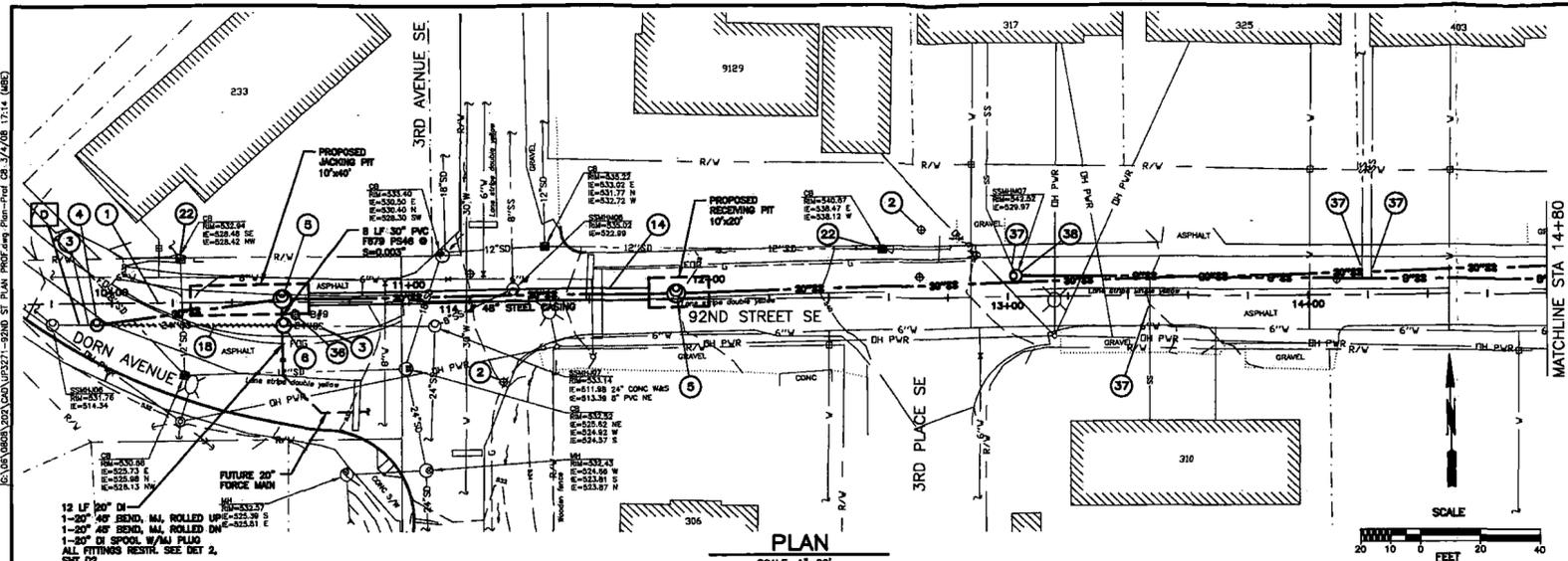
TEMP DIVERSION COFFERDAMS, CONSTRUCT  
AS REQ'D TO DIVERT FLOW TO OPPOSITE  
CHANNEL. (TOTAL 4 REQ'D), SEE NOTE 1

TEMP CULVERTS AS REQ'D TO  
DIVERT FLOW DURING CONSTRUCTION  
APPROX. 4 @ 3' DIA. SEE NOTE 1

NOTES:  
1. DEWATERING/TEMP FLOW DIVERSION AND SITE RESTORATION TO COMPLY  
WITH THE PROVISIONS AND REQUIREMENTS OF THE CORPS OF ENGINEERS/  
DIVISION OF STATE LANDS (DSL) JOINT REMOVAL/FILL PERMIT (COPY  
INCLUDED WITH SPECS). ILLUSTRATED CONCEPT BASED ON CONTRACTOR  
CONFINING WORK OPERATIONS TO ONE CHANNEL AT A TIME, ASSUMING  
FLOW TO BE ALTERNATELY DIVERTED TO OPPOSITE CHANNEL AS REQ'D PER  
CONSTRUCTION. ALTERNATE CONCEPTS MAY BE ALLOWED, WITH ENGINEER  
APPROVAL AND CONFORMANCE WITH CORPS/DSL PERMIT. SEE SPECS.  
2. NOTED 100 YEAR FLOOD ELEVATION IS AS IDENTIFIED ON CITY OF SALEM  
FEMA FLOOD MAPPING. REFERENCE IS PROVIDED FOR GENERAL CONTRACTOR  
INFORMATIONAL PURPOSES ONLY.  
3. DUCTILE IRON PIPING SHALL BE POLYURETHANE OR POLYETHYLENE  
INTERIOR LINED --- SEE SPECS.  
4. CONTRACTOR TO PROVIDE 48 HOUR MINIMUM NOTICE TO CITY PRIOR TO  
KUEBLER BLVD. BORE.  
5. LUMP SUM PAY ITEM FOR WILL CREEK AND KUEBLER BLVD. CROSSING TO  
INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT TO COMPLETE ALL WORK  
SHOWN ON THIS PLAN AND PROFILE SHEET AND ANY RELATED NECESSARY  
DETAILS ON FOLLOWING SHEETS.

OREGON DEPARTMENT OF CORRECTIONS  
 O.S.C.I. - SANITARY SEWER  
 SYSTEM PROJECT, PHASE 2  
 STA M0+00.00 TO STA M8+95.96  
 SCALE AS SHOWN  
 DATE: MARCH 15, 1997  
 DESIGNED BY: [ ]  
 DRAWN BY: [ ]  
 CHECKED BY: [ ]  
 RECORDED BY: [ ]  
 DATE: [ ]  
 11 of 18  
 FILE NO. 93-0291.201-  
 Murray Smith & Associates, Inc.  
 Engineers/Planners  
 1111 S. Salem, 5th Floor  
 Salem, Oregon 97301  
 TEL: 254-9442





**CONSTRUCTION NOTES:**

- 1 SEE SURVEY CONTROL PLAN (SC2) FOR DEFINITION OF CONSTRUCTION BASELINE.
- 2 TBM. SEE SURVEY CONTROL PLAN (SC2).
- 3 CONTRACTOR SHALL VERIFY LOCATION OF EXISTING 24\"/>
- 4 CONSTRUCT SSMH PER STD PLAN 605A.
- 5 CONSTRUCT SSMH PER STD PLAN 605B.
- 6 CONSTRUCT DIVERSION MH PER STD 605A. SEE DET 2, SHT D2.
- 14 INSTALL STL CASING PER DET 1, SHT D2.
- 18 ABANDON EXISTING SEWER.
- 22 INSTALL TESC INLET PROTECTION PER WSDOT STD PLAN 1-40.20-00.
- 30 BORING LOCATION, SEE GEOTECHNICAL REPORT (SPECS).
- 37 PROVIDE TEMPORARY SERVICES DURING CONSTRUCTION OF 30\"/>
- 38 REMOVE AND REPLACE EXISTING MH WITH SSMH PER STD PLAN 605A.

**ANTICIPATED SEWER FLOW:**

D	DRY	WET
	1,700 GPM	3,600 GPM

**NOTES:**  
 1. INSTALLATION OF NEW 30\"/>

12 LF 30\"/>

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 8px;">NO.</td> <td style="font-size: 8px;">DATE</td> <td style="font-size: 8px;">APPRVD</td> <td style="font-size: 8px;">REVISION</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DATE	APPRVD	REVISION					<p><b>CITY OF EVERETT</b>  <b>PUBLIC WORKS</b>  <b>UTILITIES DEPARTMENT</b></p>	<p>SEWER SYSTEM CAPACITY          IMPROVEMENTS "K" - PHASE 1 WO #UP3271</p> <p>MSA          MERRY SMITH &amp; ASSOCIATES, INC.          ENGINEERS/PLANNERS</p>	<p><b>92ND ST SE - GRAVITY SEWER</b>  <b>PLAN AND PROFILE</b>          STA 10+00 TO STA 14+80</p>	<p>Drawing No. <b>C8</b>          Sheet No. <b>11</b> of <b>33</b></p>
NO.	DATE	APPRVD	REVISION									



**Personnel Resumes**

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# Kyle P. McTeague, P.E., Principal Engineer

## Key Credentials

### Education

BS in Civil Engineering, Portland State University

### Registration

Civil Engineer, State of Oregon

### Professional Activities

American Society of Civil Engineers  
American Water Works Association  
American Public Works Association

**22 Years of Experience**

## Career Summary

Mr. McTeague, a principal engineer with Murray, Smith & Associates, Inc. (MSA), has served in a variety of engineering, planning, design and construction administration roles. Mr. McTeague's engineering experience includes comprehensive facilities planning and extensive multi-agency, multi-discipline design and construction administration. He is currently serving as MSA's representative as City Engineer for the City of North Plains, Oregon, in addition to managing various ongoing projects.

