Form No. DTMB-3522 (Rev. 4/2012)
AUTHORITY: Act 431 of 1984
COMPLETION: Required
PENALTY: Contract will not be executed unless form is filed

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
PROCUREMENT
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

NOTICE
OF
CONTRACT NO. 071B4300089
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF CONTRACTOR:	PRIMARY CONTACT	EMAIL
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	TELEPHONE	**CONTRACTOR #, MAIL CODE**
	877-774-7822 ext. 2000 613-293-6583	

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
CONTRACT COMPLIANCE INSPECTOR:	DTMB	Dave Roach	517-241-2254	roachd@michigan.gov
BUYER:	DTMB	Barb Suska	517-284-7026	suskab2@michigan.gov

CONTRACT SUMMARY:

DESCRIPTION:

Michigan State Police (MSP) Laboratory Information Management System (LIMS)

INITIAL TERM	EFFECTIVE DATE	INITIAL EXPIRATION DATE	AVAILABLE OPTIONS
3 years	April 22, 2014	April 21, 2017	3, 1 year options
PAYMENT TERMS	**F.O.B**	**SHIPPED**	**SHIPPED FROM**
N/A	N/A	N/A	N/A

ALTERNATE PAYMENT OPTIONS:	AVAILABLE TO MiDEAL PARTICIPANTS
☐ P-card ☐ Direct Voucher (DV) ☐ Other	☒ YES ☐ NO

MINIMUM DELIVERY REQUIREMENTS:

N/A

MISCELLANEOUS INFORMATION:

N/A

ESTIMATED CONTRACT VALUE AT TIME OF EXECUTION:	$1,001,125.00

THIS IS NOT AN ORDER: This Contract Agreement is awarded on the basis of our inquiry bearing the solicitation #084R2200051**. Orders for delivery will be issued directly by the Department of Technology, Management & Budget through the issuance of a Purchase Order Form.**

Notice of Contract #: 071B4300089

FOR THE CONTRACTOR:	**FOR THE STATE:**
STACS DNA Inc	
Firm Name	Signature
	Genevieve Hayes, Acting IT Division Director
Authorized Agent Signature	Name/Title
	DTMB Procurement
Authorized Agent (Print or Type)	Enter Name of Agency
Date	Date

STATE OF MICHIGAN
Department of Technology, Management and Budget
Procurement

contract # 071B4300089
Laboratory Information Management System

Buyer Name: Barb Suska
Telephone Number: 517-284-7026
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ATTACHMENT A DETAILED REQUIREMENTS
ATTACHMENT B COST TABLES

Article 1 – Statement of Work (SOW)

1.000 Project Identification

1.001 PROJECT REQUEST

The purpose of this Contract is for STaCS DNA, Inc. ("Contractor") to provide a Commercial-Off-The-Shelf (COTS) Laboratory Information Management System (LIMS), known as the ("STaCS-CW Enterprise DNA" or "STaCS-CW") to the Michigan Department of Technology, Management, and Budget (DTMB) in support of the Michigan Department of State Police (MSP). The LIMS system will be specific to Forensic Biology and DNA operations, as part of an on-going program to improve the quality and efficiency of operations.

1.002 BACKGROUND

The Michigan State Police (MSP), Forensic Science Division (FSD) and the Michigan Department of Technology, Management and Budget (DTMB) are in need of Support Services from the contractor to provide and support the application on State of Michigan devices and servers that will be put to use in seven (7) laboratories providing analysis support services to all Michigan municipalities. The Contractor will provide software installation and support services as well as consultation on what necessary hardware is needed in association with FSD and DTMB.

The FSD forensic analytical facilities consist of seven (7) laboratories located in Lansing, Grand Rapids, Northville, Sterling Heights, Bridgeport, Grayling and Marquette. The forensic laboratories and staff are equipped and trained to fulfill the forensic analysis needs of federal, county and municipal juris agencies throughout the State.

The DNA LIMS shall maintain records for the Forensic Biology discipline. The ability to expand the system as needs arise will be important. The DNA LIMS shall be a central repository for all Forensic Biology analyses data sources and be in standardized formats accessible to all FSD laboratories conducting Forensic Biology analyses.

The FSD laboratories Forensic Biology analyses conform to State of Michigan, Quality Assurance Standards for Forensic DNA Testing Laboratories (FBI-QAS) and the American Society of Crime Laboratory Directors-Laboratory Accreditation Board International (ASCLD-LAB/ISO IEC 17025) standards.

The FSD laboratories are organized as units focused on specific types of evidence. Each unit may be comprised of Forensic Technicians, DNA Analysts and Unit Supervisors. The Forensic Biology discipline is led by a Program Coordinator, who is responsible for the quality assurance efforts. Each FSD laboratory is led by a Laboratory Director, who is responsible for the facilities and operations of the location.

Analytical capabilities of the Forensic Biology discipline of the FSD are as follows:

Lansing - Body Fluid Identification and DNA
Northville - Body Fluid Identification and DNA
Grand Rapids - Body Fluid Identification and DNA
Sterling Heights - Body Fluid Identification
Bridgeport - Body Fluid Identification
Grayling - Body Fluid Identification
Marquette- Body Fluid Identification

This contract specifically addresses an existing paper process and its inefficiencies. Currently, the FSD utilizes a lab-wide information management system created by The Computer Solution Company termed Forensic Advantage (FA). FA creates a chain of custody for submitted items and containers, captures analytical data in an object repository, develops analytical reports for law enforcement agencies and monitors the technical and administrative review process of analytical reports. However, the analytical Forensic Biology processes are captured in a manual and paper process that is ineffective and inefficient.

1.100 Scope of Work and Deliverables

1.101 IN SCOPE

The Contractor shall provide a LIMS specific to Forensic biology and DNA operations, STaCS-CW Enterprise DNA that includes software, implementation services, configuration, customization, analytical instrumentation interfacing, training, deployment consulting and maintenance and support.

The LIMS shall provide the functionality and automation necessary to comply with Quality Assurance Standards for Forensic DNA Testing Laboratories (FBI-QAS) and the American Society of Crime Laboratory Directors-Laboratory Accreditation Board International (ASCLD-LAB/ISO IEC 17025) standards.

A more detailed description of the software, services (work) and deliverables sought for this project is provided in Article 1, Section 1.104, Work and Deliverables.

1.102 OUT OF SCOPE

The following are out of the scope for this contract:

- New development
- Business process re-engineering services

1.103 ENVIRONMENT

The links below provide information on the State's Enterprise information technology (IT) policies, standards and procedures which includes security policy and procedures, IT strategic plan, eMichigan web development and the State Unified Information Technology Environment (SUITE).

The Contractor is advised that the State has methods, policies, standards and procedures that have been developed over the years. The Contractor is expected to conform to State IT policies and standards. All services and products provided as a result of this contract must comply with all applicable State IT policies and standards. .

Enterprise IT Policies, Standards and Procedures:
http://michigan.gov/dtmb/0,4568,7-150-56355_56579_56755---,00.html

All software and hardware items provided by the Contractor must run on and be compatible with the DTMB Standard Information Technology Environment. Additionally, the State must be able to maintain software and other items produced as the result of the Contract. Therefore, non-standard development tools may not be used unless approved by DTMB. The Contractor must request, in writing, approval to use non-standard software development tools, providing justification for the requested change and all costs associated with any change. The DTMB Project Manager must approve any tools, in writing, before use on any information technology project.

It is recognized that technology changes rapidly. The Contractor may request, in writing, a change in the standard environment, providing justification for the requested change and all costs associated with any change. The State's Project Manager must approve any changes, in writing, and DTMB, before work may proceed based on the changed environment.

Enterprise IT Security Policy and Procedures:
http://www.michigan.gov/documents/dmb/1310_183772_7.pdf
http://www.michigan.gov/documents/dmb/1310.02_183775_7.pdf
http://www.michigan.gov/documents/dmb/1325_193160_7.pdf
http://www.michigan.gov/documents/dmb/1335_193161_7.pdf
http://www.michigan.gov/documents/dmb/1340_193162_7.pdf

The State's security environment includes:

- DTMB Single Login.
- DTMB provided SQL security database.
- Secured Socket Layers.
- SecureID (State Security Standard for external network access and high risk Web systems)

DTMB requires that its single - login security environment be used for all new client-server software development. Where software is being converted from an existing package, or a client-server application is being purchased, the security mechanism must be approved in writing by the State's Project Manager and DTMB Office of Enterprise Security.

Look and Feel Standard
All software items provided by the Contractor must be ADA compliant and adhere to the Look and Feel Standards www.michigan.gov/somlookandfeelstandards.

The State Unified Information Technology Environment (SUITE):
Includes standards for project management, systems engineering, and associated forms and templates – must be followed: http://www.michigan.gov/suite

MSP Specific Technical Environment
The delivered LIMS shall be configured to accept data files from laboratory instrumentation and be provided turnkey at the time of system acceptance. Whenever possible, instrumentation shall be bi-directionally interfaced to the LIMS. Instrument data shall be read from the files and automatically stored in the LIMS database in the same locations as used for manual or imported data entry. Instruments that shall be interfaced include, but are not limited to those provided below. The contract shall include all current instrumentation whether listed or not and the service contract shall include instrument interface support for all future interface needs.

- ABI 7500
- Hamilton STAR
- Forensic Advantage
- ABI 9700
- ABI 3130 and 3500
- IDx GeneMapper ID
- Maxwell 16

Contractor understands that at a minimum the DNA LIMS, STaCS-CW Enterprise must be interfaced with the following instruments. STaCS-CW Enterprise is already interfaced with these instruments turnkey:

- Northville Laboratory
  - 3130 (3) Genetic Analyzer
  - 3500 (1) Genetic Analyzer
  - 3500xl (1) Genetic Analyzer
  - 7500 (3) Real Time PCR Instrument
  - GMID (7) Terminals
  - Hamilton STAR Robotic Platform (1)
- Lansing Laboratory
  - 3130 (3) Genetic Analyzer
  - 3500 (1) Genetic Analyzer
  - 3500xl (1) Genetic analyzer
  - 7500 (2) Real Time PCR Instrument
  - GMID (7) Terminals
  - Hamilton STAR Robotic Platform (2)
- Grand Rapids Laboratory
  - 3130 (3) Genetic Analyzer
  - 3500 (2) Genetic Analyzers
  - 7500 (2) Real Time PCR Instrument
  - GMID (7) Terminals
  - Hamilton STAR Robotic Platform (1)

STaCS-CW Enterprise is also interfaced with the Maxwell 16 turnkey.

Contractor will deliver an interface to the lab-wide information management system Forensic Advantage currently used by MSP as part of this contract.

1.104 Work and Deliverables

The STaCS-CW Enterprise DNA LIMS shall:

- Conform to State of Michigan, Quality Assurance Standards for Forensic DNA Testing Laboratories (FBI-QAS) and the American Society of Crime Laboratory Directors-Laboratory Accreditation Board International (ASCLD-LAB/ISO IEC 17025) standards.
- Provide all the functions and features for conducting start-to-finish DNA analysis work. Using MS SQL Server as the back-end database management system, the product will act as the central repository for all analytical data (in standardized formats) generated by the main (Lansing) and remote laboratories (Northville and Grand Rapids)
- The LIMS shall be a central repository for all Forensic Biology analyses data sources and be in standardized formats accessible to all FSD laboratories conducting Forensic Biology analyses.
- Support simultaneous users without degradation of the LIMS performance as users are incrementally added.
- Provide security to protect the integrity of the data
- Provide configurable security for the central database
- Provide configurable security for all users of the application
- Include configurable security for access to network resources such as printer, directories, and files
- Be able to automatically send reports and other information to authorized user via the laboratory e-mail system
- Be fully compatible with bar code reader devices for data entry
- Provide easily accessed “oversight” functions/features and reports to support the project. These include:
  - management logistical reports
  - customer report design,
  - quality control/quality assurance statistical reports,
  - preventative maintenance tracking reports

  - analyst training records,
  - and flags and notification to designated personnel of various due dates such as when maintenance is required on scientific instruments, hold-time issues, and analyst re-certification issues, etc.
  - notifications raised to personnel for when chemical/reagent lots are either expired or not ready for lab use.
- Have the ability to be used with any MS SQL Server compliant third-party reporting tool to create custom reports
- Allow users to perform manual data entry
- Provide powerful utilities to notify designated management personnel or administrative support of sample inconsistencies and provides powerful functions allowing users to re-test (re-work) individual samples and batches with complete workflow and workload management.
- Automatically assigns and tracks sample and batch statuses for the entire DNA processing workflows)from sample receipt through CODIS upload)
- Allows for recording analytical results by several different methods including interfaces to analytical/scientific instruments and/or user data entry.
- Provides multiple functions for determining if requested analyses have been completed.

Detailed requirements are contained in ("Attachment A- Detailed Requirements") and establish accountability regarding delivery of services by the Contractor. All of the requirements in Attachment A-Detailed Requirements will be delivered turnkey.

I. Services and Deliverables To Be Provided

For the purpose of this contract, the system shall be fully operational within 6 months after the equipment required is available for the Contractor to load, configure and test the COTS STaCS-CW Enterprise DNA solution. .

A. Software

The STaCS-CW database (MS SQL-Server) is fully multi-user, supporting in excess of 20 concurrent and active users without degradation of performances as users will be added to the system. STaCS-CW is a multi-tiered architected product and was developed with scalability in mind. The STaCS-CW middleware (application layer) and backend (database layer) can reside on a single server or can reside on different servers depending on client requirements.

The licensing model for STaCS-CW Enterprise is based on the number of samples processed in any given year (a one-time licensing fee). Given the size (number of users and number of sites) and annual sample volume of the Michigan State Police the STaCS-CW Enterprise Unlimited License does not impose any restrictions on 1) the number of users (seats) accessing the system, 2) the number of samples processed in any given year, and 3) the number of sites (one central and remote MSP DNA laboratories) from which users will be accessing the system.

STaCS-CW uses .NET Remoting over http (default port 80) and can operate in a LAN and in a WAN environment.

All components of STaCS-CW are 32-bit components compatible and fully support the Windows XP Operating System (Service Pack 3 or higher).

Deliverables

Installation of software

- Contractor shall deliver and install the COTS STaCS-CW Enterprise DNA turnkey on a State provided workstation.
- Contractor shall complete a thorough IT assessment. The **("IT Assessment"**) shall include completion of the State's Enterprise Architecture Solution Assessment (EASA) document and recommendations for architecture and hardware which considers IT limitations within the State of Michigan infrastructure so

that STaCS will work as expected and needed. Conference calls and webinars (as required) shall be hosted by the Contractor with necessary State of Michigan personnel to complete the IT assessment. The Contractor shall prepare the IT assessment recommendations, which will be mutually agreed upon by contractor and State of Michigan personnel, into a formal recommendation document and submit it to the State of Michigan.

- Contractor shall demonstrate the COTS STaCS-CW Enterprise DNA to the Forensic Science Division – Subject Matter Experts (SME's).
- Contractor shall install the COTS STaCS-CW Enterprise DNA on all hardware identified in the JAD sessions or webinars.

Acceptance Criteria
High-level acceptance criteria for Document Deliverables and Software Deliverables are listed in Section 1.501.
STaCS-CW Enterprise DNA software is loaded and fully functional on the State provided workstation in the production environment to allow for contractor's IT assessment. Contractor provides required specifications for architecture and hardware for the final STaCS-CW installation. Contractor shall demonstrate a fully functional COTS STaCS-CW, to the Forensic Science Division SME's.

B. Implementation
The system shall be fully operational within 6 months after the equipment required is available for the vendor to load, configure and test the solution.

STaCS-CW Enterprise supports all the technical requirements as described in Attachment A – Detailed Requirements turnkey (out-of-the-box).

STaCS DNA understands that the client may have additional and specific requirements beyond those specified in Attachment A-Detailed Requirements.

The following describes the approach Contractor will take to execute the work and ensure successful delivery of the project which will be broken into three main phases:

1. Phase I – Software Customization (if/as required)
2. Phase II – Implementation
3. Phase III – Customer Support

STaCS DNA's processes and approach to automation and delivery of services to the Forensic community focuses on the feature set and functions available in the STaCS-CW platform out-of-the-box.

A key aspect of the Contractor's approach is in the analysis of the State's current operations in order to determine the optimal configuration of the STaCS-CW software for the State laboratories.

The first phase when implementing the Contractor's software is to assess and document the gaps between the State's current operation and the functions available in the Contractor software.

During consultations with the State, the Contractor shall identify and recommend alternatives for addressing the identified gaps and implement changes accordingly taking into consideration schedule constraints and also budget constraints.

The contractor has found through their experiences that it is best to approach an assignment with forensic clients in a way that permits the laboratory to have specific decision points and milestones in order to measure progress and proceed in the most expeditious manner.

The contractor uses a Rapid Application Development and Design (RAD) approach that utilizes accelerated joint application development sessions to drive the detailed configuration requirements for the State's specific application of the STaCS-CW software.

RAD provides for a very dynamic approach to software development and customization. STaCS DNA capitalizes on the iterative nature of this approach by involving the State at agreed upon "review points" in the process. The "review points" serve multiple purposes:

- Allows STaCS DNA to demonstrate progress;
- Provides a forum for the State to provide input to the development team;
- Exposes the State to the product thus enhancing its state of readiness for the implementation phase.

STaCS DNA uses the OnTime product internally (from Axosoft: www.axosoft.com) to manage the documentation generated throughout the execution of its projects. The State will use the STaCS DNA Customer Portal (a Web-based component of the OnTime product) to access and manage project documentation.

The major phases are as follows.

1. Phase I - Software Customization

The major building blocks in the Contractor's software development lifecycle are comprised of three streams:

A. Requirements Definition Stream
B. Construction Stream
C. Quality Assurance Stream

A. Requirements Definition Stream

The Requirements Definition Stream is spear headed by the Contractor's Product Manager. This stream requires direct interaction with subject matter experts from the client organization. The deliverables out of this stream (baseline system requirements) constitute the formal input to the Construction Stream.

STaCS DNA's role:

- Project Manager: In accordance with and as described under section 1.201 CONTRACTOR STAFF, ROLES, AND RESPONSIBILITIES / A. Contractor Staff (Project Manager/Technical Lead)
- Product Manager / Business Analyst: prime for the execution of the JAD (Joint Application Design) session and the creation of the detailed system requirements addressing software features/functions and new instrumentation interfaces/integration as required.
- Software Development Manager: technical resource in assessing technical impact throughout the development of the system requirements

State's role:

- Subject Matter Experts for communicating the requirements beyond those described under Attachment A-Detailed Requirements, if applicable.

B. Construction Stream

The Construction Stream contains three facets:

A. Software development/customization,
B. Creation of the detailed test cases, and
C. Technical writing.

All software development is performed under the direction of Contractor's Software Development Manager. The creation of the detailed test cases and technical writing is performed under the direction of the Contractor's Product Manager. All test cases are developed by Contractor QA Analysts and all documentation is generated by Contractor Technical Writer.

The Contractor development platform is Microsoft Visual Studio 2010 for the client and application server tiers and Microsoft SQL Server 2008R2 for the database tier.

All Contractor source code is managed using Visual Source Safe to guarantee integrity and version control of all files.

STaCS DNA's role:

- Project Manager: In accordance with and as described under section 1.201 CONTRACTOR STAFF, ROLES, AND RESPONSIBILITIES / A. Contractor Staff (Project Manager/Technical Lead)
- Product Manager / Business Analyst: schedules reviews with the software development team to ensure compliance with the baseline system requirements.
- Software Development Manager: directs and manages the daily software engineering activities
- Software developers: perform the actual software engineering work in accordance with the baseline system requirements
- QA Analyst: generates all test cases based on the baseline system requirements
- Technical Writer: updates all user and system documentation in accordance with the baseline system requirements

State's role:

- Subject Matter Experts to participate in the "review point" sessions as described above.

C. Quality Assurance Stream

The Quality Assurance Stream is the responsibility of Contractor's Quality Assurance and Technical Support resources.

Each new release of the Contractor's software and documentation is validated by the QA team. The Contractor QA resources utilize the OnTime product to manage test cases (linked to the system requirements) and track technical issues either raised internally or by our clients.

STaCS DNA's role:

- Project Manager: In accordance with and as described under section 1.201 CONTRACTOR STAFF, ROLES, AND RESPONSIBILITIES / A. Contractor Staff (Project Manager/Technical Lead)
- Product Manager / Business Analyst: will act as the QA manager and will direct and manage the QA activities.
- Software Development Manager: directs and manages the daily software engineering activities
- QA Analysts: perform all system tests based on test cases and review all user and system documentation and report issues on a daily basis to the software development team and technical writer respectively
- Technical Writer: address issues identified by the QA Analysts and generate updated user and system documentation as required. Each new version of the user and system documentation is submitted to the QA team for validation
- Software developers: address issues identified by the QA Analysts and generate new software builds accordingly. Each new build is submitted to the QA team for validation.

State's role:

- Subject Matter Experts to participate in the "review point" sessions as described above.

2. Phase II - Implementation

The Implementation activities are executed by a combination of the Contractor's software developer, QA Analyst, and Infrastructure Engineer resources. This includes User Acceptance Testing (UAT), Data Conversion (if applicable), User Training, and Production Implementation.

STaCS DNA's role:

- Project Manager: In accordance with and as described under section 1.201 CONTRACTOR STAFF, ROLES, AND RESPONSIBILITIES / A. Contractor Staff (Project Manager/Technical Lead)
- Product Manager / Business Analyst: oversees the activities of the QA Analysts for the UAT task and oversees the activities related to training (User and System Admin). See C. Training section below and TRAINING PLAN under our response to requirement D. Documentation below.
- Software Development Manager: oversees the activities related to UAT, Data Conversion (if applicable) and Production Implementation
- QA Analysts: perform UAT at the client site and reports issues (if any) identified during UAT related to the software and the documentation
- Technical Writer: address issues identified by the QA Analysts during UAT and generate updated user and system documentation as required.
- Software developers: address issues identified by the QA Analysts during UAT and generate new software builds accordingly.
- Business Analyst: delivers user training at the client site
- Infrastructure Engineer: performs installation and configuration of the software at the client site and delivers System Admin training to IT personnel

State's role:

- Subject Matter Experts to participate in the UAT and User Training.
- IT Personnel to participate in System Admin Training.

3. Phase III - Customer Support
The Customer Support activities are handled by the Contractor QA and software development teams. Customer Support is provided via Support & Maintenance Contracts using three distinct mechanisms:

1. Customer Portal
2. Phone
3. E-mail

All issues reported by the State are recorded in the Customer Portal database to ensure that issues/questions/change requests can be monitored from one central area by both STaCS DNA and State personnel.

Deliverables

Services to implement the application, including
Configuration
Customization
Interfaces/Integration
Testing (user, system)
Remediation of all issues determined in Testing

Acceptance Criteria

High-level acceptance criteria for Document Deliverables and Software Deliverables are listed in Section 1.501.

C. Training

The Contractor's detailed training plan shall include a list of course titles, course abstracts, and a description of the target audience.

STaCS-CW Enterprise Training for DNA personnel:

STaCS DNA will train laboratory personnel in order to maximize the operation/administration and use of STaCS-CW.

TRAINING PLAN:

Contractor will train personnel in the STaCS-CW functions required for their laboratory duties on site. User training will cover all aspects of the software. Those aspects are:

- User interface
- Sample tracking / analysis
- Integration with CODIS
- Analytical instruments
- Review and reporting

Course title:
Using STaCS-CW Enterprise

Course abstract:
This course covers all functions and features of the STaCS-CW Enterprise product and is divided into multiple sessions. Full training requires five days. At the end of this training course personnel will be able to exploit all of the product's capabilities for their day-to-day DNA work. The course includes the following training sessions:

SECTION 1:
Session Title: Introduction to STaCS-CW
Session Abstract: This introduction will help users understand the purpose of STaCS-CW in their lab as a whole and in their regular day-to-day work. Users will get an overview of the workflow in STaCS-CW, learn how to navigate through the software, enter data and customize their view of STaCS-CW work lists and navigation menu to their preference. Users will also be shown how to search for help in the STaCS-CW Online Documentation.

SECTION 2:
Session Title: Receipt of Samples into STaCS-CW
Session Abstract: Users will learn how to receive samples into STaCS-CW either using their existing LIMS or manually without a LIMS. Sample Setup is the initial step to processing samples in STaCS-CW. Users will learn how to set the workflow of samples by specifying the extraction type, sample nature, evidence classification and priority. Additional features such as Where Am I, View Files, View Results and Reprocessing will be explored.

Session Title: Serology
Session Abstract: The Serology work list is used to view exhibits requiring serology and track the exams to be performed on each exhibit. Users will learn to record serology details such as the consumables, controls and instruments used for each exam, as well as, specify exam results and add optional comments.

Session Title: Batch Setup
Session Abstract: Batch Setup is the first step in tracking the DNA processing for each sample. Users will learn to create new batches based on the extraction type (differential or non-differential) and assign samples to those batches. Additional features such as placing samples into multiple tubes and adding blank controls to the batch will be explored.

Session Title: Extraction
Session Abstract: Users will learn how to track and record their extraction processes using STaCS-CW. This will include selecting the appropriate SOP for processing the batch, recording the consumables and instruments to be used based on the selected SOP and recording the Extraction results. If using an automated process (with robots), users will learn how STaCS-CW will interact with the robots with regards to creating transfer files, launching the robot software and importing the robot log files.

Session Title: Quantitation
Session Abstract: Quantitation in STaCS-CW involves the creating of a daughter plate, well as, generating the quantitation input file, recording the placement of the daughter plate on the Real-Time PCR instrument and importing the quantitation results once the quantitation process has completed. Users will learn how to select the appropriate SOP for processing the batch, record the consumables and instruments required for the process and interact with the robots using STaCS-CW. Additionally, users will learn how to import and view the quantitation results for technical review prior to advancing the samples to the next step.

Session Title: Amplification
Session Abstract: In STaCS-CW, the amplification process involves the normalization of the extracted samples, the creation of the daughter plate(s) based on those normalization results and the tracking of the daughter plate on the thermal cycler. Users will learn how to review and assess each sample's normalization results on the batch. Additionally, users will learn how to create the amplification batches and track the instruments and consumables used during the amplification process.

Session Title: CE Analysis
Session Abstract: CE Analysis, in STaCS-CW, is a multi-step process. Users will learn how to create the daughter plate, select the appropriate SOP for the batch, record the consumables and instruments required for the process and interact with the robot using STaCS-CW. Users will also learn how to generate the CE Sample Sheet and record the CE instrument the batch is processed on.

Session Title: Analysis of Samples
Session Abstract: Users will learn how to import sample profiles into STaCS-CW from the analysis software. Users will also learn how to queue samples for rework, check for cross contamination on the batch and send samples ahead for CODIS and PopStats Upload.

Session Title: Batch Management
Session Abstract: Batch Management provides users the ability to record and track individual sample manipulations during the DNA processing. Users will learn such functions as how to record the process of concentrating, diluting and purifying samples, as well as, merging samples from multiple tubes into one tube and transferring samples from one batch to another and reworking individual samples.

Session Title: Profile Management
Session Abstract: Profile Management provides users the ability to define their final profile, as well as, the profile or profiles to be uploaded to CODIS and Popstats. Here, users will learn how to select the locus values for upload and specify the various designators (specimen category, mixture, source id) to be uploaded with the sample profile.

Session Title: CODIS and PopStats Upload
Session Abstract: STaCS-CW provides two modules for upload – CODIS Upload and PopStats Upload. In each module, users will learn how to select samples to be included in the upload file, create and save the upload file to a specified location. Users will also learn how to view and print the contents of the upload file.

Session Title: View Batches
Session Abstract: View Batches provides the user the ability to quickly find and view details of a specific batch. Users will learn how to locate batches in the work list, view the content of a batch, print batch bar codes and view the Data Analysis results for completed batches.

Session Title: View Activities
Session Abstract: Users will learn how to identify work performed at any workstation by a particular user on a selected date or during a specified date range. Using the Activity Viewer, users will discover how to view the details of the specific activities performed in STaCS-CW and open or extract any files associated with the activity.

Session Title: Lab Troubleshooter
Session Abstract: The DNA Lab Troubleshooter is a powerful tool for detecting trends in the sample processing success rate. Users will learn to use the Lab Troubleshooter to help identify contamination events and processing trends to help direct them to where any faulty elements may exist.

SECTION 3:
Session Title: Instrument Management
Session Abstract: Users will learn how to manage instruments in the lab using STaCS-CW. The Instrument Management module will allow users to add, edit or delete instruments used in the lab, recording the instrument manufacturer, model, type and status. For instruments such as the CE, users will learn how to configure the CE properties for generating the CE Sample Sheet.

Session Title: Instrument Maintenance
Session Abstract: Users will learn how to configure each instrument's maintenance schedules, track an instruments maintenance records and view upcoming maintenance using the Maintenance Calendar. In defining maintenance schedules, users will learn how to configure various maintenance types, set recurrence plans and modify next run dates. Additional topics such as setting lead times, configuring performance fields, taking instruments offline and generating maintenance history reports will be explored.

Session Title: Consumable Management
Session Abstract: The Consumable Management module allows the lab to add all consumables used in the lab into STaCS-CW. Users will learn to configure the properties of each consumable to specify the manufacturer, QC requirements, preparation instructions, kit components, storage conditions and the minimum inventory to be maintained in the lab. The supporting modules for consumables will also be explored. Here, users will learn such activities as how to receive consumables into the lab, to track the breaking down of kits, to prepare lab-assembled reagents and to track the QC'ing of critical reagents.

Session Title: Consumable Inventory and Ordering
Session Abstract: The Inventory Management module provides an overview of the lab's consumable inventory, as well as, specific status details on individual lot numbers. Users will learn how to assess the inventory, note lot numbers that will be expiring soon and view any open orders. From the Inventory Management module, users will also learn how to create and track purchase orders.

Session Title: Storage Management
Session Abstract: Users will learn how to create and maintain the lab storage locations in STaCS-CW. Using the Storage Subsystem, users will also learn how to store and receive items, transfer items from one storage location to another, locate items in storage and discard items, specifying if the item is consumed, expired or rejected.

Session Title: Control Samples
Session Abstract: STaCS-CW provides the ability to create and manage all controls and their profiles (if required) for use during analysis of the samples. Users will learn how to define controls using the Consumable Management and Control Profile Linking modules.

Session Title: QA/QC Runs
Session Abstract: The QA/QC Runs module provides the ability to rerun previously processed samples for QC purposes. Users will learn how to initiate a QC Run for a sample and view the processing results.

SECTION 4
Session Title: Introduction to STaCS-CW Configurations
Session Abstract: STaCS-CW provides labs with the ability to configure the system to their specific processes with regards to SOPs, quantitation and amplification kits used in the lab, serology exams and users and roles to name a few. Here, users will learn all the various configurations available to them. This Session will then be followed by specific configuration Sessions for each area in lab.

Session Title: DNA Processing Configuration
Session Abstract: The DNA Processing Configurations provide the ability to define the specifics of how samples will be processed in the lab. Users will learn how to define the various batch or plate layouts used at each processing step, specify sample natures received by the lab, specify the quantitation and amplification kits used by the lab and configure the processing scenarios (SOPs) in STaCS-CW.

Session Title: Exam Configuration (for Serology)
Session Abstract: In exploring the Exam Configuration modules, users will learn how to configure the various exam types and exam definitions used for serology. For specific serology exams, topics such as required controls and their acceptable results, exam instructions or SOPs, and consumables and instruments required will be discussed.

Session Title: List Code Maintenance
Session Abstract: The List Code Maintenance configurations will allow the lab to define their own values in various areas of STaCS-CW. Users will learn how to configure areas such as allele strip values, batch and sample rework reasons, storage discard reasons, maintenance types, offenses and specimen categories for CODIS Upload.

Session Title: Organization Configuration
Session Abstract: Users will learn how to add organizations that the lab works with to STaCS-CW.

Session Title: Standard Operating Procedures
Session Abstract: The Standard Operating Procedure modules provide the ability to add SOP documents to STaCS-CW, relate the documents to specific modules and track the versioning of the documents. Users will learn the process of performing these configurations, in addition, to seeing how the SOPs are used and tracked throughout the processing steps.

Session Title: System Configuration
Session Abstract: Users will learn how to configure the specifics for each processing step in STaCS-CW. Such configurations as witnesses being required, bar code copies to print, recording final volumes, enabling multi step processing and defining input/output directories will be required. Users will also learn how to set and configure the normalization default settings used at the Amplification Setup processing step.

Session Title: User Role Maintenance
Session Abstract: Users will learn how to setup roles and system access rights for STaCS-CW and their lab personnel.

Session Title: Management Reports
Session Abstract: STaCS-CW offers various statistical reports capturing data throughout the processing streams. Users will learn how to generate the various reports, understand the data, as well as, save and print the reports

Target audience:
The Using STaCS-CW Enterprise course is designed for all personnel from the DNA laboratory. STaCS DNA and the State's Project Manager will work together to determine what specific sessions should employees follow based on their position in the laboratory (e.g. DNA Analysts, Supervisors, QA Managers, etc.).

STaCS-CW Enterprise Training for IT personnel:

STaCS DNA will train IT personnel in the maintenance and operation of STaCS-CW.

The training will allow State personnel to install, configure, use, and maintain the system.

