STATE OF MICHIGAN PROCUREMENT

Department of Environment, Great Lakes, and Energy
525 West Allegan Street
Lansing, MI 48915

CONTRACT CHANGE NOTICE

Change Notice Number **01**
to
Contract Number **200000002106**

CONTRACTOR	
	Michigan State University
	Hannah Administration Building 426 Auditorium Road, Room 2
	East Lansing, MI 48824
	Diane Cox, Sponsored Programs Manager
	517-355-5040
	ContractTeam2@osp.msu.edu
	CV0133324

STATE			
	Program Manager	Marcy Knoll-Wilmes	EGLE
		517-342-4348	
		knollm@michigan.gov	
	Contract Administrator	Lisa VanOstran	EGLE
		517-599-7680	
		vanostranl@michigan.gov	

CONTRACT SUMMARY

DESCRIPTION: Michigan Clean Water Corps (MiCorps) Program Administration

INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
09/15/2020	06/15/2025	2 – one-year options	

PAYMENT TERMS	DELIVERY TIMEFRAME
Net 45	N/A

ALTERNATE PAYMENT OPTIONS	EXTENDED PURCHASING
☐ P-card ☐ Payment Request (PRC) ☐ Other	☐ Yes ☒ No

MINIMUM DELIVERY REQUIREMENTS

N/A

DESCRIPTION OF CHANGE NOTICE

OPTION	LENGTH OF OPTION	EXTENSION	LENGTH OF EXTENSION	REVISED EXP. DATE
☐		☐		09/15/2025

CURRENT VALUE	VALUE OF CHANGE NOTICE	ESTIMATED AGGREGATE CONTRACT VALUE
$1,740,000.00	$0.00	$1,740,000.00

DESCRIPTION: Effective 10/14/2020 the State is revising the original expiration date of this Contract to 9/15/2025. This will allow the Contract to run concurrently with the five-year grant period. All other terms, conditions, specifications and pricing remain the same.

FOR THE CONTRACTOR:

Company Name MEW

Authorized Agent Signature

Authorized Agent (Print or Type)

Date

FOR THE STATE:

Signature

Lisa VanOstran, Procurement Manager

Name & Title

EGLE

Agency

10/14/2020

Date

STATE OF MICHIGAN PROCUREMENT

Department of Environment, Great Lakes, and Energy
525 West Allegan Street
Lansing, MI 48895

NOTICE OF CONTRACT

NOTICE OF CONTRACT NO. **200000002106**
between
THE STATE OF MICHIGAN
and

CONTRACTOR	
	Michigan State University
	Hannah Administration Building 426 Auditorium Road, Room 2
	East Lansing, MI 48824
	Diane Cox, Sponsored Programs Manager
	517-355-5040
	ContractTeam2@osp.msu.edu
	CV0133324

STATE			
	Program Manager	Marcy Knoll-Wilmes	EGLE
		517-342-4348	
		knollm@michigan.gov	
	Contract Administrator	Lisa VanOstran	EGLE
		517-599-7680	
		vanostranl@michigan.gov	

CONTRACT SUMMARY			
DESCRIPTION: Michigan Clean Water Corps (MiCorps) Program Administration			
INITIAL EFFECTIVE DATE	**INITIAL EXPIRATION DATE**	**INITIAL AVAILABLE OPTIONS**	**EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW**
09/15/2020	06/30/2025	2 – one-year options	
PAYMENT TERMS		**DELIVERY TIMEFRAME**	
Net 45		N/A	
ALTERNATE PAYMENT OPTIONS			**EXTENDED PURCHASING**
☐ P-card ☐ Payment Request (PRC) ☐ Other			☐ Yes ☒ No
MINIMUM DELIVERY REQUIREMENTS			
N/A			
MISCELLANEOUS INFORMATION			
NOT TO EXCEED CONTRACT VALUE AT TIME OF EXECUTION			**$1,740,000.00**

By signing this Contract, the Contractor certifies and assures to the state that they will comply with the Anti-Trust Lobbying Act 31 USC 1352, as revised by the Lobbying Disclosure Act of 1995, 2 USC 1601 et seq, Federal Acquisition Regulations 52.203.11 and 52.203.12, and Section 503 of the Department of Labor, Health & Human Services and Education, and Related Agencies section of the current fiscal year Omnibus Consolidated Appropriations Act.