## Experience Overview

**Key Expertise:** Storm Drainage and Sanitary Sewer System Planning & Design; Utility Coordination; Special Drainage Systems & Yard Piping; Valving; Metering and Flow Control Systems; Trenchless Technology; Corrosion Control Systems

Over the course of his career, Mr. McTeague has managed a number of high-profile sanitary and stormwater planning and design projects. In recent years he has developed a high degree of expertise in sanitary sewer rehabilitation work, overseeing planning, design and construction administration

of nearly 100,000 feet of pipeline rehabilitation.

Mr. McTeague is currently serving as project manager for the Jasper Trunk Sewer project for the City of Springfield, which consists of approximately 20,000 feet of new gravity trunk sewer ranging from 12 to 27 inches in diameter. The project will serve a currently unserved area in the southeast portion of the City and will include additional connecting mains to allow for the abandonment of three existing sewage pump stations and for the extension of gravity sewer service into a currently developing area of the City. The project is complicated by routing challenges along the proposed corridor, including an existing roadway and parallel railroad, underground and overhead utilities, and wetlands. The project involves a routing alternatives analysis, hydraulic modeling, and highway, railroad and environmental permitting.

Mr. McTeague recently managed a major collection sewer upgrade program for the City of Springfield, Oregon. This project includes the rehabilitation or replacement of approximately 45,000 feet of 8-inch to 42-inch diameter sewer mains, 11,500 feet of service laterals, over 500 cleanouts and 175 manholes. Much of this work was on private property. Pipeline rehabilitation involved both cured-in-place pipe (CIPP) and pipe bursting trenchless construction. This work also included a thorough predesign report that evaluated rehabilitation options as well as other project details.

Mr. McTeague is currently serving as project manager assisting the City of St. Helens with a \$10 million sewer system rehabilitation infiltration and inflow (I&I) reduction program involving improvements to both sanitary sewer and storm drainage systems. The overall work program involves approximately 75,000 feet of sewer rehabilitation and reconstruction.

Mr. McTeague completed the planning and design of the OSCI Phase II Sewer Improvements project for the State of Oregon Department of Corrections, a joint project with the cities of Salem and Turner involving approximately two miles of 18-inch through 36-inch diameter sewer. The project, complicated by creek, wetlands, highway, freeway and railroad crossings, required extensive evaluation of various routing alternatives and involved the development and documentation of a detailed three-party cost-sharing program in support of two City/department intergovernmental agreements for "common" construction.

# Kyle P. McTeague, P.E., Principal Engineer

Mr. McTeague completed planning and design of a sanitary sewer project for the City of Lake Oswego, Oregon which involves approximately 5,500 feet of 6-inch and 8-inch sanitary sewer mains. Design entailed sewer routing through a designated natural area requiring specifying special environmentally sensitive construction methods and replanting procedures.

Mr. McTeague served as project engineer on the firm's Benchview Court Storm Drainage and Sanitary Sewer Improvements work for the City of Tigard, Oregon. This engineering was in response to an emergency landslide situation and required careful coordination with the City's legal council, geotechnical engineering subconsultant and the private contractor responsible for construction.

Mr. McTeague completed sub-basin hydraulic/hydrologic analysis and final design of storm drainage improvements for the Oak Lodge Sanitary District's Dogwood Lane neighborhood, a project that included special surface water pollution reduction features. He has also served as project engineer on many of the firm's storm drainage engineering assignments as part of the firm's ongoing City Engineer assignment for the City of King City.

Mr. McTeague has served as project engineer on several of the firm's most recent projects for the City of Portland, Bureau of Environmental Services (BES). Both the Lents Basin CSO Abatement project and the NE 63rd Avenue Trunk Sewer project included storm drainage subbasin hydrologic/hydraulic analysis as part of storm drainage separations designs.

Mr. McTeague also played a key role in the stormwater master plan for the City of St. Helen's and the storm drainage master plan for the City of King City.

## Key Project Experience

- Jasper Road Trunk Sewer, City of Springfield, Oregon
- Sanitary Sewer Rehabilitation, City of Springfield, Oregon
- Sanitary Sewer Rehabilitation Program, City of St. Helens, Oregon
- Oregon State Correctional Institution, Sanitary Sewerage System Improvements, Oregon State Department of Corrections, Salem, Oregon
- Oregon State Correctional Institution, Oregon State Department of Corrections, Phase II Trunk Sewer Improvements, Salem, Oregon
- 1996/97 Sanitary Sewer Extensions Project, City of Lake Oswego
- Storm Drainage Master Plan, City of King City, Oregon
- Stormwater Master Plan, City of St. Helens, Oregon
- McGuire Reservoir Expansion, Supplementary Environmental Mitigation, McMinnville Water and Light, Oregon
- Benchview Terrace Storm Drainage, Street and Sanitary Sewer Rehabilitation, City of Tigard, Oregon
- South Airport Basin Sewerage Facilities Plan and Trunk Sewer Preadesign, Bureau of Environmental Services, City of Portland, Oregon
- Dogwood Lane Storm Drainage Improvements, Oak Lodge Sanitary District, Milwaukie, Oregon
- Lents Basin CSO Abatement Project, Bureau of Environmental Services, City of Portland, Oregon
- Naef Road Storm Drainage Improvements, Oak Lodge Sanitary District, Clackamas County, Oregon

# Matt L. Hickey, P.E., Principal Engineer

## Key Credentials

### Education

BS in Civil Engineering, University of Portland

### Professional Activities

American Water Works Association  
American Society of Civil Engineers

### Registration

Civil Engineer, State of Oregon

18 Years of Experience

## Career Summary

Mr. Hickey joined Murray, Smith & Associates, Inc. (MSA) in July 1993 after working with the City of Portland, Bureau of Environmental Services (BES), and since that time has completed engineering, design and construction administration on a variety of complex water, sewerage, drainage and street projects. Mr. Hickey was named a firm principal engineer in 2008.

## Experience Overview

**Key Expertise:** Wastewater & Stormwater Basin Planning; GSO Control; Hydraulic & Hydrologic Analysis; Gravity Sewer & Force Main Design; Wastewater Pump Stations; Wastewater Facilities Plans; I&I Studies & Analysis; Wastewater Facility Designs; Pump Stations; Trenchless Technologies; Stormwater System Planning; Construction Management

Mr. Hickey served as MSA's project manager for the City of Gresham, Jenne Road – Pleasant Valley Interceptor Sewer project. MSA prepared permit applications for the Corps of Engineers/DSL 404 wetland permit, NOAA fisheries permit and the City of Gresham Water Quality Resource Area (WQRA) permit for the creek crossing work, additionally assisting the City with the City of Portland Parks Bureau

permit for work in the Springwater Trail Linear Park. MSA's work also included developing a traffic control and detour plan for closure of SE Jenne Road and approval through the City of Portland and Multnomah County transportation departments. MSA assisted the City with interceptor design and completed designs for an inverted sewer crossing of Johnson Creek. Engineering included the evaluation of the upstream sewage basins and sizing of pipes appropriately to convey build-out flows in the Pleasant Valley Area. Design challenges involved deep sewer piping up to 20 feet deep in SE Jenne Road and coordination with various agencies relative to conflicts with existing utilities.

Mr. Hickey performed a key engineering role on a number of storm and sanitary sewer projects including the Washington Park Sinkhole Remediation and Storm Sewer Upgrades for the City of Portland Water Bureau, the South Central Beaverton Utility Improvements for the City of Beaverton, and the Johnson Creek Boulevard Sanitary Sewer and Brookside Pump Station Abandonment for the City of Milwaukie. Mr. Hickey was the design engineer for the Sellwood Sewer Unit 3 (Garthwick) Sewer Improvements for the BES.

