

GENERAL UNDERSTANDING AND OVERALL PROJECT APPROACH

The Oregon Department of Transportation (ODOT/Agency), on behalf of Local Public Agencies (LPAs) throughout the state, intends to contract with up to ten consultants to provide comprehensive professional services as detailed below. Services will be contracted under a master Price Agreement; project specific Work Order Contracts will be awarded through a quality-based selection (QBS) process. Consultants will provide a broad range of professional services as required to design and deliver assigned projects. Services will primarily be for approved LPA projects included in, added to and assigned under the 2008-2011 Statewide Transportation Improvement Plan (STIP) and potentially the 2010-2013 STIP. ODOT intends to select consultants qualified as full-service teams, including Project Management and all Preliminary Engineering (PE)- and Construction Engineering (CE)-related facets of a given project from start to finish, with minimal oversight and involvement from the Agency. While consultants are not required to be fully capable, qualified and experienced in EIS and NEPA process work, our team is. Typical specific preliminary engineering and construction engineering services are listed as “Key Tasks”, below.

RANGE OF SERVICES

Projects assigned under the subject contracts will typically involve comprehensive project services in support of project development, design and construction administration. These services will be provided by the consultant team with limited support from ODOT staff in certain key areas. We understand it is ODOT’s intent that consultant teams operate nearly autonomously and in many cases under very aggressive timelines. Project teams must provide the expertise and capacity to successfully design and deliver assigned projects. Specific projects may include some or all elements of work discussed below.

TYPES OF PROJECTS

Anticipated project types are listed below. The consultant team must possess the capability and capacity to successfully complete each type of project. A project will generally contain elements of more than one type.

Modernization – These projects address safety and capacity issues. They can include addition of lanes; new alignments or facilities (bypasses); widening of bridges; grade separations; intersection improvements; and intermodal connectors.

Preservation – These projects add useful life to roads without increasing capacity. They can include paving and minor safety and bridge improvements; reconstruction of an existing roadway; resurfacing projects; and striping.

Bridge – These projects rebuild or extend the service life of existing bridges and structures beyond the scope of routine maintenance. This can include rehabilitation, replacement, major repair and major maintenance; overpass screening; tunnels; and large culvert installations over six feet in height or width.

Miscellaneous – These projects may include transportation enhancement; bikeways/lanes and pedestrian walkways/sidewalks; bus pullouts; congestion mitigation; and air quality improvement.

KEY ISSUES

Transportation improvement projects can include a variety of “key issues”, as follows:

- Technical Design Issues** – require special technical analysis and consideration of alternatives
- Regulatory Issues** – involve applicable land use and environmental regulations and other governing laws requiring special permitting and/or agency approval
- Cost/Budget Issues** – relate to project cost, particularly those which have the ability to drive project costs beyond forecasted budgets
- Property Issues** – relate to impacts to properties, particularly those issues which command the need for property or right-of-way acquisition and potential private property condemnation

- Legal Issues** – can present certain legal risks, such as through potential exposure to third party lawsuits
- Project Management Issues** – relate to decision-making, quality, cost, funding source and schedule
- Public Safety Issues** – may be either short-term (during construction) or long-term
- Traffic Related/Interfacing Utility** – involve impacted subsurface and/or overhead utilities
- Public Relations** – relate to potential public interest in a particular project
- Policy** – involve sensitive public policy or strategic agency decisions
- Construction Procurement** – relate to public bidding and procurement
- Construction Management** – relate to construction management, sequencing and quality control
- Construction Execution** – involve various construction issues
- Operations and Maintenance Issues** – are related to long-term servicing of the proposed project
- Other Issues** – are relative to specific projects

KEY TASKS

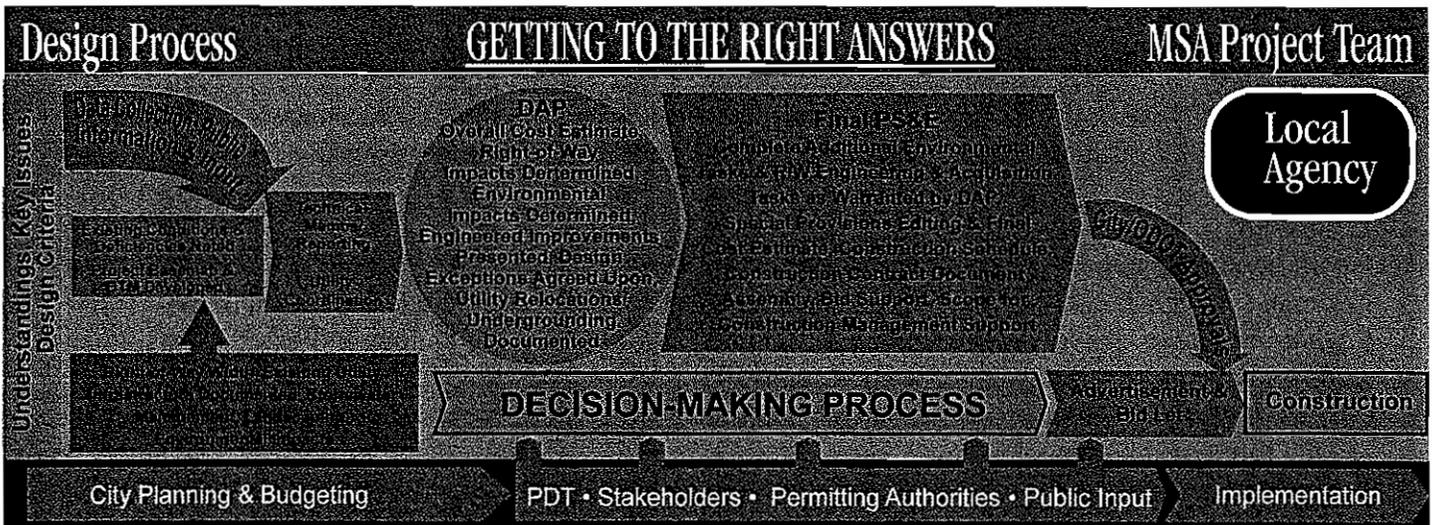
Preliminary Engineering

- Project Management
- Preliminary Field Surveys
- Geotechnical Investigations, Reports and Design
- Hydraulic Studies and Reports
- Hazardous Materials Assessments
- Environmental Analysis, Documentation and Compliance
- Traffic Engineering
- Utility Coordination/Relocation
- Preliminary Design
- Landscape Architecture
- Public Involvement/Information
- Permit Applications
- Right-of-Way Acquisition
- Plans, Specification and Estimate Preparation
- Project Advertisement
- Bidding Assistance

Construction Engineering

- Evaluation of Bids, Audits and Awards
- Execution of Local Agreements
- Preconstruction Conformance
- Office Engineering
- Construction Monitoring and Inspection
- Project Management and Contract Admin.
- Checking Shop Drawings/Submittals
- Field Testing and Inspection of Materials
- Central Laboratory Testing
- Off-site Material Testing and Inspection
- Preparation of “As Constructed” Plans
- Public Relations
- Construction Layout and Staking
- Establishment of Grades
- Survey Control, Horizontal and Vertical
- Re-measures
- Monumentation

MSA’s execution plan for this type of project is summarized by the following process diagram:





TEAM COMPOSITION

Murray, Smith & Associates, Inc. (MSA) will serve as prime consultant and will manage all project work. All staff and subconsultant teams will report to the MSA project manager. (Please refer to the Organization Chart, below.) Interrelated issues are thus managed proactively and effectively and clear communication and effective decision-making among the project team and client is achieved. MSA's project management approach is very hands-on, intensive and client-satisfaction oriented. This approach has been developed and refined over three decades of successful business operations and is our standard of practice.

The MSA team provides valuable knowledge, experience, expertise, continuity and dependability to our clients. Our team is familiar with both ODOT and local public agency standards and procedures. ***MSA has current work with over 70 different local public agency clients.*** Our team is able to address all anticipated project elements and has adequate staffing levels to address multiple projects simultaneously and meet fast-track schedules.

The core MSA/OBEC/Anderson-Perry project team, in association with our other team subconsultants, provides both comprehensive technical capability and broad geographic "coverage". Our exclusive, proven partnership with OBEC makes our team unique and highly sought after. This partnership provides our team with ample capacity to allow us to effectively and efficiently accommodate multiple simultaneous projects. Our team also includes several certified Disadvantaged Business Enterprises (DBEs). All of the firms on our proposed team are part of our current ODOT full-service ATA, with the exception of four additional subconsultants who bring added specialty and DBE capacity. In addition to having worked with our subconsultants on ODOT work, we have also recently completed dozens of successful projects with them for other municipal clients.