FOR THE CONTRACTOR:

Company Name

Diane Cox

Authorized Agent Signature

Sponsored Programs Manager

Authorized Agent (Print or Type)

15 September 2020

Date

FOR THE STATE:

Signature

Lisa VanOstran, Procurement Manager

Name & Title

EGLE

Agency

9/15/2020

Date

STATE OF MICHIGAN

STANDARD CONTRACT TERMS

This STANDARD CONTRACT ("**Contract**") is agreed to between the State of Michigan (the "**State**") and Michigan State University ("**Contractor**"), a Michigan public university. This Contract is effective on September 15, 2020 ("**Effective Date**"), and unless terminated, expires on June 30, 2025.

This Contract may be renewed for up to two additional one-year periods. 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.

The parties agree as follows:

1. **Duties of Contractor.** Contractor must perform the services and provide the deliverables described in **Schedule A – Statement of Work** (the "**Contract Activities**"). 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: (a) perform the Contract Activities in a timely, professional, safe, and workmanlike manner consistent with standards in the trade, profession, or industry; (b) meet or exceed the performance and operational standards, and specifications of the Contract; (c) provide all Contract Activities in good quality, with no material defects; (d) not interfere with the State's operations; (e) obtain and maintain all necessary licenses, permits or other authorizations necessary for the performance of the Contract; (f) cooperate with the State, including the State's quality assurance personnel, and any third party to achieve the objectives of the Contract; (g) return to the State any State-furnished equipment or other resources in the same condition, except for normal wear and tear, as when provided when no longer required for the Contract; (h) not make any media releases without prior written authorization from the State, except Contractor may release this information as required by institutional policy; (i) assign to the State any claims resulting from state or federal antitrust violations to the extent that those violations concern materials or services supplied by third parties toward fulfillment of the Contract; (j) comply with all applicable State physical and IT security policies and standards when using State Facilities, accessing, possessing or controlling State Data or accessing State IT systems, which will be made available upon request. Any breach under this paragraph is considered a material breach.

   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.

2. **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:
Lisa VanOstran, Procurement Manager Dept. of Environment, Great Lakes, and Energy	Diane Cox, Sponsored Programs Manager Michigan State University

525 W. Allegan St., Lansing, MI 48933 vanostranl@michigan.gov (517) 599-7680	Hannah Administration Building 426 Auditorium Road, Room 2 East Lansing, MI 48824 Contractteam2@osp.msu.edu (517)355-5040

3. **Contract Administrator.** The Contract Administrator for each party is the only person authorized to modify any terms of this Contract, and approve and execute any change under this Contract (each a "**Contract Administrator**"):

State:	Contractor:
Lisa VanOstran, Procurement Manager Dept. of Environment, Great Lakes, and Energy 525 W. Allegan St., Lansing, MI 48933 vanostranl@michigan.gov (517) 599-7680	Diane Cox, Sponsored Programs Manager Michigan State University Hannah Administration Building 426 Auditorium Road, Room 2 East Lansing, MI 48824 Contractteam2@osp.msu.edu (517)355-5040

4. **Program Manager.** The Program Manager for each party will monitor and coordinate the day-to-day activities of the Contract (each a "**Program Manager**"):

State:	Contractor:
Marcy Knoll-Wilmes, Senior Aquatic Biologist Dept. of Environment, Great Lakes, and Energy 525 West Allegan Street Lansing, MI 48933 (517) 342-4348 knollm@michigan.gov	Jo Latimore, Ph.D. Michigan State University Department of Fisheries and Wildlife East Lansing, MI 48824 Latimor1@msu.edu (517) 432-1491

5. **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.

