

STATE OF CALIFORNIA
STANDARD AGREEMENT
 STD 213 (Rev 06/03)

AGREEMENT NUMBER 11-C0090
REGISTRATION NUMBER 1191384

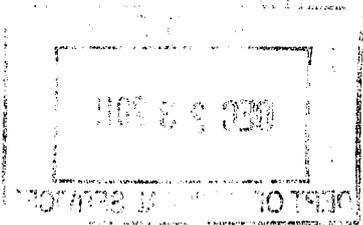
- This Agreement is entered into between the State Agency and the Contractor named below:
 STATE AGENCY'S NAME
Department of Pesticide Regulation (DPR)
 CONTRACTOR'S NAME
The Regents of the University of California
- The term of this Agreement is: **November 15, 2011 or upon final approval by the State, whichever occurs later, through November 14, 2013**
- The maximum amount of this Agreement is: **\$140,000.00 One Hundred Forty Thousand Dollars and No Cents**
- The parties agree to comply with the terms and conditions of the following exhibits which are by this reference made a part of the Agreement.

Exhibit A – Scope of Work	4 Pages
Exhibit B – Budget Detail and Payment Provisions	3 Pages
Exhibit C* – General Terms and Conditions (GIA 610)	
Exhibit D - Special Terms and Conditions	2 Pages
Exhibit E – Additional Terms and Conditions	1 Page

Items shown with an Asterisk (*), are hereby incorporated by reference and made part of this agreement as if attached hereto. *These documents can be viewed at <http://www.ois.dgs.ca.gov/Standard+Language/default.htm>*

IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.

CONTRACTOR		California Department of General Services Use Only <div style="border: 2px solid black; padding: 10px; width: fit-content; margin: 0 auto;"> APPROVED DEC 23 2011 DEPT OF GENERAL SERVICES </div>
CONTRACTOR'S NAME (if other than an individual, state whether a corporation, partnership, etc.) The Regents of the University of California		
BY (Authorized Signature) 	DATE SIGNED (Do not type) 11/23/11	
PRINTED NAME AND TITLE OF PERSON SIGNING Kathleen P. Nolan, J.D. Associate Director, Sponsored Programs		
ADDRESS 1850 Research Park Drive, Suite 300, Davis, CA 95618-6153		
STATE OF CALIFORNIA		
AGENCY NAME Department of Pesticide Regulation		
BY (Authorized Signature) 	DATE SIGNED (Do not type) 12/5/11	
PRINTED NAME AND TITLE OF PERSON SIGNING Anise Severns, Fiscal Services and business Operations Branch Manager		
ADDRESS 1001 I Street, Sacramento, CA 95814		
		<input type="checkbox"/> Exempt per: 



Approved by the Secretary of the Department of Agriculture
Washington, D. C. May 2, 1901

EXHIBIT A
STANDARD AGREEMENT

SCOPE OF WORK

1. This Agreement is entered into between the Department of Pesticide Regulation, hereinafter referred to as DPR, and The Regents of the University of California, hereinafter referred to as UCD or Contractor.
2. This Agreement will commence on the start date November 15, 2011 as presented herein or upon final approval by the State, whichever is later and no work shall begin before that time. This Agreement is of no effect unless approved by the State. Contractor shall not receive payment for work performed prior to approval of the Agreement and before receipt of notice to proceed by the Contract Manager. This Agreement shall expire on November 14, 2013. The services shall be provided during normal working hours, Monday through Friday, except State holidays.
3. The Project Representatives during the term of this Agreement will be:
 - A. All official communications, except invoices, from the Contractor to DPR shall be directed to the attention of the DPR Contract Manager, Xuyang Zhang, or designee, at:

Department of Pesticide Regulation
Environmental Monitoring Branch
1001 I Street
P.O. Box 4015
Sacramento, CA 95812-4015

Phone (916) 445-3195; Fax (916) 324-4088
Email address: xzhang@cdpr.ca.gov

- B. All invoices from the Contractor to DPR shall be directed to:

Department of Pesticide Regulation
Attn: Accounts Payable
P.O. Box 4015, MS 4A
Sacramento, CA 95812-4015

- C. All programmatic communications from DPR to the Contractor shall be directed to the attention of Professor Minghua Zhang, or designee, at:

Prof. Minghua Zhang
Department of Land, Air and Water Resources
University of California
Davis, CA 95616

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STANDARD AGREEMENT**

Office: (530) 752-4953 FAX (530) 752-5262
E-Mail: mhzhang@ucdavis.edu

- D. All administrative communications, except payments, from DPR to the Contractor shall be directed to the attention of Kendra Rose at:

Kendra Rose
Contract and Grant Analyst – Team A (Awards)
Office of Research-Sponsored Programs
University of California, Davis
1850 Research Park Drive, Suite 300
Davis, CA 95618

E-mail: ktrose@ucdavis.edu
Telephone: 530-754-7999

- E. All payments from DPR to the Contractor shall be directed to:

Cashier's Office
University of California Davis
PO BOX 989062
West Sacramento, California 95798-9062

- F. The Project Representatives during the term of this Agreement may be changed by mutual written agreement without the necessity of formal amendment to this Agreement.
4. The Contractor shall research and modify the RZWQM model for simulating pesticide transport and fate in surface water runoff from California agricultural fields as detailed in this Agreement.
- 5. Background and Goals:**
- A. The Surface Water Protection Program at the California Department of Pesticide Regulation (DPR) aims to protect human health and the environment by preventing pesticides from adverse effects on surface water quality. The program evaluates potential pesticide risks during the registration process and regulates pesticides with high potential risk to surface water. A cost-efficient and accurate risk evaluation procedure relies on advanced scientific tools such as simulation models. The Surface Water Protection Program is developing modeling procedures to provide quantitative basis for decision making and, therefore, enhance DPR's scientific capacity in pesticide risk assessment. After a preliminary search of existing models, the Root Zone Water Quality Model (RZWQM) has been identified as one of the best candidates capable of simulating pesticide runoff under California's agricultural

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conditions. The primary goal of this contract is to customize and improve the current RZWQM model performance under California conditions.

- B. RZWQM is a mechanistic model, initially developed by the United States Department of Agriculture's Agricultural Research Services, designed to simulate plant growth and movement of water, nutrients and pesticides in an agricultural system. The model has been widely used in the world to simulate water and agrochemical movement as impacted by different management practices. It has been recently enhanced by improving the pesticide sub-model, which includes detailed algorithms for simulating pesticide transport and fate in four (4) compartments: crop foliage, crop residues, soil surface and soil sub-surface or root zone. A Windows based user interface has made data input and output user-friendly for RZWQM. However, we expect the contract can overcome the model's current drawback, the lack of the ability to simulate sediment erosion. Since sediment erosion and transport is essential for hydrophobic pesticides, such as pyrethroids, simulating sediment erosion and transport is indispensable. Therefore, the Surface Water Protection Program propose this contract to modify the RZWQM by adding the soil erosion simulation and a few other features so that the model can be used to assist pesticide risk assessment at DPR.

6. Work to Be Performed

- A. The Contractor will meet with DPR's Surface Water Protection Program Staff to determine the details of the following modifications to be made to the RZWQM model:
- 1) To simulate soil erosion and transport in agricultural fields;
 - 2) To simulate pesticide transport and fate associated with runoff water and sediment;
 - 3) To simulate pesticide runoff generated by rainfall and various types of irrigation;
 - 4) To generate time series output of simulated runoff flow, pesticide concentration, plant growth and crop evapotranspiration rate (ET); and,
 - 5) To test the plant growth sub-models of RZWQM (qTree, qPlant and DSSAT sub-models) for tree and vegetable crops.

7. Tasks

- A. Task 1 - Meet with DPR surface water group modeling staff to identify specific details and methods of desired model modifications.
- B. Task 2 - Modify source code of the RZWQM model to incorporate the five features desired by DPR, listed above in Item 6. Work To Be Performed.
- C. Task 3 - Provide executable model files and associated user documents to DPR staff describing model methodology and preparation of input files.
- D. Task 4 - Test the modified model with experimental datasets obtained by DPR staff.