The training will include:
- System configuration and security settings
- System maintenance
- required database maintenance, backup, restore from backup
- Overview of all user functions

Course title:
STaCS-CW Enterprise System Administration

Course abstract:
This course covers all IT aspects related to the STaCS-CW Enterprise software platform. At the end of this training course personnel will be able to install, configure, deploy, and maintain the STaCS-CW system environment. The topics covered by the course are as follows:
1. Before Installing STaCS-CW
2. System requirements
3. Setting Up the Server Environment
4. Setting Up the Database Server Environment
5. Installing STaCS-CW
6. Setting Up Workstations
7. Maintaining the system
8. Supported Third-Party Products
9. Troubleshooting

Target audience:
The STaCS-CW Enterprise System Administration course is designed for the IT personnel responsible for installing and maintaining the STaCS-CW software

Continuous Training:
When Contractor releases new versions of their software, they publish Product Release Notes and setup Webinars with State staff to train them on new product features. Contractor will do the same with IT staff if required.

Contractor also provides refresher Webinars on an ongoing basis in case certain aspects of the software need to be revisited with some users. The Webinars are delivered at no additional cost.

Deliverables

End user

Technical for State individuals who will be working with the services contractor to configure the applications including establishing databases and interfaces, data conversion, customization, and upgrading the customized software.

System administration training for State personnel who will be responsible for ongoing maintenance and administration of the system, including security

Upgrades and new versions to the system that affect end-user functionality include training at no additional cost (e.g. classroom or online training, training flier, release features, etc.)

Training is provided in a variety of formats for product installation, use, and administration for a variety of levels (e.g. basic, advanced, refresher, etc.)

All training manuals, training plans and other documentation provided become the property of the State.

Acceptance Criteria
High-level acceptance criteria for Document Deliverables and Software Deliverables are listed in Section 1.501.

D. Documentation

The Contractor shall include electronic and printed documentation for the delivered LIMS. The documentation shall include a design specification detailing LIMS functionality as well as the design of the database including work/data flow diagrams and entity relationship diagrams as well as a data definition table.

In concert with the design specification, the Contractor shall provide a prototype of the user interface to demonstrate methodology and style of the screens. This prototype does not have to include all screens in the delivered LIMS, but a representative sample of the different screen paradigms to be used. The Contractor shall also provide prototypes of various reports to be generated by the delivered LIMS.

In addition to the design specification, the final implementation of the LIMS shall include specific information about each screen of the application. .

Deliverables

User manuals

Technical manuals

1. A minimum of two (2) copies of the following documentation in an electronic format, online and in hard copy will be provided:
    a. User and Technical Manuals - On-line and Hard Copy
        - User Guide
        - System Administrator's Reference Guide which includes installation procedure and module configuration documentation.
    b. Data Element Dictionary
    c. Operations Manual
    d. All updates of documentation during the term of the Contract, software license and maintenance agreement
2. The following documentation is provided for all modules and program development:
    a. System-wide documentation and specifications describing the functionality of STaCS-CW
    including the system requirements resulting from any software customization work that may be
    required as part of this contract
    i. Database schema diagram
    ii. Data table definition
    b. End user training documentation
    c. Installation procedure
    d. Module configuration documents sufficient for configuration maintenance purposes
    e. Testing scripts/cases
    f. Specification documentation
    g. Production migration
3. The documentation of components, features, and use of the hardware/software shall be detailed such that resolution of most problems can be determined from the documentation, and most questions can be answered.
4. All system, operational, user, change, and issue documentation must be available in electronic format, published to an intranet website, accessible to State users, updated regularly, with unique numerical identifiers for each section and be consistent with the most current version of the application(s) and three (3) previous versions.
5. All system, operations, user, change and issue documentation is to be organized in a format, which is approved by the State and facilitates updating and allows for revisions to the documentation to be clearly identified including the three (3) previous versions.

6. The Contractor must develop and submit for State approval complete, accurate, and timely system, operations and user documentation and will notify the State of any discrepancies or errors outlined in the system, operations, and user documentation.
7. The Contractor will provide updates of all documentation listed above resulting from the execution of the work under this contract.

   The Contractor's user documentation provides detailed information about all STaCS-CW features ensuring that resolution of common questions or problems can be resolved strictly by looking at the documentation. Similarly, the system admin documentation provides detailed information about the overall STaCS-CW technical environment (client and server environments including supported peripherals and interfaces with third-party software and scientific instrumentation). All common questions or problems can be resolved by looking at the documentation.

   The State will have access to the Customer Portal with their own UserId/Password. The Customer Portal provides electronic access to detailed information about system documentation as well as incidents (tickets) pertaining to any type of issue dealing with the project throughout contract execution and as part of on-going operation (after go-live). Those incidents can be related to:
   - Product features
   - Reporting of software defects
   - Submitting Change Requests
   - Submitting questions to our Technical Support team

   All incidents (tickets) are assigned a unique identifier. Furthermore all modifications to any aspects of an incident are kept in an audit history. Reconstructing history on any incident if required can easily be done with a click of the mouse.

Acceptance Criteria
High-level acceptance criteria for Document Deliverables and Software Deliverables are listed in Section 1.501.

E. Maintenance and Support
- The contractor will provide maintenance and support of the installed LIMS.

Deliverables
Maintenance of existing software
Support
Help Desk
Technical

a. The Contractor understands and agrees that first year maintenance and support runs concurrently with the ("**Warranty Period**") which starts after User Acceptance Testing (UAT) and continues for one (1) year. The warranty period and the first year of included maintenance and support commences upon final approval of user acceptance testing of the COTS STaCS-CW portion of the project.
b. Remote diagnostic capabilities are provided. The State does not anticipate using the ability to remotely access the servers for maintenance. The Contractor will however provide remote diagnostics capabilities should the State's policies allow it in the future.
c. The Contractor agrees to make Maintenance and support services available on an annually renewable contract
d. The Contractor agrees that STaCS-CW Enterprise maintenance and support includes all future software updates and system enhancements applicable to system modules licensed without further charge to all licensed users maintaining an annually renewable software maintenance and support contract.

e. The Contractor will provide technical support services from 6:00 a.m. to 6:00 p.m. Eastern Standard Time (EST) five (5) days a week Monday – Friday. This will include:
   - Telephone support via our toll-free telephone number: 877-774-7822.
   - Email support via technical.support@stacsdna.com
   - Support via the STaCS DNA Customer Portal

g. All calls for service will be returned within 2 business hours.

h. Guaranteed parts availability within the service response window at all times.

. Emergency assistance is available 24 hours a day, seven days a week, at no additional cost to the State. Contractor understands that emergencies can arise from time to time that may require support outside normal working hours and will provide technical support accordingly.

j. Contractor will provide the client access to its Customer Portal (Web-enabled help desk) for reporting and tracking software incidents and technical questions at no additional cost.

k. Contractor will provide the State with information on software problems encountered at other client sites, along with the solution to those problems, when such information is relevant to State software. To ensure consistency this information will be disseminated via the Customer Portal.

l. Contractor will provide support for the current and one (1) previous version of STaCS-CW. This will include:

m. For the first year and all subsequent Contract years, the following services are provided for the current version and one previous version of any Software provided with the deliverables, commencing upon installation of the deliverables or delivery of the Software:
   1. **Error Correction.** Upon notice by State of a problem with the Software (which problem can be verified),Contractor will provide workarounds, error corrections and software fixes for reported problems within a commercially reasonable period of time taking into account the priority level of the reported problem
   2. **Material Defects**. The contractor will notify the State of any material errors or defects in STaCS-CW known or made known to the Contractor from any source during the Contract term that could cause the production of inaccurate or otherwise materially incorrect results. The contractor shall initiate actions as may be commercially necessary or proper to effect corrections of any such errors or defects to the software.
   3. **Update**s. The contractor shall make available to the State all new releases and bug fixes (collectively referred to as "Changes") for any STaCS-CW deliverable developed or published by the Contractor and made generally available to its other customers at no additional charge and will be provided to the State at no additional charge.

Acceptance Criteria
High-level acceptance criteria for Document Deliverables and Software Deliverables are listed in Section 1.501.

1.200 Roles and Responsibilities

1.201 CONTRACTOR STAFF, ROLES, AND RESPONSIBILITIES

A. Contractor Staff
The Contractor will commit the staff identified in this contract will actually perform the assigned work.

The Contractor has identified Jocelyn Tremblay as the Single Point of Contact (SPOC). The duties of the SPOC shall include, but not be limited to:

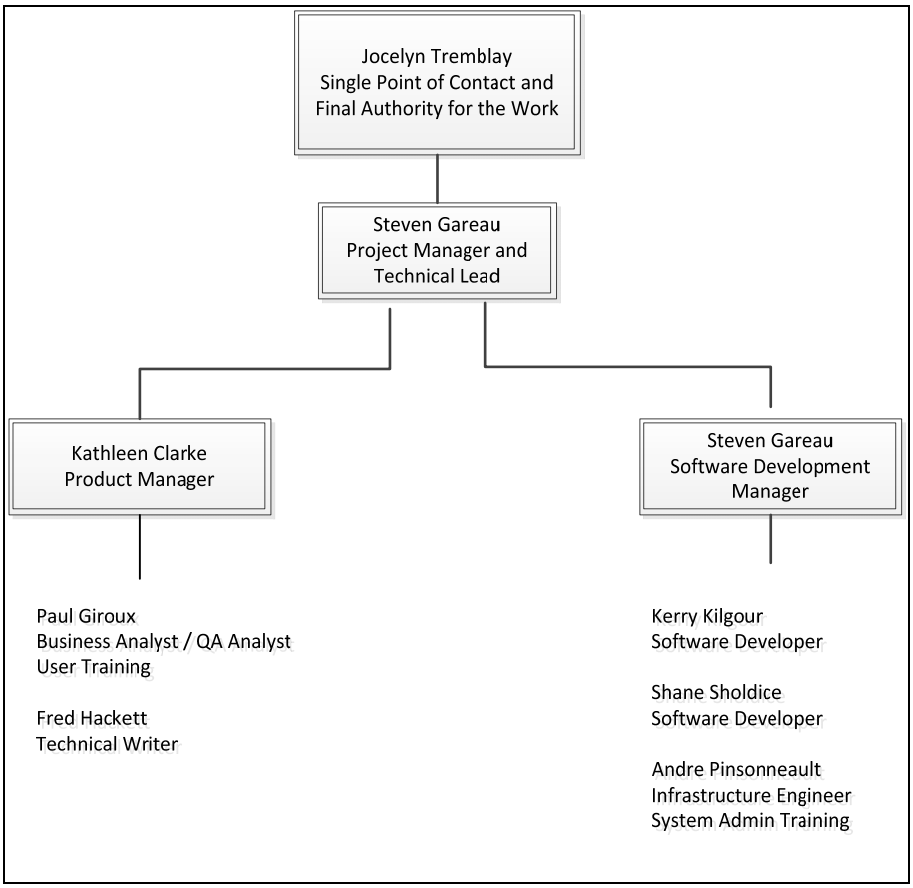
- supporting the management of the Contract,
- facilitating dispute resolution, and
- advising the State of performance under the terms and conditions of the Contract.

The State reserves the right to require a change in the current SPOC if the assigned SPOC is not, in the opinion of the State, adequately serving the needs of the State.

The Contractor will provide, and update when changed, an organizational chart indicating lines of authority for personnel involved in performance of this Contract and relationships of this staff to other programs or functions of the firm. This chart must also show lines of authority to the next senior level of management and indicate who within the firm will have prime responsibility and final authority for the work.

STaCS DNA has a core group of employees who will be committed to and will form the base team for the execution of this project. Additional employees will be added as required.

The organizational chart below has been provided to illustrate STaCS team's reporting structure.



All Key Personnel may be subject to the State's interview and approval process. Any key staff substitution must have the prior approval of the State. The State has identified the following as key personnel for this project:

- Project Manager/Technical Lead

The Contractor has designated Steve Gareau as their Project Manager/Technical Lead to interact with the designated personnel from the State to insure a smooth transition to the new system. The project manager/technical lead will coordinate all of the activities of the Contractor personnel assigned to the project and create all reports required by State. The Contractor's project manager/technical lead responsibilities include, at a minimum:

- Manage all defined Contractor responsibilities in this Scope of Services.
- Manage Contractor's subcontractors, if any
- Develop the project plan and schedule, and update as needed
- Serve as the point person for all project issues
- Coordinate and oversee the day-to-day project activities of the project team
- Assess and report project feedback and status
- Escalate project issues, project risks, and other concerns
- Review all project deliverables and provide feedback
- Proactively propose/suggest options and alternatives for consideration
- Utilize change control procedures
- Prepare project documents and materials
- Manage and report on the project's budget

The Contractor will provide sufficient qualified staffing to satisfy the deliverables of this Statement of Work.

B. On Site Work Requirements

1. Location of Work

a. The Contractor will perform certain work at the State location. This includes:
   i. Requirements verification
   ii. Training
   iii. User Acceptance Testing
   iv. Knowledge Transfer
   v. Warranty (if and only if space is available)
   vi. Maintenance/Support if dedicated resources (and once again, if and only if space is available)
   vii. Deliverable Walkthrough/Review unless agreed to in advance by the State Project Manager
   viii. Status Meetings

b. When the Contractor is on-site:
   i. The State will provide workspace (work space, telephone, and access to a printer, copier, and fax machine) for the Contractor when on site at SOM offices for specific predefined activities but not for the duration of the project.
      1. The <u>Contractor will provide laptops for their personnel</u> to perform work when on-site.

c. Other activities will be performed at Contractor location
   i. The Contractor will identify the specific location(s).
   ii. The development of the solution will be done off-site.
      1. The State will not provide workstations/laptops for development
      2. The State will not provide VPN access for development.

2. Hours of Operation:

a. Normal State working hours are 8:00 a.m. to 5:00 p.m. EST, Monday through Friday, with work performed as necessary after those hours to meet project deadlines. No overtime will be authorized or paid.
b. The State is not obligated to provide State management of assigned work outside of normal State working hours. The State reserves the right to modify the work hours in the best interest of the project.
c. Contractor shall observe the same standard holidays as State employees. The State does not compensate for holiday pay.

3. **Travel:**
   a. No travel or expenses will be reimbursed. This includes travel costs related to training provided to the State by Contractor.
   b. Travel time will not be reimbursed.

4. **Additional Security and Background Check Requirements:**
   Contractor must present certifications evidencing satisfactory Michigan State Police Background checks ICHAT and drug tests for all staff identified for assignment to this project.

   In addition, proposed Contractor personnel will be required to complete and submit an RI-8 Fingerprint Card for the National Crime Information Center (NCIC) Finger Prints, if required by project.

   Contractor will pay for all costs associated with ensuring their staff meets all requirements.

1.202 STATE STAFF, ROLES, AND RESPONSIBILITIES

The State will provide the following resources for the Contractor's use on this project:

- Work space
- Minimal clerical support
- Desk
- Telephone
- PC workstation
- Printer
- Access to copiers and fax machine

The State project team will consist of Executive Subject Matter Experts (SME's), project support, and a DTMB and MSP project manager:

Executive Subject Matter Experts

The Executive Subject Matter Experts representing the business units involved will provide the vision for the business design and how the application shall provide for that vision. They shall be available on an as needed basis. The Executive SME's will be empowered to:

- Resolve project issues in a timely manner
- Review project plan, status, and issues
- Resolve deviations from project plan
- Provide acceptance sign-off
- Utilize change control procedures
- Ensure timely availability of State resources
- Make key implementation decisions, as identified by the Contractor's project manager, within 48-hours of their expected decision date.

Name	Agency/Division	Title	Phone/e-mail
To be named	MSP/Forensic Science Division	Forensic Manager 14	
To be named	MSP/Forensic Science Division	Forensic Scientist 12	
To be named	MSP/Forensic Science Division	Forensic Technician 11	

State Project Managers- (DTMB and MSP)

DTMB will provide a Project Manager who will be responsible for the State's infrastructure and coordinate with the Contractor in determining the system configuration.

The State's DTMB Project Manager will provide the following services:

- Provide State facilities, as needed
- Coordinate the State resources necessary for the project
- Facilitate coordination between various external contractors
- Facilitate communication between different State departments/divisions
- Provide acceptance and sign-off of deliverable/milestone
- Review and sign-off of timesheets and invoices
- Resolve project issues
- Escalate outstanding/high priority issues
- Utilize change control procedures
- Conduct regular and ongoing review of the project to confirm that it meets original objectives and requirements
- Document and archive all important project decisions
- Arrange, schedule and facilitate State staff attendance at all project meetings.

Name	Agency/Division	Title
David Roach	DTMB	Project Manager
Jeffrey Nye	MSP	Project Manager

DTMB shall provide a Buyer whose duties shall include, but not be limited to, supporting the management of the Contract.

Name	Agency/Division	Title
Barb Suska	DTMB	DTMB Buyer

1.300 Project Plan

1.301 PROJECT PLAN MANAGEMENT

Preliminary Project Plan

Contractor will provide a Preliminary Project Plan with the proposal for evaluation purposes, including necessary time frames and deliverables for the various stages of the project and the responsibilities and obligations of both the Contractor and the State.

1. In particular, the Preliminary Project Plan will include a MS Project plan or equivalent (check the SUITE/PMM standard):
    a. A description of the deliverables to be provided under this contract.
    b. Target dates and critical paths for the deliverables.
    c. Identification of roles and responsibilities, including the organization responsible. Contractor is to provide a roles and responsibility matrix.
    d. The labor, hardware, materials and supplies required to be provided by the State in meeting the target dates established in the Preliminary Project Plan.
    e. Internal milestones
    f. Task durations
2. The Preliminary Project Plan shall include the following deliverable/milestones for which payment shall be made.
    a. Payment to the Contractor will be made upon the completion and acceptance of the deliverable or milestone, not to exceed contractual costs of the phase. A milestone is defined as complete when all of the deliverables within the milestone have been completed.
    b. Failure to provide deliverable/milestone by the identified date may be subject to liquidated damages as identified in Article 2.

Note: A Final Project Plan will be required as stated in Article 1, Section 1.301 (C) Project Control.

A. Orientation Meeting
Upon 15 calendar days from execution of the Contract, the Contractor will be required to attend an orientation meeting to discuss the content and procedures of the Contract. The meeting will be held in Lansing, Michigan, at a date and time mutually acceptable to the State and the Contractor. The State shall bear no cost for the time and travel of the Contractor for attendance at the meeting.

B. Performance Review Meetings
The State will require the Contractor to attend monthly meetings, at a minimum, to review the Contractor's performance under the Contract. The meetings will be held in Lansing, Michigan, or by teleconference, as mutually agreed by the State and the Contractor. The State shall bear no cost for the time and travel of the Contractor for attendance at the meeting.

C. Project Control

1. The Contractor will carry out this project under the direction and control of DTMB and the Michigan State Police.2. Within 15 working days of the execution of the Contract, the Contractor will submit to the State DTMB Project Manager a final project plan. The final project plan must be in agreement with Article 1, Section 1.104 Work and Deliverables, and must include the following:
   - The Contractor's project organizational structure.
   - The Contractor's staffing table with names and title of personnel assigned to the project. This must be in agreement with staffing of accepted proposal. Necessary substitutions due to change of employment status and other unforeseen circumstances may only be made with prior approval of the State.
   - The project work breakdown structure (WBS) showing sub-projects, activities and tasks, and resources required and allocated to each.
   - The time-phased plan in the form of a graphic display, showing each event, task, and decision point in the WBS.
3. The Contractor will manage the project in accordance with the State Unified Information Technology Environment (SUITE) methodology, which includes standards for project management, systems engineering, and associated forms and templates which is available at http://www.michigan.gov/suite
   a. Contractor will use MS-Project for planning, monitoring, and tracking the Contract's progress and the level of effort of any Contractor personnel spent performing Services under the Contract. MS-Project shall have the capability to produce:
      - Staffing tables with names of personnel assigned to Contract tasks.
      - Project plans showing tasks, subtasks, deliverables, and the resources required and allocated to each (including detailed plans for all Services to be performed within the next 15 calendar days, updated semi-monthly).
      - Updates must include actual time spent on each task and a revised estimate to complete.
      - Graphs showing critical events, dependencies and decision points during the course of the Contract.
   b. Any tool(s) used by Contractor for such purposes must produce information of a type and in a manner and format that will support reporting in compliance with the State standards.

1.302 REPORTS

Reporting formats must be submitted to the DTMB Project Manager for approval within 15 business days after contract award. Once both parties have agreed to the format of the report, it shall become the standard to follow for the duration of the contract.

- Weekly Project status
- Updated project plan
- Summary of activity during the report period
- Accomplishments during the report period
- Deliverable status
- Schedule status

- Action Item status
- Issues
- Change Control
- Repair status
- Maintenance Activity

1.400 Project Management

1.401 ISSUE MANAGEMENT

An issue is an identified event that if not addressed may affect schedule, scope, quality, or budget.

The Contractor shall maintain an issue log for issues relating to the provision of services under this Contract. The issue management log is available to all stakeholders via the Customer Portal. All information pertaining to issues will be available real-time using the Customer Portal, the Contractor will also communicate the issue log to the State's DTMB Project Manager on an agreed upon schedule.

The issue log contains the list of fields as stated below and provides full email notification capabilities for when new issues are created and when existing issues are updated. Additional fields can be easily added to the issue log if required. The entire lifecycle of an issue can also be tracked using configurable workflows thus providing all stakeholders with real-time status information about all active issues.

- Description of issue
- Issue identification date
- Responsibility for resolving issue.
- Priority for issue resolution (to be mutually agreed upon by the State and the Contractor)
- Resources assigned responsibility for resolution
- Resolution date
- Resolution description

Issues shall be escalated for resolution from level 1 through level 3, as defined below:

Level 1 – Business leads
Level 2 – Project Managers
Level 3 – Executive Subject Matter Experts (SME's)

1.402 RISK MANAGEMENT

A risk is an unknown circumstance or event that, if it occurs, may have a positive or negative impact on the project.

The Contractor will create a risk management plan and process for the project in accordance with the State's PMM methodology. The plan will be submitted to the State for approval within twenty (20) business days after contract award.

The plan will ensure that the information pertaining to the elements below are maintained and monitored:

- Risk description
- Risk priority which will be set by both STaCS DNA and the State
- definition of mitigation strategies for each identified risk
- Risk monitoring for maintaining risk status information

The risk management process will ensure that each identified risk is assessed periodically with the State and that all risk related information is updated accordingly.

STaCS DNA will ensure that all risks for each phase of the project are identified and documented and will be responsible for the mitigation and elimination of all risks assigned. Similarly, the State will be responsible for the mitigation and elimination of all risks assigned to them.

The risk management plan will be updated in accordance with an agreed upon schedule by the DTMB and STaCS DNA's project managers.

All risks will be maintained using the Customer Portal product provided by STaCS DNA.

1.403 CHANGE MANAGEMENT

Change management is defined as the process to communicate, assess, monitor, and control all changes to system resources and processes. The State also employs change management in its administration of the Contract.

The State will use the Customer Portal to communicate, assess, monitor, and control all changes.

The process for managing change is as follows:

Change Requests (CRs) will be submitted via the Customer Portal for communicating changes to STaCS. Each CR must describe the nature of the change, the rationale for the change, and finally the impact that the requested change will have on the project. Once submitted the CR will be reviewed by the project authorities (Project Managers) from both parties (the State and STaCS DNA) in order to either reject the change or approve it for further investigation. Once completed the investigation will determine the impact of implementing the requested change i.e. the impact it will have on price and project schedule.

If a proposed contract change is approved by the Agency, the DTMB Project Manager will submit a request for change to the Department of Technology, Management and Budget, Procurement Buyer, who will make recommendations to the Director of DTMB-Procurement regarding ultimate approval/disapproval of change request. If the DTMB Procurement Director agrees with the proposed modification, and all required approvals are obtained (including State Administrative Board), the DTMB-Procurement Buyer will issue an addendum to the Contract, via a Contract Change Notice. **Contractors who provide products or services prior to the issuance of a Contract Change Notice by the DTMB-Procurement, risk non-payment for the out-of-scope/pricing products and/or services.**

The Contractor must employ change management procedures to handle such things as "out-of-scope" requests or changing business needs of the State while the migration is underway.

The Contractor will employ the change control methodologies to justify changes in the processing environment, and to ensure those changes will not adversely affect performance or availability.

1.500 Acceptance

1.501 CRITERIA

The following criteria will be used by the State to determine acceptance of services and/or deliverables provided under this contract. The criteria also cover two aspects of compliance: performance of the Contractor in meeting the requirements in the contract, and contract compliance, both financial and non-financial.

A. Document Deliverables - Documents include, but are not limited to plans, design documents, project schedules, user guides, and procedure manuals.
   1. Documents are dated and in electronic format, compatible with State of Michigan software in accordance with Article 1.302.

2. Requirements documents are reviewed and updated throughout the development process to assure requirements are delivered in the final product.
3. Draft documents are not accepted as final deliverables.
4. The documents will be reviewed and accepted in accordance with the requirements of the Contract.
5. The State will review technical documents within twenty (20) business days of receipt.
    a. Approvals will be written and signed by the DTMB Project Manager with assistance from other State resources and impacted Agencies.
    b. Unacceptable issues will be documented and submitted to the Contractor.
    c. After issues are resolved or waived, the Contractor will resubmit documents for approval within twenty (20) business days of receipt.

B. Software Deliverables - Software includes, but is not limited to, software product, development tools, support tools, data migration software, interfaces, integration software, and installation software.
1. Beta software is not accepted as final deliverable.
2. The software will be reviewed and accepted in accordance with the requirements of the contract.
3. MSP Business Owners, and DTMB will review software within a mutually agreed upon timeframe for acceptance of functionality, usability, installation, performance, security, standards compliance, backup/recovery, and operation.
    a. Approvals will be written and signed by MSP Business Owners, and DTMB Project Manager.
    b. Unacceptable issues will be documented and submitted to the Contractor.
    c. After issues are resolved or waived, the Contractor will resubmit software for approval within twenty (20) business days of receipt.
4. Final acceptance of the software will depend on the successful completion of User Acceptance Testing (UAT).
5. Testing will demonstrate the system's compliance with the requirements of the contract. At a minimum, the testing will confirm the following:
    a. Functional - the capabilities of the system with respect to the functions and features described in the contract.
    b. Performance - the ability of the system to perform the workload throughput requirements. All problems should be completed satisfactorily within the allotted time frame.
6. DTMB will review software license agreements within a mutually agreed upon timeframe.
    a. Approvals will be written and signed by MSP Agency Business Owners and DTMB Project Manager.
    b. Unacceptable issues will be documented and submitted to the Contractor.
    c. After issues are resolved or waived, the Contractor will resubmit the license agreement for approval and final signature by authorized State signatory within twenty (20) business days of receipt.

C. Service Deliverables - Services include, but are not limited to training, data migration, help desk, and support.
1. The services will be accepted in accordance with the requirements of the contract.
2. The State will review a Request for Approval of Services within twenty (20) business days of completion or implementation.
    a. Approvals will be written and signed by the State's DTMB Project Manager.
    b. Unacceptable issues will be documented and submitted to the Contractor.
    c. After issues are resolved or waived, the Contractor will resubmit a Request for Approval of Services for approval within twenty (20) business days of receipt.
3. The State will review migrated and converted data within twenty (20) business days of completion.
    a. Approvals will be written and signed by the State's DTMB Project Manager.
    b. Unacceptable issues will be documented and submitted to the Contractor.
    c. After issues are resolved or waived, the Contractor will resubmit a request for approval within twenty (20) business days of receipt.

4. State staff are properly trained and supplied with the proper tools and documentation to support, upgrade, monitor, operate, and configure the system in accordance with the requirements of this contract and the accepted Contractor's proposal.
5. The Contractor has the tools and connectivity installed, in compliance with State standards, to properly support and monitor the system.

1.502 FINAL ACCEPTANCE

("**Final Acceptance**") is expressly conditioned upon completion of all deliverables/milestones, completion of all tasks in the project plan as approved, completion of all applicable inspection and/or testing procedures, and the certification by the State that the Contractor has met the defined requirements.

1.600 Compensation and Payment

1.601 COMPENSATION AND PAYMENT

Costs will be invoiced as a Firm Fixed Price. Contractor will submit properly itemized invoices to "Bill To" Address on the Purchase Order. Incorrect or incomplete invoices will be returned to Contractor.

See Cost Table see Attachment B

The Contractor must consider the MiDEAL administrative fee in Section 2.281, when developing its proposed prices.

Travel
The State will **NOT** pay for any travel expenses, including hotel, mileage, meals, parking, etc. Travel time will not be reimbursed.

If Contractor reduces its prices for any of the software or services during the term of this Contract, the State shall have the immediate benefit of such lower prices for new purchases. Contractor shall send notice to the State's DTMB Procurement Buyer with the reduced prices within fifteen (15) Business Days of the reduction taking effect.

Statements of Work and Issuance of Purchase Orders

- Unless otherwise agreed by the parties, each Statement of Work will include:
    1. Background
    2. Project Objective
    3. Scope of Work
    4. Deliverables
    5. Acceptance Criteria
    6. Project Control and Reports
    7. Specific Department Standards
    8. Payment Schedule
    9. Travel and Expenses
    10. Project Contacts
    11. Agency Responsibilities and Assumptions
    12. Location of Where the Work is to be performed
    13. Expected Contractor Work Hours and Conditions

- The parties agree that the Services/Deliverables to be rendered by Contractor pursuant to this Contract (and any future amendments of it) will be defined and described in detail in Statements of Work or Purchase Orders (PO) executed under this Contract. Contractor shall not be obliged or authorized to commence any work to implement a Statement of Work until authorized via a PO issued against this Contract. Contractor shall perform in accordance with this Contract, including the Statements of Work/Purchase Orders executed under it.

Invoicing
Contractor will submit properly itemized invoices to

DTMB – Financial Services
Accounts Payable
P.O. Box 30026
Lansing, MI 48909
or
DTMB-Accounts-Payable@michigan.gov

. Invoices must provide and itemize, as applicable:

- Contract number;
- Purchase Order number
- Contractor name, address, phone number, and Federal Tax Identification Number;
- Description of any commodities/hardware, including quantity ordered;
- Date(s) of delivery and/or date(s) of installation and set up;
- Price for each item, or Contractor's list price for each item and applicable discounts;
- Maintenance charges;
- Net invoice price for each item;
- Shipping costs;
- Other applicable charges;
- Total invoice price; and
- Payment terms, including any available prompt payment discount.

The State may pay maintenance and support charges on a monthly basis, in arrears. Payment of maintenance service/support of less than one (1) month's duration shall be prorated at 1/30th of the basic monthly maintenance charges for each calendar day.

Incorrect or incomplete invoices will be returned to Contractor for correction and reissue.

1.602 HOLDBACK - RESERVED

Article 2, Terms and Conditions

2.000 Contract Structure and Term

2.001 CONTRACT TERM
This Contract is for a period of three (3) years beginning **April 22, 2014** through **April 21, 2017**. All outstanding Purchase Orders must also expire upon the termination for any of the reasons listed in **Section 2.150** of the Contract, unless otherwise extended under the Contract. Absent an early termination for any reason, Purchase Orders issued but not expired, by the end of the Contract's stated term, shall remain in effect for the balance of the fiscal year for which they were issued.

2.002 OPTIONS TO RENEW
This Contract may be renewed in writing by mutual agreement of the parties not less than 30 days before its expiration. The Contract may be renewed for up to three (3) additional one (1) year periods.

2.003 LEGAL EFFECT
Contractor accepts this Contract by signing two copies of the Contract and returning them to the DTMB-Procurement. The Contractor shall not proceed with the performance of the work to be done under the Contract, including the purchase of necessary materials, until both parties have signed the Contract to show acceptance of its terms, and the Contractor receives a contract release/purchase order that authorizes and defines specific performance requirements.

Except as otherwise agreed in writing by the parties, the State shall not be liable for costs incurred by Contractor or payment under this Contract, until Contractor is notified in writing that this Contract or Change Order has been approved by the State Administrative Board (if required), signed by all the parties and a Purchase Order against the Contract has been issued.

2.004 ATTACHMENTS & EXHIBITS
All Attachments and Exhibits affixed to any and all Statement(s) of Work, or appended to or referencing this Contract, are incorporated in their entirety and form part of this Contract.

2.005 ORDERING
The State must issue an approved written Purchase Order, Blanket Purchase Order, Direct Voucher or Procurement Card Order to order any Services/Deliverables under this Contract. All orders are subject to the terms and conditions of this Contract. No additional terms and conditions contained on either a Purchase Order or Blanket Purchase Order apply unless they are specifically contained in that Purchase Order or Blanket Purchase Order's accompanying Statement of Work. Exact quantities to be purchased are unknown; however, the Contractor will be required to furnish all such materials and services as may be ordered during the Contract period. Quantities specified, if any, are estimates based on prior purchases, and the State is not obligated to purchase in these or any other quantities.

2.006 ORDER OF PRECEDENCE
The Contract, including any Statements of Work and Exhibits, to the extent not contrary to the Contract, each of which is incorporated for all purposes, constitutes the entire agreement between the parties with respect to the subject matter and supersedes all prior agreements, whether written or oral, with respect to the subject matter and as additional terms and conditions on the purchase order must apply as limited by **Section 2.005.**

In the event of any inconsistency between the terms of the Contract and a Statement of Work, the terms of the Statement of Work shall take precedence (as to that Statement of Work only); provided, however, that a Statement of Work may not modify or amend the terms of the Contract. The Contract may be modified or amended only by a formal Contract amendment.

