CONSULTANT AGREEMENT
City Manager's Office
701 Laurel St., Menlo Park, CA 94025
tel 650-330-6620

AGREEMENT FOR SERVICES BETWEEN
THE CITY OF MENLO PARK AND WEST YOST ASSOCIATES

THIS AGREEMENT made and entered into at Menlo Park, California, this 4th day of
November, 2019, by and between the CITY OF MENLO PARK, a Municipal
Corporation, hereinafter referred to as "CITY," and WEST YOST ASSOCIATES, hereinafter referred to
as "FIRST PARTY."

WITNESSETH:

WHEREAS, CITY desires to retain FIRST PARTY to provide certain professional services for CITY in
connection with that certain project called: On-Call Water System Hydraulic Modeling Support

WHEREAS, FIRST PARTY is licensed to perform said services and desires to and does hereby
undertake to perform said services.

NOW, THEREFORE, IN CONSIDERATION OF THE MUTUAL COVENANTS, PROMISES AND
CONDITIONS of each of the parties hereto, it is hereby agreed as follows:

1. SCOPE OF WORK

In consideration of the payment by CITY to FIRST PARTY, as hereinafter provided, FIRST PARTY
agrees to perform all the services as set forth in Exhibit "A," Scope of Services.

2. SCHEDULE FOR WORK

FIRST PARTY's proposed schedule for the various services required pursuant to this agreement will
be as set forth in Exhibit "A," Scope of Services. CITY will be kept informed as to the progress of work
by written reports, to be submitted monthly or as otherwise required in Exhibit "A." Neither party shall
hold the other responsible for damages or delay in performance caused by acts of God, strikes,
lockouts, accidents or other events beyond the control of the other, or the other's employees and
agents.

FIRST PARTY shall commence work immediately upon receipt of a "Notice to Proceed" from CITY.
The "Notice to Proceed" date shall be considered the "effective date" of the agreement, as used
herein, except as otherwise specifically defined. FIRST PARTY shall complete all the work and deliver
to CITY all project related files, records, and materials within one month after completion of all of
FIRST PARTY's activities required under this agreement.

3. PROSECUTION OF WORK

FIRST PARTY will employ a sufficient staff to prosecute the work diligently and continuously and will
complete the work in accordance with the schedule of work approved by the CITY. (See Exhibit "A,"
Scope of Services).
4. COMPENSATION AND PAYMENT

A. CITY shall pay FIRST PARTY an all-inclusive fee that shall not exceed $50,000 as described in Exhibit "A," Scope of Services. This compensation shall be based on the rates described in Exhibit "A." All payments, including fixed hourly rates, shall be inclusive of all indirect and direct charges to the Project incurred by FIRST PARTY. The CITY reserves the right to withhold payment if the City determines that the quantity or quality of the work performed is unacceptable.

B. FIRST PARTY's fee for the services as set forth herein shall be considered as full compensation for all indirect and direct personnel, materials, supplies and equipment, and services incurred by FIRST PARTY and used in carrying out or completing the work.

C. Payments shall be monthly for the invoice amount or such other amount as approved by CITY. As each payment is due, the FIRST PARTY shall submit a statement describing the services performed to CITY. This statement shall include, at a minimum, the project title, agreement number, the title(s) of personnel performing work, hours spent, payment rate, and a listing of all reimbursable costs. CITY shall have the discretion to approve the invoice and the work completed statement. Payment shall be for the invoice amount or such other amount as approved by CITY.

D. Payments are due upon receipt of written invoices. CITY shall have the right to receive, upon request, documentation substantiating charges billed to CITY. CITY shall have the right to perform an audit of the FIRST PARTY's relevant records pertaining to the charges.

5. EQUAL EMPLOYMENT OPPORTUNITY

A. FIRST PARTY, with regard to the work performed by it under this agreement shall not discriminate on the grounds of race, religion, color, national origin, sex, handicap, marital status or age in the retention of sub-consultants, including procurement of materials and leases of equipment.

B. FIRST PARTY shall take affirmative action to insure that employees and applicants for employment are treated without regard to their race, color, religion, sex, national origin, marital status or handicap. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation and selection for training including apprenticeship.

C. FIRST PARTY shall post in prominent places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.

D. FIRST PARTY shall state that all qualified applications will receive consideration for employment without regard to race, color, religion, sex, national origin, marital status or handicap.

E. FIRST PARTY shall comply with Title VI of the Civil Rights Act of 1964 and shall provide such reports as may be required to carry out the intent of this section.

F. FIRST PARTY shall incorporate the foregoing requirements of this section in FIRST PARTY's agreement with all sub-consultants.

6. ASSIGNMENT OF AGREEMENT AND TRANSFER OF INTEREST

A. FIRST PARTY shall not assign this agreement, and shall not transfer any interest in the same (whether by assignment or novation), without prior written consent of the CITY thereto, provided, however, that claims for money due or to become due to the FIRST PARTY from the CITY under this agreement may be assigned to a bank, trust company, or other financial institution without such approval. Notice of an intended assignment or transfer shall be furnished promptly to the CITY.

B. In the event there is a change of more than 30 percent of the stock ownership or ownership in FIRST PARTY from the date of this agreement is executed, then CITY shall be notified before the date of said change of stock ownership or interest and CITY shall have the right, in event of such change in stock ownership or interest, to terminate this agreement upon notice to FIRST PARTY. In the event CITY is not notified of any such change in stock ownership or interest, then upon knowledge of same, it shall be deemed that CITY has terminated this agreement.
7. INDEPENDENT WORK CONTROL

It is expressly agreed that in the performance of the service necessary for compliance with this agreement, FIRST PARTY shall be and is an independent contractor and is not an agent or employee of CITY. FIRST PARTY has and shall retain the right to exercise full control and supervision of the services and full control over the employment, direction, compensation and discharge of all persons assisting FIRST PARTY in the performance of FIRST PARTY’s services hereunder. FIRST PARTY shall be solely responsible for its own acts and those of its subordinates and employees.

8. CONSULTANT QUALIFICATIONS

It is expressly understood that FIRST PARTY is licensed and skilled in the professional calling necessary to perform the work agreed to be done by it under this agreement and CITY relies upon the skill of FIRST PARTY to do and perform said work in a skillful manner usual to the profession. The acceptance of FIRST PARTY’s work by CITY does not operate as a release of FIRST PARTY from said understanding.

9. NOTICES

All notices hereby required under this agreement shall be in writing and delivered in person or sent by certified mail, postage prepaid or by overnight courier service. Notices required to be given to CITY shall be addressed as follows:

Justin I. C. Murphy
Public Works
City of Menlo Park
701 Laurel St.
Menlo Park, CA 94025
650-330-6740
nmelgar@menlopark.org

Notices required to be given to FIRST PARTY shall be addressed as follows:

Bobby Vera
West Yost Associates
1777 Botelho Drive, Suite 240
Walnut Creek, CA 94596
916-306-2212
Bvera@westyost.com

Provided that any party may change such address by notice, in writing, to the other party and thereafter notices shall be addressed and transmitted to the new address.

10. HOLD HARMLESS

The FIRST PARTY shall defend, indemnify and hold harmless the CITY, its subsidiary agencies, their officers, agents, employees and servants from all claims, suits or actions that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the FIRST PARTY brought for, or on account of, injuries to or death of any person or damage to property resulting from the performance of any work required by this agreement by FIRST PARTY, its officers, agents, employees and servants. Nothing herein shall be construed to require the FIRST PARTY to defend, indemnify or hold harmless the CITY, its subsidiary agencies, their officers, agents, employees and servants against any responsibility to liability in contravention of Section 2782.8 of the California Civil Code.
11. INSURANCE

A. FIRST PARTY shall not commence work under this agreement until all insurance required under this Section has been obtained and such insurance has been approved by the City, with certificates of insurance evidencing the required coverage.

B. There shall be a contractual liability endorsement extending the FIRST PARTY's coverage to include the contractual liability assumed by the FIRST PARTY pursuant to this agreement. These certificates shall specify or be endorsed to provide that thirty (30) days' notice must be given, in writing, to the CITY, at the address shown in Section 9, of any pending cancellation of the policy. FIRST PARTY shall notify CITY of any pending change to the policy. All certificates shall be filed with the City.

1. Workers' compensation and employer's liability insurance:
The FIRST PARTY shall have in effect during the entire life of this agreement workers' compensation and Employer's Liability Insurance providing full statutory coverage. In signing this agreement, the FIRST PARTY makes the following certification, required by Section 18161 of the California Labor Code: "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Code, and I will comply with such provisions before commencing the performance of the work of this agreement" (not required if the FIRST PARTY is a Sole Proprietor).

2. Liability insurance:
The FIRST PARTY shall take out and maintain during the life of this agreement such Bodily Injury Liability and Property Damage Liability Insurance (Commercial General Liability Insurance) on an occurrence basis as shall protect it while performing work covered by this agreement from any and all claims for damages for bodily injury, including accidental death, as well as claims for property damage which may arise from the FIRST PARTY's operations under this agreement, whether such operations be by FIRST PARTY or by any sub-consultant or by anyone directly or indirectly employed by either of them. The amounts of such insurance shall be not less than one million dollars ($1,000,000) per occurrence and one million dollars ($1,000,000) in aggregate, or one million dollars ($1,000,000) combined single limit bodily injury and property damage for each occurrence. FIRST PARTY shall provide the CITY with acceptable evidence of coverage, including a copy of all declarations of coverage exclusions. FIRST PARTY shall maintain Automobile Liability Insurance pursuant to this agreement in an amount of not less than one million dollars ($1,000,000) for each accident combined single limit or not less than one million dollars ($1,000,000) for any one (1) person, and one million dollars ($1,000,000) for any one (1) accident, and Three Hundred Thousand Dollars, ($300,000) property damage.

3. Professional liability insurance:
FIRST PARTY shall maintain a policy of professional liability insurance, protecting it against claims arising out of the negligent acts, errors, or omissions of FIRST PARTY pursuant to this agreement, in the amount of not less than one million dollars ($1,000,000) per claim and in the aggregate. Said professional liability insurance is to be kept in force for not less than one (1) year after completion of services described herein.

C. CITY and its subsidiary agencies, and their officers, agents, employees and servants shall be named as additional insured on any such policies of Commercial General Liability and Automobile Liability Insurance, (but not for the Professional Liability and workers' compensation), which shall also contain a provision that the insurance afforded thereby to the CITY, its subsidiary agencies, and their officers, agents, employees, and servants shall be primary insurance to the full limits of liability of the policy, and that if the CITY, its subsidiary agencies and their officers and employees have other insurance against a loss covered by a policy, such other insurance shall be excess insurance only.

D. In the event of the breach of any provision of this Section, or in the event any notice is received which indicates any required insurance coverage will be diminished or canceled, CITY, at its option, may, notwithstanding any other provision of this agreement to the contrary, immediately declare a material breach of this agreement and suspend all further work pursuant to this agreement.

E. Before the execution of this agreement, any deductibles or self-insured retentions must be declared to and approved by CITY.
12. PAYMENT OF PERMITS/LICENSES

Contractor shall obtain any license, permit, or approval if necessary from any agency whatsoever for the work/services to be performed, at his/her own expense, before commencement of said work/services or forfeit any right to compensation under this agreement.

13. RESPONSIBILITY AND LIABILITY FOR SUB-CONSULTANTS AND/OR SUBCONTRACTORS

Approval of or by CITY shall not constitute nor be deemed a release of responsibility and liability of FIRST PARTY or its sub-consultants and/or subcontractors for the accuracy and competency of the designs, working drawings, specifications or other documents and work, nor shall its approval be deemed to be an assumption of such responsibility by CITY for any defect in the designs, working drawings, specifications or other documents prepared by FIRST PARTY or its sub-consultants and/or subcontractors.