Firm	Primary Role/Technical Discipline
<i>Murray, Smith & Associates, Inc. (MSA)</i>	<i>Overall Program Manager/General Civil Engineering (including Roadway/Storm Design, Hydraulics)/SUE and Utility Coordination/Construction Management</i>
<i>OBEC Consulting Engineers (OBEC)</i>	<i>Structural Design/Surveying/Construction Support</i>
<i>Anderson-Perry & Associates, Inc. (AP)</i>	<i>Structural Design/Surveying/Construction Support</i>
<i>Neal Vescogni, Inc. (NLV), (DBE)</i>	<i>Surveying/Construction Staking</i>
<i>GRI</i>	<i>Geotechnical Engineering/Foundation Design/Slope Stability/Pavement Design/Hazmat</i>
<i>Foundation Engineering, Inc. (FEI)</i>	<i>Geotechnical Engineering/Pavement Design</i>
<i>Pacific Geotechnical, Inc. (PG), (DBE)</i>	<i>Geotechnical Engineering</i>
<i>Kittelson & Associates, Inc. (KAI)</i>	<i>Traffic and Transportation Analysis and Engineering</i>
<i>DKS Associates, Inc. (DKS)</i>	<i>Traffic and Transportation Analysis and Engineering</i>
<i>Kleinfelder (Klein)</i>	<i>Geotechnical Engineering/Environ./Hazmat</i>
<i>Mason, Bruce & Girard (MB&G)</i>	<i>Environmental Studies/Wetlands/Permitting Support</i>
<i>ESA Adolfson Associates, Inc. (ESA)</i>	<i>Environmental Studies/Wetlands/Permitting Support</i>
<i>Archaeological Investigations (AINW)</i>	<i>Archaeological and Historic Resources Surveys</i>
<i>Susan Oman (Oman), (DBE)</i>	<i>Landscape Architecture</i>
<i>Nevue Ngan Associates (NNA), (DBE)</i>	<i>Landscape Architecture/Green Streets Design</i>
<i>JLA Public Involvement, Inc.(JLA), (DBE)</i>	<i>Public Information/Involvement</i>
<i>Lois D. Cohen Associates, Inc. (LDCA), (DBE)</i>	<i>Public Information/Involvement</i>
<i>Universal Field Services, Inc. (UFS)</i>	<i>Right-of-Way Services</i>
<i>Epic Land Solutions, Inc. (ELS), (DBE)</i>	<i>Right-of-Way Services</i>

Project Management Philosophy – MSA’s project management philosophy is to deliver projects on time and within budget. Successful management of a public works project is based on careful planning and organizing from start-up to construction completion. We constantly coach our staff to make sure we are appropriately understanding and responding to our client’s fundamental values. 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. Our basic goal is very simple...satisfied clients! We do this by: • *Understanding 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* • *Respecting that “the customer is always right”*.

Contract Administration/Management Plan – MSA establishes a detailed work (provided to the client and all team members) plan at project inception, which includes: 1) scope of work; 2) schedule with milestones; and 3) budget by work task. These documents are used to monitor progress and submittal due dates. The plan includes an organization chart and quality control, reporting, accounting and record keeping procedures.

Staff and Subconsultant Management – Periodic internal project reviews are conducted to confirm that the project is following the project management plan. MSA maintains consistent contact with subconsultants at a frequency appropriate to the requirements and complexities of a project or task.

Liaison and Communications with Local Public Agencies – MSA will meet frequently with the client to report on the status of the project, share ideas among client staff and the project team, and present interim findings and conclusions. Agenda items and materials will be distributed in advance of meetings; MSA will distribute minutes after each meeting and will conduct necessary follow-up activities.

Scheduling Software – MSA has used MS Project scheduling software since 1996. A schedule is developed as part of proposed work programming and is used to achieve milestones and submittal dates. The schedule is updated as project work progresses and revised as necessary.

Project Monitoring and Cost Control – MSA is known for completing projects on time and within budget. We work closely with a client to develop a work program (scope, cost and schedule) to best accomplish project objectives. Our office accounting system provides bi-weekly project budget status reports. Actual expenses are compared to the budget, and actual progress is compared to the schedule. MSA submits a status report on these comparisons to the client with the monthly invoice. Any budget or schedule adjustments required by changes in scope are discussed and authorized by the client prior to proceeding with the work.

Value Engineering – Value engineering is performed throughout the design process. Value engineering is the analysis of the functional requirements of the system to achieve the essential functions at the lowest life-cycle cost, consistent with performance, reliability, quality, maintainability, long-term operations and other factors. Value engineering is performed by MSA collaboratively with our clients during design and is also performed during formal QA/QC reviews.

Project Records – MSA maintains detailed project records, including phone records, file memos, e-mails, meeting memos, meeting agendas and minutes, technical memoranda, daily observation reports, contract submittals, project photos, requests for information, and monthly progress reports. Clear, concise documentation allows decisions to be made quickly and provides a record of agreement on key decisions. All significant communications are documented. No information is disseminated to third parties without client approval.

Philosophy on Construction Phase Services – MSA believes that it is important for the design engineer to take an active role in the construction phase of the project. MSA can and frequently does take on the lead role in construction contract administration, field observation and construction management. A public agency client may have internal resources to dedicate to project construction activities; MSA works closely with the client to

develop a partnering work program that ensures that all aspects of the work are efficiently managed. Our goal is to provide the optimal value of our services with minimal exposure to expensive and disruptive contractor delays and claims.

MSA has developed standardized procedures that are constantly updated to reflect changes in state public contracting law and regional trends in the construction industry. We are familiar with the Oregon Standard Specifications for Construction through our ongoing ODOT and local public agency project work as well as other specifications such as some local public agencies use. Contract document provisions are systematically reviewed with client representatives and our client’s legal counsel, with appropriate provisions being incorporated to reflect each particular public agency’s specific policies, practices and/or adopted ordinances.

MSA’s practice is to assign engineering personnel who have been involved in the subject project’s design to oversee project construction. In this way, we provide important continuity and avoid the potential conflicts that can develop through misinterpretation of contract documents and design provisions or intents. Our field engineering personnel are trained in proper professional conduct and the use of standard construction administration monitoring and reporting documentation and protocols. MSA’s field engineering staff ensure that all construction, testing and project start-up procedures are conducted in accordance with specified requirements and standards and other project interests. Our field staff act in a manner that is “firm but fair” in our application of engineering judgment and our determination of engineering recommendations. Our 30 years of business have allowed us to successfully serve in both a lead role and as a part of a team on various ODOT construction projects. MSA has multiple staff with a range of construction experience, including several, such as our Quality Control Compliance Specialist (QCCS), with various ODOT construction certifications and experience with various ODOT construction offices in different ODOT regions. Because of our long history of public works projects being integrated into ODOT highway contracts, as well as our history of serving in a variety of lead and supporting construction administration and engineering roles for our ODOT highway design work, MSA has effective hands-on, practical knowledge and familiarity with ODOT’s documentation requirements, including management of project records (quality/quantity documentation), administration of subcontracts, use of change orders, extra work orders and force accounts, labor compliance, submittal review, survey support, payments, dispute resolution, etc. MSA’s staff can be supplemented as necessary with OBEC’s and AP’s QCCS certified staff and 30 construction specialists.

OFFICE LOCATIONS AND CAPABILITIES

MSA currently very successfully performs work for municipal clients throughout the Pacific Northwest and Oregon in particular. The inclusion of OBEC and AP on our team strengthens and increases our geographic coverage of the state as workload and/or proximity to project assignment may require. Our core civil, structural and survey team (MSA, OBEC, AP) has effectively demonstrated its ability to serve the entire state of Oregon from the offices listed below:

OFFICE LOCATIONS			
Firm	Location	ODOT Regions Served	Capabilities
MSA	Portland, OR	1, 2, 4, 5	Full Service Design, Construction
MSA	Springfield, OR	2, 3, 4	Full Service Design, Construction
MSA	Boise, ID	5	Full Service Design, Construction
OBEC	Lake Oswego, OR	1, 2, 4	Survey, Design, Construction
OBEC	Salem, OR	1, 2, 4	Design, Construction
OBEC	Eugene, OR	2, 3, 4, 5	Survey, Design, Construction
OBEC	Medford, OR	3, 4	Survey, Design, Construction
AP	La Grande, OR	5	Survey, Design, Construction
AP	Walla Walla, WA	4, 5	Survey, Design, Construction

In addition to these core services, several of our subconsultants have offices throughout the state. Kleinfelder can provide geotechnical, Hazmat and environmental services out of its offices in Beaverton, Bend and Boise, while FEI has geotechnical capabilities in both Beaverton and Corvallis. The rest of our subconsultants are located in the Portland Metro area and regularly travel throughout the state as a project may demand to perform their specialty services.

SUBCONSULTANTS

MSA uses subconsultants for specialty technical services, allowing us to provide the best available talent at optimal value. The MSA team provides both comprehensive technical capability and broad geographic “coverage”. Our selection of firms for any given assignment strives to optimize specialty expertise, prior continuity/familiarity with a given project or project location, client/owner input, and availability and management of DBE/M/W/ESB utilization goals.

All of our subconsultants have proven their expertise and ability to deliver projects for ODOT and other municipal clients. MSA proactively manages subconsultants’ project work. MSA reviews and critiques all work products prior to incorporating these into our deliverables. Our reputation and the quality of the deliverables are directly dependent on the caliber of information we receive from our teaming partners. As such, our team is composed of the highest level of professionals available in their respective areas of expertise. MSA project managers ensure that “specialty myopia” does not occur and that all “big picture” project interests are incorporated in every deliverable. Firm roles are included in the organizational chart that follows.

MEETING SCHEDULES

At MSA, much of our normal workload is accomplished on expedited “fast-track” schedules. We use several methods to effectively expedite project delivery. When necessary, our staff, especially our senior level staff in order to maintain the required level of quality that our clients have come to expect from our team, will work extended hours to expand basic production capacity. The outstanding team rapport we have developed over the past seven years with key peer firms delivering ODOT projects in Oregon communities confirms our powerful teambuilding with interdisciplinary subconsultants. The versatility presented by the core MSA team (MSA/OBEC/AP) with a combined staff of almost 300 professionals, supplemented by our specialty subconsultants, provides tremendous acceleration horsepower and a reliable reserve of professional resources. We have effectively delivered ODOT and local agency ARRA-funded, fast-track projects by engaging multiple engineering sub-teams working concurrently to produce work volumes necessary to meet required deadlines (as can be confirmed by any of our references). An important factor in completing projects in a timely and expedited fashion involves consultant team representation by project management and design staff who know how to work effectively and efficiently with ODOT, local agencies and the permitting agencies and are “known quantities” to them. We know that complex projects are challenging enough without the distraction of contrary personalities. Our entire lead team is comprised of senior level individuals who enjoy solid reputations with many years of local experience. We will not only get the job done, but we will do it right and we will work side-by-side with our clients in making sure that the process is positive, productive and rewarding.

