

**SECOND SUPPLEMENT TO  
PERSONAL SERVICES AGREEMENT**

**Between**

**LEWIS COUNTY**

**and**

**WEST CONSULTANTS, INC.**

**THIS AGREEMENT** is made and entered into by and between LEWIS COUNTY, WASHINGTON, herein referred to as "County", acting as the lead agency for the Chehalis River Basin Flood Authority ("Flood Authority") and WEST Consultants, Inc., 12509 Bel-Red Road, Suite 100, Bellevue, WA 98005, herein referred to as "WEST" or "Contractor".

**IT IS THE PURPOSE OF THIS AGREEMENT** to supplement the first Supplemental Agreement for *Phase 2* of the *Chehalis River Flood Warning System* entered into by Lewis County, acting as the Fiscal Agent for the Flood Authority, and West, as executed in June 2010 and authorized by the Board of County Commissioners by Resolution No. 10-143. The Phase 2 Supplement to the Personal Services Agreement was to provide consulting services for designing and implementing an Early Flood Warning Program that builds on the existing system of gauges and includes a communication system that integrates current local emergency response plans, consistent with the Scope of Work as contained therein. This Second Supplement to the Personal Services Agreement provides for a time extension in order to allow West to complete the *Phase 2* Scope of Work consistent with the Supplemental Agreement and provides for maintenance and operation of the gages included within the early warning system.

**THEREFORE, IT IS MUTUALLY AGREED THAT:**

**Statement of Work**

WEST shall furnish the necessary personnel, equipment, material and/or services and otherwise do all things necessary for, or incidental to, the performance of the work set forth in the *Chehalis River Flood Warning System – Phase 2 Supplemental Agreement Scope of Work* as previously agreed to by the parties, and the Phase 2 Second Supplemental Agreement attached hereon as Attachment "A."

**Period of Performance**

Subject to its other provisions, the period of performance of this Second Supplemental Agreement shall commence on the date of signing by both parties and be completed as agreed and shown in the attached *Chehalis River Flood Warning System – Phase 2 Second Supplement Scope of Work*, Attachment "A", no later than June 30, 2012, but may be modified or extended by mutual agreement.

## **Payment**

Compensation for the work provided in accordance with this Second Supplemental Agreement shall be as set forth in Attachment "A". In no case shall total payment for services under this Second Supplemental Agreement exceed ten thousand six hundred fifty-eight dollars and one cent (\$10,658.01) for tasks 3 and 4; and thirty-eight thousand one hundred eighteen dollars and fifty cents (\$38,118.50) for operation and maintenance in task 5 as described in the *Phase 2 Second Supplement Scope of Work as attached hereon*.

## **Future Non-Allocation of Funds:**

If sufficient funds are not appropriated or allocated for payment under this contract for any future fiscal period, the County, acting as the lead agency for the Flood Authority, will not be obligated to make payments for services or amounts incurred after the end of the current calendar year. No penalty or expense shall accrue to the County in the event this provision applies.

**Renewal of Original Personal Services Agreement:** This Second Supplement to the Personal Services Agreement constitutes a renewal of the original Supplemental Agreement, with such additional provisions as have been agreed upon by the parties for good and valuable consideration.

## ***GENERAL CONDITIONS***

- Scope of Contractor's Services:** WEST Consultants, Inc., hereafter referred to as the "Contractor" or "WEST", agrees to provide to the County the services as described in Attachment "A" and attached hereon to this Second Supplemental Agreement solely on behalf of Lewis County, acting as the lead agency for the Flood Authority and as directed by the Director of Community Development.
- Accounting and Payment for Contractor Services:** The County Contractor shall be paid for performance under this contract, in accordance with the costs as included within the *Chehalis River Flood Warning System – Phase 2 Second Supplement Scope of Work* attached thereto (Attachment "A") of this Second Supplemental Agreement.
- Assignment and Subcontracting:** No portion of this contract may be assigned or subcontracted to any other individual, firm or entity without the express and prior written approval of the Lewis County Contract Manager.
- Labor Standards and Contract Assistance:** The Contractor shall comply with the provisions of the Lewis County Contract and Procurement Assistance Program, attached hereto as Special Conditions.

5. **Independent Contractor:** The Contractor's services shall be furnished by the Contractor as an independent contractor and nothing contained herein or in this contract shall be construed to create a relationship of employer-employee or master-servant, but all payments made thereunder and all services performed shall be made and performed, pursuant to this Second Supplemental Agreement Memorandum or any contract, by the Contractor as an independent contractor.

