

**PERSONAL SERVICES AGREEMENT**  
**Between**  
**LEWIS COUNTY,**  
**Acting as the Fiscal Agent for the Chehalis River Basin Flood Authority**  
**and**  
**Watershed Science & Engineering, Inc., Seattle, Washington**

**THIS AGREEMENT** is made and entered into by and between LEWIS COUNTY, WASHINGTON, herein referred to as "County", acting as the fiscal agent for the Chehalis River Basin Flood Authority ("Flood Authority"), and Watershed Science & Engineering, Inc., 110 Prefontaine Place South, Suite 508, Seattle, Washington 98104, herein referred to as "WSE" or "Contractor". For purposes of this Agreement, "Agreement" and "contract" shall have the same meaning.

**IT IS THE PURPOSE OF THIS AGREEMENT** to provide hydraulic modeling services to the Flood Authority, to update the hydraulic model for flood mitigation purposes for the Chehalis River from Grand Mound to the mouth of the river, consistent with the Statement of Qualifications submitted by WSE in response to a Request for Qualifications offered by the County and opened on August 8, 2011, and attached hereto.

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

**Statement of Work**

WSE 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 Scope of Work (including through a sub-contract with WEST Consultants), attached hereon as "Attachment A", consistent with the Statement of Qualifications submitted to the Flood Authority by the Contractor on August 8, 2011.

**Period of Performance**

Subject to its other provisions, the period of performance of this Agreement shall commence on the date of signing by both parties and be completed as agreed in the attached Scope of Work, "Attachment A", but may be modified or extended by written mutual agreement of both parties.

**Payment**

Compensation for the work performed pursuant to the Scope of Work set forth in "Attachment A" shall be as set forth in the Schedule of Compensation attached as "Attachment B" and incorporated fully herein by this reference.

### **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 fiscal agent 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 or Flood Authority in the event this provision applies.

## ***GENERAL CONDITIONS***

1. **Scope of Contractor's Services:** Watershed Science & Engineering, Inc., 110 Prefontaine Place South, Suite 508, Seattle, Washington 98104, hereafter referred to as the "Contractor" or "WSE", agrees to provide to the County the services as described in the Scope of Work, "Attachment A", and attached hereto and incorporated herein by this reference, for the compensation set forth in the Schedule of Compensation attached hereto as "Attachment B" and incorporated herein by this reference, solely on behalf of Lewis County, acting as the fiscal agent for the Flood Authority and as directed by the Director of Community Development.
2. **Accounting and Payment for Contractor Services:** The County Contractor shall be paid for performance under this Agreement, in accordance with the Schedule of Compensation attached hereto as Attachment B to this Agreement and incorporated herein by this reference.
3. **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.
4. **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" and incorporated herein by this reference.
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 Agreement 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 Agreement 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 Agreement.

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 Agreement 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 Agreement 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 Agreement, and at the County's option, obtain performance of the work elsewhere. If the Agreement is terminated for default, the Contractor shall not be entitled to receive any further payments under the Agreement 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 Agreement 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 Agreement 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 Agreement 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 Agreement 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 Contractor 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 Contractor, 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:**  
Contractor 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, \$3,000,000 general aggregate.
3. Professional Liability insurance shall be written with limits no less than \$1,000,000 aggregate limit.

b. Other insurance provisions:

The insurance policies are to contain, or be endorsed to contain, the following provisions:

1. The Contractor 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 Contractor'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 in its capacity as the fiscal agent for the Flood Authority. 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**  
**Watershed Science & Engineering,**  
**Inc.**

Larry Karpack  
110 Prefontaine Place South, Suite 508  
Seattle, WA 98104  
(206) 521-3000

