



**AMENDMENT NO. 1
TO
CONTRACT NO. MA-042-20010899
FOR
SYSTEM OF CARE DATA INTEGRATION SYSTEM (SOCDIS)**

This Amendment ("Amendment No. 1") to Contract No. MA-042-20010899, is made and entered into July 14, 2020 (**Effective Date**) between International Business Machines Corporation (**Contractor** or **IBM**), with a place of business at 600 Anton Blvd., Costa Mesa, CA 92626, and County of Orange, a political subdivision of the State of California (**County**), through its Health Care Agency (**HCA**), with a place of business at 200 W. Santa Ana Blvd., Suite 650, Santa Ana, CA 92701-7506. Contractor and County may sometimes be referred to hereinafter individually as "**Party**" or collectively as "**Parties**".

RECITALS

WHEREAS, Contractor and County, executed Contract No. MA-042-20010899 for System of Care Data Integration System (SOCDIS), effective March 24, 2020 through June 30, 2025, in an amount not to exceed \$18,000,000 ("Contract"); and

WHEREAS, the Parties now desire to enter into this Amendment No. 1 to the Contract for County to amend the General Terms and Conditions and Attachment A in the Contract; and

NOW THEREFORE, in consideration of the mutual benefits and promises contained herein, Contractor and County agree to amend the Contract as of the Effective Date first written above, as follows:

1. Increase in an amount not to exceed \$1,563,218, effective July 14, 2020 through June 30, 2025, for a revised cumulative total amount not to exceed \$19,563,218.
2. Add Paragraph "MM" to the General Terms and Conditions in the Contract, as follows:

"MM. The parties acknowledge and agree that COVID-19 is an event beyond the parties' reasonable control and it is not possible to foresee (or advisable to try and foresee) its duration, impact or extent (including measures and recommendations that may be put in place by regulators). As such, where a party's non-monetary obligations are not performed, affected, and/or delayed and that is attributable to COVID-19 or its related impacts, notwithstanding any other provision in the agreement, the affected party will not be responsible for such non-performance, affected performance or delay. The parties will act reasonably to discuss the affected obligations, potential work-arounds and related issues in good faith and will document any agreed changes to the agreement."

3. Delete Subparagraph I, Section 14.2 (Other Client Responsibilities) of Attachment A – Statement of Work No. 1 for System of Care Data Integration System of Contract, Page 55,



in its entirety and replace it with the following:

- “I. provide Contractor source data feeds from the Source Systems containing the agreed upon data fields for each source system.”
4. Add a new Subparagraph “S” to Section 14.2 (Other Client Responsibilities) of Attachment A – Statement of Work No. 1 for System of Care Data Integration System of Contract, Page 56, as follows:

 - “S. perform Maintenance and Operations activities for the changes in Amendment 1, delivered by Contractor to the County. “
5. Add a new “Appendix D” – Statement of Work – Source Data Preparation to Attachment A – Statement of Work for Amendment No. 1 for System of Care Data Integration System, as follows:



Global Business Services



**Appendix D - Statement of Work for Amendment 1, Source Data
Preparation**

for

Orange County, California

Prepared for

Orange County Health Care Agency

405 West 5th Street

Santa Ana, CA 92701

May 19, 2020



The information in this Statement of Work (“**SOW**”) is confidential and may only be used within the County’s enterprise.

1. Purpose of this SOW

The purpose of this SOW is to have IBM assume certain of County’s responsibilities in SOW. The parties agree to the SOW as follows:

2. Project Scope

IBM and County will collaboratively work to provision agreed upon source system data from the source systems identified in SOW, Table 3, which data may be located in multiple staging servers.

2.1 Use Cases

SOW adds the following Use Cases 16, 17, 18 and 19 to Contractor Responsibilities as described below:

#	Use Case	Description
16	Data provisioning for non-Production (Initial load) (Environment: UAT)	Extract data from County staging, one or more source systems at a time, and transform and load into the SOCDIS UAT environment.