The Contractor acknowledges that the entire compensation for any work request or order shall be specified within said work request or order, and the Contractor, its agents, officers, employees or subcontractors, are not entitled to any County benefits including, but not limited to: vacation pay, holiday pay, sick leave pay, medical, dental, or other insurance benefits, or any other rights or privileges afforded to Lewis County employees.

Contractor will defend, indemnify and hold harmless the County, its officers, agents or employees from any loss or expense, including but not limited to settlements, judgments, setoffs, attorneys' fees or costs incurred by reason of claims or demands because of breach of the provisions of this paragraph by the Contractor.

6. **No Guarantee of Employment:** The performance of all or part of this contract by the Contractor shall not operate to vest any employment rights whatsoever and shall not be deemed to guarantee any employment of the Contractor or any employee of the Contractor or any subcontractor or any employee of any subcontractor in the present or in the future.

7. **Taxes:** The Contractor understands and acknowledges that the County will not withhold Federal or State income taxes. Where required by State or Federal law, the Contractor authorizes the County to make withholding for any taxes other than income taxes (i.e., Medicare). All compensation received by the Contractor will be reported to the Internal Revenue service at the end of the calendar year in accordance with applicable IRS regulations. It is the responsibility of the Contractor to make the necessary estimated tax payments throughout the year, if any, and the Contractor is solely liable for any tax obligation arising from the Contractor's performance of this contract. The Contractor hereby agrees to indemnify the County against any demand to pay taxes on compensation earned pursuant to this contract.

The County will pay sales and use taxes imposed on goods or services acquired hereunder as required by law. The Contractor must pay all other taxes including, but not limited to: Business and Occupation Tax, taxes based on the Contractor's gross or net income, or personal property to which the County does not hold title. The County is exempt from Federal Excise Tax.

8. **Regulations and Requirement:** This contract shall be subject to all laws, rules, and regulations of the United States of America, the State of Washington, and political subdivisions of the State of Washington.
9. **Right To Review:** This contract is subject to review by any Federal or State auditor. The County or its designee shall have the right to review and monitor

the financial and service components of this program by whatever means are deemed expedient by the County. Such review may occur with or without notice, and may include, but is not limited to, on site inspection by County agents or employees, inspection of all records or other materials which the County deems pertinent to any contract and its performance, and any and all communications with or evaluations by service recipients under such contract(s). When necessary, Contractor shall have an affirmative duty to notify such service recipients of this right to review. The Contractor shall preserve and maintain all financial records and records relating to the performance of work under any contract for 3 years after contract termination, and shall make them available for such review, within Lewis County, State of Washington, upon request.

10. **Modifications:** Either party may request changes in this contract. Any and all agreed modifications shall be in writing, signed by each of the parties, and effective on the latter date of execution by the respective parties.
11. **Termination for Default:** If the Contractor defaults by failing to perform any of the obligations of this contract or becomes insolvent or is declared bankrupt or commits an act of bankruptcy or insolvency or makes an assignment for the benefit of creditors, the County may, by depositing written notice to the Contractor in the U. S. mail, postage prepaid, terminate the contract, and at the County's option, obtain performance of the work elsewhere. If the contract is terminated for default, the Contractor shall not be entitled to receive any further payments under the contract until all work called for has been fully performed. Any extra cost or damage to the County resulting from such default(s) shall be deducted from any money due or coming due to the Contractor. The Contractor shall bear any reasonable extra expenses incurred by the County in completing the work, including all increased costs for completing the work, and all damage sustained, or which may be sustained by the County by reason of such default.

If a notice of termination for default has been issued and it is later determined for any reason that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to the Termination for Public Convenience paragraph hereof.

12. **Termination or Suspension for Public Convenience:** The County may terminate this contract in whole or in part whenever the County determines, in its sole discretion, that such termination or suspension is in the interests of the County. Whenever the contract is terminated or suspended in accordance with this paragraph, the Contractor shall be entitled to payment for actual work performed at unit contract prices for completed items of work. An equitable adjustment in the contract price for partially completed items of work will be made, but such adjustment shall not include provision for loss of anticipated profit on deleted or uncompleted work. Termination or suspension of such contract by the County at any time during the term, whether for default or convenience, shall not constitute a breach of contract by the County. Lewis County may reactivate the contract in whole or in part following suspension upon depositing written notice of reactivation to Contractor in the U.S. mail, said reactivation becoming effective ten (10) days following mailing.