**Lewis County**

By:   
Robert A. Johnson

Title: Director of Community  
Development

Date: 9/7/11

**Watershed Science & Engineering,**  
**Inc.**

By:   
Larry Karpack

Title: Principal Hydrologist and Hydraulic  
Engineer

Date: Sept. 6, 2011

# **Attachment A**

## **ATTACHMENT TO PROFESSIONAL SERVICES AGREEMENT BETWEEN LEWIS COUNTY, ACTING AS FISCAL AGENT FOR THE CHEHALIS RIVER BASIN FLOOD AUTHORITY AND WATERSHED SCIENCE & ENGINEERING, INC.**

### **Scope of Work:**

Consistent with the purpose of this agreement, the Contractor agrees to develop hydraulic modeling and analysis of the Chehalis River, consistent with both the Request for Qualifications for professional services for hydraulic modeling issued by Lewis County, acting as the fiscal agent for the Flood Authority on July 25, 2011, and the Statement of Qualifications submitted by the Contractor on August 8, 2011, to include:

- Filling in the data gaps in the hydraulic model for the lower Chehalis River as needed to meet the needs of the Flood Authority;
- Developing additional baseline hydrology for the Chehalis River Basin as needed to augment work currently underway by the U. S. Army Corps of Engineers ("USACE");
- Evaluation of flood levels with the proposed upstream water retention dam on the main stem Chehalis River;
- Evaluation of flood levels for the Twin Cities (USACE) project with and without the proposed levees and with and without the proposed added Skookumchuck storage;
- Coordination with the Flood Authority and EES Consulting to define and identify at risk public and private infrastructure including public facilities (roads, bridges) and residential, commercial, and industrial development;
- Coordination with the Flood Authority to define and identify other critical infrastructure features in the modeling, such as, Sickman-Ford bridge (to be coordinated with Chehalis Tribe), damaged Cosmopolis water retention structure (Note: USACE G.I. model will extend to Montesano. To extend further downstream may require additional survey.), Oakville street and culvert constrictions, Chehalis Reservation infrastructure, Montesano waste water treatment facility, and other constriction points noted in the Flood Authority Projects List;
- Coordination with the USACE in its effort to support the USACE development of an ecosystem hydraulic model for the Chehalis River Basin as part of the General Investigation Study;
- Coordination with other entities and agencies that may have pertinent information relating to the Chehalis River Basin hydrology and hydraulics;
- Completion of a draft report of the above effort by March 15, 2012;
- Coordination with EES Consulting as information is developed prior to February 28, 2012; and
- Providing routine status reports to the Flood Authority and the Governor's Office (OFM Policy Office).

All work completed shall be subject to approval by the Flood Authority and Lewis County, acting as the fiscal agent for the Flood Authority. Detailed tasks to be completed as part of this study to accomplish the objectives listed above are defined below.

### **Task 1 - Overall Project Management, Stakeholder Involvement, Regular Communication with Flood Authority**

WSE will be responsible to the Flood Authority for the overall management of the model development project. This will include making sure work is completed and delivered in a timely manner and that agreed upon schedules and budgets are met. WSE will administer the contract including providing monthly invoicing and progress reports. In addition WSE will lead consultant team presentations to the Flood Authority coincident with key milestones and as necessary to keep the Flood Authority fully informed about the status of the work. WSE will also coordinate stakeholder input to the model development project to ensure key objectives are understood and, to the extent possible, met within this project. WEST Consultants, Inc., Bellevue, WA, WSE's primary sub-consultant, will provide support in the form of presentations and communications to the Flood Authority.

WSE will lead this task with support from WEST Consultants.

***Projected Task Completion Date:*** This Task will extend through the duration of the Contract with the Flood Authority.

### **Task 2 - Initial Basin Reconnaissance**

Conduct field reconnaissance of the basin, canvass stakeholder groups (including Chehalis Tribe and the USACE), gather information (including topographic data), begin stakeholder involvement process, identify modeling goals and objectives of key stakeholders, determine extent of past and concurrent modeling efforts (FEMA, USACE, Anchor, WEST Consultants, etc.). (Input from WEST Consultants will be particularly important for working with the USACE to understand their current modeling efforts in the lower Chehalis basin).

WSE will lead this task with support from WEST Consultants.