In seven years of ODOT project delivery, our team has yet to miss a key milestone date. During initial design schedule planning, we intentionally set aggressive completion dates for our interim deliverables in order to create “float” to allow for potential delaying factors outside of our control to occur without derailing the project. When an interim deliverable date cannot be met, however, our team always provides as much advance notification as possible in order to allow any other affected parties to plan accordingly. We are very proactive, polite and professional in our communications with all interfacing agencies, businesses and individuals to obtain the timely turn-around needed from these project partners to make a project successful. We also continually look ahead and have a “Plan B” available so that a project-critical item does not become a road block to project success.

Permitting and environmental clearances can present challenges to a project schedule. Our team’s extensive experience with complex public infrastructure projects has honed our ability to successfully navigate the multiple layers of permitting processes associated with transportation projects. MSA has developed comprehensive permitting checklists that include timelines, key agency contact information, detailed descriptions of triggers for each permit and required documentation. Use of these checklists ensures that essential project permitting requirements are identified early. Permit acquisition is planned for and integrated into the project schedule. Clear and concise descriptions of project impacts greatly facilitate permitting processes.



PROPOSED ORGANIZATION CHART
ODOT RFP # 730-23810-09
On-Call A&E and Related Services for Local Agencies

ODOT



Local Agency Project Manager

Technical Advisors/QC
<ul style="list-style-type: none"> David Leibbrandt, P.E. (MSA) Jim Helton, P.E. (MSA) Larry Fox, P.E. (OBEC) Gayle Harley, P.E. (OBEC) Howard Perry, P.E. (AP)

Murray, Smith & Associates, Inc. – Overall Program Manager		
Troy Bowers, P.E. Principal-in-Charge		
Kevin Thelin, P.E. Project Manager	Bill Hollings, P.E. Project Manager	
Gabe Crop, P.E. Assistant Project Manager	Chris Link, P.E. Assistant Project Manager	Kate Conrad, P.E. Assistant Project Manager

Roadway Design
<ul style="list-style-type: none"> Kyle McTeague, P.E. (MSA) Project Engineer Matt Hickey, P.E. (MSA) Project Engineer Michael Carr, P.E. (MSA) Project Engineer Bill Evonuk, P.E. (MSA) Project Engineer Chris Aguon, P.E. (MSA) Project Engineer Brendan O’Sullivan, P.E. (MSA) Project Engineer Jeremy Morris, P.E. (AP) Project Engineer Andy Lindsey, P.E. (AP) Project Engineer Gwen Chambers, EIT (MSA) Traffic Control Plans Andrew Giesy, EIT (MSA) Signing/Striping

Hydrologic / Hydraulic Analyses & Drainage Engineering (MSA)
<ul style="list-style-type: none"> Bill Baechler, P.E. TASK LEADER Brendan O’Sullivan, P.E. Design Engineer Garry Truyens Design Engineer

Bridge Design & Retaining Walls (OBEC)
<ul style="list-style-type: none"> Pete Slocum, P.E. TASK LEADER Sophie Brown, P.E. Design Engineer Tony La Morticella, P.E. Design Engineer

Transportation/Traffic Engineering
<ul style="list-style-type: none"> Charles Radosta, P.E. (KAI) Trans./Traffic Engineer Manager Wade Scarbrough, P.E. (KAI) Project Engineer Brian Copeland, P.E. (DKS) Trans./Traffic Engineer Manager Dana Beckwith, P.E. (DKS) Project Engineer

Utility Coordination & Subsurface Utility Engineering (MSA)
<ul style="list-style-type: none"> Fulgence Bugingo, P.E. TASK LEADER Andrew Giesy, EIT Staff Engineer Justin Luce, EIT Staff Engineer

Design and Construction Technical Support		
Surveying	Landscape Architecture	Structural Engineering
<ul style="list-style-type: none"> Jim Colton, P.L.S. (OBEC) Neal Vescogni, P.L.S., P.E. (NLV) Beau McLendon, P.L.S. (AP) 	<ul style="list-style-type: none"> Susan Oman (SO) Ben Ngan (NNA) Kevin Robert Perry (NNA; Green Streets Specialist) 	<ul style="list-style-type: none"> Pete Slocum, P.E. (OBEC) Sophie Brown, P.E. (OBEC) Allen Rieke, P.E. (AP)
Right-of-Way	Public Involvement	CADD (MSA)
<ul style="list-style-type: none"> Leslie Finnigan (UFS) Regina Thompson (UFS) Lou Schwab (UFS) Mike McNeill (ELS) 	<ul style="list-style-type: none"> Stacy Thomas (JLA) Lois Cohen (LDCA) 	<ul style="list-style-type: none"> Brad Hoek Harry Marx Susan Wentz Kent Harjala
Geotechnical Engineering/Pavement Design	Environmental/Permitting	Hazardous Materials/Archaeological
<ul style="list-style-type: none"> Dwight Hardin, P.E. (GRI) Keith Martin, P.E. (GRI) Timothy Pfeiffer, P.E. (FEI) Bill Nichols, Jr., P.E., G.E. (FEI) Tim Blackwood, P.E., CEG (PG) 	<ul style="list-style-type: none"> Mike Bonoff (MB&G) Daniel Covington (MB&G) Sarah Hartung (ESAA) John Gordon (ESAA) Peter Stroud, CEG (Klein) 	<ul style="list-style-type: none"> George Freitag, RG, CEG (GRI) Randy Reid (Klein) Jo Reese, M.A., R.P.A. (AINW)

Construction Management
CEI/CA Project Managers
<ul style="list-style-type: none"> Kevin Thelin, P.E. (MSA) Bill Hollings, P.E. (MSA) Kate Conrad, P.E. (MSA) Guy Hakanson, P.E. (OBEC)
Project Coordinators
<ul style="list-style-type: none"> Gabe Crop, P.E. (MSA) Chris Link, P.E. (MSA) John Adkins (OBEC) Gary Olson (AP)
Field Personnel
<ul style="list-style-type: none"> Brendan O’Sullivan, P.E. (MSA) Andrew Giesy, EIT (MSA) Gwen Chambers, EIT (MSA) Mark Smith, EIT (MSA) Tyler Douglas (OBEC) Dana Wright (AP) Travis Carter (Klein)

Graphic materials, including photos, plan and/or profile sheets and aerial photography, are prepared to support permit applications. Use of such graphic aids, sufficiently annotated to be stand-alone documents and that foresee and forestall agency questions, are a hallmark of our permitting strategy. We also consistently strategize with project owners prior to any submittal or contact with the permitting agencies in order to understand special sensitivities and the overall direction that the owners intend to pursue in the short-, medium- and long-term for region-wide or state-wide interests. Pursuing a permit for one project in a way that compromises bigger picture interests of a state or local agency can be very short-sighted and have the unintended consequence of creating multiple difficulties and delays to other projects.

In our experience, two of the most typical non-environmental challenges are utilities and railroads. Again, early needs/requirements identification is critical for timely delivery of a project. Our team is the recognized regional expert in subsurface utility engineering (SUE) and has efficiently handled and completed some of the most complex and challenging recent utility relocation projects for ODOT (I-5 at Beltline Interchange and the Newberg (Highway 99) Main Street to Brutscher Street projects). Similarly, we are experts in coordinating with railroads to obtain access to and passage through railroad rights-of-way.

QUALITY CONTROL

Our team has developed a rigorous quality control (QC) program that allows us to consistently provide excellent products to our clients. The following key procedures ensure consistent delivery of high quality products.

Principal Involvement – MSA achieves a high-quality work product by involvement of experienced principals in all of the firm’s projects. Section 2.2.5 provides a more extensive discussion of this aspect of our QC program.

Documentation – Careful documentation of all work is very important and is a forte of our firm. This is achieved with technical memoranda, meeting minutes, telephone records, design calculation files and other written documentation. This information is forwarded to clients as appropriate to keep them apprised of project activities and the current status of specific tasks.

Review – As noted above, MSA reviews all work products submitted by specialty subconsultants prior to submittal to our clients. We have had the benefit of many years of experience with most members of our team to demonstrate our collective commitment to the output of the highest quality work products.

Checklists – We have developed a series of standardized checklists to aid in the efficient production and review of plan sheets, technical memoranda and other deliverables. The checklists catalog items that a designer and a reviewer need to consider at different stages of the project. The reviews verify that the design solutions meet project objectives, that required design standards are met and that designs are practical and constructible.

Comment/Response Log – MSA maintains a project “Comment-Response Log” which lists all comments received, the date of receipt, from whom, the responsible team member to address the comment, the date the comment is addressed/resolved and what the response/resolution is. In addition to comments, the “log” also includes a comprehensive list of all action items noted in the minutes from PDT and sub-team meetings so they are not neglected. To date, these tools, along with extensive use of e-mail as a documentation and communication medium, have helped us produce outstanding deliverables leading to successfully completed projects and extremely pleased clients.

