



STATE OF MICHIGAN PROCUREMENT
Department of Technology, Management, and Budget
525 W. Allegan, Lansing, MI 48933

NOTICE OF CONTRACT

NOTICE OF CONTRACT NO. 210000000218
between
THE STATE OF MICHIGAN
and

CONTRACTOR	Atlantic Group, LLC
	2223 Drake Ave. SW Suite 200
	Huntsville, AL 35805
	Tim Stagg
	(410) 310-9534
	Tim.stagg@atlantic.tech
	VS0146807

STATE	Program Manager	Everett Root	DTMB
		517-335-7180	
		roote@michigan.gov	
	Contract Administrator	Sean Regan	DTMB
		517-243-8459	
		regans@michigan.gov	

CONTRACT SUMMARY			
DESCRIPTION: Orthoimagery & LiDAR			
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
2/15/2021	2/14/2024	5, 1-year options	
PAYMENT TERMS		DELIVERY TIMEFRAME	
Net 45			
ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING
<input type="checkbox"/> P-card <input type="checkbox"/> Payment Request (PRC) <input type="checkbox"/> Other			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS			
MISCELLANEOUS INFORMATION			
ESTIMATED CONTRACT VALUE AT TIME OF EXECUTION			\$1,500,000.00

FOR THE CONTRACTOR:

The Atlantic Group, LLC

Authorized Agent Signature

Authorized Agent: Brian Mayfield

Date

FOR THE STATE:

Signature

Name & Title

Agency

Date

STATE OF MICHIGAN

MiSAIL Program

CONTRACT TERMS

This STANDARD CONTRACT ("**Contract**") is agreed to between the State of Michigan (the "**State**") and [Insert Company Name] ("**Contractor**"), a [Insert State & Entity Status, e.g., a Michigan corporation or a Texas limited liability company]. This Contract is effective on February 15, 2021 ("**Effective Date**"), and unless terminated, expires on February 14, 2024.

This Contract may be renewed for up to 5 additional 1-year period(s). Renewal is at the sole discretion of the State and will automatically extend the Term of this Contract. The State will document its exercise of renewal options via Contract Change Notice.]

1. Definitions. For the purposes of this Contract, the following terms have the following meanings:

"**Accept**" has the meaning set forth in **Section 20**.

"**Acceptance**" has the meaning set forth in **Section 20**.

"**Affiliate**" of a Person means any other Person that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such Person. For purposes of this definition, the term "control" (including the terms "controlled by" and "under common control with") means the direct or indirect ownership of more than fifty percent (50%) of the voting securities of a Person.

"**Allegedly Infringing Materials**" has the meaning set forth in **Section 33**.

"**Business Day**" means a day other than a Saturday, Sunday or other day on which the State is authorized or required by Law to be closed for business.

"**Business Owner**" is the individual appointed by the agency buyer to (a) act as the agency's representative in all matters relating to the Contract, and (b) co-sign off on notice of Acceptance. The Business Owner will be identified in the Statement of Work.

"Change" has the meaning set forth in **Section 5**.

"Change Notice" has the meaning set forth in **Section 5**.

"Change Proposal" has the meaning set forth in **Section 5**.

"Change Request" has the meaning set forth in **Section 5**.

"Confidential Information" has the meaning set forth in **Section 37.a**.

"**Configuration**" means State-specific changes made to the Software without Source Code or structural data model changes occurring.

"**Contract**" has the meaning set forth in the preamble.

“Contract Activities” refers to the includes the Services, Deliverables, delivery of commodities, or other contractual requirements set forth in **Schedule A – Statement of Work**, including any subsequent Statement(s) of Work, that the Contractor agrees to provide and the State agrees to purchase pursuant to the terms of this Contract.

“Contract Administrator” is the individual appointed by each party to (a) administer the terms of this Contract, and (b) approve any Change Notices under this Contract. Each party’s Contract Administrator will be identified in the Statement of Work.

“Contractor” has the meaning set forth in the preamble.

“Contractor’s Bid Response” means the Contractor’s proposal submitted in response to the State’s requests to obtain Contract Activities.

“Contractor Personnel” means all employees of Contractor or any Permitted Subcontractors involved in the performance of Services hereunder.

“Deliverables” means all materials, including, but not limited to Software, Documentation, written materials and commodities including without limitation images or image files of any kind or type, that Contractor is required to or otherwise does provide to the State under this Contract and otherwise in connection with any Services, including all items specifically identified as Deliverables in **Schedule A - Statement of Work**.

“Dispute Resolution Procedure” has the meaning set forth in **Section 50**.

“Documentation” means all generally available documentation relating to the Software, including all user manuals, operating manuals and other instructions, specifications, documents and materials, in any form or media, that describe any component, feature, requirement or other aspect of the Software or Hosted Services (as defined in **Schedule D**), including any functionality, testing, operation or use thereof.

“DTMB” means the Michigan Department of Technology, Management and Budget.

“Effective Date” has the meaning set forth in the preamble.

“Fees” means collectively all fees collected by the Contractor pursuant to the terms of this Contract.

“Financial Audit Period” has the meaning set forth in **Section 39**.

“Force Majeure” has the meaning set forth in **Section 49**.

“HIPAA” has the meaning set forth in **Section 44**.

“Intellectual Property Rights” means all or any of the following: (a) patents, patent disclosures, and inventions (whether patentable or not); (b) trademarks, service marks, trade dress, trade names, logos, corporate names, and domain names, together with all of the associated goodwill; (c) copyrights and copyrightable works (including computer programs), mask works and rights in data and databases; (d) trade secrets, know-how and other confidential information; and (e) all other intellectual property rights, in each case whether registered or unregistered

and including all applications for, and renewals or extensions of, such rights, and all similar or equivalent rights or forms of protection provided by applicable Law in any jurisdiction throughout the world.

“Law” means any statute, law, ordinance, regulation, rule, code, order, constitution, treaty, common law, judgment, decree or other requirement or rule of any federal, state, local or foreign government or political subdivision thereof, or any arbitrator, court or tribunal of competent jurisdiction.

“Loss or Losses” means all losses, damages, liabilities, deficiencies, claims, actions, judgments, settlements, interest, awards, penalties, fines, costs or expenses of whatever kind, including reasonable attorneys' fees and the costs of enforcing any right to indemnification hereunder and the cost of pursuing any insurance providers.

“Maintenance Release” means any update, upgrade, release or other adaptation or modification of the Software, including any updated Documentation, that Contractor may generally provide to its licensees from time to time during the Term, which may contain, among other things, error corrections, enhancements, improvements or other changes to the user interface, functionality, compatibility, capabilities, performance, efficiency or quality of the Software.

“New Version” means any new version of the Software that the Contractor may from time to time introduce and market generally as a distinct licensed product, as may be indicated by Contractor's designation of a new version number.

“PAT” means a document or product accessibility template, including any Information Technology Industry Council Voluntary Product Accessibility Template or VPAT®, that specifies how information and software products, such as websites, applications, software and associated content, conform to WCAG 2.0 Level AA.

“Permitted Subcontractor” has the meaning set forth in **Section 13**.

“Person” means an individual, corporation, partnership, joint venture, limited liability company, governmental authority, unincorporated organization, trust, association or other entity.

“Pricing” means any and all fees, rates and prices payable under this Contract, including pursuant to any Schedule or Exhibit hereto.

“Pricing Schedule” means the schedule attached as **Schedule B**, setting forth the Fees, rates and Pricing payable under this Contract.

“Project Manager” is the individual appointed by each party to (a) monitor and coordinate the day-to-day activities of this Contract, and (b) for the State, to co-sign off on its notice of Acceptance of the Deliverables. Each party's Project Manager will be identified in the Statement of Work.

“Representatives” means a party's employees, officers, directors, partners, shareholders, agents, attorneys, successors and permitted assigns.

“RFP” means the State's request designed to solicit responses for Contract Activities under this Contract.

“Software” means Contractor’s software set forth in the Statement of Work, and any Maintenance Releases or New Versions provided to the State and any Configurations made by or for the State pursuant to this Contract, and all copies of the foregoing permitted under this Contract and the License Agreement.

“Services” means any of the services Contractor is required to or otherwise does provide under this Contract, **Schedule A** - Statement of Work, **Schedule C**– Contractor Hosted Software and Services (if applicable).

“Source Code” means the human readable source code of the Software to which it relates, in the programming language in which the Software was written, together with all related flow charts and technical documentation, including a description of the procedure for generating object code, all of a level sufficient to enable a programmer reasonably fluent in such programming language to understand, build, operate, support, maintain and develop modifications, upgrades, updates, adaptations, enhancements, new versions and other derivative works and improvements of, and to develop computer programs compatible with, the Software.

“Site” means the physical location designated by the State in, or in accordance with, this Contract or the Statement of Work for delivery or installation of the Contract Activities.

“State” means the State of Michigan.

“State Data” has the meaning set forth in **Section 36.a**.

“State Materials” means all materials and information, including equipment, documents, data, know-how, ideas, methodologies, specifications, software, content and technology, in any form or media, directly or indirectly provided or made available to Contractor by or on behalf of the State in connection with this Contract.

“Statement of Work” means any statement of work entered into by the parties and attached as a schedule to this Contract. The initial Statement of Work is attached as **Schedule A**, and subsequent Statements of Work shall be sequentially identified and attached as Schedules A-1, A-2, A-3, etc.

“Stop Work Order” has the meaning set forth in **Section 27**.

“Term” has the meaning set forth in the preamble.

“Third-Party” means any Person other than the State or Contractor.

“Transition Period” has the meaning set forth in **Section 31**.

“Transition Responsibilities” has the meaning set forth in **Section 31**.

“Unauthorized Removal” has the meaning set forth in **Section 15**.

“Unauthorized Removal Credit” has the meaning set forth in **Section 15**.

“User Data” means any and all information reflecting the access or use of the Hosted Services by or on behalf of the State or any Authorized User, including any end user profile, visit, session, impression, metadata, click-through or click-stream data and any statistical or other analysis, information or data based on or derived from any of the foregoing.

“Warranty Period” means the period set forth in Schedule A, the Statement of Work, commencing on the date of acceptance of all Deliverables purchased pursuant to the terms of this Contract.

“WCAG 2.0 Level AA” means level AA of the World Wide Web Consortium Web Content Accessibility Guidelines version 2.0.

“Work Product” means all State-specific deliverables that Contractor is required to, or otherwise does, provide to the State under this Contract including but not limited to any images or image files of any kind or nature, application programming interfaces, written materials, computer scripts, software configuration, software customization, APIs, macros, user interfaces, reports, project management documents, forms, templates, and other State-specific documents and related materials together with all ideas, concepts, processes, and methodologies developed in connection with this Contract whether or not embodied in this Contract. Work Product does not include software.

- 2. Duties of Contractor.** Contractor must perform the Services and provide the Deliverables described in **Schedule A – Statement of Work**. An obligation to provide delivery of any commodity is considered a service and is a Contract Activity.

Contractor must furnish all labor, equipment, materials, and supplies necessary for the performance of the Contract Activities, and meet operational standards, unless otherwise specified in **Schedule A**.

Contractor must also be clearly identifiable while on State property by wearing identification issued by the State, and clearly identify themselves whenever making contact with the State.

- 3. Statement(s) of Work.** Contractor shall provide the Contract Activities pursuant to Statements of Work entered into under this Contract. No Statement of Work shall be effective unless signed by each party's Contract Administrator. The term of each Statement of Work shall commence on the parties' full execution of the Statement of Work and terminate when the parties have fully performed their obligations. The terms and conditions of this Contract will apply at all times to any Statements of Work entered into by the parties and attached as a schedule to this Contract. The State shall have the right to terminate such Statement of Work as set forth in **Sections 28 and 29**. Contractor acknowledges that time is of the essence with respect to Contractor's obligations under each Statement of Work and agrees that prompt and timely performance of all such obligations in accordance with this Contract and the Statements of Work is strictly required.
- 4. Statement of Work Requirements.** Each Statement of Work may include the following: (a) names and contact information for Contractor's Contract Administrator, Project Manager and other personnel; (b) names and contact information for the State's Contract Administrator, Project Manager and Business Owner; (c) a detailed description of the Services to be provided under this Contract, including any training obligations of Contractor; (d) a detailed description of the Deliverables to be provided under this Contract; (e) a description of all liquidated damages associated with this Contract, if any; and (f) a detailed description of all State Resources, if any, required to complete the Implementation Plan, if such a Plan is necessary.
- 5. Change Control Process.** The State may at any time request in writing (each, a “Change Request”) changes to the Statement of Work, including changes to the Contract Activities (each, a “Change”). Upon the State's submission of a Change Request, the parties will evaluate and implement all Changes in accordance with this **Section 5**. No Change will be effective until the parties have executed a Change Notice. Except as the State may request in its Change Request or otherwise in writing, Contractor must continue to perform its obligations in accordance with the Statement of Work pending negotiation and execution of a Change Notice. Contractor will use its best efforts to limit any delays or Fee increases from any Change to those necessary to perform the Change in accordance with the applicable Change Notice. Contractor may, on its own initiative and at its own expense, prepare and submit its own Change Request to the State. However, the State will be under no obligation to approve or otherwise respond to a Change Request initiated by Contractor.

This Contract may not be amended except by signed agreement between the parties (a **“Contract Change Notice”**). Notwithstanding the foregoing, no subsequent Statement of Work or Contract Change Notice executed

after the Effective Date will be construed to amend this Contract unless it specifically states its intent to do so and cites the section or sections amended

6. **Notices.** All notices and other communications required or permitted under this Contract must be in writing and will be considered given and received: (a) when verified by written receipt if sent by courier; (b) when actually received if sent by mail without verification of receipt; or (c) when verified by automated receipt or electronic logs if sent by facsimile or email.

If to State:	If to Contractor:
Sean Regan 525 W. Allegan Street Lansing, MI 48933 regans@michigan.gov 517-243-8459	Brian Mayfield 2223 Drake Ave SW, Suite 200 Huntsville, AL 35805 brian.mayfield@atlantic.tech 256-971-9991

7. **Performance Guarantee.** Contractor must at all times have financial resources sufficient, in the opinion of the State, to ensure performance of the Contract and must provide proof upon request. The State may require a performance bond (as specified in Schedule A) if, in the opinion of the State, it will ensure performance of the Contract.

8. **Insurance Requirements.** Contractor, at its sole expense, must maintain the insurance coverage identified below. All required insurance must: (i) protect the State from claims that arise out of, are alleged to arise out of, or otherwise result from Contractor's or subcontractor's performance; (ii) be primary and non-contributing to any comparable liability insurance (including self-insurance) carried by the State; and (iii) be provided by a company with an A.M. Best rating of "A-" or better, and a financial size of VII or better.

Required Limits	Additional Requirements
Commercial General Liability Insurance	
<u>Minimum Limits:</u> \$1,000,000 Each Occurrence \$1,000,000 Personal & Advertising Injury \$2,000,000 General Aggregate \$2,000,000 Products/Completed Operations	Contractor must have their policy endorsed to add "the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents" as additional insureds using endorsement CG 20 10 11 85, or both CG 2010 07 04 and CG 2037 07 04.
Automobile Liability Insurance	
<u>Minimum Limits:</u> \$1,000,000 Per Accident	Contractor must have their policy: (1) endorsed to add "the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents" as additional insureds; and (2) include Hired and Non-Owned Automobile coverage.

Aviation Insurance	
<u>Aircraft Liability Minimum Limits:</u> \$1,000,000 Each Occurrence \$2,000,000 General Aggregate	Contractor must have their policy: (1) endorsed to add "the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees, and agents" as additional insureds.
Workers' Compensation Insurance	
<u>Minimum Limits:</u> Coverage according to applicable laws governing work activities	Waiver of subrogation, except where waiver is prohibited by law.
Employers Liability Insurance	
<u>Minimum Limits:</u> \$500,000 Each Accident \$500,000 Each Employee by Disease \$500,000 Aggregate Disease	

If any required policies provide claims-made coverage, the Contractor must: (i) provide coverage with a retroactive date before the Effective Date of the Contract or the beginning of Contract Activities; (ii) maintain coverage and provide evidence of coverage for at least three (3) years after completion of the Contract Activities; and (iii) if coverage is cancelled or not renewed, and not replaced with another claims-made policy form with a retroactive date prior to the Effective Date of this Contract, Contractor must purchase extended reporting coverage for a minimum of three (3) years after completion of work.

Contractor must: (i) provide insurance certificates to the Contract Administrator, containing the agreement or delivery order number, at Contract formation and within twenty (20) calendar days of the expiration date of the applicable policies; (ii) require that subcontractors maintain the required insurances contained in this Section; (iii) notify the Contract Administrator within five (5) business days if any policy is cancelled; and (iv) waive all rights against the State for damages covered by insurance. Failure to maintain the required insurance does not limit this waiver.

This Section is not intended to and is not to be construed in any manner as waiving, restricting or limiting the liability of either party for any obligations under this Contract (including any provisions hereof requiring Contractor to indemnify, defend and hold harmless the State).

9. **Administrative Fee and Reporting.** Contractor must pay an administrative fee of 1% on all payments made to Contractor under the Contract including transactions with the State (including its departments, divisions, agencies, offices, and commissions), MiDEAL members, and other states (including governmental subdivisions and authorized entities). Administrative fee payments must be made by check payable to the State of Michigan and mailed to:

Department of Technology, Management and Budget

Cashiering

P.O. Box 30681

Lansing, MI 48909

Contractor must submit an itemized purchasing activity report, which includes at a minimum, the name of the purchasing entity and the total dollar volume in sales. Reports should be mailed to MiDeal@michigan.gov.

The administrative fee and purchasing activity report are due within 30 calendar days from the last day of each calendar quarter.

- 10. Extended Purchasing Program.** This contract is extended to MiDEAL members. MiDEAL members include local units of government, school districts, universities, community colleges, and nonprofit hospitals. A current list of MiDEAL members is available at www.michigan.gov/mideal. Upon written agreement between the State and Contractor, this contract may also be extended to: (a) State of Michigan employees and (b) other states (including governmental subdivisions and authorized entities).

If extended, Contractor must supply all Contract Activities at the established Contract prices and terms. The State reserves the right to impose an administrative fee and negotiate additional discounts based on any increased volume generated by such extensions.

Contractor must submit invoices to, and receive payment from, extended purchasing program members on a direct and individual basis.

- 11. Independent Contractor.** Contractor is an independent contractor and assumes all rights, obligations and liabilities set forth in this Contract. Contractor, its employees, and agents will not be considered employees of the State. No partnership or joint venture relationship is created by virtue of this Contract. Contractor, and not the State, is responsible for the payment of wages, benefits and taxes of Contractor's employees and any subcontractors. Prior performance does not modify Contractor's status as an independent contractor.
- 12. Intellectual Property Rights.** Contractor hereby acknowledges that the State is and will be the sole and exclusive owner of all right, title, and interest in the Work Product produced as part of the Contract Activities, and all associated intellectual property rights, if any. In general, Work Product constitutes works made for hire as defined in Section 101 of the Copyright Act of 1976. To the extent any Work Product, and related intellectual property do not qualify as works made for hire under the Copyright Act, Contractor will, and hereby does, immediately on its creation, assign, transfer and otherwise convey to the State, irrevocably and in perpetuity, throughout the universe, all right, title and interest in and to the Work Product, including all intellectual property rights therein. Contractor also irrevocably waives any and all claims Contractor may have now or hereafter have in any jurisdiction to so called "moral rights" or rights of *droit moral* with respect to the Work Product. If Contract Activities includes the purchase or use of software, such purchase, use, or access to Software shall be subject to **Schedules C, D, or E** of this Contract, as applicable.
- 13. Subcontracting.** Contractor will not, without the prior written approval of the State, which consent may be given or withheld in the State's sole discretion, engage any Third-Party to perform Services. The State's approval of any such Third-Party (each approved Third-Party, a "**Permitted Subcontractor**") does not relieve Contractor of its representations, warranties or obligations under this Contract. Without limiting the foregoing, Contractor will: (a) be responsible and liable for the acts and omissions of each such Permitted Subcontractor (including such

Permitted Subcontractor's employees who, to the extent providing Services or Deliverables, shall be deemed Contractor Personnel) to the same extent as if such acts or omissions were by Contractor or its employees; (b) name the State a third-party beneficiary under Contractor's Contract with each Permitted Subcontractor with respect to the Services; (c) be responsible for all fees and expenses payable to, by or on behalf of each Permitted Subcontractor in connection with this Contract, including, if applicable, withholding of income taxes, and the payment and withholding of social security and other payroll taxes, unemployment insurance, workers' compensation insurance payments and disability benefits; and (d) notify the State of the location of the Permitted Subcontractor and indicate if it is located within the continental United States.

14. **Staffing.** Contractor is solely responsible for all Contractor Personnel and for the payment of their compensation, including, if applicable, withholding of income taxes, and the payment and withholding of social security and other payroll taxes, unemployment insurance, workers' compensation insurance payments and disability benefits. The State's Contract Administrator may require Contractor to remove or reassign personnel by providing a notice to Contractor.
15. **RESERVED**
16. **Background Checks.** Pursuant to Michigan law, all agencies subject to IRS Pub. 1075 are required to ask the Michigan State Police to perform fingerprint background checks on all employees, including Contractor and Subcontractor employees, who may have access to any database of information maintained by the federal government that contains confidential or personal information, including, but not limited to, federal tax information. Further, pursuant to Michigan law, any agency described above is prohibited from providing Contractors or Subcontractors with the result of such background check. For more information, please see Michigan Public Act 427 of 2018. Upon request, Contractor must perform background checks on all employees and subcontractors and its employees prior to their assignment. The scope is at the discretion of the State and documentation must be provided as requested. Contractor is responsible for all costs associated with the requested background checks. The State, in its sole discretion, may also perform background checks.
17. **Assignment.** Contractor may not assign this Contract to any other party without the prior approval of the State. Upon notice to Contractor, the State, in its sole discretion, may assign in whole or in part, its rights or responsibilities under this Contract to any other party. If the State determines that a novation of the Contract to a third-party is necessary, Contractor will agree to the novation and provide all necessary documentation and signatures.
18. **Change of Control.** Contractor will notify within 30 days of any public announcement, or otherwise once legally permitted to do so, the State of a change in Contractor's organizational structure or ownership. For purposes of this Contract, a change in control means any of the following: (a) a sale of more than 50% of Contractor's stock; (b) a sale of substantially all of Contractor's assets; (c) a change in a majority of Contractor's board members; (d) consummation of a merger or consolidation of Contractor with any other entity; (e) a change in ownership through a transaction or series of transactions; (f) or the board (or the stockholders) approves a plan of complete liquidation. A change of control does not include any consolidation or merger effected exclusively to change the domicile of Contractor, or any transaction or series of transactions principally for bona fide equity financing purposes.

In the event of a change of control, Contractor must require the successor to assume this Contract and all of its obligations under this Contract.
19. **Ordering.** Contractor is not authorized to begin performance until receipt of authorization as identified in Schedule A.
20. **Acceptance.** Unless otherwise provided in the Statement of Work or an applicable schedule, Contract Activities are subject to inspection and testing by the State within 30 calendar days of the State's receipt of them ("**State Review Period**"), unless otherwise provided in Schedule A. If the Contract Activities are not fully accepted by the State, the State will notify Contractor by the end of the State Review Period that either: (a) the Contract Activities are accepted, but noted deficiencies must be corrected; or (b) the Contract Activities are rejected. If the State finds material deficiencies, it may: (i) reject the Contract Activities without performing any further inspections; (ii) demand performance at no additional cost; or (iii) terminate this Contract in accordance with **Section 28**, Termination for Cause.