6. **Insurance Requirements.** Contractor must maintain the insurances identified below and is responsible for all deductibles. All required insurance must: (a) be primary and non-contributing to any comparable liability insurance (including self-insurance) carried by the State; and (b) except for self-insured plans, be provided by a company with an A.M. Best rating of "A-" or better and financial size of VII or better. Contractor may self-insure with respect to the insurance types and coverage limits set forth in this section.

Required Limits	Additional Requirements
Commercial General Liability Insurance	
Minimum Limits: $1,000,000 Each Occurrence Limit $1,000,000 Personal & Advertising Injury Limit $2,000,000 General Aggregate Limit $2,000,000 Products/Completed Operations	

Automobile Liability Insurance	
If one or more motor vehicles are used to perform the Contract Activities, the Contractor must have vehicle liability insurance on any and all motor vehicles for bodily injury and property damage coverage as required by law.	Contractor must have their policy include Hired and Non-Owned Automobile coverage.
Workers' Compensation Insurance	
Minimum Limits: Coverage according to applicable laws governing work activities.	
Employers Liability Insurance	
Minimum Limits: $500,000 Each Accident $500,000 Each Employee by Disease $500,000 Aggregate Disease.	
Privacy and Security Liability (Cyber Liability) Insurance	
Minimum Limits: $1,000,000 Each Occurrence $1,000,000 Annual Aggregate	Contractor's self-insured cyber liability policy must include coverage for information security and privacy liability, privacy notification costs, regulatory defense and penalties, and website media content liability.

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

Contractor must: (a) provide insurance certificates to the Contract Administrator, containing the agreement or delivery order number, at Contract formation and within 20 calendar days of the expiration date of the applicable policies; (b) require that subcontractors maintain the required insurances contained in this Section; (c) notify the Contract Administrator within 5 business days if any insurance is cancelled; and (d) 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).

7. **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.

8. **Intellectual Property Rights and Licenses.** For research related Contract Activities, State acknowledges that Contractor will be the sole and exclusive owner to all right, title, and interest in Contractor Data, and research related Contract Activities, excluding State Data. "Contractor Data" shall be defined as data collected from sources other than the State or data generated as the result of the research related Contract Activities. Contractor grants the State a royalty-free, perpetual, non-exclusive, irrevocable, and unlimited license to use, publish, or otherwise distribute all such research related Contract Activities, Contractor Data, materials, or ideas created and developed by Contractor under this Contract for non-commercial purposes, throughout the world. Ownership of anything created by Contractor shall be subject to 37 CFR Part 401. For Contract Activities that are Works Made for Hire as defined in Section 101 of the Copyright Act of 1976, Contractor hereby acknowledges that the State is and will be the sole and exclusive owner of all right, title, and interest in the Contract Activities and all associated intellectual property rights.

9. **Subcontracting.** Contractor may not delegate any of its obligations under the Contract without the prior written approval of the State. Contractor must notify the State at least 90 calendar days before the proposed delegation and provide the State any information it requests to determine whether the delegation is in its best interest. If approved, Contractor must: (a) be the sole point of contact regarding all contractual matters, including payment and charges for all Contract Activities; (b) make all payments to the subcontractor; and (c) incorporate the terms and conditions contained in this Contract in any subcontract with a subcontractor. Contractor remains responsible for the completion of the Contract Activities, compliance with the terms of this Contract, and the acts and omissions of the subcontractor. The State, in its sole discretion, may require the replacement of any subcontractor.

10. **Staffing.** The State's Contract Administrator may request, in good faith, Contractor to remove or reassign personnel by providing a notice to Contractor.

11. **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 under this Contract. 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. Any background checks required by the State will be specified in the Statement of Work.

12. **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.

13. **Ordering.** Contractor is not authorized to begin performance until receipt of authorization as identified in Schedule A.

14. **Acceptance.** 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 23, 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 acceptable Contract Activities to the State. "Acceptable" and "Acceptance" shall mean that the work has been performed in accordance with the terms of the Contract. 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.