QUALIFICATIONS

Murray, Smith & Associates, Inc. (MSA) was founded in 1980 and operates with a current staff of 75. MSA specializes in public works infrastructure engineering and is particularly well known for our abilities in undertaking and successfully completing complex, multifaceted, multidiscipline, often politically sensitive and high-profile projects. We put very high value on the “people” aspects of civil engineering and work extremely hard to earn the type of trust in our served clients that enables long-term working relationships. MSA offers a full range of services, from project inception through construction completion. Our engineering services include regional and local public facilities planning, feasibility studies, environmental studies and permitting, financial evaluations, assistance with intergovernmental agreements, designs, construction engineering, and program management. Our engineering experience includes a wide range of street, roadway, highway, storm drainage, sanitary sewerage, water system and other utility improvements projects. Most of our current work is return or continuing work with existing satisfied clients. The firm’s transportation team has completed over 65 Oregon Department of Transportation (ODOT)-related roadway and utility improvement projects, including several multimillion dollar PS&E roadway design projects and related CEI/CA services under our current ODOT On-Call A&E Services contract. Our field staff has been very successfully integrated into ODOT’s inspection staff team to monitor subject construction work. As such, we are quite familiar with ODOT’s standard reporting, field testing and payment documentation procedures and systems. Additionally, we have provided continuing utility coordination, subsurface utility engineering (SUE) and storm sewer design directly for ODOT’s Region 2 since 1997. We have also completed dozens of street and sidewalk improvements projects for our ongoing city engineering clients (Mt. Angel, Sheridan, Columbia City and King City) and many individual transportation and utility coordination projects for municipalities such as the cities of Tigard and Sandy. We have recently completed or are currently engaged in similar work for many other Pacific Northwest clients, including: ODOT, the Washington State Department of Transportation, the Washington State Transportation Improvement Board, McMinnville Water and Light, and the cities of Beaverton, Wilsonville, Mt. Angel, Sheridan, Columbia City, and King City.

Information regarding our specialty subconsultants is available upon request, although much of their expertise is described in the key resumes in Section 2.2.5. The two members of our core team are described below:

OBEC Consulting Engineers (OBEC) is a Eugene-based civil and structural firm with a staff of over 100. OBEC has been involved in more than 3,000 transportation (highway and bridge) projects, as well as marine facilities, buildings, water tanks, and other civil- and structural-engineering-related projects. With offices in Eugene, Medford, Salem and Lake Oswego, OBEC has provided civil/structural, surveying, design and construction inspection services in every region of the state. OBEC has designed more than 2,500 bridges with many receiving regional or national recognition. OBEC is a leader in the use of precast concrete (bulb-tee girders, stress-ribbon bridges and post-tensioned segmental precast girder spans) in the Northwest. The firm also provides bridge inspection, load rating services, seismic retrofit designs, and hydraulic and scour analysis. OBEC has design experience with a wide variety of retaining wall systems, including cantilevered, tied-back soldier pile and mechanically stabilized earth walls. OBEC also has extensive survey experience (well over 2,000 projects) including location surveying, construction surveying, right-of-way surveying, control establishment and recovery, retracement, and digital terrain modeling. OBEC has a construction engineering group dedicated to performing a full range of field services, from preliminary site surveys through all phases of construction. OBEC will be responsible for bridge designs, structural engineering and surveying and will provide supplemental construction management engineering and inspection services as needed.

Anderson-Perry & Associates, Inc. (AP) is a La Grande-based civil engineering firm with a staff of 85. AP provides planning, surveying, engineering design and CA/CE services to local agencies and ODOT throughout Regions 4 and 5. AP has worked on over 100 local agency projects including bridge replacement and repair, culvert replacement and repair, and roadway design and repair. AP also maintains a strong team of ODOT-certified staff upon which many local agencies in the eastern portion of the state have come to rely.

MSA will serve as overall project manager and will provide general civil engineering and design services, including: general civil/roadway designs; hydraulic, hydrologic and storm drainage engineering; utility coordination and SUE; and quality control of all engineering disciplines involved in each work assignment. MSA will also lead the construction engineering programs associated with various particular projects. Our success and proficiency at performing this type of work is documented not only by the great amount of repeat work that the firm enjoys, but also through client feedback such as the following:

Stephanie Serpico, the Region 4 Interim Program Manager and Agency Project Manager for the recent US 97 at Iris Lane safety project, wrote in an email to MSA in December 2009: *“Chris [Link] and Bill [Hollings], I want to share with you the comments from the Contractor on the Iris Lane project. They are outstanding comments and reflect the great work you guys do for ODOT. Thank you and I hope we get to work together again soon.”* On the Final Inspection and Project Close Out Form, the contractor rated the project at 185 out of 185 total possible points and provided many positive comments, including: *“Had a great precon that addressed the possible concerns that might come up during construction and talked about how they would be dealt with prior to starting the project...when the [abandoned water] lines were encountered on site our crew wasted no time getting them removed allowing us to remove the lines faster, ultimately saving ODOT money.”*

Nancy Leonard, City Administrator in Waldport, Oregon, wrote recently in an email to ODOT’s Region 2 Team Lead/SCPS Program Coordinator regarding MSA’s recently completed local agency US 101: Alsea Bay Bridge – William Keady Wayside project: *“I was very pleased with MSA’s work with the City. And also their very exceptional follow-up on questions that came up even a year after the project was completed. They rate among one of the best firms the City has dealt with.”*

Don Morris, Traffic Control Plans Designer for Region 2 Tech Center – Traffic, noted in a December 2009 email to Ken Kohl, the Region 2 Agency Project Manager for the I-5: Willamette River – Martin Creek project regarding MSA’s recently completed Draft Traffic Management Plan: *“I’ve done what I can (have time for) in an effort to achieve some value added review comments for the subject project TMP. It’s a great document already, full of excellent information. Thank you for giving me this opportunity to see and review such a fine piece of work.”*

Tom Braibish, current Region 1 GeoHydro Manager and former CPM for the I-5 preservation projects wrote the following in a 2007 email to his superiors: *“In my opinion, Murray[,] Smith and Associates[, Inc.] (MSA) did nothing short of an outstanding job on the I-5 preservation projects. Throughout the course of the project I frequently heard comments from ODOT technical reviewers, Tech Services staff, and Area Managers that included statements to the effect of: ‘These guys are the most thorough I’ve seen’; ‘Can I get that spreadsheet in electronic format – I’d like to use it on my next project’; ‘This is the best work I’ve seen’. From my perspective as the CPM, Kevin Thelin, Troy Bowers, and Gabe Crop set the standard for project management and project delivery. At least once on each of my other projects I found myself thinking how much more smoothly the project would be going if MSA were on board. Kevin, Troy, and Gabe demonstrated a great attention to detail, were forward thinking, and truly fit the role of ‘augmenting ODOT staff’ (i.e. they operated seamlessly with the ODOT reviewers). MSA took ownership of these projects and were committed to the delivery of the projects even with the constant changes and uncertainties around the projects. These are the characteristics and qualities that made my job ‘easy’...”*

Similarly, Matt Caswell, ODOT’s State Utility Engineer at the time, wrote in a June, 2006 email regarding their efforts on the I-5 at Beltline Interchange project: *“Kevin, Bill – WOW!!! What an excellent summary of the process, trials, and tribulations of the utility coordination effort on this complex project!! This will also be a great reference for training and education of the utility coordination process!...Even with a preliminary review, it is obvious that MSA is second to none with organization and presentation skills that are key to being the successful Engineering Company that you are today. It has been a real pleasure working with Bill, Fulgence, and [y]ourself on this fun and challenging project!”*

Mike Morris, Region 4 Roadway Manager, wrote in regards to the OR 140 preservation project and Chris Link's and Andrew Giesy's efforts: *"Chris and Andrew, [I] reviewed your design exception letter and thought it was excellent...Thanks for taking the time and effort to write up a well written exception letter."*

Matt Freitag, Project Manager – Metro East, Region 1 wrote in a 2009 email regarding last minute, fast-track added ARRA design and permitting work for the I-5: Capitol Highway – Willamette River project: *"I just wanted to say thanks to you [Kevin Thelin] and your team for the presentation given at last week's meeting with NMFS. Your preparation and attention to detail, along with the quick follow-up with additional requested information, ensured that the liaison had the information he needed to make his decision to not require re-initiation. I have no doubt that your efforts saved many engineering hours and helped to keep the project on track for its scheduled bid opening."*

Guy Johnson, Project Leader and former Region Utility Specialist for ODOT, noted: *"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."*

COMPARABLE PROJECTS

MSA is currently or has recently been engaged in many transportation projects comparable to those likely to be requested under this On-Call Services Agreement for Local Public Agencies. As noted in Section 2.2.1 above, there are many types of projects that could potentially be assigned. MSA's team is structured to provide the capability and capacity to perform on any and all of these potential assignments anywhere in the state. The projects that we believe are the most comparable to the services requested are those that are located within cities, have some interface with state highways and have a variety of complex technical challenges. The most comparable MSA-led projects within the last three years are as follows:

COMPARABLE PROJECTS		
Project Title	Owner	Client Contact
US 101: Alesia Bay Bridge – William Keady Wayside	ODOT	Nancy Leonard, City Manager, City of Waldport, 541-563-3561 x111, nancy.leonard@waldport.org
US 20: Philomath Couplet	ODOT	Ken Kohl, Region 2 Agency Project Manager, ODOT, 541-747-1496, Kenneth.L.Kohl@state.or.us
Downtown Utility Undergrounding and Pedestrian Signal Design Services for Proctor and Pioneer Boulevard (Hwy. 26)	City of Sandy	Scott Lazenby, City Manager, City of Sandy, 503-668-6927, slazenby@ci.sandy.or.us
5th St. Improvements Between Harrison and OR 214, Including an Extension of Yew St. Between 5th St. and 3rd St.	City of Woodburn	Dan Brown, Public Works Director, City of Woodburn, 503-982-5249, dan.brown@ci.woodburn.or.us
I-5: Capitol Highway – Willamette River Bridge	ODOT	Wayne Statler, Region 1 Project Manager, ODOT, 503-731-3197, wayne.a.statler@state.or.us
I-5: Willamette River – Martin Creek	ODOT	Ken Kohl, Region 2 Agency Project Manager, ODOT, 541-747-1496, Kenneth.L.Kohl@state.or.us

The 5th Street Improvements project was contracted in November 2009 and initial field work, design and extensive public involvement have just gotten underway. As such, this project was not selected to serve as a reference. While the I-5: Willamette River – Martin Creek project has been under contract since July 2009, preliminary design is not complete and therefore cannot, unfortunately, serve as one of our formal references.