2.007 HEADINGS
Captions and headings used in the Contract are for information and organization purposes. Captions and headings, including inaccurate references, do not, in any way, define or limit the requirements or terms and conditions of the Contract.

2.008 FORM, FUNCTION & UTILITY
If the Contract is for use of more than one State agency and if the Deliverable/Service does not the meet the form, function, and utility required by that State agency, that agency may, subject to State purchasing policies, procure the Deliverable/Service from another source.

2.009 REFORMATION AND SEVERABILITY
Each provision of the Contract is severable from all other provisions of the Contract and, if one or more of the provisions of the Contract is declared invalid, the remaining provisions of the Contract remain in full force and effect.

2.010 Consents and Approvals
Except as expressly provided otherwise in the Contract, if either party requires the consent or approval of the other party for the taking of any action under the Contract, the consent or approval must be in writing and must not be unreasonably withheld or delayed.

2.011 NO WAIVER OF DEFAULT
If a party fails to insist upon strict adherence to any term of the Contract then the party has not waived the right to later insist upon strict adherence to that term, or any other term, of the Contract.

2.012 SURVIVAL
Any provisions of the Contract that impose continuing obligations on the parties, including without limitation the parties' respective warranty, indemnity and confidentiality obligations, survive the expiration or termination of the Contract for any reason. Specific references to survival in the Contract are solely for identification purposes and not meant to limit or prevent the survival of any other section

2.020 Contract Administration

2.021 ISSUING OFFICE
This Contract is issued by the Department of Technology, Management and Budget, Procurement and the Michigan State Police (collectively, including all other relevant State of Michigan departments and agencies, the "State"). DTMB-Procurement is the sole point of contact in the State with regard to all procurement and contractual matters relating to the Contract. The DTMB-Procurement Contract Administrator/Buyer for this Contract is:

Barb Suska, Buyer
Department of Technology, Management and Budget - Procurement
Constitution Hall, 1st Floor NE
PO Box 30026
Lansing, MI 48909
Suskab2@michigan.gov
517-284-7026

2.022 CONTRACT COMPLIANCE INSPECTOR
The Director of DTMB-Procurement directs the person named below, or his or her designee, to monitor and coordinate the activities for the Contract on a day-to-day basis during its term. **Monitoring Contract activities does not imply the authority to change, modify, clarify, amend, or otherwise alter the prices, terms, conditions and specifications of the Contract. DTMB-Procurement is the only State office authorized to change, modify, amend, alter or clarify the prices, specifications, terms and conditions of this Contract.** The Contract Compliance Inspector for this Contract is:

Dave Roach
Department of Technology, Management and Budget
(Address)
roachd@michigan.gov
517-241-2254

2.023 PROJECT MANAGER
The following individual will oversee the project:

Dave Roach
Department of Technology, Management and Budget
(Address)
roachd@michigan.gov
517-241-2254

2.024 CHANGE REQUESTS
The State reserves the right to request from time to time any changes to the requirements and specifications of the Contract and the work to be performed by the Contractor under the Contract. During the course of ordinary business, it may become necessary for the State to discontinue certain business practices or create Additional Services/Deliverables. At a minimum, to the extent applicable, Contractor shall provide a detailed outline of all work to be done, including tasks necessary to accomplish the Additional Services/Deliverables, timeframes, listing of key personnel assigned, estimated hours for each individual per task, and a complete and detailed cost justification.

If the State requests or directs the Contractor to perform any Services/Deliverables that are outside the scope of the Contractor's responsibilities under the Contract ("New Work"), the Contractor must notify the State promptly before commencing performance of the requested activities it believes are New Work. If the Contractor fails to notify the State before commencing performance of the requested activities, any such activities performed before the Contractor gives notice shall be conclusively considered to be in-scope Services/Deliverables and not New Work.

If the State requests or directs the Contractor to perform any services or provide deliverables that are consistent with and similar to the Services/Deliverables being provided by the Contractor under the Contract, but which the Contractor reasonably and in good faith believes are not included within the Statements of Work, then before performing such Services or providing such Deliverables, the Contractor shall notify the State in writing that it considers the Services or Deliverables to be an Additional Service/Deliverable for which the Contractor should receive additional compensation. If the Contractor does not so notify the State, the Contractor shall have no right to claim thereafter that it is entitled to additional compensation for performing that Service or providing that Deliverable. If the Contractor does so notify the State, then such a Service or Deliverable shall be governed by the Change Request procedure in this Section.

In the event prices or service levels are not acceptable to the State, the Additional Services or New Work shall be subject to competitive bidding based upon the specifications.

(1) Change Request at State Request
If the State requires Contractor to perform New Work, Additional Services or make changes to the Services that would affect the Contract completion schedule or the amount of compensation due Contractor (a "Change"), the State shall submit a written request for Contractor to furnish a proposal for carrying out the requested Change (a "Change Request").

(2) Contractor Recommendation for Change Requests:
Contractor shall be entitled to propose a Change to the State, on its own initiative, should Contractor believe the proposed Change would benefit the Contract.

(3) Upon receipt of a Change Request or on its own initiative, Contractor shall examine the implications of the requested Change on the technical specifications, Contract schedule and price of the Deliverables and Services and shall submit to the State without undue delay a written proposal for carrying out the Change. Contractor's proposal shall include any associated changes in the technical specifications, Contract schedule and price and method of pricing of the Services. If the Change is to be performed on a time and materials basis, the Amendment Labor Rates shall apply to the provision of such Services. If Contractor provides a written proposal and should Contractor be of the opinion that a requested Change is not to be recommended, it shall communicate its opinion to the State but shall nevertheless carry out the Change as specified in the written proposal if the State directs it to do so.

(4) By giving Contractor written notice within a reasonable time, the State shall be entitled to accept a Contractor proposal for Change, to reject it, or to reach another agreement with Contractor. Should the parties agree on carrying out a Change, a written Contract Change Notice must be prepared and issued under this Contract, describing the Change and its effects on the Services and any affected components of this Contract (a "Contract Change Notice").

(5) No proposed Change shall be performed until the proposed Change has been specified in a duly executed Contract Change Notice issued by the Department of Technology, Management and Budget, Procurement.

(6) If the State requests or directs the Contractor to perform any activities that Contractor believes constitute a Change, the Contractor must notify the State that it believes the requested activities are a Change before beginning to work on the requested activities. If the Contractor fails to notify the State before beginning to work on the requested activities, then the Contractor waives any right to assert any claim for additional compensation or time for performing the requested activities. If the Contractor commences performing work outside the scope of this Contract and then ceases performing that work, the Contractor must, at the request of the State, retract any out-of-scope work that would adversely affect the Contract.

2.025 NOTICES

Any notice given to a party under the Contract must be deemed effective, if addressed to the party as addressed below, upon: (i) delivery, if hand delivered; (ii) receipt of a confirmed transmission by facsimile if a copy of the notice is sent by another means specified in this Section; (iii) the third Business Day after being sent by U.S. mail, postage pre-paid, return receipt requested; or (iv) the next Business Day after being sent by a nationally recognized overnight express courier with a reliable tracking system.

State:
State of Michigan
Department of Technology, Management and Budget - Procurement
Attention: Barb Suska
PO Box 30026
525 West Allegan
Lansing, Michigan 48909

Contractor:
STaCS DNA, Inc.
Ottawa, Ontario Canada

Either party may change its address where notices are to be sent by giving notice according to this Section.

2.026 BINDING COMMITMENTS

Representatives of Contractor must have the authority to make binding commitments on Contractor's behalf within the bounds set forth in the Contract. Contractor may change the representatives from time to time upon giving written notice.

2.027 RELATIONSHIP OF THE PARTIES

The relationship between the State and Contractor is that of client and independent contractor. No agent, employee, or servant of Contractor or any of its Subcontractors shall be deemed to be an employee, agent or

servant of the State for any reason. Contractor shall be solely and entirely responsible for its acts and the acts of its agents, employees, servants and Subcontractors during the performance of the Contract.

2.028 COVENANT OF GOOD FAITH
Each party shall act reasonably and in good faith. Unless stated otherwise in the Contract, the parties shall not unreasonably delay, condition or withhold the giving of any consent, decision or approval that is either requested or reasonably required of them in order for the other party to perform its responsibilities under the Contract.

2.029 ASSIGNMENTS
Neither party may assign the Contract, or assign or delegate any of its duties or obligations under the Contract, to any other party (whether by operation of law or otherwise), without the prior written consent of the other party; provided, however, that the State may assign the Contract to any other State agency, department, division or department without the prior consent of Contractor and Contractor may assign the Contract to an affiliate so long as the affiliate is adequately capitalized and can provide adequate assurances that the affiliate can perform the Contract. The State may withhold consent from proposed assignments, subcontracts, or novations when the transfer of responsibility would operate to decrease the State's likelihood of receiving performance on the Contract or the State's ability to recover damages.

Contractor may not, without the prior written approval of the State, assign its right to receive payments due under the Contract. If the State permits an assignment, the Contractor is not relieved of its responsibility to perform any of its contractual duties and the requirement under the Contract that all payments must be made to one entity continues.

If the Contractor intends to assign the contract or any of the Contractor's rights or duties under the Contract, the Contractor must notify the State in writing at least 90 days before the assignment. The Contractor also must provide the State with adequate information about the assignee within a reasonable amount of time before the assignment for the State to determine whether to approve the assignment.

2.030 General Provisions

2.031 MEDIA RELEASES
News releases (including promotional literature and commercial advertisements) pertaining to the RFP and Contract or project to which it relates shall not be made without prior written State approval, and then only in accordance with the explicit written instructions from the State. No results of the activities associated with the RFP and Contract are to be released without prior written approval of the State and then only to persons designated.

2.032 CONTRACT DISTRIBUTION
DTMB-Procurement retains the sole right of Contract distribution to all State agencies and local units of government unless other arrangements are authorized by DTMB-Procurement.

2.033 PERMITS
Contractor must obtain and pay any associated costs for all required governmental permits, licenses and approvals for the delivery, installation and performance of the Services. The State shall pay for all costs and expenses incurred in obtaining and maintaining any necessary easements or right of way.

2.034 WEBSITE INCORPORATION
The State is not bound by any content on the Contractor's website, even if the Contractor's documentation specifically referenced that content and attempts to incorporate it into any other communication, unless the State has actual knowledge of the content and has expressly agreed to be bound by it in a writing that has been manually signed by an authorized representative of the State.

2.035 FUTURE BIDDING PRECLUSION
Contractor acknowledges that, to the extent this Contract involves the creation, research, investigation or generation of a future RFP; it may be precluded from bidding on the subsequent RFP. The State reserves the right to disqualify any Bidder if the State determines that the Bidder has used its position (whether as an incumbent Contractor, or as a
Contractor hired to assist with the RFP development, or as a Vendor offering free assistance) to gain a competitive advantage on the RFP.

2.036 FREEDOM OF INFORMATION
All information in any proposal submitted to the State by Contractor and this Contract is subject to the provisions of the Michigan Freedom of Information Act, 1976 Public Act No. 442, as amended, MCL 15.231, et seq (the "FOIA").

2.037 DISASTER RECOVERY
Contractor and the State recognize that the State provides essential services in times of natural or man-made disasters. Therefore, except as so mandated by Federal disaster response requirements, Contractor personnel dedicated to providing Services/Deliverables under this Contract shall provide the State with priority service for repair and work around in the event of a natural or man-made disaster.

2.040 Financial Provisions

2.041 FIXED PRICES FOR SERVICES/DELIVERABLES
Each Statement of Work or Purchase Order issued under this Contract shall specify (or indicate by reference to the appropriate Contract Exhibit) the firm, fixed prices for all Services/Deliverables, and the associated payment milestones and payment amounts. The State may make progress payments to the Contractor when requested as work progresses, but not more frequently than monthly, in amounts approved by the Contract Administrator, after negotiation. Contractor shall show verification of measurable progress at the time of requesting progress payments.

2.042 ADJUSTMENTS FOR REDUCTIONS IN SCOPE OF SERVICES/DELIVERABLES
If the scope of the Services/Deliverables under any Statement of Work issued under this Contract is subsequently reduced by the State, the parties shall negotiate an equitable reduction in Contractor's charges under such Statement of Work commensurate with the reduction in scope.

2.043 SERVICES/DELIVERABLES COVERED
The State shall not be obligated to pay any amounts in addition to the charges specified in this Contract for all Services/Deliverables to be provided by Contractor and its Subcontractors, if any, under this Contract,.

2.044 INVOICING AND PAYMENT – IN GENERAL
(a) Each Statement of Work issued under this Contract shall list (or indicate by reference to the appropriate Contract Exhibit) the prices for all Services/Deliverables, equipment and commodities to be provided, and the associated payment milestones and payment amounts.
(b) Each Contractor invoice shall show details as to charges by Service/Deliverable component and location at a level of detail reasonably necessary to satisfy the State's accounting and charge-back requirements. Invoices for Services performed on a time and materials basis shall show, for each individual, the number of hours of Services performed during the billing period, the billable skill/labor category for such person and the applicable hourly billing rate. Prompt payment by the State is contingent on the Contractor's invoices showing the amount owed by the State minus any holdback amount to be retained by the State in accordance with **Section 1.600**.
(c) Correct invoices shall be due and payable by the State, in accordance with the State's standard payment procedure as specified in 1984 Public Act No. 279, MCL 17.51 et seq., within 45 days after receipt, provided the State determines that the invoice was properly rendered.

(d1) All invoices should reflect actual work done. Specific details of invoices and payments shall be agreed upon between the Contract Administrator and the Contractor after the proposed Contract Agreement has been signed and accepted by both the Contractor and the Director of Procurement, Department of Management & Budget. This activity shall occur only upon the specific written direction from DTMB-Procurement.

The specific payment schedule for any Contract(s) entered into, as the State and the Contractor(s) shall mutually agree upon. The schedule should show payment amount and should reflect actual work done by the payment dates, less any penalty cost charges accrued by those dates. As a general policy statements shall be forwarded to the designated representative by the 15th day of the following month.

The Government may make progress payments to the Contractor when requested as work progresses, but not more frequently than monthly, in amounts approved by the Contract Administrator, after negotiation. Contractor must show verification of measurable progress at the time of requesting progress payments.

2.045 PRO-RATION
To the extent there are Services that are to be paid for on a monthly basis, the cost of such Services shall be pro-rated for any partial month.

2.046 ANTITRUST ASSIGNMENT
The Contractor assigns to the State any claim for overcharges resulting from antitrust violations to the extent that those violations concern materials or services supplied by third parties to the Contractor, toward fulfillment of this Contract.

2.047 FINAL PAYMENT
The making of final payment by the State to Contractor does not constitute a waiver by either party of any rights or other claims as to the other party's continuing obligations under the Contract, nor shall it constitute a waiver of any claims by one party against the other arising from unsettled claims or failure by a party to comply with this Contract, including claims for Services and Deliverables not reasonably known until after acceptance to be defective or substandard. Contractor's acceptance of final payment by the State under this Contract shall constitute a waiver of all claims by Contractor against the State for payment under this Contract, other than those claims previously filed in writing on a timely basis and still unsettled.

2.048 ELECTRONIC PAYMENT REQUIREMENT
Electronic transfer of funds is required for payments on State Contracts. Contractors are required to register with the State electronically at http://www.cpexpress.state.mi.us. As stated in Public Act 431 of 1984, all contracts that the State enters into for the purchase of goods and services shall provide that payment shall be made by electronic fund transfer (EFT).

2.050 Taxes

2.051 EMPLOYMENT TAXES
Contractor shall collect and pay all applicable federal, state, and local employment taxes, including the taxes.

2.052 SALES AND USE TAXES
Contractor shall register and remit sales and use taxes on taxable sales of tangible personal property or services delivered into the State. Contractors that lack sufficient presence in Michigan to be required to register and pay tax must do so as a volunteer. This requirement extends to: (1) all members of any controlled group as defined in § 1563(a) of the Internal Revenue Code and applicable regulations of which the company is a member, and (2) all organizations under common control as defined in § 414(c) of the Internal Revenue Code and applicable regulations of which the company is a member that make sales at retail for delivery into the State are registered with the State for the collection and remittance of sales and use taxes. In applying treasury regulations defining "two or more trades or businesses under common control" the term "organization"

means sole proprietorship, a partnership (as defined in § 701(a) (2) of the Internal Revenue Code), a trust, an estate, a corporation, or a limited liability company

2.060 Contract Management

2.061 CONTRACTOR PERSONNEL QUALIFICATIONS

All persons assigned by Contractor to the performance of Services under this Contract must be employees of Contractor or its majority-owned (directly or indirectly, at any tier) subsidiaries (or a State-approved Subcontractor) and must be fully qualified to perform the work assigned to them. Contractor must include a similar provision in any subcontract entered into with a Subcontractor. For the purposes of this Contract, independent contractors engaged by Contractor solely in a staff augmentation role must be treated by the State as if they were employees of Contractor for this Contract only; however, the State understands that the relationship between Contractor and Subcontractor is an independent contractor relationship.

2.062 CONTRACTOR KEY PERSONNEL

(a) The Contractor must provide the Contract Compliance Inspector with the names of the Key Personnel.

(b) Key Personnel must be dedicated as defined in the Statement of Work to the Project for its duration in the applicable Statement of Work with respect to other individuals designated as Key Personnel for that Statement of Work.

(c) The State shall have the right to recommend and approve in writing the initial assignment, as well as any proposed reassignment or replacement, of any Key Personnel. Before assigning an individual to any Key Personnel position, Contractor shall notify the State of the proposed assignment, shall introduce the individual to the appropriate State representatives, and shall provide the State with a resume and any other information about the individual reasonably requested by the State. The State reserves the right to interview the individual before granting written approval. In the event the State finds a proposed individual unacceptable, the State shall provide a written explanation including reasonable detail outlining the reasons for the rejection.

(d) Contractor must not remove any Key Personnel from their assigned roles on the Contract without the prior written consent of the State. The Contractor's removal of Key Personnel without the prior written consent of the State is an unauthorized removal ("Unauthorized Removal"). Unauthorized Removals does not include replacing Key Personnel for reasons beyond the reasonable control of Contractor, including illness, disability, leave of absence, personal emergency circumstances, resignation or for cause termination of the Key Personnel's employment. Unauthorized Removals does not include replacing Key Personnel because of promotions or other job movements allowed by Contractor personnel policies or Collective Bargaining Agreement(s) as long as the State receives prior written notice before shadowing occurs and Contractor provides 30 days of shadowing unless parties agree to a different time period. The Contractor with the State must review any Key Personnel replacements, and appropriate transition planning will be established. Any Unauthorized Removal may be considered by the State to be a material breach of the Contract, in respect of which the State may elect to exercise its termination and cancellation rights.

(e) The Contractor must notify the Contract Compliance Inspector and the Contract Administrator at least 10 business days before redeploying non-Key Personnel, who are dedicated to primarily to the Project, to other projects. If the State does not object to the redeployment by its scheduled date, the Contractor may then redeploy the non-Key Personnel.

2.063 RE-ASSIGNMENT OF PERSONNEL AT THE STATE'S REQUEST

The State reserves the right to require the removal from the Project of Contractor personnel found, in the judgment of the State, to be unacceptable. The State's request must be written with reasonable detail outlining the reasons for the removal request. Additionally, the State's request must be based on legitimate, good faith reasons. Replacement personnel for the removed person must be fully qualified for the position. If the State exercises this right, and the Contractor cannot immediately replace the removed personnel, the State agrees to an equitable adjustment in schedule or other terms that may be affected by the State's required removal. If any incident with removed personnel results in delay not reasonably anticipatable under the circumstances and

which is attributable to the State, the applicable SLAs for the affected Service shall not be counted for a time as agreed to by the parties.

2.064 CONTRACTOR PERSONNEL LOCATION
All staff assigned by Contractor to work on the Contract shall perform their duties either primarily at Contractor's offices and facilities or at State facilities. Without limiting the generality of the foregoing, Key Personnel shall, at a minimum, spend at least the amount of time on-site at State facilities as indicated in the applicable Statement of Work. Subject to availability, selected Contractor personnel may be assigned office space to be shared with State personnel.

2.065 CONTRACTOR IDENTIFICATION
Contractor employees must be clearly identifiable while on State property by wearing a State-issued badge, as required. Contractor employees are required to clearly identify themselves and the company they work for whenever making contact with State personnel by telephone or other means.

2.066 COOPERATION WITH THIRD PARTIES
Contractor agrees to cause its personnel and the personnel of any Subcontractors to cooperate with the State and its agents and other contractors including the State's Quality Assurance personnel. As reasonably requested by the State in writing, the Contractor shall provide to the State's agents and other contractors reasonable access to Contractor's Project personnel, systems and facilities to the extent the access relates to activities specifically associated with this Contract and shall not interfere or jeopardize the safety or operation of the systems or facilities. The State acknowledges that Contractor's time schedule for the Contract is very specific and agrees not to unnecessarily or unreasonably interfere with, delay or otherwise impeded Contractor's performance under this Contract with the requests for access.

2.067 CONTRACT MANAGEMENT RESPONSIBILITIES
Contractor shall be responsible for all acts and omissions of its employees, as well as the acts and omissions of any other personnel furnished by Contractor to perform the Services. Contractor shall have overall responsibility for managing and successfully performing and completing the Services/Deliverables, subject to the overall direction and supervision of the State and with the participation and support of the State as specified in this Contract. Contractor's duties shall include monitoring and reporting the State's performance of its participation and support responsibilities (as well as Contractor's own responsibilities) and providing timely notice to the State in Contractor's reasonable opinion if the State's failure to perform its responsibilities in accordance with the Project Plan is likely to delay the timely achievement of any Contract tasks.

The Contractor shall provide the Services/Deliverables directly or through its affiliates, subsidiaries, subcontractors or resellers. Regardless of the entity providing the Service/Deliverable, the Contractor shall act as a single point of contact coordinating these entities to meet the State's need for Services/Deliverables. Nothing in this Contract, however, shall be construed to authorize or require any party to violate any applicable law or regulation in its performance of this Contract.

2.068 CONTRACTOR RETURN OF STATE EQUIPMENT/RESOURCES
The Contractor shall return to the State any State-furnished equipment, facilities and other resources when no longer required for the Contract in the same condition as when provided by the State, reasonable wear and tear excepted.

2.070 Subcontracting by Contractor

2.071 CONTRACTOR FULL RESPONSIBILITY
Contractor shall have full responsibility for the successful performance and completion of all of the Services and Deliverables. The State shall consider Contractor to be the sole point of contact with regard to all contractual matters under this Contract, including payment of any and all charges for Services and Deliverables.

2.072 STATE CONSENT TO DELEGATION
Contractor shall not delegate any duties under this Contract to a Subcontractor unless the Department of Technology, Management and Budget, Procurement has given written consent to such delegation. The State shall have the right of prior written approval of all Subcontractors and to require Contractor to replace any Subcontractors found, in the reasonable judgment of the State, to be unacceptable. The State's request shall be written with reasonable detail outlining the reasons for the removal request. Additionally, the State's request shall be based on legitimate, good faith reasons. Replacement Subcontractor(s) for the removed Subcontractor shall be fully qualified for the position. If the State exercises this right, and the Contractor cannot immediately replace the removed Subcontractor, the State shall agree to an equitable adjustment in schedule or other terms that may be affected by the State's required removal. If any such incident with a removed Subcontractor results in delay not reasonable anticipatable under the circumstances and which is attributable to the State, the applicable SLA for the affected Work shall not be counted for a time agreed upon by the parties.

2.073 SUBCONTRACTOR BOUND TO CONTRACT
In any subcontracts entered into by Contractor for the performance of the Services, Contractor shall require the Subcontractor, to the extent of the Services to be performed by the Subcontractor, to be bound to Contractor by the terms of this Contract and to assume toward Contractor all of the obligations and responsibilities that Contractor, by this Contract, assumes toward the State. The State reserves the right to receive copies of and review all subcontracts, although Contractor may delete or mask any proprietary information, including pricing, contained in such contracts before providing them to the State. The management of any Subcontractor shall be the responsibility of Contractor, and Contractor shall remain responsible for the performance of its Subcontractors to the same extent as if Contractor had not subcontracted such performance. Contractor shall make all payments to Subcontractors or suppliers of Contractor. Except as otherwise agreed in writing by the State and Contractor, the State shall not be obligated to direct payments for the Services other than to Contractor. The State's written approval of any Subcontractor engaged by Contractor to perform any obligation under this Contract shall not relieve Contractor of any obligations or performance required under this Contract. A list of the Subcontractors, if any, approved by the State as of the execution of this Contract, together with a copy of the applicable subcontract is attached.

2.074 FLOW DOWN
Except where specifically approved in writing by the State on a case-by-case basis, Contractor shall flow down the obligations in **Sections 2.031, 2.060, 2.100, 2.110, 2.120, 2.130, and 2.200** in all of its agreements with any Subcontractors.

2.075 COMPETITIVE SELECTION
The Contractor shall select subcontractors (including suppliers) on a competitive basis to the maximum practical extent consistent with the objectives and requirements of the Contract.

2.080 State Responsibilities

2.081 EQUIPMENT
The State shall provide only the equipment and resources identified in the Statement of Work and other Contract Exhibits.

2.082 FACILITIES
The State must designate space as long as it is available and as provided in the Statement of Work, to house the Contractor's personnel whom the parties agree will perform the Services/Deliverables at State facilities (collectively, the "State Facilities"). The Contractor shall have reasonable access to, and unless agreed otherwise by the parties in writing must observe and comply with all rules and regulations relating to each of the State Facilities (including hours of operation) used by the Contractor in the course of providing the Services. Contractor agrees that it shall not, without the prior written consent of the State, use any State Facilities or access any State information systems provided for the Contractor's use, or to which the Contractor

otherwise gains access in the course of performing the Services, for any purpose other than providing the Services to the State.

2.090 Security

2.091 BACKGROUND CHECKS

On a case-by-case basis, the State may investigate the Contractor's personnel before they may have access to State facilities and systems. The scope of the background check is at the discretion of the State and the results shall be used to determine Contractor personnel eligibility for working within State facilities and systems. The investigations shall include Michigan State Police Background checks (ICHAT) and may include the National Crime Information Center (NCIC) Finger Prints. Proposed Contractor personnel may be required to complete and submit an RI-8 Fingerprint Card for the NCIC Finger Print Check. Any request for background checks shall be initiated by the State and shall be reasonably related to the type of work requested.

All Contractor personnel shall also be expected to comply with the State's security and acceptable use policies for State IT equipment and resources. See http://www.michigan.gov/dit. Furthermore, Contractor personnel shall be expected to agree to the State's security and acceptable use policies before the Contractor personnel shall be accepted as a resource to perform work for the State. It is expected the Contractor shall present these documents to the prospective employee before the Contractor presents the individual to the State as a proposed resource. Contractor staff shall be expected to comply with all Physical Security procedures in place within the facilities where they are working.

2.092 SECURITY BREACH NOTIFICATION

If the Contractor breaches this Section, the Contractor must (i) promptly cure any deficiencies and (ii) comply with any applicable federal and state laws and regulations pertaining to unauthorized disclosures. Contractor and the State shall cooperate to mitigate, to the extent practicable, the effects of any breach, intrusion, or unauthorized use or disclosure. Contractor must report to the State in writing any use or disclosure of Confidential Information, whether suspected or actual, other than as provided for by the Contract within 10 days of becoming aware of the use or disclosure or the shorter time period as is reasonable under the circumstances.

2.093 PCI DATA SECURITY STANDARD

(a) Contractors that process, transmit or store credit/debit cardholder data, must adhere to the Payment Card Industry (PCI) Data Security Standards. The Contractor is responsible for the security of cardholder data in its possession. The data may only be used to assist the State or for other uses specifically authorized by law.

(b) The Contractor must notify the CCI (within 72 hours of discovery) of any breaches in security where cardholder data has been compromised. In that event, the Contractor must provide full cooperation to the Visa, MasterCard, Discover and state Acquirer representative(s), and/or a PCI approved third party to conduct a thorough security review. The Contractor must make the forensic report available within two weeks of completion. The review must validate compliance with the current PCI Data Security Standards for protecting cardholder data.

(c) The Contractor must properly dispose of cardholder data, in compliance with DTMB policy, when it is no longer needed. The Contractor must continue to treat cardholder data as confidential upon contract termination.

(d) The Contractor must provide the CCI with an annual Attestation of Compliance (AOC) or a Report on Compliance (ROC) showing the contractor is in compliance with the PCI Data Security Standards. The Contractor must notify the CCI of all failures to comply with the PCI Data Security Standard.

2.100 Confidentiality

2.101 CONFIDENTIALITY

Contractor and the State each acknowledge that the other possesses and shall continue to possess confidential information that has been developed or received by it. As used in this Section, "Confidential Information" of Contractor must mean all non-public proprietary information of Contractor (other than Confidential Information of the State as defined below), which is marked confidential, restricted, proprietary, or with a similar designation. "Confidential Information" of the State must mean any information which is retained in confidence by the State (or otherwise required to be held in confidence by the State under applicable federal, state and local laws and regulations) or which, in the case of tangible materials provided to Contractor by the State under its performance under this Contract, is marked as confidential, proprietary or with a similar designation by the State. "Confidential Information" excludes any information (including this Contract) that is publicly available under the Michigan FOIA.

2.102 PROTECTION AND DESTRUCTION OF CONFIDENTIAL INFORMATION

The State and Contractor shall each use at least the same degree of care to prevent disclosing to third parties the Confidential Information of the other as it employs to avoid unauthorized disclosure, publication or dissemination of its own confidential information of like character, but in no event less than reasonable care. Neither Contractor nor the State shall (i) make any use of the Confidential Information of the other except as contemplated by this Contract, (ii) acquire any right in or assert any lien against the Confidential Information of the other, or (iii) if requested to do so, refuse for any reason to promptly return the other party's Confidential Information to the other party. Each party shall limit disclosure of the other party's Confidential Information to employees and Subcontractors who must have access to fulfill the purposes of this Contract. Disclosure to, and use by, a Subcontractor is permissible where (A) use of a Subcontractor is authorized under this Contract, (B) the disclosure is necessary or otherwise naturally occurs in connection with work that is within the Subcontractor's scope of responsibility, and (C) Contractor obligates the Subcontractor in a written Contract to maintain the State's Confidential Information in confidence. At the State's request, any employee of Contractor and of any Subcontractor having access or continued access to the State's Confidential Information may be required to execute an acknowledgment that the employee has been advised of Contractor's and the Subcontractor's obligations under this Section and of the employee's obligation to Contractor or Subcontractor, as the case may be, to protect the Confidential Information from unauthorized use or disclosure.

Promptly upon termination or cancellation of the Contract for any reason, Contractor must certify to the State that Contractor has destroyed all State Confidential Information.

2.103 EXCLUSIONS

Notwithstanding the foregoing, the provisions in this Section shall not apply to any particular information which the State or Contractor can demonstrate (i) was, at the time of disclosure to it, in the public domain; (ii) after disclosure to it, is
published or otherwise becomes part of the public domain through no fault of the receiving party; (iii) was in the possession of the receiving party at the time of disclosure to it without an obligation of confidentiality; (iv) was received after disclosure to it from a third party who had a lawful right to disclose the information to it without any obligation to restrict its further disclosure; or (v) was independently developed by the receiving party without reference to Confidential Information of the furnishing party. Further, the provisions of this Section shall not apply to any particular Confidential Information to the extent the receiving party is required by law to disclose the Confidential Information, provided that the receiving party (i) promptly provides the furnishing party with notice of the legal request, and (ii) assists the furnishing party in resisting or limiting the scope of the disclosure as reasonably requested by the furnishing party.

2.104 NO IMPLIED RIGHTS

Nothing contained in this Section must be construed as obligating a party to disclose any particular Confidential Information to the other party, or as granting to or conferring on a party, expressly or impliedly, any right or license to the Confidential Information of the other party.

2.105 RESPECTIVE OBLIGATIONS
The parties' respective obligations under this Section must survive the termination or expiration of this Contract for any reason.

2.110 Records and Inspections

2.111 INSPECTION OF WORK PERFORMED
The State's authorized representatives shall at all reasonable times and with 10 days prior written request, have the right to enter Contractor's premises, or any other places, where the Services are being performed, and shall have access, upon reasonable request, to interim drafts of Deliverables or work-in-progress. Upon 10 Days prior written notice and at all reasonable times, the State's representatives shall be allowed to inspect, monitor, or otherwise evaluate the work being performed and to the extent that the access will not reasonably interfere or jeopardize the safety or operation of the systems or facilities. Contractor shall provide all reasonable facilities and assistance for the State's representatives.

2.112 EXAMINATION OF RECORDS
For seven years after the Contractor provides any work under this Contract (the "Audit Period"), the State may examine and copy any of Contractor's books, records, documents and papers pertinent to establishing Contractor's compliance with the Contract and with applicable laws and rules. The State shall notify the Contractor 20 days before examining the Contractor's books and records. The State does not have the right to review any information deemed confidential by the Contractor to the extent access would require the confidential information to become publicly available. This provision also applies to the books, records, accounts, documents and papers, in print or electronic form, of any parent, affiliated or subsidiary organization of Contractor, or any Subcontractor of Contractor performing services in connection with the Contract.