14. OWNERSHIP OF WORK PRODUCT

Work products of FIRST PARTY for this project, which are delivered under this agreement or which are developed, produced and paid for under this agreement, shall become the property of CITY. The reuse of FIRST PARTY’s work products by City for purposes other than intended by this agreement shall be at no risk to FIRST PARTY.

15. REPRESENTATION OF WORK

Any and all representations of FIRST PARTY, in connection with the work performed or the information supplied, shall not apply to any other project or site, except the project described in Exhibit "A" or as otherwise specified in Exhibit "A."

16. TERMINATION OF AGREEMENT

A. CITY may give thirty (30) days written notice to FIRST PARTY, terminating this agreement in whole or in part at any time, either for CITY's convenience or because of the failure of FIRST PARTY to fulfill its contractual obligations or because of FIRST PARTY's change of its assigned personnel on the project without prior CITY approval. Upon receipt of such notice, FIRST PARTY shall:
   1. Immediately discontinue all services affected (unless the notice directs otherwise); and
   2. Deliver to the CITY all data, drawings, specifications, reports, estimates, summaries, and such other information and materials as may have been accumulated or produced by FIRST PARTY in performing work under this agreement, whether completed or in process.

B. If termination is for the convenience of CITY, an equitable adjustment in the contract price shall be made, but no amount shall be allowed for anticipated profit on unperformed services.

C. If the termination is due to the failure of FIRST PARTY to fulfill its agreement, CITY may take over the work and prosecute the same to completion by agreement or otherwise. In such case, FIRST PARTY shall be liable to CITY for any reasonable additional cost occasioned to the CITY thereby.

D. If, after notice of termination for failure to fulfill agreement obligations, it is determined that FIRST PARTY had not so failed, the termination shall be deemed to have been effected for the convenience of the CITY. In such event, adjustment in the contract price shall be made as provided in Paragraph B of this Section.

E. The rights and remedies of the CITY provided in this Section are in addition to any other rights and remedies provided by law or under this agreement.

F. Subject to the foregoing provisions, the CITY shall pay FIRST PARTY for services performed and expenses incurred through the termination date.
17. INSPECTION OF WORK

It is FIRST PARTY's obligation to make the work product available for CITY's inspections and periodic reviews upon request by CITY.

18. COMPLIANCE WITH LAWS

It shall be the responsibility of FIRST PARTY to comply with all State and Federal Laws applicable to the work and services provided pursuant to this agreement, including but not limited to compliance with prevailing wage laws, if applicable.

19. BREACH OF AGREEMENT

A. This agreement is governed by applicable federal and state statutes and regulations. Any material deviation by FIRST PARTY for any reason from the requirements thereof, or from any other provision of this agreement, shall constitute a breach of this agreement and may be cause for termination at the election of the CITY.

B. The CITY reserves the right to waive any and all breaches of this agreement, and any such waiver shall not be deemed a waiver of any previous or subsequent breaches. In the event the CITY chooses to waive a particular breach of this agreement, it may condition same on payment by FIRST PARTY of actual damages occasioned by such breach of agreement.

20. SEVERABILITY

The provisions of this agreement are severable. If any portion of this agreement is held invalid by a court of competent jurisdiction, the remainder of the agreement shall remain in full force and effect unless amended or modified by the mutual consent of the parties.

21. CAPTIONS

The captions of this agreement are for convenience and reference only and shall not define, explain, modify, limit, exemplify, or aid in the interpretation, construction, or meaning of any provisions of this agreement.

22. LITIGATION OR ARBITRATION

In the event that suit or arbitration is brought to enforce the terms of this agreement, the prevailing party shall be entitled to litigation costs and reasonable attorneys' fees. The Dispute Resolution provisions are set forth on Exhibit "B," 'Dispute Resolution' attached hereto and by this reference incorporated herein.

23. RETENTION OF RECORDS

Contractor shall maintain all required records for three years after the City makes final payment and all other pending matters are closed, and shall be subject to the examination and/or audit of the City, a federal agency, and the state of California.

24. TERM OF AGREEMENT

This agreement shall remain in effect for the period of November 1, 2018 through June 30, 2020 unless extended, amended, or terminated in writing by CITY.
25. **ENTIRE AGREEMENT**

This document constitutes the sole agreement of the parties hereto relating to said project and states the rights, duties, and obligations of each party as of the document’s date. Any prior agreement, promises, negotiations, or representations between parties not expressly stated in this document are not binding. All modifications, amendments, or waivers of the terms of this agreement must be in writing and signed by the appropriate representatives of the parties to this agreement.

26. **STATEMENT OF ECONOMIC INTEREST**

Consultants, as defined by Section 18701 of the Regulations of the Fair Political Practices Commission, Title 2, Division 6 of the California Code of Regulations, are required to file a Statement of Economic Interests with 30 days of approval of a contract services agreement with the City of its subdivisions, on an annual basis thereafter during the term of the contract, and within 30 days of completion of the contract.

Based upon review of the Consultant’s Scope of Work and determination by the City Manager, it is determined that Consultant IS NOT required to file a Statement of Economic Interest. A statement of Economic Interest shall be filed with the City Clerk’s office no later than 30 days after the execution of the agreement.

IN WITNESS WHEREOF, the parties hereto have executed this agreement on the day and year first above written.

**FOR FIRST PARTY:**

<table>
<thead>
<tr>
<th>Signature</th>
<th>10-30-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>John D. Goodwin</td>
<td>Vice President</td>
</tr>
<tr>
<td>Printed name</td>
<td></td>
</tr>
<tr>
<td>68-0370826</td>
<td></td>
</tr>
<tr>
<td>Tax ID#</td>
<td></td>
</tr>
</tbody>
</table>

**APPROVED AS TO FORM:**

<table>
<thead>
<tr>
<th>William L. McClure, City Attorney</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
</tr>
<tr>
<td>11/13/18</td>
</tr>
</tbody>
</table>

**FOR CITY OF MENLO PARK:**

<table>
<thead>
<tr>
<th>Starla Jerome-Robinson, Interim City Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
</tr>
<tr>
<td>11/14/18</td>
</tr>
</tbody>
</table>

**ATTEST:**

<table>
<thead>
<tr>
<th>Judi A. Berren, City Clerk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
</tr>
<tr>
<td>11/15/18</td>
</tr>
</tbody>
</table>
EXHIBIT “A” – SCOPE OF SERVICES

A1. SCOPE OF WORK

FIRST PARTY agrees to provide consultant services for CITY's Public Works. In the event of any discrepancy between any of the terms of the FIRST PARTY's proposal and those of this agreement, the version most favorable to the CITY shall prevail. FIRST PARTY shall provide the following services:

Provide general consultant services for projects as determined by the CITY. The detailed scope of work for each task the CITY assigns the consultant shall be referred to as Exhibit A-1, which will become part of this agreement. A notice to proceed will be issued separately for each separate scope of work agreed to between the CITY and FIRST PARTY.

FIRST PARTY agrees to perform these services as directed by the CITY in accordance with the standards of its profession and CITY's satisfaction.

A2. COMPENSATION

CITY hereby agrees to pay FIRST PARTY at the rates to be negotiated between FIRST PARTY and CITY as detailed in Exhibit A-1. The actual charges shall be based upon (a) FIRST PARTY's standard hourly rate for various classifications of personnel; (b) all fees, salaries and expenses to be paid to engineers, consultants, independent contractors, or agents employed by FIRST PARTY; and shall (c) include reimbursement for mileage, courier and plan reproduction. The total fee for each separate Scope of Work agreed to between the CITY and FIRST PARTY shall not exceed the amount shown in Exhibit A-1.

FIRST PARTY shall be paid within thirty (30) days after approval of billing for work completed and approved by the CITY. Invoices shall be submitted containing all information contained in Section A5 below. In no event shall FIRST PARTY be entitled to compensation for extra work unless an approved change order, or other written authorization describing the extra work and payment terms, has been executed by CITY before the commencement of the work.

A3. SCHEDULE OF WORK

FIRST PARTY'S proposed schedule for the various services required will be set forth in Exhibit A-1.

A4. CHANGES IN WORK -- EXTRA WORK

In addition to services described in Section A1, the parties may from time to time agree in writing that FIRST PARTY, for additional compensation, shall perform additional services including but not limited to:
- Change in the services because of changes in scope of the work.
- Additional tasks not specified herein as required by the CITY.

The CITY and FIRST PARTY shall agree in writing to any changes in compensation and/or changes in FIRST PARTY’s services before the commencement of any work. If FIRST PARTY deems work he/she has been directed to perform is beyond the scope of this agreement and constitutes extra work, FIRST PARTY shall immediately inform the CITY in writing of the fact. The CITY shall make a determination as to whether such work is in fact beyond the scope of this agreement and constitutes extra work. In the event that the CITY determines that such work does constitute extra work, it shall provide compensation to the FIRST PARTY in accordance with an agreed cost that is fair and equitable. This cost will be mutually agreed upon by the CITY and FIRST PARTY. A supplemental agreement providing for such compensation for extra work shall be negotiated between the CITY and the FIRST PARTY. Such supplemental agreement shall be executed by the FIRST PARTY and may be approved by the City Manager upon recommendation of the Department Head.
A5. BILLINGS

FIRST PARTY's bills shall include the following information: A brief description of services performed, project title and the agreement number; the date the services were performed; the number of hours spent and by whom; the current contract amount; the current invoice amount; Except as specifically authorized by CITY, FIRST PARTY shall not bill CITY for duplicate services performed by more than one person. In no event shall FIRST PARTY submit any billing for an amount in excess of the maximum amount of compensation provided in Section A2.

The expenses of any office, including furniture and equipment rental, supplies, salaries of employees, telephone calls, postage, advertising, and all other expenses incurred by FIRST PARTY in the performances of this agreement shall be incurred at the FIRST PARTY's discretion. Such expenses shall be FIRST PARTY's sole financial responsibility.
CITY OF MENLO PARK

On-Call Water System
Hydraulic Modeling Support

WEST YOST ASSOCIATES
Mr. Eric Hinkley  
Department of Public Works  
City of Menlo Park  
701 Laurel Street  
Menlo Park, CA 94025

SUBJECT: Statement of Qualifications for Water System Hydraulic Modeling Support

Dear Mr. Hinkley:

Success on the on-call water system hydraulic modeling support for the City of Menlo Park (City) requires an experienced and effective project team that will meet your modeling needs. West Yost Associates (West Yost) is that team.

Having recently completed the Water System Master Plan project, where we built the water system hydraulic model from the City’s GIS, calibrated the model using field hydrant data, and performed capacity, fire flow and water quality evaluations to develop a comprehensive capital improvement program for the City, we are uniquely prepared to provide you with modeling support services, effectively using and updating your model consistent with the modeling protocols we developed during the Water System Master Plan.

Bobby Vera, our proposed Project Manager, will lead the team and will be your primary point of contact for the modeling projects. He will work closely with you to develop scopes of services to address the City’s concerns and will oversee the modeling efforts to ensure that the City is receiving the high-quality support needed. Bobby served on the Water System Master Plan project as the Assistant Project Manager and Modeling Lead, where he oversaw the development of the model.

I, as Principal-In-Charge for the project, will be responsible for making sure that the work that we perform is delivered on budget and on schedule and meets your expectations. I was the Project Manager for the Water System Master Plan and understand the importance of providing services to support you in operating the system effectively, ensuring that impacts of new development are adequately addressed, and recommending capital improvement projects that provide cost-effective solutions that improve the City’s level of service.

We are very proud of the fact that many of our water system master planning and modeling projects provide a stepping-stone to continuing work with our clients, including on-call hydraulic modeling support. We have provided similar on-call hydraulic modeling services for many clients, including several of your neighbors (the City of Hayward, the City of San Bruno, and the City of Redwood City), and others (including the City of Modesto, the City of Fairfield, and Carmichael Water District).
Mr. Eric Hinkley  
October 2, 2018  
Page 2  

We are excited to continue our relationship with you and are confident that our staff and work products will exceed your expectations. Please call me at 925.949.5810 or Bobby Vera at 916.306.2212 to discuss our qualifications in greater detail.