13. **Defense & Indemnity Agreement:** The Contractor agrees to defend, indemnify and save harmless the County, its appointed and elective officers and employees, from and against all loss or expense, including but not limited to judgments, settlements, attorney's fees and costs by reason of any and all claims and demands upon the County, its elected or appointed officials or employees for damages because of personal or bodily injury, including death at any time resulting therefrom, sustained by any person or persons and on account of damage to property including loss of use thereof, when such injury to persons or damage to property is due to the negligence of the Contractor, his/her subcontractors, its successor or assigns, or its or their agent, servants, or employees. It is further provided that no liability shall attach to the County by reason of entering into any contract, except as expressly provided herein or as otherwise required by operation of law upon political subdivisions of the State of Washington.
14. **Insurance:** The Consultant shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, or employees. Insurance is to be placed with insurers with a current A. M. Best rating of no less than A: VII.
- a. **Minimum Amounts of Insurance:**  
Consultant shall maintain the following insurance limits:
1. Automobile Liability insurance with a minimum combined single limit for bodily injury and property damage of \$1,000,000 per accident.
  2. Commercial General Liability insurance shall be written with limits no less than \$1,000,000 each occurrence, \$2,000,000 general aggregate.
  3. Professional Liability insurance shall be written with limits no less than \$1,000,000 per claim and \$1,000,000 policy aggregate limit.
- b. **Other insurance provisions:**  
The insurance policies are to contain, or be endorsed to contain, the following provisions:
1. The Consultant will furnish an original certificate of insurance, indicating Lewis County is additionally insured. This certificate will be included as part of the proposal package.
  2. The Consultant's insurance shall be endorsed to state that coverage shall not be cancelled by either party, except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the County.
15. **Industrial Insurance Waiver:** With respect to the performance of this contract and as to claims against the County, its appointed and elected officers, agents and employees, the Contractor expressly waives its immunity under Title 51 of the Revised Code of Washington, the Industrial Insurance Act, for injuries to its employees, and agrees that the obligations to indemnify, defend and hold harmless provided in this contract extend to any claim brought by or on behalf of any employee of the Contractor. This waiver is mutually negotiated by the parties to this Memorandum as part of the valuable consideration of present and future contracts.

16. **Venue and Choice of Law:** In the event that any litigation should arise concerning the construction or interpretation of any of the terms of this contract, the venue of such action of litigation shall be in the courts of the State of Washington in and for the County of Lewis. This contract shall be governed by the laws of the State of Washington. Except as otherwise stated herein, each party shall be responsible for its own attorneys fees.

17. **Withholding Payment:** In the event the Contractor has failed to perform any substantial obligation to be performed by the Contractor under this contract, and said failure has not been cured within the times set forth in any contract, then the County may, upon written notice, withhold all moneys due and payable to Contractor, without penalty, until such failure to perform is cured or otherwise adjudicated.

18. **Future Non-Allocation of Funds:** If sufficient funds are not appropriated or allocated for payment under this contract for any future fiscal period, the County will not be obligated to make payments for services or amounts incurred after the end of the current fiscal period. No penalty or expense shall accrue to the County in the event this provision applies.

19. **Contractor Commitments, Warranties and Representations:** Any written Commitment received from the Contractor concerning this contract shall be binding upon the Contractor, unless otherwise specifically provided herein with reference to this paragraph. Failure of the Contractor to fulfill such a commitment in accordance with industry standards shall render the Contractor liable for damages to the County. A commitment includes, but is not limited to, any representation made prior to execution of this contract, whether or not incorporated elsewhere by reference, as to performance of services or equipment, prices, or options for future acquisition to remain in effect for a fixed period, or warranties.

20. **Patent/Copyright Infringement:** Contractor will defend and indemnify the County from any claimed action, cause or demand brought against the County, to the extent such action is based on the claim that information supplied by the Contractor infringes upon any patent or copyright. The Contractor will pay the costs and damages attributable to any such claims that are finally awarded against the County in any action. Such defense and payments are conditioned upon the following:

That Contractor shall be notified promptly in writing by County of any notice of such claim.

Contractor shall have the right, hereunder, at its option and expense, to obtain for the County the right to continue using the information, in the event such claim of infringement, is made, provided no reduction in performance or loss results to the County.