2.113 RETENTION OF RECORDS
Contractor shall maintain at least until the end of the Audit Period all pertinent financial and accounting records (including time sheets and payroll records, and information pertaining to the Contract and to the Services, equipment, and commodities provided under the Contract) pertaining to the Contract according to generally accepted accounting principles and other procedures specified in this Section. Financial and accounting records shall be made available, upon request, to the State at any time during the Audit Period. If an audit, litigation, or other action involving Contractor's records is initiated before the end of the Audit Period, the records shall be retained until all issues arising out of the audit, litigation, or other action are resolved or until the end of the Audit Period, whichever is later.

2.114 AUDIT RESOLUTION
If necessary, the Contractor and the State shall meet to review each audit report promptly after issuance. The Contractor shall respond to each audit report in writing within 30 days from receipt of the report, unless a shorter response time is specified in the report. The Contractor and the State shall develop, agree upon and monitor an action plan to promptly address and resolve any deficiencies, concerns, and/or recommendations in the audit report.

2.115 ERRORS
If the audit demonstrates any errors in the documents provided to the State, then the amount in error shall be reflected as a credit or debit on the next invoice and in subsequent invoices until the amount is paid or refunded in full. However, a credit or debit may not be carried for more than four invoices. If a balance remains after four invoices, then the remaining amount shall be due as a payment or refund within 45 days of the last quarterly invoice that the balance appeared on or termination of the contract, whichever is earlier.

In addition to other available remedies, the difference between the payment received and the correct payment amount is greater than 10%, then the Contractor shall pay all of the reasonable costs of the audit.

2.120 Warranties

2.121 WARRANTIES AND REPRESENTATIONS

The Contractor represents and warrants:

(a) It is capable in all respects of fulfilling and must fulfill all of its obligations under this Contract. The performance of all obligations under this Contract must be provided in a timely, professional, and workman-like manner and must meet the performance and operational standards required under this Contract.

(b) The Contract Appendices, Attachments and Exhibits identify the equipment and software and services necessary for the Deliverable(s) to perform and Services to operate in compliance with the Contract's requirements and other standards of performance.

(c) It is the lawful owner or licensee of any Deliverable licensed or sold to the State by Contractor or developed by Contractor under this Contract, and Contractor has all of the rights necessary to convey to the State the ownership rights or licensed use, as applicable, of any and all Deliverables. None of the Deliverables provided by Contractor to the State under neither this Contract, nor their use by the State shall infringe the patent, copyright, trade secret, or other proprietary rights of any third party.

(d) If, under this Contract, Contractor procures any equipment, software or other Deliverable for the State (including equipment, software and other Deliverables manufactured, re-marketed or otherwise sold by Contractor under Contractor's name), then in addition to Contractor's other responsibilities with respect to the items in this Contract, Contractor must assign or otherwise transfer to the State or its designees, or afford the State the benefits of, any manufacturer's warranty for the Deliverable.

(e) The contract signatory has the power and authority, including any necessary corporate authorizations, necessary to enter into this Contract, on behalf of Contractor.

(f) It is qualified and registered to transact business in all locations where required.

(g) Neither the Contractor nor any Affiliates, nor any employee of either, has, must have, or must acquire, any contractual, financial, business, or other interest, direct or indirect, that would conflict in any manner or degree with Contractor's performance of its duties and responsibilities to the State under this Contract or otherwise create an appearance of impropriety with respect to the award or performance of this Agreement. Contractor must notify the State about the nature of the conflict or appearance of impropriety within two days of learning about it.

(h) Neither Contractor nor any Affiliates, nor any employee of either has accepted or must accept anything of value based on an understanding that the actions of the Contractor or Affiliates or employee on behalf of the State would be influenced. Contractor must not attempt to influence any State employee by the direct or indirect offer of anything of value.

(i) Neither Contractor nor any Affiliates, nor any employee of either has paid or agreed to pay any person, other than bona fide employees and consultants working solely for Contractor or the Affiliate, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of this Contract.

(j) The prices proposed by Contractor were arrived at independently, without consultation, communication, or agreement with any other Bidder for the purpose of restricting competition; the prices quoted were not knowingly disclosed by Contractor to any other Bidder; and no attempt was made by Contractor to induce any other person to submit or not submit a proposal for the purpose of restricting competition.

(k) All financial statements, reports, and other information furnished by Contractor to the State as part of its response to the RFP or otherwise in connection with the award of this Contract fairly and accurately represent the business, properties, financial condition, and results of operations of Contractor as of the respective dates, or for the respective periods, covered by the financial statements, reports, other information. Since the respective dates or periods covered by the financial statements, reports, or other information, there have been no material adverse changes in the business, properties, financial condition, or results of operations of Contractor.

(l) All written information furnished to the State by or for the Contractor in connection with this Contract, including its bid, is true, accurate, and complete, and contains no untrue statement of material fact or omits any material fact necessary to make the information not misleading.

(m) It is not in material default or breach of any other contract or agreement that it may have with the State or any of its departments, commissions, boards, or agencies. Contractor further represents and warrants that it has not been a party to any contract with the State or any of its departments that was terminated by the State or the department within the previous five years for the reason that Contractor failed to perform or otherwise breached an obligation of the contract.

(n) If any of the certifications, representations, or disclosures made in the Contractor's original bid response change after contract award, the Contractor is required to report those changes immediately to the Department of Technology, Management and Budget, Procurement.

2.122 WARRANTY OF MERCHANTABILITY

Goods provided by Contractor under this agreement shall be merchantable. All goods provided under this Contract shall be of good quality within the description given by the State, shall be fit for their ordinary purpose, shall be adequately contained and packaged within the description given by the State, shall conform to the agreed upon specifications, and shall conform to the affirmations of fact made by the Contractor or on the container or label.

2.123 WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE

When the Contractor has reason to know or knows any particular purpose for which the goods are required, and the State is relying on the Contractor's skill or judgment to select or furnish suitable goods, there is a warranty that the goods are fit for such purpose.

2.124 WARRANTY OF TITLE

Contractor shall, in providing goods to the State, convey good title in those goods, whose transfer is right and lawful. All goods provided by Contractor shall be delivered free from any security interest, lien, or encumbrance of which the State, at the time of contracting, has no knowledge. Goods provided by Contractor, under this Contract, shall be delivered free of any rightful claim of any third person by of infringement or the like.

2.125 EQUIPMENT WARRANTY

To the extent Contractor is responsible under this Contract for maintaining equipment/system(s), Contractor represents and warrants that it shall maintain the equipment/system(s) in good operating condition and shall undertake all repairs and preventive maintenance according to the applicable manufacturer's recommendations for the period specified in this Contract.

The Contractor represents and warrants that the equipment/system(s) are in good operating condition and operates and performs to the requirements and other standards of performance contained in this Contract, when installed, at the time of Final Acceptance by the State, and for a period of (1) one year commencing upon the first day following Final Acceptance.

Within 30 business days of notification from the State, the Contractor must adjust, repair or replace all equipment that is defective or not performing in compliance with the Contract. The Contractor must assume all costs for replacing parts or units and their installation including transportation and delivery fees, if any.

The Contractor must provide a toll-free telephone number to allow the State to report equipment failures and problems to be remedied by the Contractor.

The Contractor agrees that all warranty service it provides under this Contract must be performed by Original Equipment Manufacturer (OEM) trained, certified and authorized technicians.

The Contractor is the sole point of contact for warranty service. The Contractor warrants that it shall pass through to the State any warranties obtained or available from the original equipment manufacturer, including any replacement, upgraded, or additional equipment warranties.

2.126 EQUIPMENT TO BE NEW
If applicable, all equipment provided under this Contract by Contractor shall be new where Contractor has knowledge regarding whether the equipment is new or assembled from new or serviceable used parts that are like new in performance or has the option of selecting one or the other. Equipment that is assembled from new or serviceable used parts that are like new in performance is acceptable where Contractor does not have knowledge or the ability to select one or other, unless specifically agreed otherwise in writing by the State.

2.127 PROHIBITED PRODUCTS
The State will not accept salvage, distressed, outdated or discontinued merchandise. Shipping of such merchandise to any State agency, as a result of an order placed against the Contract, shall be considered default by the Contractor of the terms and conditions of the Contract and may result in cancellation of the Contract by the State. The brand and product number offered for all items shall remain consistent for the term of the Contract, unless DTMB-Procurement has approved a change order pursuant to **Section 2.024**.

2.128 CONSEQUENCES FOR BREACH
In addition to any remedies available in law, if the Contractor breaches any of the warranties contained in this section, the breach may be considered as a default in the performance of a material obligation of this Contract.

2.130 Insurance

2.131 LIABILITY INSURANCE
The Contractor must provide proof of the minimum levels of insurance coverage as indicated below. The insurance must protect the State from claims that may arise out of or result from the Contractor's performance of services under the terms of this Contract, whether the services are performed by the Contractor, or by any subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.

The Contractor waives all rights against the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents for recovery of damages to the extent these damages are covered by the insurance policies the Contractor is required to maintain under this Contract.

All insurance coverage provided relative to this Contract/Purchase Order is PRIMARY and NON-CONTRIBUTING to any comparable liability insurance (including self-insurances) carried by the State.

The insurance must be written for not less than any minimum coverage specified in this Contract or required by law, whichever is greater.

The insurers selected by Contractor must have an A.M. Best rating of A or better, or as otherwise approved in writing by the State, or if the ratings are no longer available, with a comparable rating from a recognized insurance rating agency. All policies of insurance required in this Contract must be issued by companies that have been approved to do business in the State.
See www.michigan.gov/dleg.

Where specific limits are shown, they are the minimum acceptable limits. If Contractor's policy contains higher limits, the State must be entitled to coverage to the extent of the higher limits.

The Contractor is required to pay for and provide the type and amount of insurance checked ☑ below:

☑ 1. Commercial General Liability with the following minimum coverage:
$2,000,000 General Aggregate Limit other than Products/Completed Operations
$2,000,000 Products/Completed Operations Aggregate Limit
$1,000,000 Personal & Advertising Injury Limit
$1,000,000 Each Occurrence Limit

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSUREDS on the Commercial General Liability certificate. The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company.

☑ 2. If a motor vehicle is used to provide services or products under this Contract, the Contractor must have vehicle liability insurance on any auto including owned, hired and non-owned vehicles used in Contractor‘s business for bodily injury and property damage as required by law.

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSUREDS on the vehicle liability certificate. The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company.

☑ 3. Workers’ compensation coverage must be provided according to applicable laws governing the employees and employers work activities in the state of the Contractor’s domicile. If a self-insurer provides the applicable coverage, proof must be provided of approved self-insured authority by the jurisdiction of domicile. For employees working outside of the state of qualification, Contractor must provide appropriate certificates of insurance proving mandated coverage levels for the jurisdictions where the employees’ activities occur.

Any certificates of insurance received must also provide a list of states where the coverage is applicable.

The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company. This provision must not be applicable where prohibited or limited by the laws of the jurisdiction in which the work is to be performed.

☑ 4. Employers liability insurance with the following minimum limits:
$100,000 each accident
$100,000 each employee by disease
$500,000 aggregate disease

☐ 5. Employee Fidelity, including Computer Crimes, insurance naming the State as a loss payee, providing coverage for direct loss to the State and any legal liability of the State arising out of or related to fraudulent or dishonest acts committed by the employees of Contractor or its Subcontractors, acting alone or in collusion with others, in a minimum amount of one million dollars ($1,000,000.00) with a maximum deductible of fifty thousand dollars ($50,000.00).

☐ 6. Umbrella or Excess Liability Insurance in a minimum amount of ten million dollars ($10,000,000.00), which must apply, at a minimum, to the insurance required in Subsection 1 (Commercial General Liability) above.

☐ 7. Professional Liability (Errors and Omissions) Insurance with the following minimum coverage: three million dollars ($3,000,000.00) each occurrence and three million dollars ($3,000,000.00) annual aggregate.

☐ 8. Fire and Personal Property Insurance covering against any loss or damage to the office space used by Contractor for any reason under this Contract, and the equipment, software and other contents of the office space, including without limitation, those contents used by Contractor to provide the Services to the State, up to its replacement value, where the office space and its contents are under the care, custody and control of Contractor. The policy must cover all risks of direct physical loss or damage, including without limitation, flood and earthquake coverage and coverage for computer hardware and software. The State must be endorsed on the policy as a loss payee as its interests appear.

2.132 SUBCONTRACTOR INSURANCE COVERAGE
Except where the State has approved in writing a Contractor subcontract with other insurance provisions, Contractor must require all of its Subcontractors under this Contract to purchase and maintain the insurance coverage as described in this Section for the Contractor in connection with the performance of work by those Subcontractors. Alternatively, Contractor may include any Subcontractors under Contractor's insurance on the coverage required in this Section. Subcontractor(s) must fully comply with the insurance coverage required in this Section. Failure of Subcontractor(s) to comply with insurance requirements does not limit Contractor's liability or responsibility.

2.133 CERTIFICATES OF INSURANCE AND OTHER REQUIREMENTS
Contractor must furnish to DTMB-Procurement, certificate(s) of insurance verifying insurance coverage or providing satisfactory evidence of self-insurance as required in this Section (the "Certificates"). The Certificate must be on the standard "accord" form or equivalent. **The Contract Number or the Purchase Order Number must be shown on the Certificate Of Insurance To Assure Correct Filing.** All Certificate(s) are to be prepared and submitted by the Insurance Provider. All Certificate(s) must contain a provision indicating that coverage afforded under the policies SHALL NOT BE CANCELLED, MATERIALLY CHANGED, OR NOT RENEWED without 30 days prior written notice, except for 10 days for non-payment of premium, having been given to the Director of Procurement, Department of Technology, Management and Budget. The notice must include the Contract or Purchase Order number affected. Before the Contract is signed, and not less than 20 days before the insurance expiration date every year thereafter, the Contractor must provide evidence that the State and its agents, officers and employees are listed as additional insured under each commercial general liability and commercial automobile liability policy. In the event the State approves the representation of the State by the insurer's attorney, the attorney may be required to be designated as a Special Assistant Attorney General by the Attorney General of the State of Michigan.

The Contractor must maintain all required insurance coverage throughout the term of the Contract and any extensions and, in the case of claims-made Commercial General Liability policies, must secure tail coverage for at least three years following the expiration or termination for any reason of this Contract. The minimum limits of coverage specified above are not intended, and must not be construed; to limit any liability or indemnity of Contractor under this Contract to any indemnified party or other persons. Contractor is responsible for all deductibles with regard to the insurance. If the Contractor fails to pay any premium for required insurance as specified in this Contract, or if any insurer cancels or significantly reduces any required insurance as specified in this Contract without the State's written consent, then the State may, after the State has given the Contractor at least 30 days written notice, pay the premium or procure similar insurance coverage from another company or companies. The State may deduct any part of the cost from any payment due the Contractor, or the Contractor must pay that cost upon demand by the State.

2.140 Indemnification

2.141 GENERAL INDEMNIFICATION
To the extent permitted by law, the Contractor must indemnify, defend and hold harmless the State from liability, including all claims and losses, and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest and penalties), accruing or resulting to any person, firm or corporation that may be injured or damaged by the Contractor in the performance of this Contract and that are attributable to the negligence or tortious acts of the Contractor or any of its subcontractors, or by anyone else for whose acts any of them may be liable.

2.142 CODE INDEMNIFICATION
To the extent permitted by law, the Contractor shall indemnify, defend and hold harmless the State from any claim, loss, or expense arising from Contractor's breach of the No Surreptitious Code Warranty.

2.143 EMPLOYEE INDEMNIFICATION
In any claims against the State of Michigan, its departments, divisions, agencies, sections, commissions, officers, employees and agents, by any employee of the Contractor or any of its subcontractors, the indemnification obligation under the Contract must not be limited in any way by the amount or type of damages, compensation or benefits payable by or for the Contractor or any of its subcontractors under worker's disability compensation acts, disability benefit acts or other employee benefit acts. This indemnification clause is intended to be comprehensive. Any overlap in provisions, or the fact that greater specificity is provided as to some categories of risk, is not intended to limit the scope of indemnification under any other provisions.

2.144 PATENT/COPYRIGHT INFRINGEMENT INDEMNIFICATION
To the extent permitted by law, the Contractor must indemnify, defend and hold harmless the State from and against all losses, liabilities, damages (including taxes), and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest and penalties) incurred in connection with any action or proceeding threatened or brought against the State to the extent that the action or proceeding is based on a claim that any piece of equipment, software, commodity or service supplied by the Contractor or its subcontractors, or the operation of the equipment, software, commodity or service, or the use or reproduction of any documentation provided with the equipment, software, commodity or service infringes any United States patent, copyright, trademark or trade secret of any person or entity, which is enforceable under the laws of the United States.

In addition, should the equipment, software, commodity, or service, or its operation, become or in the State's or Contractor's opinion be likely to become the subject of a claim of infringement, the Contractor must at the Contractor's sole expense (i) procure for the State the right to continue using the equipment, software, commodity or service or, if the option is not reasonably available to the Contractor, (ii) replace or modify to the State's satisfaction the same with equipment, software, commodity or service of equivalent function and performance so that it becomes non-infringing, or, if the option is not reasonably available to Contractor, (iii) accept its return by the State with appropriate credits to the State against the Contractor's charges and reimburse the State for any losses or costs incurred as a consequence of the State ceasing its use and returning it.

Notwithstanding the foregoing, the Contractor has no obligation to indemnify or defend the State for, or to pay any costs, damages or attorneys' fees related to, any claim based upon (i) equipment developed based on written specifications of the State; (ii) use of the equipment in a configuration other than implemented or approved in writing by the Contractor, including, but not limited to, any modification of the equipment by the State; or (iii) the combination, operation, or use of the equipment with equipment or software not supplied by the Contractor under this Contract.

2.145 CONTINUATION OF INDEMNIFICATION OBLIGATIONS
The Contractor's duty to indemnify under this Section continues in full force and effect, notwithstanding the expiration or early cancellation of the Contract, with respect to any claims based on facts or conditions that occurred before expiration or cancellation.

2.146 INDEMNIFICATION PROCEDURES
The procedures set forth below must apply to all indemnity obligations under this Contract.

(a) After the State receives notice of the action or proceeding involving a claim for which it shall seek indemnification, the State must promptly notify Contractor of the claim in writing and take or assist Contractor in taking, as the case may be, any reasonable action to avoid the imposition of a default judgment against Contractor. No failure to notify the Contractor relieves the Contractor of its indemnification obligations except to the extent that the Contractor can prove damages attributable to the failure. Within 10 days following receipt of written notice from the State relating to any claim, the Contractor must notify the State in writing whether Contractor agrees to assume control of the defense and settlement of that claim (a "Notice of Election"). After notifying Contractor of a claim and before the

State receiving Contractor's Notice of Election, the State is entitled to defend against the claim, at the Contractor's expense, and the Contractor will be responsible for any reasonable costs incurred by the State in defending against the claim during that period.

(b) If Contractor delivers a Notice of Election relating to any claim: (i) the State is entitled to participate in the defense of the claim and to employ counsel at its own expense to assist in the handling of the claim and to monitor and advise the State about the status and progress of the defense; (ii) the Contractor must, at the request of the State, demonstrate to the reasonable satisfaction of the State, the Contractor's financial ability to carry out its defense and indemnity obligations under this Contract; (iii) the Contractor must periodically advise the State about the status and progress of the defense and must obtain the prior written approval of the State before entering into any settlement of the claim or ceasing to defend against the claim and (iv) to the extent that any principles of Michigan governmental or public law may be involved or challenged, the State has the right, at its own expense, to control the defense of that portion of the claim involving the principles of Michigan governmental or public law. But the State may retain control of the defense and settlement of a claim by notifying the Contractor in writing within 10 days after the State's receipt of Contractor's information requested by the State under clause (ii) of this paragraph if the State determines that the Contractor has failed to demonstrate to the reasonable satisfaction of the State the Contractor's financial ability to carry out its defense and indemnity obligations under this Section. Any litigation activity on behalf of the State, or any of its subdivisions under this Section, must be coordinated with the Department of Attorney General.

In the event the insurer's attorney represents the State under this Section, the insurer's attorney may be required to be designated as a Special Assistant Attorney General by the Attorney General of the State of Michigan.

(c) If Contractor does not deliver a Notice of Election relating to any claim of which it is notified by the State as provided above, the State may defend the claim in the manner as it may deem appropriate, at the cost and expense of Contractor. If it is determined that the claim was one against which Contractor was required to indemnify the State, upon request of the State, Contractor must promptly reimburse the State for all the reasonable costs and expenses.

2.150 Termination/Cancellation

2.151 NOTICE AND RIGHT TO CURE

If the Contractor breaches the contract, and the State in its sole discretion determines that the breach is curable, then the State shall provide the Contractor with written notice of the breach and a time period (not less than 30 days) to cure the Breach. The notice of breach and opportunity to cure is inapplicable for successive or repeated breaches or if the State determines in its sole discretion that the breach poses a serious and imminent threat to the health or safety of any person or the imminent loss, damage, or destruction of any real or tangible personal property.

2.152 TERMINATION FOR CAUSE

(a) The State may terminate this contract, for cause, by notifying the Contractor in writing, if the Contractor (i) breaches any of its material duties or obligations under this Contract (including a Chronic Failure to meet any particular SLA), or (ii) fails to cure a breach within the time period specified in the written notice of breach provided by the State

(b) If this Contract is terminated for cause, the Contractor must pay all costs incurred by the State in terminating this Contract, including but not limited to, State administrative costs, reasonable attorneys' fees and court costs, and any reasonable additional costs the State may incur to procure the Services/Deliverables required by this Contract from other sources. Re-procurement costs are not consequential, indirect or incidental damages, and cannot be excluded by any other terms otherwise included in this Contract, provided the costs are not in excess of 50% more than the prices for the Service/Deliverables provided under this Contract.

(c) If the State chooses to partially terminate this Contract for cause, charges payable under this Contract shall be equitably adjusted to reflect those Services/Deliverables that are terminated and the State must pay for all Services/Deliverables for which Final Acceptance has been granted provided up to the

termination date. Services and related provisions of this Contract that are terminated for cause must cease on the effective date of the termination.

(d) If the State terminates this Contract for cause under this Section, and it is determined, for any reason, that Contractor was not in breach of contract under the provisions of this section, that termination for cause must be deemed to have been a termination for convenience, effective as of the same date, and the rights and obligations of the parties must be limited to that otherwise provided in this Contract for a termination for convenience.

2.153 TERMINATION FOR CONVENIENCE

The State may terminate this Contract for its convenience, in whole or part, if the State determines that a termination is in the State's best interest. Reasons for the termination must be left to the sole discretion of the State and may include, but not necessarily be limited to (a) the State no longer needs the Services or products specified in the Contract, (b) relocation of office, program changes, changes in laws, rules, or regulations make implementation of the Services no longer practical or feasible, (c) unacceptable prices for Additional Services or New Work requested by the State, or (d) falsification or misrepresentation, by inclusion or non-inclusion, of information material to a response to any RFP issued by the State. The State may terminate this Contract for its convenience, in whole or in part, by giving Contractor written notice at least 30 days before the date of termination. If the State chooses to terminate this Contract in part, the charges payable under this Contract must be equitably adjusted to reflect those Services/Deliverables that are terminated. Services and related provisions of this Contract that are terminated for convenience must cease on the effective date of the termination.

2.154 TERMINATION FOR NON-APPROPRIATION

(a) Contractor acknowledges that, if this Contract extends for several fiscal years, continuation of this Contract is subject to appropriation or availability of funds for this Contract. If funds to enable the State to effect continued payment under this Contract are not appropriated or otherwise made available, the State must terminate this Contract and all affected Statements of Work, in whole or in part, at the end of the last period for which funds have been appropriated or otherwise made available by giving written notice of termination to Contractor. The State must give Contractor at least 30 days advance written notice of termination for non-appropriation or unavailability (or the time as is available if the State receives notice of the final decision less than 30 days before the funding cutoff).

(b) If funding for the Contract is reduced by law, or funds to pay Contractor for the agreed-to level of the Services or production of Deliverables to be provided by Contractor are not appropriated or otherwise unavailable, the State may, upon 30 days written notice to Contractor, reduce the level of the Services or change the production of Deliverables in the manner and for the periods of time as the State may elect. The charges payable under this Contract shall be equitably adjusted to reflect any equipment, services or commodities not provided by reason of the reduction.

(c) If the State terminates this Contract, eliminates certain Deliverables, or reduces the level of Services to be provided by Contractor under this Section, the State must pay Contractor for all Work-in-Process performed through the effective date of the termination or reduction in level, as the case may be and as determined by the State, to the extent funds are available. This Section shall not preclude Contractor from reducing or stopping Services/Deliverables or raising against the State in a court of competent jurisdiction, any claim for a shortfall in payment for Services performed or Deliverables finally accepted before the effective date of termination.

2.155 TERMINATION FOR CRIMINAL CONVICTION

The State may terminate this Contract immediately and without further liability or penalty in the event Contractor, an officer of Contractor, or an owner of a 25% or greater share of Contractor is convicted of a criminal offense related to a State, public or private Contract or subcontract.

2.156 TERMINATION FOR APPROVALS RESCINDED

The State may terminate this Contract if any final administrative or judicial decision or adjudication disapproves a previously approved request for purchase of personal services under Constitution 1963, Article 11, § 5, and Civil Service Rule 7-1. In that case, the State shall pay the Contractor for only the work completed to that point

under the Contract. Termination may be in whole or in part and may be immediate as of the date of the written notice to Contractor or may be effective as of the date stated in the written notice.

2.157 RIGHTS AND OBLIGATIONS UPON TERMINATION

(a) If the State terminates this Contract for any reason, the Contractor must (a) stop all work as specified in the notice of termination, (b) take any action that may be necessary, or that the State may direct, for preservation and protection of Deliverables or other property derived or resulting from this Contract that may be in Contractor's possession, (c) return all materials and property provided directly or indirectly to Contractor by any entity, agent or employee of the State, (d) transfer title in, and deliver to, the State, unless otherwise directed, all Deliverables intended to be transferred to the State at the termination of the Contract and which are resulting from the Contract (which must be provided to the State on an "As-Is" basis except to the extent the amounts paid by the State in respect of the items included compensation to Contractor for the provision of warranty services in respect of the materials), and (e) take any action to mitigate and limit any potential damages, or requests for Contractor adjustment or termination settlement costs, to the maximum practical extent, including terminating or limiting as otherwise applicable those subcontracts and outstanding orders for material and supplies resulting from the terminated Contract.

(b) If the State terminates this Contract before its expiration for its own convenience, the State must pay Contractor for all charges due for Services provided before the date of termination and, if applicable, as a separate item of payment under this Contract, for Work In Process, on a percentage of completion basis at the level of completion determined by the State. All completed or partially completed Deliverables prepared by Contractor under this Contract, at the option of the State, becomes the State's property, and Contractor is entitled to receive equitable fair compensation for the Deliverables. Regardless of the basis for the termination, the State is not obligated to pay, or otherwise compensate, Contractor for any lost expected future profits, costs or expenses incurred with respect to Services not actually performed for the State.

(c) Upon a good faith termination, the State may assume, at its option, any subcontracts and agreements for services and deliverables provided under this Contract, and may further pursue completion of the Services/Deliverables under this Contract by replacement contract or otherwise as the State may in its sole judgment deem expedient.

2.158 RESERVATION OF RIGHTS

Any termination of this Contract or any Statement of Work issued under it by a party must be with full reservation of, and without prejudice to, any rights or remedies otherwise available to the party with respect to any claims arising before or as a result of the termination.

2.160 Termination by Contractor

2.161 TERMINATION BY CONTRACTOR

If the State breaches the Contract, and the Contractor in its sole discretion determines that the breach is curable, then the Contractor will provide the State with written notice of the breach and a time period (not less than 30 days) to cure the breach. The Notice of Breach and opportunity to cure is inapplicable for successive and repeated breaches.

The Contractor may terminate this Contract if the State (i) materially breaches its obligation to pay the Contractor undisputed amounts due and owing under this Contract, (ii) breaches its other obligations under this Contract to an extent that makes it impossible or commercially impractical for the Contractor to perform the Services, or (iii) does not cure the breach within the time period specified in a written notice of breach. But the Contractor must discharge its obligations under **Section 2.160** before it terminates the Contract.

2.170 Transition Responsibilities

2.171 CONTRACTOR TRANSITION RESPONSIBILITIES

If the State terminates this contract, for convenience or cause, or if the Contract is otherwise dissolved, voided, rescinded, nullified, expires or rendered unenforceable, the Contractor shall comply with direction provided by

the State to assist in the orderly transition of equipment, services, software, leases, etc. to the State or a third party designated by the State. If this Contract expires or terminates, the Contractor agrees to make all reasonable efforts to effect an orderly transition of services within a reasonable period of time that in no event will exceed 180 days. These efforts must include, but are not limited to, those listed in **Section 2.150.**

2.172 CONTRACTOR PERSONNEL TRANSITION

The Contractor shall work with the State, or a specified third party, to develop a transition plan setting forth the specific tasks and schedule to be accomplished by the parties, to effect an orderly transition. The Contractor must allow as many personnel as practicable to remain on the job to help the State, or a specified third party, maintain the continuity and consistency of the services required by this Contract. In addition, during or following the transition period, in the event the State requires the Services of the Contractor's subcontractors or vendors, as necessary to meet its needs, Contractor agrees to reasonably, and with good-faith, work with the State to use the Services of Contractor's subcontractors or vendors. Contractor will notify all of Contractor's subcontractors of procedures to be followed during transition.

2.173 CONTRACTOR INFORMATION TRANSITION

The Contractor shall provide reasonable detailed specifications for all Services/Deliverables needed by the State, or specified third party, to properly provide the Services/Deliverables required under this Contract. The Contractor will provide the State with asset management data generated from the inception of this Contract through the date on which this Contractor is terminated in a comma-delineated format unless otherwise requested by the State. The Contractor will deliver to the State any remaining owed reports and documentation still in Contractor's possession subject to appropriate payment by the State.

2.174 CONTRACTOR SOFTWARE TRANSITION

The Contractor shall reasonably assist the State in the acquisition of any Contractor software required to perform the Services/use the Deliverables under this Contract. This must include any documentation being used by the Contractor to perform the Services under this Contract. If the State transfers any software licenses to the Contractor, those licenses must, upon expiration of the Contract, transfer back to the State at their current revision level. Upon notification by the State, Contractor may be required to freeze all non-critical changes to Deliverables/Services.

2.175 TRANSITION PAYMENTS

If the transition results from a termination for any reason, the termination provisions of this Contract must govern reimbursement. If the transition results from expiration, the Contractor will be reimbursed for all reasonable transition costs (i.e. costs incurred within the agreed period after contract expiration that result from transition operations) at the rates agreed upon by the State. The Contractor will prepare an accurate accounting from which the State and Contractor may reconcile all outstanding accounts.

2.176 STATE TRANSITION RESPONSIBILITIES

In the event that this Contract is terminated, dissolved, voided, rescinded, nullified, or otherwise rendered unenforceable, the State agrees to reconcile all accounts between the State and the Contractor, complete any pending post-project reviews and perform any others obligations upon which the State and the Contractor agree.

(a) Reconciling all accounts between the State and the Contractor;
(b) Completing any pending post-project reviews.

2.180 Stop Work

2.181 STOP WORK ORDERS

The State may, at any time, by written Stop Work Order to Contractor, require that Contractor stop all, or any part, of the work called for by the Contract for a period of up to 90 calendar days after the Stop Work Order is delivered to Contractor, and for any further period to which the parties may agree. The Stop Work Order must be identified as a Stop Work Order and must indicate that it is issued under this **Section**. Upon receipt of the stop work order, Contractor must immediately comply with its terms and take all reasonable steps to minimize

incurring costs allocable to the work covered by the Stop Work Order during the period of work stoppage. Within the period of the stop work order, the State must either: (a) cancel the stop work order; or (b) terminate the work covered by the Stop Work Order as provided in **Section 2.182**.

2.182 CANCELLATION OR EXPIRATION OF STOP WORK ORDER

The Contractor shall resume work if the State cancels a Stop Work Order or if it expires. The parties shall agree upon an equitable adjustment in the delivery schedule, the Contract price, or both, and the Contract shall be modified, in writing, accordingly, if: (a) the Stop Work Order results in an increase in the time required for, or in Contractor's costs properly allocable to, the performance of any part of the Contract; and (b) Contractor asserts its right to an equitable adjustment within 30 calendar days after the end of the period of work stoppage; provided that, if the State decides the facts justify the action, the State may receive and act upon a Contractor proposal submitted at any time before final payment under the Contract. Any adjustment will conform to the requirements of **Section 2.024**.

2.183 ALLOWANCE OF CONTRACTOR COSTS

If the Stop Work Order is not canceled and the work covered by the Stop Work Order is terminated for reasons other than material breach, the termination shall be deemed to be a termination for convenience under **Section 2.153**, and the State shall pay reasonable costs resulting from the Stop Work Order in arriving at the termination settlement. For the avoidance of doubt, the State shall not be liable to Contractor for loss of profits because of a Stop Work Order issued under this Section**.**

2.190 Dispute Resolution

2.191 IN GENERAL

Any claim, counterclaim, or dispute between the State and Contractor arising out of or relating to the Contract or any Statement of Work must be resolved as follows. For all Contractor claims seeking an increase in the amounts payable to Contractor under the Contract, or the time for Contractor's performance, Contractor must submit a letter, together with all data supporting the claims, executed by Contractor's Contract Administrator or the Contract Administrator's designee certifying that (a) the claim is made in good faith, (b) the amount claimed accurately reflects the adjustments in the amounts payable to Contractor or the time for Contractor's performance for which Contractor believes the State is liable and covers all costs of every type to which Contractor is entitled from the occurrence of the claimed event, and (c) the claim and the supporting data are current and complete to Contractor's best knowledge and belief.