Sincerely,

WEST YOST ASSOCIATES

Polly Boissevain

Polly Boissevain, PE  
Engineering Manager  

PLB:ETD:pls
Statement of Qualifications

A. Firm Description
West Yost Associates (West Yost) is a consulting engineering firm founded in 1990 to provide a high level of client service in one technical area—water. Our focus is exclusively water, including water supply, water treatment, wastewater, recycled water, groundwater, and stormwater. We have broad experience in providing planning, design, construction management, and program management services in these areas.

West Yost is headquartered in Davis, California, and has 150 staff members in 10 offices. West Yost is a California corporation. The office locations providing services for the City’s project are in Walnut Creek, Pleasanton, and Sacramento, CA. Our staff includes certified or registered professionals in civil, mechanical, and electrical engineering; water and wastewater treatment process design; geology, engineering geology, and hydrogeology; GIS; control systems and cybersecurity; and construction management and inspection services. Our firm’s unique abilities and our experience working with clients from permitting through construction bring intrinsic value to our projects and our clients.

For over 25 years, West Yost has been a leader in water resources and water system planning, modeling, and infrastructure design. Our extensive hydraulic modeling experience means West Yost’s team of expert hydraulic modelers, which have specific experience developing and using the City’s model, will enable us to efficiently address City’s needs, and use it to develop operational strategies, water quality evaluations, fire flow evaluations, identify capital improvements for capacity and reliability, or provide other modeling evaluations the City may need. Our familiarity with the City’s recently completed Water System Master Plan (WSMP) will also provide the City value, and requested on-call analyses will be consistent with the WSMP. Since the City recently purchased and was trained in use of the model, West Yost can also provide support to continue to build the City’s capability to perform in-house modeling evaluations.

West Yost’s project examples are included on the following pages.

B. Project Experience
The following reference projects highlight our team’s recent experience and demonstrates our competence to perform the work required for the City’s project.

Water Master Plan and On-Call Modeling Support

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>CITY OF MODESTO, CA</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEAM</td>
<td>Bobby Vera (Project Engineer/Lead Modeler), Polly Boisesevain (Task Lead), Amy Kwong (Project Engineer)</td>
</tr>
<tr>
<td>DATE WORK PERFORMED</td>
<td>COST</td>
</tr>
<tr>
<td>2014 – 2018 (Water Master Plan)</td>
<td>$258,000 (total for model update and calibration only)</td>
</tr>
<tr>
<td>2016 – Present (On-Call Modeling Support)</td>
<td>$5,000 to $25,000 (On-Call Modeling Support)</td>
</tr>
</tbody>
</table>
West Yost prepared the City of Modesto’s (City’s) first, formal Water Master Plan (WMP), which provides the City with a comprehensive plan for future water system improvements. The City’s water service area serves just over 220,000 residents. The City’s water distribution system is a single-zone system that is supplied by groundwater via its existing 77 active wells (92 total wells) and surface water delivered by Modesto Irrigation District (MID) via the MID Terminal Reservoir and Booster Pump Station and the associated 25 pressure reducing stations.

As part of the Water Master Plan (WMP), West Yost performed extensive calibration and verification activities to confirm that the model predicted flows, pressures, and tank operations trended well with field observed data. Model calibration included 20 hydrant C-factor tests, and extended period calibration using two winter days in 2015 concurrent with hydrant pressure recorders (HPRs) at 34 different locations throughout the City system. The purpose of the extended period calibration was to ensure that model flows and pressures matched or closely trended with SCADA data and field observed data from the HPRs. Two winter days were used in the calibration because for one day, the system was solely supplied by groundwater, while on the other day, the system was supplied by a combination of surface water and groundwater. A historical summer day, representative of a peak use day, was then used to verify that the modeled pressures and flows matched or closely trended with historical SCADA data.

In the WMP, West Yost performed an initial review of water system operations and identified strategies to improve water system operations, specifically tank turnover. The City has had difficulty balancing surface water and groundwater supplies which has consequently made tank turnover difficult at times.

Following the completion of the WMP modeling, the City retained West Yost to perform several water system operational scenarios, building upon the calibrated, verified, and initial operational strategies identified in the WMP. The purpose of these scenarios was to evaluate operational changes that can be made (e.g., changes in set-point pressures, modifying time-of-use schedules, and decreasing/increasing surface water delivery pressures) under winter and summer demand conditions to improve tank turnover but maintain surface water and groundwater supply mixes similar to existing conditions for water quality concerns.

West Yost first established baseline winter and summer scenarios, and then made incremental changes to operations from baseline conditions. West Yost evaluated a total of 25 scenarios, each under 168-hour extended period simulations (EPS), with various operational changes. Results from these scenarios were used to develop key recommendations for operational changes for City Water Engineering and Operations staff consideration. In addition, West Yost has also completed various fire flow analyses to support the City in adequately providing service to new developments.

"Our experience with West Yost Associates has been positive, with multiple successful projects delivered on time and on budget, effective communication, and quality work product."

—Ms. Tamorah Bryant, PE, Senior Civil Engineer, City of Modesto Utilities Department, Regarding multiple projects including the Water Master Plan
Water System Master Plan Update and On-Call Modeling Support

CLIENT
CITY OF HAYWARD, CA

TEAM
Polly Boissevain (Project Manager), Bobby Vera (Project Engineer/Lead Modeler), Amy Kwong (Project Manager)

<table>
<thead>
<tr>
<th>DATE WORK PERFORMED</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 – 2014 (Master Plan Update)</td>
<td>$380,000 (Master Plan)</td>
</tr>
<tr>
<td>2014 – Present (Ongoing Modeling Support)</td>
<td>$1,000 to $15,000 (On-Call Modeling Support)</td>
</tr>
</tbody>
</table>

West Yost prepared a comprehensive Water System Master Plan to update its previous plan prepared in 2002. The City has a total population just under 150,000 and has a diverse base of residential customers, California State University East Bay, and a large and diverse industrial sector. The system is supplied from the San Francisco Public Utilities Commission (SFPUC) Regional System, and includes eight pressure zones with associated pump stations, tanks and pressure reducing stations.

As part of the Water System Master Plan update, West Yost developed a new distribution system hydraulic model for the City’s water system to evaluate the distribution system’s hydraulic capacity. The all-pipe model was built from the City’s existing GIS. West Yost planned and executed a field program to collect hydrant flow test data, in collaboration with the City, and calibrated the model roughness values using the field data. West Yost also verified the model for operational analysis, by comparing model operational results with field trends from the City’s SCADA system.

West Yost evaluated distribution system performance for existing and future demand conditions, including evaluations of system capacity and pressure, an operating and maintenance review, the integration of the City’s emergency wells into normal operations, and a sustainability review. West Yost also developed a Capital Improvement Program (CIP) to address system capacity, emergency supply, and sustainability needs. The CIP provided the City with a cost-effective way to implement improvements to maintain its distribution system in the coming years.

Since completion of the Water System Master Plan, West Yost has been providing the City with on-call hydraulic modeling support to identify water system improvements for four new development projects; perform an assessment of infrastructure needs for the City’s Downtown Specific Plan Area; and to provide average system pressure results from the model for the City’s regulatory reporting.
Water System Master Plan and On-Call Modeling Support

CLIENT
CITY OF SAN BRUNO, CA

TEAM
Polly Boissevain (Project Manager), Amy Kwong (Project Engineer/Lead Modeler), Bobby Vera (Staff Engineer)

DATE WORK PERFORMED  COST
2011 – 2013 (Master Plan)  $240,000 (Master Plan)
2013 – 2018 (On-Call Modeling Support)  $4,000 to $48,000 for (On-Call Modeling Support)

West Yost developed a water system master plan and hydraulic model to recommend and prioritize capital improvement projects for a 20-year planning horizon. San Bruno has 13 pressure zones that are served from a regional transmission system through a complex system of pump stations and storage facilities.

In developing the model, several techniques were used to supplement available data. The City's GIS did not include pipeline material or age data and had not been vetted for use in a hydraulic model. West Yost used neighborhood maps to estimate pipeline materials, age and roughness. Secondly, commercially available digital elevation data typically has a horizontal resolution of 10 meters (30 feet), which means that in hilly areas, it may be difficult to determine accurate elevations. West Yost used supplemental information for critical facilities, such as pump station or storage tank elevation data from drawings. West Yost also checked model elevations with defined typical customer service ranges to flag to the City areas where elevation data needed refinement. As a result, the most accurate elevation data available was used for critical facilities. Lastly, SFPUC turnouts have totalizing meters that record total usage, not instantaneous flow, so maximum day and peak hour usage must be estimated. West Yost used historical information from past SFPUC studies, monthly production, and data from neighboring utilities to estimate peak usage, allowing the team to estimate maximum day and peak hour demands and evaluate the system under stressed conditions. After building the model, West Yost performed hydrant testing to calibrate the model. West Yost used the calibrated hydraulic model to evaluate the system under existing and buildout conditions and develop a long-term capital improvement program for the City.

Since completion of the Water System Master Plan, West Yost has provided on-call hydraulic modeling services in support of design for a pump station replacement project and design for two new pressure regulating stations to create a new pressure zone to eliminate high pressures in a portion of the City’s system. West Yost also prepared a hydraulic evaluation to evaluate alternatives to providing emergency storage in the City’s main pressure zone and provided modeling support evaluating system improvements for the City’s participation in a regional groundwater storage project. West Yost has also prepared two developer impact studies for the City to assess needed water system improvements to meet fire flows.
Water Distribution System Master and On-Call Modeling Support

CLIENT
CITY OF REDWOOD CITY, CA

TEAM
Polly Boissevain (Project Manager), Patrick Johnston (Hydraulic Modeling)

<table>
<thead>
<tr>
<th>DATE WORK PERFORMED</th>
<th>PROJECTED AS COMPLETED COSTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 – 2012 (Master Plan)</td>
<td>$350,000 (Master Plan)</td>
</tr>
<tr>
<td>2012 – 2016 (On-Call Modeling Support)</td>
<td>$2,000 - $39,000 (On-Call Modeling Support)</td>
</tr>
</tbody>
</table>

As part of a water system master planning for Redwood City, West Yost developed a new distribution system hydraulic model to evaluate the distribution system's hydraulic capacity, water quality, emergency reliability, and seismic vulnerability. The key aspect of the project was developing a calibrated extended period simulation hydraulic model, for hydraulic, energy and water quality analysis. West Yost's team built an all-pipe water distribution system model in InfoWater, using the City's existing GIS. The model was calibrated using hydrant flow tests. Because Redwood City rises over 900 feet from sea level, the City's system is complex and includes 17 pressure zones. The model development task also included a special field monitoring program to collect flow data at the City's various turnouts – this information was instrumental in both the model calibration effort, and for developing accurate diurnal curves for the system.

Since completion of the Master Plan, West Yost performed six modeling evaluations to assess developer impacts, performed hydraulic analysis supporting a tank siting study, prepared two evaluations to analyze and recommend ways to improve pressure zone operations, and prepared a modeling evaluation to identify water system improvements for the Inner Harbor Precise Plan. West Yost also assisted the City in converting the model to a public domain software so the City could use the model in-house for system evaluations.

Hydraulic Model Update and On-Call Modeling Support

CLIENT
CARMICHAEL WATER DISTRICT, CARMICHAEL, CA

TEAM
Polly Boissevain (Project Manager), Dakari Barksdale (Lead Modeler), Bobby Vera (Staff Engineer/Calibration), Megan McWilliams (Modeler)

<table>
<thead>
<tr>
<th>DATE WORK PERFORMED</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017 – 2018 (Model Update)</td>
<td>$159,000 (Model Update)</td>
</tr>
<tr>
<td>2018 – Present (On-Call Modeling Support)</td>
<td>$1,500 - $4,000 (On-Call Modeling Support)</td>
</tr>
</tbody>
</table>

West Yost developed a new all-pipe hydraulic model for the Carmichael Water District (District). West Yost used InfoWater's GIS selection tool to pinpoint areas where model pipeline alignments did not match the newly updated GIS pipeline alignments. Differences were shared with District staff for reconciliation. Once edits to the District's GIS

RELEVANCE TO PROJECT
- Evaluated fire flow availability for new development.
- Evaluated pipeline alternatives and new operations for tank siting study.
- Evaluated pressure reducing valve operational changes for pressure zone evaluations.
- Experience with SFPUC Regional System, like the City.