21. **Disputes:**

General

Differences between the Contractor and the County, arising under and by virtue of this contract shall be brought to the attention of the County at the earliest possible time in order that such matters may be settled or other appropriate action promptly taken. Except for such objections as are made of record in the manner hereinafter specified and within the time limits stated, the records, orders, ruling, instructions, and decisions of the County, shall be final and conclusive.

Notice of Potential Claims

The Contractor shall not be entitled to additional compensation which otherwise may be payable, or to extension of time for (1) any act or failure to act by the County, or (2) the happening of any event or occurrence, unless the Contractor has given the County a written Notice of Potential Claim within 10 days of the commencement of the act, failure, or event giving rise to the claim, and before final payment by the County. The written Notice of Potential Claim shall set forth the reasons for which the Contractor believes additional compensation or extension of time is due, the nature of the cost involved, and insofar as possible, the amount of the potential claim. Contractor shall keep full and completed daily records of the work performed, labor and material used, and all costs and additional time claimed to be additional.

Detailed Claim

The Contractor shall not be entitled to claim any such additional compensation, or extension of time, unless within 30 days of the accomplishment of the portion of the work from which the claim arose, and before final payment by the County, the Contractor has given the County a detailed written statement of each element of cost or other compensation requested and of all elements of additional time required, and copies of any supporting documents evidencing the amount or the extension of time claimed to be due.

22. **Ownership of Items Produced:** All writings, programs, data, public records or other materials prepared by the Contractor and/or its consultants or subcontractors, in connection with the performance of any contract shall be the sole and absolute property of the County. The Contractor is not liable for any reuse of these materials except as it relates to this project.
23. **Confidentiality:** The Contractor, its employees, subcontractors, and their employees shall maintain the confidentiality of all information provided by the County or acquired by the Contractor in performance of any contract, except upon the prior written consent of the Contract Manager or an order entered by a court after having acquired jurisdiction over the County. Contractor shall immediately give to the County notice of any judicial proceeding seeking disclosure of such information. Contractor shall indemnify and hold harmless the County, its officials, agents or employees from all loss or expense, including but not limited to settlements, judgments, setoffs, attorney's fees and costs resulting from Contractor's breach of this provision.

24. **Notice:** Except as set forth elsewhere in this contract, for all purposes under said contract, except service of process, notice shall be given by the Contractor to the Contract Manager. Notice to the Contractor for all purposes under any contract shall be given to the address of record supplied by the contractor. Notice may be given by delivery or by depositing in the U.S. mail, first class, postage prepaid.
25. **Severability:** If any term or condition of this contract or the application thereof to any person(s) or circumstances is held invalid, such invalidity shall not affect other terms, conditions or applications which can be given effect without the invalid term, condition or application. To this end, the terms and conditions of said contract are declared severable.
26. **Waiver:** Waiver of any breach or condition of this contract shall not be deemed a waiver of any prior or subsequent breach. No term or condition of thereof shall be held to be waived, modified or deleted except by an instrument, in writing, signed by the parties hereto.
27. **Survival:** The provisions of paragraphs 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25 and 26 of this Agreement, shall survive, notwithstanding the termination or invalidity of this Agreement for any reason.
28. **Entire Agreement and Interpretation:** This contract represents the entire agreement for professional services as between the parties, and supersedes any prior oral statements, discussions or understanding between the parties.
29. **Contract Management**  
The Contract Manager for Lewis County and the program manager for the Contractor shall be responsible for and shall be the contact person for all communications and billings regarding the performance of this Agreement.



## SPECIAL CONDITIONS

### A. **Definitions**

The COUNTY is the recipient of CONTRACTOR's services, and at all times acts through its Board of County Commissioners. The Contact Manager of the COUNTY will be Robert A. Johnson, Director of Community Development, or his designee.

### B. **Non-Discrimination (Lewis County Funds)**

The CONTRACTOR should be aware that public funds are being used to assist in projects associated with any contract between the parties. During the performance of any contract, the CONTRACTOR agrees as follows:

1. The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this non-discrimination clause.
2. The CONTRACTOR will, in all solicitations or advertisements for employees placed by or on behalf of the CONTRACTOR, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.
3. The CONTRACTOR will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, notice to be provided by the agency contracting officer, advising the labor union or worker's representative of the contractor's commitments under Section 202 or Executive Order No. 11246 of September, 1965, and shall post copies of the notice in a conspicuous place available to employees and applicants for employment.
4. The CONTRACTOR will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations and relevant orders of the Secretary of Labor.
5. The CONTRACTOR will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules,

regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books and records for purposes of investigation to ascertain compliance with such rules, regulations and orders.