Within 10 business days from the date of Contractor's receipt of notification of acceptance with deficiencies or rejection of any Contract Activities, Contractor must cure, at no additional cost, the deficiency and deliver

unequivocally acceptable Contract Activities to the State. If acceptance with deficiencies or rejection of the Contract Activities impacts the content or delivery of other non-completed Contract Activities, the parties' respective Program Managers must determine an agreed to number of days for re-submission that minimizes the overall impact to the Contract. However, nothing herein affects, alters, or relieves Contractor of its obligations to correct deficiencies in accordance with the time response standards set forth in this Contract.

If Contractor is unable or refuses to correct the deficiency within the time response standards set forth in this Contract, the State may cancel the order in whole or in part. The State, or a third-party identified by the State, may perform the Contract Activities and recover the difference between the cost to cure and the Contract price plus an additional 10% administrative fee.

21. **Delivery.** Contractor must deliver all applicable Contract Activities F.O.B. destination, within the State premises with transportation and handling charges paid by Contractor, unless otherwise specified in Schedule A. All containers and packaging become the State's exclusive property upon acceptance.
22. **Risk of Loss and Title.** Until final acceptance, title and risk of loss or damage to Contract Activities remains with Contractor. Contractor is responsible for filing, processing, and collecting all damage claims. The State will record and report to Contractor any evidence of visible damage. If the State rejects the Contract Activities, Contractor must remove them from the premises within 10 calendar days after notification of rejection. The risk of loss of rejected or non-conforming Contract Activities remains with Contractor. Rejected Contract Activities not removed by Contractor within 10 calendar days will be deemed abandoned by Contractor, and the State will have the right to dispose of it as its own property. Contractor must reimburse the State for costs and expenses incurred in storing or effecting removal or disposition of rejected Contract Activities.
23. **Warranty Period.** The warranty period, if applicable, for any Contractor Hosted Software is a fixed period commencing on the date specified in **Schedule A**. If the Contract Activities do not function as warranted during the warranty period, the State may reject or return such non-conforming Contractor Hosted Software to the Contractor for a full refund.
24. **Terms of Payment.** Invoices must conform to the requirements communicated from time-to-time by the State. All undisputed amounts are payable within 45 days of the State's receipt. Contractor may only charge for Contract Activities performed as specified in **Schedule A**. Invoices must include an itemized statement of all charges. The State is exempt from State sales tax for direct purchases and may be exempt from federal excise tax, if Services purchased under this Agreement are for the State's exclusive use. All prices are exclusive of taxes, and Contractor is responsible for all sales, use and excise taxes, and any other similar taxes, duties and charges of any kind imposed by any federal, state, or local governmental entity on any amounts payable by the State under this Contract.

The State has the right to withhold payment of any disputed amounts until the parties agree as to the validity of the disputed amount. The State will notify Contractor of any dispute within a reasonable time. Payment by the State will not constitute a waiver of any rights as to Contractor's continuing obligations, including claims for deficiencies or substandard Contract Activities. Contractor's acceptance of final payment by the State constitutes 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 disputed.

The State will only disburse payments under this Contract through Electronic Funds Transfer (EFT). Contractor must register with the State at <http://www.michigan.gov/SIGMAVSS> to receive electronic fund transfer payments. If Contractor does not register, the State is not liable for failure to provide payment. Without prejudice to any other right or remedy it may have, the State reserves the right to set off at any time any amount then due and owing to it by Contractor against any amount payable by the State to Contractor under this Contract.

25. **Payment Disputes.** The State may withhold from payment any and all payments and amounts the State disputes in good faith, pending resolution of such dispute, provided that the State: (a) timely renders all payments and amounts that are not in dispute; notifies Contractor of the dispute prior to the due date for payment, specifying in such notice: (i) the amount in dispute; and (ii) the reason for the dispute set out in sufficient detail to facilitate investigation by Contractor and resolution by the parties; (b) works with Contractor in good faith to resolve the dispute promptly; and (c) promptly pays any amount determined to be payable by resolution of the dispute.

Contractor shall not withhold any Contract Activities or fail to perform any obligation hereunder by reason of the State's good faith withholding of any payment or amount in accordance with this **Section 25** or any dispute arising therefrom.

26. **Liquidated Damages.** Liquidated damages, if applicable, will be assessed as described in **Schedule A**. Amounts due the State as liquidated damages may be set off against any Fees payable to Contractor under this Contract, or the State may bill Contractor as a separate item and Contractor will promptly make payments on such bills.
27. **Stop Work Order.** The State may suspend any or all activities under the Contract at any time. The State will provide Contractor a written stop work order detailing the suspension. Contractor must comply with the stop work order upon receipt. Within 90 calendar days, or any longer period agreed to by Contractor, the State will either: (a) issue a notice authorizing Contractor to resume work, or (b) terminate the Contract or delivery order. The State will not pay for Contract Activities, Contractor's lost profits, or any additional compensation during a stop work period.
28. **Termination for Cause.** The State may terminate this Contract for cause, in whole or in part, if Contractor, as determined by the State: (a) endangers the value, integrity, or security of any location, data, or personnel; (b) becomes insolvent, petitions for bankruptcy court proceedings, or has an involuntary bankruptcy proceeding filed against it by any creditor; (c) engages in any conduct that may expose the State to liability; (d) breaches any of its material duties or obligations; or (e) fails to cure a breach within the time stated in a notice of breach. Any reference to specific breaches being material breaches within this Contract will not be construed to mean that other breaches are not material.

If the State terminates this Contract under this Section, the State will issue a termination notice specifying whether Contractor must: (a) cease performance immediately, or (b) continue to perform for a specified period. If it is later determined that Contractor was not in breach of the Contract, the termination will be deemed to have been a Termination for Convenience, effective as of the same date, and the rights and obligations of the parties will be limited to those provided in **Section 29**, Termination for Convenience.

The State will only pay for amounts due to Contractor for Contract Activities accepted by the State on or before the date of termination, subject to the State's right to set off any amounts owed by the Contractor for the State's reasonable costs in terminating this Contract. The Contractor must pay all reasonable costs incurred by the State in terminating this Contract for cause, including administrative costs, attorneys' fees, court costs, transition costs, and any costs the State incurs to procure the Contract Activities from other sources.

29. **Termination for Convenience.** The State may immediately terminate this Contract in whole or in part without penalty and for any reason, including but not limited to, appropriation or budget shortfalls. The termination notice will specify whether Contractor must: (a) cease performance of the Contract Activities immediately, or (b) continue to perform the Contract Activities in accordance with **Section 30**, Transition Responsibilities. If the State terminates this Contract for convenience, the State will pay all reasonable costs, as determined by the State, for State approved Transition Responsibilities.
30. **Effect of Termination.** Upon and after the termination or expiration of this Contract or one or more Statements of Work for any or no reason: (a) Contractor will be obligated to perform all Transition Responsibilities specified in **Section 31**; (b) all licenses granted to Contractor in State Data will immediately and automatically also terminate. Contractor must promptly return to the State all State Data not required by Contractor for its Transition Responsibilities, if any; (c) Contractor will: (i) return to the State all documents and tangible materials (and any copies) containing, reflecting, incorporating, or based on the State's Confidential Information; (ii) permanently erase the State's Confidential Information from its computer systems; and (iii) certify in writing to the State that it has complied with the requirements of this **Section 30** in each case to the extent such materials are not required by Contractor for Transition Responsibilities, if any.
31. **Transition Responsibilities.** Upon termination or expiration of this Contract for any reason, Contractor must, for a period of time specified by the State (not to exceed 90 calendar days, "**Transition Period**"), provide all reasonable transition assistance requested by the State, to allow for the expired or terminated portion of the Contract Activities to continue without interruption or adverse effect, and to facilitate the orderly transfer of such Contract Activities to the State or its designees. Such transition assistance may include, but is not limited to: (a) continuing to perform the Contract Activities at the established Contract rates; (b) taking all reasonable and

necessary measures to transition performance of the work, including all applicable Contract Activities, training, equipment, software, leases, reports and other documentation, to the State or the State's designee; (c) taking all necessary and appropriate steps, or such other action as the State may direct, to preserve, maintain, protect, or return to the State all materials, data, property, and confidential information provided directly or indirectly to Contractor by any entity, agent, vendor, or employee of the State; (d) transferring title in and delivering to the State, at the State's discretion, all completed or partially completed deliverables prepared under this Contract as of the Contract termination date; and (e) preparing an accurate accounting from which the State and Contractor may reconcile all outstanding accounts (collectively, "**Transition Responsibilities**"). This Contract will automatically be extended through the end of the transition period.

- 32. General Indemnification.** Contractor must defend, indemnify and hold the State, its departments, divisions, agencies, offices, commissions, officers, and employees harmless, without limitation, from and against any and all actions, claims, losses, liabilities, damages, costs, attorney fees, and expenses (including those required to establish the right to indemnification), arising out of or relating to: (a) any breach by Contractor (or any of Contractor's employees, agents, subcontractors, or by anyone else for whose acts any of them may be liable) of any of the promises, agreements, representations, warranties, or insurance requirements contained in this Contract; (b) any infringement, misappropriation, or other violation of any intellectual property right or other right of any third-party; (c) any bodily injury, death, or damage to real or tangible personal property occurring wholly or in part due to action or inaction by Contractor (or any of Contractor's employees, agents, subcontractors, or by anyone else for whose acts any of them may be liable); and (d) any acts or omissions of Contractor (or any of Contractor's employees, agents, subcontractors, or by anyone else for whose acts any of them may be liable).

The State will notify Contractor in writing if indemnification is sought; however, failure to do so will not relieve Contractor, except to the extent that Contractor is materially prejudiced. Contractor must, to the satisfaction of the State, demonstrate its financial ability to carry out these obligations.

The State is entitled to: (i) regular updates on proceeding status; (ii) participate in the defense of the proceeding; (iii) employ its own counsel; and to (iv) retain control of the defense if the State deems necessary. Contractor will not, without the State's written consent (not to be unreasonably withheld), settle, compromise, or consent to the entry of any judgment in or otherwise seek to terminate any claim, action, or proceeding. To the extent that any State employee, official, or law may be involved or challenged, the State may, at its own expense, control the defense of that portion of the claim.

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. An attorney designated to represent the State may not do so until approved by the Michigan Attorney General and appointed as a Special Assistant Attorney General.

- 33. Infringement Remedies.** If, in either party's opinion, any piece of equipment, software, commodity, or service supplied by Contractor or its subcontractors, or its operation, use or reproduction, is likely to become the subject of a copyright, patent, trademark, or trade secret infringement claim, Contractor must, at its expense: (a) procure for the State the right to continue using the equipment, software, commodity, or service, or if this option is not reasonably available to Contractor, (b) replace or modify the same so that it becomes non-infringing; or (c) accept its return by the State with appropriate credits to the State against 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.
- 34. Limitation of Liability and Disclaimer of Damages.** THE STATE WILL NOT BE LIABLE, REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY OR BY STATUTE OR OTHERWISE, FOR ANY CLAIM RELATED TO OR ARISING UNDER THIS CONTRACT FOR CONSEQUENTIAL, INCIDENTAL, INDIRECT, OR SPECIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS AND LOST BUSINESS OPPORTUNITIES. IN NO EVENT WILL THE STATE'S AGGREGATE LIABILITY TO CONTRACTOR UNDER THIS CONTRACT, REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY OR BY STATUTE OR OTHERWISE, FOR ANY CLAIM RELATED TO OR ARISING UNDER THIS CONTRACT, EXCEED THE MAXIMUM AMOUNT OF FEES PAYABLE UNDER THIS CONTRACT.

35. **Disclosure of Litigation, or Other Proceeding.** Contractor must notify the State within 14 calendar days of receiving notice of any litigation, investigation, arbitration, or other proceeding (collectively, "**Proceeding**") involving Contractor, a subcontractor, or an officer or director of Contractor or subcontractor, that arises during the term of the Contract, including: (a) a criminal Proceeding; (b) a parole or probation Proceeding; (c) a Proceeding under the Sarbanes-Oxley Act; (d) a civil Proceeding involving: (1) a claim that might reasonably be expected to adversely affect Contractor's viability or financial stability; or (2) a governmental or public entity's claim or written allegation of fraud; or (e) a Proceeding involving any license that Contractor is required to possess in order to perform under this Contract.
36. **State Data.** If the Contract Activities includes the hosting of State Data with Contractor or Permitted Subcontractors, Contractor must also comply with **Schedule D – Data Hosting and Security for Hosted Software and Services** of this Contract
- a. Ownership. The State's data ("**State Data**," which will be treated by Contractor as Confidential Information) includes: (a) the State's data collected, used, processed, stored, or generated as the result of the Contract Activities; (b) personally identifiable information ("**PII**") collected, used, processed, stored, or generated as the result of the Contract Activities, including, without limitation, any information that identifies an individual, such as an individual's social security number or other government-issued identification number, date of birth, address, telephone number, biometric data, mother's maiden name, email address, credit card information, or an individual's name in combination with any other of the elements here listed; and, (c) personal health information ("**PHI**") collected, used, processed, stored, or generated as the result of the Contract Activities, which is defined under the Health Insurance Portability and Accountability Act (HIPAA) and its related rules and regulations. State Data is and will remain the sole and exclusive property of the State and all right, title, and interest in the same is reserved by the State. This Section survives the termination of this Contract.
 - b. Contractor Use of State Data. Contractor is provided a limited license to State Data for the sole and exclusive purpose of providing the Contract Activities, including a license to collect, process, store, generate, and display State Data only to the extent necessary in the provision of the Contract Activities. Contractor must: (a) keep and maintain State Data in strict confidence, using such degree of care as is appropriate and consistent with its obligations as further described in this Contract, applicable SOM PSP's, and applicable law to avoid unauthorized access, use, disclosure, or loss; (b) use and disclose State Data solely and exclusively for the purpose of providing the Contract Activities, such use and disclosure being in accordance with this Contract, any applicable Statement of Work, and applicable law; and (c) not use, sell, rent, transfer, distribute, or otherwise disclose or make available State Data for Contractor's own purposes or for the benefit of anyone other than the State without the State's prior written consent. This Section survives the termination of this Contract.
 - c. Extraction of State Data. Contractor must, within five (5) business days of the State's request, provide the State, without charge and without any conditions or contingencies whatsoever (including but not limited to the payment of any fees due to Contractor), an extract of the State Data in the format specified by the State.
 - d. Backup and Recovery of State Data. Unless otherwise specified in Schedule A, Contractor is responsible for maintaining a backup of State Data and for an orderly and timely recovery of such data. Unless otherwise described in Schedule A, Contractor must maintain a contemporaneous backup of State Data that can be recovered within two (2) hours at any point in time.
 - e. Loss or Compromise of Data. In the event of any act, error or omission, negligence, misconduct, or breach on the part of Contractor that compromises or is suspected to compromise the security, confidentiality, or integrity of State Data or the physical, technical, administrative, or organizational safeguards put in place by Contractor that relate to the protection of the security, confidentiality, or integrity of State Data, Contractor must, as applicable: (a) notify the State as soon as practicable but no later than twenty-four (24) hours of becoming aware of such occurrence; (b) cooperate with the State in investigating the occurrence, including making available all relevant records, logs, files, data reporting, and other materials required to comply with applicable law or as otherwise required by the State; (c) in the case of PII or PHI, at the State's sole election, (i) with approval and assistance from the State, notify the affected individuals who comprise the PII or PHI as soon as practicable but no later than is required to comply with applicable law, or, in the absence of any legally required notification period, within five (5) calendar days of the occurrence; or (ii) reimburse the State for any costs in notifying the affected individuals; (d) in the case of PII, provide third-party credit and identity monitoring services to each of the affected individuals who comprise the PII for the period required to comply with applicable law, or, in the absence of any legally required monitoring services, for no less than twenty-four (24)

months following the date of notification to such individuals; (e) perform or take any other actions required to comply with applicable law as a result of the occurrence; (f) pay for any costs associated with the occurrence, including but not limited to any costs incurred by the State in investigating and resolving the occurrence, including reasonable attorney's fees associated with such investigation and resolution; (g) without limiting Contractor's obligations of indemnification as further described in this Contract, indemnify, defend, and hold harmless the State for any and all claims, including reasonable attorneys' fees, costs, and incidental expenses, which may be suffered by, accrued against, charged to, or recoverable from the State in connection with the occurrence; (h) be responsible for recreating lost State Data in the manner and on the schedule set by the State without charge to the State; and (i) provide to the State a detailed plan within ten (10) calendar days of the occurrence describing the measures Contractor will undertake to prevent a future occurrence. Notification to affected individuals, as described above, must comply with applicable law, be written in plain language, not be tangentially used for any solicitation purposes, and contain, at a minimum: name and contact information of Contractor's representative; a description of the nature of the loss; a list of the types of data involved; the known or approximate date of the loss; how such loss may affect the affected individual; what steps Contractor has taken to protect the affected individual; what steps the affected individual can take to protect himself or herself; contact information for major credit card reporting agencies; and, information regarding the credit and identity monitoring services to be provided by Contractor. The State will have the option to review and approve any notification sent to affected individuals prior to its delivery. Notification to any other party, including but not limited to public media outlets, must be reviewed and approved by the State in writing prior to its dissemination. The parties agree that any damages relating to a breach of this **Section 36** are to be considered direct damages and not consequential damages. This section survives termination or expiration of this Contract.

- f. State's Governance, Risk and Compliance (GRC) platform. Contractor is required to assist the State, at no additional cost, with development, completion and on-going maintenance of a system security plan (SSP) using the State's automated governance, risk and compliance (GRC) platform, which requires Contractor to submit evidence, upon request from the State, in order to validate Contractor's security controls within two weeks of the State's request. On an annual basis, or as otherwise required by the State such as for significant changes, re-assessment of the system's controls will be required to receive and maintain authority to operate (ATO). All identified risks from the SSP will be remediated through a Plan of Action and Milestones (POAM) process with remediation time frames based on the risk level of the identified risk. For all findings associated with the Contractor's solution, at no additional cost, Contractor will be required to create or assist with the creation of State approved POAMs and perform related remediation activities. The State will make any decisions on acceptable risk, Contractor may request risk acceptance, supported by compensating controls, however only the State may formally accept risk. Failure to comply with this section will be deemed a material breach of the Contract.

37. Non-Disclosure of Confidential Information. The parties acknowledge that each party may be exposed to or acquire communication or data of the other party that is confidential, privileged communication not intended to be disclosed to third parties. The provisions of this Section survive the termination of this Contract.

- a. Meaning of Confidential Information. For the purposes of this Contract, the term "**Confidential Information**" means all information and documentation of a party that: (a) has been marked "confidential" or with words of similar meaning, at the time of disclosure by such party; (b) if disclosed orally or not marked "confidential" or with words of similar meaning, was subsequently summarized in writing by the disclosing party and marked "confidential" or with words of similar meaning; and, (c) should reasonably be recognized as confidential information of the disclosing party. The term "Confidential Information" does not include any information or documentation that was: (a) subject to disclosure under the Michigan Freedom of Information Act (FOIA); (b) already in the possession of the receiving party without an obligation of confidentiality; (c) developed independently by the receiving party, as demonstrated by the receiving party, without violating the disclosing party's proprietary rights; (d) obtained from a source other than the disclosing party without an obligation of confidentiality; or, (e) publicly available when received, or thereafter became publicly available (other than through any unauthorized disclosure by, through, or on behalf of, the receiving party). For purposes of this Contract, in all cases and for all matters, State Data is deemed to be Confidential Information.
- b. Obligation of Confidentiality. The parties agree to hold all Confidential Information in strict confidence and not to copy, reproduce, sell, transfer, or otherwise dispose of, give or disclose such Confidential Information to third parties other than employees, agents, or subcontractors of a party who have a need to know in connection with this Contract or to use such Confidential Information for any purposes whatsoever other than the performance of this Contract. The parties agree to advise and require their respective employees, agents, and

subcontractors of their obligations to keep all Confidential Information confidential. Disclosure to 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 responsibilities; 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 or any subcontractor may be required to execute a separate agreement to be bound by the provisions of this Section.

- c. Cooperation to Prevent Disclosure of Confidential Information. Each party must use its best efforts to assist the other party in identifying and preventing any unauthorized use or disclosure of any Confidential Information. Without limiting the foregoing, each party must advise the other party immediately in the event either party learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Contract and each party will cooperate with the other party in seeking injunctive or other equitable relief against any such person.
- d. Remedies for Breach of Obligation of Confidentiality. Each party acknowledges that breach of its obligation of confidentiality may give rise to irreparable injury to the other party, which damage may be inadequately compensable in the form of monetary damages. Accordingly, a party may seek and obtain injunctive relief against the breach or threatened breach of the foregoing undertakings, in addition to any other legal remedies which may be available, to include, in the case of the State, at the sole election of the State, the immediate termination, without liability to the State, of this Contract or any Statement of Work corresponding to the breach or threatened breach.
- e. Surrender of Confidential Information upon Termination. Upon termination of this Contract or a Statement of Work, in whole or in part, each party must, within 5 calendar days from the date of termination, return to the other party any and all Confidential Information received from the other party, or created or received by a party on behalf of the other party, which are in such party's possession, custody, or control; provided, however, that Contractor must return State Data to the State following the timeframe and procedure described further in this Contract. Should Contractor or the State determine that the return of any Confidential Information is not feasible, such party must destroy the Confidential Information and must certify the same in writing within 5 calendar days from the date of termination to the other party. However, the State's legal ability to destroy Contractor data may be restricted by its retention and disposal schedule, in which case Contractor's Confidential Information will be destroyed after the retention period expires.

38. Data Privacy and Information Security.

- a. Undertaking by Contractor. Without limiting Contractor's obligation of confidentiality as further described, Contractor is responsible for establishing and maintaining a data privacy and information security program, including physical, technical, administrative, and organizational safeguards, that is designed to: (a) ensure the security and confidentiality of the State Data; (b) protect against any anticipated threats or hazards to the security or integrity of the State Data; (c) protect against unauthorized disclosure, access to, or use of the State Data; (d) ensure the proper disposal of State Data; and (e) ensure that all employees, agents, and subcontractors of Contractor, if any, comply with all of the foregoing. In no case will the safeguards of Contractor's data privacy and information security program be less stringent than the safeguards used by the State, and Contractor must at all times comply with all applicable State IT policies and standards, which are available to Contractor upon request.
- b. Audit by Contractor. No less than annually, Contractor must conduct a comprehensive independent third-party audit of its data privacy and information security program and provide such audit findings to the State.
- c. Right of Audit by the State. Without limiting any other audit rights of the State, the State has the right to review Contractor's data privacy and information security program prior to the commencement of Contract Activities and from time to time during the term of this Contract. During the providing of the Contract Activities, on an ongoing basis from time to time and without notice, the State, at its own expense, is entitled to perform, or to have performed, an on-site audit of Contractor's data privacy and information security program. In lieu of an on-site audit, upon request by the State, Contractor agrees to complete, within 45 calendar days of receipt, an audit questionnaire provided by the State regarding Contractor's data privacy and information security program.
- d. Audit Findings. Contractor must implement any required safeguards as identified by the State or by any audit of Contractor's data privacy and information security program.

- e. State's Right to Termination for Deficiencies. The State reserves the right, at its sole election, to immediately terminate this Contract or a Statement of Work without limitation and without liability if the State determines that Contractor fails or has failed to meet its obligations under this Section.