2.192 INFORMAL DISPUTE RESOLUTION

(a) All disputes between the parties shall be resolved under the Contract Management procedures in this Contract. If the parties are unable to resolve any dispute after compliance with the processes, the parties must meet with the Director of Procurement, DTMB, or designee, to resolve the dispute without the need for formal legal proceedings, as follows:

(1) The representatives of Contractor and the State must meet as often as the parties reasonably deem necessary to gather and furnish to each other all information with respect to the matter at issue which the parties believe to be appropriate and germane in connection with its resolution. The representatives shall discuss the problem and negotiate in good faith in an effort to resolve the dispute without the necessity of any formal proceeding.

(2) During the course of negotiations, all reasonable requests made by one party to another for non-privileged information reasonably related to the Contract shall be honored in order that each of the parties may be fully advised of the other's position.

(3) The specific format for the discussions shall be left to the discretion of the designated State and Contractor representatives, but may include the preparation of agreed upon statements of fact or written statements of position.

(4) Following the completion of this process within 60 calendar days, the Director of Procurement, DTMB, or designee, shall issue a written opinion regarding the issue(s) in dispute within 30 calendar days. The opinion regarding the dispute must be considered the State's final action and the exhaustion of administrative remedies.

(b) This Section shall not be construed to prevent either party from instituting, and a party is authorized to institute, formal proceedings earlier to avoid the expiration of any applicable limitations period, to preserve a superior position with respect to other creditors, or under Section 2.193.

(c) The State shall not mediate disputes between the Contractor and any other entity, except state agencies, concerning responsibility for performance of work under the Contract.

2.193 INJUNCTIVE RELIEF

The only circumstance in which disputes between the State and Contractor shall not be subject to the provisions of **Section 2.192** is where a party makes a good faith determination that a breach of the terms of the Contract by the other party is that the damages to the party resulting from the breach shall be so immediate, so large or severe and so incapable of adequate redress after the fact that a temporary restraining order or other immediate injunctive relief is the only adequate remedy.

2.194 CONTINUED PERFORMANCE

Each party agrees to continue performing its obligations under the Contract while a dispute is being resolved except to the extent the issue in dispute precludes performance (dispute over payment must not be deemed to preclude performance) and without limiting either party's right to terminate the Contract as provided in **Section 2.150**, as the case may be.

2.200 Federal and State Contract Requirements

2.201 NONDISCRIMINATION

In the performance of the Contract, Contractor agrees not to discriminate against any employee or applicant for employment, with respect to his or her hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, religion, national origin, ancestry, age, sex, height, weight, and marital status, physical or mental disability. Contractor further agrees that every subcontract entered into for the performance of this Contract or any purchase order resulting from this Contract will contain a provision requiring non-discrimination in employment, as specified here, binding upon each Subcontractor. This covenant is required under the Elliot Larsen Civil Rights Act, 1976 PA 453, MCL 37.2101, et seq., and the Persons with Disabilities Civil Rights Act, 1976 PA 220, MCL 37.1101, et seq., and any breach of this provision may be regarded as a material breach of the Contract.

2.202 UNFAIR LABOR PRACTICES

Under 1980 PA 278, MCL 423.321, et seq., the State shall not award a Contract or subcontract to an employer whose name appears in the current register of employers failing to correct an unfair labor practice compiled under section 2 of the Act. This information is compiled by the United States National Labor Relations Board. A Contractor of the State, in relation to the Contract, shall not enter into a contract with a Subcontractor, manufacturer, or supplier whose name appears in this register. Under section 4 of 1980 PA 278, MCL 423.324, the State may void any Contract if, after award of the Contract, the name of Contractor as an employer or the name of the Subcontractor, manufacturer or supplier of Contractor appears in the register.

2.203 WORKPLACE SAFETY AND DISCRIMINATORY HARASSMENT

In performing Services for the State, the Contractor shall comply with the Department of Civil Services Rule 2-20 regarding Workplace Safety and Rule 1-8.3 regarding Discriminatory Harassment. In addition, the Contractor shall comply with Civil Service regulations and any applicable agency rules provided to the Contractor. For Civil Service Rules, see http://www.mi.gov/mdcs/0,1607,7-147-6877---,00.html.

2.204 PREVAILING WAGE

Wages rates and fringe benefits to be paid each class of individuals employed by the Contractor, its subcontractors, their subcontractors, and all persons involved with the performance of this Contract in privity of contract with the Contractor shall not be less than the wage rates and fringe benefits established by the Michigan Department of Licensing and Regulatory Affairs, Wage and Hour Division, schedule of occupational classification and wage rates and fringe benefits for the local where the work is to be performed. The term

Contractor shall include all general contractors, prime contractors, project managers, trade contractors, and all of their contractors or subcontractors and persons in privity of contract with them.

The Contractor, its subcontractors, their subcontractors and all persons involved with the performance of this contract in privity of contract with the Contractor shall keep posted on the work site, in a conspicuous place, a copy of all wage rates and fringe benefits as prescribed in the Contract. Contractor shall also post, in a conspicuous place, the address and telephone number of the Michigan Department of Licensing and Regulatory Affairs, the agency responsible for enforcement of the wage rates and fringe benefits. Contractor shall keep an accurate record showing the name and occupation of the actual wage and benefits paid to each individual employed in connection with this contract. This record shall be available to the State upon request for reasonable inspection.

If any trade is omitted from the list of wage rates and fringe benefits to be paid to each class of individuals by the Contractor, it is understood that the trades omitted shall also be paid not less than the wage rate and fringe benefits prevailing in the local where the work is to be performed.

2.210 Governing Law

2.211 GOVERNING LAW
The Contract shall in all respects be governed by, and construed according to, the substantive laws of the State of Michigan without regard to any Michigan choice of law rules that would apply the substantive law of any other jurisdiction to the extent not inconsistent with, or pre-empted by federal law.

2.212 COMPLIANCE WITH LAWS
Contractor shall comply with all applicable state, federal and local laws and ordinances in providing the Services/Deliverables.

2.213 JURISDICTION
Any dispute arising from the Contract shall be resolved in the State of Michigan. With respect to any claim between the parties, Contractor consents to venue in Ingham County, Michigan, and irrevocably waives any objections it may have to the jurisdiction on the grounds of lack of personal jurisdiction of the court or the laying of venue of the court or on the basis of forum non conveniens or otherwise. Contractor agrees to appoint agents in the State of Michigan to receive service of process.

2.220 Limitation of Liability

2.221 LIMITATION OF LIABILITY
Neither the Contractor nor the State shall be liable to each other, regardless of the form of action, for consequential, incidental, indirect, or special damages. This limitation of liability does not apply to claims for infringement of United States patent, copyright, trademark or trade secrets; to claims for personal injury or damage to property caused by the gross negligence or willful misconduct of the Contractor; to claims covered by other specific provisions of this Contract calling for liquidated damages; or to court costs or attorney's fees awarded by a court in addition to damages after litigation based on this Contract.

The Contractor's liability for damages to the State is limited to two times the value of the Contract or $500,000 whichever is higher. The foregoing limitation of liability does not apply to claims for infringement of United States patent, copyright, trademarks or trade secrets; to claims for personal injury or damage to property caused by the gross negligence or willful misconduct of the Contractor; to claims covered by other specific provisions of this Contract calling for liquidated damages; or to court costs or attorney's fees awarded by a court in addition to damages after litigation based on this Contract.

The State's liability for damages to the Contractor is limited to the value of the Contract.

2.230 Disclosure Responsibilities

2.231 DISCLOSURE OF LITIGATION

Contractor shall disclose any material criminal litigation, investigations or proceedings involving the Contractor (and each Subcontractor) or any of its officers or directors or any litigation, investigations or proceedings under the Sarbanes-Oxley Act. In addition, each Contractor (and each Subcontractor) shall notify the State of any material civil litigation, arbitration or proceeding which arises during the term of the Contract and extensions, to which Contractor (or, to the extent Contractor is aware, any Subcontractor) is a party, and which involves: (i) disputes that might reasonably be expected to adversely affect the viability or financial stability of Contractor or any Subcontractor; or (ii) a claim or written allegation of fraud against Contractor or, to the extent Contractor is aware, any Subcontractor by a governmental or public entity arising out of their business dealings with governmental or public entities. The Contractor shall disclose in writing to the Contract Administrator any litigation, investigation, arbitration or other proceeding (collectively, "Proceeding") within 30 days of its occurrence. Details of settlements that are prevented from disclosure by the terms of the settlement may be annotated. Information provided to the State from Contractor's publicly filed documents referencing its material litigation shall be deemed to satisfy the requirements of this Section.

If any Proceeding disclosed to the State under this Section, or of which the State otherwise becomes aware, during the term of this Contract would cause a reasonable party to be concerned about:

(a) the ability of Contractor (or a Subcontractor) to continue to perform this Contract according to its terms and conditions, or

(b) whether Contractor (or a Subcontractor) in performing Services for the State is engaged in conduct which is similar in nature to conduct alleged in the Proceeding, which conduct would constitute a breach of this Contract or a violation of Michigan law, regulations or public policy, then the Contractor must provide the State all reasonable assurances requested by the State to demonstrate that:

  (1) Contractor and its Subcontractors will be able to continue to perform this Contract and any Statements of Work according to its terms and conditions, and

  (2) Contractor and its Subcontractors have not and will not engage in conduct in performing the Services which is similar in nature to the conduct alleged in the Proceeding.

(c) Contractor shall make the following notifications in writing:

  (1) Within 30 days of Contractor becoming aware that a change in its ownership or officers has occurred, or is certain to occur, or a change that could result in changes in the valuation of its capitalized assets in the accounting records, Contractor must notify DTMB-Procurement.

  (2) Contractor shall also notify DTMB Procurement within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership or officers.

  (3) Contractor shall also notify DTMB-Procurement within 30 days whenever changes to company affiliations occur.

2.232 CALL CENTER DISCLOSURE

Contractor and/or all subcontractors involved in the performance of this Contract providing call or contact center services to the State shall disclose the location of its call or contact center services to inbound callers. Failure to disclose this information is a material breach of this Contract.

2.233 BANKRUPTCY

The State may, without prejudice to any other right or remedy, terminate this Contract, in whole or in part, and, at its option, may take possession of the "Work in Process" and finish the Works in Process by whatever appropriate method the State may deem expedient if:

(a) the Contractor files for protection under the bankruptcy laws;

(b) an involuntary petition is filed against the Contractor and not removed within 30 days;

(c the Contractor becomes insolvent or if a receiver is appointed due to the Contractor's insolvency;

(d) the Contractor makes a general assignment for the benefit of creditors; or

(e) the Contractor or its affiliates are unable to provide reasonable assurances that the Contractor or its affiliates can deliver the services under this Contract.

Contractor will fix appropriate notices or labels on the Work in Process to indicate ownership by the State. To the extent reasonably possible, materials and Work in Process shall be stored separately from other stock and marked conspicuously with labels indicating ownership by the State.

2.240 Performance

2.241 TIME OF PERFORMANCE

(a) Contractor shall use commercially reasonable efforts to provide the resources necessary to complete all Services and Deliverables according to the time schedules contained in the Statements of Work and other Exhibits governing the work, and with professional quality.

(b) Without limiting the generality of **Section 2.241,** Contractor shall notify the State in a timely manner upon becoming aware of any circumstances that may reasonably be expected to jeopardize the timely and successful completion of any Deliverables/Services on the scheduled due dates in the latest State-approved delivery schedule and must inform the State of the projected actual delivery date.

(c) If the Contractor believes that a delay in performance by the State has caused or will cause the Contractor to be unable to perform its obligations according to specified Contract time periods, the Contractor must notify the State in a timely manner and must use commercially reasonable efforts to perform its obligations according to the Contract time periods notwithstanding the State's failure. Contractor will not be in default for a delay in performance to the extent the delay is caused by the State.

2.242 SERVICE LEVEL AGREEMENT (SLA)

(a) SLAs will be completed with the following operational considerations:

(1) SLAs will not be calculated for individual Incidents where any event of Excusable Failure has been determined; Incident means any interruption in Services.

(2) SLAs will not be calculated for individual Incidents where loss of service is planned and where the State has received prior notification or coordination.

(3) SLAs will not apply if the applicable Incident could have been prevented through planning proposed by Contractor and not implemented at the request of the State. To invoke this consideration, complete documentation relevant to the denied planning proposal must be presented to substantiate the proposal.

(4) Time period measurements will be based on the time Incidents are received by the Contractor and the time that the State receives notification of resolution based on 24x7x365 time period, except that the time period measurement will be suspended based on the following:

(i) Time period(s) will not apply where Contractor does not have access to a physical State Location and where access to the State Location is necessary for problem identification and resolution.

(ii) Time period(s) will not apply where Contractor needs to obtain timely and accurate information or appropriate feedback and is unable to obtain timely and accurate information or appropriate feedback from the State.

(b) Chronic Failure for any Service(s) will be defined as three unscheduled outage(s) or interruption(s) on any individual Service for the same reason or cause or if the same reason or cause was reasonably discoverable in the first instance over a rolling 30 day period. Chronic Failure will result in the State's option to terminate the effected individual Service(s) and procure them from a different vendor for the chronic location(s) with Contractor to pay the difference in charges for up to three additional months. The termination of the Service will not affect any tiered pricing levels.

(c) Root Cause Analysis will be performed on any Business Critical outage(s) or outage(s) on Services when requested by the Contract Administrator. Contractor will provide its analysis within two weeks of outage(s) and provide a recommendation for resolution.

(d) All decimals must be rounded to two decimal places with five and greater rounding up and four and less rounding down unless otherwise specified.

2.243 LIQUIDATED DAMAGES

The parties acknowledge that late or improper completion of the Work will cause loss and damage to the State, and that it would be impracticable and extremely difficult to fix the actual damage sustained by the State as a result. Therefore, Contractor and the State agree that if there is late or improper completion of the Work and the State does not elect to exercise its rights under **Section 2.152**, the State is entitled to collect liquidated damages in the amount of $5,000.00 and an additional $100.00 per day for each day Contractor fails to remedy the late or improper completion of the Work.

Unauthorized Removal of any Key Personnel
It is acknowledged that an Unauthorized Removal will interfere with the timely and proper completion of the Contract, to the loss and damage of the State, and that it would be impracticable and extremely difficult to fix the actual damage sustained by the State as a result of any Unauthorized Removal. Therefore, Contractor and the State agree that in the case of any Unauthorized Removal in respect of which the State does not elect to exercise its rights under **Section 2.152**, the State may assess liquidated damages against Contractor as specified below.

For the Unauthorized Removal of any Key Personnel designated in the applicable Statement of Work, the liquidated damages amount is $25,000.00 per individual if the Contractor identifies a replacement approved by the State under **Section 2.060** and assigns the replacement to the Project to shadow the Key Personnel who is leaving for a period of at least 30 days before the Key Personnel's removal.

If Contractor fails to assign a replacement to shadow the removed Key Personnel for at least 30 days, in addition to the $25,000.00 liquidated damages for an Unauthorized Removal, Contractor must pay the amount of $833.33 per day for each day of the 30 day shadow period that the replacement Key Personnel does not shadow the removed Key Personnel, up to $25,000.00 maximum per individual. The total liquidated damages that may be assessed per Unauthorized Removal and failure to provide 30 days of shadowing must not exceed $50,000.00 per individual.

2.244 EXCUSABLE FAILURE

Neither party will be liable for any default, damage or delay in the performance of its obligations under the Contract to the extent the default, damage or delay is caused by government regulations or requirements (executive, legislative, judicial, military or otherwise), power failure, electrical surges or current fluctuations, lightning, earthquake, war, water or other forces of nature or acts of God, delays or failures of transportation, equipment shortages, suppliers' failures, or acts or omissions of common carriers, fire; riots, civil disorders; strikes or other labor disputes, embargoes; injunctions (provided the injunction was not issued as a result of any fault or negligence of the party seeking to have its default or delay excused); or any other cause beyond the reasonable control of a party; provided the non-performing party and its Subcontractors are without fault in causing the default or delay, and the default or delay could not have been prevented by reasonable precautions and cannot reasonably be circumvented by the non-performing party through the use of alternate sources, workaround plans or other means, including disaster recovery plans.

If a party does not perform its contractual obligations for any of the reasons listed above, the non-performing party will be excused from any further performance of its affected obligation(s) for as long as the circumstances prevail. But the party must use commercially reasonable efforts to recommence performance whenever and to whatever extent possible without delay. A party must promptly notify the other party in writing immediately after the excusable failure occurs, and also when it abates or ends.

If any of the above-enumerated circumstances substantially prevent, hinder, or delay the Contractor's performance of the Services/provision of Deliverables for more than 10 Business Days, and the State determines that performance is not likely to be resumed within a period of time that is satisfactory to the State in its reasonable discretion, then at the State's option: (a) the State may procure the affected Services/Deliverables from an alternate source, and the State is not be liable for payment for the unperformed Services/ Deliverables not provided under the Contract for so long as the delay in performance continues; (b)

the State may terminate any portion of the Contract so affected and the charges payable will be equitably adjusted to reflect those Services/Deliverables terminated; or (c) the State may terminate the affected Statement of Work without liability to Contractor as of a date specified by the State in a written notice of termination to the Contractor, except to the extent that the State must pay for Services/Deliverables provided through the date of termination.

The Contractor will not have the right to any additional payments from the State as a result of any Excusable Failure occurrence or to payments for Services not rendered/Deliverables not provided as a result of the Excusable Failure condition. Defaults or delays in performance by Contractor which are caused by acts or omissions of its Subcontractors will not relieve Contractor of its obligations under the Contract except to the extent that a Subcontractor is itself subject to an Excusable Failure condition described above and Contractor cannot reasonably circumvent the effect of the Subcontractor's default or delay in performance through the use of alternate sources, workaround plans or other means.

2.250 Approval of Deliverables

2.251 DELIVERY OF DELIVERABLES

A list of the Deliverables to be prepared and delivered by Contractor including, for each Deliverable, the scheduled delivery date and a designation of whether the Deliverable is a document ("Written Deliverable") or a Custom Software Deliverable is attached, if applicable. All Deliverables shall be completed and delivered for State review and written approval and, where applicable, installed in accordance with the State-approved delivery schedule and any other applicable terms and conditions of this Contract.

Prior to delivering any Deliverable to the State, Contractor will first perform all required quality assurance activities, and, in the case of Custom Software Deliverables, System Testing to verify that the Deliverable is complete and in conformance with its specifications. Before delivering a Deliverable to the State, Contractor shall certify to the State that (1) it has performed such quality assurance activities, (2) it has performed any applicable testing, (3) it has corrected all material deficiencies discovered during such quality assurance activities and testing, (4) the Deliverable is in a suitable state of readiness for the State's review and approval, and (5) the Deliverable/Service has all Critical Security patches/updates applied.

In discharging its obligations under this Section, Contractor shall be at all times (except where the parties agree otherwise in writing) in compliance with Level 3 of the Software Engineering Institute's Capability Maturity Model for Software ("CMM Level 3") or its equivalent.

2.252 CONTRACTOR SYSTEM TESTING

Contractor will be responsible for System Testing each Custom Software Deliverable in Contractor's development environment prior to turning over the Custom Software Deliverable to the State for User Acceptance Testing and approval. Contractor's System Testing shall include the following, at a minimum, plus any other testing required by CMM Level 3 or Contractor's system development methodology:

Contractor will be responsible for performing Unit Testing and incremental Integration Testing of the components of each Custom Software Deliverable.

Contractor's System Testing will also include Integration Testing of each Custom Software Deliverable to ensure proper inter-operation with all prior software Deliverables, interfaces and other components that are intended to inter-operate with such Custom Software Deliverable, and will include Regression Testing, volume and stress testing to ensure that the Custom Software Deliverables are able to meet the State's projected growth in the number and size of transactions to be processed by the Application and number of users, as such projections are set forth in the applicable Statement of Work.

Contractor's System Testing will also include Business Function Testing and Technical Testing of each Application in a simulated production environment. Business Function Testing will include testing of full work streams that flow through the Application as the Application will be incorporated within the State's computing environment. The State shall participate in and provide support for the Business Function Testing to the extent

reasonably requested by Contractor. Within ten (10) days before the commencement of Business Function Testing pursuant to this Section, Contractor shall provide the State for State review and written approval Contractor's test plan for Business Function Testing.

Within five (5) Business Days following the completion of System Testing pursuant to this **Section**, Contractor shall provide to the State a testing matrix establishing that testing for each condition identified in the System Testing plans has been conducted and successfully concluded. To the extent that testing occurs on State premises, the State shall be entitled to observe or otherwise participate in testing under this Section as the State may elect.

2.253 APPROVAL OF DELIVERABLES, IN GENERAL

All Deliverables (Written Deliverables and Custom Software Deliverables) require formal written approval by the State, in accordance with the following procedures. Formal approval by the State requires that the Deliverable be confirmed in writing by the State to meet its specifications, which, in the case of Custom Software Deliverables, will include the successful completion of State User Acceptance Testing, to be led by the State with the support and assistance of Contractor. The parties acknowledge that the approval process set forth herein will be facilitated by ongoing consultation between the parties, visibility of interim and intermediate Deliverables and collaboration on key decisions.

The State's obligation to comply with any State Review Period is conditioned on the timely delivery of Deliverables being reviewed. If Contractor fails to provide a Deliverable to the State in a timely manner, the State will nevertheless use commercially reasonable efforts to complete its review or testing within the applicable State Review Period.

Before commencement of its review or testing of a Deliverable, the State may inspect the Deliverable to confirm that all components of the Deliverable (e.g., software, associated documentation, and other materials) have been delivered. If the State determines that the Deliverable is incomplete, the State may refuse delivery of the Deliverable without performing any further inspection or testing of the Deliverable. Otherwise, the review period will be deemed to have started on the day the State receives the Deliverable and the applicable certification by Contractor in accordance with this Section.

The State will approve in writing a Deliverable upon confirming that it conforms to and, in the case of a Custom Software Deliverable, performs in accordance with, its specifications without material deficiency. The State may, but shall not be required to, conditionally approve in writing a Deliverable that contains material deficiencies if the State elects to permit Contractor to rectify them post-approval. In any case, Contractor will be responsible for working diligently to correct within a reasonable time at Contractor's expense all deficiencies in the Deliverable that remain outstanding at the time of State approval.

If, after three (3) opportunities (the original and two repeat efforts), Contractor is unable to correct all deficiencies preventing State approval of a Deliverable, the State may: (i) demand that Contractor cure the failure and give Contractor additional time to cure the failure at the sole expense of Contractor; or (ii) keep this Contract in force and do, either itself or through other parties, whatever Contractor has failed to do, in which event Contractor shall bear any excess expenditure incurred by the State in so doing beyond the contract price for such Deliverable and will pay the State an additional sum equal to ten percent (10%) of such excess expenditure to cover the State's general expenses without the need to furnish proof in substantiation of such general expenses; or (iii) terminate this Contract for default, either in whole or in part by notice to Contractor (and without the need to afford Contractor any further opportunity to cure). Notwithstanding the foregoing, the State shall not use, as a basis for exercising its termination rights under this Section, deficiencies discovered in a repeat State Review Period that could reasonably have been discovered during a prior State Review Period.

The State, at any time and in its own discretion, may halt the UAT or approval process if such process reveals deficiencies in or problems with a Deliverable in a sufficient quantity or of a sufficient severity as to make the continuation of such process unproductive or unworkable. In such case, the State may return the applicable Deliverable to Contractor for correction and re-delivery prior to resuming the review or UAT process and, in

that event, Contractor will correct the deficiencies in such Deliverable in accordance with the Contract, as the case may be.

Approval in writing of a Deliverable by the State shall be provisional; that is, such approval shall not preclude the State from later identifying deficiencies in, and declining to accept, a subsequent Deliverable based on or which incorporates or inter-operates with an approved Deliverable, to the extent that the results of subsequent review or testing indicate the existence of deficiencies in the subsequent Deliverable, or if the Application of which the subsequent Deliverable is a component otherwise fails to be accepted pursuant to **Section 2.080**.

2.254 PROCESS FOR APPROVAL OF WRITTEN DELIVERABLES

The State Review Period for Written Deliverables will be the number of days set forth in the applicable Statement of Work following delivery of the final version of the Written Deliverable (failing which the State Review Period, by default, shall be five (5) Business Days for Written Deliverables of one hundred (100) pages or less and ten (10) Business Days for Written Deliverables of more than one hundred (100) pages). The duration of the State Review Periods will be doubled if the State has not had an opportunity to review an interim draft of the Written Deliverable prior to its submission to the State. The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Written Deliverable is approved in the form delivered by Contractor or describing any deficiencies that shall be corrected prior to approval of the Written Deliverable (or at the State's election, subsequent to approval of the Written Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within five (5) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor's correction efforts will be made at no additional charge. Upon receipt of a corrected Written Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Written Deliverable to confirm that the identified deficiencies have been corrected.

2.255 PROCESS FOR APPROVAL OF CUSTOM SOFTWARE DELIVERABLES

The State will conduct UAT of each Custom Software Deliverable in accordance with the following procedures to determine whether it meets the criteria for State approval – i.e., whether it conforms to and performs in accordance with its specifications without material deficiencies.

Within thirty (30) days (or such other number of days as the parties may agree to in writing) prior to Contractor's delivery of any Custom Software Deliverable to the State for approval, Contractor shall provide to the State a set of proposed test plans, including test cases, scripts, data and expected outcomes, for the State's use (which the State may supplement in its own discretion) in conducting UAT of the Custom Software Deliverable. Contractor, upon request by the State, shall provide the State with reasonable assistance and support during the UAT process.

For the Custom Software Deliverables listed in an attachment, the State Review Period for conducting UAT will be as indicated in the attachment. For any other Custom Software Deliverables not listed in an attachment, the State Review Period shall be the number of days agreed in writing by the parties (failing which it shall be forty-five (45) days by default). The State Review Period for each Custom Software Deliverable will begin when Contractor has delivered the Custom Software Deliverable to the State accompanied by the certification required by this **Section** and the State's inspection of the Deliverable has confirmed that all components of it have been delivered.

The State's UAT will consist of executing test scripts from the proposed testing submitted by Contractor, but may also include any additional testing deemed appropriate by the State. If the State determines during the UAT that the Custom Software Deliverable contains any deficiencies, the State will notify Contractor of the deficiency by making an entry in an incident reporting system available to both Contractor and the State. Contractor will modify promptly the Custom Software Deliverable to correct the reported deficiencies, conduct appropriate System Testing (including, where applicable, Regression Testing) to confirm the proper correction of the deficiencies and re-deliver the corrected version to the State for re-testing in UAT. Contractor will coordinate the re-delivery of corrected versions of Custom Software Deliverables with the State so as not to

disrupt the State's UAT process. The State will promptly re-test the corrected version of the Software Deliverable after receiving it from Contractor.

Within three (3) business days after the end of the State Review Period, the State will give Contractor a written notice indicating the State's approval or rejection of the Custom Software Deliverable according to the criteria and process set out in this **Section**.

2.256 FINAL ACCEPTANCE
"Final Acceptance" shall be considered to occur when the Custom Software Deliverable to be delivered has been approved by the State and has been operating in production without any material deficiency for fourteen (14) consecutive days. If the State elects to defer putting a Custom Software Deliverable into live production for its own reasons, not based on concerns about outstanding material deficiencies in the Deliverable, the State shall nevertheless grant Final Acceptance of the Project.

2.260 Ownership

2.261 OWNERSHIP OF WORK PRODUCT BY STATE
2.261.1 The State hereby acknowledges and agrees that all right, title and interest in and to the STaCS Product, in whole or in part, and including, without limitation, all patent, copyright, trade-marks, trade secret and all other intellectual and industrial property rights in such STaCS Product and the structure, sequence and organization of same, and the media on which such material is contained shall belong to STaCS , and that State's sole rights thereto shall be only those rights granted by STaCS pursuant to this Agreement. The State further agrees and acknowledges that STaCS has and reserves the exclusive, world-wide right in perpetuity to protect the STaCS Product and all product specifications including its structure, sequence and organization, screens and any part thereof, under any laws for the protection of intellectual and industrial property, including without limitation, trade secrets, trademarks, copyrights, industrial designs and patents.

2.261.2 The STaCS Product, Documentation, product specifications and all documentation and information, including without limitation, so-called "look and feel" aspects, design and presentation, trade secrets, drawings and technical and marketing information which is or has been supplied by STaCS to the State, acquired or developed by the State is hereby deemed to be Confidential Information and shall be held in trust and confidence for, and on behalf of, STaCS, by the State and its employees, and shall not be disclosed by the State or used by the State for any purpose other than as strictly permitted under this Agreement without STaCS's prior written consent.

2.262 VESTING OF RIGHTS
With the sole exception of any preexisting licensed works identified in the SOW, the Contractor assigns, and upon creation of each Deliverable automatically assigns, to the State, ownership of all United States and international copyrights, trademarks, patents, or other proprietary rights in each and every Deliverable, whether or not registered by the Contractor, insofar as any the Deliverable, by operation of law, may not be considered work made for hire by the Contractor for the State. From time to time upon the State's request, the Contractor must confirm the assignment by execution and delivery of the assignments, confirmations of assignment, or other written instruments as the State may request. The State may obtain and hold in its own name all copyright, trademark, and patent registrations and other evidence of rights that may be available for Deliverables.

2.263 RIGHTS IN DATA
The State is the owner of all data made available by the State to the Contractor or its agents, Subcontractors or representatives under the Contract. The Contractor will not use the State's data for any purpose other than providing the Services, nor will any part of the State's data be disclosed, sold, assigned, leased or otherwise disposed of to the general public or to specific third parties or commercially exploited by or on behalf of the Contractor. No employees of the Contractor, other than those on a strictly need-to-know basis, have access to the State's data. Contractor will not possess or assert any lien or other right against the State's data. Without limiting the generality of this Section, the Contractor must only use personally identifiable information as strictly

necessary to provide the Services and must disclose the information only to its employees who have a strict need-to-know the information. The Contractor must comply at all times with all laws and regulations applicable to the personally identifiable information.

The State is the owner of all State-specific data under the Contract. The State may use the data provided by the Contractor for any purpose. The State will not possess or assert any lien or other right against the Contractor's data. Without limiting the generality of this Section, the State may use personally identifiable information only as strictly necessary to utilize the Services and must disclose the information only to its employees who have a strict need to know the information, except as provided by law. The State must comply at all times with all laws and regulations applicable to the personally identifiable information. Other material developed and provided to the State remains the State's sole and exclusive property.

2.264 OWNERSHIP OF MATERIALS

The State and the Contractor will continue to own their respective proprietary technologies developed before entering into the Contract. Any hardware bought through the Contractor by the State, and paid for by the State, will be owned by the State. Any software licensed through the Contractor and sold to the State, will be licensed directly to the State.

2.270 State Standards

2.271 EXISTING TECHNOLOGY STANDARDS

The Contractor will adhere to all existing standards as described within the comprehensive listing of the State's existing technology standards at http://www.michigan.gov/dit.

2.272 ACCEPTABLE USE POLICY

To the extent that Contractor has access to the State computer system, Contractor must comply with the State's Acceptable Use Policy, see http://www.michigan.gov/ditservice. All Contractor employees must be required, in writing, to agree to the State's Acceptable Use Policy before accessing the State system. The State reserves the right to terminate Contractor's access to the State system if a violation occurs.

2.273 SYSTEMS CHANGES

Contractor is not responsible for and not authorized to make changes to any State systems without written authorization from the Project Manager. Any changes Contractor makes to State systems with the State's approval must be done according to applicable State procedures, including security, access and configuration management procedures.

2.280 Extended Purchasing

2.281 MIDEAL (MICHIGAN DELIVERY EXTENDED AGREEMENTS LOCALLY

A. MiDEAL Requirements
   1. The Contractor must ensure that all purchasers are MiDEAL Members before extending the Contract pricing. A current listing of approved MiDEAL Members is available at: www.michigan.gov/mideal.
   2. The Contractor must submit quarterly reports of MiDEAL purchasing activities to DTMB-Purchasing Operations.
   3. The Contractor must submit invoices to and receive payment from MiDEAL Members on a direct and individual basis.
   4. Estimated requirements for MiDEAL members are not included in the quantities shown in this RFP, unless otherwise noted.
   5. The State of Michigan reserves the right to negotiate additional discounts based on any increased volumes by MiDEAL members.

B. MiDEAL Administrative Fee

1. The Contractor must remit a MiDEAL administrative fee on all sales transacted under this Contract, and remit the fee within 30 days after the end of each quarter. The administrative fee equals one percent of the total quarterly sales reported.

2. The Contractor must pay the administrative fee by check payable to the State of Michigan. The Contractor must identify the check as an "Administrative Fee" and include the following information with the payment: the applicable Contract Number, the total quarterly sales by volume and dollar amount, and the quarter covered.

3. The Contractor must send the check to the following address:
   Department of Technology, Management and Budget
   Financial Services – Cashier Unit
   Lewis Cass Building
   320 South Walnut St.
   P.O. Box 30681
   Lansing, MI 48909

2.282 STATE EMPLOYEE PURCHASES

The State allows State employees to purchase from this Contract. Unless otherwise stated, it is the responsibility of the Contractor to ensure that the State employee is an authorized purchaser before extending the Contract pricing.