6. In the event of the CONTRACTOR'S non-compliance with the non-discrimination clauses of this contract or with any such rules, regulations, or orders, any contract may be canceled, terminated or suspended in whole or in part and the contract(s) may be declared ineligible for further government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.
7. The CONTRACTOR will include the provisions of Paragraphs (1) through (7) in every sub-contract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each sub-contract or vendor. The CONTRACTOR will take such action with respect to any sub-contract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for non-compliance: Provided, however, that in the event the CONTRACTOR becomes involved in, or is threatened with, litigation with a sub-contractor or vendor as a result of such direction by the contracting agency, the CONTRACTOR may request the United States to enter into such litigation to protect the interest of the United States.

**C. Original Specifications**

It is hereby expressly agreed by and between the parties involved that in any matter, dispute, suit, or proceedings arising or in any way growing out of any contract in which it may be necessary to introduce into evidence the original of such specifications, that a printed copy thereof may be used in lieu thereof with like force and effect as though the original was produced.

**The CONTRACTOR, shall further verify that:**

1. He had not employed or retained any company or person (other than a full-time bona fide employee working solely for the offerer) to solicit or receive said contract(s); and
2. He has not paid or agreed to pay any company or person (other than a full-time bona fide employee working solely for the offerer) any fee, commission, percentage, or brokerage fee contingent upon or resulting from the award of said contract(s); and
3. He has not been asked or otherwise coerced, whether expressed or implied, into contributing funds, for any purpose as a condition to doing business with the COUNTY.

**IN WITNESS WHEREOF, the parties have executed this Agreement**

This Agreement represents the entire Agreement between the parties and supersedes any prior oral statements, discussions or understandings.

**Lewis County Contract Manager**

Robert A. Johnson, Director of  
Community Development  
2025 NE Kresky Ave.  
Chehalis, WA 98532  
(360) 740-2606

**Contractor Program Manager**

Raymond Walton, PhD, PE, D.WRE  
WEST Consultants, Inc.  
12509 Bel-Red Road, Suite 100  
Bellevue, WA 98005  
425-646-8806

**LEWIS COUNTY**

By: \_\_\_\_\_  
Robert A. Johnson

Title: Director of Community  
Development

Date: \_\_\_\_\_

**WEST CONSULTANTS, INC.**

By: \_\_\_\_\_  
Raymond Walton

Title: Vice President, WEST  
Consultants, Inc.

Date: \_\_\_\_\_

## Attachment A

### SECOND SUPPLEMENT TO PROFESSIONAL SERVICES AGREEMENT BETWEEN LEWIS COUNTY, ACTING AS LEAD AGENCY FOR THE CHEHALIS RIVER BASIN FLOOD CONTROL AUTHORITY, AND WEST CONSULTANTS, INC.

#### **Chehalis River Flood Warning System – Phase 2 Second Supplement Scope of Work**

##### **Background**

On April 2, 2010, WEST Consultants, supported by Engineered Monitoring Solutions and HDR, submitted a report entitled *Chehalis River Basin Early Flood Warning Program: Phase 1 Conceptual Design* for the Chehalis River Basin Flood Authority. The report presented the results of a stakeholder needs assessment for flood warning improvements in the Chehalis Basins. Identified needs included:

- A comprehensive basin-wide flood warning system interface to collect, manage, and display flood information that could be accessed by Flood Authority jurisdictions and the public,
- River level forecast improvements,
- Precipitation monitoring improvements,
- Snowpack monitoring improvements,
- River and stream level monitoring improvements,
- Flood warning notification improvements,
- Improved communications with reservoirs owners and Washington Department of Transportation.

Planning level cost estimates to implement the reported stakeholder needs were on the order of \$500,000.

The Phase 1 report suggested that the next phase of the Flood Warning Program produce a detailed design to implement the needed improvements. In preparing the scope of work and anticipated costs for completing a detailed design for flood warning improvements, it became clear that the cost of completing a full detailed design study would nearly exhaust available funding, leaving little or no available funds to implement any improvements.