RELEVANCE TO PROJECT
- Performed operational analysis of system.
- Evaluated fire flow availability.
were made, these edits were pushed to the hydraulic model using the GIS Gateway tool in InfoWater. Using this workflow, West Yost collaboratively and iteratively developed a hydraulic model with District staff that is essentially a one-to-one-model with the District's GIS. Once the model was updated, a static and extended period calibration was performed to confirm that model predicted results were consistent with SCADA and field collected data. Hydrant C-factor testing and hydrant pressure recorders (HPRs) were used to collect supplemental field data. Using HPRs, West Yost identified that reported pressure set-points in one of its regulated zones were inconsistent with field recorded data. Pressure set-points at these locations were modified and pressures were matched within 2 psi. The entire workflow and information used to update the hydraulic model was documented a hydraulic model update report and a modeler's notebook.

Since completion of the model update, West Yost has been providing on-call modeling support to evaluate fire flow availability for new developments.

### Water Facilities Master Plan Update and On-Call Modeling Support

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>EASTERN MUNICIPAL WATER DISTRICT, PERRIS, CA</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEAM</td>
<td>Polly Boissevain (Project Manager), Amy Kwong (Modeler), Bobby Vera (Modeler), Patrick Johnston (Modeler), Dakari Barksdale (Staff Engineer/Modeler)</td>
</tr>
<tr>
<td>DATE WORK PERFORMED</td>
<td>COST</td>
</tr>
<tr>
<td>2015 – 2016 Water Facilities Master Plan</td>
<td>$1.7 Million (Master Plan)</td>
</tr>
<tr>
<td>2016 -- 2018 On-Call Modeling Support</td>
<td>$4,000 – $95,000 (On-Call Modeling Support)</td>
</tr>
</tbody>
</table>

West Yost prepared a potable water facilities master plan update for the Eastern Municipal Water District. The District serves customers in a 550-square-mile area in western Riverside County. The potable water system has five major service areas with a total of 70 pressure zones. The District anticipated significant future growth, with demand projected to increase approximately threefold through buildout of the District's service area.

As part of the project, West Yost updated the model based on the District's GIS and allocated demands to the model using the District's customer on-line information network system (COINS) database. Based on a preliminary analysis comparing model flows and pressures with SCADA data, West Yost validated model operation in 39 pressure zones, by comparing results with SCADA data.

The fast-track nature of the project necessitated six modeling teams to evaluate potable water system needs. Project tasks included preparing demand and supply projections, preparing hydraulic evaluations to identify deficiencies and needed improvements, developing cost estimates for capital facilities and documenting results of the master plan in a comprehensive report. The Master Plan was completed in 2016.

Since completion of the Water Facilities Master Plan, West Yost has been providing on-call hydraulic modeling support for three design projects,
prepared an operational assessment to identify improvements to enhance performance of a new storage tank, prepared a planning study to evaluate infrastructure for a conjunctive use project, performed hydraulic peer reviews for two design projects, evaluated infrastructure needs for a new development, and prepared an update of the District’s hydraulic model. In its hydraulics peer review for implementation for a new pressure zone, West Yost identified an alternative configuration that reduced project costs from $1.3 million to $400,000.

Water and Sewer Master Plan Update

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>CITY OF LIVERMORE, CA</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEAM</td>
<td>Polly Boissevain (Technical Advisor), Patrick Johnston (Project Engineer), Dakari Barksdale (Staff Engineer)</td>
</tr>
<tr>
<td>DATE WORK PERFORMED</td>
<td>COST</td>
</tr>
<tr>
<td>2015 – 2018</td>
<td>$505,000</td>
</tr>
</tbody>
</table>

West Yost completed a Water Master Plan and Sewer Master Plan and developed Capital Improvement Plans for the water and sewer systems. The City’s last Water and Sewer Master Plans were prepared in 2004. The City experienced rapid growth before economic conditions slowed the growth in recent years. Recent drought conditions and associated water conservation programs have led to a decrease in water use and are important factors in projecting future water demands and sewer flows.

West Yost conducted a detailed evaluation of recent water demand trends and evaluated the potential for demand rebound if drought conditions end and more normal hydrologic conditions return. We reviewed and revised unit water use factors to reflect recent trends and system planning criteria to reflect typical operational practices. West Yost also worked closely with the City’s planning division to estimate demands for future planned development projects and potential future development of vacant parcels through buildout of the City’s General Plan. Water demand projections were incorporated in the 2015 Urban Water Management Plan for compliance with the Water Conservation Act of 2009 (SBx7-7) to ensure consistency between the Water Master Plan and 2015 UWMP. Conducting both the Water and Sewer Master Plans in parallel allowed for the sewer flow projections to be integrated with the future water demand projections and for scheduled future developments. Using the updated water demand and sewer flow projections, West Yost updated their related hydraulic models to evaluate the need for the systems’ improvements and developed prioritized Capital Improvement Plans.
As part of a comprehensive master plan update, West Yost developed a new hydraulic model for the City in InfoWater. West Yost built the hydraulic model from GIS data, updated facilities data for the model (based on information from the City's previous model and from design and field data provided by the City), and assigned model demands based on geocoded customer consumption records. West Yost used GIS tools and InfoWater network editing tools to identify configuration issues in the model. Configuration issues were shared with the City to update their GIS. West Yost planned and executed a field program to collect hydrant flow test data and calibrated the model pipeline roughness values using the field data. Once the model development was complete, West Yost evaluated distribution system performance for existing and future demand conditions, including evaluations of system capacity and pressure, distribution system water quality, and performance of the system for different outage scenarios. West Yost also evaluated the future system configuration to assess transmission and distribution system needs to distribute water from the Water Treatment Plant (WTP), located on the northeast side of the City, to future growth areas located mostly to the west and south of currently-developed areas. Based on the analysis results, West Yost developed a list of improvements required to address existing deficiencies and serve the City's future growth areas and presented a phasing plan to serve near-term development.

The master plan included an asset evaluation for key facilities and linear assets. West Yost used InfoMaster Water to develop a risk assessment model for the City's water distribution pipelines. Information on leak history, pipeline material, pipeline age, emergency response impacts, and critical customers were evaluated to develop a risk matrix that was used to prioritize pipeline replacements.

As part of the project, West Yost also prepared a hydraulic transient analysis to evaluate sizing for two hydropneumatic tanks at the City’s WTP.
West Yost prepared a water master plan for Menlo Park Municipal Water (MPMW). The system includes three pressure zones, all of which are supplied from the San Francisco Public Utilities Commission Regional System.

The Master Plan included a program to update the City’s GIS for use in model development, as well as a comprehensive evaluation of the system, including potential alternate water supplies, system capacity improvements, seismic improvements, water quality improvements, pipeline replacement priorities and an operating and maintenance review.

West Yost developed a new hydraulic model of the City’s distribution system from the City’s GIS, and calibrated the model using results from a hydrant testing program that West Yost planned and executed with the City. The newly-developed hydraulic model was subsequently used to identify and develop capital improvement projects. In addition, West Yost developed a specialized training workshop and associated materials so that MPMW staff could better leverage the use of their newly-developed hydraulic model for future analyses.
Key Personnel

A. Project Team Organization Chart

The organization chart below shows West Yost's proposed project team (Figure 3-1). Bobby Vera, West Yost's project manager, will be the City's single-point of contact.

**Figure 3-1. Organizational Chart**

![Organizational Chart]

B. Statement of Experience - Personnel

This section includes a summary of project team members' qualifications and experience. Resumes for our proposed team are included in Appendix A of our Statement of Qualifications.

**Bobby Vera, PE**

*PROJECT MANAGER*

Bobby will manage the on-call contract. He will serve as the City's single point of contact, identify the team for specific assignments, and provide effective communication and leadership during each assignment. He will engage City staff in the process and keep the project on schedule and within budget.

Bobby has seven years of experience in focused water master planning and hydraulic modeling. Bobby served as the assistant project manager and modeling lead on the Menlo Park Municipal Water Master Plan. As a project engineer, Bobby provided hydraulic modeling services for a variety of clients in California and Oregon. He developed, calibrated, and validated models for the cities of Hayward and Modesto, and he served as a modeling team lead for the Eastern Municipal Water District's Water Facility Master Plan Update for the Temecula service area. Bobby has also provided on-going operational analyses for the City of Modesto, and he has experience providing specialty modeling services, such as hydraulic transient modeling and water age analyses.
Polly Boissevain, PE
PRINCIPAL-IN-CHARGE

Polly will oversee the project and confirm that it receives the staff time and company resources to keep the project on schedule and within budget. Polly will ultimately be responsible for the City’s satisfaction with our team’s work products, deliverables, and client service.

Polly has over 35 years of professional experience in water resources planning, with specialized experience managing complex water supply and distribution planning projects. She has served as project manager, lead hydraulic modeler, task leader, or project engineer for over 60 water resources planning, and/or modeling projects. Polly has been the project manager for numerous water master plans and modeling projects, including for the cities of Hayward, Menlo Park, Redwood City, San Bruno, and Yuba City.

Amy Kwong, PE
QA/QC

Amy will review all technical work products to verify accuracy, consistency, and completeness.

Amy has over 12 years of experience in hydraulic modeling, water master planning, and supply and facilities planning. She has completed over 35 distinct modeling and hydraulic analysis projects throughout California, including for the cities of Fairfield, Hayward, Modesto, Roseville, and Tracy. She was a modeling team lead for the Eastern Municipal Water District’s Water Facility Master Plan Update for the San Jacinto Valley service area and recently was the project manager for the development and calibration of a water system hydraulic model for the City of Fairfield.

Dakari Barksdale, PE
ASSISTANT PROJECT MANAGER/
MODELING LEAD

Dakari is available as a resource to provide on-call modeling services.

Dakari has four years of experience in condition assessment, hydraulic modeling, asset management, infrastructure design, and master planning for wastewater, water, and stormwater systems. He built and calibrated the hydraulic model for the Carmichael Water District and provided staff engineering support on water master plans for Eastern Municipal Water District and the cities of Dixon, Menlo Park, and Livermore.

Patrick Johnston, PE
PROJECT ENGINEER

Patrick is available as a resource to provide on-call modeling services.

Patrick has 24 years of experience with water system modeling, planning, and design. He has completed over 35 modeling and hydraulic analysis projects for water systems throughout California. Patrick recently served as the hydraulic modeling lead for the City of Yuba City Water Master Plan and the City of Livermore Sewer and Water Master Plan Update. Patrick was also the modeling team lead for the Eastern Municipal Water District’s Water Facility Master Plan Update for the Perris Valley East service area, working directly with our proposed Principal-in-Charge, Polly Boissevain.

Megan McWilliams, EIT
PROJECT ENGINEER

Megan will assist the modeling team with required modeling task support.