15. **Terms of Payment.** Invoices must conform to the requirements as outlined in the terms of the Contract. 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.

16. **Liquidated Damages.** Liquidated damages, if applicable, will be assessed as described in Schedule A.

17. **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.

18. **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 written 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 25, 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, and transition costs.

19. **Termination for Appropriation or Budgetary Reasons.** The State may immediately terminate this Contract, in whole or in part without penalty for, non-or negative 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 26, Transition Responsibilities. If the State terminates this Contract for budgetary reasons, the State will pay all reasonable costs, as determined by the State, for State approved Transition Responsibilities.

20. **Termination for Convenience.** The State may terminate this Contract with 30 days written notice to the Contractor, in whole or in part without penalty and for any reason. 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 26, Transition Responsibilities. If the State terminates this Contract for convenience, the State will pay all reasonable costs, including non-cancellable obligations, as determined by the State, for State approved Transition Responsibilities.

21. **Termination for Impossibility**. If, for any reason, the Principal Investigator (identified in the Statement of Work) is unable or unwilling to continue to serve, Contractor will first attempt to find a successor acceptable to the State, whose approval shall not be unreasonably withheld. If, however, after diligent efforts and a reasonable time, Contractor is unable to find an acceptable successor, Contractor may terminate this Contract with 30 days written notice to the State.

22. **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), 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. 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, copies of 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.

23. **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.

24. **Limitation of Liability and Disclaimer of Damages. 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.** The State is not liable for consequential, incidental, indirect, or special damages, regardless of the nature of the action.

25. **Disclosure of Litigation, or Other Proceeding.** Contractor must notify the State within 30 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, and only as it relates to the Contract or Contractor's ability to perform under 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.

26. State Data. All data and information provided to Contractor by or on behalf of the State is the exclusive property of the State ("**State Data**"). Upon request, Contractor must provide to the State, or a third party designated by the State, all State Data within 10 calendar days of the request and in the format requested by the State. Contractor will assume all costs incurred in compiling and supplying State Data. No State Data may be used for any marketing purposes.

27. State Data.

a. Ownership. The State's data ("**State Data**," which will be treated by Contractor as Confidential Information) includes: (a) the State's data provided, used, processed, or stored 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 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 are to be considered direct damages and not consequential damages. This section survives termination or expiration of this Contract.

f. Security Accreditation Process. If Contractor or any of its subcontractor's IT systems will contain, store or receive any State Data, Contractor must 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 platform, which requires Contractor to submit evidence, upon request from the State, in order to validate Contractor's security controls. 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, 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.

28. 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; (e) publicly available when received, or thereafter became publicly available (other than through any unauthorized disclosure by, though, or on behalf of, the receiving party); or, (f) as required by law. 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 five (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's 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.

29. 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 State Data; (b) protect against any anticipated threats or hazards to the security or integrity of State Data; (c) protect against unauthorized disclosure, access to, or use of 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 or their acceptable equivalent as solely determined by the State, when accessing, possessing or controlling State Data or accessing State IT systems.

b. Reserved.

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 safeguards required by the contract 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.

30. 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 four (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 and cannot be supported by the Contractor, 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.

31. 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) all Contract Activities are delivered free from any security interest, lien, or encumbrance and will continue in that respect; (c) the Contract Activities will not knowingly infringe the patent, trademark, copyright, trade secret, or other proprietary rights of any third party; (d) Contractor must assign or otherwise transfer to the State or its designee any manufacturer's warranty for the Contract Activities; (e) the Contract Activities are in accordance with the terms of the Contract; (f) the Contract signatory has the authority to enter into this Contract; (g) 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;(h) 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 (i) 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 23, Termination for Cause.

32. 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.

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

34. **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.

35. **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.

36. **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.

37. **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.

38. **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.

39. **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.

40. **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.

41. **Website Incorporation.** The State is not bound by any content on Contractor's website unless expressly incorporated directly into this Contract.