Mr. Hickey served as project engineer on the City of Gresham Wastewater Services Trunk Sewer project. This multi-phased project was designed to relieve current and anticipated future surcharging of an existing 42-inch diameter trunk sewer and included capacity modeling and route alternatives analysis through congested corridors. The design included 12,000 feet of 36-inch to 54-inch diameter trunk sewer, flow diversion structures, permitting, relocation of private utilities and easement acquisitions.

Mr. Hickey served as MSA's project manager for the City of Wood Village Wastewater Master Plan and Inflow and Infiltration project. He completed a sewage transmission and routing study predesign report and design of 7,500 feet of 18-inch to 27-inch gravity transmission line to the Gresham Wastewater Treatment Plant for the City of Wood Village. The project included a bored and cased railroad crossing, permitting with multiple jurisdictions along the pipe route, flow metering, and telemetry. Mr. Hickey is project manager for the City of Wood Village Alternative 4 predesign, design and construction, which includes a force main, a new pump station, a pressure gravity sewer and flow diversion structure.

# Matt L. Hickey, P.E., Principal Engineer

As City Engineer for the City of Columbia City, Mr. Hickey has developed a master plan for new urban growth boundary (UGB) areas annexed into the City, including capacity analyses of existing water, sewer and stormwater systems relative to anticipated development. Mr. Hickey has prepared the City's System Development Change and Capital Improvement Plan Update for Sanitary Sewer and Water Systems and prepared the City's Storm Water Management Plan for UIC Systems, which included inventorying and modeling the City's existing stormwater drainage system and associated drywells to meet DEQ requirements. Mr. Hickey has evaluated the City's existing sanitary sewage collection system and pump stations for capacity relative to impacts from residential and commercial growth in the City and hydrogen sulfide production. Additionally, he evaluated and designed portions of the City's storm drainage system.

Mr. Hickey has also performed a key engineering role on several utility modification and improvement projects required by the Oregon Department of Transportation (ODOT)/TriMet Westside Corridor (Lightrail and Highway 26 Improvements) Project. These projects included 18-, 24- and 54-inch piping, cased pipeline roadway and highway crossings, and pipeline bridge crossings. Successful completion of these projects has required the close coordination with clients, TriMet, ODOT, business and property owners, the project contractor, and other utility contractors working in the area.

Mr. Hickey served as MSA's project engineer on the Miles Crossing Sanitary Sewer District Vacuum Sewer Improvements for Clatsop County. This project included a new vacuum sewer system, a new pump station and a directionally-drilled crossing of Youngs Bay.

## Key Project Experience

- Wastewater Services Sewer Trunk Design, City of Gresham, Oregon
- New Sewer Connection for Oregon State Correctional Institution, Oregon Department of Corrections
- Jenne Road - Pleasant Valley Interceptor Sewer Project, City of Gresham, Oregon
- Sanitary Sewer Capital Improvements: Fourth Street to Willamette Falls Drive, City of West Linn, Oregon
- Miles Crossing Sanitary Sewer District Vacuum Sewer System Improvements, Clatsop County, Oregon
- Washington Park Sinkhole Remediation and Storm Sewer Upgrades, City of Portland Water Bureau, Oregon
- NE Fairview Avenue and NE Sandy Boulevard Sanitary Sewer, City of Wood Village, Oregon
- Garthwick Combined Sewer Project, Bureau of Environmental Services, City of Portland, Oregon
- Wastewater Master Plan and Inflow and Infiltration Study, City of Wood Village, Oregon
- Kelly Creek Gravity Sewer Feasibility Analysis, City of Gresham, Oregon
- Alternative 4 Sewer System Improvements, City of Wood Village, Oregon
- Johnson Creek Boulevard Sanitary Sewer and Abandonment, City of Milwaukie, Oregon
- South Central Beaverton Utility Improvements, City of Beaverton, Oregon

# William S. Evonuk, P.E., Civil Engineer, Associate

## Key Credentials

### Education

BS in Civil Engineering, Portland State University

### Professional Activities

American Society of Civil Engineers

American Water Works Association

### Registration

Civil Engineer, State of Oregon

**10 Years of Experience**

## Career Summary

Mr. Evonuk is an MSA associate engineer with experience in water supply system development, city engineering, roadway design and construction, sanitary sewer engineering, stormwater engineering and construction management for public agencies.

## Experience Overview

**Key Expertise:** Sanitary Sewer and Storm Drainage System Design; Vacuum Sewers; Water Transmission & Distribution System Piping Design; Dams; Hydraulic Structures Design; PCC & AC Roadway Reconstruction; Culvert/Fish Passage Design; Control Valve & Metering Systems; City Engineering; Construction

Mr. Evonuk is currently serving as project engineer for the Jasper Trunk Sewer project for the City of Springfield, which consists of approximately 20,000 feet of new gravity trunk sewer ranging from 12 to 27 inches in diameter. The project will serve a currently unserved area in the southeast portion of the City and will include additional connecting

mains to allow for the abandonment of three existing sewage pump stations and for the extension of gravity sewer service into a currently developing area of the City. The project is complicated by routing challenges along the proposed corridor, including an existing roadway and parallel railroad, underground and overhead utilities, and wetlands. The project involves a routing alternatives analysis, hydraulic modeling, and highway, railroad and environmental permitting.

Mr. Evonuk recently served as design engineer and the project manager during construction of a complete vacuum sewer system for the Miles Crossing Sanitary Sewer District. The project consists of 37,000 feet of vacuum sewer mains, a 2,000 foot direction drill under Youngs Bay, a 200 horse power vacuum/pump station, a biofilter to treat air extracted from the vacuum lines, and a calcium nitrate chemical feed system for hydrogen sulfide control. This project requires a substantial level of coordination with the Oregon Department of Transportation (ODOT), Oregon Department of Environmental Quality (DEQ) and the US Army Corps of Engineers, public involvement and communication with district customers.

Mr. Evonuk served as the on-site representative during construction for the Scouter's Mountain Sanitary Sewer Improvements project for the Cascade Pacific Council, Boy Scouts of America. This project included installation of approximately 2,000 feet of 8-inch diameter and 650 feet of 4-inch PVC sanitary sewer mains, approximately 45 feet of 2-inch sanitary sewer forcemain, connections to an existing sanitary sewer system, and related piping, pavement removal and replacement, manholes and appurtenances.

Mr. Evonuk served as MSA's design lead on the City of Sherwood's 48-inch diameter supply improvements project. This project included design and construction of a 4.0-mg prestressed concrete tank, new 2,200 gpm booster pump station and 3.5 miles of 36-inch to 48-inch diameter transmission main to deliver treated Willamette River water from Wilsonville to the City of Sherwood's distribution system. Mr. Evonuk also assisted in MSA's predesign engineering for the 96-inch diameter Joint Water Commission Raw Water Pipeline project and is an expert in all aspects of large diameter pipeline design and construction.

Mr. Evonuk participated as design engineer for the City of Gresham's Groundwater Supply Development, 30-inch Diameter Transmission Main project. This project consisted of the design and construction of approximately

# William S. Evonuk, P.E., Civil Engineer, Associate

20,000 feet of 30-inch diameter pipe primarily within public street rights-of-way. The project included design of bored and jacked cased crossings, wetland permitting, surge and corrosion analysis, and difficult soil conditions. This project also included the design of metering and flow control facilities and the integration of these facilities into the City's and Rockwood Water PUD's existing operations to allow both entities to blend, in their main reservoirs, the groundwater supply with their current Bull Run Water Supply from the City of Portland.

Mr. Evonuk recently completed the design and served as the on-site representative during construction for the Royalty Parkway Street and Storm Drainage Improvements for the City of King City, Oregon. This project included the replacement of approximately 1,550 feet of severely deteriorated pavement and base rock with an improved roadway cross-section designed to accommodate existing vehicle and Tri-Met bus loadings. In addition, the project included the replacement of catch basins, storm drainage piping, driveway aprons, ADA ramps and speed bumps.

Mr. Evonuk currently serves as MSA's primary contact for City Engineering services for the City of King City, and as assistant City Engineer for the City of Sheridan, Oregon. Under these assignments, Mr. Evonuk has served as project manager for design and has managed the construction contract administration for the following projects: 116th Avenue Roadway Reconstruction project, Royalty Parkway Street and Storm Drainage Improvements project, King City Cul-de-sac Resurfacing project (2007), King City Cul-de-sac Resurfacing project (2008) and the King City Street and Curb Marking project (2007).

