Cal**SAWS**

***AMENDED, RESTATED AND REVISED LEADER REPLACEMENT SYSTEM AGREEMENT***

***Exhibit AA (Statement of Work for CalSAWS Analytics Cloud Enablement Project)***

***Inclusive of Schedule 1 (Requirements for CalSAWS Analytics Cloud Enablement Project), Schedule 2 (Contractor Assumptions), Schedule 3 (CalSAWS Analytics Cloud Enablement Pricing Schedule), Schedule 4 (CalSAWS Analytics Cloud Enablement Compute Resource Specifications), Schedule 5 (Software Specifications)***

**CalSAWS Consortium,**

**a California Joint Powers Authority**

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# INTRODUCTION AND OVERVIEW

The purpose of this Exhibit AA to the Amended, Restated and Revised Leader Replacement System Agreement For A California Statewide Automated Welfare System ("Agreement") is to address topics related to the CalSAWS Analytics Cloud Enablement Project or “ACEP.” This Section 1 (Introduction and Overview) generally describes the Scope of Work (“SOW”) that CONTRACTOR shall perform for the “ACEP.” The ACEP is anticipated to re-platform the LRS and identified C-IV State and Management reports currently built on the Oracle BI Publisher platform to an Amazon Web Services (“AWS”) cloud-hosted architecture. All terms used in this Exhibit AA shall have the same meaning as that used as in the Agreement, unless otherwise specified in this Exhibit AA.

## SCHEDULE:

The term of this SOW shall commence on May 1, 2020 and continue through January 31, 2022.

# SCOPE OF WORK:

This Section 2 describes the Work CONTRACTOR will perform under this SOW. Tasks 1 through 4 describe the Work CONTRACTOR will perform to re-platform the LRS and identified C-IV State and Management reports currently built on the Oracle platform to an AWS cloud-hosted architecture.

1. Task 1 – Project Management
2. Task 2 – Release Management
3. Task 3 – **Architecture, Implementation and Deployment Support**
4. Task 4 – Re-platform State and Management Reports

To accomplish the ACEP, CONTRACTOR will work collaboratively with key stakeholders, including Users, and State, Federal, and other external agencies as necessary.

## Task 1: Project management

### Subtask: Project Management

The Analytics Cloud Enablement Delivery Manager is responsible for the day-to-day operations of the ACEP. The Analytics Cloud Enablement Delivery Manager will integrate with the established project processes to create and manage the ACEP workplan. The workplan will include tasks, planned durations, resource assignments and dependencies.

## TASK 2: Release Management

CONTRACTOR will be responsible for the management of ACEP releases and the cross-coordination with the deployment of other system changes for the LRS System (i.e., system changes for the CalSAWS Design, Development and Implementation (“DD&I”) Project and the LRS Project) that may impact ACEP scope through planning, scheduling, development and testing across different stages and environments.

### Subtask: Release Schedule

CONTRACTOR will be responsible for the creation and maintenance of the ACEP release schedule and the interdependencies with other project initiatives (the “Release Schedule”). The State and Management reports will be deployed over the seven (7) releases outlined in the Release Schedule (each an “ACEP Release”). Such deployment will be to an environment within the LRS which contains production data sets for CONSORTIUM validation of the deployed reports. The alignment of State and Management reports to one of the ACEP Releases will be detailed in the Release Schedule.

### Subtask: Communication and Engagement

CONTRACTOR will be responsible for coordinating and working with the CONSORTIUM’s Regional Managers and CONSORTIUM’s committee structure to communicate the proposed solution and Release Schedule.

## TASK 3: Architecture, ImplementatiOn anD Deployment Support

### Subtask: Integration Architecture

CONTRACTOR will be responsible for implementing the identified integration points on the cloud-hosted platform. Identified integration points include the following:

* Reporting landing page – implement an updated page that provides the integration to the generated reports/dashboards.

CONTRACTOR will leverage the current implementations of online pages for the LRS and the C-IV System as primary input to re-platform the identified integration services.

### Subtask: Implementation and Deployment Support

CONTRACTOR will be responsible for the planning and coordination of environment availability, code deployment and usage of environments supporting the ACEP project. CONTRACTOR will provide the following services:

* Database administration support to implement as needed changes to the source data source to support the ACEP.
* Extend the version control and automated deployments to support the ACEP.

### Subtask: JIRA Security Enhancements

The CONTRACTOR will implement mutually acceptable automated tools to assist in monitoring, flagging and, if possible, restricting access to Personally Identifiable Information (PII) within the LRS System’s change management tool (Atlassian Jira or “Jira”). Such tools(s) and /or processes would be applied to Jira such that both onshore and offshore 1access could be monitored and restricted, when mutually agreed that restriction is necessary. This includes exploring process changes to be deployed across the project staff (e.g., Consortium, Accenture, State sponsors, the Consortium’s Quality Assurance vendor and its other vendors) regarding the entry of production data into Jira. The term “Peronally Identifiable Information” used in this Exhibit AA shall have the same meeting as that in Exhibit Y of the Agreement.