42. **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 Matrix
Schedule C	Federal Provisions Addendum
Schedule D	CLMP Monthly Activities Plan (MAP)
Schedule E	CLMP Samples

43. **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 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.

44. **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.

45. **Waiver.** Failure to enforce any provision of this Contract will not constitute a waiver.

46. **Survival.** The provisions of this Contract that impose continuing obligations, including warranties and representations, termination, transition, insurance coverage, and confidentiality, will survive the expiration or termination of this Contract.

47. **Contract Modification.** 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.

SCHEDULE C

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 contract** 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 29C.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 applicablestandards, 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 bidder or proposer 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 bidder or proposer 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—

a. **Competitively within a timeframe providing for compliance with the contract performance schedule;**

b. **Meeting contract performance requirements; or**

c. **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 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.

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, Michigan State University **, 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

Diane Cox, Sponsored Programs Manager

_____

Name and Title of Contractor's Authorized Official

15 September 2020

_____

Date

STATE OF MICHIGAN

Michigan Clean Water Corps (MiCorps) Program Administration
CONTRACT# 200000002106

SCHEDULE A
STATEMENT OF WORK
CONTRACT ACTIVITIES

BACKGROUND

Executive Order #2003-15, signed by previous Governor Jennifer Granholm on September 30, 2003, created the Michigan Clean Water Corps (MiCorps) to assist the Michigan Department of Environment, Great Lakes, and Energy (EGLE) with monitoring and protecting water quality (WQ) in Michigan's lakes, rivers, streams, creeks, and wetlands. There are many more water bodies in Michigan whose numbers exceed the capacity of available EGLE staff to assess on an annual basis. Michigan and other states are increasingly dependent upon volunteer monitoring programs to enhance WQ data collection efforts and to provide long-term trend information for assessing the WQ status of the water resources of the state.

MiCorps has been built on a foundation of established volunteer monitoring programs and encourages additional volunteer monitoring programs to join. Michigan has involved citizen volunteers in inland lakes monitoring since 1974 and in the wadeable stream monitoring program since 1998. Many other volunteer groups have programs designed to protect and monitor Michigan surface waters. The intent of MiCorps is to pull together and maintain a volunteer monitoring network to facilitate communication, data and information sharing, define common assessment methods, and quality assurance practices. The intent is to gather and maintain the exchange of reliable and meaningful WQ data for water resource management and protection programs at the state and local level. MiCorps assists EGLE in carrying out its mission to preserve and protect Michigan's waters from impairment and destruction.

MiCorps fosters the incorporation of established volunteer monitoring programs, encourages additional volunteers to participate, and promotes communication, common methods, and quality assurance. EGLE is the lead agency for MiCorps. EGLE works with agencies, other water resource organizations and the private sector to promote MiCorps and identify additional water monitoring programs that can be added.

SCOPE

This Contract is for the continuance and enhancement of the MiCorps volunteer inland lakes and stream monitoring programs and elements of the Volunteer, River, Stream, Creek Cleanup Program (VRSCCP). EGLE has allocated $348,000 per year for this project. Specific activities are as follows:

1. Annually enhance, maintain, and implement promotional MiCorps components and activities.
2. Maintain and update the current publicly assessible website (http://www.micorps.net) that includes (2a) a registry for volunteer organizations, a directory of member organizations, and a listserv; (2b) informational and educational materials; (2c) MiCorps quality assurance program plans (QAPPs); 2(d) MiCorps web-based data management systems including the MiCorps Data Exchange (MDE), a Structured Query Language (SQL) based platform, including maintaining and facilitating MiCorps member use of the MDE and the annual entry of volunteer stream and lake monitoring data.
3. Maintain and enhance an annual volunteer monitoring recognition program.
4. Organize and conduct an annual volunteer water monitoring workshop.
5. Provide and administer the Cooperative Lakes Monitoring Program (CLMP), including annual training and preparation of an annual CLMP summary report by February of the following year (except for the 2020 field season).