***Projected Task Completion Date:*** September 30, 2011.

### **Task 3 - Conduct Adequacy Review of Existing Floodplain Topographic and LiDAR Data**

Considering the stakeholder objectives identified in Task 2 and the topographic information collected or identified during the initial basin reconnaissance, an evaluation will be made of the quality of the topographic data and, in particular, its ability to support the development of work products that achieve the stakeholder objectives.

WSE will lead this task. Detailed data analysis will be conducted by 3Di-West. Survey support will be provided by WEST Consultants or PGS.

***Projected Task Completion Date:*** September 30, 2011.

### **Task 4 - Detailed Work Plan Development**

Prior to authorization by the Flood Authority for payment for any fieldwork, surveying, modeling or other work or tasks whatsoever under the terms of this Agreement, WSE shall, in consultation with the Flood Authority, agencies and the Tribes, develop a Work

Plan for completion of the work under the terms of this Agreement. The Work Plan shall be developed based on the information generated in the preceding tasks, including stakeholder objectives and knowledge of concurrent and past modeling efforts. This detailed Work Plan will be developed to guide the remaining tasks in the project. The Work Plan will include schedule milestones, detailed scope information and estimated costs for each task.

The draft Work Plan may be distributed by the Flood Authority to interested agencies and Tribes for review and comment. Any comments received from the agencies and Tribes will be reviewed by the Flood Authority and forwarded to WSE to respond to in the final Work Plan. The Flood Authority shall review and approve the final Work Plan prior to it becoming effective. The final Work Plan shall be incorporated into this Agreement and shall be subject to all terms and conditions of this Agreement. The Work Plan may subsequently be amended by mutual consent of the parties with the approval of the Flood Authority, provided that such amendment is necessary for completion and approval of the hydraulic model and does not increase the cost for services under this Agreement.

In the event that a Work Plan is not submitted or is not approved by the Flood Authority, this Agreement shall be terminated without any payment, provided that WSE may request reimbursement for actual time and expense spent on Tasks 1, 2 and 3 above and developing a draft Work Plan at an hourly rate as may be included in "Attachment B", Schedule of Compensation, and specified expressly for the same.

WSE will lead this task with support from WEST Consultants.

***Projected Task Completion Date:*** September 30, 2011.

#### **Task 5 - Refine USACE Hydraulic Model to reflect Flood Authority Interest**

WEST Consultants is currently under contract to the USACE to develop a hydraulic model of the Chehalis River (Pe Ell to Montesano) under the Basin-wide General Investigation (GI). The USACE project includes collection of bathymetric survey data for model cross sections and the development of hydrologic data for the basin. Based on stakeholder input, the Flood Authority may desire to have WEST Consultants modify, enhance, or refine that hydrologic and hydraulic modeling effort to better facilitate modeling and analysis related to key stakeholder objectives. If possible, this work will be conducted under WEST Consultant's current contract with the USACE. However, if the needs of the Flood Authority diverge from the needs or schedule of the USACE project, this work may be conducted under the Flood Authority contract.

WEST Consultants will lead this task with support from WSE.

***Projected Task Completion Date:*** November 30, 2011.

#### **Task 6 - Extend Hydraulic Modeling (Including Survey, Hydrology and Hydraulics)**

It is anticipated that the work currently being done by WEST Consultants for the USACE can be leveraged extensively to meet the needs for hydraulic modeling in the lower Chehalis River. If this proves to be true, it will free up resources to allow the Flood

Authority to conduct additional modeling efforts to meet stakeholder needs. The detailed work plan developed in Task 4 will define which rivers/reaches will be modeled and whether additional survey and/or hydrologic data development is required.

WSE and WEST Consultants will determine leadership of this task after the detailed work plan is developed.