## TASK 4: Re-platform State and Management Reports

The CONTRACTOR will design, build and deploy 502 State and Management reports that are currently in the LRS and the C-IV System onto the new analytical cloud-hosted platform. The CONTRACTOR will perform the following activities:

### Subtask: Reverse Engineering

This task involves the creation of a technical design that documents the implementation of the State and Management reports on the Cloud- based analytics platform.

### Subtask: Curation

This task involves creating Spark and/or Talend jobs for processing the ingested data. Once the ingested data is moved into the data lake using the ingestion jobs, the curation jobs will be built to transform / apply the business logic to the data. The data from the curation jobs will be loaded into purpose-built data sets that the visualization tools can directly consume without having to apply complex logic.

Table 1 below provides the quantities of sweep jobs, report jobs, and the total lines of code that will be re-platformed as curation jobs by the CONTRACTOR to support the visualization component of the State and Management reports.

**Table 1 – Quantities of Curation Jobs for State and Management Reports**

|  |  |  |
| --- | --- | --- |
| **Quantities of Curation Jobs by Type and Lines of Code** | | |
| **Types of Jobs** | **Quantities of Jobs** | **Quantities of Lines of Code** |
| Sweep Jobs | 70 | 332,279 |
| Report Jobs | 443 | 151,111 |
| **Total** | **513** | **483,390** |

The categories of curation job type for State and Management reports are defined in Table 2 below.

**Table 2 – Definitions of Curation Job Estimating Factors for**

**State and Management Reports**

|  |  |
| --- | --- |
| **Categories of Curation Job Type** | **Lines of Code** |
| Sweep Job - A job that does an initial “sweep” / identifies the population of records that need to be displayed on the report. | The number of SQL lines of code that exist in the current sweep / report job. |
| Report Job - A job that transforms / calculates the data in the format to support the visualization component of the State and Management reports. |

Activities involved in creating curation jobs to feed the visualization tool include:

* Design logical data model
* Design physical model
* Develop technical design for creating jobs and unit testing
* Develop jobs
* Conduct unit test

### Subtask: Visualization

This task enables the data to be viewed by the User. During this activity CONTRACTOR will recreate a total of 502 State and Management reports from the LRS and the C-IV System on Qlik.

These reports will be accessible via the updated reports landing page present on the LRS and C-IV application.

Table 3 below provides the total number of State and Management reports and total number of tabs, that CONTRACTOR will recreate on Qlik categorized by the report type.

**Table 3 – Quantities of State and Management Reports**

|  |  |  |
| --- | --- | --- |
| **Quantities of Reports by Type and Number of Tabs** | | |
| **Type of Report** | **Number of Reports** | **Number of Tabs** |
| BI Publisher | 447 | 1,788 |
| State | 55 | 715 |
| **Total** | **502** | **2,503** |

Table 4 below provides the high-level definitions of the two (2) categories of visualizations referenced in Table 3 above:

**Table 4 – Definitions of Visualization Estimating Factors for**

**State and Management Reports**

|  |  |
| --- | --- |
| **Reports** | **Tabs** |
| The spreadsheet / visual displaying the final output of the data. | The tab within the spreadsheet / report that displays a subset of data. There can be one or more tabs on a single report. |

Activities involved in creating built-for-purpose schemas and visualization reports include:

* Create relational database service (“RDS”) tables
* Develop technical design for reports and unit testing
* Develop reports
* Conduct unit test

### Subtask: Testing

The CONTRACTOR will test the developed visualizations. Test activities include the following:

* Create test cases and scenarios
* Perform system test, performance test, and solutions test for the end-to-end application
* Perform integration testing by combining the individual elements and testing as a group

# LIQUIDATED DAMAGES FOR FAILURE TO MEET ACEP RELEASE DUE DATE:

For each and every occasion upon which any of the seven (7) ACEP Releases described in the Release Schedule has not been completed by CONTRACTOR within five (5) Working Days after the date for completion thereof as set forth in the Release Schedule (with respect to any such ACEP Release, herein the “ACEP Release Due Date”): (i) other than as a result of delays caused primarily by acts or omissions of CONSORTIUM, as determined by the applicable facts; (ii) other than as a result of force majeure as defined in Subparagraph 35.3 of the Agreement; or (iii) unless the delay is otherwise excused by CONSORTIUM Executive Director, then CONSORTIUM may assess and CONTRACTOR shall pay to CONSORTIUM liquidated damages in the amount of *Two Thousand US Dollars* ($2,000.00) for each Working Day after the ACEP Release Due Date that such ACEP Release is not completed.