- a. IBM will provide an automated process, and will execute this process, to extract data from the County staging environment and send to the SOCDIS UAT environment in MSFT Azure USGOV. This environment is 45 C.F.R. §§ 164.504(e) and 164.314(a)(2) compliant as stated in section 8 of Attachment C of the CONTRACT NO. MA-042-20010899 between IBM and the County of Orange Healthcare Agency.
- b. The process will be instantiated for a (sub)set of source systems at a time. Early trial loads can be one source system at a time, but multiple source systems would have to be loaded at a time to evaluate MDM matching performance.
- c. The automated process will include steps for transformation, mapping and load. The data will be standardized to conform to IBM ingestion requirements. Along with schema transform to IBM standards, the following content standardization will be included –
 - a. Mapping fields such as Ethnicity and Gender to IBM’s value sets.
 - b. Formatting fields such as phone numbers and zip codes to standard formats.
 - c. Truncating fields to fit within IBM defined field widths.
- d. IBM will publish the data dictionary and schemas so the parties involved have a shared understanding of the load target. The data dictionary and schemas are arranged by subject areas. Following the SOCDIS data integration plan, initial iterations will focus on demographics and program participation, followed by the other (domain-specific) subject areas.



- e. At the conclusion of the automated process, IBM will provide a load metrics and data quality report. The report will include the number of records received, processed successfully, processed with exceptions, and errored. Exception and error details will be written to database tables for review and action by IBM and/or the County.

#	Use Case	Description
17	Data provisioning for Production (Initial load) (Environment: PROD)	Extract data from County staging, one source system at a time, and transform and load into the SOCDIS PROD environment.

- a. IBM will provide an automated process, and will execute this process, to extract data from the County staging environment and send to the SOCDIS PROD environments in MSFT Azure USGOV.
- b. The process will be instantiated for one source system at a time.
- c. The automated process will include steps for transformation, mapping and load. The data will be standardized to conform to IBM ingestion requirements. Along with schema transform to IBM standards, the following content standardization will be included –
 - a. Mapping fields such as Ethnicity and Gender to IBM’s value sets.
 - b. Formatting fields such as phone numbers and zip codes to standard formats.
 - c. Truncating fields to fit within IBM defined field widths.
- d. At the conclusion of the automated process, IBM will provide a load metrics and data quality report. The report will include the number of records received, processed successfully, processed with exceptions, and errored. Exception and error details will be written to database tables for review and action by IBM and/or the County.

#	Use Case	Description
18	Data provisioning for non-Production (Incremental load) (Environment: UAT)	Extract incremental data from County staging, one or more source systems at a time, and transform and load into the SOCDIS UAT environment.

- a. IBM will provide an automated process, and will execute this process, to extract incremental data (since a previous load) from the County staging environment and send to the SOCDIS UAT environment in MSFT Azure USGOV. The payload for the incremental data will be the same as the initial load, and the capability points in UC #16 will hold true.



#	Use Case	Description
19	Data provisioning for Production (Incremental load) (Environment:PROD)	Extract incremental data from County staging, one or more source systems at a time, and transform and load into the SOCDIS PROD environment.

- a. IBM will provide an automated process, and schedule the recurrence, to extract incremental data (since a previous load) from the County staging environment and send to the SOCDIS PROD environment in MSFT Azure USGOV. The payload for the incremental data will be the same as the initial load, and the capability points in UC #2 will hold true.

2.1.1 Use Case Release Plan Summary

Use cases 16, 17, 18, and 19 will be added to the project work plan to help support the provisioning of data for each Source System in Release 1a, 1b and 1c.

2.1.2 Use Case Assumptions

The assumptions below do not reflect limitations of the approach. These are reasonable basis of estimates used to contain the implementation effort within planned cost and schedule boundaries.

1. The UAT Use Cases will be validated by a trained County technical operator familiar with database and application programming tools.
2. The County will make a best-faith effort to stage the data as per IBM's recommendations, to the extent possible, to reduce transformation requirements.
3. The County will provide business input on transformation rules and mapping as required.
4. IBM will not perform actions such as populating empty fields with values other than default. IBM will not create data to fill gaps in County staging and will not alter data content or semantics.
5. For the incremental load, the County will put an accurate timestamp on the client record, so that IBM can detect the differential. Also, if a client's data has changed since the last load, the entire client record should be staged, not just the section that has changed. No circumstances are anticipated that would require or allow the processing of partial client records.
6. The incremental load frequency is between 2 to 24 hours and can be different for different source systems. The exact frequency can be decided at a later date and may be adjusted at the County's request.