Related Projects

Below are a series of recent (last three years), related projects that, taken together, have many elements of possible LPA assignments. These projects are not directly comparable as they are located on state highways outside of cities or are projects with limited design elements such as sidewalk construction, pavement preservation or subsurface utility engineering. Client contacts are provided to verify our outstanding service and performance for these assignments.

RELATED PROJECTS

Project Title	Owner	Client Contact
Ocean Dune Transportation Impact Analysis Review	City of Florence	Mike Miller, Public Works Director, City of Florence, 541-997-5822, mike.miller@ci.florence.or.us
Royalty Parkway Traffic Calming Improvements	City of King City	David Wells, City Manager, City of King City, 503-639-4082, dwells@ci.king-city.or.us
Cul-de-sac Resurfacing	City of King City	David Wells, City Manager, City of King City, 503-639-4082, dwells@ci.king-city.or.us
Misc. Street and Pedestrian Improvements	City of King City	David Wells, City Manager, City of King City, 503-639-4082, dwells@ci.king-city.or.us
116th Avenue Roadway Reconstruction	City of King City	David Wells, City Manager, City of King City, 503-639-4082, dwells@ci.king-city.or.us
"A" Street Improvements	City of Columbia City	Leahnette Rivers, City Administrator, City of Columbia City, 503-397-4010, lrivers@columbia-city.org
City Engineering and Street Improvements	City of Mt. Angel	Jim Hunt, City Administrator, City of Mt. Angel, 503-845-9291, jhunt@ci.mt-angel.or.us
North Leadbetter Extension Overcrossing	ODOT/PBOT	Terry Song, P.E., Senior Project Manager, OBEC 503-620-6103, TSong@obec.com
US 97 at Iris Lane	ODOT	Stephanie Serpico, P.E., Project Manager, ODOT, 541-388-6309, stephanie.i.serpico@odot.state.or.us
OR 140: N. Fork Little Butte Creek – Green Springs Hwy.	ODOT	Stephanie Serpico, P.E., Project Manager, ODOT, 541-388-6309, stephanie.i.serpico@odot.state.or.us
US 26: Salmonberry Road – Viewpoint Sec.	ODOT	Nathan Potter, Consultant Project Manager, ODOT, 503-731-4986, nathan.k.potter@odot.state.or.us
Bundle 314 and Bundle 316	ODOT	Karen Tatman, Quincy Engineering, Inc., 503-763-9995, karent@quincyeng.com
Lincoln City Subsurface Utility Engineering	ODOT	Guy Johnson, Project Leader, ODOT, 503-986-5823, guy.l.johnson@odot.state.or.us
SUE and Stormwater Facilities: I-5 at Beltline Interchange	ODOT	Karl Wieseke, Transportation Project Leader, ODOT, 541-744-8080, karl.d.wieseke@odot.state.or.us
Rucker and Hoyt Avenue Streetscape Improvements	City of Everett, WA	Dan Hansen, P.E., Deputy Director of Design, Perteet, 425-252-7700, danh@perteet.com
Downtown Everett Subarea Planned Action EIS	City of Everett, WA	Stephanie Hanson, Perteet, Inc., 425-252-7700, stephanieh@perteet.com
Burlington Boulevard Utility Undergrounding	City of Burlington, WA	Gina Parenteau, Project Manager, Perteet, Inc., 425-252-7700, gparenteau@perteet.com
SE Pioneer Way Improvement Phase 1	City of Oak Harbor, WA	Mick Monken, Project Manager, Perteet, Inc. 425-252-7700, mickm@perteet.com
Yakima Valley Blvd. Interchange Improvements	WSDOT	Julie Heilman-Suarez, WSDOT, 509-577-1706, suarezj@wsdot.wa.gov
Repair Taxiway E	Idaho Military Division	Jeff Hill, Supervisor of Design and Construction, ID Military Div., 208-272-3752, jeff.hill12@us.army.mil
Lindberg Street Improvements	Idaho Military Division	Jeff Hill, Supervisor of Design and Construction, ID Military Div., 208-272-3752, jeff.hill12@us.army.mil
Frozen Dog Road Improvements	Gem County, ID	Tony Loucks, Member, Black Canyon Partners, LLC, 208-365-4965, tony.loucks@hotmail.com

THREE RECENT PROJECTS

US 101: Alsea Bay Bridge – William Keady Wayside (Waldport)

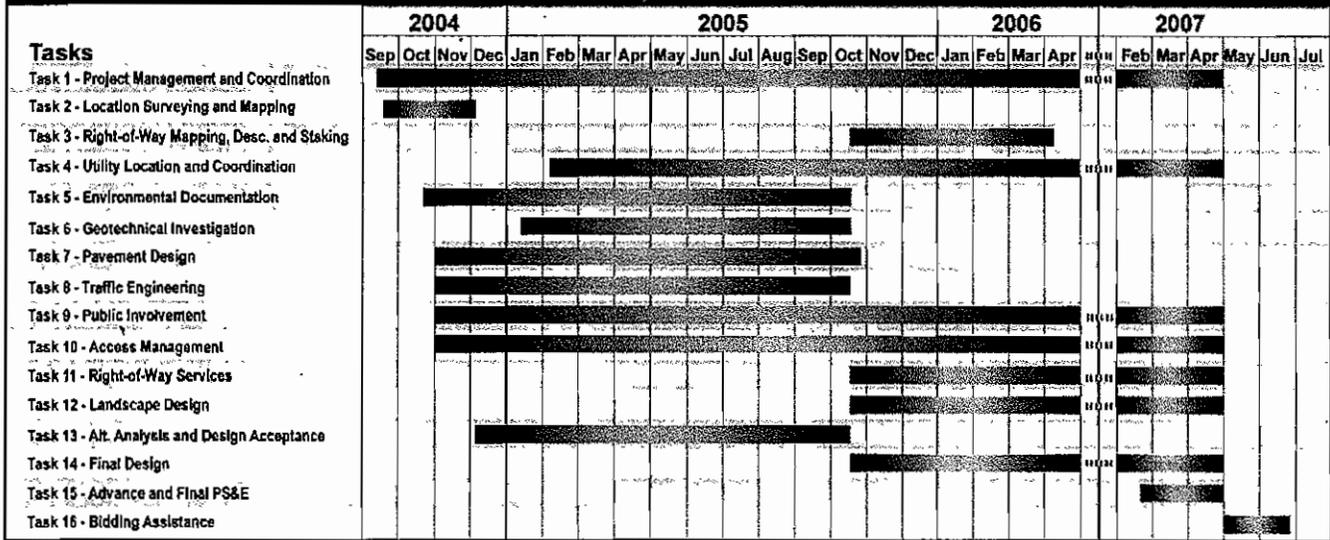
Type – Transportation enhancement, including traffic signal improvements and pavement preservation

Size – Approximately 0.5 mile of improvements to four-lane (US 101) highway

Location – Along US 101 and OR 34 in the City of Waldport

Objectives – Provide downtown enhancements including: complete aerial utility undergrounding; continuous sidewalks on both sides of US 101, pedestrian plazas, curb extensions, improved crosswalks, pedestrian refuge islands, street furniture, pedestrian scale lighting, bike racks, planters, and other landscaping elements; replacement of the traffic signal at the US 101/OR 34 junction; pavement rehabilitation; preservation of existing parking to the extent feasible; minimization of project impacts to local businesses, including construction impacts; development and implementation of an access management strategy.

**OREGON DEPARTMENT OF TRANSPORTATION
US 101: ALSEA BAY BRIDGE – WAI KEADY WAYSIDE
Project Schedule**



Budget and schedule – Certain budget and schedule challenges were encountered during the design phase of the project. Survey and right-of-way (R/W) tasks established that the existing roadway and sidewalks were not constructed completely within existing R/W, and conversely that there were private structures that encroached into ODOT R/W. MSA worked with the project team to resolve the problem and to enable construction to proceed. This R/W process, along with a legal challenge by one business owner of the team’s access management strategy, delayed the bid let by one year. The prospectus construction budget was \$2,126,000. When preliminary designs were prepared to address the stakeholder objectives, it became clear that the cost to do this would significantly exceed the prospectus budget. MSA developed cost-saving measures that preserved project objectives and the project stakeholders were able to access additional funds so that the project could be bid. The actual bid amount was \$3,132,104. MSA design fees met the original estimated budget with the exception of the R/W efforts/fees. These were increased by \$25,000 to address this complex and sensitive issue. As noted above, this delayed the project about one year longer than originally estimated by the Agency and MSA.