- 39. Records Maintenance, Inspection, Examination, and Audit.** The State or its designee may audit Contractor to verify compliance with this Contract. Contractor must retain and provide to the State or its designee and the auditor general upon request, all financial and accounting records related to the Contract through the term of the Contract and for 4 years after the latter of termination, expiration, or final payment under this Contract or any extension ("**Audit Period**"). If an audit, litigation, or other action involving the records is initiated before the end of the Audit Period, Contractor must retain the records until all issues are resolved.

Within 10 calendar days of providing notice, the State and its authorized representatives or designees have the right to enter and inspect Contractor's premises or any other places where Contract Activities are being performed, and examine, copy, and audit all records related to this Contract. Contractor must cooperate and provide reasonable assistance. If any financial errors are revealed, the amount in error must be reflected as a credit or debit on subsequent invoices until the amount is paid or refunded. Any remaining balance at the end of the Contract must be paid or refunded within 45 calendar days.

This Section applies to Contractor, any parent, affiliate, or subsidiary organization of Contractor, and any subcontractor that performs Contract Activities in connection with this Contract.

- 40. Warranties and Representations.** Contractor represents and warrants: (a) Contractor is the owner or licensee of any Contract Activities that it licenses, sells, or develops and Contractor has the rights necessary to convey title, ownership rights, or licensed use; (b) Contractor will perform the Contract Activities in a timely, professional, safe, and workmanlike manner consistent with standards in the trade, profession, or industry; (c) Contractor will meet or exceed the performance and operational standards, and specifications of the Contract; (d) Contractor will provide all Contract Activities in good quality, with no material defects; (d) Contractor will not interfere with the State's operations; (e) all Contract Activities are delivered free from any security interest, lien, or encumbrance and will continue in that respect; (f) the Contract Activities will not infringe the patent, trademark, copyright, trade secret, or other proprietary rights of any third-party; (g) Contractor must assign or otherwise transfer to the State or its designee any manufacturer's warranty for the Contract Activities; (h) the Contract Activities are merchantable and fit for the specific purposes identified in the Contract; (g) the Contract signatory has the authority to enter into this Contract; (h) all information furnished by Contractor in connection with the Contract fairly and accurately represents Contractor's business, properties, finances, and operations as of the dates covered by the information, and Contractor will inform the State of any material adverse changes; (i) all information furnished and representations made in connection with the award of this Contract is true, accurate, and complete, and contains no false statements or omits any fact that would make the information misleading; and that (j) Contractor is neither currently engaged in nor will engage in the boycott of a person based in or doing business with a strategic partner as described in 22 USC 8601 to 8606. A breach of this Section is considered a material breach of this Contract, which entitles the State to terminate this Contract under **Section 28**, Termination for Cause. If Contract Activities includes purchase, use, or access to software, Contractor must agree to additional Warranties and Representations found in **Schedules B** or **D** of this Contract, as applicable.

- 41. Conflicts and Ethics.** Contractor will uphold high ethical standards and is prohibited from: (a) holding or acquiring an interest that would conflict with this Contract; (b) doing anything that creates an appearance of impropriety with respect to the award or performance of the Contract; (c) attempting to influence or appearing to influence any State employee by the direct or indirect offer of anything of value; or (d) paying or agreeing to pay any person, other than employees and consultants working for Contractor, any consideration contingent upon the award of the Contract. Contractor must immediately notify the State of any violation or potential violation of these standards. This Section applies to Contractor, any parent, affiliate, or subsidiary organization of Contractor, and any subcontractor that performs Contract Activities in connection with this Contract.

42. Compliance with Laws. Contractor must comply with all federal, state and local laws, rules and regulations.

43. Accessibility Requirements.

- a. All Software provided by Contractor under this Contract, including associated content and documentation, must conform to WCAG 2.0 Level AA. Contractor must provide a description of conformance with WCAG 2.0 Level AA specifications by providing a completed PAT for each product provided under the Contract. At a minimum, Contractor must comply with the WCAG 2.0 Level AA conformance claims it made to the State, including the level of conformance provided in any PAT. Throughout the Term of the Contract, Contractor must:
 - i. maintain compliance with WCAG 2.0 Level AA and meet or exceed the level of conformance provided in its written materials, including the level of conformance provided in each PAT;
 - ii. comply with plans and timelines approved by the State to achieve conformance in the event of any deficiencies;
 - iii. ensure that no Maintenance Release, New Version, update or patch, when properly installed in accordance with this Contract, will have any adverse effect on the conformance of Contractor's Software to WCAG 2.0 Level AA;
 - iv. promptly respond to and resolve any complaint the State receives regarding accessibility of Contractor's Software;
 - v. upon the State's written request, provide evidence of compliance with this Section by delivering to the State Contractor's most current PAT for each product provided under the Contract; and
 - vi. participate in the State of Michigan Digital Standards Review described below.
- b. State of Michigan Digital Standards Review. Contractor must assist the State, at no additional cost, with development, completion, and on-going maintenance of an accessibility plan, which requires Contractor, upon request from the State, to submit evidence to the State to validate Contractor's accessibility and compliance with WCAG 2.0 Level AA. Prior to the solution going-live and thereafter on an annual basis, or as otherwise required by the State, re-assessment of accessibility may be required. At no additional cost, Contractor must remediate all issues identified from any assessment of accessibility pursuant to plans and timelines that are approved in writing by the State.
- c. Warranty. Contractor warrants that all WCAG 2.0 Level AA conformance claims made by Contractor pursuant to this Contract, including all information provided in any PAT Contractor provides to the State, are true and correct. If the State determines such conformance claims provided by the Contractor represent a higher level of conformance than what is actually provided to the State, Contractor will, at its sole cost and expense, promptly remediate its Software to align with Contractor's stated WCAG 2.0 Level AA conformance claims in accordance with plans and timelines that are approved in writing by the State. If Contractor is unable to resolve such issues in a manner acceptable to the State, in addition to all other remedies available to the State, the State may terminate this Contract for cause under **Section 28**.
- d. Contractor must, without limiting Contractor's obligations of indemnification as further described in this Contract, indemnify, defend, and hold harmless the State for any and all claims, including reasonable attorneys' fees, costs, and incidental expenses, which may be suffered by, accrued against, charged to, or recoverable from the State arising out of its failure to comply with the foregoing accessibility standards

- e. Failure to comply with the requirements in this **Section** shall constitute a material breach of this Contract.
44. **HIPAA Compliance.** The State and Contractor must comply with all obligations under HIPAA and its accompanying regulations, including but not limited to entering into a business associate agreement, if reasonably necessary to keep the State and Contractor in compliance with HIPAA.
45. **Nondiscrimination.** Under the Elliott-Larsen Civil Rights Act, 1976 PA 453, MCL 37.2101, *et seq.*, the Persons with Disabilities Civil Rights Act, 1976 PA 220, MCL 37.1101, *et seq.*, and [Executive Directive 2019-09](#), Contractor and its subcontractors agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex (as defined in Executive Directive 2019-09), height, weight, marital status, partisan considerations, any mental or physical disability, or genetic information that is unrelated to the person's ability to perform the duties of a particular job or position. Breach of this covenant is a material breach of this Contract.
46. **Unfair Labor Practice.** Under MCL 423.324, the State may void any Contract with a Contractor or subcontractor who appears on the Unfair Labor Practice register compiled under MCL 423.322.
47. **Governing Law.** This Contract is governed, construed, and enforced in accordance with Michigan law, excluding choice-of-law principles, and all claims relating to or arising out of this Contract are governed by Michigan law, excluding choice-of-law principles. Any dispute arising from this Contract must be resolved in Michigan Court of Claims. Contractor consents to venue in Ingham County, and waives any objections, such as lack of personal jurisdiction or *forum non conveniens*. Contractor must appoint agents in Michigan to receive service of process.
48. **Non-Exclusivity.** Nothing contained in this Contract is intended nor will be construed as creating any requirements contract with Contractor. This Contract does not restrict the State or its agencies from acquiring similar, equal, or like Contract Activities from other sources.
49. **Force Majeure.** Neither party will be in breach of this Contract because of any failure arising from any disaster or acts of god that are beyond their control and without their fault or negligence. Each party will use commercially reasonable efforts to resume performance. Contractor will not be relieved of a breach or delay caused by its subcontractors. If immediate performance is necessary to ensure public health and safety, the State may immediately contract with a third-party.
50. **Dispute Resolution.** The parties will endeavor to resolve any Contract dispute in accordance with this provision. The dispute will be referred to the parties' respective Contract Administrators or Program Managers. Such referral must include a description of the issues and all supporting documentation. The parties must submit the dispute to a senior executive if unable to resolve the dispute within 15 business days. The parties will continue performing while a dispute is being resolved unless the dispute precludes performance. A dispute involving payment does not preclude performance.
- Litigation to resolve the dispute will not be instituted until after the dispute has been elevated to the parties' senior executive and either concludes that resolution is unlikely or fails to respond within 15 business days. The parties are not prohibited from instituting formal proceedings: (a) to avoid the expiration of statute of limitations period; (b) to preserve a superior position with respect to creditors; or (c) where a party makes a determination that a temporary restraining order or other injunctive relief is the only adequate remedy. This Section does not limit the State's right to terminate the Contract.
51. **Media Releases.** News releases (including promotional literature and commercial advertisements) pertaining to the Contract or project to which it relates must not be made without prior written State approval, and then only in accordance with the explicit written instructions of the State.
52. **Website Incorporation.** The State is not bound by any content on Contractor's website unless expressly incorporated directly into this Contract.

53. **Schedules.** All Schedules and Exhibits that are referenced herein and attached hereto are hereby incorporated by reference. The following Schedules are attached hereto and incorporated herein:

Schedule A	Statement of Work
Schedule B	Pricing and Fees
Schedule C (as applicable)	Terms for Contractor Hosted Software and Services
Exhibit 1 to Schedule C (as applicable)	Support Services and Service Level Agreement for Hosted Services
Schedule D (as applicable)	Data Hosting and Security for Hosted Software and Services
Exhibit 1 to Schedule D (as applicable)	Contractor's Disaster Recovery Plan
Schedule E (as applicable)	Federal Provisions Addendum
Exhibit 1 to Schedule E (as applicable)	Byrd Anti-Lobbying Certification

54. **Entire Agreement and Order of Precedence.** This Contract, which includes Schedule A – Statement of Work, and schedules and exhibits which are hereby expressly incorporated, is the entire agreement of the parties related to the Contract Activities. This Contract supersedes and replaces all previous understandings and agreements between the parties for the Contract Activities. If there is a conflict between documents, the order of precedence is: (a) first, this Contract, excluding its schedules, exhibits, and Schedule A – Statement of Work; (b) second, Schedule A – Statement of Work as of the Effective Date; and (c) third, schedules expressly incorporated into this Contract as of the Effective Date. NO TERMS ON CONTRACTOR'S INVOICES, ORDERING DOCUMENTS, WEBSITE, BROWSE-WRAP, SHRINK-WRAP, CLICK-WRAP, CLICK-THROUGH OR OTHER NON-NEGOTIATED TERMS AND CONDITIONS PROVIDED WITH ANY OF THE CONTRACT ACTIVITIES WILL CONSTITUTE A PART OR AMENDMENT OF THIS CONTRACT OR IS BINDING ON THE STATE OR ITS AUTHORIZED USERS FOR ANY PURPOSE. ALL SUCH OTHER TERMS AND CONDITIONS HAVE NO FORCE AND EFFECT AND ARE DEEMED REJECTED BY THE STATE, EVEN IF ACCESS TO OR USE OF THE CONTRACT ACTIVITIES REQUIRES AFFIRMATIVE ACCEPTANCE OF SUCH TERMS AND CONDITIONS.
55. **Severability.** If any part of this Contract is held invalid or unenforceable, by any court of competent jurisdiction, that part will be deemed deleted from this Contract and the severed part will be replaced by agreed upon language that achieves the same or similar objectives. The remaining Contract will continue in full force and effect.
56. **Waiver.** Failure to enforce any provision of this Contract will not constitute a waiver.
57. **Survival.** The provisions of this Contract that impose continuing obligations, including warranties and representations, termination, transition, insurance coverage, indemnification, and confidentiality, will survive the expiration or termination of this Contract.

SCHEDULE A – STATEMENT OF WORK

1. DEFINITIONS

The following terms have the meanings set forth below. All initial capitalized terms that are not defined below shall have the respective meanings given to them in Section 1 of the Contract Terms and Conditions.

Term	Definition
DTMB	Department of Technology, Management and Budget
MiSAIL	Michigan Statewide Authoritative Imagery & Lidar
SOM	State of Michigan
State Partners	Entities including, but not limited to, Local, Federal, and Tribal Governments to which services and pricing established through this Contract may be extended
CONTIGUOUS AOIs	Two or more AOIs (Areas of Interest) touching at any one point. AOIs can be of various GSDs (Ground Sample Distance)

2. BACKGROUND

Since 2004, the State of Michigan (the “State”) has been working to acquire high resolution orthoimagery to assist in the geo-spatial data needs of State employees and to provide high quality images as a backdrop for the State’s internet applications. During the last 16 years, a variety of State, local, and federal partnership initiatives have been put in place that have increased the availability of high resolution orthoimagery and increased the desire to continue to add to the available data. Access to high-quality, authoritative orthoimagery has created a demand for more data at better resolution, collected in a timely manner. This next generation orthoimagery program that will result from the issuance of this Contract will be a major step toward reaching this goal.

3. PURPOSE

It is the State’s intent to acquire orthoimagery for approximately 25% (approximately 15,000 square miles) of the state annually. In addition, the State plans to extend services and pricing established through this Contract to State Partners, which may include, but are not limited to, Local, Federal, and Tribal Government entities (collectively, “State Partners”).

4. CONTRACT TERM

The contract overall term is expected to be 3 years with 5, 1-year options.

5. SPECIFIC STANDARDS

IT Policies, Standards and Procedures (PSP)

Contractors are advised that the State has methods, policies, standards and procedures that have been developed over the years. All services and products provided as a result of this Contract must comply with all applicable State IT policies and standards. Contractor is required to review all applicable links provided below and state compliance in their response.

Public IT Policies, Standards and Procedures (PSP):

https://www.michigan.gov/dtmb/0,5552,7-358-82547_56579_56755---,00.html

Applicable non-publicly available PSP's are available after signing and returning to the State the required Nondisclosure Agreement (NDA) agreement.

Acceptable Use Policy

To the extent that Contractor has access to the State's computer system, Contractor must comply with the State's Acceptable Use Policy, see https://www.michigan.gov/documents/dtmb/1340.00.01_Acceptable_Use_of_Information_Technology_Standard_458958_7.pdf. All Contractor Personnel will be required, in writing, to agree to the State's Acceptable Use Policy before accessing the State's system. The State reserves the right to terminate Contractor's access to the State's system if a violation occurs.

Look and Feel Standard

All software items provided by the Contractor must adhere to the State of Michigan Application/Site Standards which can be found at www.michigan.gov/standards.

Mobile Responsiveness

The Contractor's Solution must utilize responsive design practices to ensure the application is accessible via a mobile device.

Accessibility Requirements

The State is required to comply with the Americans with Disabilities Act of 1990 (ADA) and has adopted standards and procedures regarding accessibility requirements for websites and software applications. All websites, applications, software, and associated content and documentation provided by the Contractor as part of the Solution must comply with Level AA of the World Wide Web Consortium (W3C) Web Content Accessibility Guidelines (WCAG) 2.0.

Contractor must provide a description of conformance with WCAG 2.0 Level AA specifications by providing a completed PAT for the Solution. If the Solution is comprised of multiple products, a PAT must be provided for each product. In addition to PATs, Contractors may include a verification of conformance certified by an industry-recognized third-party. If the Contractor is including any third-party products in the Solution, Contractor must obtain and provide the third-party PATs as well.

Each PAT must state exactly how the product meets the specifications. All "Not Applicable" (N/A) responses must be fully explained. Contractor must address each standard individually and with specificity; and clarify whether conformance is achieved throughout the entire product (for example - user functionality, administrator functionality, and reporting), or only in limited areas. A description of the evaluation methods used to support WCAG 2.0 Level AA conformance claims, including, if applicable, any third-party testing, must be provided. For each product that does not fully conform to WCAG 2.0 Level AA, Contractor must provide detailed information regarding the plans to achieve conformance, including timelines.

6. USER TYPE AND CAPACITY

Type of User	Access Type	Number of Users	Number of Concurrent Users
State Employees	Read Only	500	500
Trusted Third Parties	Read Only	250	250
Public Citizens	Read Only	400	400

7. ACCESS CONTROL AND AUTHENTICATION

The Contractor's solution must integrate with the State's IT Identity and Access Management (IAM) environment as described in the State of Michigan Digital Strategy (http://www.michigan.gov/dtmb/0,5552,7-150-56345_56351_69611-336646--,00.html), which consist of:

1. MILogin/Michigan Identity, Credential, and Access Management (MICAM)

- a. An enterprise single sign-on and identity management solution based on IBM's Identity and Access Management products including, IBM Security Identity Manager (ISIM), IBM Security Access Manager for Web (ISAM), IBM Tivoli Federated Identity Manager (TFIM), IBM Security Access Manager for Mobile (ISAMM), and IBM DataPower, which enables the State to establish, manage, and authenticate user identities for the State's Information Technology (IT) systems.
2. MILogin Identity Federation
 - a. Allows federated single sign-on (SSO) for business partners, as well as citizen-based applications.
3. MILogin Multi Factor Authentication (MFA, based on system data classification requirements)
 - a. Required for those applications where data classification is Confidential and Restricted as defined by the 1340.00 Michigan Information Technology Information Security standard (i.e. the proposed solution must comply with PHI, PCI, CJIS, IRS, and other standards).
4. MILogin Identity Proofing Services (based on system data classification requirements)
 - a. A system that verifies individual's identities before the State allows access to its IT system. This service is based on "life history" or transaction information aggregated from public and proprietary data sources. A leading credit bureau provides this service.

8. DATA RETENTION

Contractor to store data for the life of the contract.

9. SECURITY

The Solution will be storing public data.

Contractor will comply with the following and the Data Security Plan as Schedule D that adequately protects the State's data security requirements.

- Must be encrypted in transit and at rest using AES 128 bit or higher encryption.
- Must remain compliant with FISMA and the NIST Special Publication 800.53 (most recent version) LOW controls using minimum control values as established in the applicable SOM PSP's.
- Must maintain an annual SSAE 18 SOC 2 Type 2 audit for the Solution based on SOM required NIST low controls.

10. END-USER OPERATING ENVIRONMENT

The software must accommodate the latest browser versions (including mobile browsers) as well as some pre-existing browsers. To ensure that users with older browsers are still able to access online services, applications must, at a minimum, display and function correctly in standards-compliant browsers and the state standard browser without the use of special plugins or extensions. The rules used to base the minimum browser requirements include:

- Over 2% of site traffic, measured using Sessions or Visitors (or)
- The current browser identified and approved as the State of Michigan standard

This information can be found at <https://www.michigan.gov/browserstats>. Please use the most recent calendar quarter to determine browser statistics. For those browsers with over 2% of site traffic, except Internet+- Explorer which requires support for at minimum version 11, the current browser version as well as the previous two major versions must be supported.

Contractor will support the current and future State standard environment at no additional cost to the State.

11. SOFTWARE

For third-party products that are being proposed as part of the overall Solution, Contractor must include any end-user license agreements that will be required to access and use such products.

12. SOLUTION REQUIREMENTS

See completed **Schedule A - Exhibit 1 Business Specification Worksheet** for more details on business requirements for Orthoimagery.

Configuration is referred to as a change to the Solution that must be completed by the Contractor prior to Go-Live but allows an IT or non-IT end user to maintain or modify thereafter (i.e. no source code or structural data model modifications occurring).

All configuration changes made during the term of the contract must be forward-compatible with future releases and be fully supported by the contractor without additional costs.

13. INTEGRATION

Atlantic has extensive experience with creating and delivering all of the common data upgrades that may be requested by Michigan. We will be prepared to include any upgrades requested in our proposal for project specific tasks.

- ♣ Independent 3rd-Party QA/QC by another Architecture & Engineering (AE) Contractor (encouraged)
- ♣ Lower NPS (greater point density)
- ♣ Increased Vertical Accuracy
- ♣ Full Waveform collection and delivery
- ♣ Additional Environmental Constraints
- ♣ Interpolation based on 1st>Returns
- ♣ Interpolation based on All>Returns, summed
- ♣ Detailed Classification (additional classes: e.g., vegetation levels)
- ♣ Hydro-Enforced DEMs as an additional deliverable
- ♣ Hydro-Conditioned DEMs as an additional deliverable
- ♣ Breaklines (PolylineZ and PolygonZ) for single-line hydrographic features
- ♣ Narrow streams not collected as double-line, culverts, and other similar features, including appropriate integration into delivered DEMs
- ♣ Breaklines (PolylineZ and PolygonZ) for other features (to be determined)
- ♣ Including appropriate integration into delivered DEMs
- ♣ Extracted Buildings (PolygonZ)
- ♣ Footprints with maximum elevation or height above ground as an attribute
- ♣ Other products as defined by requirements and agreed upon in advance of funding commitment

14. MIGRATION

There are no migration services needed at this time, however the State may need migration services in the future.

15. TESTING SERVICES AND ACCEPTANCE

Contractor reviewed and provided **acceptance to the terms set forth in the Contract Terms and any applicable Schedules**.

16. TRAINING SERVICES

At the State's request, the Contractor must provide administration and end-user training for implementation, go-live support, and transition to customer self-sufficiency.

17. SUPPORT AND OPERATIONS

See the Maintenance and Support Schedule and SLA, identified as Exhibit 1 to Schedule C for more details.

Support Hours

The State requires the Contractor to provide Support Hours as 8 a.m. to 5 p.m. Eastern, Monday thru Friday.

18. DOCUMENTATION

At the State's request, the Contractor will develop and submit for State approval complete, accurate, and timely Solution documentation to support all users, and will update any discrepancies, or errors through the life of the contract.

The Contractor's user documentation must provide detailed information about all software features and functionality, enabling the State to resolve common questions and issues prior to initiating formal support requests.

19. TRANSITION SERVICES

Upon termination or expiration of the agreement, Contractor must, for a period of time specified by the State (not to exceed 90 calendar days), provide all reasonable transition assistance requested by the State, to allow for the expired or terminated portion of the agreement to continue without interruption or adverse effect, and to facilitate the orderly transfer of the services to the State or its designees. Such transition assistance may include but is not limited to: (a) continuing to perform the services at the established rates; (b) taking all reasonable and necessary measures to transition performance of the work, including all applicable services to the State or the State's designee; (c) taking all necessary and appropriate steps, or such other action as the State may direct, to preserve, maintain, protect, or return (in a format specified by the State) to the State all data stored in the solution; and (d) preparing an accurate accounting from which the State and Contractor may reconcile all outstanding accounts.

20. PRODUCTS AND SERVICES

Contractor must describe additional Solution functionality, products or services that the State specifications do not address but are necessary to implement and support this solution.

21. CONTRACTOR PERSONNEL

Contractor Contract Manager. the individual appointed by it to (a) administer the terms of this Contract, and (b) approve and execute any Change Notices under this Contract.

Contractor
Name Tim Stagg Address 2223 Drake Ave, Ste 200, Huntsville, AL 35805 Phone 256-971-9991 Email tim.stagg@atlantic.tech

Contractor Project Manager. the Contractor Project Manager who will serve as the primary contact regarding services who will have the authority to act on behalf of the Contractor in matters pertaining to the implementation services.