Megan has one year of professional experience in water resources engineering and hydraulic modeling. She has worked on a variety of projects including water system master plans, storm water resource plans, hydraulic studies for private developments, and water supply assessments. She recently completed a developer analysis for the City of Millbrae, and is providing on-call support to Carmichael Water District preparing fire flow availability evaluations.
## 2018-2020 Billing Rate Schedule

Menlo Park On-Call Hydraulic Modeling Support

(Effective January 1, 2018 through December 31, 2020)

<table>
<thead>
<tr>
<th>POSITIONS</th>
<th>LABOR CHARGES (DOLLARS PER HR)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENGINEERING</strong></td>
<td></td>
</tr>
<tr>
<td>Principal/Vice President</td>
<td>$285</td>
</tr>
<tr>
<td>Engineering/Scientist/Geologist Manager I / II</td>
<td></td>
</tr>
<tr>
<td>Principal Engineer/Scientist/Geologist I / II</td>
<td>$263 / $274</td>
</tr>
<tr>
<td>Senior Engineer/Scientist/Geologist I / II</td>
<td>$240 / $254</td>
</tr>
<tr>
<td>Associate Engineer/Scientist/Geologist I / II</td>
<td>$190 / $203</td>
</tr>
<tr>
<td>Engineer/Scientist/Geologist I / II</td>
<td>$154 / $178</td>
</tr>
<tr>
<td>Engineering Aide</td>
<td>$87</td>
</tr>
<tr>
<td>Administrative I / II / III / IV</td>
<td>$78 / $99 / $119 / $131</td>
</tr>
<tr>
<td><strong>ENGINEERING TECHNOLOGY</strong></td>
<td></td>
</tr>
<tr>
<td>Engineering Tech Manager I / II</td>
<td>$271 / $281</td>
</tr>
<tr>
<td>Principal Tech Specialist I / II</td>
<td>$250 / $260</td>
</tr>
<tr>
<td>Senior Tech Specialist I / II</td>
<td>$229 / $239</td>
</tr>
<tr>
<td>Senior GIS Analyst</td>
<td>$209</td>
</tr>
<tr>
<td>GIS Analyst</td>
<td>$197</td>
</tr>
<tr>
<td>Technical Specialist I / II / III / IV</td>
<td>$145 / $166 / $187 / $208</td>
</tr>
<tr>
<td>CAD Manager</td>
<td>$166</td>
</tr>
<tr>
<td>CAD Designer I / II</td>
<td>$129 / $144</td>
</tr>
<tr>
<td><strong>CONSTRUCTION MANAGEMENT</strong></td>
<td></td>
</tr>
<tr>
<td>Senior Construction Manager</td>
<td>$273</td>
</tr>
<tr>
<td>Construction Manager I / II / III / IV</td>
<td>$166 / $178 / $190 / $237</td>
</tr>
<tr>
<td>Resident Inspector (Prevailing Wage Groups 4 / 3 / 2 / 1)</td>
<td>$144 / $160 / $178 / $185</td>
</tr>
<tr>
<td>Apprentice Inspector</td>
<td>$131</td>
</tr>
<tr>
<td>CM Administrative I / II</td>
<td>$71 / $95</td>
</tr>
</tbody>
</table>

- Technology and Communication charges including general and CAD computer, software, telephone, routine in-house copies/prints, postage, miscellaneous supplies, and other incidental project expenses will be billed at 6% of West Yost labor.
- Outside Services such as vendor reproductions, prints, shipping, and major West Yost reproduction efforts, as well as Engineering Supplies, etc. will be billed at actual cost plus 15%.
- Mileage will be billed at the current Federal Rate and Travel will be billed at cost.
- Subconsultants will be billed at actual cost plus 10%.
- Expert witness, research, technical review, analysis, preparation and meetings billed at 150% of standard hourly rates. Expert witness testimony and depositions billed at 200% of standard hourly rates.
- A Finance Charge of 1.5% per month (an Annual Rate of 18%) on the unpaid balance will be added to invoice amounts if not paid within 45 days from the date of the invoice.
2018-2020 Billing Rate Schedule
Menlo Park On-Call Hydraulic Modeling Support
(continued)
(Effective January 1, 2018 through December 31, 2020)

Equipment Charges

<table>
<thead>
<tr>
<th>EQUIPMENT</th>
<th>BILLING RATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Detector</td>
<td>$80/day</td>
</tr>
<tr>
<td>Hydrant Pressure Gage</td>
<td>$10/day</td>
</tr>
<tr>
<td>Hydrant Pressure Recorder, Standard</td>
<td>$40/day</td>
</tr>
<tr>
<td>Hydrant Pressure Recorder, Impulse (Transient)</td>
<td>$55/day</td>
</tr>
<tr>
<td>Trimble GPS – Geo 7x</td>
<td>$220/day</td>
</tr>
<tr>
<td>Vehicle</td>
<td>$10/hour</td>
</tr>
<tr>
<td>Water Flow Probe Meter</td>
<td>$20/day</td>
</tr>
<tr>
<td>Water Quality Multimeter</td>
<td>$185/day</td>
</tr>
<tr>
<td>Well Sounder</td>
<td>$30/day</td>
</tr>
</tbody>
</table>
## Availability

### Availability of Key Personnel

The following table includes our Key Team Members and their availability to the City for On-Call Water System Hydraulic Modeling Support.

<table>
<thead>
<tr>
<th>TEAM MEMBER</th>
<th>AVAILABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bobby Vera, PE Project Manager</td>
<td>40%</td>
</tr>
<tr>
<td>Amy Kwong, PE QA/QC</td>
<td>20%</td>
</tr>
<tr>
<td>Polly Boissevain, PE Principal-in-Charge</td>
<td>10%</td>
</tr>
<tr>
<td>Dakari Barksdale, PE Assistant Project Manager/Modeling Lead</td>
<td>40%</td>
</tr>
<tr>
<td>Patrick Johnston PE Project Engineer</td>
<td>30%</td>
</tr>
<tr>
<td>Megan McWilliams, EIT Project Engineer</td>
<td>30%</td>
</tr>
</tbody>
</table>
References

The following list includes client reference contact information on relevant and recently completed projects that highlight West Yost's expertise in hydraulic modeling and planning. We invite you to contact our clients to inquire about our successful evaluation, modeling, and design water projects.

Ms. Tamorah Bryant
City of Modesto
Acting Water Resources Group Manager
Water Master Plan and On-Call Modeling Support
tbryant@modestogov.com
209.577.5205

Mr. Jimmy Chen
City of Hayward
Project Manager
Water Master Plan and On-Call Modeling Support
jimmy.chen@hayward-ca.gov
510.383.4000

Mr. Steve Nugent
Carmichael Water District
General Manager
Hydraulic Model Update and On-Call Modeling Support
steve@carmichaelwd.org
916.483.2452

Ms. Laura Barraza
Eastern Municipal Water District
Water Facilities Master Plan Update and On-Call Modeling Support
Senior Civil Engineer
barrazal@emwd.org
951.928.3777

Mr. Phong Du
City of Redwood City
Supervising Civil Engineer
Water Distribution System Master Plan and On-Call Modeling Support
pdu@redwoodcity.org
650.780.7385
Resumes of Proposed Staff

Resumes are included for the following staff members:

- Bobby Vera, PE
- Polly Boissevain, PE
- Amy Kwong, PE
- Dakari Barksdale, PE
- Patrick Johnston, PE
- Megan McWilliams, EIT
Bobby Vera, PE  
Project Manager

Bobby Vera has seven years of engineering experience in water resource, hydraulic modeling, database asset management, and master planning experience for water and wastewater projects. He is experienced in a variety of hydraulic modeling and Geographical Information System (GIS) software including InfoWater, H2OMap Water, WaterCAD, InfoWorks, H2OMap Sewer, SewerCAD, ArcGIS, AutoCAD and Civil 3D. Bobby is currently working on water master plans, hydraulic evaluations, and water facility design for various clients throughout California.

EXPERIENCE

Water Master Plan, City of Modesto, CA: Project Engineer responsible for updating the City’s hydraulic model, updating performance criteria, and performing system hydraulic evaluations. Updated the hydraulic model through a thorough review of City’s latest GIS and available as-built drawings. Performed hydraulic model calibration (using steady state hydrant test simulations) and verification (using extended period simulations and comparing to City’s SCADA and data collected by hydrant pressure recorders) of the newly updated hydraulic model. Performed existing and buildout water system hydraulic evaluations using the newly updated, calibrated and verified hydraulic model. Results from the existing and buildout water system evaluations will be used to develop a comprehensive capital improvement program.

Water System Master Plan, City of Menlo Park, CA: Project Engineer responsible for managing the comprehensive update to the City’s GIS by managing field teams with GPS Trimble unit to collect and collect data from various city assets; overseeing the conversion GPS collected points into an ArcGIS geodatabase; and overseeing the geo-processing the topology and connectivity of each feature (e.g., pipelines valves, hydrant meters, etc.). Directed the hydraulic model build, using the newly developed and field-verified GIS information; calibration (using steady state hydrant test simulations); and subsequent existing and buildout system hydraulic evaluations. Results from the existing and buildout water system evaluations will be used to develop a comprehensive capital improvement program. Directed a specialize hydraulic model training session at the completion of the project to inform City staff how to best leverage their hydraulic model.

Water Facility Master Plan Update, Eastern Municipal Water District, Perris, CA: Project Engineer and Modeler for updated Water Facilities Master Plan. Developed demand projections and identified capital improvement needs (e.g., transmission pipelines, storage and pumping upgrades, etc.) for the potable water distribution system from through buildout of the District’s system. Evaluated the water system under both average and peak demand conditions. Modeling scenarios were evaluated for maximum day demands (extended period simulation, using seven successive maximum demand days to confirm operational trends), maximum day demand with
fire flow (static simulations), and average day demands (seven-day extended period simulation to evaluate high pressure areas). Capital improvement projects were identified to address deficiencies found in the analysis and were summarized in a capital improvement plan.

**Water System Master Plan, City of Hayward, CA:** Staff Engineer responsible for developing a water master plan and hydraulic model to recommend and prioritize capital improvement projects for a 25-year planning horizon. Tasks included reviewing water system facilities data and developing a hydraulic model to evaluate the City's existing and future water systems. Specialized evaluations included a review of the City's standard operating procedures, an assessment of potentially using the City's emergency groundwater wells for potable water supply, and the development of a Sustainability Plan. Results from the existing and future water system evaluations were used to develop a comprehensive capital improvement program. Hydraulic model development included both static calibration using field data collected from hydrant tests and dynamic verification using a 24-hour period simulation.

**Carmichael Hydraulic Model Update, Carmichael Water District, Carmichael, CA:** Staff Engineer and Modeler for hydraulic model update. Bobby assisted in the calibration of the hydraulic model by developing C-factor hydrant tests, deploying Hydrant Pressure Recorders in strategic locations to collect pressure information, and assisting in the static and steady state calibration using the field collected data of the District's hydraulic model. The hydraulic model was calibrated to be within 2 psi of field recorded data, and was subsequently used for operational analyses.

**French Valley and Winchester Sub-Regional Water Master Plan, Eastern Municipal Water District, CA:** Staff Engineer assisting in the development of a Sub-Regional Water Master Plan for the French Valley and Winchester area of Eastern Municipal Water District (EMWD). This planning effort includes reviewing EMWD’s existing calibrated hydraulic model; adjusting facility control settings; updating existing demand assumptions; and projecting future demand assumptions within the study area. West Yost will assess the rezoning of pressure zone areas to improve existing and future service to customers. Existing condition and ultimate buildout of the study area will be evaluated. West Yost will also evaluate various supply options and timing for the need of the supply; evaluate the system storage requirements for the study area; and make recommendations for the volume of storage required and propose preliminary site locations for the storage.

**Water System Master Plan, City of San Bruno, CA:** Staff Engineer responsible for developing a water system master plan and hydraulic model to recommend and prioritize capital improvement projects for a 20-year planning horizon. Tasks included conducting a facility assessment of the City's tanks, wells, and pump stations; reviewing water system facilities data; and developing a hydraulic model to evaluate the City's existing and future water systems. Results from the existing and future water system evaluations were used to develop a comprehensive capital improvement program. Hydraulic model development included calibration using field data collected from hydrant tests.

**On-Call Water System Hydraulic Modeling, City of Modesto, CA:** Project Engineer and Manager responsible for providing and directing on-call hydraulic modeling support for City Staff. Initial tasks generally included the evaluation of various operational changes to the City’s water supply facilities and development of capital and operation improvements to mitigate deficiencies. Moving forward, similar evaluations are anticipated, in additional to the evaluation of development impact analysis and routine updates to the hydraulic model.