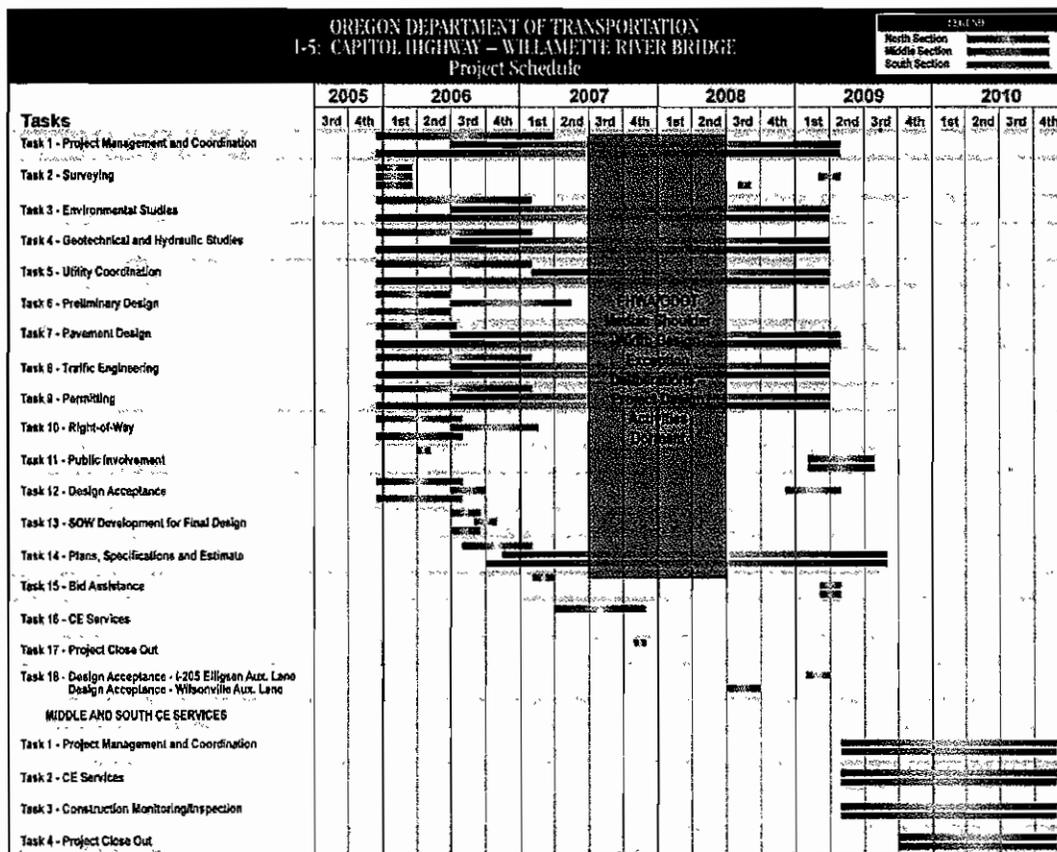
I-5: Capitol Highway – Willamette River Bridge (Portland to Wilsonville)

Type – 3R Preservation

Size – Eleven miles of improvements to I-5, including interchanges, medians and state R/W

Location – Along I-5 through the cities of Portland, Tigard, Lake Oswego, Tualatin and Wilsonville and parts of unincorporated Washington and Clackamas counties

Objectives – Repair the existing rutted pavement and complete a full width grind and inlay or overlay on the interstate and associated entrance and exit ramps as appropriate; inspect ADA ramps and recommend ADA improvements at ramp termini; inspect existing median barrier and replace where needed; inspect existing guardrail and barrier and replace where needed; widen shoulders where needed to meet standards; repair the joints and evaluate the elimination or improvements of scuppers and drains at bridge crossings; evaluate need for and recommend bridge rail rehab work at eleven bridge structures; design a 1.5-mile-long southbound auxiliary lane from the I-205/I-5 Interchange to the Elligsen Road Interchange and its necessary associated elements; perform a corridor-wide evaluation and replacement program of all signage; and design a 0.5-mile-long auxiliary lane in the northbound direction between the Boone Bridge at the Willamette River and Wilsonville Road.



Budget and schedule – This two-phase, three-section project has a long and complex budget and scheduling history. The original ODOT construction budgets were \$13 million for the I-5: Capitol Highway – Tualatin River portion (North Section); \$5.7 million for the I-5: Tualatin River to Wilsonville Road project (the Middle Section); and \$1.8 million for the Wilsonville Road to Willamette River Bridge portion (South Section). The North and South sections were adequately budgeted for but when

our team completed DAP level of design for the Middle Section, the engineer’s construction estimate came in at \$17.2 million (versus \$5.7 million). (Prior to DAP, our team apprised the PDT during its second meeting at about the 15% level of design and less than one month after the project’s kick-off meeting that the project costs for this section would be in the order of \$18 million.) To develop these estimates, MSA performed an exhaustive roadside inventory to determine which freeway elements did not meet current standards and which appeared well-suited for design exceptions or concurrences. The recommended design exceptions were a balance of sometimes necessarily competing interests: Federal Highway Administration’s mandate to ODOT to exercise prudent stewardship of the freeway system under its management; the State’s mandate that ODOT provide safe and durable infrastructure for the traveling public; and ODOT’s fiduciary responsibility to allocate scarce project dollars to the best ends. To allow time to adequately address funding needs and design exceptions, the PDT opted to let the North Section in March 2007 per the original schedule as the programmed funds for that section closely matched the engineer’s estimate. The remaining 6.5 miles (Middle and South sections) were let in April 2009 after the Agency’s decision to add significant amounts of work that included new northbound and southbound auxiliary lanes, a soundwall, ramp paving, signage upgrades, landscaping, right-of-way fencing, and cable barrier. Some of these additions were a result of ARRA funding. The actual let date for the Middle and South sections of the project was approximately one year later than originally planned due to year-long Agency deliberations with FHWA regarding median shoulder width discussions and the added project work noted above. Consultant design fees estimates met contracted amounts for originally scoped work through prudent use of contingency tasks and phased contracting (see section 2.2.6 for additional discussion on this contracting approach.) MSA’s team consistently met schedules for tasks and exceeded Agency expectations when additional major work elements were added to the project (over \$12 million of construction elements) within three months of bid let.

Sandy Downtown Utility Undergrounding, Streetscaping and Signal Improvements (Sandy)

Type – Streetscaping, Safety and Signal Project

Size – 0.75 miles of improvements

Location – Along Proctor and Pioneer Boulevards in the center of the City of Sandy on US 26

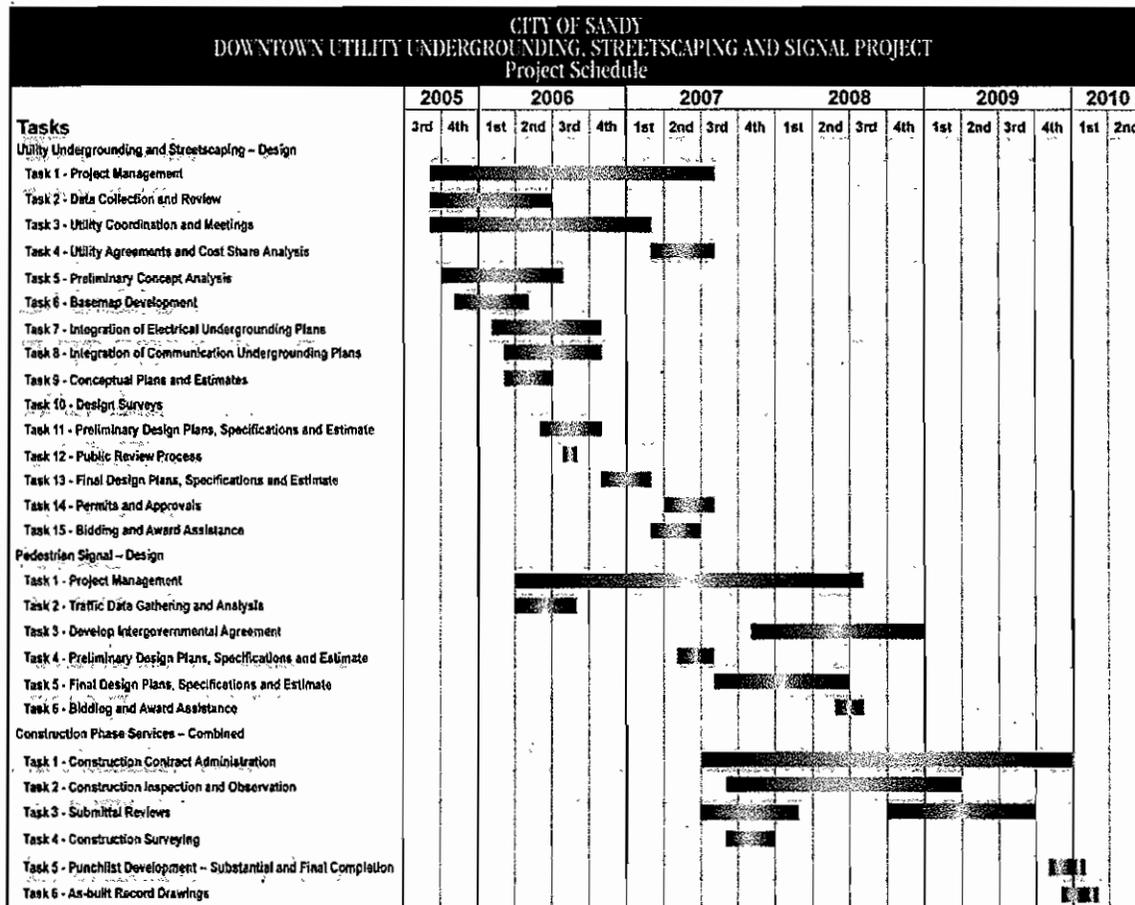
Murray, Smith & Associates, Inc.

December • 2009

Oregon Department of Transportation

On-Call A&E and Related Services for Local Agencies

Objectives – Relocate secondary and primary (select) aerial utilities (power, cable, telephone) underground; improve sidewalks, street lights, street trees and other amenities in the pedestrian zones; and install traffic signals and the associated corridor-long interconnect facilities the eastbound and westbound legs of the Highway 26 couplet to facilitate pedestrian movements in this core portion of the City (designated Special Transportation Area).