Mr. Evonuk served as design engineer for the City of Forest Grove's Gales Creek Supply Line Relocation. This project was a capital improvement project recommended by the City's Water Master Plan (completed by MSA, 1989, updated by MSA, 2000). The project included the design and construction of approximately 1,700 feet of 8-inch diameter piping, extending westerly along Gales Creek Road from the intersection at Thatcher Road. The project allowed for abandonment of two under-sized "dead-end" pipelines, improving distribution system water circulation and fire flow capacity, in addition to supplementing transmission capacity from the City's main reservoirs to the downtown service area. The project included a 20- x 8-inch hot-tap connection, various connections to the existing water system, hydrants, valving and services.

Mr. Evonuk also recently served as project engineer on the City of Forest Grove's Martin Road Waterline Replacement project. This project included tight corridor pipeline routing and a complex creek crossing.

Mr. Evonuk recently served as project engineer on the design of several ODOT highway projects, including US 20/OR 34 in Philomath, Oregon, US 101 in Waldport, Oregon and OR 140 in Klamath County, Oregon.

## Key Project Experience

- Jasper Road Trunk Sewer, City of Springfield, Oregon
- Miles Crossing Vacuum Sewer System Project, Miles Crossing Sanitary Sewer District, Clatsop County, Oregon
- Boy Scouts of America Sanitary Sewer Improvements, Sunrise Water Authority, Clackamas County, Oregon
- Water Supply Improvements Project (Reservoir/ Pipeline/Pump Station), City of Sherwood, OR
- Groundwater Supply Development, 30-inch Diameter Transmission Line, City of Gresham, Oregon
- Headstart Off-site Storm Drainage Facility, City of Sheridan, Oregon
- Royalty Parkway Street and Storm Drainage Improvements, City of King City, Oregon
- Raw Water Pipeline, Joint Water Commission, Hillsboro, Oregon
- Bull Run Dam No. 2 Stilling Basin Rehabilitation/Walker Creek Culvert Replacement, City of Portland Water Bureau, Oregon
- City Engineer, City of King City, Oregon
- Martin Road Waterline Replacement Project, City of Forest Grove, Oregon
- Gales Creek Supply Line Relocation, City of Forest Grove, Oregon
- Haynes Inlet Bridge, Oregon Department of Transportation, North Bend, Oregon
- Highway 101 Roadway Improvements, Oregon Department of Transportation, North Bend, Oregon
- Highway 30 Roadway Improvements, Oregon Department of Transportation, Oregon
- Interstate 5 Resurfacing from Willamette River to Tualatin River, Oregon Department of Transportation, Oregon
- Boone Bridge Micro-silica Overlay, Oregon Department of Transportation, Oregon

# William H. Hollings, III, P.E., Principal Engineer

## Key Credentials

### Education

MS in Civil Engineering, Oregon State University  
BS in Civil Engineering, Bucknell University

### Professional Activities

American Society of Civil Engineers  
American Water Works Association

### Registration

Civil Engineer, State of Oregon  
Certified NAUI SCUBA Diver

**34 Years of Experience**

## Career Summary

Mr. Hollings is a principal engineer with Murray, Smith & Associates, Inc. (MSA) and has extensive experience in the civil and construction engineering fields. Mr. Hollings has successfully completed a variety of engineering and construction projects for government agencies and private industries.

## Experience Overview

Mr. Hollings is a highly practical, no-nonsense engineer with proven field experience in challenging construction

**Key Expertise:** Construction Management, Highway Design, Bridge Design, Construction Feasibility Analyses, Fish Passage Designs, Wetland Reconstruction, Storm Drainage Detention & Treatment, Off-Shore Embankment Construction Inspection, Hydraulic Engineering Studies & Structure Designs, Railroad System Construction & Maintenance, Field Inspections, Code & Specification Compliance, Shop Drawings & Submittals, Testing Protocols

conditions. Mr. Hollings has served in key project, design and construction management roles for a large variety of public works transportation projects for the Oregon Department of Transportation (ODOT) and other local municipalities including the City of Springfield.

Mr. Hollings recently served as construction project manager for a major collection sewer upgrade program for

the City of Springfield, Oregon. Mr. Hollings managed the inspection and complete construction administration of the project which included rehabilitation or replacement of approximately 45,000 feet of 8-inch to 42-inch diameter sewer mains, 11,500 feet of service laterals, over 500 cleanouts and 115 manholes. Much of this work was on private property. Pipeline rehabilitation involved both cured-in-place pipe (CIPP) and pipe bursting trenchless construction. Mr. Hollings is also the programmed construction manager for the Jasper Trunk Sewer project which MSA is currently designing and which will be constructed in 2011.

Mr. Hollings recently completed the design work and provided senior level QA/QC for the ODOT I-5: Willamette River – Martin Creek project, a “3R” (resurfacing, restoration and rehabilitation) pavement preservation project between Eugene and Cottage Grove on I-5. In addition to pavement preservation, design elements included guardrail and barrier upgrades, bridge deck and joint inspections and recommendations, shoulder width and outer separation inspections and recommendations, and ADA inspections and recommendations. Mr. Hollings is the programmed construction project manager for this project to be constructed in 2011.

Mr. Hollings served as construction project manager and Quality Control Compliance Specialist (QCCS) for the CE phase for the Highway 47, Azalea Street - 2nd Street project, ODOT, Yamhill, Oregon. This project addressed localized drainage/flooding problems; corrected very skewed highway cross-section geometry; replaced existing, inadequate storm facilities, curbs, and gutters; and included streetscape improvements such as sidewalk replacements, decorative street lighting and other public amenities. Mr. Hollings not only oversaw and documented all required field testing and placement of construction materials on this project, but also responded to contractor requests for information, supervised MSA’s field inspector, and was the primary liaison between ODOT, the City of Yamhill, the contractor, Yamhill County and the general public. He led and documented weekly construction meetings with the contractor, the City and other interested parties. Mr. Hollings is intimately familiar with ODOT’s construction engineering systems and permit requirements, including all final documentation requirements for auditable contract administration payment documentation systems and construction quality assurance plans.

# William H. Hollings, III, P.E., Principal Engineer

Mr. Hollings is currently serving as the project manager for the North Leadbetter Extension Overcrossing project utility coordination, design and relocation for the Portland Department of Transportation and the ODOT. Project work includes the design of approximately 1,000 feet of 48-inch storm sewer piping, 16-inch sanitary sewer piping, 16-inch ductile iron potable water piping and over 600 feet of PVC piping for non-potable irrigation water. Project work also includes extensive coordination with the Port of Portland, City of Portland Water Bureau and the City of Portland, Bureau of Environmental Services.

Mr. Hollings served as the project engineer (project manager for construction engineering [CE] phase) for the US 20: Philomath Couplet project, ODOT, Philomath, Oregon. The project included construction of a new parallel route for use through town and reconstruction of the existing route. The project involved complex design including gravity sewer systems and coordination between ODOT and the City, in addition to intensive public involvement. The project was recently completed.

Mr. Hollings served as a key design-lead and construction manager of a major multi-discipline work program for McMinnville Water and Light (MW&L) that involved a wide range of complex technical, legal, regulatory and permitting challenges. This \$20 million program included expansion of MW&L's McGuire Reservoir, water treatment plant improvements at MW&L's Haskins Creek facility, several miles of Nestucca River Highway relocation, reconstruction of 1,500 feet of a natural drainage swale, extensive wetlands mitigation improvements for fish passage enhancement, rehabilitation of two major stream diversions, and other major outlet facility improvements associated with the Walter Link Dam and Haskins Reservoir. The McGuire Reservoir Expansion project included raising an earthfill dam 30 feet to increase storage capacity from 3,760 acre feet to 9,800 acre feet. In addition, the project included installation of 1,200 feet of large diameter steel piping, 750,000 cubic yards of earthwork, 7,500 cubic yards of reinforced concrete, 2.5 miles of roadway relocations and 25 acres of constructed wetlands. The project also included an instrumentation and control building housing an automated hydraulic valve operation system and a supervisory control and data acquisition (SCADA) system, as well as triple redundancy power supply backup with solar power generation.

Mr. Hollings served as the construction project engineer (assistant project manager for CE Phase) for the Nestucca River Highway and High Heaven Road Realignment project for MW&L. The project involved planning, permitting, design and construction of approximately three miles of Bureau of Land Management highway relocation associated with a major MW&L water supply system improvements program in the Oregon Coast Range. Work included aerial survey topographic mapping, development of realignment alternatives, interagency coordination, landslide mitigation, right-of-way acquisitions, environmental permitting, plans, specifications and estimate (PS&E) development, and construction administration.