Contractor
Name Nathanael Litter Address 2223 Drake Ave, Ste 200, Huntsville, AL 35805 Phone 256-971-9991

Email nathanael.litter@atlantic.tech

Contractor Acquisition Manager. name of individual to serve as acquisition manager responsible for all facets of the acquisition process for orthoimagery, lidar, and/or oblique imagery as applicable.

Contractor
Name Scott Jones Address 2223 Drake Ave, Ste 200, Huntsville, AL 35805 Phone 256-971-9991 Email scott.jones@atlantic.tech

Contractor Production Manager. name of individual to serve as production manager responsible for the creation of required deliverables for orthoimagery, lidar, and/or oblique imagery as applicable.

Contractor
Name Jochen Floesser Address 2223 Drake Ave, Ste 200, Huntsville, AL 35805 Phone 256-971-9991 Email jochen.floesser@atlantic.tech

Contractor Certified Photogrammetrist. name of individual who is a Certified Photogrammetrist responsible for the creation of required deliverables for orthoimagery.

Contractor
Name Chris Cannon Address 2223 Drake Ave, Ste 200, Huntsville, AL 35805 Phone 256-971-9991 Email chris.cannon@atlantic.tech

Contractor Information Technology (IT) Manager. name of individual who is the IT Manager responsible for the creation of required deliverables for third-party services and products and/or imagery hosting service as applicable.

Contractor
Name Ben Hayes Address 2223 Drake Ave, Ste 200, Huntsville, AL 35805 Phone 256-971-9991 Email ben.hayes@atlantic.tech

Contractor Technical Support Manager. name of individual who is the Technical Support Manager responsible for the creation of required deliverables for third-party services and products and/or imagery hosting service as applicable.

Contractor
Name Lillian Mucha Address 2223 Drake Ave, Ste 200, Huntsville, AL 35805 Phone 256-971-9991 Email lillian.mucha@atlantic.tech

22. STATE RESOURCES/RESPONSIBILITIES

The State will provide the following resources as part of the implementation and ongoing support of the Solution.

State Contract Administrator. The State Contract Administrator is the individual appointed by the State to (a) administer the terms of this Contract, and (b) approve and execute any Change Notices under this Contract.

State Project Manager. The State Project Manager will serve as the primary contact with regard to implementation Services who will have the authority to act on behalf of the State in approving Deliverables, and day to day activities.

Agency Business Owner. The Agency Business Owner will serve as the primary contact for the business area with regard to business advisement who will have the authority to act on behalf of the State in matters pertaining to the business Specifications.

State Technical Lead. The State Technical Lead will serve as the primary contact with regard to technical advisement.

23. MEETINGS

At start of the engagement, the Contractor Project Manager must facilitate a project kick-off meeting with the support from the State's Project Manager and the identified State resources to review the approach to accomplishing the project, schedule tasks and identify related timing, and identify any risks or issues related to the planned approach. From project kick-off until final acceptance and go-live, Contractor Project Manager must facilitate weekly meetings (or more if determined necessary by the parties) to provide updates on implementation progress. Following go-live, Contractor must facilitate monthly meetings (or more or less if determined necessary by the parties) to ensure ongoing support success.

24. PRICING

See **Schedule B – Pricing and Fees** for more detail.

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 Contract Administrator with the reduced prices within fifteen (15) Business Days of the reduction taking effect.

Travel and Expenses

The State does not pay for overtime or travel expenses.

25. ADDITIONAL INFORMATION

The State reserves the right to purchase any additional services or products from the Contractor during the duration of the Contract.

STATE OF MICHIGAN

MiSAIL Program

1.0 State of Michigan Orthoimagery Requirements

1.1 Characteristics

1.1.1 Image Format

Images shall be delivered in the latest GeoTIFF format. Individual GeoTIFF images shall form a mosaic that covers the areas of interest. Proprietary tags shall not be used. Image size and tiling scheme to be defined and provided by State of Michigan.

There will not be any NoData pixels within image tiles. Tiles will not have collars with NoData pixels.

Each GeoTIFF will be uniquely named using the following naming convention:

Example for a Berrien county file: 021_2016_03_26_2565_0180

The first field will be the FIPS County Code (3 digits) ### (i.e. 021 for Berrien)

The second field will be the year of acquisition: (4 digits) YYYY

The third field will be the month of primary image acquisition (2 digits) MM

The fourth field will be the day of primary image acquisition (2 digits) DD

The fifth field will be the last 4 digits of the easting of the Tile's SW corner (4 digits) XXXX

The sixth field will be the last 4 digits of the northing of the Tile's SW corner (4 digits) YYYY

Atlantic has experience delivering imagery in multiple formats for different clients. Our workflow processes are designed to adapt to the client's requirements. We will deliver both individual images and mosaic's that cover the entire AOI in GeoTIFF format. Atlantic will tile Images shall be delivered in the latest GeoTIFF format. The imagery will cover the entire AOI with no data gaps and will be tiled to the size required by the individual project as provided by State of Michigan. Atlantic will use the naming convention provided by Michigan which will include the FIPS County Code, year of acquisition, month of acquisition, day of acquisition, the last 4 digits of the easting of SW corner, and the last 4 digits of the northing of SW corner.

1.1.2 Image Type

Image tiles shall be 4-band image files comprised of the three visible bands and the Near-Infrared band. Band order to be as follows:

- Band 1: Red
- Band 2: Green
- Band 3: Blue
- Band 4: Near-Infrared

Image radiometric resolution should be set to 8 bits per channel to create 32-bit image files. All bands should be balanced such that natural-color (Red, Green, Blue) and standard false-color composites (Infrared, Red, Green) are spectrally correct. Natural color composites should appear natural to a human observer.

Atlantic will use Phase One iXM-RS 280 F large format camera for data acquisition. This camera provides a 4-Band solution that comprises dual 90 mm lenses for capturing RGB information, and a 50 mm lens for capturing NIR information and thus providing 4-Band (R,G,B,NIR) imagery. Atlantic's integrated iX Capture software automatically generates distortion-free 4-Band images by performing an accurate matching of NIR image to an RGB image, creating precise and reliable output data. Each channel will be collected at 8 bit resulting in 32 bit image files. Image radiometric resolution should be set to 8 bits per channel to create 32-bit image files. All bands should be balanced such that natural-color (Red, Green, Blue) and standard false-color composites (Infrared, Red, Green) are spectrally correct. Natural color composites should appear natural to a human observer.

1.1.3 Image Coordinates

All orthoimagery and derivative data, such as tile footprints and flight line files, shall be referenced to the following coordinate space:

- **Coordinate System:** Michigan State Plane, appropriate zone
- **Datum:** North American Datum 1983(2011)
- **Units:** International Feet

Contractor must be prepared to deliver data that meets the requirements of the North American Terrestrial Reference Frame (NATRF) of 2022 for Michigan when the new projection becomes adopted.

Contractor must be prepared to deliver data in Michigan region specific NATRF 2022 low-distortion zones when they become adopted. State to provide low-distortion zone boundary shapefiles.

Airborne Global Positioning System (AGPS), Ground Control Points (GCPs), and other pertinent data sets must be transformed to the required Datum before image processing begins.

Atlantic will deliver all data including orthoimagery, control data, flight lines, tile grid files, etc. in the Michigan State Plane Coordinate System using the appropriate zone for the AOI. We will also use the most recent North American Datum in International Feet. Atlantic understands that NOAA National Geodetic Survey (NGS) is updating the National Spatial Reference System (NSRS) and will replace NAD83 and NAVD88 with a new and improved terrestrial reference frame and geopotential datum. Our team is actively monitoring the progress and will be prepared to implement the North American Terrestrial Reference Frame (NATRF) of 2022 for Michigan when the new projection becomes adopted.

1.1.4 Image Resolution

Data collection shall occur at 12-inch (0.30 meter) ground sample distance (GSD) $\pm 10\%$. This will be considered the standard product GSD. Optional data collection at 6-inch (0.15 meter) GSD and 3-inch (0.075 meter) GSD will also be available as an optional product per details in Section 6 of this document.

Atlantic will use our Phase One iXM-RS 280 F large format camera for data acquisition. This camera is capable of collecting imagery at multiple ground distances (GSD) from 3 cm up to 1 meter. Below is a table describing our flying height and swath width at the required GSD's. Data collection shall occur at 12-inch (0.30 meter) ground sample distance (GSD). This will be considered the standard product GSD.

1.1.5 Metadata

Atlantic will provide metadata in xml format that is FGDC compliant for each AOI. The metadata will include the following:

- FGDC compliant metadata for the Area of Interest
- Image location and outline
- 2D accuracy statement referencing the National Map Accuracy Standard for geospatial data at the 95% confidence level
- Camera used
- Date and time of acquisition
- Ground sample distance as collected
- Focal ratio and exposure time
- Remarks on image quality and artifacts, if any
- The name of the supervising Certified Photogrammetrist
- Projection information

1.2 Image Quality

Atlantic performs both quantitative and qualitative inspections of completed digital orthophotography. To produce and deliver optimum quality digital orthophotography, we review 100% of the data at the intended map scale using ArcGIS and GlobalMapper. Additionally, we complete a quantitative assessment of the digital orthophotography by measuring the survey control points against the

final orthophoto mosaics and calculating the absolute error and root mean square error (RMSE). The digital orthophoto criteria below and on the following pages will be the performance values Atlantic tests the data to meet or exceed.

The table provides a starting point for Atlantic and the state of Michigan to address specific measures of performance for the orthophoto qualitative assessment.

Atlantic will confer with the project stakeholders and craft a similar table that is paramount for the SOM. We would essentially replace this table with one that had more meaning and value for the SOM and this project. That replacement table would have mutual agreeance between all parties and would be the basis for rejecting data, fixing data, and accepting data.

Atlantic will make manual corrections to any edit calls.

Criteria	Tested Characteristic	Measure of Acceptability
1.	Media: USB External Drive	Media is readable, all files accessible, no files corrupted
2.	File organization	Files written in tile sheet order
3.	File name	All digital file naming conforms to required client convention
4.	GeoTiff & .tfw format	GeoTiff 6.0 compliant; reads in ArcGIS
5.	Pixel definition	GeoTiff reference will be the upper left corner of the upper left-most pixel; World file reference will be the center of the pixel of the upper left-most pixel
6.	Geo-referencing	World file has correct coordinates expressed to at least 2 significant digits, and correct pixel size and pixel count
7.	Projection	Michigan State Plane
8.	Datum	NAD83 (2011)
9.	Units	International Feet
10.	24-bit natural color	256 levels of value for each band, 0=black, 255=white
11.	Tonal quality	Less than 2% of values at 0 or 255 Conforms to the color balance, contrast and brightness of the radiometric target images specified by the Radiometric Review Panel.

Criteria	Tested Characteristic	Measure of Acceptability
12.	Image blemishes and artifacts	<p>Generally acceptable within these limits:</p> <p>If 1 pixel wide, 100 pixels in length.</p> <p>If 2 pixels wide, 60 pixels in length.</p> <p>If 3 pixels wide, 20 pixels in length.</p> <p>If 4 - 12 pixels wide, 12 pixels in length.</p> <p>Artifacts exceeding these limits may be acceptable if ground feature detail is not obscured, or if the brightness value of the pixels in the artifact is under 170. Artifacts within these limits may be rejected if critical ground features are significantly impacted. Critical features shall be defined as features having County, State or National significance (i.e. Courthouses, Capitol Buildings, etc.).</p> <p>Clusters of artifacts that do not individually meet these criteria may be considered unacceptable if more than 12 are visible within a viewing screen at 1:1 zoom. (5 or more artifacts within a 200 pixel area preferred).</p>
13.	Conformance of GeoTIFF to index grid	GeoTIFF extents will match the client provided index grid. There will be <i>no gap or overlap between tiles</i> .
14.	Mosaic lines	Mosaic lines through buildings and above ground transportation structures shall be avoided to the greatest extent practical. Mosaic lines through bodies of water are not critical and shall not be edited by Atlantic, but seamlines through ponds will be avoided.
15.	Metadata	Complies with FGDC standards and runs through the MP parser without returning any errors.

Certified Photogrammetrist: All production shall be under the supervision of an American Society of Photogrammetry and Remote Sensing (ASPRS) Certified Photogrammetrist. All products shall be reviewed and approved by an ASPRS Certified Photogrammetrist. The name of the supervising Certified Photogrammetrist shall be included in the metadata.

1.2.1 General Image Quality

Images shall appear sharp when viewed at 1 pixel per GSD and displayed or printed on high quality equipment at 80 to 100 pixels per inch. Mosaicking artifacts and other image artifacts shall be minimal or completely unnoticeable. Color mosaics shall be free from clouds, cloud shadows, haze, seams, gridding due to uncorrected camera vignetting, and other obvious, uncorrected artifacts. Hot spots and water glint shall be corrected.

Atlantic performs both quantitative and qualitative inspections of completed digital orthophotography.

To produce and deliver optimum quality digital orthophotography, we review 100% of the data at the intended map scale using ArcGIS and GlobalMapper. Additionally, we complete a quantitative assessment of the digital orthophotography by measuring the survey control points against the final orthophoto mosaics and calculating the absolute error and root mean square error (RMSE).

1.2.2 Instrument Corrections

Instrument corrections for distortion and radiometric level shall be applied to raw data values based on most recent and up-to-date camera calibrations. Camera calibration records shall be maintained on file by the aerial photography company and copies of these records shall be provided with each year's final report.

Atlantic will perform calibration of our imaging sensor prior to data acquisition and anytime a sensor is changed out if required. Atlantic will utilize our established calibration site with multiple photoidentifiable round control points. We will fly 4 lines in the North-South orientation (opposing directions) and 2 lines in the East-West orientation (opposing directions) centered on the calibration site and at or above the planned flight altitude. That airborne data will be brought into Pospac for initial processing using estimated lever arm settings from the GPS and IMU data. Once initial processing is complete that data along with the ground control data will be brought into ISAT to create an AT solution. Once complete the PatB file will be imported into CalQC where boresite angles will be determined. The boresite angles will be imported into Pospac and the EO values will be adjusted based on these calculations. Our georeferencing Team Lead and Certified Photogrammetrist will oversee this process. Instrument corrections for distortion and radiometric level shall be applied to raw data values based on most recent and up-to-date camera calibrations. Camera calibration records shall be maintained on file by the aerial photography company and copies of these records shall be provided with each year's final report.

1.2.3 Radiometric Correction

Images shall be color balanced to minimize perceptible differences in color tones within and between adjacent images. Color balancing shall result in colors which appear natural to a human observer.

Image contrast and brightness shall be adjusted to minimize perceptible differences within and between adjacent images.

Color balanced image samples for each AOI to be posted to the Contractor's secure online internet QA/QC application within 30 days of acquisition. Adjustment(s) as necessary shall be undertaken based on State of Michigan (SOM) review of each AOI.

1.2.4 Spatial Correction

The best available Digital Elevation Model (DEM) or Digital Terrain Model (DTM) representing the ground surface (e.g., Bare-earth) should be used to ortho-rectify the imagery. The elevation data may be obtained from the United States Geological Survey (USGS), or from another source, such as the State of Michigan or a State Partner. Elevation data may be derived from lidar, photogrammetry or aerial triangulation autocorrelation as long as it provides sufficient accuracy and precision to support orthoimagery horizontal accuracy requirements.

Cultural features such as roads, bridges, overpasses, buildings and other important features that are impacted by DEM artifacts shall be repaired.

During ortho-rectification, images shall be re-sampled at the specified GSD.

Aerial Triangulation (AT) Aerial Triangulation (AT) is the complex mathematical process of tying individual, overlapping photographs together into a single block of photographs and then tying that block of photographs to known coordinates on the Earth. AT is used to accurately position aerial photography by utilizing the airborne GNSS/IMU data, which is also called exterior orientations (EO), for each respective photo center and the survey control points located throughout the project area. It is also used to expand and supplement the existing survey control for a photogrammetric project and is the primary reason that Atlantic can achieve highly accurate results without requiring large quantities of survey control points, such as traditional photogrammetric projects used to require. The result of the triangulation is a densified set of ground control points used to control the mapping process. Atlantic will perform a full aerial triangulation for the project area using the latest version of SimActive Correlator 3D. SimActive's Correlator3D software is a patented end-to-end photogrammetry solution for the generation of high-quality aerial imagery. Correlator3D performs aerial triangulation (AT) and produces dense digital surface models (DSM), digital terrain models (DTM), orthomosaics, 3D models and vectorized 3D features. Correlator3D ensures matchless processing power to support rapid production of large datasets. Atlantic uses SimActive aerial triangulation software to process the airborne GPS information in combination with the camera parameters and ground control. The output of this process is a refined image position based on a least-squared adjustment. A boresight calculation is also performed simultaneously to further refine the solution. This bundle adjustment will be utilized to complete all topographic mapping and orthophotography production. All photogrammetric processes and aerial triangulation procedures are conducted under the supervision of an ASPRS Certified Photogrammetrist. The data accuracies, horizontal positions, and elevations will be presented in values defined by the National Standard for Spatial Data Accuracy (NSSDA). The control and check point locations will be compared to digitized map positions and elevations and the differences will be presented at the statistical level of 95% confidence.

Atlantic performs a thorough analysis of the Aerial Triangulation process. Iterative quality inspections are conducted to ensure the following:

- ♣ The project boundary is identified to ensure that triangulation coverage includes the entire project area,
- ♣ Independent checkpoints are utilized and incorporated into the adjustment process,
- ♣ Intermediate and final triangulation results are thoroughly reviewed by an ASPRS Certified Photogrammetrists,
- ♣ The determined Root Square Mean Error (RSME) does not exceed 1/10,000th of the digital imagery, and
- ♣ Intermediate and final triangulation results are thoroughly reviewed an ASPRS Certified Photogrammetrists.

Atlantic will prepare and deliver a certified Aerial Triangulation Report at the conclusion of the project. At a minimum, the report will provide the following information:

- ♣ A control and flight line index
- ♣ A comprehensive flight line plan that includes exposure stations
- ♣ Locations of all ground survey control points
- ♣ Control labeled with station descriptions

The results of the Aerial Triangulation adjustment process to include:

- ♣ RMS residuals at each image point in meters, in x and y
- ♣ RMS residuals for GPS control points in meters, in x, y, and z
- ♣ RMS residuals at programmatically determined control points in meters, in x, y, and z
- ♣ Computed theoretical accuracy of all control points in x, y, and z
- ♣ The accuracy of the orientations
- ♣ Complete results of all final block adjusted ground coordinates
- ♣ Orientation parameter settings for all images
- ♣ Image set-up files for future use.

Digital Elevation Model (DEM)

The role of the Digital Elevation Model (DEM) in digital orthophoto production is to remove displacement in the aerial photographs caused by relief. Each aerial photograph is a planar (flat) surface that does not reflect the actual relief of the terrain, which causes relief displacement (or incorrect positions in the image). In the orthorectification process, the image is rectified against the elevation model to remove this relief displacement and to correctly position the pixel with respect to the elevation. Atlantic will develop a new Digital Elevation Model (DEM) data using SimActive Correlator 3D™. The SimActive Correlator 3D™ software uses some of the latest SGM (Semi-Global Matching) photogrammetric algorithms to produce automated elevation models for our ortho projects. That product begins with a fully automated DSM (Digital Surface Model) and is further edited to produce an accurate DEM for use in the orthorectification process. Vertical accuracy of the

DEM will be sufficient to obtain the required vertical and horizontal accuracies of the final deliverable products. The DEM will have a combination of the following:

- ♣ points spaced at regular intervals along a grid
- ♣ points of significant high or low elevation
- ♣ breaklines at significant terrain breaks

Atlantic will work with Michigan during the proposed pilot test areas to ensure the final product meets or exceeds all accuracies required in the contract. The DEM capture will be determined by photogrammetric approaches as described above. All photogrammetric tasks are supervised by a Certified Photogrammetrist. Upon completion of the DEM development and rectification of imagery, Atlantic will deliver the resulting DEM surface to Michigan. This report will be delivered with all final ortho deliverables at the completion of this project.

1.2.5 Mosaicking

Prior to tiling, image seams shall be placed to minimize disruption of important features of cultural or geographic significance—for example, large buildings, bridges, and major rivers. Image seams shall not run through elevated structures, such as bridges, overpasses, and large buildings and through wooded areas if there is an open space nearby and around pine plantations. When feasible, seams shall be placed at naturally occurring lines in the image to render them less noticeable. Skews greater than one pixel shall be corrected.

Due to the subjectivity of imagery, Atlantic will develop a set of pilot orthophotos for Michigan and will incorporate any provided guidelines from the project participants for the balancing of the image radiometry. The benefit of working with Atlantic, specific to the development of new digital orthophotography, is that our processes have been refined and customized to produce exactly what the client requires.

Atlantic will process the color orthophotography to be comprised of four (4) spectral bands: Red (R), Green (G), Blue (B), and Infrared (IR). The radiometric resolution of each band will be 8 bits at minimum, where the image brightness for each band is represented by 256 levels, ranging from 0 to 255. This allows initial color adjustment procedures to correct any inconsistencies within and between photographs. Look Up Tables (LUTs) are established to provide target radiometric values. The LUTs are used to maintain the uniformity of the imagery's appearance throughout the project. The resulting imagery has a sharp, uniform and balanced color contrast maintaining the full range of the image histogram. Prior to tiling, image seams shall be placed to minimize disruption of important features of cultural or geographic significance—for example, large buildings, bridges, and major rivers. Image seams shall not run through elevated structures, such as bridges, overpasses, and large buildings. When feasible, seams shall be placed at naturally occurring lines in the image to render them less noticeable. Skews greater than one pixel shall be corrected.

1.2.6 Accuracy

All orthoimagery shall meet the horizontal accuracy requirement for 1:1,200 scale data, National Standard for Spatial Data Accuracy (NSSDA) at the 95% confidence level. The horizontal accuracy value is equal to or less than 3.80 feet, or 1.159 meters. In other words, 95% of the positions in the dataset must have an error with respect to true ground position that is equal to or smaller than 3.80 feet.

To ensure the data meets the horizontal accuracy requirement, the contractor will calculate the horizontal root mean squared error (RMSE) by comparing transformed orthoimagery coordinates with field-based ground control point and check point coordinate locations. The contractor will then calculate the horizontal accuracy at the 95% confidence level using the following equation:

$$\text{Accuracy}_r = \text{RMSE}_r * 1.7308$$

Where:

Accuracy_r = Horizontal Accuracy at the 95% confidence level

RMSE_r = Horizontal Root Mean Squared Error

To obtain this level of horizontal accuracy the contractor shall employ AGPS and Inertial Measurement Unit (IMU) technologies to record the precise location (X,Y,Z) and attitude (roll, pitch, yaw) of the sensor during image capture.

The contractor must also collect additional field-based Ground Control Points (GCPs) to supplement the airborne data such that minimum accuracy requirements are met. **At least 2** check points must also be located in each county or AOI, whichever is smallest in extent. In other words, if an AOI is composed of 5 counties, there must be 10 check points collected: 2 for each county. Check points may be located anywhere in the AOI but should not be in the same vicinity as the GCPs. Check points are not to be used in the Aerial Triangulation solution.

Accuracy of all GCPs and check points must be equal to or less than 0.10 meters in the horizontal (x,y) and equal to or less than 0.20 meters in the vertical (z).

GCPs must be verified by a registered surveyor and their name and credentials included in delivered reports.

Existing ground control supplied by the State of Michigan, a State Partner or a commercial entity may be used if available, assuming it meets the minimum accuracy requirements. Some data supplied by the State of Michigan may need to be marked by the contractor. For example, existing monuments may need to be marked prior to aerial acquisition but coordinates will be supplied.