2.2 Data Integration

Add the below proposed data integration capabilities to implement data provisioning for the Source Systems.



2.2.1 Proposed Capabilities

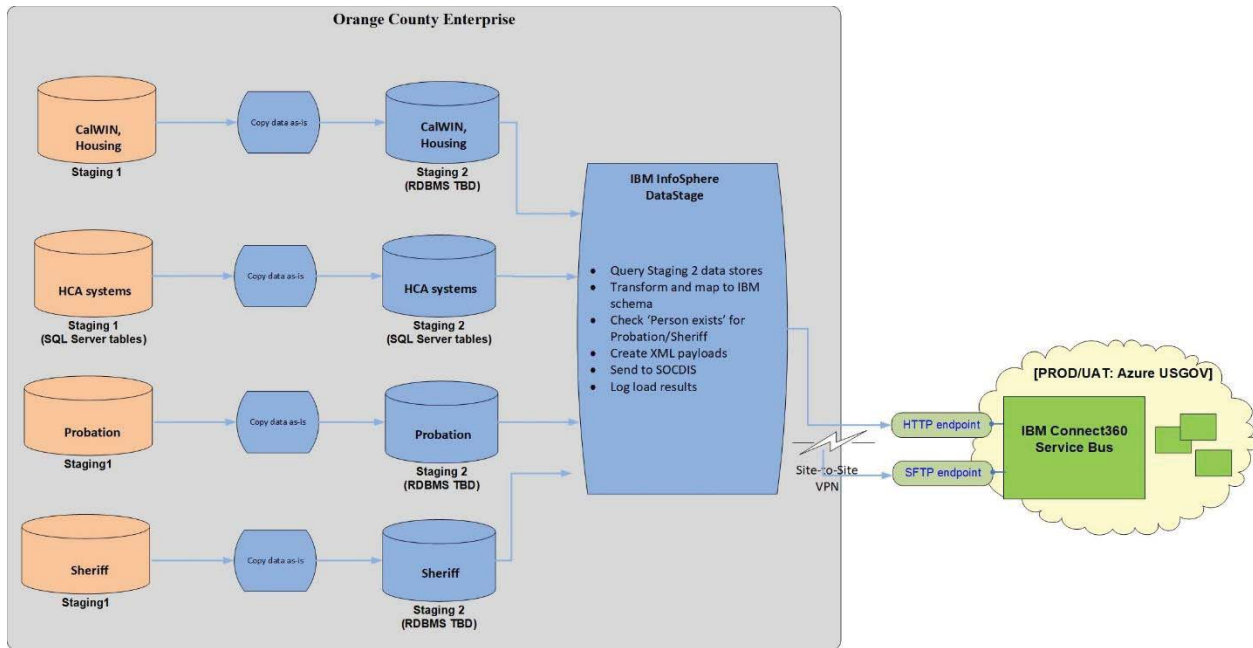


Figure 1: Data flow diagram

The diagram above depicts the data integration capability. The following points outline the data integration capability -

- a. County will stage the HCA data in a SQL Server database (Staging 1). County will then copy the data as-is to another SQL Server database (Staging 2). Other departments (SSA, Probation, Sheriff, etc.) may or may not use their own Staging 1 and Staging 2 servers. County will give database read/write access to IBM on all Staging 2 servers
- b. County will provide IBM a server to install IBM InfoSphere Information Server/ DataStage. IBM will configure and program DataStage ETL to perform the following –
 - i. Query the different Staging 2 databases.
 - ii. Transform and map the data to the IBM schema.
 - iii. Reject data non-conformant with the Interface Control Document (ICD).
 - iv. Call the 'Person Exists' check for Probation and Sheriff data, if required.
 - v. Create XML payloads and send to SOCDIS cloud.
- c. The County will provide IBM a server to install DataStage designer tools. IBM will use these tools to establish the configuration on the DataStage ETL server. This server is used in design-time only, and is not part of the runtime architecture.
- d. For each source system, there will be an initial load, followed by incremental loads. The above process will apply consistently to both.



2.2.2 Data Integration Release Plan

Data integration capabilities will be added to the project work plan to help support the provisioning of data for each Source System in Release 1a, 1b and 1c.

2.2.3 Data Integration Assumptions

The assumptions below do not reflect limitations of the system. These are reasonable basis of estimates used to contain the implementation effort within planned cost and schedule boundaries.