***Projected Task Completion Date:*** November 30, 2011.

#### **Task 7 - QA/QC Technical Review of WEST Consultants Hydrologic and Hydraulic Modeling**

Under the USACE Contract, WEST Consultants will develop hydrologic data for the Chehalis River basin and calibrate the Baseline Hydraulic Model of Chehalis River. This work is expected to be complete by December 31, 2011. As previously described, the USACE model may be refined and/or expanded under the Flood Authority Contract. To the extent possible, the refined/expanded model will be calibrated by WEST Consultants as part of its work for the USACE. If significant model refinements or modifications make it necessary for additional model calibration to be conducted under the Flood Authority contract, that work would be done under Tasks 5 and 6. Through the USACE work and Tasks 5 and 6 of this contract, baseline hydrologic and hydraulic modeling and analysis will be developed. These baseline analyses will be subject to independent technical review to ensure they adequately meet the needs and objectives of the Flood Authority as defined in the work plan.

WSE will lead this task.

***Projected Task Completion Date:*** January 15, 2012.

#### **Task 8 - Technical Evaluation, Reporting of Flood Relief Alternatives to Flood Authority**

A range of possible flood damage reduction projects are under consideration for the upper areas of the Chehalis River. These include (1) upstream storage projects on the Upper Chehalis, South Fork Chehalis and Skookumchuck Dams, (2) USACE proposed levee modifications and (3) combinations of storage and levee projects. Under this task, alternative upstream conditions will be evaluated and compared to the baseline condition. Specific activities shall include definition of alternative upstream conditions, hydraulic modeling and analysis, and reporting of results. The alternatives may include new upstream reservoir storage, loss of storage in the floodplain due to development and/or levees, modifications to existing upstream reservoir storage, or any combination of these. The hydrologic effect of the upstream projects will be determined either from previous analyses or by running the upstream model. The effect of the upstream projects will be input to the lower Chehalis River made as a change in the hydrologic input at the upstream end of the model. The lower Chehalis River model will then be run with the changed hydrologic inputs and differences in terms of simulated water levels at various locations will be tabulated. It should be noted that WEST Consultants is currently under contract to the USACE to conduct an evaluation of the potential downstream effects of the USACE Twin Cities Levee project. This analysis may be

sufficient to address any questions raised by the Flood Authority related to that proposal.

WSE will lead this task with support from WEST Consultants for the evaluation of the USACE Levee Project and Skookumchuck storage.

Projected Task Completion Date: February 22, 2012.

#### **Task 9 - Provide QA/QC Technical Review of WSE Flood Relief Alternatives Analysis**

The flood relief alternatives analyses described in Task 8 will be subject to independent technical review to ensure the needs and objectives of the Flood Authority are adequately met as defined in the Work Plan.

WEST Consultants will review work performed by WSE and WSE will review work performed by WEST Consultants.

**Projected Task Completion Date:** February 29, 2012.

#### **Task 10 - Milestone Meetings / Conference Calls with Flood Authority**

WSE will coordinate presentations, communications and information transfer to the Flood Authority at key milestones in the project to ensure Flood Authority members are kept fully informed. The milestones and schedule will be determined during the Work Plan Development in Task 3.

WSE will lead this task with support from WEST Consultants.

**Projected Task Completion Date:** This Task will extend through the duration of the Contract with the Flood Authority.

#### **Task 11 – Comprehensive Project Report**

WSE will prepare a project report to document the findings of the hydraulic model investigations described above. A draft report will be prepared and submitted to the Flood Authority for review and comment. Upon receipt of comments, a final report will be prepared and distributed.

WSE will lead this task with support from WEST Consultants.

**Projected Task Completion Date:** Draft Report March 15, 2012; Final Report 10 days following receipt of consolidated comments from Flood Authority.

**PERIOD OF WORK:** Work shall begin immediately following ratification of the Agreement by all parties and the first phase shall be completed on or before June 30, 2012. The contract end date may be modified by written mutual consent of both parties.

The work shall not be deemed complete until and unless final approval has been granted by the County acting as the fiscal agent for the Flood Authority. The County shall grant such approval when all conditions of the Agreement and Scope of Work have been met by the Contractor.