6. Provide and administer the EGLE volunteer stream monitoring grant program (VSMP), including annual training, and annually provide EGLE an up-to-date summary progress report including a description of each grant awarded and current status of the stream monitoring grants.
7. Develop sampling and analytical protocols for additional monitoring parameters for the volunteer stream monitoring and/or the CLMP lakes monitoring programs that requires an EGLE approved set of quality assurance and quality control reporting requirements.
8. Develop and implement MiCorps training enhancements incorporating new technologies to enhance and facilitate volunteer training.
9. Provide and administer the VRSCCP grant program and annually provide EGLE an up-to-date summary progress report including a description of each grant awarded and current status of the VRSCCP.
10. Support the EGLE MiCorps leader's travel to volunteer monitoring conferences; and
11. Close out the Contract and transfer program operations to EGLE or designated successor at Contract end as needed.

REQUIREMENTS
The Contractor will be expected to provide deliverables, services, and staff and otherwise do all things necessary for or incidental to the performance of work, as set forth below:

Task 1: MiCorps Promotional Materials
Success of the MiCorps program requires effective promotion. The Contractor must actively promote the program through updated informational displays, color brochures, and presentations at appropriate venues, conferences, volunteer training sessions, and water resource related meetings. The program information will include the mission statement, goals, and objectives of MiCorps, description of the program elements, a summary of the core volunteer monitoring programs and highlight the volunteer WQ monitoring network. The Contractor will actively provide outreach to target audiences, including the Michigan Department of Natural Resources (DNR), Michigan Inland Lakes Partnership, Michigan Natural Shoreline Partnership, Michigan Shoreland Stewards Program, and individual volunteer monitoring groups and report ***annually*** *to EGLE progress in this area. The Contractor must also maintain and implement current promotional MiCorps components or activities. The Contractor must create and distribute informational material primarily electronically, but where necessary, supplying hard copy when requested. In addition, the Contractor must develop and operate an EGLE-approved MiCorps social media approach.*

The Contractor must:
1. *Update promotional MiCorps materials including new color brochures for CLMP and VSMP as needed throughout the Contract period. This includes the existing CLMP and stream monitoring brochures and the factsheets for each CLMP parameter and stream monitoring technique. This also includes the addition of new factsheets and procedures developed for any new MiCorps monitoring parameters.*
2. *Develop, implement, and operate an EGLE-approved MiCorps social media approach.*
3. *Provide EGLE-approved announcements of MiCorps events, products, and accomplishments, as needed throughout the Contract period.*
4. *Outreach to target audiences.*

Contractor Response:
Continued support of MiCorps from the public and decision makers relies on broad awareness of the program and its value to the citizens and waters of Michigan. The project team (Michigan State University and Extension, the Huron River Watershed Council, and Michigan Lakes and Streams Association, in collaboration with EGLE) has extensive experience promoting MiCorps through face-to-face, print, and virtual means, and will build on that experience to update and enhance MiCorps promotional materials. By telling the stories of MiCorps, we will continue to attract participants, users of our data, and support for MiCorps. We will continue to incorporate the broadly recognized MiCorps logos on all materials.

1. We will update all MiCorps promotional and informational materials to reflect the structure of the new administrative team and all programmatic updates, at the beginning of this contract and as needed throughout the contract period. These materials include brochures for the CLMP and VSMP, the general MiCorps informational brochure, and parameter/technique fact sheets. We will create new fact sheets and procedural documents for any new MiCorps monitoring parameters. The MiCorps annual report, required by EGLE in the terms of this contract, will also be included in the suite of informational materials available to the public. All updated materials will be posted on the MiCorps website, and a limited supply of hard copies will be produced for distribution.