## Key Project Experience

- Sanitary Sewer Rehabilitation, City of Springfield, Oregon
- Downtown Utility Undergrounding Feasibility Study, City of Roseburg, Oregon
- I-5: Willamette River - Martin Creek, Oregon Department of Transportation
- McGuire Reservoir Expansion including Nestucca River Highway 8 Road Realignment, Haskins Creek and Reservoir Facility Improvements, and Walter Link Dam Facility Improvements, McMinnville Water and Light, McMinnville, Oregon
- US 20: Philomath Couplet (ODOT/OTIA), Oregon Department of Transportation, Philomath, Oregon
- Highway 47, Azalea Street, (ODOT/OTIA) 2nd Street, Oregon Department of Transportation, Yamhill, Oregon
- US 101: Alsea Bay Bridge - William Keady Wayside, Oregon Department of Transportation, Waldport, Oregon
- Highway 140, Lake of the Woods Highway, Oregon Department of Transportation
- OR 140: N. Fork Little Butte Creek - Green Springs Highway, Oregon Department of Transportation
- OR 140: Summit Snow Park - Fourmile Flat Road, Oregon Department of Transportation
- OR140: N Fork Little Butte Cr. Great Meadows, Oregon Department of Transportation
- I-5: Beltline Interchange, Oregon Department of Transportation
- North Leadbetter Extension Overcrossing, Portland Department of Transportation/Oregon Department of Transportation
- Wheeler St.-Market St. (Lebanon), Oregon Department of Transportation
- OR 22: Sublimity Interchange, Oregon Department of Transportation
- Lincoln City SUE, Oregon Department of Transportation
- Bundle 314 Ashland Interchanges, Quincy Engineering, Oregon Bridge Delivery Partners

# Philip H. Smith, P.E., Founding Principal

## Key Credentials

### Education

BS in Civil Engineering, Washington State University  
MS in Sanitary Engineering, Washington State University

### Registration

Civil Engineer, States of Oregon, Washington & California  
Environmental Engineer, State of Oregon  
Certified Water Right Examiner, State of Oregon

### Professional Activities

American Society of Civil Engineers, President,  
Oregon Section, 1987-1988  
American Water Works Association  
Water Environment Federation  
American Public Works Association  
American Council of Engineering Companies (ACEC) – Oregon  
Trustee, Pacific Northwest Consulting Engineers  
Health & Welfare Trust, 1988 -1998  
Evergreen Community Development Association, Loan Committee  
University of Portland Civil Engineering Department Industry  
Consulting Committee

**39 Years of Experience**

## Career Summary

Mr. Smith has over three decades of experience in the planning, design and construction management of major public works projects in the Pacific Northwest. His experience includes planning and design of wastewater, stormwater, water, street and roadway projects, subsurface utility engineering (SUE) for transportation projects, and construction management of major utility and transportation projects of all types.

## Experience Overview

**Key Expertise:** Wastewater & Stormwater Facility & Master Plans, Infiltration & Inflow Studies & Correction Programs, Wastewater & Stormwater Facilities Design, Permitting & Construction Management, Pump Stations, Force Mains, Treatment Systems, Sewers, Vacuum Sewer Systems, Trenchless Technology, Intergovernmental Agreements, Property Acquisition

Mr. Smith has served as project principal and project manager on many of the firm's major wastewater facilities planning and design projects. Additional experience includes planning, design and construction management of major utility and transportation projects of all types. With his extensive background in highly complex projects, Mr. Smith provides key technical advice and guidance on

projects with unique challenges and special issues.

Mr. Smith recently served as principal-in-charge for MSA's sanitary sewer rehabilitation project for the City of Springfield, Oregon. This project involved the rehabilitation and/or replacement of approximately 45,000 feet of 8-inch to 42-inch diameter sewer mains using pipe bursting and CIPP methods. Mr. Smith is also currently serving as principal-in-charge for the Jasper Trunk Sewer project for the City of Springfield, which consists of approximately 20,000 feet of new gravity trunk sewer ranging from 12 to 27 inches in diameter. The project will serve a currently unserved area in the southeast portion of the City and will include additional connecting mains to allow for the abandonment of three existing sewage pump stations and for the extension of gravity sewer service into a currently developing area of the City. The project is complicated by routing challenges along the proposed corridor, including an existing roadway and parallel railroad, underground and overhead utilities, and wetlands. The project involves a routing alternatives analysis, hydraulic modeling, and highway, railroad and environmental permitting.

Mr. Smith is currently serving as principal-in-charge assisting the City of St. Helens with a \$10 million sewer system rehabilitation infiltration and inflow (I&I) reduction program involving improvements to both sanitary sewer and storm drainage systems. The overall work program involves approximately 75,000 feet of sewer rehabilitation and reconstruction.

Mr. Smith served as principal-in-charge of the preliminary design of the Central City Interceptor Sewer Improvements (Sewer "K") for the City of Everett, Washington. The City's comprehensive sewer plan recommended paralleling of the upper two miles of the 36-inch to 48-inch diameter interceptor sewer to increase

# Philip H. Smith, P.E., Founding Principal

its capacity. Mr. Smith managed a team that reviewed alternatives to paralleling the entire system in the highly congested corridor and performed a condition assessment of the existing sewer. Mr. Smith served as technical advisor to the project team during the final design of the recommended improvements through the two-mile corridor.

Mr. Smith served as a senior technical advisor on the City of Gresham's Sewer Trunk Improvements, Phase 1, which improved trunk capacity to the City's wastewater treatment plant (WWTP) through construction of a new trunk sewer between I-5 and the plant. Mr. Smith has been project principal on many sewage pump station projects, including the Willamette Lift Station for the City of Lake Oswego, which serves a significant portion of the City.

Mr. Smith served in a senior technical advisory role in the final design and construction of the Miles Crossing Vacuum Sewer System project for the Miles Crossing Sanitary Sewer District near Astoria, Oregon. The \$8 million project, funded by the Rural Utilities Service and the State of Oregon Economic Development Department, collects sewage in the service area using vacuum sewer technology. Through an intergovernmental agreement (IGA), the collected sewage is transmitted to the City of Astoria's sewer system for treatment through a force main installed beneath Youngs Bay using horizontal directional drilling techniques.

Mr. Smith was involved in a senior technical advisory role and performed QA/QC for both the City of Salem's North River Road CSO Diversion Structure project and the Oregon State Department of Correction's Oregon State Correctional Institution (OSCI) Phase 2 Sewer Improvements project.

Mr. Smith has served as project principal on recent wastewater master plans for the cities of Wood Village, Sheridan and Dundee. All of these plans have included infiltration and inflow (I&I) analysis and development of I&I reduction programs. He also was project manager for an analysis of sewage transmission alternatives for the City of Wood Village. The Sheridan and Dundee projects involved treated wastewater effluent reuse.

## Key Project Experience

- Sanitary Sewer Rehabilitation, City of Springfield, Oregon
- Sanitary Sewer Rehabilitation, City of St. Helens, Oregon
- Miles Crossing Vacuum Sewer System Project, Miles Crossing Sanitary Sewer District, Clatsop County, Oregon
- Trojan Nuclear Plant and Trojan Park On-Site Wastewater Facilities, Portland General Electric, Oregon
- Bay View State Park Wastewater Management Plan, Washington State Parks and Recreation Commission
- Wastewater Facilities Plan, City of Wood Village, Oregon
- Wastewater Facility Plan, City of Sheridan, Oregon
- Wastewater Facility Plan, City of Dundee, Oregon
- Sewage Transmission Study, City of Wood Village, Oregon
- Hayden Island Sanitary Sewer Facilities Plan, City of Portland, Oregon
- Sanitary Sewer Master Plan, City of Hillsboro, Oregon
- Sewerage Facility and Financial Master Plan, City of West Linn, Oregon
- South Rivergate Industrial District, Sanitary Sewer Master Plan, Port of Portland, Oregon
- City of Gaston Sewerage Facilities Plan and Gaston/Forest Grove Pump Station and Force Main, Clean Water Services, Washington County, Oregon
- Royal Highlands Interceptor Sewer Facilities Plan and Pump Station and Force Main Design, City of Portland, Oregon
- Facility Plan, I&I Study, Sewer System Evaluation Survey and Final Designs for Sewer Rehabilitation, Interceptors and Pumping Stations, City of Newberg, Oregon
- Central City Interceptor Capacity Upgrade, City of Everett, Washington
- Sewer Trunk Improvement, Phase 1, City of Gresham, Oregon
- Willamette Lift Station, City of Lake Oswego, Oregon
- Sullivan Pressure Line Replacement, Hayden Island Sanitary Sewer Replacement, and NE 62nd and Hancock Sewer Relief, City of Portland, Oregon
- 1996/97 Fiscal Year Annual Sanitary Sewer Extension Projects, City of Lake Oswego, Oregon
- N.E. 62nd and Hancock Sewer Separation Project/Lents Basin CSO Project/N.E. Wisteria, N.E. 41st Avenue & N.E. 54th Avenue Sewer Reconstruction/Contract F Gravity Sewer and Force Main Improvements, City of Portland, Bureau of Environmental Services, Oregon
- West Linn Gravity Sewer and Force Main/Bolton Street Force Main/River Street Force Main, Tri-City Service District, Clackamas County, Oregon
- OSCI Phase 2 Sanitary Sewer Improvements, State Department of Corrections, Salem, Oregon
- North River Road CSO Diversion Structure, City of Salem, Oregon