**Hydraulic Evaluation of North Ceres and Walnut Manor, City of Ceres, CA:** Project Engineer for the preparation of an evaluation to determine the impact to the City of Ceres if the North Ceres and Walnut Manor areas (served by others) were incorporated into the City's water distribution system. Tasks included merging the North Ceres and Walnut Manor areas into the City's existing hydraulic model, evaluating the City's distribution system with and without the incorporation of these facilities, evaluation of water quality at the existing groundwater facilities within the North Ceres and Walnut Manor, and development of capital improvement estimates.

**Hydraulic Evaluations of Proposed Developments, City of Hayward, CA:** Project Engineer and Manager responsible for performing and directing evaluations to determine the ability of the City’s water system infrastructure to serve various proposed developments (Maple and Main, Mission Crossings, Mission Seniors, Campways, Downtown Specific Plan). Based on the results of the hydraulic simulations, infrastructure recommendations were identified to meet proposes water demands.

**Housing Support for Orchard Park, La Rue, and West Village, University of California, Davis:** Project Engineer responsible for the preparation of a technical memorandum evaluating the fire flow capacity of the existing domestic water system adjacent to the Orchard Park, La Rue and West Village areas. Fire flow evaluations include both static and extended period evaluations, to determine if fire flows and associated residual pressures could be maintained over an extended period of time.
Polly Boissevain, PE
Principal-in-Charge

Polly Boissevain has more than 35 years of professional experience in water resources planning, with extensive experience in distribution system master planning and hydraulic modeling of water systems, both steady-state and transient analysis for closed conduit flow. Managerial experience for a variety of water resources projects in planning, design, and operations.

EXPERIENCE

Water Master Plan Update, City of Menlo Park, CA: Project Manager for a comprehensive water master plan update for the City. West Yost prepared a multi-faceted water master plan update for the City. In addition to evaluating the City’s water system for its capacity to meet existing demands and future growth, the master plan also included a comprehensive mapping program using hand-held GPS units to map the City’s water meters and valves, an assessment of alternative water supplies, including recycled water and gray water, a system-wide condition assessment, using soils information and leak history to prioritize main replacement, a seismic vulnerability assessment to identify improvements to seismically reinforce the system, a water age evaluation to identify and mitigate areas with potential water quality issues, an operations and maintenance review to evaluate existing maintenance programs and staffing, and an advanced meter infrastructure evaluation to assess options to automate the City’s meter reading program.

Water Master Plan Update, City of Modesto, CA: Task lead for hydraulic modeling evaluations and Engineer’s Report for the City’s water system master plan update. Tasks include model calibration using field-collected hydrant test data, model verification through comparisons with field operating data, and system evaluations for existing and future growth scenarios to identify system deficiencies and recommended capital improvements. Updating the City’s Engineer’s Report, which identifies cost apportionment between existing and future customers. The Engineer’s Report will be used by the City for rate and connection fee evaluations.

Water System GIS Update, City of Fairfield, CA: Project Manager responsible for managing the update of the City’s water system GIS data. Specific tasks included reviewing the City’s existing GIS and making recommendations for using the ESRI Local Government Information Model. The new GIS structure was then validated using available topology tools to verify the integrity of the GIS and to help facilitate its conversion to a hydraulic model. A utility map book and training workshop were also developed as requested by the City.

Water Treatment Plant and Distribution System Master Plan, City of Yuba City, CA: Project Manager for a comprehensive master plan update that included developing a new hydraulic model for the City in InfoWater, providing a completed evaluation of the distribution system performance.

Professional Registrations
- Professional Civil Engineer, California No. 36164, Oregon No. 76795

Education
- MS, Civil Engineering, Cornell University
- BS, Civil Engineering, Stanford University

Professional Affiliations
- American Society of Civil Engineers
- American Water Works Association
for existing and future demand conditions, including evaluations of system capacity and pressure, distribution system water quality, and performance of the system for different outage scenarios. West Yost also evaluated the future system configuration to assess transmission and distribution system needs to distribute water from the Water Treatment Plant to future growth area. Based on the analysis results, West Yost developed a list of necessary improvements to address existing deficiencies, serve the City’s future growth areas, and a phasing plan to serve near-term development. The Master Plan also included an asset evaluation for key facilities and linear assets and used InfoMaster Water to develop a risk assessment model for City’s water distribution pipelines.

**Water Facilities Master Plan Update, Eastern Municipal Water District, Perris, CA:** Project Manager for potable water facilities master plan update for the Eastern Municipal Water District. The District serves customers in a 550 square mile area in western Riverside County. The potable water system has five major service areas with a total of 70 pressure zones. The District anticipates significant future growth, with demand projected to increase approximately threefold through buildout of the District’s service area. Polly is managing the water master plan update, which will identify needed capital facilities to meet future growth. The fast-track nature of the project necessitated managing six modeling teams to evaluate potable water system needs. Project tasks included preparing demand and supply projections, updating the hydraulic model with new facilities not in the GIS, validating the hydraulic model through comparisons with field operating data, preparing hydraulic evaluations to identify deficiencies and needed improvements, developing cost estimates for capital facilities and documenting results of the master plan in a comprehensive report. The Master Plan was completed in 2016.

**Carmichael Hydraulic Model Update, Carmichael Water District, Carmichael, CA:** Project Manager for a new all-pipe hydraulic model for the Carmichael Water District (District). West Yost updated the model InfoWater’s GIS selection tool to pinpoint areas where model pipeline alignments did not match the newly updated GIS pipeline alignments. A static and extended period calibration was performed to confirm that model predicted results were consistent with SCADA and field collected data. The entire workflow and information used to update the hydraulic model was documented a hydraulic model update report and a modeler’s notebook.

**Water Master Plan Update, Contra Costa Water District, Concord, CA:** Project Manager for the District’s 2014 Water Master Plan Update. As part of the master plan, West Yost developed a new hydraulic model for the District’s treated water service area, built from the District’s GIS. Following verification of the model through comparisons with SCADA data to demonstrate that it adequately represents field conditions, the model was used to evaluate existing and future demand scenarios and identify needed capital improvements to address existing deficiencies and meet future growth. A comprehensive capital improvement program was developed to address water system needs. West Yost worked collaboratively with the District to co-write the Water Master Plan report.

**2012 Treated Water Master Plan Update, Contra Costa Water District, Concord, CA:** Project Manager of a joint project working collaboratively with District staff to update the District’s treated water system master plan. During the project, West Yost developed and calibrated a new all-pipe hydraulic model from the District’s GIS. The analysis also integrated evaluation of the former Concord Naval Weapons Station, an area planned for future re-development, into the treated water system. Near-term and long-term capital improvement programs were identified for the District’s integration into its capital facilities planning.

**Treated Water System Master Plan, City of San Bruno, CA:** Project Manager for an update of the City’s 2002 Water System Master Plan. The City, located on the San Francisco Peninsula, receives surface water supply from the San Francisco Public Utilities Commission (SFPUC), and from local wells. The City is served by both Bay Area Rapid Transit and CalTrain and plans significant re-development of the downtown area, centered around the transit corridor. As part of the water master plan update, West Yost developed and calibrated an all-pipe distribution system network hydraulic model using the City’s GIS. The City is facing aging infrastructure, seismic vulnerability and system reliability needs. West Yost developed a comprehensive, prioritized set of master plan recommendations to address new infrastructure needs to address renewal and replacement of aging facilities, capacity needs and provide seismic reliability. During the project, the City successfully adopted new water rates to fund planned project implementation, and has embarked on a comprehensive capital improvement program to improve the water system. Since completion of the master plan, West Yost has been providing as-needed hydraulic modeling support to the City.
Amy Kwong, PE
Quality Assurance/Quality Control

Amy has 12 years of professional experience in water resources engineering, with a primary focus in water master planning, water supply and facilities planning, hydraulic modeling, and the design of water system infrastructure. She has contributed to the development of a large number of water master plans throughout California.

EXPERIENCE

**Water Master Plan, City of Modesto, CA:** Project Engineer responsible for developing the City's buildout water demand projections and updating the water demands in the hydraulic model. Directed the hydraulic model calibration (using steady state hydrant test simulations) and verification (using extended period simulations) as well as the existing and buildout water system hydraulic evaluations. Results from the existing and buildout water system evaluations will be used to develop a comprehensive capital improvement program.

**Water System Hydraulic Model Development, City of Fairfield, CA:** Project Manager responsible for managing the development and calibration of the City's water system hydraulic model. Specific tasks included importing the City's pipelines, pump stations, and reservoirs into InfoWater using the City's Phase 1 GIS updates and record drawings; reviewing and updating the network connectivity with input from City staff; and spatially allocating existing water demands using historical meter data. Calibration and verification tasks included placing hydrant pressure recorders and conducting hydrant tests; calibrating the pipeline roughness factors using steady state hydrant test simulations; and verifying extended period operations using data collected by hydrant pressure recorders. The hydraulic model was successfully validated to confirm the model's effective use as a planning and operational tool. After completion of the model calibration, various demand planning scenarios were also developed in the hydraulic model.

**Water Model Update, City of Roseville, CA:** Staff Engineer responsible for updating new pipelines and allocating existing demands into the hydraulic model. Performed existing system analysis and identified recommended improvements to meet the City's performance criteria. Project also included update of the “Modeler's Notebook.”

**Water Facility Master Plan Update, Eastern Municipal Water District, Perris, CA:** Project Engineer responsible for the hydraulic evaluation of the San Jacinto Valley service area. Project tasks included updating the hydraulic model with new facilities not in the GIS, validating the hydraulic model through comparisons with field operating data, preparing hydraulic evaluations to identify deficiencies and needed improvements, developing cost estimates for capital facilities and documenting results of the master plan in a comprehensive report.
Citywide Water System Master Plan, City of Tracy, CA: Project Engineer responsible for developing and analyzing unit water demand factors to project future water demands based on the City's adopted General Plan land uses. Additional tasks included updating the City's existing potable water system hydraulic model and developing a new recycled water system model to be used for analyzing future water demands and subsequently identify required backbone infrastructure to serve buildup of the adopted General Plan. Improvement projects identified from the hydraulic model evaluations were used to develop a comprehensive capital improvement plan. An additional Operations Guide was developed after the Citywide Water Master Plan to provide City operations staff with a document outlining the recommended water system operational strategies during typical winter and summer demand periods. The Operations Guide also evaluated the impacts to the existing water system from proposed near-term infrastructure improvements.

Water Master Plan, City of Healdsburg, CA: Project Manager responsible for leading the development of the City's Water Master Plan update. The update process included the development and calibration of a new hydraulic model to represent the City's water system. Improvement projects identified from the hydraulic model evaluations were used to develop a comprehensive and prioritized capital improvement plan to address deficiencies in the City’s existing water system.

Ka’analapali District Water Supply and Facilities Master Plan, Hawaii Water Service Company, Ka’analapali, HI: Project Engineer responsible for developing a water master plan to recommend and prioritize capital improvement projects for a 25-year planning horizon. Tasks included developing detailed future water demands and updating an existing hydraulic model to evaluate the District’s existing and future water systems. Due to limited water supplies, a key task was to develop a water supply plan to address both current and future water supply needs. Results from the existing and future water system evaluations were used to develop a comprehensive capital improvement plan. Hydraulic model update included calibration using field data collected from hydrant tests and hydrant pressure recorders.

Water System Master Plan, City of San Bruno, CA: Project Engineer responsible for developing a water system master plan and hydraulic model to recommend and prioritize capital improvement projects for a 20-year planning horizon. Tasks included conducting a facility assessment of the City's tanks, wells, and pump stations; reviewing water system facilities data; and developing a hydraulic model to evaluate the City's existing and future water systems. Results from the existing and future water system evaluations were used to develop a comprehensive capital improvement program. Hydraulic model development included calibration using field data collected from hydrant tests.