Therefore, WEST Consultants concluded that an alternative Phase 2 approach was needed. Instead of completing a costly study to provide a complete design to implement all perceived needs, WEST proposes to maximize what can be implemented and made operational within the constraints of the currently available funding. Having a baseline operational system for the Flood Authority jurisdictions and the general public to use will not only provide immediate flood warning benefits but the experience will help clarify the importance of the remaining perceived needs. The Flood Authority may determine

Formatted: Font: 11 pt

Formatted: Font: 11 pt

through its own experience that some of the perceived needs are confirmed, some might be eliminated, and new needs/approaches may emerge.

### **Phase 2 Approach**

▲ In any set of proposed flood warning system improvements, three elements will be present:

1. A comprehensive basin-wide flood warning system interface,
2. Data monitoring improvements,
3. Flood warning signage.

▲ The first priority should be to implement the comprehensive basin-wide flood warning system interface to consolidate currently available flood information and make the information easily available to the Flood Authority jurisdictions. The interface provides immediate benefits to all of the Flood Authority stakeholders and the general public.

The second priority is to improve the data monitoring capabilities in the watershed to help improve flood forecast accuracy by the National Weather Service and to aid interpretation of existing data.

### **Basin-wide Flood Warning System Interface**

▲ The Phase 1 report proposed a conceptual design for the flood warning system interface called RFLAWS (River Flood Level Observation and Warning System, See Phase 1 Report Figure 3-1). Since the submission of the Phase 1 report, WEST Consultants determined that a commercially available service is available that performs nearly all of the functionality of the proposed RFLAWS. The service can be implemented at a fraction of the RFLAWS design, development, implementation, and operational costs.

The commercial service, called Contrail Web, is operated by OneRain, Inc. Contrail has been in use for several years by local flood warning agencies throughout the country, the State of North Carolina, and the Bureau of Reclamation among others. The Bureau of Reclamation uses Contrail to monitor Dam Safety for its dams on tribal lands throughout the western US.

Contrail is hosted by OneRain's Contrail® Enterprise and is a high-availability information system containing live data from about 27,000 sensors across the U.S., of which more than 10,000 are rain gauges. Operated on a 24/7-supported basis, Contrail® adds about 15,000,000 new data records each month in real time. Data are integrated from local data collection systems, along with federal and state agency data collection systems such as USGS, METAR, HADS, Orbcomm, Satellite or any other platform. Users have access to their data any time, from anywhere on the Internet. Agencies often choose an architecture that combines their local software with hosted data – they can be integrated seamlessly to create very high reliability.

A **demonstration** Contrail website has been operating implemented for the Chehalis Basin collecting data from more than 30 USGS stage gages, and four weather stations, and new sites added as part of this project. The website is easily customizable to reflect a “look and feel” similar to the current Flood Authority website. The Contrail website can become the “portal” for flood information for the Flood Authority and the public. Precipitation, weather, stream level, and other data types can be displayed on maps, charts, and tables. Simple and complex alarm conditions can be set to send out alerts and warnings when monitoring conditions reach critical levels. The Flood Authority can provide the latest news and other flood information to users through Contrail. Links to other agencies such as the NWS, USGS, USACE, Washington DOT, for example, can

Formatted: Font: 11 pt

Formatted: Font: (Default) Arial

Formatted: Font: 11 pt

Formatted: Font: 11 pt

Comment [dc1]: Yellow highlighted language not needed. Recommend deletion.

Formatted: Font: 11 pt, Highlight

Formatted: Font: 11 pt

Formatted: Font: 11 pt

be provided to make the site a "one stop shop" for flood information in the Chehalis watershed. Information from Contrail can even be displayed on PDAs and smart phones with Internet access.

Contrail can be made operational for the Flood Authority immediately upon notice to proceed. The following screen captures, provide a small sample of the displays currently running on the Chehalis Contrail demonstration site.

## **Second Supplement Scope of Work and Compensation**

The above work was contracted for by West with the expectation that the work would be completed no later than June 30, 2011. Due to circumstances beyond the control of the contractor, the final deliverables from the Supplemental Contract for Phase 2 work will not be completed until after June 30, 2011. The additional work necessary to satisfy the Supplemental Agreement scope of work is summarized below:

Task 3 Installation of Gages:	\$9,331.21
Task 4 Agency Coordination:	\$1,326.80
<b>Total Subtotal:</b>	<b>\$10,658.01</b>
Task 5 Operation and Maintenance of Gages	\$38,118.50
Task 6 Public Outreach	\$4,000.00
Task 7 Contrail Web Subscription	\$2,736.00

### **Operation and maintenance Maintenance of Gages**

WEST Consultants will conduct all field operation and maintenance tasks for 8 rain gages and 2 stream gages for a time period of 12 months. The 2 stream gages will measure and report both river stage and rainfall. The WEST staff in Vancouver, WA will perform routine maintenance, monitor real-time data, and respond to problems that may develop with field equipment. It is anticipated that each field site will be visited a total of 5 to 6 times per year to perform routine maintenance as well as emergency repairs.