# Thomas R. Nevins, P.E., Senior Engineering Associate

## Key Credentials

### Education

BS in Civil Engineering, Iowa State University  
MS in Sanitary Engineering, Iowa State University

### Professional Activities

American Water Works Association

### Registration

Civil Engineer, States of Oregon and Iowa

**31 Years of Experience**

## Career Summary

Tom Nevins, P.E. has over 30 years of experience as a consulting engineer, including responsibilities as project engineer and manager for the study, design and construction phases of water and wastewater improvement projects. These projects include water and wastewater treatment plants, pumping stations, pipelines, and reservoirs. Mr. Nevins has substantial experience completing water system master plans using complex, computer-based hydraulic analysis modeling programs.

## Experience Overview

**Key Expertise:** Wastewater Treatment and Disposal System Planning and Design; Wastewater Treatment Plant Predesign, Design and Improvements; Wastewater Pump Station Design and Testing; Conveyance Pipeline Routing Studies and Designs

Mr. Nevins managed a comprehensive water supply pumping station, pipelines and reservoir project for the City of Klamath Falls, Oregon that included a five-mile-long, 24-inch diameter effluent reuse pipeline and pumping station to deliver up to 15 mgd of municipal wastewater

effluent for two reuse purposes: cooling water for a cogeneration energy facility and agricultural land irrigation. The pumping station is located at the wastewater treatment plant site and receives treated effluent from the chlorine contact tank. Four vertical turbine pumps are mounted on a top slab that covers a reinforced concrete wet well. The pumping station was designed for an eventual firm capacity of 15 mgd delivered by three 5-mgd pumps with the fourth pump serving as a standby. Each pump is driven by a 200-horsepower variable frequency drive motor, which is fitted with a flywheel to eliminate transient pressure surges caused by column separation. The effluent will be delivered through a five-mile pipeline.

Mr. Nevins provided design and construction period services for a four-mile-long, 8-inch diameter ductile iron sludge force main for the Metropolitan Wastewater Management Commission (MWMC) located in northwest Eugene and Lane County. The pipeline route was along roadways through residential, commercial and rural areas. Bored and jacked casings were used for highway and railroad crossings. Mr. Nevins was also responsible for design and construction period services for the MWMC for approximately 5,600 feet of 48-inch diameter reinforced concrete sewer through a residential area in the City of Springfield. Work included tunnel and liner casing under Interstate 105.

As project engineer for the City of Salem, Oregon's East/South Relief Sewer project, Mr. Nevins provided design and construction period services for approximately 37,000 feet of 48-inch, 42-inch, 21-inch, 18-inch, 15-inch, 12-inch and 8-inch diameter reinforced concrete pipe sewer. Project challenges included routing through a mixture of residential and open areas; community college grounds crossing; tunnel and liner casing under railroad; traffic control for several high-volume streets; and special pipe class design.

Mr. Nevins has completed several projects for the Tri-City Service District in Clackamas County, Oregon. For the Willamette Interceptor 1A, Outfall and Willamette River Crossing project, Mr. Nevins provided design and construction period services for approximately 12,000 feet of 84-inch, 72-inch, 42-inch, 30-inch, 18-inch and 12-inch diameter reinforced concrete pipe interceptor sewer and wastewater treatment plant outfall piping. The project also included 2,000 feet of dual 16-inch/12-inch ductile iron force main placed under the Willamette River

# Thomas R. Nevins, P.E., Senior Engineering Associate

bottom by dredging and backfill. Special design considerations were necessary for pipeline crossing through an old abandoned garbage dump, retail parking lots and a riverfront park. Tunneling and liner casing was designed for under an old timber-piled highway bridge. Two flow control structures were part of a river outfall system consisting of three parallel 42-inch diameter steel pipes. Deep pipe burial required a special pipe class design. For the Mount Hood Golf Club Terrace and Rhododendron Sewerage System project, Mr. Nevins was responsible for design and construction period services for approximately 25,000 feet of 8-inch and 6-inch diameter PVC collection and interceptor sewer; 1,100 feet of 4-inch diameter PVC force main; a 120-gpm pumping station equipped with submersible pumps; river crossing by suspending pipe from bridge; special provisions for golf course crossing; and special erosion control provisions near a protected stream. Mr. Nevins also conducted design and construction period services for the In Between Sewerage System, which included approximately 1,400 feet of 8-inch diameter PVC sewer for a rural developed area and special routing efforts to avoid trees in a dense forest.

As project engineer for the Mill Beach Pumping Station and Force Main project for the City of Brookings, Oregon, Mr. Nevins completed design and construction period services for approximately 350 feet of 21-inch diameter reinforced concrete pipe; about 2,400 feet of 14-inch diameter ductile iron pipe force main; pumping station modifications to replace existing non-clog vertical shaft pumps with non-clog vertical column pumps and submersible pumps; steep, wooded, sandy soil conditions; and about 800 feet of 24-inch diameter outfall with diffuser located in Chetco Cove.

Mr. Nevins completed conveyance system improvements for the City of Coos Bay, Oregon, which included design and construction period services for approximately 1,000 feet of 8-inch and 10-inch diameter sewer replacement in old bay-front industrial/dock area to reduce infiltration of salt water.

Mr. Nevins served as project manager for a wastewater facilities plan and design that will provide a new collection system for the City of Coburg, Oregon, an unsewered community with a population of approximately 1,000. Sewage collection system alternatives considered included conventional gravity sewer, grinder pump and pressure mains, and a vacuum system. Septic tank effluent collection system alternatives included septic tank effluent gravity (STEG) and septic tank effluent pressure (STEP). A hybrid system comprised primarily of conventional gravity sewers, and supplemented by STEG and STEP systems, was identified to provide savings of almost \$2 million compared to systems proposed in previous studies. A natural treatment system consisting of an advanced facultative pond and a constructed wetland emerged as the preferred alternative compared to several previously proposed treatment systems. Recent ESA listing of steelhead in the Upper Willamette River was considered in process selection. Separate cells for secondary and tertiary treatment in the wetlands will produce an effluent quality that will allow year-round discharge to the Willamette River. The wetland plant cover and a three-mile-long outfall pipeline will help reduce effluent temperatures, a key concern to agencies involved with endangered and threatened species protection.