The Contractor will supply Contract Services and Deliverables at the established State of Michigan contract prices and terms to the extent applicable and where available. The Contractor shall send its invoices to and pay the State employee on a direct and individual basis.

To the extent that authorized State employees purchase quantities of Services or Deliverables under this Contract, the quantities of Services and/or Deliverables purchased will be included in determining the appropriate rate wherever tiered pricing based on quantity is provided.

2.283 COOPERATIVE PURCHASING

(a) This Contract may be extended to additional States or governmental jurisdictions upon mutual written agreement between the State of Michigan and the Contractor. Political subdivisions and other authorized entities within each participating State or governmental jurisdiction may also participate in this Contract if such State allows participation by such entities.
(b) All MiDEAL processes, invoicing relationships, reporting and MiDEAL Service Fee also apply to cooperative purchasing participants.
(c) The State of Michigan reserves the right to negotiate additional discounts based on any increased volume generated by such extensions.

2.290 Environmental Provision

2.291 ENVIRONMENTAL PROVISION

Energy Efficiency Purchasing Policy: The State seeks wherever possible to purchase energy efficient products. This includes giving preference to U.S. Environmental Protection Agency (EPA) certified 'Energy Star' products for any category of products for which EPA has established Energy Star certification. For other purchases, the State may include energy efficiency as one of the priority factors to consider when choosing among comparable products.

Environmental Purchasing Policy: The State of Michigan is committed to encouraging the use of products and services that impact the environment less than competing products. The State is accomplishing this by including environmental considerations in purchasing decisions, while remaining fiscally responsible, to promote practices that improve worker health, conserve natural resources, and prevent pollution. Environmental components that are to be considered include: recycled content and recyclables; energy

efficiency; and the presence of undesirable materials in the products, especially those toxic chemicals which are persistent and bioaccumulative. The Contractor should be able to supply products containing recycled and environmentally preferable materials that meet performance requirements and is encouraged to offer such products throughout the duration of this Contract. Information on any relevant third party certification (such as Green Seal, Energy Star, etc.) should also be provided.

Hazardous Materials: For the purposes of this Section, "Hazardous Materials" is a generic term used to describe asbestos, ACBMs, PCBs, petroleum products, construction materials including paint thinners, solvents, gasoline, oil, and any other material the manufacture, use, treatment, storage, transportation or disposal of which is regulated by the federal, state or local laws governing the protection of the public health, natural resources or the environment. This includes, but is not limited to, materials the as batteries and circuit packs, and other materials that are regulated as (1) "Hazardous Materials" under the Hazardous Materials Transportation Act, (2) "chemical hazards" under the Occupational Safety and Health Administration standards, (3) "chemical substances or mixtures" under the Toxic Substances Control Act, (4) "pesticides" under the Federal Insecticide Fungicide and Rodenticide Act, and (5) "hazardous wastes" as defined or listed under the Resource Conservation and Recovery Act.

(a) The Contractor shall use, handle, store, dispose of, process, transport and transfer any material considered a Hazardous Material according to all federal, State and local laws. The State shall provide a safe and suitable environment for performance of Contractor's Work. Before the commencement of Work, the State shall advise the Contractor of the presence at the work site of any Hazardous Material to the extent that the State is aware of the Hazardous Material. If the Contractor encounters material reasonably believed to be a Hazardous Material and which may present a substantial danger, the Contractor shall immediately stop all affected Work, notify the State in writing about the conditions encountered, and take appropriate health and safety precautions.

(b) Upon receipt of a written notice, the State will investigate the conditions. If (a) the material is a Hazardous Material that may present a substantial danger, and (b) the Hazardous Material was not brought to the site by the Contractor, or does not result in whole or in part from any violation by the Contractor of any laws covering the use, handling, storage, disposal of, processing, transport and transfer of Hazardous Materials, the State shall order a suspension of Work in writing. The State shall proceed to have the Hazardous Material removed or rendered harmless. In the alternative, the State shall terminate the affected Work for the State's convenience.

(c) Once the Hazardous Material has been removed or rendered harmless by the State, the Contractor shall resume Work as directed in writing by the State. Any determination by the Michigan Department of Community Health or the Michigan Department of Environmental Quality that the Hazardous Material has either been removed or rendered harmless is binding upon the State and Contractor for the purposes of resuming the Work. If any incident with Hazardous Material results in delay not reasonable anticipatable under the circumstances and which is attributable to the State, the applicable SLAs for the affected Work will not be counted in a time as mutually agreed by the parties.

(d) If the Hazardous Material was brought to the site by the Contractor, or results in whole or in part from any violation by the Contractor of any laws covering the use, handling, storage, disposal of, processing, transport and transfer of Hazardous Material, or from any other act or omission within the control of the Contractor, the Contractor shall bear its proportionate share of the delay and costs involved in cleaning up the site and removing and rendering harmless the Hazardous Material according to Applicable Laws to the condition approved by applicable regulatory agency(ies).

Labeling: Michigan has a Consumer Products Rule pertaining to labeling of certain products containing volatile organic compounds. For specific details visit http://www.michigan.gov/deq/0,1607,7-135-3310_4108-173523--,00.html

Refrigeration and Air Conditioning: The Contractor shall comply with the applicable requirements of Sections 608 and 609 of the Clean Air Act (42 U.S.C. 7671g and 7671h) as each or both apply to this contract.

Environmental Performance: Waste Reduction Program - Contractor shall establish a program to promote cost-effective waste reduction in all operations and facilities covered by this contract. The Contractor's

programs shall comply with applicable Federal, State, and local requirements, specifically including Section 6002 of the Resource Conservation and Recovery Act (42 U.S.C. 6962, et seq.).

2.300 Deliverables

2.301 SOFTWARE
A list of the items of software the State is required to purchase for executing the Contract is attached. The list includes all software required to complete the Contract and make the Deliverables operable; if any additional software is required in order for the Deliverables to meet the requirements of this Contract, such software shall be provided to the State by Contractor at no additional charge (except where agreed upon and specified in a Statement of Work or Contract Change Notice). The attachment also identifies certain items of software to be provided by the State.

2.302 HARDWARE
A list of the items of hardware the State is required to purchase for executing the Contract is attached. The list includes all hardware required to complete the Contract and make the Deliverables operable; if any additional hardware is required in order for the Deliverables to meet the requirements of this Contract, such hardware shall be provided to the State by Contractor at no additional charge (except where agreed upon and specified in a Contract Change Notice). The attachment also identifies certain items of hardware to be provided by the State.

2.310 Software Warranties

2.311 PERFORMANCE WARRANTY
The Contractor represents and warrants that Deliverables, after Final Acceptance, will perform and operate in compliance with the requirements and other standards of performance contained in this Contract (including all descriptions, specifications and drawings made a part of the Contract) for a period of (90) ninety days. In the event of a breach of this warranty, Contractor will promptly correct the affected Deliverable(s) at no charge to the State.

2.312 NO SURREPTITIOUS CODE WARRANTY
The Contractor represents and warrants that no copy of licensed Software provided to the State contains or will contain any Self-Help Code or any Unauthorized Code as defined below. This warranty is referred to in this Contract as the “No Surreptitious Code Warranty.”

As used in this Contract, “Self-Help Code” means any back door, time bomb, drop dead device, or other software routine designed to disable a computer program automatically with the passage of time or under the positive control of a person other than the licensee of the software. Self-Help Code does not include Software routines in a computer program, if any, designed to permit an owner of the computer program (or other person acting by authority of the owner) to obtain access to a licensee’s computer system(s) (e.g. remote access via modem) for purposes of maintenance or technical support.

As used in this Contract, “Unauthorized Code” means any virus, Trojan horse, spyware, worm or other Software routines or components designed to permit unauthorized access to disable, erase, or otherwise harm software, equipment, or data; or to perform any other such actions. The term Unauthorized Code does not include Self-Help Code. Unauthorized Code does not include Software routines in a computer program, if any, designed to permit an owner of the computer program (or other person acting by authority of the owner) to obtain access to a licensee’s computer system(s) (e.g. remote access via modem) for purposes of maintenance or technical support.

In addition, Contractor will use up-to-date commercial virus detection software to detect and remove any viruses from any software prior to delivering it to the State.

2.313 CALENDAR WARRANTY
The Contractor represents and warrants that all software for which the Contractor either sells or licenses to the State of Michigan and used by the State prior to, during or after the calendar year 2000, includes or shall include, at no added cost to the State, design and performance so the State shall not experience software abnormality and/or the generation of incorrect results from the software, due to date oriented processing, in the operation of the business of the State of Michigan.

The software design, to insure calendar year rollover compatibility, shall include, but is not limited to: data structures (databases, data files, etc.) that provide 4-digit date century; stored data that contain date century recognition, including, but not limited to, data stored in databases and hardware device internal system dates; calculations and program logic (e.g., sort algorithms, calendar generation, event recognition, and all processing actions that use or produce date values) that accommodates same century and multi-century formulas and date values; interfaces that supply data to and receive data from other systems or organizations that prevent non-compliant dates and data from entering any State system; user interfaces (i.e., screens, reports, etc.) that accurately show 4 digit years; and assurance that the year 2000 shall be correctly treated as a leap year within all calculation and calendar logic.

2.314 THIRD-PARTY SOFTWARE WARRANTY
The Contractor represents and warrants that it will disclose the use or incorporation of any third-party software into the Deliverables. At the time of Delivery, the Contractor shall provide in writing the name and use of any Third-party Software, including information regarding the Contractor's authorization to include and utilize such software. The notice shall include a copy of any ownership agreement or license that authorizes the Contractor to use the Third-party Software.

2.315 PHYSICAL MEDIA WARRANTY
Contractor represents and warrants that each licensed copy of the Software provided by the Contractor is free from physical defects in the media that tangibly embodies the copy. This warranty does not apply to defects discovered more than (30) thirty days after that date of Final Acceptance of the Software by the State. This warranty does not apply to defects arising from acts of Excusable Failure. If the Contractor breaches this warranty, then the State shall be entitled to replacement of the non-compliant copy by Contractor, at Contractor's expense (including shipping and handling).

2.320 Software Licensing

2.321 CROSS-LICENSE, DELIVERABLES ONLY, LICENSE TO CONTRACTOR
The State grants to the Contractor, the royalty-free, world-wide, non-exclusive right and license under any Deliverable now or in the future owned by the State, or with respect to which the State has a right to grant such rights or licenses, to the extent required by the Contractor to market the Deliverables and exercise its full rights in the Deliverables, including, without limitation, the right to make, use and sell products and services based on or incorporating such Deliverables.

2.322 CROSS-LICENSE, DELIVERABLES AND DERIVATIVE WORK, LICENSE TO CONTRACTOR
The State grants to the Contractor, the royalty-free, world-wide, non-exclusive right and license under any Deliverable and/or Derivative Work now or in the future owned by the State, or with respect to which the State has a right to grant such rights or licenses, to the extent required by the Contractor to market the Deliverables and/or Derivative Work and exercise its full rights in the Deliverables and/or Derivative Work, including, without limitation, the right to make, use and sell products and services based on or incorporating such Deliverables and/or Derivative Work.

2.323 LICENSE BACK TO THE STATE
Unless otherwise specifically agreed to by the State, before initiating the preparation of any Deliverable that is a Derivative of a preexisting work, the Contractor shall cause the State to have and obtain the irrevocable, nonexclusive, worldwide, royalty-free right and license to (1) use, execute, reproduce, display, perform,

distribute internally or externally, sell copies of, and prepare Derivative Works based upon all preexisting works and Derivative Works thereof, and (2) authorize or sublicense others from time to time to do any or all of the foregoing.

2.324 LICENSE RETAINED BY CONTRACTOR

2.324.1 STaCS DNA grants the State a restricted, non-transferable and non-exclusive license to use the STaCS Product at the Site, to install the STaCS Product on one production and one test/backup server and to use the Documentation and STaCS Product in object-code format solely for State's professional use at State's office at the Site. The STaCS Product shall not be used outside of State's normal course of business. The State may only permit its employees to use the STaCS Product. Except as expressly provided herein, the State shall not permit third parties to have access to or use the STaCS Product.

2.324.2 The State may not copy or reproduce the STaCS Product, provided that the State may make one copy of the STaCS Product in machine-readable form for backup purposes only. Any copy of the STaCS Product must include all copyright information contained on the original.

2.324.3 The State shall not, and shall not permit anyone else to reverse engineer, decompile, disassemble, or otherwise reduce the STaCS Product to any human readable form. The State shall not modify, adapt, alter, edit, correct, translate, publish, sell, transfer, assign, convey, rent, lease, loan, pledge, sublicense, distribute, export, enhance, or create derivative works based upon the STaCS Product, in whole or part, or otherwise grant or transfer rights to the STaCS Product or the rights granted herein in any form or by any media (electronic, mechanical, photocopy, recording, or otherwise). The State may not provide access or use of the STaCS Product in a time sharing, interactive cable television, multiple cpu service bureau or public computer-based information system or public electronic bulletin board, including without limitation the internet or the world wide web. The State shall not remove any proprietary notices or labels on the STaCS Product or documentation.

2.325 PRE-EXISTING MATERIALS FOR CUSTOM SOFTWARE DELIVERABLES

Neither Contractor nor any of its Subcontractors shall incorporate any preexisting materials (including Standard Software) into Custom Software Deliverables or use any pre-existing materials to produce Custom Software Deliverables if such pre-existing materials will be needed by the State in order to use the Custom Software Deliverables unless (i) such pre-existing materials and their owners are identified to the State in writing and (ii) such pre-existing materials are either readily commercially available products for which Contractor or its Subcontractor, as the case may be, has obtained a license (in form and substance approved by the State) in the name of the State, or are materials that Contractor or its Subcontractor, as the case may be, has the right to license to the State and has licensed to the State on terms and conditions approved by the State prior to using such pre-existing materials to perform the Services.

2.330 Source Code Escrow

2.331 DEFINITION

"Source Code Escrow Package" shall mean:

(a) A complete copy in machine-readable form of the source code and executable code of the Licensed Software, including any updates or new releases of the product;

(b) A complete copy of any existing design documentation and user documentation, including any updates or revisions; and/or

(c) Complete instructions for compiling and linking every part of the source code into executable code for purposes of enabling verification of the completeness of the source code as provided below. Such instructions shall include precise identification of all compilers, library packages, and linkers used to generate executable code.

2.332 DELIVERY OF SOURCE CODE INTO ESCROW
Contractor shall deliver a Source Code Escrow Package to the Escrow Agent, pursuant to the Escrow Contract, which shall be entered into on commercially reasonable terms subject to the provisions of this Contract within (30) thirty days of the execution of this Contract.

2.333 DELIVERY OF NEW SOURCE CODE INTO ESCROW
If at any time during the term of this Contract, the Contractor provides a maintenance release or upgrade version of the Licensed Software, Contractor shall within ten (10) days deposit with the Escrow Agent, in accordance with the Escrow Contract, a Source Code Escrow Package for the maintenance release or upgrade version, and provide the State with notice of the delivery.

2.334 VERIFICATION
The State reserves the right at any time, but not more than once a year, either itself or through a third party contractor, upon thirty (30) days written notice, to seek verification of the Source Code Escrow Package.

2.335 ESCROW FEES
The Contractor will pay all fees and expenses charged by the Escrow Agent.

2.336 RELEASE EVENTS
The Source Code Escrow Package may be released from escrow to the State, temporarily or permanently, upon the occurrence of one or more of the following:
(a) The Contractor becomes insolvent, makes a general assignment for the benefit of creditors, files a voluntary petition of bankruptcy, suffers or permits the appointment of a receiver for its business or assets, becomes subject to any proceeding under bankruptcy or insolvency law, whether domestic or foreign;
(b) The Contractor has wound up or liquidated its business voluntarily or otherwise and the State has reason to believe that such events will cause the Contractor to fail to meet its warranties and maintenance obligations in the foreseeable future;
(c) The Contractor voluntarily or otherwise discontinues support of the provided products or fails to support the products in accordance with its maintenance obligations and warranties.

2.337 RELEASE EVENT PROCEDURES
If the State desires to obtain the Source Code Escrow Package from the Escrow Agent upon the occurrence of an Event in this **Section**, then:
(a) The State shall comply with all procedures in the Escrow Contract;
(b) The State shall maintain all materials and information comprising the Source Code Escrow Package in confidence in accordance with this Contract;
(c) If the release is a temporary one, then the State shall promptly return all released materials to Contractor when the circumstances leading to the release are no longer in effect.

2.338 LICENSE
Upon release from the Escrow Agent pursuant to an event described in this **Section**, the Contractor automatically grants the State a non-exclusive, irrevocable license to use, reproduce, modify, maintain, support, update, have made, and create Derivative Works. Further, the State shall have the right to use the Source Code Escrow Package in order to maintain and support the Licensed Software so that it can be used by the State as set forth in this Contract.

2.339 DERIVATIVE WORKS
Any Derivative Works to the source code released from escrow that are made by or on behalf of the State shall be the sole property of the State. The State acknowledges that its ownership rights are limited solely to the Derivative Works and do not include any ownership rights in the underlying source code.

Attachment A
Detailed Requirements for
Laboratory Information Management System

The STaCS-CW Enterprise fully meets all stated requirements turnkey (out of the box). No customization work required. No work required from StaCS DNA and State personnel.

A. Automated Workstation Process Definition

1. The system shall provide a mechanism for defining automated processes

2. The system shall provide the user with the ability to define the following:

   a. The model of the automated workstation to be used or no automated workstation.

   b. The number of plates (batches) and plate (batch) types to be put on the automated workstation deck.

   c. The consumables which shall be tracked.

   d. The non-robotic instrument (if any) that shall be tracked

B. Processing Configuration

The system shall provide the laboratory with various configuration options.
Providing such configuration shall allow the laboratory to customize the system. For example individual batch layouts can be defined and configured for specific workflows. Other configurations shall provide default network paths for storing files.

1. Batch Type Configuration

The Batch Type Configuration shall provide the ability to pre configure well allocations, number of controls and maximum batch sizes.

a. The system shall provide the ability to define various batch types. For example, Differential Extraction, Quantitation, Amplification.

b. The system shall provide the following settings

   i. The Batch Type name (description).

   ii. The bar code prefix used to identify the batch type.

   iii. The entry point of the batch into the lab.

   iv. Processing Method (manual or automated).

   v. The batch dimensions (number of columns / rows).

   vi. Extraction Type.

   vii. The number of fractions to be created for a differential extraction.

c. The system shall provide the ability to configure the layout of each batch type. The configurations shall include -

   i. Defining which batch positions are for samples and which positions are for controls.

ii. The controls to be added to the batch during processing and at what processing step these controls shall be added to the batch.

iii. The number of controls required to pass the batch.

iv. The minimum number of blanks for each batch type.

2. Supervisor Configuration

a. The system shall provide the ability to set Batch Priority Colors.

i. The user shall have the ability to set a sample as low (the default), medium or high. A configuration setting shall be provided to set the Batch Priority color for medium or high statuses.

ii. When a sample is set with a medium or high priority status, the system shall highlight (on the worklists) any batch the sample is part of in the defined priority color.

b. The system shall provide the ability to set the following:

i. Lab specific sample natures.

ii. Sample rework reasons.

iii. Default values for the number of bar codes to print at each processing step.

C. Serology Function

The system shall provide the ability to record serology details, exams and results for each exhibit.

1. Defining Exams for Serology

a. The system shall provide the ability to define types of exams to be used. For example, blood and semen.

b. From the exam types, the system shall provide the ability to define specific exams. For example, an exam type of semen may have the specific exams of the Acid Phosphatase test, the p30 test and a Microscopic test.

c. In defining an exam, the system shall provide the ability to specify:

i. The Exam Type

ii. An Exam Name

iii. Required Consumables

iv. Required Instruments

v. SOPs

vi. If a Backup Reader is required (for Peer Review)

2. Serology worklist

a. The Serology worklist shall only display exhibits assigned to the logged in analyst, unless the logged in analyst is a Supervisor. A Supervisor will see all exhibits on the work list (for all analysts).

b. The system shall display the following data in the work list:

   i. Lab Case Number

   ii. Exhibit Number

   iii. Exam Type

   iv. Analyst

   v. Comments

c. The system shall display exhibits grouped by the priority and then by lab case number by default.

d. An exhibit shall be displayed in the worklist multiple times if more than one Exam Type exists for the exhibit. For example, both Blood and Semen Exams will need to be performed on the exhibit.

e. Upon selecting an exhibit or exhibits from the Serology worklist, the system shall provide the ability to start recording the exam details.

   i. If multiple exhibits are selected, the system shall verify that the selected exhibits are of the same Exam Type.

   ii. If a mismatch in Exam Types exists, the system shall display a warning message to the analyst of the mismatch. The analyst shall then have the ability to manually correct the selection.

f. For each exhibit in the worklist, the system shall display the current exams (details) being performed on the exhibit. An exam must (at the minimum) have a Start Date to be displayed in the list.

g. The system shall provide the ability to –

   i. Attach a file to an exhibit.

   ii. Add comments to the exhibit. The system shall display these comments in the Serology Report for the exhibit.

h. The system shall provide the ability to remove an exhibit from the worklist once all Serology is complete (for that exhibit).

   i. The analyst shall have the ability to multi select exhibits to remove at once from the worklist.

ii. Once an exhibit is removed from the worklist, the system shall assign the exhibit a status of Complete.

3. Recording Exam Details for Exhibits

a. The system shall provide the ability to record the following exam details -

i. Exam Name

ii. Lab Number

iii. Exhibit Number

iv. Start Date

v. End Date

vi. Number of Negative

vii. Number of Positive

viii. Comments

b. The system shall provide the ability to view the SOP for each exam displayed.

c. The system shall provide the ability to start an exam for one or more exhibits. Upon starting the exam, the system shall -

i. Populate the Start Date field for all selected exhibits.

ii. Populate the Consumables and Instruments required for the selected exams.

d. The system shall provide the ability to specify the exam results for each exhibit.

e. The number of negative results for each exhibit shall be recorded.

f. The number of positive results for each exhibit shall be recorded.

g. The system shall provide the ability to add results comments for each exhibit.

h. The system shall provide the ability to perform the same exam on an exhibit multiple times.

i. The system shall provide the ability to start a second instance of an exam (on the same exhibit).

ii. To start a second exam, the first exam must be completed with an End Date.

iii. The system shall not limit the number of time an exam shall be performed on an exhibit.

i. The system shall provide the ability to set the End Date of an exam. The analyst shall also have the ability to multi select exhibits on the worksheet and set the End Date of the exams.

j. The system shall provide the ability to Save the exam details.

k. The analyst shall have the ability to complete exams over multiple sessions.

   i. If the analyst starts an exam or exams and saves, the system shall provide the ability to open the exhibit again and view the current details of the exam.

   ii. The system shall provide the ability to:

      - Edit the details of each exam.
      - Complete the exam.
      - Start a new exam or a new instance of the same exam.

   iii. If consumables and/or instruments were scanned during a previous session, these consumables / instruments shall be displayed as scanned in the new session.

l. If a Backup Reader is defined as being required for an exam, the system shall prompt the analyst to specify the Backup Reader once the End button is selected.

m. The system shall provide a Serology Report to display the information tracked during the process. This report is detailed in the Report section of this document.

4. Recording Consumables and Instruments for Serology

a. The system shall display any consumables and/or instruments configured to be used with the exam.

   i. The system shall prompt the user to scan the configured consumables and instruments.

   ii. The system shall not allow the exam to be completed until all consumables and/or instruments are scanned.

b. Upon scanning an instrument or consumable bar code, the system shall validate that the item is available for use (eg: consumable is ready for use and not expired or an instrument is not in maintenance mode).

   i. The system shall display a message to the user if the scanned instrument or consumable is not ready for use.

   ii. The system shall not accept an instrument or consumable that is not ready for use.

c. The system shall provide the ability to scan multiple instances of the same bar code (for consumables and instruments). For example, if the analyst requires more than one container of a consumable, both containers can be scanned into the system. Or, if more than one pipette is required, the analyst shall have the ability to scan in each bar code for the specified pipette.

D. Sample Setup Function

The system shall allow the user to specify the processing specifics for each individual sample in preparation for adding the sample to a batch. This shall include the Sample Nature, Differential or Non Differential, manual processing or automatic.

1. Sample Setup Work List

The system shall provide a work list displaying the data outlined below. The work list shall only display samples assigned to the logged in user, unless the logged in user is a Supervisor. A Supervisor shall see all samples on the work list for all users.

a. Sample Bar Code

b. Lab Case Number

c. Submission Number

d. Submission Description

e. User

f. Assignment Date

g. Input Type (Serology or DNA)

h. Input Action (Normal, QA/QC, Rework)

i. Priority Status

j. Sample Nature

k. Classification (known, question)

l. Extraction Type

m. Stain Consumed

2. Sample Setup Functionality

a. The user shall have the ability to add sample comments.

b. The system shall provide the ability to send samples to the Batch Setup function. Using standard Windows selecting techniques (Shift / Control keys), the user shall be able to send one or more samples at one time to the Batch Setup function.

c. When the user selects Save on the Sample Setup function, the system shall generate and print the sample bar codes. The samples shall then be removed from the worklist.

d. “Where Am I” Function

i. The system shall provide the user with the ability to select or scan a sample and provide detailed information related to the current location of the samples in the DNA processing stream

ii. This information shall include the location of all instances of the sample in the system and the batch(es) the sample(s) are on.

iii. The system shall provide the ability to Save the report in PDF format and print the report

E. **Batch Setup Function**
The Batch Setup function shall provide the functionality of creating new batches and assigning samples to these batches

1. **Batch Setup Worklist**
The Batch Setup function shall not be user dependent (all users shall see all samples).
   a. The system shall display:
      i. A work list of batches being filled with samples.
      ii. A work list of samples waiting to be added to a batch.
      iii. A visual indicator of the batch content, as the batch is being filled.
   b. The system shall display a samples work list with the following data –
      i. Sample Bar Code
      ii. Lab Case Number
      iii. Exhibit Number
      iv. Sample Nature
      v. Assignment Date
   c. The system shall provide a batches work list displaying the Batch Bar Code, the Batch Layout and the Batch Creation Date.
   d. The system shall provide a Batch Content button for the user to –
      i. View a list of samples on the batch
      ii. Select a sample (or multi select samples) to reprint bar codes or labels.
   e. The system shall provide the ability to add comments to the sample or batch.
   f. The user shall have the ability to remove a sample from the Samples worklist.
   g. Batches containing samples with medium or high priority status shall be displayed as such in the work list.
   h. Any sample marked with a medium or high priority status (set at Sample Management) shall be displayed in the work list as such.

2. **Creating a New Batch**
   a. The system shall provide the ability to create a new batch. In creating a new batch, the system shall –
      i. Prompt the user to specify a Batch Type and Classification

ii. Generate and print a new Batch Bar Code.

b. Once the batch is created, the system shall display it in the Batches worklist.

c. A newly created batch shall automatically be queued and ready to be filled.

i. The system shall display the batch layout (as defined in the Batch Layout Configuration) in the Sample Allocation section.

ii. The Samples worklist shall be filtered to only display samples of the same batch type as the batched being filled.

d. The system shall provide the ability to discard a batch on the worklist. If the batch being discarded contains samples, these samples shall be placed back on the Samples worklist.

3. Adding Samples to a Batch

a. Prior to adding samples, the system shall prompt the user to scan all required controls for the batch.

b. To add a sample to a batch, the system shall be required to scan the sample bar code.

c. When adding samples to the batch, the system shall -

i. Allow samples from multiple lab case numbers to be scanned into the same batch.

ii. Not allow Differential samples and Non Differential samples to be scanned into the same batch.

iii. Not allow Knowns and Questions to be scanned into the same batch.

iv. Remove samples for the Sample Worklist once they have been scanned into a batch.

d. As the user is scanning the sample bar codes into the batch, the visual indicator for the batch shall display the next available position.

e. If an user is adding samples to one batch and would then like to add samples to a different batch, the system shall provide the following functionality –

i. The user will select Save.

ii. The user will then scan the next Batch Bar Code to be worked on.

f. If the user does not select Save before scanning another Batch Bar Code, the system shall prompt the user to save changes prior to changing batches (Yes or No to save changes).

i. If the user selects Yes to save changes, the system shall automatically save all changes to the current batch. The next batch scanned shall then be highlighted in the worklist and displayed in the Samples Allocation.

ii. If the user selects No to not save changes, the system shall discard any new additions to the batch from the last save. Any samples not saved shall be added back to the Samples worklist. The next batch scanned shall then be highlighted in the worklist and displayed in the Samples Allocation.

4. Removing Samples from a Batch

a. The user shall have the ability to remove a sample from a batch, change the position of a sample or clear the entire batch using the following functionality -

i. Select a position (in the Sample Allocation grid) and scan overtop.

ii. Select a position and select the Clear button.

iii. Select the Clear All button to clear the entire batch.

b. If a sample is cleared from the batch, the sample shall be placed back on the Samples worklist.

5. Preparing for Multi Tube Extractions

a. The system will provide the ability to setup samples for multi tube extractions.

b. At Batch Setup, the analyst will have the ability to create bar codes for additional tubes.

i. The system will provide the ability to specify how many additional tubes are to be created.

ii. Once the additional bar codes are generated and printed, the system will place the newly created bar codes onto the Available Samples worklist.

iii. The system will not limit the number of additional tubes (bar codes) to be created.

c. The system will generate unique identifiers for each bar code generated. Each bar code generated will be of the following format ‘A0ABC1’, ‘A0ABC2’, ‘A0ABC3’, etc.

d. Once placed on the Available Samples worklist, each sample will be available to be added to a batch and processed through extraction as per the selected processing method of the source tube.

e. The system will provide the ability to merge the multi-tube samples via the Batch Management module.

6. Completing the Batch Setup Process

a. The system shall not require that a batch be full before sending the batch to Extraction.

b. The user shall have the ability to indicate when a batch is ready for the Extraction process.

i. The system shall provide a Send to Extraction checkbox. When the user checks this and then selects Save, the system shall send the batch to the next step (eg: Extraction).

ii. The Send to Extraction checkbox shall be unchecked by default.

c. The system shall provide the ability to fill a batch over multiple sessions, possibly by multiple users.

   i. The user shall have the ability to save a batch without the batch being removed from the work list.

   ii. The system shall not allow a batch to be worked on by more than one user at one time.

F. Batch Sample Management Function

The Batch Sample Management function shall provide the functionality for users to manually manage the batches processing through the lab. This functionality shall include the ability to merge or split batches or add and remove samples to batches.
This function shall be available from the Extraction, Quantitation Setup, Amplification Setup and CE Setup functions.

1. Batch Management Worklist

a. The Batch Management function shall provide a worklist of batches from the processing step the management module was invoked from. This worklist shall display the following data –

   i. Batch Bar Code

   ii. Batch Type

   iii. Protocol

   iv. Processing Method

   v. Location

b. In the worklist, the system shall highlight the batches/samples with medium or high priority status.

c. The system shall provide the ability to select –

   i. The batch to be worked on.

   ii. The action to be taken on the batch.

d. The system shall provide the following actions in Batch Management –

   i. Remove

   ii. Add

   iii. Transfer

   iv. Discontinue

   v. Rework

   vi. Dilute

vii. Purify

e. The system shall track all changes made to a sample and record these changes in the Sample History report.

f. From the Batch Management screen, the system shall provide the ability to –

i. View the batch content of the selected batch.

ii. Add batch comments

iii. Clear any actions taken prior to saving.

iv. Save actions taken

v. Close the Batch Management screen.

2. Removing Samples from Batches

When samples are removed from a batch, the samples are then placed on the 'Add Sample' work list tab.

a. The system shall provide the ability to remove samples from a batch.

b. When removing a sample, the system shall expect a removal reason to be specified.

c. The removal reason for a sample shall be displayed on the Sample History Report.

d. The system shall provide the ability to remove multiple samples at a time from a batch.

i. Standard Windows selecting techniques shall be used for multiple selections.

ii. The removal reason shall be applied to all samples being removed.

e. Once a sample is removed and saved, the system shall place the sample(s) on the Add Samples work list.

3. Adding Samples to a Batch

When samples are removed from a batch, the samples are then placed on the 'Add Sample' work list tab.

a. The system shall provide the ability to add samples to a batch.

b. The system shall provide a worklist of samples waiting to be added to a batch.

c. The samples listed in the worklist shall be of the same batch type as the batches listed in the Batches worklist. For example, if Batch Management was opened from the Quantitation Setup module, then the samples listed in the Add Samples worklist, shall be those samples waiting to be added at the Quantitation Setup module. The list shall not include samples waiting to be added at the Amplification Setup module.

d. Upon adding the samples to a new batch, the system shall validate that -

i. The standard batching rules are adhered to (known samples are not added to a batch of question samples, differential and non-differential samples are kept separate, etc)

ii. The batch position that the sample is being added to is a position for a DNA sample and not for a control or empty position.