1. All source systems in SOCDIS scope are also in the data provisioning scope.
2. The County will provide the SQL Server Staging 2 database, for HCA systems and CalWIN, on a VM with the following minimum specification:
 - a. Operating System: Windows
 - b. Compute: 8 CPU, 32 GB RAM
 - c. Storage: 5 TB
3. The specifications for additional Staging 2 database servers will be determined closer to provisioning.
4. The County will provide a VM for IBM to install DataStage Designer tools, with the following specification:
 - a. Operating System: Windows Server 2016
 - b. Compute: 4 CPU, 32 GB RAM
 - c. Storage: 500 GB
5. The County will provide a VM for IBM to install InfoSphere Information Server/ DataStage tools, with the following specification:
 - a. Operating System: Red Hat Enterprise Linux 7.7
 - b. Compute: 4 CPU, 32 GB RAM
 - c. Storage: 500 GB
6. The ICD will include the mapping from source (County) to target (IBM). There will be one ICD between SOCDIS and each Staging 2 database. The ICD will specify transformation and translation rules, required (Y/N), default value, range of values, and cardinality. IBM will work with the County to define the ICD. Staging 2 data must conform to the County side of the ICD.
7. Probation and Sheriff will send client data only for individuals who already exist in SOCDIS i.e. individuals who have records in HCA, CalWIN or Housing. Unless the County requests otherwise, IBM will perform this check before sending Probation and Sheriff client data to the SOCDIS cloud.

2.3 Security Capabilities

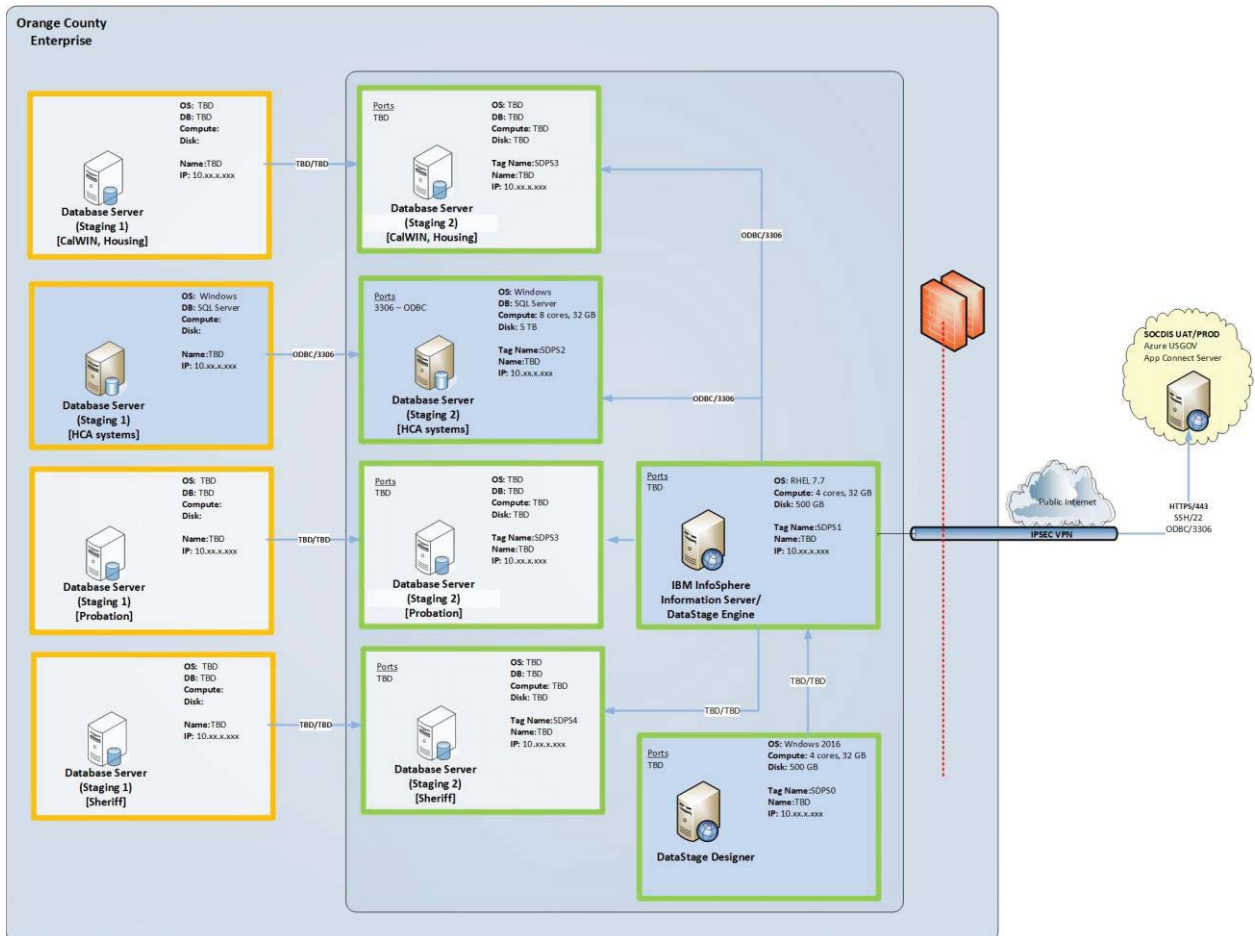
The following diagram shows the infrastructure and network, and illustrates the security posture.