## Key Project Experience

- Water Supply Pumping Station, Wastewater Effluent Pipelines and Reservoir, City of Klamath Falls, Oregon
- Sludge Force Main, Metropolitan Wastewater Management Commission, City of Eugene, Oregon
- East Bank Interceptor Sewer Extension, Metropolitan Wastewater Management Commission, City of Springfield, Oregon
- East/South Salem Relief Sewer, City of Salem, Oregon
- Willamette Interceptor 1A, Outfall and Willamette River Crossing (Force Main), Tri-City Service District, Clackamas County, Oregon
- Mount Hood Golf Club Terrace and Rhododendron Sewerage System, Tri-City Service District, Clackamas County, Oregon
- In Between Area Sewerage System, Tri-City Service District, Clackamas County, Oregon
- Mill Beach Pumping Station and Force Main, City of Brookings, Oregon
- Conveyance System Improvements, City of Coos Bay, Oregon
- Collection, Treatment and Disposal Systems, City of Coburg, Oregon
- Raw Sewage Screening Improvements, City of Corvallis, Oregon

**James K. Maitland, Ph.D., P.E., G.E.**  
*Principal/Geotechnical Engineer*

Jim Maitland has 32 years of experience as a geotechnical engineer, including 25 years as Principal and Owner of Foundation Engineering, Inc. He has served on numerous civil engineering and geotechnical engineering projects involving site characterizations for a wide range of wastewater facilities. A selected list of his sewer line and lift station project experience includes:

- ◆ Geotechnical investigation for design and construction of the ±18,000 LF Jasper Trunk Sewer in Springfield, Oregon. The project includes open trench construction as well as several cased bore and jack pipeline installations. Project challenges include deep sewer depths and trench wall stability for excavations in gravels and high groundwater levels.
- ◆ Geotechnical investigation for construction of a ±6,500 LF section of sewer force main in Netarts, Oregon. The force main was successfully completed using directional borings. Project challenges included excavation of a drilling pit in cobbles on a beach, hilly terrain, more than 300 feet of elevation change and large variations in soil/bedrock conditions along the directional bore alignment.
- ◆ Geotechnical investigation and seismic hazard study for a new pump station and force main associated with a proposed wastewater treatment plant for the Netarts-Oceanside Sanitary District (NOSD) in Netarts, Oregon. The new ±3,000-foot long force main will connect the existing wastewater treatment plant with the proposed facility. A second pipeline conveying treated effluent from the new wastewater treatment plant back to the ocean outfall will also be constructed on the same alignment. Directional bores are planned for both pipelines.
- ◆ Geotechnical investigation for a series of improvements to the existing wastewater system in Brownsville, Oregon. The improvements include construction of a new 7-acre lagoon and inlet lift station, a new chlorine contact chamber/control building and extensive sewer line replacement. Project challenges included two sewer line crossings of the Calapooia River to connect the new facility with existing lagoons to the north.
- ◆ Geotechnical investigations for sewer line projects in Corvallis, including the ±3,000 LF West Hills sewer extension located ±½ mile south of the Benton County Fairgrounds, east of 53rd Street; the ±2,860 LF Skyline West sewer extension located north of Walnut Park; and the ±14,000 LF West Philomath Blvd. sewer line extension, which extended service from 53rd Street to the urban growth boundary west of Corvallis.
- ◆ Geotechnical investigation for ±10,000 LF of sewer line along Jackson Highway in Chehalis, Washington.
- ◆ Geotechnical consultation, construction observation and testing associated with construction of 14 miles of an 8 to 24-inch diameter sewer system in N. Albany, Oregon.
- ◆ Geotechnical investigations and construction-phase observation and consultation for new lift stations and control buildings for wastewater facilities in Corvallis, Junction City, Lafayette, Eugene, Waldport, Philomath, Monmouth, Netarts, Oceanside and Aumsville, Oregon, and in Kelso, Washington.

**Professional Registration**

Oregon - Professional Engineer, Geotechnical Engineer  
Washington - Professional Engineer  
Idaho - Professional Engineer

**Academic**

Ph.D. Geotechnical Engineering - Oregon State University - 1977  
Master of Civil Engineering - Rice University (Texas) - 1974  
B.S. Civil Engineering - Rice University (Texas) - 1973

**Experience Summary**

1982 to Present  
1978 - 1982

Foundation Engineering, Inc., Corvallis, Oregon, Principal Engineer  
Willamette Geotechnical, Inc., Corvallis, Oregon, Principal

**Professional Activities**

Member, American Society of Civil Engineers (ASCE)  
Member, International Society of Soil Mechanics and Foundation Engineering (ISSMFE)

**Leslie Finnigan, SR/WA | Corporate Oversight**

Universal Field Services, Inc.

Leslie has over 24 years experience in the Right of Way field. She currently is involved in all phases of the land acquisition and relocation process in a management capacity. She is responsible for business development, staffing and contracting with subcontractors, periodic quality assurance reviews to verify compliance with Federal regulations and Universal's internal audit requirements in Oregon, SW Washington and Idaho and overall corporate project oversight of Universal's projects in the Region.

**A Few Examples of Right of Way Services Projects:**

Leslie has managed a variety of projects in Oregon and Washington, including projects in Douglas County, Clackamas County, Washington County, Deschutes and Clark County, Washington and for such agencies as Tri-Met in Portland and Lane Transit District in Eugene. Examples include:

- **City of Portland NE 102<sup>nd</sup> and SE 152<sup>nd</sup> Street** – Leslie was the project manager for two road improvement projects for the City of Portland. These projects involved right of way negotiations for 24 parcels on the 102<sup>nd</sup> Avenue project and ten parcels on the 152<sup>nd</sup> Street project.
- **City of Redmond - Odem Medo Road & SW 27<sup>th</sup> Street** – This project involved five commercial properties for the improvement of Odem Medo Road in Redmond. Leslie provided project oversight for this City project, which included obtaining appraisals as well as the negotiations.
- **City of Lake Oswego - Oswego Lake Interceptor Sewer Upgrade** – Leslie provided consultant services for the City of Lake Oswego in acquiring property for the new interceptor line for Oswego Lake. The project includes assisting the City with contacting property owners for a suitable location for the new pipe as well as providing acquisition and relocation services.
- **Joint Water Commission and City of Hillsboro – Raw Water Pipe Project** This project involved easement acquisitions for a 96" raw water pipeline in rural Washington County. Leslie was the project manager for this project and Universal's role is not only obtaining appraisals, appraisal reviews, and handling the acquisitions, but also involves hiring an engineering firm to handle the survey and description modifications if necessary. Most of the properties are agricultural.
- **City of Sherwood - Pine Street Improvements Project** – This project involved acquiring property from 55 ownerships. The city street was narrow and had no sidewalks. This project will widen the street and put sidewalks in on both sides of the street.

**Personal Skill / Experience Summary:**

- Knowledgeable in Oregon real estate agency laws and regulations
- Knowledge and understanding of engineering, utility and survey drawings
- Thorough understanding of the acquisition and relocation assistance process

**Benefits:**

Thorough understanding of the acquisition and relocation assistance processes in accordance with laws and regulations; Excellent communication skills, both written and oral; Detail oriented; Diligent to project success needs

**Years with Company:** 12

**Total years of experience:** 24

**Education:**

Education, Western Oregon University, 1973

**Professional registration:**

Senior Member, International Right of Way Association;  
Oregon Real Estate Broker License #981000095



**NLV SERVICES, INC.**  
***SURVEYING - MAPPING***

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5108 SE LOGUS ROAD, MILWAUKIE, OREGON 97222  
PHONE 503-329-5703 FAX 503-654-1727

**NEAL L. VESCOGNI P.L.S., P.E**

President, NLV Services, Inc.

Mr. Vescogni's 18 years of land surveying experience coupled with his 13 years of experience as a project engineer and project manager allow him to provide valuable insight in the planning and execution of the surveying aspects of a wide variety of work. Mr. Vescogni has worked with engineers, architects, planners and contractors, from preliminary design through construction, on many successful projects in both the public and private sector.

Mr. Vescogni began his career with the Soil Conservation Service in the early 1970's, continuing with employment by ODOT, several Portland area land surveying firms, Murray, Smith & Associates, Inc., Anthony-Ross Company, Inc., and finally President of NLV Services, Inc. His project management experience includes municipal water and sewer work as well as industrial equipment installations in pulp and paper mills world-wide. Mr. Vescogni last assisted Murray, Smith & Associates, Inc. with surveying for water, wastewater, stormwater and road projects for Springfield (Jasper Trunk Sewer), Clatsop County, Miles Crossing Sanitary Sewer District, Seaside, Depoe Bay, Wilsonville, Bend, Tigard, Sherwood, Bend, Woodburn, Portland and others.

**EDUCATION**

B.S., Civil Engineering, Portland State University, 1982

Associate of Applied Science, Civil Engineering Technology, Portland Community College, 1975

**PROFESSIONAL REGISTRATION**

Professional Land Surveyor, Oregon, License No. 02204LS

Professional Civil Engineer, Oregon, License No. 13725PE

**PROFESSIONAL AFFILIATIONS**

Professional Land Surveyors of Oregon (PLSO)

American Society of Civil Engineers (ASCE)

Murray, Smith & Associates, Inc.  
hereby acknowledges receipt of Addenda Nos. 1, 2 & 3.  
We have read and fully understand the contents of each.