For purposes of this Section 3 to Exhibit AA, the applicable facts will be established by the mutual agreement of the Parties. In the event that the matter is unable to be resolved by mutual agreement, the dispute will be resolved by resort to the dispute resolution process set forth in Section 48 of the Agreement.

All of the foregoing liquidated damages shall apply separately, and cumulatively, to each such ACEP Release. In the event CONSORTIUM collects liquidated damages from CONTRACTOR and/or CONTRACTOR owes liquidated damages to CONSORTIUM as set forth in this Section 3, and CONTRACTOR delivers the last of the seven (7) ACEP Releases by the due date specified in the Release Schedule, CONSORTIUM will refund to CONTRACTOR all liquidated damages paid to CONSORTIUM, and forgive any such liquidated damages due to CONSORTIUM but not yet paid.

The liquidated damages specified in this Section 3 of Exhibit AA apply specifically to the untimely delivery of the seven (7) ACEP Releases described in the Release Schedule and not to any other Deliverables that CONTRACTOR is contractually obligated to deliver pursuant to the Agreement. The liquidated damages specified in this Section 3 of Exhibit AA are not intended to replace, supercede, or otherwise limit CONSORTIUM’s right to impose liquidated damages pursuant to Section 10.2 of the Agreement.

# SCHEDULE 1 REQUIREMENTS FOR CALSAWS ANALYTICS CLOUD ENABLEMENT PROJECT

Schedule 1 attached hereto includes the CONSORTIUM’s requirements for the ACEP that are removed from Exhibit U (Statement of Work for the CalSAWS Design, Development and Implementation Project) of the Agreement and added to the scope of this Exhibit AA. Additionally, CONTRACTOR’s assumptions associated with completing the Work for those specific requirements or Design Difference Identification Numbers (“DDIDs”) are also provided in Schedule 1.

# SCHEDULE 2 CONTRACTOR ASSUMPTIONS

Schedule 2 includes CONTRACTOR assumptions associated with completing the Work for the CalSAWS ACEP. CONTRACTOR’s performance of the ACEP, at the pricing included in Schedule 3 (CalSAWS Analytics Cloud Enablement Pricing Schedule) is dependent on the assumptions in Schedule 2, this SOW, and the Base Agreement. Furthermore, Attachment 1 to Schedule 2 provides an inventory of the State and Management reports that will be re-platformed to a Cloud-hosted architecture for the ACEP and a list of the factors that were used as the basis of estimates for the effort to re-platform the State and Management reports for the ACEP. In the event the assumptions are incomplete or inaccurate, the Parties will enter into an appropriate Amendment to the Base Agreement for such Work to address any incremental prices or timeline changes incurred by CONTRACTOR in connection with such Work.

# SCHEDULE 3 CALSAWS ANALYTICS CLOUD ENABLEMENT PRICING SCHEDULE

Schedule 3 attached hereto includes the CONTRACTOR payments for the CalSAWS ACEP. The milestone payment table on Schedule 2 (CalSAWS Analytics Cloud Enablement Project - Milestones) of Schedule 3 outlines the schedule for delivery of State and Management reports releases into an environment that supports validation against production data sets. A State and Management report release will contain a set of mutually agreed to State and Management reports. CONTRACTOR hereby agrees to perform additional Work under the Agreement equal to the amount of Four Hundred Sixteen Thousand, Nine Hundred and Twenty-Three Dollars ($416,923.00) at a future mutually agreed upon time (but prior to November 1, 2023). Such Work will be at no additional cost to the CONSORTIUM, mutually agreed to, and documented pursuant to the Agreement.

# Schedule 4 CalSAWS Analytics Cloud Enablement Compute Resource Specifications

Schedule 4 attached hereto provides a list of estimated compute resources required in the CONSORTIUM’s AWS Cloud for execution of the ACEP.  As changes become necessary or refinements are developed, these will be discussed with the CONSORTIUM.  As outlined in Schedule 2, Contractor Assumptions, the CONSORTIUM must make the resources identified in Schedule 4 available to support the delivery of ACEP.  Delays in making such resources available will delay the delivery of the ACEP and, in turn, push out the projected completion date for the ACEP.

# Schedule 5 Software Specifications

Schedule 5 attached hereto outlines software/licensing required for the execution of the ACEP. This Schedule 5 will be used as the basis of the Software and Software Support prices that will be amended into the C-IV Agreement for the CONSORTIUM’s purchase of Software and Software Support from Proquire for the ACEP. As changes become necessary or refinements are developed, these will be discussed with the CONSORTIUM.  As outlined in Schedule 2, Contractor Assumptions, the CONSORTIUM must make the software/licensing identified in Schedule 5 available to support the delivery of ACEP.  Delays in making such software/licensing available will delay the delivery of the ACEP and, in turn, delay the projected completion date.