4. Transferring Samples between Batches

a. The system shall provide the ability to transfer a sample from one batch to another.

b. The user shall have the ability to specify the source batch and the destination batch.

i. The system shall then provide the ability to specify the destination batch position where the sample is to be transferred into.

ii. The user shall then have the ability to scan the sample to be transferred.

c. Upon transferring the sample into the destination batch, the system shall validate that -

i. The standard batching rules are adhered to.

ii. The batch position that the sample is being added to is a position for a DNA sample and not for a control or empty position.

d. The system shall provide the ability to change source batches and maintain the same destination batch.

i. Prior to changing the source batch, the system shall require that the user saves the current changes.

ii. Once saved, the system shall allow the user to scan a new source batch.

e. If the sample being transferred has associated samples (differential fractions or multi tube extractions), the system shall warn the user that these samples should also be transferred to the new batch.

i. The system shall provide the ability to automatically transfer the associated samples.

ii. All associated samples shall be placed in sequential order in the destination batch.

5. Discontinuing the Processing of Samples

The system shall provide the ability to stop the processing of sample.

a. The system shall provide the ability to select a sample on a batch to discontinue the processing.

b. When discontinuing a sample, the system shall expect a discontinue reason to be specified.

c. The discontinue reason for a sample shall be displayed on the Sample History Report.

d. The system shall provide the ability to discontinue multiple samples at a time on a batch.

i. Standard Windows selecting techniques shall be used for multiple selections.

ii. The discontinue reason shall be applied to all samples being removed.

6. Reworking Samples

a. The system shall provide the ability to rework a sample.

b. The user shall have the ability to scan the batch bar code and the sample bar code that is to be reworked.

c. The system shall provide the ability to specify the rework point.

i. The rework points available to the sample shall depend on the current processing status of the sample.

ii. A sample can only be reworked to a point that it has already been processed through.

d. When reworking a sample, the system shall expect a rework reason to be specified.

e. The rework point and rework reason shall be displayed in the Sample History Report.

f. The system shall provide the ability to rework multiple samples at a time on a batch.

i. Standard Windows selecting techniques shall be used for multiple selections.

ii. The rework point shall be applied to all samples being reworked.

iii. The rework reason shall be applied to all samples being reworked.

7. Diluting Samples

a. The system shall provide the ability to dilute a sample once or multiple times.

b. The user shall have the ability to scan the batch bar code and the sample bar code that is to be diluted.

c. The system shall provide the ability to -

i. Specify what batch positions the diluted sample(s) should be placed in.

ii. Specify the entry point into the lab for the diluted sample.

iii. Apply comments for the diluted sample.

d. The system shall generate and print the new bar codes for the diluted samples.

e. The system shall provide the ability to track and record any consumables and instruments used during the dilution process.

8. Merging Samples

a. The system shall provide the ability to merge samples.

b. Batches shall only appear on the worklist if the batch contains samples that have been placed in multiple batch positions.

c. The system shall provide the ability to select a batch and scan the samples to be merged.

   i. When the user scans one sample, all associated samples shall be displayed in the merging worklist.

   ii. The user shall have the ability to select the tube that all other tubes shall be merged into.

d. When all tubes have been merged, the system shall provide the ability to save the actions.

e. Once saved, the system shall only display the tube that is continuing on in lab processing.

f. The system shall provide the ability to track and record any instruments used during the merging process.

9. Purifying Samples

a. The system shall provide the ability to purify a sample via Batch Management.

b. This action shall only apply to samples being processed manually.

c. The system shall provide a tab on the Batch Management module titled, ‘Purify’.

d. The user shall have the ability to scan the batch and the samples requiring purification.

e. Two actions shall be provided for purification -

   i. PCI Clean Up

   ii. Extraction Clean Up

f. The user shall have the ability to specify the purification action for each sample.

g. Upon specifying the action, the system shall populate the consumables and instruments section on the screen based on the scenario definition.

   i. The system shall expect any consumables or instruments configured for either action to be scanned in prior to saving.

   ii. The standard verification of consumables and instruments shall apply with this action. For example, an expired consumable that is scanned shall not be accepted or a scanned instrument in maintenance mode shall not be accepted.

G. Extraction Function

The specific steps of the Extraction process shall depend upon the type of batch being processed (Differential vs Non Differential, automated vs manual).
The main difference in processing Differential samples vs Non Differential samples is at Extraction. At Extraction, Differential samples are split into X number of tubes (for example 2 fractions would yield F1and F2) to process for Human and Y (male). After the samples are split, processing is the same except for possibly different kits being used per sample.

1. **Extraction Batch Creation Function**
   a. The first step in the Extraction process shall be the Extraction Batch Creation.

   b. The system shall provide a worklist of batches ready for Extraction Batch Creation. This worklist shall display the –

      i. Batch Bar Code

      ii. Batch Type

      iii. Protocol

      iv. Creation Date

      v. Location (of the batch)

   c. In the worklist, the system shall –

      i. Highlight any batches with medium or high priority samples.

      ii. Display priority batches at the top of the worklist, followed by low priority batches (in date order).

      iii. Provide the ability of clicking on a column header to re-sort the worklist.

   d. From the Extraction Batch Creation function, the system shall provide the ability to –

      i. Edit the batch via Batch Management.

      ii. View the Batch Content which shall provide –

         1. A list of samples on the batch.

         2. The ability to select a sample (or multi select samples) to reprint bar codes or labels.

      iii. Add comments to the batch.

      iv. Rework the batch. When a batch is reworked, the samples shall be returned to the Batch Setup worklist.

   e. Once a batch is allocated to the new Extraction Batch, the system shall remove the original batch from the Batch Create worklist.

   f. When the user selects the Create button, the Extraction Batch Bar Code shall be generated and printed.

   g. The system shall provide a configuration setting to define the number of batch bar codes to print. A separate setting shall be provided for automated and manual.

   h. The system shall provide two types of Extraction for lab processing: Differential and Non Differential

2. Differential Extraction Batch Creation

Each starting tube (sample) shall become X number of tubes (F1, F2 and F3). All tubes stay in same batch. Therefore batch layout needs to be setup accordingly. The system shall limit the number of original tubes placed in the batch at Batch Setup. This setting would have a value of 20 (20 tubes X 3 + 4 blanks = 64). Differential Extraction requires a minimum of 1 blank. This shall be setup at the Batch Type configuration.

a. The user shall have the ability to allocate the tubes to a new extraction batch. This shall set up the batch (tube to tube transfer) with the sample fractions.

b. The system shall inform the user of where each tube shall be placed in the rack.

c. Once the tubes have been allocated, the original batch shall be removed from the Batches worklist.

d. The system shall provide the ability of adding additional blanks to the batch via the Batch Management module.

e. When the user selects the Create button –

   i. The Extraction Batch Bar Code is generated and printed.

   ii. The tube bar codes and labels are printed (F1, F2, F3). The system shall provide a configuration setting to set the number of tube bar codes and labels to print as required.

   iii. A transfer file shall be generated (where everything currently is placed and where the system is expecting tubes to be). This transfer file shall be saved in the database and be accessible through View Activities.

f. Once the Extraction batch is created, it shall be displayed on the Extraction worklist ready for processing.

g. The situation where the user decides to not process the F3 shall be handled at the next step (prior to the Extraction process via Batch Management).

3. Non Differential Extraction Batch Creation

Non Differential Extraction requires a minimum of 1 blank. This shall be setup at the Batch Layout Configuration.

a. The user shall have the ability to allocate the samples to a new batch for the Extraction Process.

b. Once the tubes have been allocated, the original batch is removed from the Batch Create worklist.

c. When the user selects the Create button –

   i. The Extraction Batch Bar Code shall be generated and printed.

   ii. The tube bar codes and labels shall be printed as required.

   iii. The transfer file shall be printed (where everything currently is placed and where the system is expecting tubes to be). This transfer file shall be saved in the database and be accessible through View Activities.

d. The system shall provide the ability of adding additional blanks to the batch via the Batch Sample Management function.

e. Once the Extraction batch is created, the system shall display it on the Extraction worklist ready for processing.

4. Extraction Process

The Extraction Process step shall record the instrument(s), consumables and batches required for completion.

a. A worklist of samples ready for the Extraction Process shall be displayed. The worklist shall display the following data –

   i. Batch Bar Code

   ii. Batch Type

   iii. Protocol

   iv. Processing method

   v. Required Source Batches

   vi. Location

   vii. Creation Date

b. In the worklist, the system shall –

   i. Highlight batches with medium or high priority samples.

   ii. Display priority batches at the top of the worklist, followed by low priority batches (in date order)

   iii. Provide the ability of clicking on column headers to re-sort the worklist.

c. From the Extraction Process module, the system shall provide the ability to -

   i. Edit the batch via Batch Management (eg: to remove the F3).

   ii. Add comments to the batch.

   iii. View the Batch Content which shall provide

   iv. A list of samples on the batch.

   v. The ability to select a sample (or multi select samples) to reprint bar codes or labels.

   vi. Rework the batch. When a batch is reworked, the source batch shall be returned to the Extraction Batch Creation worklist.

d. The system shall provide the ability to select and apply a pre-configured scenario (manual or automated), specific to the batch being processed.

e. Based on the defined processing scenario selected, the system shall display and prompt the user to scan all the batches, chemicals, non-system instruments (pipetters) and instrument/robot required for the process.

f. The user shall have the ability to view a Consumable List relevant to the selected scenario.

g. Once all expected bar codes for the processing scenario are scanned, the system shall enable the Process button. The user shall select this button and then perform the actual Extraction process.

h. The system shall save the robot log files to the database (if applicable). These files shall be accessible from View Activities.

i. The system shall record the results of the process. The user shall have the ability to set the status of the process.

   i. Success – The batch shall advance to Quantitation Setup.

   ii. Failed – The batch returns to the Extraction Batch Creation worklist.

   iii. Aborted – The batch remains on the Extraction Process worklist.

H. Isolation Function

1. Overview

The purpose of the Isolation function shall be to -

a. Purify Extraction Batches.

b. Combine final Extraction Batches.

2. Isolation Batch Creation Function

a. The system shall add a new item on System Configuration called Isolation Setup.

   i. This item shall be located under the Lab Processing tree.

   ii. This item shall have a configuration setting labeled Enable.

b. When set to true the system shall -

   i. Add Isolation Batch Create to all Entry Point dropdown lists throughout the application.

   ii. Add Isolation Setup to the Process dropdown list on the Scenario screen.

   iii. Add Isolation Setup to the Process Configuration tab and Lab Process Configuration screen.

   iv. Place the final extraction batch on the Isolation Create Batch Available Batches work list after it has been processed through the Extraction step.

c. The Isolation Setup screen shall have the same functionality as the current Quantitation Setup screen.

d. After processing the Extraction batch through the Extraction stage the analyst will open the Isolation Setup screen and click Create Batch. When done a Batch Create screen labeled Isolation Batch Create shall open.

e. The Isolation Batch Create screen shall have the same layout and functionality as Quantitation Batch Create except there shall only be one allocation grid.

f. Batch Management on the Isolation Batch Create screen shall have the following tabs enabled -

    i. Add

    ii. Discontinue

    iii. Merge/Combine

    iv. Remove

    v. Rework

    vi. Transfer

g. The analyst will create an Isolation batch and allocate Extraction samples to this batch. The system shall then track this batch (instead of the batch setup or extraction batch) the rest of the way through the DNA Processing Stream.

h. From Isolation Batch Create the rework points shall be as follows -

    i. New Batches (Isolation Batches) shall have a rework entry point of Isolation Batch Create.

    ii. Available Batches (Extraction Batches) shall have a rework entry point of Batch Setup.

    iii. The rework tab on Batch Management shall have a rework entry point of Batch Setup.

i. From Quantitation Batch Create the rework points shall be as follows when the Isolation stage is enabled -

    i. New Batches (Quantitation Batches) shall have a rework entry point of Quantitation Batch Create.

    ii. Available Batches (Isolation Batches) shall have a rework entry point of Isolation Batch Create and Batch Setup.

    iii. The rework tab on Batch Management shall have a rework entry point of Isolation Batch Create and Batch Setup.

j. The Isolation Batch Create and Setup event shall be recorded on the Sample History report.

I. Quantitation Setup Function

1. Overview

The purpose of the Quantitation Setup function shall be to -

a. Create the Quantitation Plate

b. Transfer aliquots of each sample from the Extraction Batch to the Quantitation Plate using the robot and recording this transfer.

The type of Quantitation batch created shall set the kit to be used Human, Male, Human & Male, Plexor, QuantDuo.

2. Quantitation Batch Creation Function

The first step in the Quantitation Setup shall be to allocate samples to the quantitation batch. This could be for an automated or manual batch.

a. The module shall provide a worklist of batches ready for Quantitation Setup. This worklist shall display the following –

i. Batch Bar Code

ii. Batch Type

iii. Protocol

iv. Location

b. In the worklist, the system shall –

i. Highlight batches with medium or high priority samples.

ii. Display priority batches at the top of the worklist, followed by low priority batches (in date order).

iii. Provide the ability of clicking on a column header to re-sort the worklist.

c. From the Quantitation Batch Creation module, the system shall provide the ability to -

i. Edit the batch via Batch Management.

ii. Create a new Quantitation batch. The types of Quantitation batches currently created are –

1. Human only

2. Male (Y) only

3. Human and Male

4. Plexor

5. Quant Duo

iii. Add comments to the batch.

iv. View the Batch Content which shall provide -

v. A list of samples on the batch

vi. The ability to select a sample (or multi select samples) to reprint bar codes or labels.

vii. Rework the batch. When a batch is reworked, the source batch shall be returned to the Extraction Batch Creation.

d. The system shall provide the ability to allocate the samples from the final Extraction Batch into the Quantitation Batch. This shall setup the batch (tube to tube transfer).

e. Wells for controls shall be reserved based on the Quantitation Batch Type configuration.

f. The system shall remove the final Extraction Batch from the worklist once the samples/tubes have been allocated to the new Quantitation Batch.

g. The system shall provide the ability to fill a quantitation batch over multiple sessions by multiple users.

h. When the user selects the Create button, the Quantitation Batch bar code shall be generated and printed.

i. Once the Quantitation Batch is setup, it shall be displayed on the Quantitation Setup processing worklist.

3. Quantitation Setup Process

The Quantitation Setup step shall record the instrument(s), consumables and batch required for the process.

a. A worklist of batches ready for Quantitation Setup shall be displayed. The worklist shall display the following data –

i. Quantitation Batch Bar Code

ii. Batch Type

iii. Required Source Batches

b. In the worklist, the system shall –

i. Highlight batches with medium or high priority status.

ii. Display priority batches at the top of the worklist, followed by low priority batches (in date order).

iii. Provide the ability of clicking on column headers to re-sort the worklist.

c. From the Quantitation Setup function, the system shall provide the ability to –

i. Add comments to the batch.

ii. View the Batch Content which shall provide –

1. A list of samples on the batch.
2. The ability to select a sample (or multi select samples) to reprint bar codes or labels.

iii. Rework the batch. When the batch is reworked, the source batch(es) shall be returned to the Quantitation Batch Creation worklist.

d. The user shall have the ability of selecting one or more batches for processing. Batches shall be multi-selected by either scanning the Batch Bar Codes or using a mouse and selecting the batches.

e. The system shall provide the ability to select and apply a pre-configured scenario (manual or automated), specific to the batch being processed.

f. Based on the defined processing scenario selected, the Quantitation Setup function shall display and prompt the user to scan all the batches, chemicals, non-system instruments (pipetters) and instrument required for the process.

g. The user shall have the ability to view a Consumable List relevant to the selected scenario.

h. Once all expected bar codes for the processing scenario are scanned, the system shall enable the Process button. The user shall select this button and then perform the actual Quantitation Setup process.

i. The system shall save the robot log files to the database (if applicable). These files shall be accessible from View Activities.

j. The system shall record the results of the process. The user shall have the ability to set the status of the process.

i. Success – The batch shall advance to the Quantitation Process

ii. Failed – The batch returns to the Quantitation Batch Creation worklist.

iii. Aborted – The batch remains on the Quantitation Setup worklist.

J. Quantitation Function

The purpose of the Quantitation function shall be to record the Quantitation results.

1. Quantitation Worklist

a. The worklist shall display batches ready for Quantitation. The worklist shall display the following data –

i. Batch Bar Code

ii. Batch Type

iii. Protocol

iv. Processing Method

v. Location

vi. Creation Date

b. In the worklist, the system shall –

i. Highlight batches with medium or high priority status.

ii. Display priority batches at the top of the worklist, followed by low priority batches (in date order).

iii. Provide the ability of clicking on column headers to re-sort the worklist.

2. Quantitation Worklist Functionality

a. From the Quantitation function, the system shall provide the ability to –

i. Add Batch Comments.

ii. View the Batch Contents which shall provide –

1. A list of samples on the batch.

2. The ability to select a sample (or multi select samples) to reprint bar codes or labels.

iii. Rework the batch. When the batch is reworked, the source batch(es) shall be returned to the Quantitation Batch Create worklist.

b. The system shall provide the ability to scan the instrument bar code(s) and the batch bar code to be processed.

c. The system shall generate the quantitation input file. See below for details on the file format.

d. The system shall provide a configuration setting to define the directory (path) for the quantitation input file to be stored.

e. At this point, the user shall initiate the instrument software (outside of the system).

3. Quantitation Results Form

a. The system shall provide the ability to import the quantitation results into STaCS.

b. The system shall add a new screen accessible through Quantitation called Import Quantitation Results.

c. This screen shall consist of the following fields –

i. Batch Bar Code

ii. Import File Location

iii. A Grid with the following fields -

1. File Name – un-editable

2. File Type – un-editable
3. R2
4. Slope

d. This screen shall have the following buttons -

i. … (this is a browse button)
ii. Import
iii. Clear
iv. Print
v. Save
vi. Cancel

e. A Grid with the following un-editable columns shall be placed on this screen.

i. Label
ii. Bar Code
iii. Lab Case Number
iv. Exhibit Number
v. Detector
vi. Task
vii. CT
viii. STD Dev CT
ix. Quantity (ng/ul)
x. Action
xi. IPC CT
xii. IPC STD Dev CT

4. Importing Quantitation Results

a. When Enable Quantitation Results Import is set to True the system shall automatically open the Import Quantitation Results screen when -

i. Save is clicked on the Quantitation screen
ii. The in-process pin is double clicked for a batch on the Quantitation screen

b. On the Import Quantitation Results screen the -
   i. Batch Bar Code field shall populate with the batch that is being processed through Quantitation.

   ii. Import File Location field shall populate with the default directory set through the Default Import Directory setting.

c. The analyst shall have the ability to browse to a new directory/file if needed by clicking the … (browse button).

   i. When this button is clicked the system shall open a standard browsing dialog box.

d. To import the file selected the Import button shall be clicked. When this is done the system shall -

   i. Place the imported file into the file worklist populating the File Name and File Type fields.

   ii. Highlight the R2 and Slope in the configured mandatory color.

   iii. Place the data from the import file into the fields on the grid

      1. Standards shall be displayed in this grid as well. The system shall place the sample name from the import file into the Bar Code field. Standards shall also not receive an action.

   iv. The Action field shall populate with No Amp, Use As Is or Dilute depending on the Quantity of each sample and the defined Action Threshold values set on the Quantitation Results and Normalization Settings screen.

e. For Hybrid batches the system shall allow the import of two result files (Human and Male). When this is done both files shall be displayed in the file worklist. When a file is clicked the system shall display the results in the grid

f. To save the quantitation results the analyst shall click the Save button. When clicked the system shall -

   i. Check the kit of the batch, if it is Dual Human/Male the system shall ensure two result files have been imported.

      1. If only one file has been imported the system shall prompt “This is a hybrid batch, only one set of results have been imported. Would you like to continue?” This message shall have a Yes and No button.

   ii. Check to make sure the R2 and Slope fields are populated if results have been imported. If these fields are not populated the system shall -

      1. Prompt “The following field(s) is mandatory, please enter a value before saving”.

      2. Place a flag beside the field(s).

   iii. Save the quantitation results to the database.

1. These results shall be linked to the batch and samples which shall be viewable through View Batches, Batch Content and the Activity Viewer

g. If Save is clicked and no quantitation results have been imported the system shall -

i. Prompt “No results have been imported. If you continue the process shall not complete successfully. Do you wish to continue?” (this shall be used in case the instrument fails or the process needs to be aborted)

h. From the Import Quantitation Results screen if -

i. The Clear button is clicked the system shall clear -

1. The Import File Location field

2. The file worklist

3. The R2 and Slope field

4. The Grid

ii. The Print button is clicked the system shall open a .pdf version of the Import Quantitation Results allowing the analyst to print off a copy or save

i. The system shall add the Quantity, CT, Action, R2 and Slope values to the Sample History Report under the Quantitation activity.

K. Amplification Setup Function

Amplification Setup is the point at which the user specifies which kit or chemistry shall be used to process each sample. This decision is determined by the quantitation results. The system shall provide the ability of creating an automated batch or a manual batch. Wells / positions will need to be reserved for ladders which shall be populated at CE Setup.

1. Amplification Batch Creation

The first step in the Amplification Setup process shall be Amplification Batch Creation.

a. The module shall provide a worklist of batches ready for Amplification Batch Creation. This worklist shall display the –

i. Extraction Batch Bar Code

ii. Batch Type

iii. Sample Bar Code

iv. Sample Well / Position

v. Location

vi. Creation Date

b. In the worklist, the system shall –

i. Highlight batches with medium or high priority samples.

ii. Display priority batches at the top of the worklist, followed by low priority batches (in date order).

iii. Provide the ability of clicking on a column header to re-sort the worklist.

c. From Amplification Batch Creation, the system shall provide the ability to –

i. Edit the batch via Batch Management.

ii. Add comments to the batch.

iii. View the Batch Content.

iv. The system shall not provide the ability to reject the batch at this point.

d. The user shall have the ability to select the suggested kit (Chemistry). The optional kits are -

i. Identifiler

ii. Yfiler

iii. Minifiler

iv. PowerPlex16

v. ProfilerPlus

vi. COFiler

vii. Hybrid (ProfilerPlus and COfiler)

viii. PowerPlex Y

e. The system shall provide the ability to allocate individual samples on the Extraction batch to a new kit (chemistry) specific amplification batch.

f. The system shall provide the ability to process one sample through multiple kits (on different batches).

g. The system shall provide the ability to process –

i. Both the extracted sample and a dilution of that sample (separate tubes).

ii. Multiple dilutions of the same sample.

iii. One sample tube going into multiple amp tubes (of different volumes).

h. If a sample is allocated to multiple tubes (or positions on a plate), the system shall provide the functionality of reorganizing the batch (if necessary) to keep the sample tubes together sequentially on the batch.

i. The system shall remove the Extraction Batch from the worklist once all the samples contained on the batch are allocated to the new Amplification Batch.

j. When the user selects the Create Button, the Amplification Batch bar code shall be generated and printed.

k. The new tube bar codes/labels shall be generated and printed.

l. The system shall provide configuration settings to specify the number of –

i. Sample Bar Codes to print.

ii. Labels to print.

iii. Batch Bar Codes to print.

2. Amplification Setup Process

The system shall provide a function for the Amplification Setup process.

a. A worklist of samples ready for Amplification Setup shall be displayed. The worklist shall display the following data –

i. Batch Bar Code

ii. Batch Type

iii. Protocol

iv. Processing Method

v. Required Source Batches

vi. Location

vii. Creation Date

b. In the worklist, the system shall –

i. Highlight bathes with medium or high priority status.

ii. Display priority batches at the top of the worklist, followed by low priority batches (in date order).

iii. Provide the ability of clicking on column headers to re-sort the worklist.

c. From the Amplification function, the system shall provide the ability to –

i. Add comments to the batch.

ii. View the Batch Content.

iii. Reject the batch. When rejected, the source batches shall be returned to the Amplification Batch Creation worklist.

d. The user shall have the ability to select one or more batches for processing. Batches shall be multi-selected by either scanning the batch bar codes or using a mouse and selecting the batches.

e. The system shall provide the ability to select and apply a pre-configured scenario (manual or automated), specific to the batch (es) being processed.

f. Based on the defined processing scenario selected, the system shall display and prompt the user to scan all batches, chemicals and instruments (pipetters) required for the process.

g. The user shall have the ability to view a Consumable List relevant to the selected scenario.

h. Once all expected bar codes for the processing scenario are scanned, the system shall enable the Process button. The user shall select this button and then perform the actual Amplification Setup process.

i. The system shall save the robot log files to the database (if applicable). These files shall be stored in the database and accessible from View Activities.

j. The system shall record the results of the process. The user shall have the ability to set the status of the process.

   i. Success – The batch shall advance to the Amplification Process.

   ii. Failed – The batch returns to the Master Mix Batch Creation worklist (under the rework worklist).

   iii. Aborted – The batch remains on the Master Mix Process worklist.

3. Amplification Setup Sheet Functionality

a. The system shall add a button to the Amplification Setup screen called Amp Setup.

   i. This button shall only be visible when the Enable Amplification Setup Sheet setting is set to True.

b. When this button is clicked the system shall open the Amplification Setup Sheet screen.

c. When the screen opens the system shall -

   i. Populate the Batch Bar Code with the batch that has been scanned or selected from the batches worklist.

   ii. Populate the Min Use As Is, Max Use As Is, Default Quantity, DNA Stock to Working, Working Batch Concentration, Working Batch Volume, Amt of DNA to Amp, Max Amount of DNA to Amp and Amp Plate Volume fields with the configured values set through the Quantitation Results and Normalization Settings screen.

d. The system shall populate the -

   i. Well with the well the sample was placed in on the amplification batch.

   ii. Bar Code, Lab Case Number, Exhibit Number fields with the appropriate data for each sample.

   iii. Action field with No Amp, Use As Is or Dilute depending on the Quantity of each sample and the defined Action Threshold values set on the Quantitation Results and

Normalization Settings screen.The analyst will have the ability to change the action to one of the other two options. When this is done the system shall refresh the grid with any new calculations performed.

iv. Quantity field with the last set of imported quantitation results.

1. The analyst will have the ability to select previous quantitation results to use in the calculations if needed.

v. Dil. DNA field with the value entered in the DNA Stock to Working field if the Action of the sample is Dilute.

1. If the Action of the sample is Use As Is this field shall be empty.

2. The analyst will have the ability to edit this field on the grid. When this is done the system shall refresh the grid with any new calculations performed.

vi. DNA Amplified field with the value entered in the Amt of DNA to Amp field.

e. The system shall perform the following calculation to populate the Dil. Buffer field if the Action of the sample is Dilute:
Dil. Buffer = (DNA Stock to Working x Quantity)/Working Plate Concentration.

i. If the Action of the sample is No Amp or Use As Is this field shall be empty.

f. The system shall perform the following calculation to populate the Reaction DNA field:
Reaction DNA = DNA Amplified/Quantity

i. If the Action of the sample is Use As Is or No Amp the system shall use the quantity obtained from the imported quantitation results (Quantity field).

ii. If the Action of the sample is Dilute the system shall use the value entered in the DNA Stock to Working as the Quantity.

g. The system shall perform the following calculation to populate the Reaction Buffer field:
Reaction Buffer = Max Amount of DNA to Amp – Reaction DNA

h. If a sample skipped quantitation the system shall use the value entered in the Default Quantity field to populate the Quantity field on the grid

i. Samples that have skipped quantitation shall receive an action of Use As Is.

i. The analyst will have the ability to -

i. Click Clear – when this is done the system shall clear the batch bar code field and grid.

ii. Click Print – when this is done the system shall open a .pdf which can be printed off or saved.

iii. Click Cancel.

iv. Click Save – when save is clicked the system shall generate an import file which shall be loaded into the robot software.

j. If more than one batch was selected or scanned on the amplification setup screen the system shall keep the Amplification Setup Sheet screen open after the import file has been saved, populating the batch bar code and grid with the next batch data.

k. These Calculations shall be linked to the batch and samples which shall be viewable through View Batches, Batch Content and the Activity Viewer

l. The system shall add the Action, Dil DNA, Dil Buffer, Reaction DNA, Reaction Buffer, DNA Amplified to the Sample History Report under the Amplification Setup entry.

L. Amplification Function

1. Amplification Worklist

The system shall provide a function for recording the amplification process.

a. The system shall provide a worklist of batches ready for Amplification. This worklist shall display the following –

i. Batch Bar Code

ii. Batch Type

iii. Protocol

iv. Processing Method

v. Location

vi. Creation Date

b. In the worklist, the system shall –

i. Highlight batches with medium or high priority samples.

ii. Display priority batches at the top of the worklist followed by low priority batches (in date order).

iii. Provide the ability of clicking on a column header to re-sort the worklist.

2. Amplification Worklist Functionality

a. From the Amplification function, the system shall provide the ability to –

i. Add comments to the batch.

ii. View the Batch Content

iii. Rework the batch. When a batch is reworked, the source batch shall be returned to the Amplification Batch Creation worklist (under the rework worklist).

b. The user shall have the ability of selecting one or more batches for processing.

i. The system shall prompt the user to scan the instrument and the batch.

ii. If processing multiple batches at once, the system shall expect the instruments and batches to be scanned in pairs. A validation shall occur for ensuring that two batches cannot be scanned in sequence or two instruments cannot be scanned in sequence.

iii. The system shall display the scanned pairs in the worklist.

c. The system shall record the results of the process. The user shall have the ability to set the status of the process.

i. Success – The batch shall advance to the CE Setup process

ii. Failed – The batch returns to the Master Mix Batch Creation

iii. Aborted – The batch remains on the Amplification worklist.

d. If the user chooses to process more than one batch at a time, the system shall display all batches in the Activity Results screen.

M. CE Setup Function

Not every sample on each amp batch shall be processed at the same time. For example, high priority samples shall take priority, not all samples from an amp batch may fit onto a CE batch at the same time and rework samples shall need to be added to a CE batch. Therefore, the user shall require the ability to cherry pick samples onto each CE batch. This functionality shall be provided through the Batch Sample Management function.

1. CE Batch Creation

The first step in the CE Setup shall be to allocate samples to the CE batch.

a. The system shall provide the ability to specify the destination batch type used for the process (e.g. 310 or 3130).

b. The system shall provide a worklist of batches ready for CE Setup. This worklist shall display the following –

i. Amplification Batch Bar Code

ii. Sample Bar Code

iii. Creation Date

iv. Location

c. In the worklist, the system shall –

i. Highlight batches with medium or high priority samples.

ii. Display priority batches at the top of the worklist, followed by low priority batches (in date order).

iii. Provide the ability of clicking on a column header to re-sort the worklist.

d. From the CE Batch Creation function, the system shall provide the ability to –

i. Edit the batch via Batch Management.

ii. Add comments to the batch.

iii. View the Batch Content which shall provide –

1. A list of samples on the batch

2. The ability to select a sample (or multi select samples) to reprint the bar codes or labels.

iv. Rework the batch. When a batch is reworked, the source batch shall be returned to the Amplification Batch Creation worklist.

e. The system shall remove the Amplification Batch from the worklist once it is allocated to the new CE Batch.

i. When the user selects the Create button, the CE Batch bar code shall be generated and printed.

ii. Once the CE Batch is created, the system shall display it on the CE Setup worklist.

2. CE Setup Process

The system shall provide a function to record the instrument(s), consumables and plates required for the process.

a. A worklist of batches ready for the CE shall be displayed. This worklist shall display the following data –

i. Batch Bar Code

ii. Batch Type

iii. Protocol

iv. Processing Method

v. Required Source Batches

vi. Location

vii. Creation Date

b. In the worklist, the system shall –

i. Highlight batches with medium or high priority status.

ii. Display priority batches at the top of the worklist, followed by low priority batches (in date order).

iii. Provide the ability of clicking on column headers to re-sort the worklist.

c. From the CE Setup function, the system shall provide the ability to –

i. Add comments to the batch.

ii. View the Batch Content which shall provide –

1. A list of samples on the batch.

2. The ability to select a sample (or multi select samples) to reprint bar codes or labels.

iii. Rework the batch. When the batch is reworked, the source batch (es) shall be returned to the CE Batch Creation worklist.

d. The user shall have the ability of selecting one or more batches for processing. Batches shall be multi-selected by either scanning the batch bar codes or using a mouse and selecting the batches.

e. The system shall provide the ability to select and apply a pre-configured scenario (manual or automated), specific to the batch being processed.

f. Based on the defined processing scenario selected, the CE Setup function shall display and prompt the user to scan all the batches, chemicals, non-system instruments and instrument required for the process.

g. The user shall have the ability to view a Consumable List relevant to the selected scenario.

h. Once all expected bar codes for the processing scenario are scanned, the system shall enable the Process button. The user shall select this button and then perform the actual process.

i. The system shall save the robot log files to the database (if applicable). These files shall be accessible from View Activities.

j. The system shall record the results of the process. The user shall have the ability to set the status of the process.

i. Success – The batch shall advance to the CE Analysis process.

ii. Failed – The batch returns to the CE Batch Creation

iii. Aborted – The batch remains on the CE Setup worklist.

N. CE Analysis Function

The purpose of the CE Analysis function is to generate the sample sheet for the CE.

1. CE Analysis Worklist

1. The system shall provide a worklist of batches ready for the CE. This worklist shall display the following –

i. Batch Bar Code

ii. Batch Type

iii. Processing Method

iv. Protocol

v. Location

vi. Creation Date

2. In the worklist, the system shall –
   i. Highlight batches with medium or high priority samples.
   ii. Display priority batches at the top of the worklist, followed by low priority batches (in date order).
   iii. Provide the ability of clicking on a column header to re-sort the worklist.