All field-based ground control points and check points shall be taken at locations which are clearly identifiable on the aerial imagery.

* Contractor must also be prepared to deliver orthoimagery at ASPRS Class I accuracy standards on a project by project basis. Any additional costs will be agreed upon in advance.

1.3 Image Collection Constraints

1.3.1 Equipment

Atlantic will utilize our Phase One iXM-RS-280MP 4-Band Digital Camera System for the aerial photography acquisition of the project area. The Phase One features a large image footprint of (20,150 x 14,118 pixels) and has a pixel size of 3.76 microns. This camera offers a very high image capture rate and dynamic range, increasing overall quality and accuracy of the final photogrammetric products. The iXM-RS 280MP is comprised of dual 90 mm lenses for capturing RGB information, and a 50 mm lens for capturing NIR information and thus providing 4-Band (R,G,B,NIR) or CIR imagery.

This Aerial solution consists of the iX Controller, GNSS/IMU receiver (POS AV series), Somag gyro-stabilized mount (GSM 4000), the Phase One flight planning and management software iX Plan and iX Flight as well iX Capture. The new generation of Complementary Metal Oxide Semi-conductor (CMOS) sensors eliminates the motion blur thanks to short exposure time, enabled by using high-speed shutters (up to 1/2500 sec) and higher sensitivity pixel design. Combined with RS shutter technology, the iXM-RS-280MP provides highly sharp images overcoming cameras with other FMC capabilities.

1.3.2 Flight Path

The Atlantic team has extensive aerial acquisition experience throughout North America. The entirety of our team, from field to final QA possesses direct knowledge of the project area. Knowledge that includes local weather patterns, restricted airspace areas, local ATC requirements, environmental restrictions, typical challenges, and terrain conditions. This experience helps assure Michigan and its project partners that Atlantic is fully competent to perform the missions and will be ready to begin collection upon a notice to proceed.

Atlantic will use iX-Plan flight planning software to create flight lines for the project. Imagery in all AOIs shall be collected on either north-south or east-west lines whenever feasible, and all imagery in a single AOI shall be collected on parallel lines, unless flight path restrictions in the area make this impractical..

1.3.3 Camera Orientation

Imagery shall be collected at a crab angle of less than 5 degrees, which is measured between the camera's along-track image axis and the aircraft line of flight. The camera shall be nadir pointed within 2 degrees on average and shall not exceed 4 degrees off nadir at any time during image collection.

1.3.4 Image Overlap and Sidelap

Imagery of the AOIs shall be collected with $\geq 60\%$ in-track overlap and $\geq 30\%$ sidelap. True ortho shall be $\geq 80\%$ in-track overlap and $\geq 80\%$ sidelap. See Section 6.1.



1.3.5 Camera Settings

Camera aperture and exposure time shall be adjusted for light conditions to achieve optimal image quality, consistent with the camera manufacturer's recommendations or automated settings, unless the camera operator has data which demonstrate that a different setting produces superior results under conditions at the time of collection.

Atlantic will utilize their new Phase One IXM 280MP Digital Sensor for this very important project. It is innovative, cutting-edge technology in its best form – specifically for large area projects of this size and specification. The IXM 280MP 4-Band solution comprises dual 90mm lenses for capturing RGB information, and a 50mm lens for capturing NIR information and thus providing 4-Band (R,G,B,NIR) or CIR imagery.

The integrated iX Capture software automatically generates distortion-free 4-Band images by performing an accurate matching of NIR image to an RGB image, creating precise and reliable output data.

- TIFF and JPG formats
- 4-Band RGB+NIR (RGBN)
- 3-Band CIR (Color Infra Red)
- NDVI (Normalized Difference Vegetation Index)
- Distortion-free / corrected RGB
- Distortion-free / corrected NIR

Atlantic will utilize Camera aperture and exposure time adjusted for light conditions to achieve optimal image quality, consistent with the Phase One recommendations. Atlantic will utilize the following average camera settings for each resolution option:

Sensor: iXM-RS280F (7.5, 15 & 30 CM resolutions)			
	Pixel	mm	Pixel (um)
Width	14118	53	3.8
Height	20150	76	3.8
Focal length		90	

1.3.6 Acquisition Status Tracking

Atlantic's ultimate goal is to provide Michigan with an informed, well-planned and effectively communicated project experience. Atlantic will provide access to "a-Track" – a real-time project status reporting application accessible to Michigan through Atlantic's server so that data tracking is available 24/7 in either ArcGIS desktop software or via the web. This system is developed using ArcGIS Server technology. Upon contract award, Atlantic loads task areas into a-Track along with the associated flight lines. The system is updated daily from our flight operations so that the client will receive up-to-date information on flight acquisition and/or data production. a-Track was developed using ArcGIS Server technology, so we have the ability to enable the WMS (Web Mapping Service) connection that allows client staff to load data from a-Track directly into their desktop GIS applications. In addition to the a-Track software application, the Atlantic project manager will also disseminate daily status updates to all project stakeholders. This graphic highlights an example of the online a-Track interface.



1.4 Environmental Conditions

Imagery shall be collected under clear skies. The air shall be free of smoke, dust, and excessive haze. Incidental smoke from prescribed burns or residential landscape burns are permissible.

Imagery shall be collected at sun elevation angles greater than 30 degrees. The sun elevation requirement may be relaxed by the State Program Manager.

Adjacent flight lines shall be flown at sun elevation angles which differ by less than 15 degrees.

Roadways shall not be wet from recent precipitation.

The ground shall be free of snow cover and lakes free of ice. The requirement for snow and ice-free collection may be waived by the State Program Manager.

The ground shall not be obscured by fog.

Imagery shall be collected while deciduous trees are free of leaves unless this requirement has been waived by the State Program Manager in writing for the specific AOI.

Each AOI will have an agreed upon Environmental Conditions (EC) contact who the State Program Manager and contractor will work with to determine when conditions are within specifications for acquisition to start. Official communications with the EC are the responsibility of the

State Program Manager. The EC will be consulted if conditions reach a stage where they are questionable. See table below for details on roles and responsibilities.

MiSAIL ACQUISITION ENVIRONMENTAL CRITERIA ROLES & RESPONSIBILITIES

Parameter	Criteria	Reportable Conditions
Sky Conditions	Clear, with no clouds, smoke, dust, smog, haze, or precipitation such as rain or fog.	Generally, the responsibility of Contractor. State/Environmental Conditions (EC) contact to report any unusual conditions not likely to be reported or seen in ordinary weather reports, such as large fires, activities likely to produce large amounts of dust.
Sun Angle	Greater than 30 degrees. Difference between flight lines of less than 15 degrees.	Full responsibility of Contractor
Ground Conditions	Clear of snow	State/EC to Authorize acquisition in writing (email is acceptable) when conditions are acceptable and if there is any change in that authorization to a point that imagery would not be desired at that point (i.e. snow falls after authorization given). Most areas should be basically clear of snow. Minor snow piles or embankments in non-critical areas, such as bases of trees, may be acceptable.

Trees	Deciduous trees free of leaves	State/EC to Authorize acquisition in writing (email acceptable). Recommendation is for trees to be relatively free of leaves. Certain ornamental trees may leaf-on unusually early and typically are not disqualifying. Requirement may otherwise be loosened at State's/EC option per contract in such as open fields, pine forest, and urban areas. Contractor will provide its professional opinion for consideration by the stakeholders.
Streams and Rivers	Within natural banks	State/EC to report any unusual conditions that have or have the potential to cause flooding. State/EC will notify Contractor of significant rain events and any observed flooding.
Lakes	Free of ice	State/EC to Authorize acquisition in writing (email acceptable). Some ice on lakes may be allowed if other conditions are favorable
Roadways	Not wet from recent precipitation	State/EC to report any unusual conditions not caused by ordinary, observable weather phenomena.

2.0 Areas of Interest

Atlantic will acquire and process the entire Areas of interest (AOI) and will deliver the data using the state's tiling index. While planning for data acquisition, Atlantic will buffer each AOI an additional 100 meters to ensure the entire AOI is collected.

3.0 Quality Assurance Provisions (QA)

3.1 General

Quality Assurance / Quality Control Provisions

The following subsections are statements concerning Atlantic's Approach to Quality and Overall Quality Management Structure. Specific procedures regarding the process for finding and correcting obvious errors throughout certain production phases are explained in more detail in our Technical Approach.

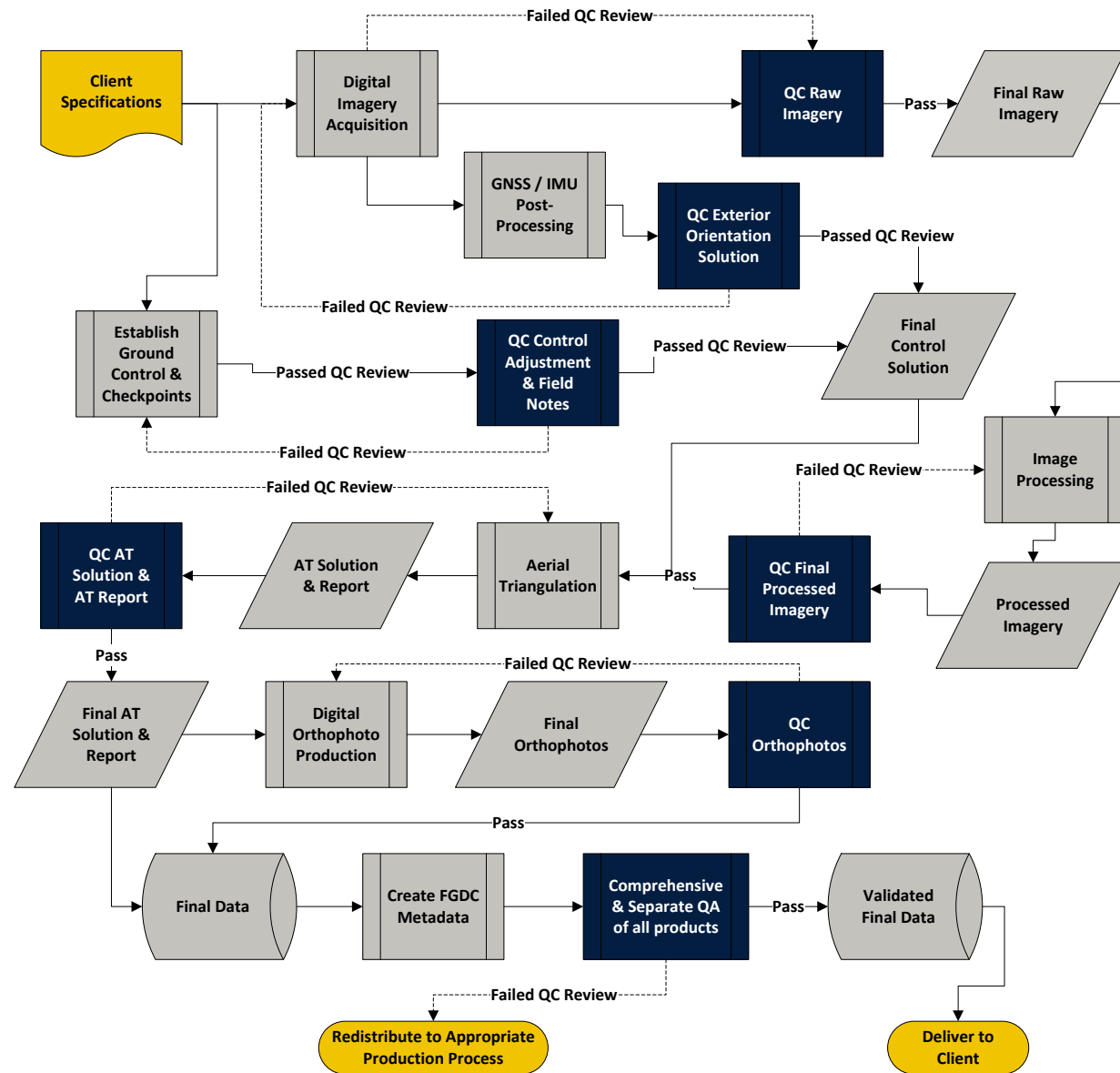
Quality Management Philosophy

Atlantic is committed to developing and maintaining a quality system that both meets the needs of our business and, most importantly, is compliant with the quality standards required by our clients. We strive to ensure that our acquisition procedures and practices are safe and that our project approach methodology is based on proven project design parameters. In addition, we also seek to ensure that our data accuracy, quality and content meet the needs required by our client. These goals are monitored through the implementation of a comprehensive quality control plan which will be prepared, administered and adhered to throughout the life of our contract with the Michigan.

Quality Management Approach

Our quality system has been developed to ensure that adequate and continuous control is in operation for all activities affecting product quality. Where unique regulatory requirements exist, our quality system will be revised to meet such requirements. See the example workflows below for an orthoimagery project.

Orthoimagery Workflow



Atlantic places strong emphasis on problem prevention rather than dependence on detection after occurrence. Every effort is made to perform operations and quality-related activities correctly the first time. Our quality system includes a formal review of the parameters affecting product quality from initial design to contractual fulfillment of responsibility for quality. Whenever necessary, corrective and preventive actions are effectively implemented at the proper level to ensure continuous improvement.

Atlantic has an extensive QA/QC program in place that will ensure that Michigan receives the highest quality photogrammetric mapping products possible. Our approach is designed to achieve a 100% first-time acceptance of all products provided and includes quality control checks throughout each phase of the production process. All products will undergo an independent review prior to the delivery of products.

Atlantic subscribes to the Plan, Do, Check, Act principles of Quality Management. We establish a comprehensive Quality Management Plan for each Project that includes specific data definitions, rule and a comprehensive deliverables checklist. We execute the work according to our plan. We check our work to determine if it is consistent with our plan. We modify the work and update our plan if necessary.



Atlantic's Approach to Process Improvement and Quality Results

This continuous cycle ensures that client feedback is at the core of our process and that our process is continually evolving to allow for the most efficient tools and processes to be incorporated when they are fully evaluated and established.

3.2 Visual Inspection for Specific Artifacts

As mentioned in Section 1.2 above Atlantic will perform a thorough quality review of all imagery prior to delivery to Michigan. All imagery will be reviewed at a scale not to exceed 1"=400' scale. During this review Atlantic will inspect for visual seam lines, glint, unacceptable color balance, DEM artifacts, and bridges on roadways. For urban areas, Atlantic will review the imagery at a scale not to exceed 1"=200'. In these areas special attention will be placed on seam lines. Atlantic will correct any issues found prior to delivery.

3.3 Customer QA/QC

Atlantic has developed a secure, online tool for daily flight status tracking called a-Track. This system uses ArcGIS online (AGOL) to share project-related data, including project status maps and dashboards, which allows Atlantic's clients to track acquisition, surveying, and production tasks. These maps and dashboards contain percentage complete graphs and charts, among other graphics, which make it simple and efficient for the client to review progress on an active project. Upon contract award, Atlantic will load project areas into a-Track along with the associated flight lines, survey control points, production blocks/tiles, and final deliverables. The system is updated daily from our flight operations and weekly from our production team so that our clients can track our progress. Atlantic's goal is to provide an informed, well-planned, and effectively communicated project experience.

3.4 Warranty Against Image Defects

Atlantic will submit all required deliverables to Michigan on or before the scheduled delivery date using our online QA/QC website. Upon completion of the Michigan review Atlantic will promptly correct any issues found by Michigan. In the unlikely event that Michigan may find other issues after final acceptance Atlantic will correct those issues and redeliver the products.

4.0 Deliverables

4.1 Hard Drives

Atlantic will deliver all data and deliverables on external hard drives that will become the property of Michigan. The data and deliverables will be organized into sub-directories per county unless otherwise directed. Deliverables shall include orthoimagery, tile index, flight lines, vector seam index, elevation data used for orthorectification, AGPS/IMU data, ground control, QC checkpoints, and Final Report.

4.2 Delivery schedule

Atlantic will develop a project specific schedule for each AOI awarded. Data will typically be delivered in lots depending on the size of the project. All data will be delivered within 5 months from the end of the flying season.

4.3 Compressed Mosaic

Atlantic will provide a compressed mosaic in whatever format the client prefers, typically Mr. Sid.

5.0 Buy-up Options

5.1 High Resolution Areas (HRA)

Atlantic, using our Phase One iXM-RS-280MP 4-Band Digital Camera System can collect imagery at resolutions up to 1-inch (.03m). Atlantic is prepared to support the high-resolution areas (GSD of 6-inch (0.15 meters) and a GSD of 3-inch (0.075 meters)) at the same image quality requirements and has provided separate pricing for these high resolution areas. Our past performance provides evidence of multiple projects flown at this higher resolution.

5.2 True Ortho Areas (TOA)

Atlantic, using our Phase One iXM-RS-280MP 4-Band Digital Camera System can collect imagery to support True Orthos (>80% in track overlap and > 80% sidelap) at the same image quality requirements and has provided separate pricing for these high resolution areas.

6.0 Additional Deliverables at no cost to the SOM for 100% of each AOI

6.1 ESRI Shapefiles

Atlantic will deliverable additional deliverables in the same coordinate system as the orthoimagery or as specified in the contract.

6.1.1 Tile index

Atlantic will provide a polygon shapefile of the image tile boundaries with a naming convention that corresponds with the individual image name as required by the contract.

6.1.2 Flight lines

Atlantic will provide a flight plan that provides the project area outline, the location of the flight lines and the approximate location of image centers. The flight lines and image centers shall be attributed with the acquisition date. Atlantic will provide these files in shapefile or kmz format as desired by Michigan.

6.1.3 Vector seam index

Atlantic will provide a shapefile representing the location of seamlines created during the mosaicking process. The shapefile will be attributed with the image flight date.

6.2 Updated Elevation Data

Atlantic will provide a copy of the Digital Elevation Model used in the orthorectification process to Michigan.

6.3 Sensor Station Control

6.3.1 Airborne Global Positioning System (AGPS)

Atlantic typically submits the Airborne GPS and IMU raw and processed data in ASCII format. Atlantic will deliver the data to Michigan in whatever format they require. Atlantic will also provide a Control Report in pdf format that contains statistical analysis summarizing the results of the AGPS adjustment.

6.3.2 Internal Measurement Unit (IMU) Data

Atlantic typically submits the Airborne GPS and IMU raw and processed data in ASCII format. Atlantic will deliver the data to Michigan in whatever format they require. Atlantic will also provide a Control Report in pdf format that contains statistical analysis summarizing the overall accuracy of the adjusted IMU data.

6.4 Supplemental Ground Control

Atlantic can handle a multitude of survey challenges. We have extensive experience performing horizontal and vertical control surveys to support a wide variety of client needs. Our survey crews regularly adhere to legal requirements, client-specific standards and state regulations applicable to the work being performed. Our team has performed thousands of surveys in support of imagery and Lidar missions. We will choose the survey approach that best suits the project which may include VRS, static, rapid static or RTK GNSS observations or a combination thereof. We are not limited by equipment, or techniques. Our geodesists are well versed in rigorous 3D least squares adjustments so that the GNSS observations fit within the confines of the control. We also understand the importance of sound survey knowledge, especially for the current airborne derived technologies.

Atlantic has added Monument Engineering Group Associates (MEGA) to support our ground control efforts. MEGA is a service-disabled veteran owned small business (SDVOSB) based in Fowlerville, Michigan. Their local knowledge of the Michigan landscape and weather patterns will be invaluable to Atlantic as we plan and perform the work. Our team will establish ground control points based on the size of the project and the requirements to calibrate the data. A copy of our Control Plan will be provided to Michigan for review. Those points will be supplemented by Airborne GNSS/IMU data that is collected for each individual frame of digital aerial photography. All ground control data will be provided in shapefile format unless another format is required by Michigan.

6.5 Independent Check Points

Atlantic will collect and process at least two independent QC check points per County to insure we meet the contract specifications. As mentioned above we will use MEGA to support the collection of these QC checkpoints. All independent QC check points will be provided in shapefile format unless another format is required by Michigan.

6.6 Final Report

Atlantic will prepare and deliver a Final Report at the end of each project that contains as a minimum the below information. The Final Report will be delivered in pdf format.

Attachment 2: MiSAIL State of Michigan Lidar Specification, 2020

1.0

Business Specification Number	Business Specification	Contractor to explain how they will deliver the business Specification. Explain the details of any configuration/customization and the impacted risk that may be caused if configured or customized to meet the business specification.
1.0	Contractor must provide Light-Detection and Ranging (Lidar) and associated products	Atlantic has extensive experience providing Light-Detection and Ranging (Lidar) and associated products. Our experience with providing Lidar data and products includes large and small projects and differing point densities ranging from 2 pulses/m ² to 50+ pulses/m ² . Our clients include large federal agencies like USGS to smaller local governments and private corporations. Throughout this proposal we have provided information on how we would collect and process Lidar data for Michigan and have provided examples of how we have done it in the past.
2.0	Ability to acquire, produce and deliver lidar products per USGS Lidar Base Specification Version 1.3	Atlantic has flown over 350,000 square miles of Lidar for USGS. Examples of our extensive experience can be found in the below tables. In addition, our proposal provides details about our acquisition, processing and QC workflows that provide further evidence of our ability to meet the USGS Lidar Base Specification.

Introductory Material

Aerial Lidar data acquisition and processing is a core capability of Atlantic. We have successfully generated hundreds of thousands of square kilometers of aerial Lidar data acquisition for large- and small- scale mapping projects for Federal, State, and local government agencies as a prime contractor. Our highly qualified and experienced staff of pilots, sensor operators, surveyors and data processors provide Atlantic with the expertise to meet the requirements of this contract.

Atlantic purchased our first Optech Galaxy Prime sensor in mid-2018. In late 2019, we purchased two additional Optech Galaxy Prime's. Each of our three (3) state-of-the-art Optech sensors are also equipped with Phase One RGB camera systems. At the end of 2019, we pre-purchased the upgrade of our three (3) sensors to the T-2000 laser head from Optech. The T-2000 effectively doubles the power output of the sensor allowing for a higher pulse density at similar or higher altitudes. Another benefit of the T-2000 upgrades has a direct impact on Atlantic's ability to sense small features. That improvement is the beam divergence. The T-2000 will have a much smaller beam divergence (0.15 mR) compared to our current Prime laser head (0.25 mR). The smaller beam footprint will improve our ability to remotely sense much smaller features and will improve ground penetration in heavily forested areas. Atlantic will use the following acquisition controls on our new Optech Galaxy Prime to obtain the highest quality 3D elevation data.

1.1 Purpose and Scope

Atlantic has a long history in the collection and processing of lidar data to support large and small-scale mapping. We have collected over 350,000 mi² of lidar in the last five years of which the majority was acquired and processed using the USGS Lidar Base Specification. Atlantic is intimately familiar with the requirements of the National Geospatial Program Lidar Base Specifications Version 1.3. Often our client requires additional data or deliverables not required by the USGS Specification. Our workflow processes are all designed to adapt as necessary to the client’s requirements. All of the projects listed in the above table required us to comply with the USGS Lidar Base Specification and many required more stringent parameters such as point density or accuracy.

1.2 Applicability

Atlantic will utilize the following specifications and guidelines for the lidar data and deliverables.

1.3 Warranty Against Data Defects

Atlantic will submit all required deliverables to Michigan on or before the scheduled delivery date. Upon completion of the Michigan review Atlantic will promptly correct any issues found by Michigan. In the unlikely event that Michigan may find other issues after final acceptance Atlantic will correct those issues and redeliver the products.

2.0 Collection

Atlantic will acquire all data in accordance with the requirements of the USGS Lidar Base Specification 1.3.