Budget and schedule – The City’s original budget for this two part project, consisting of a Utility Undergrounding and Streetscaping element and a Traffic Signal element, was \$2,000,000. In addition to the City’s original budget, the utilities were required to cover the cost of materials for their underground facilities and a portion of the trenching and surface restoration costs. MSA performed a project cost share analysis for the utilities proposed underground facilities that resulted in a total project budget of \$4,500,000. The two elements of this project were designed as separate projects and the signal work was ultimately added to the Undergrounding and Streetscaping project by change order. The two projects are being constructed under the same construction contract to take advantage of cost efficiencies that the utility undergrounding contractor offered to do the signal work and as such the project will be completed within the overall project budget. A dispute between the prime construction contractor and its traffic signal sub-contractor resulted in the sub-contractor’s dismissal from the project. Consequently, the signal installation was delayed and the date for final completion of the project has been extended for one year.

Design and construction phase engineering services for this two-part project were completed for a combined budget of \$930,000. Engineering design phase services were contracted on a “time and materials” basis and due to an increase in traffic study area at ODOT’s request for the budget for design of the signals element was increased by \$6,000 to reflect the modified scope of work. Construction phase engineering services were contracted for an estimated budget of \$350,000. During the course of construction, the construction phase engineering services budget was increased by \$35,000 due to unexpected subsurface conditions that required additional design work and additional project management resulting from the extended construction schedule.



STAFFING LEVELS AND CAPACITY

Murray, Smith & Associates, Inc. (MSA) has a current staff of 75. This staff includes 56 engineers, 36 of whom are registered civil engineers, including seven registered environmental engineers, four certified water rights examiners and one LEED-accredited professional. Our core team (MSA/OBEC/AP) consists of over 270 staff with 95 registered professional engineers, including five registered structural engineers. Our overall team has other professionally qualified and certified staff, including land surveyors, engineering geologists, landscape architects and professional traffic operations engineers. This resource diversity and capacity combined with our firm's three decades of successful planning, designing and managing complex, multidiscipline public works projects allows our team to address any type of roadway, highway, traffic, bridge, utility, transportation enhancement or multi-modal transportation assignment that may arise.

Backlog and Staffing Management System – MSA has developed a detailed backlog and project scheduling system to achieve an optimum balance of backlog and staffing that enables MSA to consistently deliver high-quality projects on time and within budget. This system tracks contracted backlog and provides allowances for potential/anticipated work. The firm's backlog is then spread over time resulting in an estimated monthly backlog projected forward at least 12 months. Staffing levels are guided by the actual and anticipated backlog of work and the schedule on which that work must be accomplished.

Current Workload and Availability – We have examined our current backlog and resources relative to potential assignments associated with these on-call services and have determined we have the ability to respond to any given project immediately. The management systems and techniques described above allow MSA to fully commit to meeting project schedules with confidence. MSA has substantial capacity, both in terms of financial resources and personnel resources, to provide engineering services for this assignment. Many of the region's public agencies depend on the high-value services MSA provides, and we are committed to continuing, improving and growing our engineering services and capabilities for the long term. The firm is structured for such progress with a current, sustainable growth goal of approximately five to ten percent delivery capacity per year. This goal is accomplished through new projects with current public agency clients, through new clients and through geographical expansion within the Pacific Northwest. Since MSA's inception in 1980, the firm has grown an average of nine percent per year. MSA currently manages the design and construction of over \$40 million of public infrastructure improvements annually. Our consulting fees for these projects range from a few thousand dollars to \$2.5 million, demonstrating our ability to not only successfully execute large and complex projects, but to provide quality client service for every level of assignment.

OFFICE LOCATIONS

MSA's current project service territory extends from northern California throughout all of Oregon, north of Everett, Washington and to the east of Boise, Idaho. Throughout the duration of the current full-service ATA, our team has demonstrated its ability to effectively serve the entire Willamette Valley and beyond to Medford, Klamath Falls and Redmond. With MSA's headquarters in downtown Portland, the heart of Region 1, it is close enough to many portions of Region 2 to serve as a very effective base for much of that geographic territory as well. MSA also opened an office in Springfield in December 2008 to serve the southern portion of Region 2 and all of Region 3. We serve clients in Region 4 out of both of our Oregon offices and, depending on the client and the project, we provide service out of our Boise office. All three offices can serve Region 5. We note that OBEC, our principal survey and structural subconsultant, has offices in Lake Oswego, Salem, Eugene and Medford, and, as such, is able to help us efficiently cover the state. Our other core team member, AP, is located in La Grande. They have extensive history and background with local public agencies throughout Region 5 and will effectively represent our team as needed if our team receives any assignments in that part of the state. AP's Walla Walla office can serve both Region 4 and 5. Several of our subconsultants (Kleinfelder and FEI) have offices throughout the state allowing our team to provide geotechnical, Hazmat and environmental services out of its offices in Beaverton, Bend, Corvallis and Boise. The rest of our subconsultants are located in the Portland Metro area and regularly travel throughout the state, as a project may demand, to perform their specialty services.

PRINCIPAL INVOLVEMENT

MSA achieves a high-quality work product through involvement of experienced principals in all of the firm's projects. The firm is a private corporation owned by the principals and associates of the firm. All firm principals must be full-time employees of the firm. The firm is managed by its seven principals who are each responsible for certain aspects of the business operation. All of the firm's principals are licensed practicing engineers and all are extensively involved in project management and day-to-day engineering work. As a matter of policy, a principal must be involved in every project regardless of size. We believe this high level of attention to each project by a senior principal engineer has been one of the major keys to the firm's success and growth. This involvement continues throughout the project. The responsible principal conducts periodic internal reviews to ensure that the project is being executed to the highest quality level.

PROJECT MANAGERS' EXPERIENCE

MSA's team offers a highly flexible, experienced and geographically diverse team. Kevin Thelin and Bill Hollings will serve as the project managers under principal-in-charge Troy Bowers. All three of these individuals have been cross-trained in many civil engineering disciplines over their decades of professional experience. The three of them have been integral to every one of MSA's ODOT-related transportation projects since 2002, and Kevin and Troy very actively worked on complex ODOT work associated with the Highway 26 expansion work and Westside Light Rail design and construction, from downtown Portland to Hillsboro, in the 90s. All three have participated as specialists on multidiscipline projects and each regularly leads multidiscipline teams through MSA's continued project activities under the 2002 and 2007 State-wide Full Service A&E Agreements to Agree. They consistently achieve outstanding project results often culminating in industry awards and the high customer satisfaction noted in Sections 2.2.3 and 2.2.7. Tim Dodson's (Senior Transportation Engineer and former Consultant Project Manager, Region 2, ODOT) comments in a letter to MSA's senior leadership regarding our overall project performance during design and construction of the Azalea Street – 2nd Street reconstruction project of Highway 47 in Yamhill summarize many of our clients' assessments of our work: *"Your team of Troy Bowers, Kevin Thelin, William Hollings and Gabriel Crop performed their work with exemplary style and in keeping with the highest standards of excellent engineering and program management. Their approach to the work clearly revealed that customer satisfaction was their number one priority. Their professional manner, sincere attitude and desire to be the best in the business bring great credit to themselves and the MSA organization. They have raised the bar of excellence for others to strive toward."*



Kevin Thelin, P.E., an MSA vice president, will serve as one of two of our team's project managers. Kevin began his career with MSA in 1993 on interim basis while performing overseas engineering assignments in central Africa for multiple international development organizations. Since 1996, Kevin has served full-time as a key project manager for MSA, completing challenging municipal engineering projects. Kevin has a wide variety of civil engineering experience and expertise, including street and highway, stormwater treatment and conveyance facilities planning and design, SUE and utility coordination, and construction management. Kevin currently serves as the project manager for the recently contracted 5th Street Improvements for the City of Woodburn, Oregon. This modernization project is identified in the City of Woodburn's 2005 Transportation System Plan as an integral part of the "Full Widening of Oregon 214 and Construction of South Arterial" alternative. The project includes removal of the existing barricades at the north end of 5th Street to establish connectivity with OR 214 and the extension of Yew Street between 5th and 3rd Streets across private properties. More specifically, this project includes formal public involvement; geotechnical and Hazmat investigations; pavement design; new sidewalk, curb, illumination and landscaping; low impact development approaches (LIDA) to stormwater management; permanent pavement striping and markings; permanent signing; a traffic signal at OR 214, including warrant and progression analysis; right-of-way acquisition; and an option to underground existing utilities throughout the project limits. Kevin has also served as project manager/assistant project manager for many roadway and highway assignments, including

his current work as project manager for the I-5; Tualatin River – Willamette River Bridge project for ODOT (second of two phases of the Capitol Highway – Willamette River Bridge project as described in Section 2.2.7). Design services were completed in early 2009 after a very intensive last-minute push to include an additional \$12 million of project work due to unexpected availability of various stimulus funding sources. Stormwater management and mitigation were crucial to the design, permitting and construction elements in these projects due to the addition of new impervious pavement for widened shoulders and new auxiliary lanes. LIDA elements incorporated into the design include compost-amended vegetated filter strips, bioslopes and bioswales. Construction is currently underway and will be completed in 2010. Kevin is leading MSA's team for extensive CA/CE support services for this project. Kevin also served as the assistant project manager on multiple ODOT assignments (see resume). He managed and led the multiple subconsultants for those projects to develop required reporting for historic and cultural resources; potential environmental impacts, wetlands, and threatened and endangered species; noxious weed surveys; geotechnical investigations; hazardous material investigations; and traffic analysis and utility coordination. Kevin is one of the firm's subsurface utility engineering (SUE) and coordination specialists, having been instrumental in the firm's formal development of these services, which began with ODOT's Highway 99 modernization project in Newberg in 1996 and have continued on to other major projects such as I-5 at Beltline Interchange and Lincoln City work. Kevin also serves as the District Engineer for Tualatin Valley Irrigation District (TVID) and leads the design and coordination efforts associated with the past ten years of impacts to TVID reimbursable facilities by multiple Washington County transportation projects. He will ensure that key project goals and milestones are met and that all work is satisfactorily performed within established budgets.