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- E. Task 5 - Correct any code problems during model testing.
 - F. Task 6 - Provide quarterly reports to DPR on project progress, and, if needed, meet with DPR to discuss project progress.
- 8. Deliverables**
- A. Modified RZWQM program
 - B. User Documentation for the modified model in an electronic format.
 - C. Ongoing modeling support for the duration of the contract, including, correction of any code problems discovered by DPR during model testing and assistance to DPR staff in testing, calibrating and validating the modified model.
- 9. Project Timeline**
- A. First year November 15, 2011- October 14, 2012:
 - i. Task (1), (2), (3), (4)
 - ii. Task (6)
 - B. Second year October 14, 2012- November 14, 2013
 - i. Task (3), (4), (5)
 - ii. Task (6)
- 10. DPR Responsibilities**
- A. DPR's Contract Manager will provide feedback and guidance to the contractor on project tasks and deliverables.
 - B. DPR surface water group staff will assist in testing the program modifications under various conditions to identify and report any problems or additional desired modifications.

EXHIBIT B
Standard Agreement

BUDGET DETAIL AND PAYMENT PROVISIONS

1. Invoicing

- A. For services performed according to the attached Scope of Work and the terms of this Agreement (Exhibit A), and upon receipt and approval of the invoices, DPR agrees to compensate Contractor, in arrears, for actual allowable costs incurred as specified herein and in accordance with the rates specified herein or attached hereto. Incomplete or disputed invoices shall be returned to Contractor, unpaid, for correction.
- B. Invoices shall include the Agreement Number and shall be submitted in triplicate, not more frequently than monthly or less than quarterly in arrears, to:

Department of Pesticide Regulation
Attn: Accounts Payable
P.O. Box 4015, MS-4A
Sacramento, CA 95812-4015

2. Budget Contingency Clause

- A. It is mutually agreed that if the Budget Act of the current year and/or any subsequent years covered under this Agreement does not appropriate sufficient funds for the program, this Agreement shall be of no further force and effect. In this event, DPR shall have no liability to pay any funds whatsoever to Contractor or to furnish any other considerations under this Agreement and Contractor shall not be obligated to perform any provisions of this Agreement.
- B. If funding for any fiscal year is reduced or deleted by the Budget Act for purposes of this program, DPR shall have the option to either cancel this Agreement with no liability occurring to DPR, or offer an Agreement Amendment to Contractor to reflect the reduced amount.

3. Payment

- A. Costs for this Agreement shall be computed in accordance with State Administrative Manual (SAM) Sections 8752 and 8752.1.
- B. Nothing herein contained shall preclude advance payments pursuant to Article 1, Chapter 3, Part 1, Division 3, Title 2 of the California Government Code, Sections 11256 and 11257.
- C. Transportation and subsistence costs shall not exceed rates authorized to be paid UC system non-represented employees traveling within California.

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 Standard Agreement**

- D. Contractor will be reimbursed for direct costs, other than salary costs, that are identified in the Contractor's rates.
- E. Contractor will bill in arrears for costs incurred during the billing period. If applicable, salary costs will be itemized and billed by position. Documentation supporting specific salary costs will be presented if requested by DPR. Non-wage costs will be billed, in summary, according to general expense categories. A detailed report of transactions will support the billing. Individual expenditures exceeding \$500.00 will be supported by a photocopy of the original documentation. Documentation in support of expenditures less than \$500.00 will be presented if requested by DPR.
- F. Contractor shall not commence performance of work or services until after this contract has been approved by the State. No payment will be made prior to approval nor for any work performed prior to approval of this Agreement.
- G. Ten percent (10%) of each invoice amount shall be withheld by DPR until completion of the services performed according to the scope of work and terms of this Agreement.

4. Rates

Rates for these services are as follows:

Table I. Expenditures by Budget Line Item

<i>Budget Line Item</i>	FY 11-12	FY 12-13	TOTAL
1. Salaries & Wages	\$37,740	\$39,900	\$77,640
2. Direct Benefits	\$9,435	\$9,975	\$19,410
3. Travel ¹	\$4,000	\$3,200	\$7,200
4. Supplies ²	\$3,200	\$3,000	\$6,200
5. Publication Fees ³ (2@ \$775)	\$0	\$1,550	\$1,550
Subtotal	\$54,375	\$57,625	
6. Overhead @25%	\$13,594	\$14,406	\$28,000
Total	\$67,969	\$72,031	\$140,000

¹ Travel Costs are for RZWQM model Subject Matter Experts from the United States Department of Agriculture, Agricultural Research Services to consult with Contractor

² Supplies consist of a computer and software (\$2,500) and other minor supplies and do not include any item with a unit acquisition of \$5,000 or more.