General USGS Base Lidar Specifications			
Collection Area		Buffered by 100 meters	
Quality Level		As required by the contract (QL0, 1, 2, etc.)	
Multiple Discrete Returns		> 3 returns per pulse.	
Intensity Values		For each discrete return, 16bit	
Nominal Point Spacing	As required by the contract; based on single instrument and single swath		
Spatial Distribution	90% of cells in a grid contain at least one Lidar point		
Data Voids	$\geq (4+ANPS)^2$ Unacceptable unless they meet exceptions specified in USGS Base Lidar Specification		
Collection Conditions	Free from cloud, fog, snow, extensive flooding. Leaf off		
Aircraft	Quantity	Team Member	Own/Leased
Cessna T-210	1	Atlantic	Long Term Lease
Pacific Aerospace PAC750 (Turbine)	3	Atlantic	Long Term Lease

Aircraft/Sensors

Atlantic and our team partner Midwest Aerial Photography have a combined 14 aircraft that can be utilized for the State of Michigan program. Below is a listing of our team aircraft:

Cessna 208 Caravan (Turbine)	1	Atlantic	Long Term Lease
Cessna 310R	2	Midwest Aerial	Long Term Lease
Piper Aztec	2	Midwest Aerial	Long Term Lease
Piper Navajo	1	Midwest Aerial	Own
Rockwell 500S	1	Midwest Aerial	Own
Cessna 206	3	Midwest Aerial	Own

Each of the aforementioned aircraft can be equipped with one of our new Optech Galaxy T2000's. Atlantic owns three Optech Galaxy T2000 Lidar sensors and Midwest owns an additional Galaxy. The Galaxy T2000 is the most innovative wide area mapping sensor available. Some of the advantages of the T2000 include 2-MHz "on ground" collection rate allowing higher density collections, PulseTRAK™ technology accommodates high relief terrain with no data gaps or loss of density across multi-pulse transition zones, SwathTRAK™ technology maintains fixed width flight lines for consistent point density and fewer flight lines in variable terrain, and provides up to 8 returns per emitted pulse.

Aerial Lidar Systems	Quantity	Team Member	Own/Leased
Optech Galaxy T-2000 (one with waveform digitizer)	3	Atlantic	Own
Leica ALS70-HP (one with waveform digitizer)	2	Atlantic	Own
Optech Galaxy Prime	1	Midwest Aerial	Own

Flight Planning

Atlantic uses both Optech FMS (Flight Management Suite) or Leica MissionPro for all flight planning activities. Optech's FMS is an integrated workflow tool that combines flight planning, multiple system control and monitoring, and navigation in one convenient package. Atlantic uses the FMS Planner module for all project design, parameter adjustment and flight planning. This tool is useful for both wide area and corridor-based planning.

Both Optech FMS, and Leica MissionPro/Mission Planner allow us to incorporate DEM data into the flight planning process, which is especially critical when planning for flights in areas with relief.

Site Basing

Prior to a notification to proceed (NTP), the flight plans are approved by Atlantic's assigned Project Manager and then provided to the sensor operator for preliminary review. Upon issuance of the NTP, the operator will load the flight plans and validate the flight parameters. Mr. Scott Jones, Atlantic's Data Collection Manager, will contact Air Traffic Control and coordinate flight pattern requirements. During flight operations the crew monitors weather conditions to determine its impact on the acquired data. The pilot is constantly monitoring aircraft course, position, pitch, roll, and yaw of the aircraft. The sensor operator will be monitoring the sensor, the status of GPS PDOPs, and performing the first QC review during acquisition. The sensor operator is constantly reviewing weather and cloud locations. Any data impacted by clouds and or smoke can be invalidated and re-flown immediately.

Following each day's acquisition, the sensor operator downloads in-flight data, on-board POS/AV (IMU-ABGPS) data, and the RAW lidar to two external hard drives: one for delivery to the Huntsville office for post processing and a second hard drive for a field backup. The second quality control review is performed on-site following data download by the sensor operator using Optech's viewer. This allows the sensor operator to view the acquired data in greater detail for cloud shadows, haze, and or smoke. If any swaths are found to be unacceptable, the respective swath is scheduled for re-flight the following day (weather permitting). This process continues until all data is successfully acquired.

Once the raw lidar is received from the field, the data is backed up to Atlantic's server to ensure data safety and integrity. Atlantic understands that unacceptable data is re-flown at no additional cost to Michigan.

For each day of acquisition, the sensor operator prepares a flight log containing the date, project name, aircraft used, sensor number, and names of crew members. The log is annotated with flight line, altitude, frame numbers, time online, weather conditions, and any other comments relative to the flight activities.

Atlantic will verify that all flight plans, flight operations, weather conditions and digital sensor operations work together to ensure the acquisition of high quality, error-free Lidar data that meets the contract specifications. See table below. Atlantic's combination of high-performance aircraft with cutting-edge Lidar sensors and ABGPS/IMU systems provides Atlantic's team with the ability to acquire the entire project area in the least amount of time.

Lidar Acquisition	Parameters
Vertical Accuracy	≤ 10 cm RMSE
Horizontal Accuracy	≤ 35 cm RMSE
Space Weather	K Level > 6
PDOP	≤ 4
Weather Conditions	No rain, snow, fog, clouds, excessive smoke, etc
Ground conditions	No snow, ≤ 50 mm/24h
Geo-referencing	In-situ calibrated GPS/INS
Aircraft Dynamics	< 20 degree roll angle
Nominal Pulse Density	≥ 8 laser pulses/m ² for QL1 and ≥ 2 laser pulses/m ² for QL2
Laser Range Observations	4 returns minimum
Laser Beam Footprint	American National Standard Z136.1-2007 for eye-safe lasers
Scan Angle	≤ 30 degree
Swath Overlap	$\geq 30\%$

2.1 Collection Area

Atlantic will collect the entire area as defined in the contract. Atlantic will buffer the provided AOI by a minimum of 100 meters to ensure complete coverage of the AOI.

3.0 Data Processing and Handling

Atlantic will process all data per the requirements of USGS Lidar Base Specification Version 1.3. All point deliverables will be in American Society for Photogrammetry and Remote Sensing LAS format v1.4.

As mentioned above Atlantic has extensive experience acquiring and processing data to the USGS Base Lidar Specification. We have built our Lidar workflows around the requirements of this specification. Atlantic's production resources include some of the most experienced lidar professionals in the mapping industry. We have developed a variety of custom filters and algorithms for processing lidar data that results in the highest quality products available in the industry. Our processes are designed to integrate new terrestrial lidar datasets to yield the best possible seamless surface. We continue to develop new processes and algorithms and press innovations as driven by the industry to continually maintain our leadership in the field.

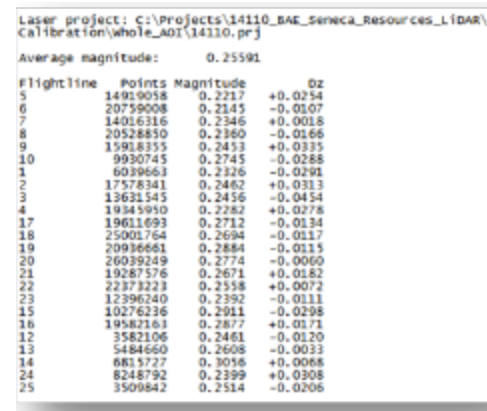
Atlantic processes lidar using CloudPro, LMS, Dashmap, Terramatch, Terrasolid, GeoCue, and ESRI processing tools to produce 3-D point cloud, bare earth and classified lidar surfaces. Large datasets are stored on servers and are managed using the GeoCue software package.

After purchasing our first Optech Galaxy Prime in mid-2018, we quickly realized that a re-investment in our IT infrastructure was necessary to meet our growing demand on storage and network throughput. First, we upgraded the networking capabilities in both of our data production offices (Huntsville, AL and Knoxville, TN) by pulling new CAT-6 network cable throughout both facilities. Next, we upgraded every workstation and laptop at Atlantic. We also added new networking devices and finished with a multimillion-dollar investment in our server technology.

LiDAR Calibration

Atlantic uses a combination of software's depending on the sensors used, and the abilities of the manufactures software to produce the desired results. For the Optech Galaxy Primes, we utilize Optech LMS (Lidar Mapping Suite). LMS is a comprehensive data processing platform for the calibration, boresight and accuracy quantification of the Galaxy sensors. Designed to serve as a single central processing hub of raw lidar, LMS combines powerful least-squares algorithms with batch processing methods and the latest in distributed and multi-threaded processing routines to automate sensor calibration, compute project-wide accuracies, and maximize data throughput.

The self-calibration engine available in LMS incorporates advanced least-squares algorithms that estimate reliable and repeatable corrections to the lidar system calibration parameters (e.g., sensor and boresight parameters) and measurements (e.g., trajectory position and orientation). LMS leverages these principles in its fundamental approach to sensor calibration and quality assurance, including planar surface extraction from redundant features, rigorous, industry-accepted methods for automatic sensor calibration, and the generation of reliable and repeatable sensor corrections.



Flightline	Points	Magnitude	Dz
5	14919058	0.2217	+0.0254
6	20759008	0.2145	-0.0107
7	14016316	0.2346	+0.0018
8	20528850	0.2360	-0.0166
9	15918355	0.2453	+0.0335
10	9930745	0.2745	-0.0288
1	6039663	0.2326	-0.0291
2	17578341	0.2462	+0.0313
3	13631545	0.2456	-0.0454
4	19345950	0.2282	+0.0278
17	19611693	0.2712	-0.0134
18	25001764	0.2694	-0.0117
19	20936681	0.2884	-0.0115
20	26039249	0.2774	-0.0060
21	19287576	0.2671	+0.0182
22	22373223	0.2558	+0.0072
23	12396240	0.2392	-0.0111
15	10276236	0.2911	-0.0298
16	19582163	0.2877	+0.0171
12	3582106	0.2461	-0.0120
13	5484660	0.2608	-0.0033
14	6815727	0.3056	+0.0068
24	8248792	0.2399	+0.0308
25	3509842	0.2514	-0.0206

Measure Match Report

QC of Calibration Results

Upon completion of the data calibration, the adjusted swath data is imported into a GeoCue warehouse. Once loaded, Atlantic runs a complete set of Delta-Z (Dz) orthophotos. The Dz orthophotos provide an opportunity to review the data calibration in a qualitative manner. The Dz orthophotos apply a color ramp for the offsets between overlapping flight lines, using a user-defined color ramp.

Atlantic assigns green to all offset values that fall below the required relative accuracy RMSEz requirement of the project. An amber color is assigned for offsets that fall between the RMSEz value and 2x of that value (essentially the 95% confidence level). Finally, red values are assigned to all values that fall beyond 2x of the RMSEz requirements of the project.

These orthos are run against the full point cloud so the analyst will see red values in heavily vegetated areas. Production staff are trained to analyze open terrain and mark any areas that require additional calibration in TerraMatch.

Classification

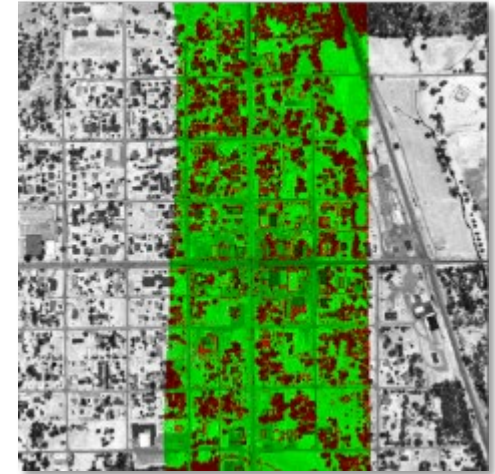
Once calibration is complete, Atlantic will begin the process of classifying the LiDAR points. Atlantic utilizes automated macros in TerraScan for LAS files that classify close to 70% of LiDAR points to the specific classifications requested. Once the automation is complete, a team of LiDAR analysts will manually pan through all of the point data to further classify and clean up the LiDAR points so that artifacts are removed. Once the LiDAR analysts have completed the classification, they will review all tiles once more to further ensure that the LAS files are clean and ready for derivative products. All data will be seamless with no gaps or voided areas.

For this project, Atlantic will adhere to the Section 5.2 of the, “Specifications for Airborne LiDAR for the Province of British Columbia v5.0,” into the following classes:

- | | |
|---------------------------------------|----------------------------|
| ▪ Class 1, Processed but Unclassified | ▪ Class 9, Water Body |
| ▪ Class 2, Bare Earth | ▪ Class 17, Bridge Deck |
| ▪ Class 5, High Vegetation | ▪ Class 18, High Noise |
| ▪ Class 7, Low Noise (Withheld Point) | ▪ Class 20, Ignored Ground |

Digital Elevation Model (DEM) and Digital Surface Model (DSM)

After the lidar has been classified, our production team will utilize ArcGIS and LP360 to create Digital Elevation Models (DEMs) using only the bare earth points that were classified to “Ground” in the classification scheme. These DEMs will be checked by multiple analysts for any artifacts that should not be in the DEM. If any artifacts are found, the LAS files will be corrected, then new DEMs will be created and checked to make sure the surface is correctly



Dz Orthophoto Sample

rendered. These DEMs will be produced at a resolution of 1 m resolution per the contract.

Similarly, Atlantic will create Digital Surface Models (DSM) using the first returns.

3.1 Datums

Atlantic will deliver all Lidar data referenced to the North American Datum 1983 (2011) epoch 2010.00 and North American Vertical Datum 1988 (NAVD 88) using the latest geoid model, currently GEOID18 for CONUS.

Atlantic understands that NOAA National Geodetic Survey (NGS) is updating the National Spatial Reference System (NSRS) and will replace NAD83 and NAVD88 with a new and improved terrestrial reference frame and geopotential datum. Our team is actively monitoring the progress and will be prepared to implement the North American Terrestrial Reference Frame (NATRF) of 2022 for Michigan when the new projection becomes adopted.

3.2 Coordinate Reference System

(subject to change with the adoption of datums described in 3.1 above)

- **Coordinate Reference System:** Michigan State Plane (appropriate zone)
- **Horizontal Datum:** Most current realization of NAD83
- **Horizontal Units:** International Feet
- **Vertical Datum:** NAVD88
- **Vertical Units:** International Feet
- **Vertical Reference:** Orthometric Heights
- **Geoid Model:** Most Current NGS Geoid model

3.3 Tiles

Atlantic will use the Michigan provided tiling grid for delivery of all data. We will work with Michigan upon contract award to determine the grid cell size. The cell size will always be a multiple integer of the raster grids. Each tile will be edge matched so as not have any gaps or overlaps.

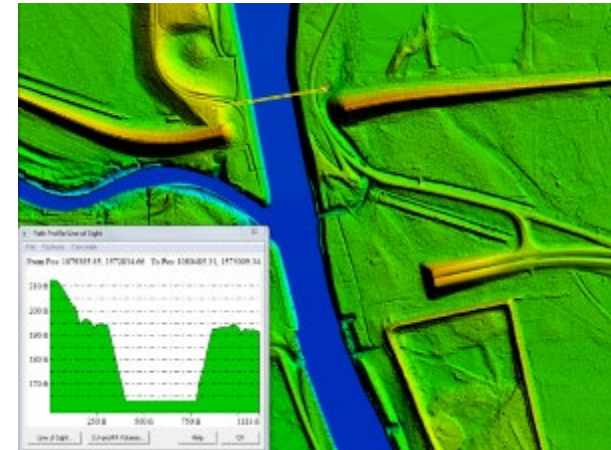
4.0 Hydro-Flattening

The goal of developing a hydro-flattened DEM dataset is for cartographic presentation. The dataset should be interpreted in a manner that is consistent with looking at the data from an aerial or overhead view. The surfaces of ponds, lakes, and rivers are flat from shore to shore and all water flows downhill.

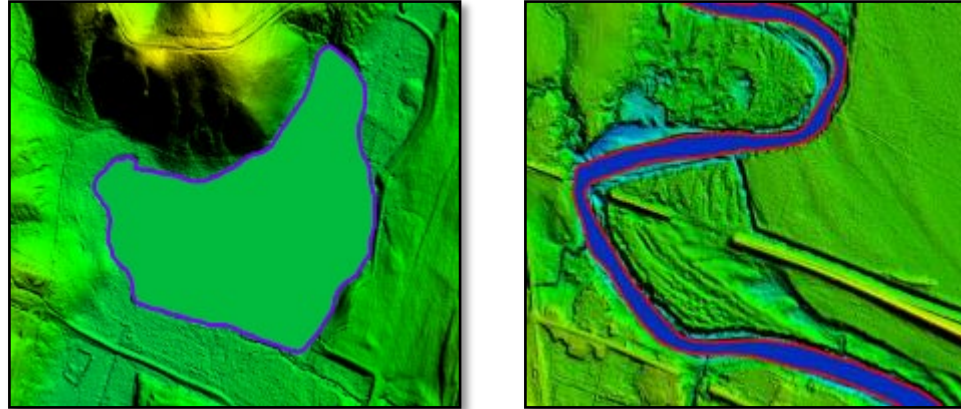
To develop the hydro-flattened DEM data, Atlantic uses a combination of LP360 and ArcGIS Desktop tools. The first step in this process is to ensure that all dual line features are flat from bank-to-bank. In order to accomplish this task, we compute centerline data from the breaklines extracted in LP360. The centerlines are used in a data conflation process within LP360 to first identify any elevations along the features that do not meet the requirements for monotonicity or flatness. Once those areas are identified, the software uses an algorithm to assign first to the centerline the correct value and then those values are conflated back to the dual line data in a manner that will result in flat hydro features from bank-to-bank.

Once the breakline data are correctly conflated, the LP360 tools select a small buffer of points around the breaklines themselves and re-classify that to a withheld class within the LAS data. This results in smoother transitions at the hydro features in the final DEM data.

Finally, the data is batched into Arc ASCII Grid format and then validated through a manual review to ensure that all features are flat and that no visible surface artifacts are visible in the



Hydro-flattened DEM data resultant from Atlantic's LP360 and ArcGIS-based process. Notice the flat, smooth water channels.



Hydro breaklines of closed water body greater than 1 acre (left) and dual line drain greater than 100' in width. Data were captured in LP360.

final data.

4.1 Great Lakes

Atlantic will ensure that all water surfaces that include the Great Lakes will be flat and level and the entire water surface edge will be at or below the immediately surrounding terrain.

4.2 Islands

Atlantic will delineate all permanent islands 1 acre or within the water bodies, including the Great Lakes.

5.0 Deliverables

As mentioned throughout this proposal Atlantic has extensive experience using the USGS Lidar Base Specification Version 1.3 for acquiring, processing, and delivering Lidar products to multiple clients. Typical deliverables required by Version 1.3 include metadata in .xml format, classified point cloud in LAS 1.4 format, bare earth Digital Elevation Model in .img format, and hydro breaklines in .gdb format.

5.1 Lidar Intensity Images

Atlantic creates intensity images for most of our Lidar projects. The Intensity Image is created from the final classified point cloud using GeoCUE software. The resultant product is an 8 bit georeferenced normalized gray scale image file in GeoTIFF format. The cell size is typically equal to the resolution of the Digital Elevation Model cell size. The image will be tiled as required by the contract.

5.2 Delivery Schedule

Atlantic will provide a project specific schedule for each contract. The schedule will layout the time line for pre-planning, data acquisition, processing, Quality Assurance, and Deliverables. The schedule will allow for delivery of all products within 4 months of the end of the applicable acquisition season.

Appendix 1. Common Data Upgrades

Atlantic has extensive experience with creating and delivering all of the common data upgrades that may be requested by Michigan. We will be prepared to include any upgrades requested in our proposal for project specific tasks.

- Independent 3rd-Party QA/QC by another Architecture & Engineering (AE) Contractor (encouraged)
- Lower NPS (greater point density)
- Increased Vertical Accuracy
- Full Waveform collection and delivery
- Additional Environmental Constraints
- Interpolation based on 1st>Returns
- Interpolation based on All>Returns, summed
- Detailed Classification (additional classes: e.g., vegetation levels)
- Hydro-Enforced DEMs as an additional deliverable
- Hydro-Conditioned DEMs as an additional deliverable
- Breaklines (PolylineZ and PolygonZ) for single-line hydrographic features
- Narrow streams not collected as double-line, culverts, and other similar features, including appropriate integration into delivered DEMs
- Breaklines (PolylineZ and PolygonZ) for other features (to be determined)
- Including appropriate integration into delivered DEMs

- Extracted Buildings (PolygonZ)
- Footprints with maximum elevation or height above ground as an attribute
- Other products as defined by requirements and agreed upon in advance of funding commitment

SCHEDULE A, EXHIBIT 1 - BUSINESS SPECIFICATION WORKSHEET

Imagery (Attachment 1)

Business Specification Number	Business Specification	Contractor to explain how they will deliver the business Specification. Explain the details of any configuration/customization and the impacted risk that may be caused if configured or customized to meet the business specification.
1.0	Contractor must provide aerial acquisition and production services to provide orthoimagery and associated products	Atlantic currently has 5 aircraft capable of collecting aerial imagery. In addition, Atlantic has 4 Phase One cameras and 2 Leica DMC cameras. Atlantic would likely use the Phase One iXM-RS 280 F large format camera for data acquisition. Atlantic currently has 11 Certified Photogrammetrists on staff. Our production staff includes 9 GIS Analysts, 4 Sr GIS Analysts, and 5 Orthophotography Technicians capable of processing orthoimagery and creating associated products. In addition, we have cross trained our 9 Lidar analysts in imagery processing if additional capacity is required. In recent years Atlantic has invested heavily in upgrading our IT infrastructure, hardware and software. Although Atlantic is a small company we operate like a large business.
2.0	Ability to acquire, produce and deliver orthoimagery for 10,000-20,000 square miles annually	Atlantic estimates with our current capacity, we can acquire up to 50,000 square miles of 1 foot imagery, and process approximately 30,000 square miles of 1 foot imagery
3.0	Provide a secure online internet QA/QC application for State review of acquired imagery	Atlantic has designed a toolbar in ArcGIS that allows our QA/QC staff to perform redline edits on orthophotos. We have also expanded that capability to provide an ArcGIS Online tool that is WMS-enabled, which provides a similar review environment when a desktop approach is not feasible.