Water System Master Plan, City of Hayward, CA: Project Engineer responsible for developing a water master plan and hydraulic model to recommend and prioritize capital improvement projects for a 25-year planning horizon. Tasks included reviewing water system facilities data and developing a hydraulic model to evaluate the City's existing and future water systems. Specialized evaluations included a review of the City's standard operating procedures, an assessment of potentially using the City's emergency groundwater wells for potable water supply, and the development of a Sustainability Plan. Results from the existing and future water system evaluations were used to develop a comprehensive capital improvement program. Hydraulic model development included both static calibration using field data collected from hydrant tests and dynamic verification using a 24-hour period simulation.

Willows District Water Supply and Facilities Master Plan, California Water Service Company, Willows, CA: Project Engineer for the Willows District WSFMP. The Willows District is completely reliant on groundwater for water supply. Therefore, an integrated water supply plan was developed to evaluate the reliability of existing groundwater supplies, and to provide an overview of potential potable water offsets (e.g., recycled water and potential untreated surface water) so that reliable long-term and interim water supply facilities could be identified, prioritized, planned, designed, and constructed to meet the needs of existing and future customers. Critical tasks include: identifying new service and water demand growth projections; developing a water supply plan to meet projected water demands; inventorying and assessing system facilities for condition and capacity; developing and calibrating a computerized operational hydraulic model of the water system; and preparing a prioritized capital improvement plan for addressing future demand growth and system improvement requirements.

Stockton District Water Supply and Facilities Master Plan, California Water Service Company, Stockton, CA: Staff Engineer responsible for adding nodes, junctions, pipelines, and facilities into the hydraulic model. Work also included spatially locating existing demands using meter data and then allocating these demands into the model. Performed static calibration and dynamic verification of the model as well as the analysis of the existing and future systems. Responsible for identification of necessary capital improvements and estimation of improvement costs. Also provided assistance on analyzing the condition of the current groundwater supply. Project also included update of the “Modeler's Notebook”.

Amy Kwong, PE | Page 2
Dakari Barksdale, PE  
Assistant Project Manager/Modeling Lead

Dakari Barksdale is a registered civil engineer with four years of experience in condition assessment, hydraulic modeling, asset management, infrastructure design, and master planning for wastewater, water, and stormwater systems. He is a NASSCO certified CCTV inspector, and he has conducted several condition assessments for wastewater collection system asset management projects using ArcGIS-based InfoMaster Sewer to develop prioritized capital improvement programs that incorporate construction methods that provide the best value for sanitary sewer rehabilitation and replacement projects. Dakari also has experience with the following software: ArcGIS, AutoCAD, Microsoft Excel, Microsoft Access, InfoWater, InfoSurge, InfoMaster Sewer, H2OMap, and XPSWMM.

EXPERIENCE

Water Master Plan Update, City of Menlo Park, CA: Staff Engineer and Modeler for a comprehensive water master plan update for the City. West Yost is preparing a multi-faceted water master plan update for the City. In addition to evaluating the City’s water system for its capacity to meet existing demands and future growth, the master plan also includes a comprehensive mapping program using hand-held GPS units to map the City’s water meters and valves, an assessment of alternative water supplies, including recycled water and gray water, a system-wide condition assessment, using soils information and leak history to prioritize main replacement, a seismic vulnerability assessment to identify improvements to seismically reinforce the system, an operations and maintenance review to evaluate existing maintenance programs and staffing, and an advanced meter infrastructure evaluation to assess options to automate the City’s meter reading program. Dakari lead a field team in collecting GPS coordinates of the City’s water features, estimated the cost of implementing a recycled water system, performed fire flow, water quality, and normal operational modeling to locate system deficiencies and provide recommendations, prepared the capital improvement program, and assisted with preparation of the Master Plan report.

Carmichael Hydraulic Model Update, Carmichael Water District, Carmichael, CA: Staff Engineer and Modeler for hydraulic model update. Built model, allocated demands, set-up and led hydrant testing, provided data analysis of SCADA data, helped develop figures and chapters for report.

Water and Sewer Master Plan Update, City of Livermore, CA: Staff Engineer assisting with the hydraulic model update for the City of Livermore’s Water Master Plan and Sewer Master Plan. Helped develop and implement hydrant testing plan used for model calibration. Analyzed existing and future water system deficiencies. Created figures and tables to display existing and proposed water system facilities and deficiencies.

Professional Registrations
- Professional Civil Engineer, California No. 87542

Education and Certification
- MS, Water Resource Engineering, University of California, Davis
- BS, BioResource and Agricultural Engineering, California Polytechnic State University, San Luis Obispo
- NASSCO Pipeline Assessment Certification Program, Certification No. 07002982

Professional Affiliations
- California Water Environment Association
- Central Valley Clean Water Association
Water Facility Master Plan Update, Eastern Municipal Water District, Perris, CA: Staff Engineer and Modeler for updated Water Facilities Master Plan. The Water Facilities Master Plan identifies capital improvement needs for the potable water distribution system through buildout of the District's system. West Yost evaluated the water system using modeling scenarios and identified capital improvement projects were identified and summarized in a capital improvement plan. Dakari used the modeling program, InfoWater, to perform evaluations of future max day demand extended period simulation scenarios and fire flow scenarios and provided a deliverable of prioritized capital projects. He completed planning-level cost estimates for over 400 pipeline, valve, tank, and pump station projects with a combined total of roughly two billion dollars. All costs were adjusted to match the latest Engineering News-Record Construction Cost Index (ENR CCI) available at the time the project was being done.

Water Master Plan Update, City of Dixon, CA: Staff Engineer for water master plan update for the City. Master plan update included GIS map update, hydraulic model update, existing water system analysis and asset management plan, and development of capital improvement program. Dakari evaluated the existing water system developed a capital improvement program. He provided cost estimates for a 41 million dollar capital improvement program that included pipeline, well, booster pump station, and tank projects. All costs were adjusted to match the latest Engineering News-Record Construction Cost Index (ENR CCI) available at the time the project was being done.

General Plan Update, City of Ceres, CA: Staff Engineer for general plan update which included existing conditions evaluation, land use alternatives evaluation, infrastructure and financing plan assistance, and CEQA support. Dakari produced cost estimates for transmission, supply and storage projects required based on four land use alternatives. Proposed facility improvement projects for total over 110 million dollars for each of the four land use alternatives. All costs were adjusted to match the latest Engineering News-Record Construction Cost Index (ENR CCI) available at the time the project was being done.

Placer County Water Agency Cost Estimate for Amoruso Ranch Specific Plan, City of Roseville, CA: Staff Engineer for specific plan cost estimate. Dakari provided a detailed cost estimate for a booster pump station upgrade. The nearly four million dollar cost estimate included specific pump, mechanical, electrical, building, site work, and pipeline costs. All costs were adjusted to match the latest Engineering News-Record Construction Cost Index (ENR CCI) available at the time the project was being done.

Pump Station Asset Management Plan, City of Fairfield, CA: Staff Engineer for water pump station assessments which included inspections of the City's 18 water pump stations and development of a customized asset management database using condition and performance information gathered during field investigations. Created a registry of the assets at each pump station and used the registry to analyze the risk of asset failure on each pump station and to identify and prioritize repairs. He assisted in the development of an asset management plan. The plan assessed each pump station's overall system performance for the preparation of an optimized rehabilitation and replacement program.

Davis-Woodland Water Supply Project, Woodland-Davis Clean Water Agency (a Joint Powers Authority): Staff Engineer for the development of a conjunctive use water supply project, including a new treated surface water supply to the City of Davis, City of Woodland, and the University of California Campus at Davis. Dakari aided with scheduling, change orders, specifications, drawings, client and contractor coordination, and documentation.

Winslow Street Development Evaluation, City of Redwood City, CA: Staff Engineer and Modeler for an evaluation of the City’s existing water system to meet demands with the addition of the Winslow Street Development project. Dakari identified capital improvement projects needed for the potable water distribution system to meet existing demands and fire flow demands based on the City’s criteria.

Hospitality Place Evaluation, Eastern Municipal Water District, Perris, CA: Staff Engineer and Modeler for an evaluation of the District's existing water system to meet demands with the addition of the Winslow Street Development project. Dakari identified capital improvement projects needed for the potable water distribution system to meet existing demands and fire flow demands based on the City's criteria.

Hydraulic Transient Evaluation, Sacramento Regional County Sanitation District, CA: Built a model and performed a hydraulic transient evaluation of 28,500 feet of forcemain with a design flow of 126 million gallons per day. Provided recommendations based on the possibility of a power outage, or similar event, causing pumps to abruptly shut-down and cause a transient.

Playa Solar Project, Clark County, NV: Built a model and performed a hydraulic transient evaluation of a forcemain with a design flow of 1,200 gpm. Provided a valve closure time recommended to prevent the possibility of an abrupt valve closure causing a pressure surge that exceeds the pipeline's pressure rating and would cause a pipe break.
Patrick Johnston, PE
Project Engineer

Patrick Johnston is a civil engineer with 24 years of experience in the planning, design, and construction support services for water and wastewater systems and environmental projects. His experience includes preparing design plans and specifications, evaluating treatment alternatives, modeling wastewater and water hydraulic systems, developing utility master planning documents, preparing cost estimates, contract administration, construction survey layout and construction management for water supply and wastewater projects.

EXPERIENCE

Wastewater Master Plan, City of Yuba City, CA: Project Engineer created a model of the planned wastewater collection system for the developing areas of the City. The City was facing very high economic development and population growth. This rapid growth is driving the need for expansion of certain utilities, including the wastewater collection system, which are approaching capacity. A model was developed in HsOMap Sewer to examine various growth scenarios for the City so that the expansion of the wastewater collection system could be planned properly. The model included a converted model of the existing wastewater collection system as well as modeling of the expansion areas to the west of the existing system. Cost estimates and schedules for the expansion of the wastewater collection system were developed as part of the overall master plan update. The model was used continuously over the next decade to analyze various development proposals within the City and their effects on expansion plans for the collection system.

Water Master Plan, Eastern Municipal Water District, Perris, CA: Project Engineer responsible for updating existing hydraulic water model (InfoWater) and used it to analyze the Perris Valley East portion of the EMWD system. Hydraulic deficiencies were identified and system improvements were sized using the model. Improvement projects were assembled into a capital improvement program that fed into the final water master plan document.

Hydraulic Analysis, Placer County Water Agency, Roseville, CA: Project Engineer responsible for updating existing hydraulic water model (InfoWater) and used it to analyze scenarios for exporting additional water from the PCWA system into the City of Roseville system through the Tinker Pump Station to support a proposed development project. Hydraulic deficiencies were identified and improvement projects and revised operational practices were identified to allow the additional water to be exported.

Greystar Hydraulic Analysis, Redwood City, CA: Project Engineer responsible for updating existing hydraulic water model (InfoWater) and used it to analyze the effect of a proposed development on the performance of the City’s water system. The fire flow capabilities of the system were compared to the fire flow requirements of the proposed development.
Water Facilities Master Plan, San Bernardino Municipal Water District, CA: Project Engineer responsible for completed update of the hydraulic model (InfoWater) of the distribution system for SBMWD. Used model to perform hydraulic analysis of the system to develop a capital improvement program covering existing and buildout demand conditions. CIP was incorporated into the water master plan that was adopted by SBMWD.

Oroville System Evaluation of Facilities, California Water Service Company: Project engineer for a project to summarize the Cal Water Oroville facilities, including supply facilities, pump stations, tanks, pressure reducing valves and pipelines. The project documented progress on the capital improvement projects identified in the 2009 Water Master Plan and the Cal Water Asset Management Program. A review of maintenance practices was performed by evaluating inspection and maintenance schedules. System performance criteria were presented, such as pipeline age, non-revenue water percent and main replacement rates.

Sustainable Water Master Plan, City of Santa Monica, CA: Project Engineer responsible for developing a Sustainable Water Master Plan for the City. The plan includes an up-to-date comprehensive analysis of the City's system, evaluation of a variety of water supply alternatives including recycled water, storm water collection and treatment, rainwater harvesting, graywater applications, and other water rights, supply and exchange opportunities. Also included as part of this effort is the development of a new hydraulic model including calibration and system analysis for system capacity evaluation and CIP generation.