**MISA**

**Addenda**



February 8, 2011

**REQUEST FOR PROPOSAL**  
**Public Works**  
**P21045 58<sup>th</sup> Street By Pass**

**ADDENDUM #1**

The City of Springfield is hereby amending or clarifying the above mentioned Request for Proposal (RFP). The original document can be found on the City's website at [www.springfield-or.gov](http://www.springfield-or.gov) by selecting the hyperlink *Purchasing/Contracts* from the menu on the left side of the home page, interested parties will be linked to the RFP/ITB page.

1. **Question:** We would like to receive PDF copies of proposals from Murray Smith and Associates and Harper Houf Peterson Righellis for the Jasper Trunk Sewer project, project # P20353

**City's Response:** The two RFP responses have been posted to the following URL's  
[Http://springfield-or.gov\RFP\P20353 Murrary, Smith and Asso. Bid Proposal Received.pdf](http://springfield-or.gov\RFP\P20353 Murrary, Smith and Asso. Bid Proposal Received.pdf)  
[Http://springfield-or.gov\RFP\P20353 Harper Houf Peterson Righellis Bid Proposal Received.pdf](http://springfield-or.gov\RFP\P20353 Harper Houf Peterson Righellis Bid Proposal Received.pdf)

In the event that it is necessary to further amend, revise or supplement any part this RFP, additional addenda will be posted on the City's website at <http://www.springfield-or.gov> (select the *Purchase Contracts* hyperlink and Addendum 1 P21046 58<sup>th</sup> Street By Pass). As stated in the original solicitation, City will make a reasonable effort to provide the addenda to all Proposers to whom City provided the initial Request for Proposal. This addendum shall be considered part of the specification of the Request for Proposal. The City is not responsible for any explanation, clarification, interpretation or approval made or given in any manner except by written addenda issued by City.

**ALL BIDDERS SHOULD ACKNOWLEDGE AND INCLUDE THIS ADDENDA #1 AS PART OF THEIR SUBMITTAL PACKAGE.**



February 16, 2011

**REQUEST FOR PROPOSAL**  
**Public Works**  
**P21045 58<sup>th</sup> Street By Pass**

**ADDENDUM #2**

The City of Springfield is hereby amending or clarifying the above mentioned Request for Proposal (RFP). The original document can be found on the City's website at [www.springfield-or.gov](http://www.springfield-or.gov) by selecting the hyperlink *Purchasing/Contracts* from the menu on the left side of the home page, interested parties will be linked to the RFP/ITB page.

1. **Question:** Where is the URL for the project in the Sanitary Sewer Master Plan?

**City's Response:** The URL for the Master Plan is [http://www.springfield-or.gov/Pubworks/Projects/Waste Water MP Internet Posting.pdf](http://www.springfield-or.gov/Pubworks/Projects/Waste_Water_MP_Internet_Posting.pdf), as it appears in the RFP. Page 3, Paragraph 3 is hereby amended as follows: Strike "~~Page 53 and Figure 5-5~~" and replace with "Figure ES-1 and Table ES-1".

2. **Question:** Page 16 of the RFP appears to have duplicate information.

**City's Response:** Page 16 is hereby amended to read as follows (eliminating #'s 4- 6).

**AMOUNT AND METHOD OF PAYMENT**

1. The City shall compensate the Consultant for testing, design and construction management engineering and inspection services, as outlined in Sub-sections 1 through 8 above and in their proposal dated \_\_\_\_\_, in the amount not to exceed \$ \_\_\_\_\_.

2. The compensation for engineering services shall be payable for billed services performed on a monthly basis, in accordance with the agreed fee schedule. To request a progress payment, a certified billing for the Consultant shall be submitted to the City Engineer ten (10) days prior to the first Monday of the month following the billing period. In case of termination, the Consultant shall be paid for the actual acceptable work performed to date in accordance with the agreed fee schedule.

3. Total compensation to the Consultant, listed in Sub-section 1 above, shall be full compensation for all services necessary to fulfill the Consultant's obligations, including,

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but not limited to, sub-contractors, the expense of printing, equipment, material, personnel, telephone, travel and per diem.

In addition to the foregoing being performed, the following additional services will be provided upon prior written authorization of the City.

Redesigns ordered by the City after final plans have been accepted by the City.

Appearance before courts or boards on matters of litigation or hearings related to the project.

Other services as requested by the City.

~~4. The City shall compensate the Consultant for testing, design and construction management engineering and inspection services, as outlined in 1 through 3 above and in their proposal dated \_\_\_\_\_, in the amount not to exceed \$ \_\_\_\_\_.~~

~~5. The compensation for consultant services shall be payable for billed services performed on a monthly basis, in accordance with the agreed fee schedule. To request a progress payment, a certified billing for the Consultant shall be submitted to the City Engineer ten (10) days prior to the first Monday of the month following the billing period. In case of termination, the Consultant shall be paid for the actual acceptable work performed to date in accordance with the agreed fee schedule.~~

~~6. Total compensation to the Consultant, listed in Sub-section 1 above, shall be full compensation for all services necessary to fulfill the Consultant's obligations, including, but not limited to, sub-consultants, the expense of printing, equipment, material, personnel, telephone, travel and per diem.~~

In addition to the foregoing being performed, the following additional services will be provided upon prior written authorization of the City, other services as requested by the City.

3. **Question:** What Vertical Datum does the City use?

**City's Response:** NAVD '88

4. **Question:** Can we have copies of the sign in sheets from the Project Information Meeting Feb. 16, 2011?

**City's Response:** The sign in sheets for the meeting can be downloaded at:

[http://springfield-or.gov/rfp/RFP P21046\\_58th St. Sewer By Pass Project info meeting sign in.pdf](http://springfield-or.gov/rfp/RFP P21046_58th St. Sewer By Pass Project info meeting sign in.pdf)

In the event that it is necessary to further amend, revise or supplement any part this RFP, additional addenda will be posted on the City's website at <http://www.springfield-or.gov> (select the *Purchase Contracts* hyperlink and Addendum 2 P21046 58<sup>th</sup> Street By Pass). As stated in the original solicitation, City will make a reasonable effort to provide the addenda to all Proposers to whom City provided the initial Request for Proposal. This addendum shall be considered part of the specification of the Request for Proposal. The City is not responsible for any explanation, clarification, interpretation or approval made or given in any manner except by written addenda issued by City.

**ALL BIDDERS SHOULD ACKNOWLEDGE AND INCLUDE THIS ADDENDA #2 AS PART OF THEIR SUBMITTAL PACKAGE.**



February 23, 2011

**REQUEST FOR PROPOSAL  
Public Works  
P21045 58<sup>th</sup> Street By Pass**

**ADDENDUM #3**

The City of Springfield is hereby amending or clarifying the above mentioned Request for Proposal (RFP). The original document can be found on the City's website at [www.springfield-or.gov](http://www.springfield-or.gov) by selecting the hyperlink *Purchasing/Contracts* from the menu on the left side of the home page, interested parties will be linked to the RFP/ITB page.

1. **Question:** During our mandatory project meeting, the question was asked about easement acquisition for businesses on the original routing for the 58th St. Relief Sewer. The answer was that the City had already acquired the easements. In reviewing the requirements for easement acquisition, I would like to make certain that these easements have been obtained. Is this correct?

**City's Response:** The City has not acquired the possible easements for routing of the Relief Sewer. The selected Consultant is required to provide a design report with a minimum of two Sewer Line routings. The City will select the design Sewer Line route from the design report. Until then, it is unknown if easement acquisitions will be required.

In the event that it is necessary to further amend, revise or supplement any part this RFP, additional addenda will be posted on the City's website at <http://www.springfield-or.gov> (select the *Purchase Contracts* hyperlink and Addendum 3 P21046 58<sup>th</sup> Street By Pass). As stated in the original solicitation, City will make a reasonable effort to provide the addenda to all Proposers to whom City provided the initial Request for Proposal. This addendum shall be considered part of the specification of the Request for Proposal. The City is not responsible for any explanation, clarification, interpretation or approval made or given in any manner except by written addenda issued by City.

**ALL BIDDERS SHOULD ACKNOWLEDGE AND INCLUDE THIS ADDENDA #3 AS PART OF THEIR SUBMITTAL PACKAGE.**