SCHEDULE B – PRICING AND FEES

IMAGERY PRICING	
12" GSD, 4-band, per square mile price based on the following TOTAL ANNUAL project square miles, AOIs defined by County boundaries. Detailed specifications in Attachment 1 - Imagery Specifications	
Square Miles	Cost per sq. mile
<5,000	\$ 25.32
5,001 - 10,000	\$ 24.27
10,001-15,000	\$ 24.18
15,001-20,000	\$ 23.79
>20,000	\$ 23.08
% Reduction for contiguous AOIs (sq. miles). Contiguous defined as two or more AOIs touching at any one point. AOIs can be of various GSDs.	
Contiguous Square Miles	% Reduction
1,000 – 2,500	3%
2,501 – 5,000	5%
5,001 - 10,000	7.5%
>10,000	10%
6" GSD, 4-band, per square mile price based on the following High Resolution Areas (HRA) values. Detailed specifications in Attachment 1 - Imagery Specifications - Section 5.1 This is an optional 'buyup' product. HRAs will be flown within the 12"GSD AOI. Costs listed below in rows 20-23 are to be <u>in addition to</u> the 12" GSD cost	
Contiguous Square Miles	Cost per sq. mile
10 - 100	\$ 184.87
101 - 500	\$ 65.39
501 - 1000	\$ 42.03
>1001	\$ 39.93
3" GSD, 4-band, per square mile price based on the following High Resolution Areas (HRA) values. Detailed specifications in Attachment 1 - Imagery Specifications -Section 5.1 This is an optional 'buyup' product. HRAs will be flown within the 12"GSD AOI. Costs listed below in rows 27-30 are to be <u>in addition to</u> the 12" GSD cost	
Contiguous Square Miles	Cost per sq. mile
10 - 100	\$ 353.16
101 - 500	\$ 177.97
501 - 1000	\$ 134.38
>1001	\$ 127.66

* **Contiguous** defined as two or more AOIs touching at any one point. AOIs can be of various GSDs

LIDAR PRICING			
Base product collected using specifications defined in Attachment 2 - Lidar Specification, Section 5.0			
Classified Point Cloud			
Contiguous Square Miles	Cost per sq. mile	% Increase for QL 1	% Reduction for QL 3
<100	\$ 253.74	5%	10%
101-500	\$ 119.62	5%	10%
501-1000	\$ 86.84	5%	10%
1001-5000	\$ 74.26	5%	10%
>5000	\$ 73.27	5%	10%
Bare-Earth Surface			
Contiguous Square Miles	Cost per sq. mile	% Increase for QL 1	% Reduction for QL 3
<100	\$ 2.16	0%	0%
101-500	\$ 1.39	0%	0%
501-1000	\$ 1.23	0%	0%
1001-5000	\$ 1.11	0%	0%
>5000	\$ 1.07	0%	0%
Hydro-flattened Bare-Earth Surface, including Breaklines			
Contiguous Square Miles	Cost per sq. mile	% Increase for QL 1	% Reduction for QL 3
<100	\$ 31.59	0%	0%
101-500	\$ 27.59	0%	0%
501-1000	\$ 24.12	0%	0%
1001-5000	\$ 23.88	0%	0%
>5000	\$ 21.95	0%	0%
LiDAR Intensity Images			
Contiguous Square Miles	Cost per sq. mile	% Increase for QL 1	% Reduction for QL 3
<100	No Charge - Included	0%	0%
101-500	No Charge - Included	0%	0%
501-1000	No Charge - Included	0%	0%
1001-5000	No Charge - Included	0%	0%
>5000	No Charge - Included	0%	0%

* **Contiguous** defined as two or more AOIs touching at any one point. AOIs can be of various GSDs



STATE OF MICHIGAN

SCHEDULE C - CONTRACTOR HOSTED SOFTWARE AND SERVICES

1. Definitions. In addition to the definitions found in the Contract Terms, for the purposes of this Contract, the following terms have the following meanings:

“Authorized Users” means all Persons authorized by the State to access and use the Software under this Contract, subject to the maximum number of users specified in the applicable Statement of Work.

“Harmful Code” means any: (a) virus, trojan horse, worm, backdoor or other software or hardware devices the effect of which is to permit unauthorized access to, or to disable, erase, or otherwise harm, any computer, systems or software; or (b) time bomb, drop dead device, or other software or hardware device designed to disable a computer program automatically with the passage of time or under the positive control of any Person, or otherwise prevent, restrict or impede the State's or any Authorized User's use of such software.

“Hosted Services” means the hosting, management and operation of the Software and other services for remote electronic access and use by the State and its Authorized Users as described in one or more written, sequentially numbered, statements of work referencing this Contract, including all Specifications set forth in such statements of work, which, upon their execution will be attached as **Schedule A** to this Contract and by this reference are incorporated in and made a part of this Contract.

“Integration Testing” has the meaning set forth in **Section 4.2(c)**.

“Open-Source Components” means any software component that is subject to any open-source copyright license agreement, including any GNU General Public License or GNU Library or Lesser Public License, or other obligation, restriction or license agreement that substantially conforms to the Open Source Definition as prescribed by the Open Source Initiative or otherwise may require disclosure or licensing to any third-party of any source code with which such software component is used or compiled.

“Open-Source License” has the meaning set forth in **Section 2.3**.

“Operating Environment” means, collectively, the platform, environment and conditions on, in or under which the Software is intended to be installed and operate, as set forth in the Statement of Work, including such structural, functional and other features, conditions and components as hardware, operating software and system architecture and configuration.

“Service Error” means any failure of any Hosted Service to be Available or otherwise perform in accordance with this Schedule.

“Specifications” means the specifications for the Software set forth in the applicable Statement of Work and, to the extent consistent with and not limiting of the foregoing, the Documentation.

“State Materials” means all materials and information, including documents, data, know-how, ideas, methodologies, specifications, software, content and technology, in any form or media, directly or indirectly provided or made available to Contractor by or on behalf of the State in connection with this Contract.

“Support Services” means the Software maintenance and support services Contractor is required to or otherwise does provide to the State pursuant to this **Schedule C** and **Exhibit 1** to this **Schedule C**.

“Technical Specification” means, with respect to any Software, the document setting forth the technical specifications for such Software and included in the Statement of Work.

“User Data” means all data, information and other content of any type and in any format, medium or form, whether audio, visual, digital, screen, GUI or other, that is input, uploaded to, placed into or collected, stored, processed, generated or output by any device, system or network by or on behalf of the State, including any and all works, inventions, metadata, analyses and other information and materials resulting from any use of the Software by or on behalf of the State under this Contract, except that User Data does not include the Software or data, information or content, including any GUI, audio, visual or digital or other display or output, that is generated automatically upon executing the Software without additional user input.

“Warranty Period” means, for Contractor Hosted Software, the ninety (90) calendar-day period commencing on the date of the State's Acceptance of the Software.

2. Hosted Software License Grant and Source Code Escrow

2.1 Contractor License Grant. Contractor hereby grants to the State, exercisable by and through its Authorized Users, a nonexclusive, royalty-free, irrevocable (except as provided herein) right and license during the Term and such additional periods, if any, as Contractor is required to perform Services under this Contract or any Statement of Work, to:

(a) access and use the Hosted Services, including in operation with other software, hardware, systems, networks and services, for the State's business purposes, including for Processing State Data;

(b) generate, print, copy, upload, download, store and otherwise Process all GUI, audio, visual, digital and other output, displays and other content as may result from any access to or use of the Hosted Services;

(c) prepare, reproduce, print, download and use a reasonable number of copies of the Specifications and Documentation for any use of the Hosted Services under this Contract; and

(d) access and use the Hosted Services for all such non-production uses and applications as may be necessary or useful for the effective use of the Hosted Services hereunder, including for purposes of analysis,

development, configuration, integration, testing, training, maintenance, support and repair, which access and use will be without charge and not included for any purpose in any calculation of the State's or its Authorized Users' use of the Hosted Services, including for purposes of assessing any Fees or other consideration payable to Contractor or determining any excess use of the Hosted Services as described in **Section 2.2**.

2.2 License Restrictions. The State will not: (a) rent, lease, lend, sell, sublicense, assign, distribute, publish, transfer or otherwise make the Hosted Services available to any third-party, except as expressly permitted by this Contract or in any Statement of Work; or (b) use or authorize the use of the Hosted Services or Documentation in any manner or for any purpose that is unlawful under applicable Law.

2.3 Use. The State will pay Contractor the corresponding Fees set forth in the Statement of Work for all Authorized Users access and use of the Hosted Services or Software. Such Fees will be Contractor's sole and exclusive remedy for use of the Hosted Services or Software, including any excess use.

2.4 Open-Source Licenses. For Contractor Hosted Software only (and not for the provision of Software-as-a-Service), any use hereunder of Open-Source Components shall be governed by, and subject to, the terms and conditions of the applicable open-source license ("Open-Source License"). Contractor shall identify and describe in an exhibit to the Statement of Work each of the Approved Open-Source Components of the Software, and include an exhibit attaching all applicable Open-Source Software Licenses or identifying the URL where these licenses are publicly available.

2.5 Source Code Escrow. The parties may enter into a separate intellectual property escrow agreement. Such escrow agreement will govern all aspects of Source Code escrow and release. Contractor hereby grants the State a license to use, reproduce, and create derivative works from the deposit material, provided the State may not distribute or sublicense the deposit material or make any use of it whatsoever except for such internal use as is necessary to maintain and support the Software. Copies of the deposit material created or transferred pursuant to this Contract are licensed, not sold, and the State receives no title to or ownership of any copy or of the deposit material itself. The deposit material constitutes Confidential Information of Contractor pursuant to **Section 37.a** of this Contract (provided no provision of **Section 37.e** calling for return of Confidential Information before termination of this Contract will apply to the deposit material).

3. Hosted Services Testing and Acceptance.

3.1 Hosted Service Preparation. Promptly upon the parties' execution of a Statement of Work, Contractor will take all steps necessary to make the Hosted Services procured thereunder ready and available for the State's use in accordance with the Statement of Work and this Contract, including any applicable milestone date or dates set forth in such Statement of Work.

3.2 Testing and Acceptance.

(a) When Contractor notifies the State in writing that the Hosted Services are ready for use in a production environment, the State will have thirty (30) days (or such other period as may be agreed upon by the

Parties in writing) from receipt of the notice to test the Hosted Services to determine whether they comply in all material respects with the requirements of this Contract and the Specifications.

(b) Upon completion of the State's testing, the State will notify Contractor of its acceptance ("**Accept**" or "**Acceptance**") or, if it has identified any noncompliance with the Specifications, rejection ("**Reject**" or "**Rejection**") of the Hosted Services. If the State Rejects the Hosted Services, the State will provide a written list of items that must be corrected. On receipt of the State's notice, Contractor will promptly commence, at no additional cost or charge to the State, all reasonable efforts to complete, as quickly as possible and in any event within twenty (20) days (or such other period as may be agreed upon by the Parties in writing) from receipt of the State's notice, such necessary corrections, repairs and modifications to the Hosted Services to bring them into full compliance with the Specifications.

(c) If any corrective measures are required under **Section 3.2(b)**, upon completion of all such measures, Contractor will notify the State in writing and the process set forth in **Section 3.2(a)** and **Section 3.2(b)** will be repeated; provided that if the State determines that the Hosted Services, as revised, still do not comply in all material respects with the Specifications, the State may, in its sole discretion:

- (i) require the Contractor to repeat the correction, repair and modification process set forth in **Section 3.2(b)** at no additional cost or charge to the State; or
- (ii) terminate any and all of the relevant Statement of Work, this Contract and any other Statements of Work hereunder.

(d) The parties will repeat the foregoing procedure until the State Accepts the Hosted Services or elects to terminate the relevant Statement of Work as provided in **Section 3.2(c)(ii)** above. If the State so terminates the relevant Statement of Work, Contractor must refund to the State all sums previously paid to Contractor under such Statement of Work within ten (10) Business Days of the State's written notice of termination, and the State will be relieved of all obligations thereunder.

4. Support Services.

4.1 Maintenance and Support Services. Contractor will provide Hosted Service maintenance and support services (collectively, "**Support Services**") in accordance with the provisions set forth in this **Schedule C** and in the Service Level Agreement, attached as **Exhibit 1** to this **Schedule C** (the "**Support Services and Service Level Agreement**").

4.2 Maintenance Services. Contractor will provide Hosted Service maintenance and support services (collectively, "**Software Support Services**") in accordance with the provisions of this **Schedule C**, including **Exhibit 1** to this **Schedule C**. The Software Support Services are included in the Services, and Contractor may not assess any additional fees, costs or charges for such Software Support Services. Contractor will continuously maintain the Hosted Services to optimize Availability that meets or exceeds the Availability Requirement as defined in **Exhibit 1** to this **Schedule C**. Such maintenance services include providing to the State and its Authorized Users:

(a) all updates, bug fixes, enhancements, new releases, new versions and other improvements to the Hosted Services, including the Software, that Contractor provides at no additional charge to its other similarly situated customers; and

(b) all such services and repairs as are required to maintain the Hosted Services or are ancillary, necessary or otherwise related to the State's or its Authorized Users' access to or use of the Hosted Services, so that the Hosted Services operate properly in accordance with the Contract and this **Schedule C**.

4.3 Support Service Responsibilities. Contractor will:

(a) correct all Service Errors in accordance with the Support Service Level Requirements as defined in **Exhibit 1** to this **Schedule C**, including by providing defect repair, programming corrections and remedial programming;

(b) provide unlimited telephone support between the hours of 7 am and 7 pm, EST;

(c) provide unlimited online support 24 hours a day, seven days a week;

(d) provide online access to technical support bulletins and other user support information and forums, to the full extent Contractor makes such resources available to its other customers; and

(e) respond to and Resolve Support Requests as specified in **Exhibit 1** to this **Schedule C**.

5. Software and Service Warranties.

5.1 Contractor represents and warrants to the State that:

(a) Contractor has, and throughout the Term and any additional periods during which Contractor does or is required to perform the Services, including Hosted Services, will have, the unconditional and irrevocable right, power and authority, including all permits and licenses required, to provide the Services and grant and perform all rights and licenses granted or required to be granted by it under this Contract;

(b) neither Contractor's grant of the rights or licenses hereunder nor its performance of any Services or other obligations under this Contract does or at any time will: (i) conflict with or violate any applicable law, including any law relating to data privacy, data security or personal information; (ii) require the consent, approval or authorization of any governmental or regulatory authority or other third-party; or (iii) require the provision of any payment or other consideration by the State or any Authorized User to any third-party, and Contractor shall promptly notify the State in writing if it becomes aware of any change in any applicable law that would preclude Contractor's performance of its material obligations hereunder;

(c) as accessed and used by the State or any Authorized User in accordance with this Contract and the Specifications, the Hosted Services, Documentation and all other Services and materials provided by Contractor under this Contract will not infringe, misappropriate or otherwise violate any Intellectual Property Right or other right of any third-party;

(d) there is no settled, pending or, to Contractor's knowledge as of the Effective Date, threatened action, and it has not received any written, oral or other notice of any action (including in the form of any offer to obtain a license): (i) alleging that any access to or use of the Services, Hosted Services, or Software does or would infringe, misappropriate or otherwise violate any Intellectual Property Right of any third-party; (ii) challenging Contractor's ownership of, or right to use or license, any software or other materials used or required to be used in connection with the performance or receipt of the Services, or alleging any adverse right, title or interest with respect thereto; or (iii) that, if decided unfavorably to Contractor, would reasonably be expected to have an actual or potential adverse effect on its ability to perform the Services, including Hosted Services, or its other obligations under this Contract, and it has no knowledge after reasonable investigation of any factual, legal or other reasonable basis for any such litigation, claim or proceeding;

(e) the Software, Services (including Hosted Services) will in all material respects conform to and perform in accordance with the Specifications and all requirements of this Contract, including the Availability and Availability Requirement provisions set forth in Exhibit 1 to this **Schedule C**;

(f) all Specifications are, and will be continually updated and maintained so that they continue to be, current, complete and accurate and so that they do and will continue to fully describe the Hosted Services in all material respects such that at no time during the Term or any additional periods during which Contractor does or is required to perform the Services will the Hosted Services have any material undocumented feature;

(g) the Contractor Systems and Services (including Hosted Services) are and will remain free of Harmful Code;

(h) Contractor will not advertise through the Hosted Services (whether with adware, banners, buttons or other forms of online advertising) or link to external web sites that are not approved in writing by the State;

(i) Contractor will perform all Services in a timely, professional and workmanlike manner with a level of care, skill, practice and judgment consistent with generally recognized industry standards and practices for similar services, using personnel with the requisite skill, experience and qualifications, and will devote adequate resources to meet Contractor's obligations (including the Availability Requirement and Support Service Level Requirements) under this Contract;

(j) During the term of this Contract, any audit rights contained in any third-party software license agreement or end user license agreement for third-party software incorporated in or otherwise used in conjunction with the Services, will apply solely to Contractor's (or its subcontractors) facilities and systems that host the Services (including any disaster recovery site), and regardless of anything to the contrary contained in any third-party software license agreement or end user license agreement, third-party software providers will have no audit rights whatsoever against State systems or networks; and

(k) Contractor acknowledges that the State cannot indemnify any third parties, including but not limited to any third-party software providers that provide software that will be incorporated in or otherwise used in conjunction with the Services, and that notwithstanding anything to the contrary contained in any third-party software license

agreement or end user license agreement, the State will not indemnify any third-party software provider for any reason whatsoever.

5.2 DISCLAIMER. EXCEPT FOR THE EXPRESS WARRANTIES IN THIS CONTRACT, CONTRACTOR HEREBY DISCLAIMS ALL WARRANTIES, WHETHER EXPRESS, IMPLIED, STATUTORY OR OTHERWISE UNDER OR IN CONNECTION WITH THIS CONTRACT OR ANY SUBJECT MATTER HEREOF.

SCHEDULE C, EXHIBIT 1 – SUPPORT SERVICES AND SERVICE LEVEL AGREEMENT FOR HOSTED SERVICES

This Exhibit 1 to Schedule C shall only apply if the Software is being hosted by Contractor or by Contractor's Permitted Subcontractor.

1. Definitions. For purposes of this **Exhibit 1 to Schedule C**, the following terms have the meanings set forth below. All initial capitalized terms in this Schedule that are not defined in this **Section 1** shall have the respective meanings given to them in the Contract or its associated respective Schedules.

"Actual Uptime" means the total minutes in the Service Period that the Hosted Services are Available.

"Availability" has the meaning set forth in **Section 3(a)**.

"Availability Requirement" has the meaning set forth in **Section 3(a)**.

"Available" has the meaning set forth in **Section 3(a)**.

"Contractor Service Manager" has the meaning set forth in **Section 2.1**.

"Corrective Action Plan" has the meaning set forth in **Section 4.3**.

"Critical Service Error" has the meaning set forth in **Section 4**.

"Exceptions" has the meaning set forth in **Section 3.2**.

"Force Majeure Event" has the meaning set forth in **Section 5.1**.

"High Service Error" has the meaning set forth in **Section 4**.

"Hosted Services" has the meaning set forth in **Schedule C**.

"Low Service Error" has the meaning set forth in **Section 4**.

"Medium Service Error" has the meaning set forth in **Section 4**.

"Resolve" has the meaning set forth in **Section 4.1(a)**.

"Scheduled Downtime" has the meaning set forth in **Section 3.3**.

"Scheduled Uptime" means the total minutes in the Service Period.

"Service Availability Credits" has the meaning set forth in **Section 3.6(a)**.

“Service Level Credits” has the meaning set forth in **Section 4.2**.

“Service Level Failure” means a failure to perform the Software Support Services fully in compliance with the Support Service Level Requirements.

“Service Period” has the meaning set forth in **Section 3(a)**.

“Software” has the meaning set forth in the Contract.

“Software Support Services” has the meaning set forth in **Section 4.1**.

“State Service Manager” has the meaning set forth in **Section 2.2**.

“State Systems” means the information technology infrastructure, including the computers, software, databases, electronic systems (including database management systems) and networks, of the State or any of its designees.

“Support Request” has the meaning set forth in **Section 4**.

“Support Service Level Requirements” has the meaning set forth in **Section 4**.

“Term” has the meaning set forth in the Contract.

2. Personnel

2.1 Contractor Personnel for the Hosted Services. Contractor will appoint a Contractor employee to serve as a primary contact with respect to the Services who will have the authority to act on behalf of Contractor in matters pertaining to the receipt and processing of Support Requests and the Software Support Services (the **“Contractor Service Manager”**).

2.2 State Service Manager for the Hosted Services. The State will appoint and, in its reasonable discretion, replace, a State employee to serve as the primary contact with respect to the Services who will have the authority to act on behalf of the State in matters pertaining to the Software Support Services, including the submission and processing of Support Requests (the **“State Service Manager”**).

3. Service Availability and Service Availability Credits.

(a) Availability Requirement. Contractor will make the Hosted Services Available, as measured over the course of each calendar month during the Term and any additional periods during which Contractor does or is required to perform any Hosted Services (each such calendar month, a **“Service Period”**), at least 99.98% of the time, excluding only the time the Hosted Services are not Available solely as a result of one or more Exceptions (the **“Availability Requirement”**). **“Available”** means the Hosted Services are available and operable for access and use by the State and its Authorized Users over the Internet in material conformity with the Contract. **“Availability”** has a correlative meaning. The Hosted Services are not considered Available in the event of a material performance degradation or inoperability of the Hosted Services, in whole or in part. The Availability Requirement will be calculated for the Service Period as follows: (Actual Uptime – Total Minutes in Service Period Hosted Services are

not Available Due to an Exception) ÷ (Scheduled Uptime – Total Minutes in Service Period Hosted Services are not Available Due to an Exception) x 100 = Availability.

3.2 Exceptions. No period of Hosted Service degradation or inoperability will be included in calculating Availability to the extent that such downtime or degradation is due to any of the following ("**Exceptions**"):

- (a) failures of the State's or its Authorized Users' internet connectivity;
- (b) Scheduled Downtime as set forth in **Section 3.3**.

3.3 Scheduled Downtime. Contractor must notify the State at least twenty-four (24) hours in advance of all scheduled outages of the Hosted Services in whole or in part ("**Scheduled Downtime**"). All such scheduled outages will: (a) last no longer than five (5) hours; (b) be scheduled between the hours of 12:00 a.m. and 5:00 a.m., Eastern Time; and (c) occur no more frequently than once per week; provided that Contractor may request the State to approve extensions of Scheduled Downtime above five (5) hours, and such approval by the State may not be unreasonably withheld or delayed.

3.4 Software Response Time. Software response time, defined as the interval from the time the end user sends a transaction to the time a visual confirmation of transaction completion is received, must be less than two (2) seconds for 98% of all transactions. Unacceptable response times shall be considered to make the Software unavailable and will count against the Availability Requirement.

3.5 Service Availability Reports. Within thirty (30) days after the end of each Service Period, Contractor will provide to the State a report describing the Availability and other performance of the Hosted Services during that calendar month as compared to the Availability Requirement. The report must be in electronic or such other form as the State may approve in writing and shall include, at a minimum: (a) the actual performance of the Hosted Services relative to the Availability Requirement; and (b) if Hosted Service performance has failed in any respect to meet or exceed the Availability Requirement during the reporting period, a description in sufficient detail to inform the State of the cause of such failure and the corrective actions the Contractor has taken and will take to ensure that the Availability Requirement are fully met.

3.6 Remedies for Service Availability Failures.

(a) If the actual Availability of the Hosted Services is less than the Availability Requirement for any Service Period, such failure will constitute a Service Error for which Contractor will issue to the State the following credits on the fees payable for Hosted Services provided during the Service Period ("**Service Availability Credits**"):

Availability	Credit of Fees
≥99.98%	None
<99.98% but ≥99.0%	15%
<99.0% but ≥95.0%	50%

<95.0%	100%
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(b) Any Service Availability Credits due under this **Section 3.6** will be applied in accordance with payment terms of the Contract.

(c) If the actual Availability of the Hosted Services is less than the Availability Requirement in any two (2) of four (4) consecutive Service Periods, then, in addition to all other remedies available to the State, the State may terminate the Contract on written notice to Contractor with no liability, obligation or penalty to the State by reason of such termination.