- Source system data will be transmitted to the SOCDIS UAT/PROD environment on Azure USGOV (enclave managed by IBM).



- The data will be transmitted to an HTTPS or SFTP endpoint, through the VPN between the County enterprise and Azure USGOV.
- Only the DataStage ETL server needs to be accessible from the VPN. The database servers (Staging 1 AND Staging 2) should not be exposed to the VPN. Neither the Staging1 nor the Staging 2 servers should allow ingress from, or egress to, the public Internet. IBM personnel will need an HTTPS connection to the public Internet from the DataStage ETL server and the DataStage Designer server, to initiate software installation. Once software is installed, this egress can be removed from these 2 servers.
- The Staging 2 servers should not allow any connection from or to any County server or VLAN, aside from inbound connections from the corresponding Staging 1 servers. The DataStage server should not allow any connection from or to any County server or VLAN, aside from outbound connections to the Staging 2 servers.

Figure 2:





2.3.1 Security Release Plan

Security capabilities will be added to the project work plan to help support the provisioning of data for each Source System in Release 1a, 1b and 1c.

2.3.2 Security Assumptions

The assumptions below do not reflect limitations of the system. These are reasonable basis of estimates used to contain the implementation effort within planned cost and schedule boundaries.

1. The County will manage security, backup and recovery on all servers located within the County enterprise and ascertain compliance with County policies and standards. IBM will follow the County's direction in this regard.
2. The County will grant identified IBM personnel the necessary privileges on the Staging 2 servers, DataStage ETL server DataStage Designer server. (The installation process for DataStage software requires root access.) IBM personnel will access these servers through Secure Link.
3. The County will work with IBM to setup an IPSec tunnel between SOCDIS Azure USGOV and the County, so that the DataStage ETL server SOCDIS UAT/PROD environments.
4. The County will provision the ports, protocols and firewall rules as depicted on these specifications, and will work with IBM to implement changes as required.

3. Project Work Products

3.1 Work Product Updates

Updates to Planned Work Products ("WP's") identified in Table 7, Project Work Products Planned by Task, will be performed for SOW as indicated in the "Update Interval" column.

WP12.1, SOCDIS Interface Control Document will be provided by IBM to the County at the start of the Amendment providing the initial mapping and transformation rules between the source systems and SOCDIS. The initial version of the document will be fixed price and may have some elements specified only at a high level. Subsequent updates that may be required throughout the project will be billed on a Time and Material basis, the same as for other WP's. WP12.1 defines the interaction between the participating SOCDIS systems and identifies the requirements that each system must fulfill to accomplish the interface objectives.