Water Master Plan, Las Virgenes Municipal Water District, Calabasas, CA: Project Engineer responsible for developing a Water Master Plan for the District. The existing hydraulic water model (WaterCAD) was updated and calibrated and then used to analyze the system. Hydraulic deficiencies were identified and improvement projects were sized and located using the model. A capital improvement program was assembled using the results of the hydraulic analysis. The final water master plan was completed and then combined with the wastewater and recycled water master plans into an integrated master plan that coordinated the results of the other three master plans.

The plan includes an up-to-date comprehensive analysis of the City's system, evaluation of a variety of water supply alternatives including recycled water, storm water collection and treatment, rainwater harvesting, graywater applications, and other water rights, supply and exchange opportunities. Also included as part of this effort is the development of a new hydraulic model including calibration and system analysis for system capacity evaluation and CIP generation.

Master Plan for Los Angeles County Waterworks District No. 40, Antelope Valley, County of Los Angeles, Antelope Valley, CA: Modeler developed models of three separate potable water distribution systems serving the District 40 region of LA County in Antelope Valley. Models were developed and calibrated in WaterCAD and then converted from WaterCAD to InfoWater. The models were then used to analyze the systems and develop a water master plan containing a CIP program.

Water Master Plan Update Review, City of Riverside, CA: Project Engineer reviewed the previously developed model and capital improvements plan, verified the validity of the master plan update recommendations and proposed alternate, lower cost improvement projects. Used the existing hydraulic model (HaOMap Water) to analyze adjustments to pumping controls for booster pump stations in the system in order to identify potential savings for stations with time-of-use rate schedules.

Oakland International Airport, Hangars 1 & 2 Paving, Port of Oakland, CA: Project Engineer responsible for updating the GIS mapping, developing a hydraulic model of the distribution system, using the model to analyze the network and developing a capital improvement program and water master plan for the airport's water system.

Water Master Plan and Routing Study, City of Vallejo, CA: Project Engineer responsible for developing model of the distribution system for the City, which included demands produced during the demand analysis. Model was used to identify deficiencies and develop a capital improvement program that was incorporated into a water master plan.

NPS Marin Headlands Water Model, U.S. Department of Interior, National Park Service, Sausalito, CA: Project Engineer responsible for developing a hydraulic model of the water system in the Marin Headlands and used it to analyze fire flow capabilities. System improvements which were sized using the model were incorporated into a capital improvement program.
Megan McWilliams, EIT
Project Engineer

Megan McWilliams is a registered civil engineer-in-training with one year of experience specializing in water master planning and hydraulic modeling. Megan has experience using ArcGIS, AutoCAD, and InfoWater on a variety of water planning and modeling projects. She also serves as staff engineer to assist with infrastructure rehabilitation and design projects for potable water, stormwater, and sewer collection systems.

EXPERIENCE

Serra Station Hydraulic Evaluation, City of Millbrae, CA: Staff engineer for the hydraulic evaluation of the Millbrae Serra Station Transit Oriented Development Project (Project) for the City of Millbrae. Responsible for estimating water demands for the Project, validating the hydraulic model to reflect existing conditions, and updating the model with the proposed infrastructure for the Project. Simulated peak hour and emergency conditions in the hydraulic model to determine if the results met the City’s water distribution system performance criteria established by the City’s 2015 Water Master Plan. Based on the hydraulic model results, recommended improvements and prepared a technical memorandum summarizing the hydraulic evaluation.

Peer Review of Water System Hydraulic Model, City of Lincoln, CA: Staff engineer for the peer review of City of Lincoln’s hydraulic model. Assisted in comparing the City’s GIS pipeline information to the pipes in the hydraulic model, assisted in reviewing the accuracy of node elevations, demand allocations, standard hydraulic modeling scenarios, pipe network connectivity, and model calibration methodology used. Assisted in creating figures displaying areas with discrepancies, along with preparing the technical memorandum.

Hydraulic Model Update and System Evaluation, Carmichael Water District, CA: Staff Engineer who assisted with the hydraulic model update and system evaluation. Identified and corrected connectivity errors within the pipe network, assisted in hydrant testing, consolidating data, and preparing the modeler’s notebook.

Water Rights Assistance, Confidential Client, Central Valley, CA: Staff Engineer. Tabulated and graphed daily discharge data at various locations for different water years and created figures displaying facilities around the project area. Worked with State departments to gather land use data for the area of interest, created figures showing cropping patterns in the project area, and calculated total acreage for each crop type.


Professional Registrations
- Professional Engineer-in-Training, California No. 164172

Education
- BS, Civil Engineering, University of California, Davis
Stormwater Master Plan, City of Millbrae, CA: Staff Engineer for stormwater master plan. Assisted with field work for verifying the pipe network in GIS with the actual pipe network. Documented discrepancies with the GIS data based on field work.

Water Master Plan Update, City of Fairfield, CA: Assisted with setting up for hydrant testing and preparing the Modeler’s notebook for this master planning project.

County-Wide Groundwater Monitoring Well Network, Glenn-Colusa Irrigation District, Glenn County, CA: Project engineer responsible for creating and editing figures and tabulating well data.

Storm Drainage/Stormwater Master Plan Update, City of West Sacramento, CA: Assisted with fieldwork including inspecting stormwater manholes and assessing them for their current condition.

Design-Build Wastewater Treatment Plant Improvements, City of Davis, CA: Project Engineer for West Yost's Owners' Representative contract for a Design-Build (DB) Wastewater Treatment Plant (WWTP) Improvements Project representing approximately $90 million in constructed treatment plant improvements. Responsible for daily and diurnal sampling necessary to calibrate the hydraulic model.

Navy Drive, Della Street, and Myrtle Street Sewer Infrastructure Rehabilitation Projects, City of Stockton, CA: Project Engineer on several City of Stockton sewer rehabilitation/replacement projects. Provided utility mapping for the Navy Drive Sewer Improvements Project and utility coordination for the Della Street Sewer and Myrtle Street Sewer Rehabilitation projects.

Arden Way Mainline Extension/Replacement Project, Carmichael Water District, CA: Provided utility coordination for the Arden water main project.
STATEMENT OF PURPOSE

The City of Menlo Park Municipal Water is seeking qualified firms to provide water system hydraulic modeling services under the general direction of the Public Works Director or designee for up to a 2 year term. The services would include projects involving the development of water system hydraulic models as described further in the scope of work below.

BACKGROUND INFORMATION

Menlo Park Municipal Water (MPMW) provides water to approximately 16,000 customers through approximately 4,200 service connections. The remainder of the City receives water from the California Water Company, the O'Connor Tract Cooperative Water District, and the Palo Alto Park Mutual Water Company.

MPMW purchases 100% of its water from the San Francisco Public Utilities (SFPUC) through five turnouts. The system consists of an upper and lower zone, both of which vary in type of use, demand, storage, and pressure. The upper zone is geographically and hydraulically isolated from the lower zone. The water system consists of nearly 70 miles of distribution pipe ranging in size from 2-inches to 16-inches in diameter. In the upper zone, there is a pump station and two reservoirs with a combined storage of 5.5 million gallons. In the lower zone, the construction of an emergency water supply well is currently under construction.

Menlo Park Municipal Water is responsible for the construction, operation and maintenance the water distribution infrastructure within its service areas.

In May 2018, the City accepted an updated Water System Master Plan (WSMP) that developed capital improvement program, operational, and long-term maintenance recommendations for the water system. Additionally, a new water system hydraulic model of MPMW's water distribution system was developed utilizing Innovyze InfoWater modeling software.

Various proposed developments, construction projects, and City improvement projects have generated a need for on-call hydraulic modeling support services to evaluate, confirm, or develop new water system improvements.

SCOPE OF WORK

Menlo Park Municipal Water is seeking professional services from qualified firms to provide water system hydraulic modeling on various tasks and projects. Hydraulic modeling services shall be requested by MPMW on an as-needed basis and paid according to an approved hourly rate schedule.

Under the general direction of the Public Works Director or designee, qualified firm(s) shall be responsible for, but not limited to, providing the following tasks:

- Hydraulic evaluation of various alternative CIPs and design configurations;
- Hydraulic evaluation of the potential water supply and system pressure impacts of turnouts, or reservoirs being taken out of service due to water quality and/or other operational issues;
- Hydraulic analysis of new, alternative operational scenarios (i.e., changing SFPUC turnout pressures, or evaluating operating levels or pump on/off set-points for the Sand Hill Reservoirs);
- Evaluation of various fire flow demand conditions;
- Analysis of potential hydraulic impacts to the MPMW water system due to proposed land use changes and/or proposed new development areas;
- Hydraulic evaluation of areas that are proposed for densification, and the ability of the existing water system to serve these modified areas; and/or
- Other technical hydraulic modeling support requested by MPMW engineering or operations staff.
**EXHIBIT “B” - DISPUTE RESOLUTION**

B1.0 All claims, disputes and other matters in question between the FIRST PARTY and CITY arising out of, or relating to, the contract documents or the breach thereof, shall be resolved as follows:

B2.0 Mediation
B2.1 The parties shall attempt in good faith first to mediate such dispute and use their best efforts to reach agreement on the matters in dispute. After a written demand for non-binding mediation, which shall specify in detail the facts of the dispute, and within ten (10) days from the date of delivery of the demand, the matter shall be submitted to a mutually agreeable mediator. The Mediator shall hear the matter and provide an informal opinion and advice, none of which shall be binding upon the parties, but is expected by the parties to help resolve the dispute. Said informal opinion and advice shall be submitted to the parties within twenty (20) days following written demand for mediation. The Mediator’s fee shall be shared equally by the parties. If the dispute has not been resolved, the matter shall be submitted to arbitration in accordance with Paragraph B3.1.

B3.0 Arbitration
B3.1 Any dispute between the parties that is to be resolved by arbitration as provided in Paragraph B2.1 shall be settled and decided by arbitration conducted by the American Arbitration Association in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association, as then in effect, except as provided below. Any such arbitration shall be held before three arbitrators who shall be selected by mutual agreement of the parties; if agreement is not reached on the selection of the arbitrators within fifteen (15) days, then such arbitrator(s) shall be appointed by the presiding Judge of the court of jurisdiction of the agreement.

B3.2 The provisions of the Construction Industry Arbitration Rules of the American Arbitration Association shall apply and govern such arbitration, subject, however to the following:

B3.3 Any demand for arbitration shall be writing and must be made within a reasonable time after the claim, dispute or other matter in question as arisen. In no event shall the demand for arbitration be made after the date that institution of legal or equitable proceedings based on such claim, dispute or other matter would be barred by the applicable statute of limitations.

B3.4 The arbitrator or arbitrators appointed must be former or retired judges, or attorneys at law with last ten (10) years’ experience in construction litigation.

B3.5 All proceedings involving the parties shall be reported by a certified shorthand court reporter, and written transcripts of the proceedings shall be prepared and made available to the parties.

B3.6 The arbitrator or arbitrators must be made within and provide to the parties factual findings and the reasons on which the decisions of the arbitrator or arbitrators is based.

B3.7 Final decision by the arbitrator or arbitrators must be made within ninety (90) days from the date of the arbitration proceedings are initiated.

B3.8 The prevailing party shall be awarded reasonable attorneys’ fees, expert and non-expert witness costs and expenses, and other costs and expenses incurred in connection with the arbitration, unless the arbitrator or arbitrators for good cause determine otherwise.

B3.9 Costs and fees of the arbitrator or arbitrators shall be borne by the non-prevailing party, unless the arbitrator or arbitrators for good cause determine otherwise.

B3.10 The award or decision of the arbitrator or arbitrators, which may include equitable relief, shall be final, and judgment may be entered on it in accordance with applicable law in any court having jurisdiction over the matter.