Established USGS protocol will be followed to collect rainfall and stage data. Each routine field site visit will include an onsite download and review of data as well as inspections and repairs needed to maintain the battery, solar panel, rain gage, stage sensor, data logger, antenna, and GOES radio. Rain gage calibration will be conducted at least one time during the year. At the stream gages staff gage observations will be compared to live stage measurements from the data logger. Rainfall and stage data that is collected will be considered provisional prior to a final data review at the end of 12 months. At that time WEST will provide finalized rainfall and stage data to the Flood Authority.

The operation and maintenance budget includes all labor, vehicle mileage, travel, per diem, and routine material costs.

### **Installation of Gages**

Formatted: Font: 11 pt, Highlight

Formatted: Font: 11 pt

Formatted: Font: 11 pt

Formatted: Font: (Default) Arial

Formatted: Font: 11 pt

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: 11 pt

Formatted: Font: (Default) Arial

Formatted: Font: 11 pt

Formatted: Tab stops: 1.5", Left

Formatted: Font: (Default) Arial

Formatted: Font: 11 pt

Formatted: Font: (Default) Arial

Formatted: Font: 11 pt

Formatted: Font: (Default) Arial

Formatted: Font: 11 pt

Formatted: Tab stops: 4.63", Decimal aligned

Formatted: Tab stops: 4.5", Decimal aligned

Formatted: Font: 11 pt

Formatted: Font: 12 pt, Bold

Formatted: Left

Formatted: Font: 10 pt

Formatted: Font color: Auto

Formatted: Left

Formatted: Font color: Auto

Formatted: Font: 11 pt

Formatted: Font: 12 pt

Formatted: Font: 14 pt

Formatted: Font: 11 pt

Upon receipt of installation permits from the appropriate landowners, WEST Consultants will complete installation of five rain/temperature stations and one rain/temperature/stream monitoring station. Equipment from existing inventories will be used. Industry standard gage installation practices will be followed.

WEST Consultants will activate the GOES transmission platform at each station and ensure all data are received and available via Contrail Web.

### Agency Coordination

WEST Consultants will coordinate, as necessary with the Flood Authority, other agencies, and landowners to facilitate the procurement of the necessary gage installation permits.

### Public Outreach

WEST Consultants will plan and coordinate a public dedication ceremony for the *Chehalis River Flood Warning System*. Key Chehalis River Basin stakeholders, agencies (i.e. NWS, COE, USGS, DNR, WA DOT, etc.), cooperating partners such as Weyerhaeuser and TransAlta, the media, and the public would be invited. The goals of the ceremony are to create awareness of the new system in advance of the 2011-2012 rainy season, encourage flood preparedness in the basin, highlight the system benefits to the community, and celebrate the cooperation of numerous partners that made the system possible.

The event would include a brief overview of the system, comments by public officials, a brief demonstration, if feasible, and a Q&A session.

### Contrail Web Subscription – Annual

Contrail Web hosted service is an annual fee based on fixed and variable pricing structures. The key fixed components support the software, web site, feature enhancements throughout the year, and ongoing technical support. The variable pricing components are based on the data agents used to integrate alternate gauge sources into Contrail, as well as the number of gauge sites and sensors stored in the program.

The current Contrail configuration for the Chehalis basin includes approximately 90 sensors from various sources including Chehalis, USGS, HADS and METAR gauge sites.

As additional gauge sites are added thereafter, and/or additional sources of gauge information are integrated into Contrail, the annual fee will be adjusted accordingly.

Formatted: Font: 11 pt

Formatted: Font: 11 pt

Formatted: Font: 12 pt

Formatted: Font: 14 pt

Formatted: Font: 11 pt

Formatted: Font: 11 pt

Formatted: Font: Bold

Formatted: Font: 11 pt

Formatted: Font: Bold

Formatted: Font: 11 pt