Bill Hollings, P.E., an MSA principal engineer, joined MSA in 2000 and was named a firm associate in 2005. In late 2008, Bill was named office manager of MSA's Springfield, Oregon office and operates full-time from that location. Bill has 32 years of experience in the heavy civil and construction engineering field and has served in key project management, design and construction management roles for a large variety of road and highway improvement projects. He will also serve as a project manager under this contract. He is currently leading MSA's efforts for the I-5: Willamette River – Martin Creek 3R preservation project. He is also completing full construction management services for the City of Springfield's sanitary sewer rehabilitation program for which Bill led a team of four junior MSA inspectors for nine separate contracts with six different contractors. Bill served as project manager for the award winning US 101: Alsea Bay Bridge – William Keady Wayside project for ODOT and the City of Waldport in Waldport, Oregon (described in Section 2.2.7). Bill was project engineer and project manager for the construction engineering phase for ODOT's US 20: Philomath Couplet described in Section 2.2.7; project manager and quality control compliance specialist for the construction engineering phase of the Highway 47, Azalea Street-2nd Street project in Yamhill, Oregon; and design project manager for the OR 140: Lake Shore Dr. – Green Springs Highway project. Bill also led the highly successful design of the US 97 at Iris Lane project (please see comments in Section 2.2.3). Bill's other recent work includes design leadership for the City of Portland's utility (water, sewer, storm and non-potable water) relocations of the City of Portland Bureau of Transportation's North Leadbetter Extension Overcrossing project.

KEY STAFF RESUMES

Our project managers, as noted in the organization chart found in Section 2.2.2, will be augmented by a group of exceedingly competent and experienced assistant project managers: Gabe Crop, Chris Link and Kate Conrad. In addition to these three professionals, and depending upon the particular assignment, MSA has four permanent staff serving in the role of "City Engineer" for the cities of Columbia City, King City, Mt. Angel, Sheridan and North Plains who are intimately familiar with this type of local public agency work. Key staff resumes for MSA team members and subconsultants (typically limited to PMs, assistant PMs, task leads, lead subconsultants and personnel with ODOT certifications) are attached to this document. Resumes include team member's experience and qualifications with similar interdisciplinary teams and similar projects. Our customer feedback is generally team-related and reflective of MSA's overall proficiency at successfully completing projects and, as such, has been noted in Section 2.2.3. Resumes for any of the rest of our team's staff are available upon request.

COST EFFECTIVENESS

MSA strives to work as efficiently as possible on all of its assignments. As noted above, this begins with a clear understanding of the project scope, budget and schedule. This initial information is the roadmap to success and sets our team on the right course with the level of effort defined in advance. On complex projects, it may be difficult to predetermine all efforts and tasks that will be needed to address project needs. In such cases, we recommend development of contingency tasks which can be activated by a separate notice to proceed to allow for these potentially necessary efforts. Additionally, it is often to the client's advantage to only initially contract through the DAP level of design so that the project elements and constraints are better developed and defined allowing follow-on tasks and efforts to be more realistically estimated. Beyond this general contracting approach, we also keep costs in check in the following ways:

Cost Tracking – Our firm uses integrated, up-to-date timesheet and accounting (Vision) software to accurately track all employees' hours. We set up specific project numbers for each project and have sub-accounts to track time spent on each task and subtask as necessary on a daily basis. We also require our subconsultants to track their efforts per task and subtask so their time is attributed to the correct account number. Photocopies, mileage, outside printing and other reimbursable costs are similarly charged to the appropriate account number as the cost is incurred. Our project managers review internal bi-weekly budget status reports to compare percent budget spent with percent complete status for each subtask.

Electronic Communications – We take full advantage of e-mail and ftp sites and the convenience these afford us for efficient communication. We have strong technical memoranda and support document and graphics production skills and we provide thorough explanations of the context and intended result and/or action to occur when we deliver a document via electronic correspondence. This avoids wasting team members' time and minimizes questions. We follow up with phone calls for particularly strategic or complex subjects to verify that we've communicated well. When personal meetings are beneficial, we prepare very diligently with agendas, generally sent out via e-mail at least two days in advance of the meeting for consideration by all attendees, and we solicit input at that time for topics that may not have been included. We prepare clear, functional meeting materials that guide discussions and facilitate informed decision-making. Meetings, particularly those with many attendees, are very expensive undertakings which we always try to make the most of to save project expenses and to keep schedules moving ahead. Matt Freitag, Project Manager – Metro East, Region 1 wrote in a 2009 e-mail regarding last minute, fast-track-added ARRA design and permitting work for the I-5: Capitol Highway – Willamette River project, *"I just wanted to say thanks to you [Kevin Thelin] and your team for the presentation given at last week's meeting with NMFS [National Marine Fishery Service]. Your preparation and attention to detail, along with the quick follow-up with additional requested information, ensured that the liaison had the information he needed to make his decision to not require re-initiation. I have no doubt that your efforts saved many engineering hours and helped to keep the project on track for its scheduled bid opening."*

Expense Savings – When our staff needs to spend the night for a remote assignment, if there is more than one person of the same gender, they always share a motel room to keep costs as low as possible. Additionally, if specific fieldwork is involved in a remote location, our staff extend daily work hours for as many days as necessary to complete the effort in as few calendar days as possible. Additionally, our team members **always** car pool to meetings in order to take advantage of travel time for meeting preparation and strategizing time as well as to help minimize resource consumption, congestion and pollution. Depending on the project, we plan half of our travel time to be donated to the project by driving out to a site prior to normal work hours or, conversely, returning from a site after normal hours. For long-term CEI/CA projects, we have established project offices and have had staff live on-site for particularly remote locations, such as MSA's McGuire Reservoir Expansion project for McMinnville Water and Light. Our resident staff lived in project-owner-provided housing for two years and thereby substantially reduced the expense associated with full-time construction management and inspection services.

COST ESTIMATING

Our team routinely develops Summary of Estimates of Services (SES) for our all of our clients. MSA has specifically done so for at least 25 different contracts and amendments for design and/or construction engineering/construction administration services for ODOT over the past seven years and literally hundreds of fee estimates for our other public agency clients during the same period. Our initial global estimate is based on a percentage of the anticipated construction costs in concurrence with ODOT and industry standard practice. This rough-cut number gets us in the ballpark of how much effort would be considered reasonable. Prior to proceeding with more detailed SES preparation, we concentrate on detailing and refining the scope of work to the extent possible. It is the scope of work that defines the project and what the deliverables are and hence what our client's expectations and our level of effort are.

While each project presents unique challenges and design elements, design efforts and construction management efforts should fall within certain overall percentage boundaries of the construction cost. (Note that environmental support efforts are becoming an increasing requirement for every project and an increasing percentage of all design efforts. Contentious/controversial projects can also require significant public involvement efforts to successfully gain at least informed consent if not necessarily unqualified support for a project.) If a particular project is more straightforward or more complicated, discussion with the client should successfully lead to that conclusion and allow both parties to recognize where costs should be lower or, conversely, where costs could be anticipated to be higher due to complexity and level of effort. This mutual agreement and understanding of the project, its peculiarities and challenges, or lack thereof, allow for development of a reasonable amount of effort per task. Effort is then translated to a fee based on direct salary costs, audited overhead rates and profit.

Once agreement has been reached with the client's project manager on the scope and the associated deliverables (meetings, average duration, specific studies to be performed, environmental baseline reporting to be accomplished, permitting analysis, design package to be made, etc.), we develop the detailed SES. We use an Excel spreadsheet containing each task and subtask identified in the scope of work as a specific line item. Our experience with similar projects allows us to then estimate the number of hours to be allocated to our staff. We have developed "design sheet count" spreadsheets that identify the number of hours per staff level type anticipated to be spent on each drawing to be included in the plans package at each stage of submittal (DAP, Advance Plans, Final Review Plans, Final Plans). We continually strive to assign work to the appropriate level of staff and have each task overseen and guided by senior level, highly experienced professionals to make sure that work efforts are completed efficiently with the right resources and without misdirected energies. We provide concrete examples and focused direction from our senior-level staff to make the best use of our combined resources and to avoid having high-level engineers perform activities that can be best performed by lower-paid junior staff.

Once a draft fee estimate is submitted, we encourage discussion with the client's project manager to review any areas where the proposed level of effort appears to be too high or too low. The scope may need to be better defined to include work not initially foreseen to be part of the task or to clarify that the consultant will not provide certain services or deliverables. On all projects, project management related activities, including project design team (PDT) meetings and coordination with subconsultant team members, invoicing, progress reporting, and the like should not exceed 10% of the overall non-management efforts. MSA is able to develop accurate, fair and reasonable fee estimates because of our wide range of experience with similar assignments.

2.2.7 REFERENCES FOR RELEVANT EXPERIENCE

References for the I-5: Capitol Highway – Willamette River Bridge project; Sandy Downtown Utility Undergrounding, Streetscaping and Signal project; the US101: Alsea Bay Bridge – William Keady Wayside project; and the US20: Philomath Couplet project have been sent in directly by e-mail by the Owners' project managers to the Agency per RFP instructions.