2. CE Analysis Worklist Functionality

a. From the CE Analysis function, the system shall provide the ability to –
   i. Add comments to the batch.
   ii. View the Batch Content which shall provide –
      1. A list of samples on the batch.
      2. The ability to select a sample (or multi select samples) to reprint the bar codes or labels.
   iii. Rework the batch. When a batch is reworked, the source batch (es) shall be returned to the CE Batch Creation worklist.

b. The CE Analysis function shall display and prompt the user to scan the sequencer, batch, chemicals and non-system instruments required for the process.

c. The user shall have the ability to view a Consumable List relevant to the selected sequencer.

d. The system shall generate the necessary Sample Sheet for the CE and provide a method for the user to store the sample sheet to a user defined location.

e. The system shall record the results of the process. The user shall have the ability to set the status of the process.
   i. Success – The batch shall advance to the CE Review process.
   ii. Failed – The batch returns to the CE Batch Creation worklist.
   iii. Aborted – The batch remains on the CE Analysis worklist.

O. CE Review Function

The CE Review function shall provide the ability to rework an entire batch once the CE Process is complete.

For manual processing, once the batch is off the CE, the user shall check that the positive control typed properly and that the negative control is blank. Samples are also checked. If the positive control fails, the entire batch shall require rework back to CE Setup (if still available).

1. **CE Review Worklist**
   a. The system shall provide a worklist of batches ready for review after the CE process. This worklist shall display the following –
      i. Batch Bar Code
      ii. Creation Date
      iii. Location
      iv. An indicatory that the GeneMapper files are available for review
   b. In the worklist, the system shall –
      i. Highlight batches with medium or high priority samples.
      ii. Display priority batches at the top of the worklist, followed by low priority batches (in date order).
      iii. Provide the ability of clicking on a column header to re-sort the worklist.
2. **CE Review Functionality**
   a. From the CE Review function, the system shall provide the ability to –
      i. Add comments to the batch.
      ii. View the Batch Content which shall provide –
         1. A list of samples on the batch
         2. The ability to select a sample (or multi select samples) to reprint the bar codes or labels.
      iii. Reject the batch. When a batch is rejected, the source batch shall be returned to CE Batch Creation worklist.
   b. The system shall provide the ability to select a batch bar code and review the data within GeneMapper. The system shall launch GeneMapper.
   c. Once the user has completed reviewing the data in GeneMapper, the system shall require that GeneMapper be closed. Focus shall then be returned to the system.
   d. The system shall record the results of the data review in GeneMapper. The user shall have the ability to set the status of the batch.
      i. Success – The batch shall advance to Data Analysis.
      ii. Failed – The batch returns to the CE Batch Creation.
      iii. Aborted – The batch remains on the CE Review worklist.
      iv. Rework – Any defined rework point.

P. Data Analysis

The purpose of Data Analysis is to import sample profiles into the system and provide the ability to rework individual samples.

Batches at Data Analysis may be made up of samples belonging to various analysts. At this point in the processing, each analyst will analyze their own samples using a genotyping software and process the results (for example GeneMapperID or GeneMarkerID) through Data Analysis. Therefore, the system shall provide the ability for samples within a batch to be analyzed and processed at Data Analysis potentially over multiple sessions by multiple analysts.

The system shall also provide the ability for the controls on each batch to be imported into the system multiple times if necessary. It will be up to the analyst to ensure that all controls to be included in their processing are included in their r output table.

1. **Data Analysis Worklist**

   a. The system shall provide a worklist of batches ready for analysis. This worklist shall display the following –

      i. Batch Bar Code

      ii. Batch Type

      iii. Protocol

      iv. Processing Method

      v. Location

      vi. Creation Date

   b. The system shall provide the ability to expand the Batch Bar Code to display all samples contained on each batch.

   c. The system shall not display a sample in the worklist once the sample has completed the Data Analysis process.

   d. When displayed in the worklist, the system shall display each samples –

      i. Well

      ii. Lab Case Number

      iii. Exhibit Number

      iv. Bar Code

   e. In the worklist, the system shall –

      i. Highlight batches with medium or high priority samples.

      ii. Display priority batches at the top of the worklist, followed by low priority batches (in date order).

iii. Provide the ability of clicking on a column header to re-sort the worklist.

f. The system shall provide the ability for more than one analyst to process a batch, potentially at the same time.

2. **Importing the Output Table**

a. The system shall provide the ability to import the output table that may or may not contain all samples on the batch.

b. The system shall not permit samples from multiple batches to be imported into the system via a single output table.

c. The system shall provide the ability to browse to the output table and select the file for import into the system.

i. The system shall allow controls to be imported multiple times.

ii. The system shall validate that all samples included in the file are indeed currently at the Data Analysis processing step.

d. Once imported, the system shall display the control loci and allele values. Both the expected values and the obtained values shall be displayed.

3. **Data Analysis Processing Results**

a. Upon selecting the Process button, the system shall display the Data Analysis Processing Results.

b. The Processing Results shall display the following columns –

i. Label

ii. Batch

iii. Lab Case Number

iv. Exhibit Number

v. Sample Bar Code

vi. Action (potential rework action)

vii. Rework Reason

viii. Comment

ix. Sample Type

x. All loci

c. The system shall display the profile run(s) for each sample included in the imported file.

d. If a sample does not require rework and is complete, no further action shall be required of the analyst at this point. Once the Processing Results are saved, the system shall mark the sample as having a status of ‘Complete’.

e. If a sample requires rework, the system shall provide the ability to specify the rework point (action) and a rework reason.

f. Once a batch has completed Data Analysis, the system shall provide access to the Data Analysis Results Report from a 'view batches' type of function.

   i. Each batch may have one or more Data Analysis Results Reports (multiple analysts with their cases on one batch).

4. **Data Analysis Results Report**

a. The system shall display the Data Analysis Results in a report format once the Data Analysis Processing Results have been saved.

b. The system shall provide the ability to –

   i. Print the report.

   ii. Save the report as a PDF.

c. The header of the report shall display the Lab Case Number(s), Analyst and Date.

d. The report shall display the following data –

   i. Lab Case Number

   ii. Exhibit Number

   iii. Sample Bar Code

   iv. Loci and allele values

e. The system shall group the samples by Lab Case Number, then Action (rework samples, complete samples, etc).

f. The system shall display each profile run for each sample.

g. The system shall generate on results report for each batch analysis session. For example, if a batch contains 3 cases for 3 analysts, then 3 separate results reports shall be generated (at the time of analysis) for the batch.

5. **Reworking Samples**

a. The system shall provide the ability to rework a sample from Data Analysis to one of the following processing step -

   i. Amplification Batch Create

   ii. CE Batch Create

   iii. CE Analysis

   iv. Second Extraction

b. When processing a rework sample through Data Analysis, the system shall display all previous runs of that sample.

c. The analyst shall then have the ability to –

i. Advance the sample to a status of Complete.

ii. Advance the sample to a status of complete and begin a second amplification using a different kit

iii. Rework the sample.

6. **Importing Samples with Multiple Injections**
A sample may be injected multiple times on the CE (at once). A sample having, for example, three injections will have three sets of data in the output table.

a. The system shall provide the ability to import an output table with multiple sets of data for one sample.

b. The system will expect the file to contain the first set of injection data at the beginning of the file, followed by all the data for samples injected a second time and so on.

7. **Profile Matching**
The Profile Match report shall provide the functionality to flag the user if a samples profile is matching either a control profile or another samples profile from a different case on the same batch. This screen shall display the sample that has been flagged as a match along with the suspected match. The system shall display the profiles and highlight the matching locus.

a. The system shall add a new report called Profile Match which shall be accessible from the Data Analysis Processing Results screen.

b. The Profile Match report shall consist of the following –

i. A Batch Barcode field. This shall display the batch that is being analyzed at Data Analysis.

ii. A Sample field. This shall display the Sample barcode the system has matched with a control profile.

iii. A Sample or Control Profile field. This shall display either the sample barcode or the control profile name the sample is matching.

iv. A grid displaying the sample and control profile that match. The grid shall consist of the following fields -

1. Barcode

2. Lab Case Number

3. Exhibit Number

4. Locus of the profile that matches

5. A Print and Close button

c. The analyst will have the ability to print the report by clicking the Print button. This shall open a .PDF which can be saved.

d. When Close is clicked the Profile Match report shall close.

e. The system shall add a button to the Data Analysis Processing Results screen called Profile Match.

f. The analyst can re-open this report by clicking the Profile Match button on the Data Analysis Results screen.

8. **Comparing Profiles Obtained with Defined Controls Profiles**
The system shall compare all imported profiles at DA with defined control profiles. When each analyst imports the GeneMapper .txt the system shall compare the obtained profile with all of the profiles defined in STaCS. If a profile matches the system shall open a dialog box displaying the profiles that match.

a. When a GeneMapper text file is imported at Data Analysis the system shall compare each DNA sample profile on the import with all profiles that have been defined through the Control Profile and Control Profile Linking screen.

b. To determine if there is a match the system shall look at the number of Loci that have data for a DNA sample on the import file -

   i. If 10 or more Loci have data the system shall only flag the sample as a match if 10 or more Loci match a defined profile.

   ii. If between 5 and 9 Loci have data the system shall only flag the sample as a match if all of the Loci match a defined profile.

   iii. If there are less than 5 Loci that have data the system shall not compare the sample to any defined profiles.

c. In order to determine which of the above rules to use when comparing two profiles the system shall look at the profile with the least number of loci present.
For example: If the defined control profile has 6 loci and the sample profile has 11 loci present the system shall require that all 6 of the control profile match the sample profile in order for a match to be flagged.

d. When comparing profiles the system shall confirm a Locus match if at least two Allele values match in a Locus.
For example: If one Locus has two allele values and the other has three allele values, if at least two of these match the system shall flag this locus as matching.

e. If a profile match is found the system shall automatically open the Profile Match screen when the Data Analysis Processing Results screen opens.

f. On the Profile Match screen the system shall -

   i. Populate the batch barcode field with the barcode of the batch being analyzed at Data Analysis.

ii. Populate the Sample field with the barcode of the sample that has been flagged as a match.

iii. Populate the Control Profile field with the name of the defined profile from the control profile or control profile linking screen.

g. On the grid the system shall -

i. Populate the first line with the -

1. Sample barcode

2. Lab Case Number of the sample

3. Exhibit Number of the sample

4. The profile imported at Data Analysis

ii. Populate the second line with the -

1. Control Profile barcode.

2. Lab Case Number of the control profile if applicable.

3. Exhibit Number of the control if applicable.

4. The profile defined through Control Profile or Control Profile Linking.

iii. Highlight the Locus that match.

9. **Comparing Profiles Obtained with Previously Imported Sample Profiles from the Same Batch**
The system shall compare each DNA profile with the DNA profiles previously imported from the same batch at Data Analysis. The system shall disregard matching profiles that have the same Lab Case Number and samples that have been re-injected. The system shall look at the Loci selected on the Profile Matching screen when comparing profiles to determine a match.

a. When a GeneMapper text file is imported at Data Analysis the system shall compare each DNA sample profile on the import to determine if there is a match.

b. The system shall also compare the DNA sample profiles of all previously imported GeneMapper text files for that same batch.

c. When comparing sample profiles the system shall disregard any profile matches that have the same lab case number.

d. When comparing sample profiles the system shall not flag a re-injected sample as a match.

e. To determine if there is a match the system shall look at the number of loci that have data for a DNA sample on the import file -

i. If 10 or more Loci have data the system shall only flag the sample as a match if 10 or more Loci match another sample profile.

ii. If between 5 and 9 Loci have data the system shall only flag the sample as a match if all of the Loci match another sample profile.

iii. If there are less than 5 Loci that have data the system shall not compare the sample to any of the other profiles.

f. In order to determine which of the above rules to use when comparing two profiles the system shall look at the profile with the least number of loci present.
For example: If the one sample profile has 6 loci and another sample profile has 11 loci present the system shall require that all 6 of the first sample profile match in order for a match to be flagged.

g. When comparing profiles the system shall confirm a Locus match if at least two Allele values match in a Locus.For example: If one Locus has two allele values and the other has three allele values, if at least two of these match the system shall flag this locus as matching.

h. If a profile match is found the system shall automatically open the Profile Match screen when the Data Analysis Processing Results screen opens.

i. The system shall -

i. Populate the batch barcode field with the barcode of the batch being analyzed at Data Analysis.

ii. Populate the first Sample field with the barcode of the sample that has been flagged as matching another sample profile.

iii. Populate the second Sample field with the barcode of the sample that has been flagged as matching the above sample.

j. On the grid the system shall -

i. Populate the first line with the -

1. Sample barcode from 7b
2. Lab Case Number of the sample
3. Exhibit Number of the sample
4. The profile imported at Data Analysis

ii. Populate the second line with the -

1. Sample barcode from 7c
2. Lab Case Number of the sample
3. Exhibit Number of the sample
4. The profile imported at Data Analysis

iii. Highlight the Loci that match.

k. The system shall compare all previously imported DNA sample profiles from the same batch against the current GeneMapper import.

Q. Profile Management

The Profile Management function shall provide the ability to specify a final profile for each sample and specify which external systems (CODIS / PopStats) the sample will be sent to after DNA processing is complete

1. Profile Management Worklist

a. The system shall provide a worklist of samples that have completed Data Analysis and have a profile. The worklist shall display the following –

i. Lab Case Number

ii. Exhibit Number

iii. Sample Bar Code

b. By default, the system shall sort the worklist by Lab Case Number.

c. In the worklist, the system shall -

i. Highlight samples with medium or high priority samples.

ii. Display priority samples at the top of the worklist, followed by low priority samples (in date order).

iii. Provide the ability of clicking on a column header to re-sort the worklist.

2. Profile Management Functionality

a. From the worklist, the analyst shall have the ability to double click on a sample to obtain the Final Profile information.

b. The system shall display all profile runs for the selected sample.

c. The analyst shall then have the ability to -

i. Select which allele calls shall make up the final profile. The analyst shall have the ability to select -

1. One individual profile run (quick select of the entire row).

2. Individual allele calls from multiple profile runs to make up a composite profile.

ii. Indicate that more than one final profile shall be specified for the sample (in the case of a mixture).

iii. Specify individual allele calls for the additional final profiles.

d. The system shall provide the ability to save the final profile(s) for the sample. Upon saving, the analyst shall be returned to the Profile Management worklist.

e. Upon selecting Save, the system shall strip any pre pended values (AI, SP, OL, etc) from the allele calls.

f. The system shall provide the ability to indicate if the sample is to be uploaded to CODIS and/or PopStats.

g. Once the analyst makes the selections for each of the samples on the worklist, the system shall provide the ability to save. Upon saving, the samples shall be –

i. Removed from the worklist.

ii. Placed on the CODIS and/or PopStats worklists.

iii. Placed on the Completed worklist in Sample Setup.

3. Manually Adding a Sample to the Worklist

a. The system shall provide the ability to add a sample to the worklist by –

i. Scanning the sample bar code

ii. Specifying for the Lab Number / Exhibit Number

b. The system shall only allow a sample to be added to the worklist if the sample has a status of Complete.

i. If the analyst attempts to add a sample that does not have a status of Complete, the system shall display a message to the analyst stating why the sample cannot be added to the worklist.

c. The system shall provide the ability to type in a Lab Number. The system shall then display all Exhibit Numbers for the Lab Number.

d. The analyst shall then have the ability to select one or more exhibits/samples to add to the Profile Management worklist.

R. CODIS Interaction

The system shall provide the functionality to generate the CODIS file. This will involve the following functionality –

a. To select the sample profile to go to CODIS.

b. To specify the Specimen Category.

c. Generate the CODIS file in XML format.

1. CODIS Setup

a. The CODIS Setup module shall provide a worklist of samples to be sent to CODIS. This worklist shall display the following data –

i. Sample Bar Code

ii. Lab Case Number

iii. Exhibit Number

iv. Description

b. From this module, the system shall provide the ability to select and save the profile for CODIS Upload.

c. To select the CODIS profile, the system shall provide the ability to view all profile runs for a selected sample in the worklist. From the profile runs, the analyst shall have the ability to –

i. Select individual allele values from any of the displayed profiles.

ii. Remove allele values from the CODIS profile.

iii. Select an entire profile run to create the CODIS profile.

d. In specifying the allele calls to make up the CODIS Profile, the system shall allow the analyst to create partial profiles for upload.

e. The system shall provide the ability to indicate that more than one profile for the sample shall be uploaded to CODIS (in the case of a mixture).

i. The analyst shall have the ability to specify individual allele calls for the additional final profiles.

f. The module shall provide the ability to set the Specimen Category. A configuration setting shall be provided for the lab to set the required specimen categories.

g. The system shall also provide the ability to set the following through a dropdown menu, each with potential values of Yes or No –

i. Source ID

ii. Partial Profile indicator

h. Once the CODIS profile and Specimen Category have been set, the system shall provide the ability to save the data and advance the sample to the CODIS Upload module.

i. Upon selecting Save, the system shall strip any pre pended values (AI, SP, OL, etc) from the allele calls.

2. CODIS Upload

a. The CODIS Upload module shall provide a worklist of approved samples ready for CODIS. The worklist shall display the following data –

i. Sample Bar Code

ii. Lab Case Number

iii. Exhibit Number

b. The samples on the worklist shall be sorted by Lab Case Number by default.

c. The system shall provide the ability to select one or more samples (using standard Windows selecting techniques) to create the file.

d. Once a sample is added to a file, the sample shall be removed from the worklist.

e. In generating the XML file, the system shall provide the ability to add the following data –

   i. Partial Profile (default to No)

   ii. Source ID (which means the sample matches a known, default value = N/A)

   iii. Forensic Mixture

   iv. Forensic Category

f. The system shall provide configuration settings to set the potential values for Partial Profile and Source ID.

g. The system shall provide a worklist of generated CODIS files ready for upload. From the worklist, the analyst shall have the ability to –

   i. Select a CODIS file and view the contents.

   ii. Save the CODIS files to an external location (network drive, thumb drive). Once the file is saved to an external location, the file shall be removed from the worklist.

h. The system shall display the profiles uploaded to CODIS in a sample history report.

S. PopStats Interaction

A profile that does not go up to CODIS may still need to go into PopStats.
The PopStats module shall function the same way as the CODIS module described above.

1. **PopStats Worklist**

   a. The PopStats module shall provide a worklist of samples ready to be sent to PopStats. The worklist shall display the following data –

      i. Lab Case Number

      ii. Exhibit Number

      iii. Sample Bar Code

   b. The samples on the worklist shall be sorted by Lab Case Number by default.

2. **PopStats Worklist Functionality**

   a. The PopStats Worklist module shall provide the ability to –

      i. Select the profile for PopStats.

      ii. Create the PopStats file for upload.

      iii. Save the PopStats file(s) to a specified location (network drive, thumb drive, etc).

b. To select the PopStats profile, the system shall provide the ability to view all profile runs for a selected sample in the worklist. From the profile runs, the analyst shall have the ability to -

i. Select individual allele values from any of the displayed profiles.

ii. Remove allele values from the PopStats profile.

iii. Select an entire profile to create the PopStats profile.

c. Once a sample's profile is ready for PopStats, the system shall provide the ability to generate the PopStats file (PopStats files only contain one sample).

d. The system shall provide a worklist of generated PopStats files ready for upload. From the worklist, the analyst shall have the ability to -

i. Select a PopStats file and view the contents.

ii. Save the PopStats files to an external location (network drive, thumb drive). Once the file is saved to an external location, the file shall be removed from the worklist.

iii. Print the PopStats file content.

e. The system shall display the profile sent to PopStats in the Sample History report.

T. SOP Management (Standard Operating Procedures)

The system shall provide the user with a mechanism for defining consumables to be tracked in the laboratory.
The system shall provide the ability to manage SOPs.

1. Creating an SOP

a. The system shall provide the ability to create and manage SOPs.

b. The system shall provide the ability to name an SOP. All SOPs must have unique names.

c. The system shall provide the ability to edit and delete an SOP.

d. The system shall not allow an SOP to be deleted if –

i. The attached version is within its effective date.

ii. The attached version has been used.

2. Attaching a Document to the SOP

a. The system shall provide the ability to attach one or more documents (versions) to each SOP.

b. In adding a document, the system shall provide the ability to specify an effective date and an end date for the document.

c. If an SOP has multiple versions of the document, the system shall –

i. Only allow one version to be active at one time.

ii. Not allow gaps between the current version's End Date and the next version's Effective Date.

3. Assigning SOPs to a Scenario or an Activity

a. The system shall provide the ability to assign one or more SOPs to a processing scenario. The processing scenario must first be defined in order for an SOP to be assigned to it.

b. The system shall allow one SOP to be applied to multiple processing scenarios (eg: Quantifiler Human and Quantifiler Male may have the same SOP).

c. In the case that a scenario does not exist for an activity (eg: Amplification), the system shall provide the ability to assign the SOP directly to the activity.

4. Viewing an SOP at an Activity

a. The system shall provide the ability to view an SOP at each lab processing step.

b. Once the analyst has selected a processing scenario, the system shall provide the ability to view the current SOP associated to the scenario.

c. The system shall not display different versions of an SOP at one activity.

U. Data Mining Tool

The system shall contain a data mining tool that pinpoints the cause of contamination events, anomalies, dye artifacts, weak profiles, failed or weak controls and instrument trends.

1. Data Mining Tool Functionality

a. The tool shall list all the batches that were processed based on user-specified selection criteria.

b. The tool shall allow the user to specify the selection criteria based on any combination of the following fields:

i. Processing start date

ii. Processing end date

iii. Activity type

1. Extraction
2. Quantitation Setup
3. Quantitation
4. Amplification Setup
5. Amplification
6. CE Setup
7. CE Analysis
8. Data Analysis

iv. Any combination of users

v. Any combination of instruments defined in the system

vi. Consumable bar code or lot number

c. The system shall indicate the common elements (either consumables or instruments) that exist between the selected batches and allow the user to export the results to an Excel (.XLS) file.

V. FSSI^3 and True Allele Interaction

The system shall provide the user with the ability to import results from FSSI3 and True Allele referred below as Expert Systems

1. **Importing the Expert System Output Table**
   a. The system shall provide the ability to import the Expert System output table.

   b. The system shall not permit samples from multiple batches to be imported into the system via one Expert System output table.

   c. Upon selecting the Import function, the system shall prompt the analyst to specify the file to be imported.

      i. The system shall allow controls to be imported multiple times.

      ii. The system shall not allow samples to be imported multiple times from the same plate unless previously processed through Data Analysis.

      iii. The system shall validate that all samples included in the file are sitting at Data Analysis.

2. **Consumable Management**
   a. The system shall provide the user with a mechanism for defining consumables to be tracked in the laboratory.

3. **Consumable Configuration**
   The system shall:
   a. Provide a mechanism for the user to define the consumables that shall be recorded at each phase of the process.

   b. Allow the user to specify an expiration (elapsed) time for the consumable.

   c. Allow the user to delete a consumable, however the identifier assigned to the consumable cannot be reused.

   d. Provide a mechanism for the user to identify the processes where the consumable is to be used.

   e. Allow the user to specify the storage conditions of the consumable.

4. **Receiving**
   a. The system shall provide the capability for the user to record consumable receipt.

b. The system shall generate the bar code for the received item.

c. The system shall validate the lot number of the received chemical.

d. The system shall warn the user if the lot number has been determined invalid.

e. The system shall validate the lot number. If the consumable has been defined as requiring QA/QC, then:

   i. If the lot number has passed QA/QC, then the lot shall be flagged as having passed.

   ii. If the lot number has failed QA/QC, the user shall have the option to retest the lot.

   iii. If this is a new lot number and QA/QC is required, the system shall not allow use of the consumable until the QA/QC process has completed successfully.

5. **Prepared Reagent Configuration**
   The system shall:
   a. Provide a mechanism for the user to define the components of 'Prepared reagents'.

   b. Provide the user with the ability to specify where the prepared reagent is to be used.

   c. Provide the user with the ability to record the preparation process.

   d. Validate any component that is used in the preparation process.

6. **QA/QC Configuration**
   The system shall:
   a. Provide the ability to indicate a consumable requires QA/QC testing before being used in the lab.

   b. Provide the ability for the user to define the list of reference items required for the QA/QC process.

   c. Provide the user with the ability to record the QA/QC process and to record the results.

7. **Consumable Rejection**
   The system shall:
   a. Provide a mechanism to allow the user to reject a consumable.

   b. Allow the user to reject a single instance of the consumable.

   c. Allow the user to reject the complete lot.

8. **Inventory Management**
   The system shall:
   a. Provide a mechanism to allow the user to track consumable inventory.

   b. Provide the user with the ability to set the minimum reorder point.

   c. Provide a mechanism for alerting the user when the stock in hand has reached or is below the minimum order point.

d. Provide a mechanism for generating a purchase order for selected consumables.

e. Provide a mechanism for managing information about suppliers.

f. Automatically reduce the stock in hand when a consumable is used for the first time.

W. Instrumentation

a. The system shall track the consumables, including lot number and information about expiration.

b. The system shall record pertinent information about the robot, plate (batch), and operator during each process involving a robot.

c. The system shall, at a minimum, depending on the type of robot, accept output files generated by the robot.

1. Instrument Maintenance Scheduling

a. The system must allow the user to define a maintenance schedule for each instrument type and model.

b. The Supervisor must be able to define a list of maintenance types.

c. The system must allow the user to indicate how often the maintenance occurs.

d. The system must allow for defining recurring maintenance schedules to occur daily, weekly, monthly, and annually

e. The system must allow the user to define a lead time (number of days before the scheduled maintenance will activate).

f. The system must allow the user to define maintenance instrument performance fields. When performing maintenance on an instrument with defined instrument performance fields, the system must expect the user to enter values for these fields.

g. The system must not limit the number of performance fields that can be added by the user.

h. The system must provide the user with the ability to define the required measurements. This should be an open text field.

i. The system must provide the user with the ability to specify reference consumable(s) (if any) that are required as part of the maintenance operation.

2. Recording Instrument Maintenance

a. The system must provide a mechanism for the user to be able to record maintenance of a specific instrument at any time including the ability to attach external files (such as a PDF) associated with the instrument.

b. The system must provide the Supervisor with the ability to force an override in the system for an instrument's status.

c. The system must provide an audit trail for all maintenance performed.

d. The system must provide the user with the ability to generate a report detailing the maintenance history.

e. The system will provide the user with the ability to generate and print a report indicating upcoming service.

f. The system shall also provide alerts if the instrument is due for maintenance.

X. Storage

1. Managing Storage Systems

a. The system shall provide the user with the ability to define and maintain a laboratory's storage system.

b. The system shall provide the user with the ability to define the laboratory's storage hierarchy.

c. The system shall provide the Supervisor with the ability to identify the objects that can be stored in the storage units.

d. The system shall provide the Supervisor with the ability to add specific storage units following the defined hierarchy.

e. The system shall allow the Supervisor to specify a unique bar code to identify the storage unit.

f. The supervisor shall also be able to assign access rights to a storage location (i.e. who is allowed to store and retrieve items from a storage location).

2. Storage and Retrieval

The system shall:

a. Provide the user with the ability to store any bar coded item that is used in the laboratory.

b. Validate that the item being stored is stored in the appropriate type of storage unit.

c. Validate that the storage unit is available for use.

d. Provide a mechanism for the user to retrieve an item from a storage unit.

e. Provide for automatic retrieval when an item is used.

f. Provide an audit trail detailing the storage and retrieval history of items.

g. Provide a mechanism for transferring the contents of one storage unit into a second unit.

h. Provide the user with the ability to query the system and report an item's storage location.

i. Report a consumable's location wherever a consumable is used in the laboratory. If an item is not stored it shall be reported as to the location of the consumable.

3. Control Sample Management

a. The system shall provide a mechanism to allow the user to define control sample profiles.

Y. Supervisor Functions

1. Security Management

The system shall:

a. Support Role-based Security

b. Allow users to create new roles.

c. Not impose any restrictions as to the number of new roles that can be created by the user

d. Allow for assigning No Access or Read/Write access to each role on a per module basis

e. Allow for assigning users to one or multiple roles

Z. Management Reports

The system shall come pre-configured with the following reports:

a. Activities Details

b. Batch Details

c. Call Sheet

d. Consumable Breakdown

e. Consumable Consumption

f. Consumable Cost

g. Consumable Inventory

h. DNA Processing Statistics

i. Extraction Type Statistics

j. Sample History

k. Serology

l. Serology Statistics

m. Upcoming Instrument Maintenance

Attachment B – Cost Table for Laboratory Information Management System

ITEM		
	PRICE	
1.0 Base LIMS Application Software (Including 1 year warranty /maintenance and support costs) The software and license is as follows: • STaCS-CW Enterprise Unlimited License • See corresponding License Agreement in Attachment C Breakdown of payments:	See below	
To be invoiced upon installation of COTS STaCS-CW on a State provided work station, completion of IT assessment and demonstration of COTS STaCS-CW Enterprise DNA to Forensic Science Division SME's		$400,000.00
To be invoiced upon final installation of the COTS STaCS-CW on the equipment identified in the IT assessment and final approval of user acceptance testing of the COTS STaCS-CW Enterprise DNA		$300,000.00
	TOTAL	$700,000.00
1.1 Additional Modules Not Included Above (I.e., Control Charting, Standards Tracking, Accounts Receivable, Report Writer, Bar Coding, etc.) LIST ALL IF NOT INCLUDED IN #1 ABOVE AND INDICATE IF CUSTOMIZATION IS REQUIRED.	Is Customization Required?	PRICE
No additional modules are included.	$0.00	$0.00
1.2 LIMS Customization Costs For All Not Covered in 1.0 & 1.1 Above Please see the Customization Services Costs details under "2.0 Implementation Services" below.	$0.00	$0.00
1.3 Other SOFTWARE	N/A	N/A
1.4 Cost per additional user License	N/A	N/A
1.5 Other Licensing Options	N/A	N/A
2.0 Implementation Services For the implementation services including customization work that may be required beyond the detailed requirements presented in Attachment A, a budget of $150,000.00 will be available for up to 1490 hours of services. **Note 1:** The requirements pertaining to items 2.4, 2.5, 2.6.3, 2.6.4, and 2.7.1 below will be discussed and assessed as part of the "Phase I – Software Customization" project phase as detailed in Section 1.104 Work and Deliverables, I.B Implementation. Note 2: Also included are two additional work categories below to account for the software testing (2.8 Quality Assurance Analyst) and the installation and configuration of the software at the client site (2.9 Infrastructure Engineer).	$150,000.00	1,490 hours of services
2.1 Programmer (Hourly Rate and Estimated # of Hours Proposed Based on Our Requirements)	Hourly rate: $140.96	603 hours

2.2 Systems Analyst (Hourly Rate and Estimated # of Hours Proposed Based on Our Requirements)	Hourly rate: $136.51	257.5 hours
2.3. Project Manager (Hourly Rate and Estimated # of Hours Proposed Based on Our Requirements)	Hourly rate: $176.57	113.5 hours
2.4 Instrument Interfaces	See Note 1 above	
2.5 Cost per Instrument for Additional Interfaces	See Note 1 above	
2.6 External System Integration		
2.6.1 Remote Laboratory Sites	Support for remote laboratory sites is supported by the proposed software license turnkey	
2.6.3 Document Management	See Note 1 above	
2.6.4 Accounts Receivable	See Note 1 above	
2.7 Report Development (11 Reports)		
2.7.1 Cost for Each Additional Report	See Note 1 above	
2.8 Quality Assurance Analyst	Hourly rate: $118.04	267 hours
2.9 Infrastructure Engineer	Hourly rate: $118.04	52.5 hours
3.0 Training		
3.1 Functional User Training	Hourly rate: $118.04	37.5 hours
3.2 System Administrator Training	Hourly rate: $118.04	15 hours
4.0 Documentation		
4.1 User Manual (Functional)	Hourly rate: $118.04	103 hours
4.2 User Manual (System Administrator)	Hourly rate: $118.04	41 hours

Progress Payment Schedule:

Software License:	Milestone #	Due	Amount
STaCS-CW Enterprise™ Unlimited License	1		
To be invoiced upon installation of COTS STaCS-CW Enterprise DNA on a State provided work station, completion of IT assessment and demonstration of STaCS-CW Enterprise DNA to Forensic Science Division SME's	1A		$400,000.00
To be invoiced upon final installation of the COTS STaCS-CW Enterprise DNA on the equipment identified in the IT assessment and final approval of user acceptance testing of the COTS STaCS-CW Enterprise DNA	1B		$300,000.00
		SUBTOTAL	**$700,000.00**
Progress Payments			
Implementation Services:			
System Requirements (Draft 1 Completed)	2	On acceptance	$15,000.00
System Requirements (Final Version Completed)	3	On acceptance	$7,500.00
Design & Development (Build #2 Completed)	4	On acceptance	$52,500.00
Design & Development (Final Build Completed)	5	On acceptance	$52,500.00
STaCS-CW Customization Acceptance	6	On acceptance	$22,500.00
		SUBTOTAL:	**$150,000.00**
		GRAND TOTAL	**$850,000.00**

Support and Maintenance Services :
The chart below is for continued Support and Maintenance services to be engaged after the warranty period.

STaCS-CW Enterprise Annual Support & Maintenance Fees	
Year	**Amount**
Year #1	included
Year #2	$75,000.00
Year #3	$76,125.00
TOTAL	$151,125.00

TOTAL PROJECT COSTS	
STaCS-CW Enterprise™ Unlimited License	**$700,000.00**
Implementation	**$150,000.00**
Year 2 maintenance	**$75,000.00**
Year 3 maintenance	**$76,125.00**
Total Contract value base plus Year 2 and 3 maintenance	**$1,001,125.00**