3.7 Service Monitoring and Management. Contractor will continuously monitor and manage the Hosted Services to optimize Availability that meets or exceeds the Availability Requirement. Such monitoring and management includes:

(a) proactively monitoring on a twenty-four (24) hour by seven (7) day basis all Hosted Service functions, servers, firewall and other components of Hosted Service security;

(b) if such monitoring identifies, or Contractor otherwise becomes aware of, any circumstance that is reasonably likely to threaten the Availability of the Hosted Service, taking all necessary and reasonable remedial measures to promptly eliminate such threat and ensure full Availability; and

(c) if Contractor receives knowledge that the Hosted Service or any Hosted Service function or component is not Available (including by written notice from the State pursuant to the procedures set forth herein):

- (i) confirming (or disconfirming) the outage by a direct check of the associated facility or facilities;
- (ii) if Contractor's facility check in accordance with clause (i) above confirms a Hosted Service outage in whole or in part: (A) notifying the State in writing pursuant to the procedures set forth herein that an outage has occurred, providing such details as may be available, including a Contractor trouble ticket number, if appropriate, and time of outage; and (B) working all problems causing and caused by the outage until they are Resolved as Critical Service Errors in accordance with the Support Request Classification set forth in **Section 4**, or, if determined to be an internet provider problem, open a trouble ticket with the internet provider; and
- (iii) notifying the State that Contractor has fully corrected the outage and any related problems, along with any pertinent findings or action taken to close the trouble ticket.

4. Support Service Level Requirements. Contractor will correct all Service Errors and respond to and Resolve all Support Requests in accordance with the required times and other terms and conditions set forth in this **Section 4** ("**Support Service Level Requirements**"), and the Contract.

4.1 Support Requests. The State will classify its requests for Service Error corrections in accordance with the descriptions set forth in the chart below (each a "**Support Request**"). The State Service Manager will notify

Contractor of Support Requests by email, telephone or such other means as the parties may hereafter agree to in writing.

Support Request Classification	Description: Any Service Error Comprising or Causing any of the Following Events or Effects
Critical Service Error	<ul style="list-style-type: none">• Issue affecting entire system or single critical production function;• System down or operating in materially degraded state;• Data integrity at risk;• Declared a Critical Support Request by the State; or• Widespread access interruptions.
High Service Error	<ul style="list-style-type: none">• Primary component failure that materially impairs its performance; or• Data entry or access is materially impaired on a limited basis.
Medium Service Error	<ul style="list-style-type: none">• Hosted Service is operating with minor issues that can be addressed with an acceptable (as determined by the State) temporary work around.
Low Service Error	<ul style="list-style-type: none">• Request for assistance, information, or services that are routine in nature.

(a) Response and Resolution Time Service Levels. Response and Resolution times will be measured from the time Contractor receives a Support Request until the respective times Contractor has (i) responded to, in the case of response time and (ii) Resolved such Support Request, in the case of Resolution time. “**Resolve**” (including “**Resolved**”, “**Resolution**” and correlative capitalized terms) means that, as to any Service Error, Contractor has provided the State the corresponding Service Error correction and the State has confirmed such correction and its acceptance thereof. Contractor will respond to and Resolve all Service Errors within the following times based on the severity of the Service Error:

Support Request Classification	Service Level Metric (Required Response Time)	Service Level Metric (Required Resolution Time)	Service Level Credits (For Failure to Respond to any Support Request Within the Corresponding Response Time)	Service Level Credits (For Failure to Resolve any Support Request Within the Corresponding Required Resolution Time)
Critical Service Error	One (1) hour	Three (3) hours	Five percent (5%) of the Fees for the month in which the initial Service Level Failure begins and five percent (5%) of such monthly Fees for each additional hour or portion thereof that the corresponding Service Error is not responded to within the required response time.	Five percent (5%) of the Fees for the month in which the initial Service Level Failure begins and five percent (5%) of such monthly Fees for the first additional hour or portion thereof that the corresponding Service Error remains un-Resolved, which amount will thereafter double for each additional one-hour increment.
High Service Error	One (1) hour	Four (4) hours	Three percent (3%) of the Fees for the month in which the initial Service Level Failure begins and three percent (3%) of such monthly Fees for each additional hour or portion thereof that the corresponding Service Error is not responded to within the required response time.	Three percent (3%) of the Fees for the month in which the initial Service Level Failure begins and three percent (3%) of such monthly Fees for the first additional hour or portion thereof that the corresponding Service Error remains un-Resolved, which amount will thereafter double for each additional one-hour increment.
Medium Service Error	Three (3) hours	Two (2) Business Days	N/A	N/A
Low Service Error	Three (3) hours	Five (5) Business Days	N/A	N/A

(b) Escalation. With respect to any Critical Service Error Support Request, until such Support Request is Resolved, Contractor will escalate that Support Request within sixty (60) minutes of the receipt of such Support Request by the appropriate Contractor support personnel, including, as applicable, the Contractor Service Manager and Contractor's management or engineering personnel, as appropriate.

4.2 Support Service Level Credits. Failure to achieve any of the Support Service Level Requirements for Critical and High Service Errors will constitute a Service Level Failure for which Contractor will issue to the State the corresponding service credits set forth in **Section 4.1(a) ("Service Level Credits")** in accordance with payment terms set forth in the Contract.

4.3 Corrective Action Plan. If two or more Critical Service Errors occur in any thirty (30) day period during (a) the Term or (b) any additional periods during which Contractor does or is required to perform any Hosted Services, Contractor will promptly investigate the root causes of these Service Errors and provide to the State within five (5) Business Days of its receipt of notice of the second such Support Request an analysis of such root causes and a proposed written corrective action plan for the State's review, comment and approval, which, subject to and upon the State's written approval, shall be a part of, and by this reference is incorporated in, the Contract as the parties' corrective action plan (the "**Corrective Action Plan**"). The Corrective Action Plan must include, at a minimum: (a) Contractor's commitment to the State to devote the appropriate time, skilled personnel, systems support and equipment and other resources necessary to Resolve and prevent any further occurrences of the Service Errors giving rise to such Support Requests; (b) a strategy for developing any programming, software updates, fixes, patches, etc. necessary to remedy, and prevent any further occurrences of, such Service Errors; and (c) time frames for implementing the Corrective Action Plan. There will be no additional charge for Contractor's preparation or implementation of the Corrective Action Plan in the time frames and manner set forth therein.

5. Force Majeure.

5.1 Force Majeure Events. Subject to **Section 5.3**, neither party will be liable or responsible to the other party, or be deemed to have defaulted under or breached the Contract, for any failure or delay in fulfilling or performing any term hereof, when and to the extent such failure or delay is caused by: acts of God, flood, fire or explosion, war, terrorism, invasion, riot or other civil unrest, embargoes or blockades in effect on or after the date of the Contract, national or regional emergency, or any passage of law or governmental order, rule, regulation or direction, or any action taken by a governmental or public authority, including imposing an embargo, export or import restriction, quota or other restriction or prohibition (each of the foregoing, a "**Force Majeure Event**"), in each case provided that: (a) such event is outside the reasonable control of the affected party; (b) the affected party gives prompt written notice to the other party, stating the period of time the occurrence is expected to continue; (c) the affected party uses diligent efforts to end the failure or delay and minimize the effects of such Force Majeure Event.

5.2 State Performance; Termination. In the event of a Force Majeure Event affecting Contractor's performance under the Contract, the State may suspend its performance hereunder until such time as Contractor resumes performance. The State may terminate the Contract by written notice to Contractor if a Force Majeure Event affecting Contractor's performance hereunder continues substantially uninterrupted for a period of five (5) Business Days or more. Unless the State terminates the Contract pursuant to the preceding sentence, any date specifically designated for Contractor's performance under the Contract will automatically be extended for a period up to the duration of the Force Majeure Event.

5.3 Exclusions; Non-suspended Obligations. Notwithstanding the foregoing or any other provisions of the Contract or this Schedule:

- (a) in no event will any of the following be considered a Force Majeure Event:
- (i) shutdowns, disruptions or malfunctions of Contractor Systems or any of Contractor's telecommunication or internet services other than as a result of general and widespread internet or telecommunications failures that are not limited to the Contractor Systems; or
 - (ii) the delay or failure of any Contractor Personnel to perform any obligation of Contractor hereunder unless such delay or failure to perform is itself by reason of a Force Majeure Event.

SCHEDULE D – DATA HOSTING AND SECURITY FOR HOSTED SOFTWARE AND SERVICES

1. **Definitions.** For purposes of this Schedule, the following terms have the meanings set forth below. All initial capitalized terms in this Schedule that are not defined in this **Section 1** shall have the respective meanings given to them in the Contract.

“Contractor Security Officer” has the meaning set forth in **Section 2** of this Schedule.

“Contractor Systems” has the meaning set forth in **Section 5** of this Schedule.

“FedRAMP” means the Federal Risk and Authorization Management Program, which is a federally approved risk management program that provides a standardized approach for assessing and monitoring the security of cloud products and services.

“FISMA” means the Federal Information Security Modernization Act of 2014 (Pub.L. No. 113-283 (Dec. 18, 2014)).

“Hosted Services” means the hosting, management and operation of the information technology infrastructure, including all computing hardware, ancillary equipment, networking, Software, firmware, databases, data, other services (including support and subcontracted services), and related resources for remote electronic access and use by the State and its Authorized Users, including any services and facilities related to disaster recovery obligations.

“NIST” means the National Institute of Standards and Technology.

“PSP” means the State’s IT Policies, Standards and Procedures

“PCI” means the Payment Card Industry.

“SSAE” means Statement on Standards for Attestation Engagements.

2. Contractor will appoint a Contractor employee to respond to the State’s inquiries regarding the security of the Contractor Systems who has sufficient knowledge of the security of the Contractor Systems and the authority to act on behalf of Contractor in matters pertaining thereto (“Contractor Security Officer”).
3. The State has established Information Technology (IT) PSP’s to protect IT resources under the authority outlined in the overarching State 1305.00 Enterprise IT Policy. In no case will the safeguards of Contractor’s data privacy and information security program be less stringent than the safeguards used by the State, and Contractor must at all times comply with all applicable State IT policies and standards, of which the publicly available ones are at https://www.michigan.gov/dtmb/0,5552,7-358-82547_56579_56755---,00.html.

This responsibility also extends to all service providers and subcontractors with access to State Data or an ability to impact the contracted solution. Contractor Responsibilities are determined

from the PSP's based on the services being provided to the State, the type of IT solution, and the applicable laws and regulations.

4. Protection of the State Data. Throughout the Term and at all times in connection with its actual or required performance of the Services, Contractor will:

- a. Software or data hosting provided by sub-contractors must be in a government cloud IT environment with FedRAMP authorization and must maintain FedRAMP authorization for the sub-contracted hosting environment(s) throughout the Term, and in the event the contractor is unable to maintain FedRAMP authorization, the State, at its sole discretion, may either a) require the Contractor to move the Software and State Data to an alternative hosting environment selected and approved by the State at Contractor's sole cost and expense without any increase in Fees, or b) immediately terminate this Contract for cause pursuant to Section 23.1 of the Contract;
- b. for Hosted Services provided directly by the Contractor, maintain either a FedRAMP authorization or an annual SSAE 18 SOC 2 Type II audit based on State required NIST low controls for the Hosted Services throughout the Term;
- c. ensure that the Software and State Data is securely hosted, supported, administered, and accessed in a data center and backup data center that resides in the continental United States, and minimally meets Uptime Institute Tier 3 standards (www.uptimeinstitute.com), or its equivalent;
- d. maintain and enforce an information security program including safety and physical and technical security policies and procedures with respect to its Processing of the State's Confidential Information that comply with the requirements of the State's data security policies as set forth in the Contract, and must, at a minimum, remain compliant with FISMA and NIST Special Publication 800-53 (most recent version) LOW Controls using minimum control values as established in the applicable SOM PSP's;
- e. provide technical and organizational safeguards against accidental, unlawful or unauthorized access to or use, destruction, loss, alteration, disclosure, transfer, commingling or processing of such information that ensure a level of security appropriate to the risks presented by the processing of the State's Confidential Information and the nature of such Confidential Information, consistent with best industry practice and standards;
- f. take all reasonable measures to:
 1. secure and defend all locations, equipment, systems and other materials and facilities employed in connection with the Services against "hackers" and others who may seek, without authorization, to disrupt, damage, modify, access or otherwise use Contractor Systems or the information found therein; and
 2. prevent (i) the State and its Authorized Users from having access to the data of other customers or such other customer's users of the Services; (ii) the State's Confidential Information from being commingled with or contaminated by the data of other customers or their users of the Services; and (iii) unauthorized access to any of the State's Confidential Information;
- g. ensure that State Data is encrypted in transit and at rest using FIPS validated AES encryption modules with a key size of 128 bits or higher;

- h. ensure that State Data is encrypted in transit and at rest using currently validated encryption modules in accordance with FIPS PUB 140-2 (as amended). *Security Requirements for Cryptographic Modules*;
 - i. ensure the Hosted Services support Identity Federation/Single Sign-on (SSO) capabilities using Security Assertion Markup Language (SAML) , Open Authentication (OAuth) or comparable mechanisms;
 - j. ensure the Hosted Services implements multi-factor authentication for privileged/administrative and other identified access; and
 - k. assist the State, at no additional cost, with development, completion and on-going maintenance of a system security plan (SSP) using the State's automated governance, risk and compliance (GRC) platform, which requires Contractor to submit evidence, upon request from the State, in order to validate Contractor's security controls within two weeks of the State's request. On an annual basis, or as otherwise required by the State such as for significant changes, re-assessment of the system's controls will be required to receive and maintain authority to operate (ATO). All identified risks from the SSP will be remediated through a Plan of Action and Milestones (POAM) process with remediation time frames based on the risk level of the identified risk. For all findings associated with the Contractor's solution, at no additional cost, Contractor will be required to create or assist with the creation of State approved POAMs and perform related remediation activities. The State will make any decisions on acceptable risk, Contractor may request risk acceptance, supported by compensating controls, however only the State may formally accept risk. . Failure to comply with this section will be deemed a material breach of the Contract.
5. Unauthorized Access. Contractor may not access, and shall not permit any access to, State systems, in whole or in part, whether through Contractor's Systems or otherwise, without the State's express prior written authorization. Such authorization may be revoked by the State in writing at any time in its sole discretion. Any access to State systems must be solely in accordance with the Contract and this Schedule, and in no case exceed the scope of the State's authorization pursuant to this Section 4. All State-authorized connectivity or attempted connectivity to State systems shall be only through the State's security gateways and firewalls and in compliance with the State's security policies set forth in the Contract as the same may be supplemented or amended by the State and provided to Contractor from time to time.
6. Contractor Systems. Contractor will be solely responsible for the information technology infrastructure, including all computers, hardware, networking, software, data, databases, electronic systems (including database management systems) and networks used by or for Contractor in connection with the Services ("Contractor Systems") and shall prevent unauthorized access to State systems through the Contractor Systems.
7. Security Audits. During the Term, Contractor will:
- a. maintain complete and accurate records relating to its data protection practices, IT security controls, and the security logs of any of the State's Confidential Information, including any backup, disaster recovery or other policies, practices or procedures relating to the State's

Confidential Information and any other information relevant to its compliance with this Schedule;

- b. upon the State's request, make all such records, appropriate personnel and relevant materials available during normal business hours for inspection and audit by the State or an independent data security expert that is reasonably acceptable to Contractor, provided that the State: (i) gives Contractor at least five (5) Business Days prior notice of any such audit; (ii) undertakes such audit no more than once per calendar year, except for good cause shown; and (iii) conducts or causes to be conducted such audit in a manner designed to minimize disruption of Contractor's normal business operations and that complies with the terms and conditions of all data confidentiality, ownership, privacy, security and restricted use provisions of the Contract. The State may, but is not obligated to, perform such security audits, which shall, at the State's option and request, include penetration and security tests, of any and all Contractor Systems and their housing facilities and operating environments; and
8. if requested by the State, provide a copy of Contractor's FedRAMP System Security Plan(s) or SOC 2 Type 2 report(s) to the State within two weeks. The System Security Plan and SSAE audit reports will be recognized as Contractor's Confidential Information.
9. **Infrastructure Scanning.** For Hosted Services, Contractor must ensure the infrastructure and applications are scanned using an approved scanning tool (Qualys, Tenable, or other PCI Approved Vulnerability Scanning Tool) at least once every 30 days and provide the scan's assessments to the State in a format that can be uploaded by the State and used to track the remediation. Contractor will ensure that issues identified in the scan are remediated according to the remediation time requirements documented in the State PSPs.
10. **Nonexclusive Remedy for Security Breach.** Any failure of the Services to meet the requirements of this Schedule with respect to the security of any State Data or other Confidential Information of the State, including any related backup, disaster recovery or other policies, practices or procedures, is a material breach of the Contract for which the State, at its option, may terminate the Contract for cause immediately and Contractor must promptly reimburse to the State any Fees prepaid by the State prorated to the date of such termination.

SCHEDULE E – FEDERAL PROVISIONS ADDENDUM

This addendum applies to purchases that will be paid for in whole or in part with funds obtained from the federal government. The provisions below are required and the language is not negotiable. If any provision below conflicts with the State's terms and conditions, including any attachments, schedules, or exhibits to the State's Contract, the provisions below take priority to the extent a provision is required by federal law; otherwise, the order of precedence set forth in the Contract applies. Hyperlinks are provided for convenience only; broken hyperlinks will not relieve Contractor from compliance with the law.

1. Equal Employment Opportunity

If this Contract is a “**federally assisted construction contract**” as defined in [41 CFR Part 60-1.3](#), and except as otherwise may be provided under [41 CFR Part 60](#), then during performance of this Contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.

(4) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The Contractor will comply with all provisions of [Executive Order 11246](#) of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The Contractor will furnish all information and reports required by [Executive Order 11246](#) of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in [Executive Order 11246](#) of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in [Executive Order 11246](#) of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of [Executive Order 11246](#) of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: *Provided*, That if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of

contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

2. Davis-Bacon Act (Prevailing Wage)

If this Contract is a **prime construction contracts** in excess of \$2,000, the Contractor (and its Subcontractors) must comply with the Davis-Bacon Act ([40 USC 3141-3148](#)) as supplemented by Department of Labor regulations ([29 CFR Part 5](#), "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"), and during performance of this Contract the Contractor agrees as follows:

- (1) All transactions regarding this contract shall be done in compliance with the Davis-Bacon Act (40 U.S.C. 3141- 3144, and 3146-3148) and the requirements of 29 C.F.R. pt. 5 as may be applicable. The contractor shall comply with 40 U.S.C. 3141-3144, and 3146-3148 and the requirements of 29 C.F.R. pt. 5 as applicable.
- (2) Contractors are required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor.
- (3) Additionally, contractors are required to pay wages not less than once a week.

3. Copeland "Anti-Kickback" Act

If this Contract is a contract for construction or repair work in excess of \$2,000 where the Davis-Bacon Act applies, the Contractor must comply with the Copeland "Anti-Kickback" Act ([40 USC 3145](#)), as supplemented by Department of Labor regulations ([29 CFR Part 3](#), "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"), which prohibits the Contractor and subrecipients from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled, and during performance of this Contract the Contractor agrees as follows:

- (1) Contractor. The Contractor shall comply with 18 U.S.C. §874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this contract.
- (2) Subcontracts. The Contractor or Subcontractor shall insert in any subcontracts

the clause above and such other clauses as FEMA or the applicable federal awarding agency may by appropriate instructions require, and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.

- (3) Breach. A breach of the contract clauses above may be grounds for termination of the contract, and for debarment as a Contractor and Subcontractor as provided in 29 C.F.R. § 5.12.

4. Contract Work Hours and Safety Standards Act

If the Contract is **in excess of \$100,000** and **involves the employment of mechanics or laborers**, the Contractor must comply with [40 USC 3702](#) and [3704](#), as supplemented by Department of Labor regulations ([29 CFR Part 5](#)), as applicable, and during performance of this Contract the Contractor agrees as follows:

- (1) Overtime requirements. No Contractor or Subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section the Contractor and any Subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and Subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.
- (3) Withholding for unpaid wages and liquidated damages. The State shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or Subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.
- (4) Subcontracts. The Contractor or Subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1) through (4) of this section and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

5. Rights to Inventions Made Under a Contract or Agreement

If the Contract is funded by a federal “funding agreement” as defined under [37 CFR §401.2 \(a\)](#) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient must comply with [37 CFR Part 401](#), “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

6. Clean Air Act and the Federal Water Pollution Control Act

If this Contract is **in excess of \$150,000**, the Contractor must comply with all applicable standards, orders, and regulations issued under the Clean Air Act ([42 USC 7401-7671q](#)) and the Federal Water Pollution Control Act ([33 USC 1251-1387](#)), and during performance of this Contract the Contractor agrees as follows:

Clean Air Act

1. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
2. The Contractor agrees to report each violation to the State and understands and agrees that the State will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency or the applicable federal awarding agency, and the appropriate Environmental Protection Agency Regional Office.
3. The Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA or the applicable federal awarding agency.

Federal Water Pollution Control Act

1. The Contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
2. The Contractor agrees to report each violation to the State and understands and agrees that the State will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency or the applicable federal awarding agency, and the appropriate Environmental Protection Agency Regional Office.
3. The Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA or the applicable federal awarding agency.

7. Debarment and Suspension

A “contract award” (see [2 CFR 180.220](#)) must not be made to parties listed on the government-wide exclusions in the [System for Award Management](#) (SAM), in accordance with the OMB guidelines at [2 CFR 180](#) that implement [Executive Orders 12549](#) (51 FR 6370; February 21, 1986) and 12689 (54 FR 34131; August 18, 1989), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than [Executive Order 12549](#).

- (1) This Contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the Contractor is required to verify that none of the Contractor’s principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).
- (2) The Contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
- (3) This certification is a material representation of fact relied upon by the State. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the State, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- (4) The contractor agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The contractor further agrees to include a provision requiring such compliance in its lower tier covered transactions.

8. Byrd Anti-Lobbying Amendment

Contractors who apply or bid for an award of **\$100,000 or more** shall file the required certification in Exhibit 1 – Byrd Anti-Lobbying Certification below. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

9. Procurement of Recovered Materials

Under [2 CFR 200.322](#), Contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act.

- (1) In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired—
 1. Competitively within a timeframe providing for compliance with the contract performance schedule;

2. Meeting contract performance requirements; or
 3. At a reasonable price.
- (2) Information about this requirement, along with the list of EPA- designated items, is available at EPA's Comprehensive Procurement Guidelines web site, <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.
- (3) The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

10. Additional FEMA Contract Provisions.

The following provisions apply to purchases that will be paid for in whole or in part with funds obtained from the Federal Emergency Management Agency (FEMA):

- (1) **Access to Records.** The following access to records requirements apply to this contract:
- a. The Contractor agrees to provide the State, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.
 - b. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
 - c. The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.
 - d. In compliance with the Disaster Recovery Act of 2018, the State and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.
- (2) **Changes.**
- See the provisions regarding modifications or change notice in the Contract Terms.
- (3) **DHS Seal, Logo, And Flags**
- The Contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.
- (4) **Compliance with Federal Law, Regulations, and Executive Orders**

This is an acknowledgement that if FEMA financial assistance will be used to fund all or a portion of the contract. The Contractor will comply with all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives.

(5) No Obligation by Federal Government

The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the State, Contractor, or any other party pertaining to any matter resulting from the Contract.”

(6) Program Fraud and False or Fraudulent Statements or Related Acts

The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor’s actions pertaining to this contract.

SCHEDULE E, EXHIBIT 1 – BYRD ANTI-LOBBYING CERTIFICATION

Contractor must complete this certification if the purchase will be paid for in whole or in part with funds obtained from the federal government and the purchase is greater than \$100,000.

APPENDIX A, 44 C.F.R. PART 18 – CERTIFICATION REGARDING LOBBYING

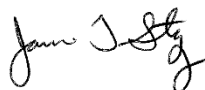
Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor, The Atlantic Group, LLC, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.



Signature of Contractor's Authorized Official

James T Stagg, Executive Vice President

Name and Title of Contractor's Authorized Official

9/14/2020

Date