2. We will develop a social media approach for the MiCorps program. Social media (e.g., Facebook, Twitter, etc.) has not been used to promote or share the MiCorps program to date. Social media represents an opportunity for reaching new participants and maintaining communication with existing participants. Dozens of Michigan lake associations, watershed groups, Conservation Districts, and other current and future MiCorps participants are active on social media. The project team is ideally suited for developing a social media approach for MiCorps, in cooperation with EGLE, because individuals on the team have extensive experience writing social media strategies for statewide programs and regional and international natural resources organizations, as well as producing content, maintaining accounts, and reaching ambitious social media goals. Social media feeds, once a presence is established, will be made available through the MiCorps website.

3. Throughout the contract period, we will continue to provide EGLE-approved announcements of MiCorps events, products, and accomplishments, building on 15 years of experience doing so successfully for the MiCorps program. These announcements will be shared via the MiCorps blog, MSU Extension News, press releases, and other outlets as appropriate.

4. Finally, we will provide face-to-face and virtual outreach, as appropriate, to target MiCorps audiences, including lake associations, watershed groups, Conservation Districts, and others, with the goals of sharing MiCorps training and volunteer opportunities, data resources, individual and program accomplishments, and more. The strengthened connection of MiCorps to MSU Extension will facilitate outreach to the statewide network of MSU Extension educators and participants in MSU Extension programs, such as the Lake and Stream Leaders Institute, the Introduction to Lakes course, Master Gardener, Conservation Stewards, Master Naturalist, and more. Ultimately this outreach will increase awareness of, participation in, and support for MiCorps. This outreach will utilize displays and materials for reinforcing our outreach messages. The project team is uniquely qualified to successfully conduct this outreach, because of our collective extensive experience implementing MiCorps and our strong statewide networks of freshwater professionals, local and state decision makers, and current and future participants.

Costs associated with Task 1 include but are not limited to staff time for outreach product development and updates (writing, design, editing, distribution) and delivery (presentations, exhibits), and development and implementation of a new social media strategy; staff travel to deliver face-to-face outreach; and production of hard copy materials.

Task 2: MiCorps Website

The Contractor must maintain and upgrade the current MiCorps website (www.micorps.net) to include all MiCorps elements and serve as a website for the volunteer WQ monitoring network and data management. The website must include electronic, online enrollment and grant application capability, a registry of volunteer organizations, a directory of member organizations, a listserv to distribute volunteer monitoring announcements and information, a WQ monitoring information and education system, a monthly blog, an interactive map showing real-time volunteer data across the state and a WQ data exchange system for the entry and retrieval of lakes and streams monitoring data. The MiCorps website and all elements created under the Contract are property of the State of Michigan, and systems documentation and source code must be provided to the State upon completion of this Contract. At such time, the Contractor must provide an overview in the form of an updated system schema and system documentation report that must include meetings with appropriate State of Michigan staff.

The Contractor must:

1. *Provide maintenance and frequent updates to the website, as necessary, throughout the length of the Contract, including online registration and application pages for various MiCorps components. The Contractor must renew the www.micorps.net domain before December 31, 2020 to ensure that no lapse occurs when the renewal period ends in mid-January.*
2. *Provide new email lists to replace midata@glc.org and ask-micorps@glc.org as well as manage the current micorps-news Google Groups listserv.*
3. *Coordinate with EGLE and DTMB for a smooth transition of the website and MDE prior to the end of the Contract, if applicable.*
4. *As necessary, the Contractor must provide EGLE with an updated system schema, system documentation report, and source code and data.*
5. *The Contractor must also participate in meetings with appropriate State of Michigan staff to facilitate the system's transfer and ensure a smooth transition of these elements.*
6. *Once the transition is complete, the Contractor must cease to operate the MDE or collect new data, and the system must be offline until EGLE (or its designee) can resume operating the MDE system.*

Contractor Response:

Michigan State University will assume responsibility for the MiCorps website currently housed with the Great Lakes Commission (GLC; the previous contract lead). As such, we will cooperate with GLC to take over ownership of the domain name (www.micorps.net) before December 31, 2020 and transition all existing content to our servers.

1. We will update and modernize the look and feel of the website. All redesign will take place in the first two years of the project. In subsequent years, we will continually identify and implement updates and improvements. As we propose new content and content structures for the page, we will consult with EGLE for approval on the final content and design of the enhanced MiCorps website.