Table 1: Project Work Products Planned by Task

Task	Name	Description	Update Interval
Task 0: Project Management	WP 1	Project Management Plan (PMP)	None. Will use the WP 1 established for SOW
	WP 2	Monthly Project Status Reports	Monthly combined with the Status report for SOW
	WP 3	System Design and Development Strategy	None. Will use the WP 3 established for SOW
	WP 4	Master Testing Strategy	None. Will use the WP 4 established for SOW
	WP 5	System Maintenance and Support Plan	None
	WP 6	Transition Plan	None. Will use the WP 6 established for SOW
	WP 7	Organizational Change Management Plan	None
Task 1: Project Initiation & Planning	WP 8	Project Charter	None
	WP 9	Project Kick-off Presentation	None
	WP 10	Project Workplan	Updated per SOW
Task 2: Requirements & System Design	WP 11	Sprint Visioning Document	Once per Sprint
	WP 12	Functional Design Document	Once per Sprint
	WP12.1	SOCDIS Interface Control Document	V0 will be delivered within 5 days of the start of the Amendment
	WP13	Technical Design Document	Once per Sprint
Task 3: Development	WP 14	System ready for UAT Testing	Once per release
Task 4: Testing	WP 15	Test Plan for SIT and UAT	SIT updates once per Sprint and UAT updates once per release
	WP 16	Requirements Traceability Matrix	Once per Sprint
	WP 17	Training Plan	None.



Task	Name	Description	Update Interval
Task 5: Training	WP 18	Training Curricula and Materials	None.
	WP 19	End-User Training Document	None.
Task 6: Deployment	WP 20	Data Integration and Synchronization Plan	Once combined with WP 20 for SOW.
	WP 21	System Document and Custom Code Document	Once per release combined with WP 21 for SOW.
	WP 22	Go Live Document	Once per release combined with WP 21 for SOW.
Task 7: Closeout	WP 23	Project Closeout Document	Once combined with WP 23 for SOW.
Task 8: M&O	WP 24	M&O Plan Document	None

4.0 Estimated Schedule

The project start date is no more than one (1) week from the date SOW is signed by both parties, or another mutually agreed upon date. Services are estimated to start on June 5, 2020. The overall project end date remains June 30, 2021, approximately 12 months from the project start date.

M&O services for work performed by IBM in this SOW will be performed by the County.

The timeline in Figure 2 will be the basis for the creation of WP 10, Project Workplan to be mutually agreed by the County and Contractor within 20 days of the SOW start. Both parties agree to make reasonable efforts to carry out their respective responsibilities to meet the estimated schedule.

Figure 3, Estimated High Level Project Workplan



Activities	2020												2021					
	M	J	J	A	S	O	N	D	D	J	F	M	A	M	J			
1. Ongoing Project Mgmt.																		
2. Project Start-Up																		
3. Infrastructure Set Up Dev/Test																		
4. Infrastructure Set Up UAT/Prod																		
5. Validate architecture, sprints and release plan																		
6. Perform Sprints for Release 1a Source Systems																		
7. Perform Sprints for Release 1b Source Systems																		
8. Perform Sprints for Release 1c Source Systems																		
9. Load data for UAT Release 1a																		
10. Release 1a Preparation																		
11. Load data for Release 1a Go Live						★												
12. Load data for UAT Release 1b																		
13. Release 1b Preparation																		
14. Load data for Release 1b Go Live										★								
15. Load data for UAT Release 1c																		
16. Release 1c Preparation																		
17. Load data for Release 1c Go Live															★			

6. Charges

1. 6.1 Total Charges

Pricing for this SOW is comprised of the following:

- A. Time and material price rates and labor estimates for professional and consulting services for SOCDIS data provisioning activities,
- B. Subscription and licensing pricing for IBM Products

The total estimated charges for this SOW are **\$1,563,218.00**.

SOCDIS Component	Reference Section	Pricing
T&M Services for SOCDIS data provisioning activities	7.2, Service Charges	\$1,024,960.00
Fixed price SOCDIS Interface Control Document	7.2 Service Charges	\$200,000.00
Fixed Price InfoSphere DataStage IPAA license	7.3 IBM Software Charges	\$338,228.00
	Total Services and Products	\$1,563,218.00



1.1 6.2 Service Charges

Additional services will be invoiced on a time and materials basis, inclusive of costs unless otherwise agreed in writing, at the end of each month for hours worked that month and documented in the monthly status report. The monthly status report will also contain a cumulative total of hours consumed against the total hours estimated in the table below. Contractor resource unit rates and estimated hours are shown in Table 9. The Estimated Hours and Estimated Charges for each Resource/Skill are illustrative only. Actual hours may vary as needed or additional Resource/Skill categories, and Rates may be added by mutual consent of the parties and will not exceed the Total Estimated Service Charges unless the project change control process is executed.