³ Fees for publication in professional, peer-reviewed scientific journals, (\$1,500)

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Table II. Detail of Salaries and Wages

Classification	Monthly Salary	Number of Months	Percentage of Time	Total
Post Doctorial Researcher (FY 11-12)	\$3,145	12	100%	\$37,740
Post Doctorial Researcher (FY 12-13) Represents a 5.7% pay increase	\$3,325	12	100%	\$39,900
Total Personnel		24	100%	\$77,640
Direct Benefits:				
Post Doctorial Researcher @25.00% (FY11-12)	\$9,435			
Post Doctorial Researcher @25.00% (FY12-13)	\$9,975			
			Total Benefits	\$19,410
			Total Personnel and Benefits	\$97,050

5. Cost Limitation

- A. The total amount of this Agreement shall not exceed \$140,000.00.
- B. It is understood and agreed that this total is an estimate and that DPR will pay for only those services actually rendered as authorized by the DPR Contract Manager or his/her designee.

EXHIBIT D
Standard Agreement

SPECIAL TERMS AND CONDITIONS

1. Termination

- A. Either Party reserves the right to terminate this agreement without cause upon thirty (30) days written notice to the other Party, or immediately in the event of a material breach. In the event of termination, Contractor shall be paid for all allowable costs incurred up to the date of termination, including any non-cancelable obligations.
- B. In the event that the total Agreement amount is expended prior to the expiration date, DPR may, at its sole discretion, terminate this Agreement with 30 days notice to contractor.

2. Subcontracting

Contractor shall perform the work contemplated with resources available within its own organization and no portion of the work shall be subcontracted.

3. Dispute Resolution

- A. DPR reserves the right to issue an order to stop work in the event that a dispute should arise, or in the event that the DPR gives the performing agency a notice that this Agreement will be terminated. If DPR exercises this right, the stop-work order will be in effect until the dispute has been resolved or this Agreement has been terminated.
- B. Any dispute concerning a question of fact arising under the terms of this Agreement which is not disposed of within a reasonable period of time by agency employees normally responsible for the administration of this agreement, shall be brought to the attention of the Executive Officer or designated representative of each agency for joint resolution.
- C. The Contractor shall continue to perform all its responsibilities under this agreement during any dispute until notified to stop work or expiration of this Agreement.

4. Disposition of Work Product

DPR retains use and non-commercial governmental distribution rights to all deliverables identified in Exhibit A of this Agreement.

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5. Harassment Free Workplace

The Department of Pesticide Regulation (DPR) is committed to providing a safe, secure environment, free from sexual misconduct. It is policy of the Department that employees have the right to work in an environment that is free from all forms of discrimination, including sexual harassment. This policy specifically speaks to freedom from a sexually harassing act that results in the creation of an intimidating, hostile or offensive work environment or that otherwise interferes with an individual's employment or work performance. As a Contractor with DPR, you and your staff are expected to comply with a standard of conduct that is respectful and courteous to DPR employees and all other persons contacted during the performance of this Agreement. Sexual harassment is unacceptable, will not be tolerated; and may be cause for prohibiting some or all of the Contractor's staff from performing work under this Agreement.

EXHIBIT E
Standard Agreement

ADDITIONAL PROVISIONS

1. Equipment Purchases

Except as provided in Exhibit B, the Contractor shall not use state funds allocated under the agreement to purchase equipment. As used in this paragraph, "equipment" means an article of nonexpendable, tangible personal property, including furniture, having a useful life of at least one (1) year and a unit acquisition cost of at least five thousand dollars (\$5,000).

2. Contractor Evaluation

The Contractor is hereby notified that its performance under this Agreement may be evaluated within thirty (30) calendar days following the Expiration of this Agreement. The evaluation may include statements on the adequacy of the service or the product, whether the service was satisfactory, whether the service or the product was provided or completed within the time limitations, reasons for time or cost overruns, whether the product is operational or being utilized by the State, and/or the State plans for implementation, and the State's general impression as to the competency of the Contractor and its staff. The evaluation shall be filed in the State's official Contractor Evaluation File.