Table 2, Services Rate Card for SOW

Resource/Skill	Estimated Hours	Hourly Rate	Estimated Charges
Delivery Executive	40	350	\$ 14,000.00
Project Manager	42	275	\$ 11,550.00
Project Administrator	84	165	\$ 13,860.00
Enterprise Solution Architect	80	350	\$ 28,000.00
Architect	120	250	\$ 30,000.00
Database & System Admin	511	215	\$ 109,865.00
Security Analyst	42	225	\$ 9,450.00
Lead Business Analyst	84	250	\$ 21,000.00
Senior Business Analyst	169	235	\$ 39,715.00
Business Analyst	652	205	\$ 133,660.00
WCM Configuration Consultant	-	235	\$ -
Development Lead	168	250	\$ 42,000.00
Senior Developer	420	230	\$ 96,600.00
Developer	1,177	205	\$ 241,285.00
WCM Developer	-	235	\$ -
MDM Developer	315	205	\$ 64,575.00
Cosgnos Developer	-	205	\$ -
Senior Programmer	-	225	\$ -
Lead Tester	84	250	\$ 21,000.00
Tester	434	225	\$ 97,650.00
Associate Tester	350	145	\$ 50,750.00
Quality Analyst	-	210	\$ -
Training Developer	-	205	\$ -
Contingency Labor	-	210	\$ -
	4,772		\$ 1,024,960.00



The total estimated T&M Services for SOW activities is **\$1,024,960.00** and is inclusive of normal travel and living expenses for IBM personnel. The new total T&M Services for this project is **\$6,407,111.57**.

The total fixed price price fee for WP12.1 is \$200,000.00, which will be delivered within five days after the start of the Amendment.

6.3 IBM Software Charges

Charges for IBM InfoSphere DataStage product licenses are shown below in Table 10, which are subject to the existing IBM Passport Advantage Agreement with the County that governs the terms and conditions of these product licenses.

**Table 14, Quote rates for IBM InfoSphere DataStage
Subject to IBM Pricing Approval**

Part #	Part Description	Quantity	4/1/20 – 6/30/21	7/1/21 – 6/30/22	7/1/22 – 6/30/23	7/1/23 – 6/30/24	7/1/24 – 6/30/25	Comments
IBM InfoSphere DataStage								
D19GSSL	IBM InfoSphere Processor Value Unit (PVU) Monthly License	400	\$0	\$84,557	\$84,557	\$84,557	\$84,557	4 Cores at 100 PVU/core

The total estimated IBM Software Charges for SOW is **\$338,228.00**.

7. Additional Terms and Conditions

Personal Data Processing

a. County agrees that no Client personal data that is subject to i) European General Data Protection Regulation (EU/2016/679) (GDPR) or ii) other data protection laws identified at www.ibm.com/dpa/dpl will be provided to IBM under this transaction.

b. In the event of a change, County will notify IBM in writing and IBM's Data Processing Addendum (DPA) at www.ibm.com/dpa and an agreed upon DPA Exhibit will apply and prevail over conflicting terms in the Agreement. The DPA Exhibit will be added as an Appendix to this transaction.

c. Notwithstanding the above, parties acknowledge that CCPA applies to the personal data provided to IBM under this transaction and CCPA Addendum applies to the processing of Personal Information made by IBM on behalf of County.



6. Wherever a conflict in the terms or conditions of this Amendment 1 and the Contract exists, the terms or conditions of this Amendment 1 shall prevail. In all other respects, the terms and conditions of the Contract not specifically changed by this Amendment 1 shall remain in full force and effect.

SIGNATURE PAGE FOLLOWS



Contractor: International Business Machines Corporation

Kenneth E. Wolsey

Associate Partner

Print Name

Title

DocuSigned by:
Kenneth E Wolsey
A0C532FDA18D4D3...
Signature

June 15, 2020

Date

County of Orange, a political subdivision of the State of California
Purchasing Agent/Designee Authorized Signature:

Print Name

Title

Signature

Date

Approved as to form
Office of the County Counsel
Orange County, California

Massoud Shame1

Massoud Shame1, Deputy County Counsel

Print Name

Title

DocuSigned by:
Massoud Shame1
79055CA571A94F8...
Signature

6/15/2020

Date