The website redesign will include modernizing current pages and adding new functionality. Our approach will include building a content management system. The current site map will be converted into the new system. Along with the existing pages, new components like the interactive map, linked to the MiCorps Data Exchange (MDE), will be inserted and created as well. The current website address (www.micorps.net) will be maintained.

Our approach is a simple one. First, a modern layout will be generated that is ADA (Americans with Disabilities Act) compliant. The modernized website will have Search Engine Optimization (SEO) capabilities in order to make the project better known and accessible to the public. Next, content entry into the new website will commence with simple pages, including ones completely built using components on other pages, will be developed. This includes the FAQ and About pages. Third, content entry will continue and include building of existing pages that require complex components that cannot be reused on other pages such as the MiCorps blog. The final phase includes building out components that are new, such as the interactive maps, data download portals, CLMP and workshop registration, Cashnet stores (to handle payments), and other such MiCorps pages. The data download portal, for instance, will be developed to help researchers and the public access MiCorps data on the fly without having to contact program staff and wait for a response.

Upon completion of the modernized website, MSU's RS&GIS team will provide maintenance, training, and, when needed, updates to the website.

RS&GIS develops within two environments - training and production - in order for the public-facing website to be consistently online, even when updates or new components are under development. RS&GIS will push both website updates and new features to production during times of little traffic to minimize public confusion.

2. We will establish new MSU-based email addresses to replace “midata@glc.org” for database questions and “ask-micorps@glc.org” for asking program questions. We will also continue the micorps-news listserv (see Subtask 2a below).

3. If applicable, we will coordinate with EGLE and DTMB for a smooth transition of the website and MDE to the State prior to the end of the Contract.

4. All documentation (updated system schema, system documentation report), data, and source code will be made readily available to EGLE through GitLab or their preferred system.

5. As needed, we will meet with appropriate State of Michigan staff to facilitate the system’s transfer and ensure a smooth transition of these elements at the end of the Contract.

6. Once the transition to the State of Michigan at the end of the Contract is complete, we will cease to operate the MiCorps website, its components, and the MDE; we will not collect new data, and the system will be offline until EGLE (or its designee) can resume operating the website and MDE.

Costs associated with Task 2 include, but are not limited to, staff time to transition, update, and enhance the MiCorps website; secure hosting of website components; and annual domain name registration.

Subtask 2a: MiCorps Web-Based Registry, Directory, Blog, and Listserv

The Contractor must maintain, host, and annually update the Web-based registry for screening and enrolling volunteer WQ monitoring programs in the MiCorps. The Contractor must maintain and annually upgrade the current Web-based directory of MiCorps member organizations for the duration of the Contract. The Contractor must maintain the MiCorps listserv and use it to communicate with volunteers and other interested parties. Such communications must include EGLE-approved announcements and news relevant to volunteer monitors.

The Contractor must:

1. *Provide maintenance of the web-based monitoring program registry and MiCorps member Directory. This must include annual reviews of contact and program information to ensure information is up to date.*
2. *Provide maintenance and updates to the online MiCorps membership materials and application, as required.*
3. *Provide maintenance and operation of the MiCorps listserv.*
4. *Provide maintenance and operation of the MiCorps blog. Monthly blog articles will communicate MiCorps activities to volunteers, trainings planned by member organizations, other water quality monitoring programs, current topics, and other applicable updates for volunteers. EGLE will be provided opportunity to recommend topics and edit the draft. The final draft of each blog will require approval of EGLE before being finalized. Each blog will be posted on the MiCorps website.*

Contractor Response:

1. We will maintain the online MiCorps member Directory. The Directory was combined with the registry under a previous contract into a single feature on the MiCorps website. As part of the overall updates to the MiCorps website, we will simplify the process for members to review and update their Directory information, ensure criteria for membership are clear and enforced, and we annually review the Directory to ensure information is up to date.

2. We will maintain and update the online form, and related criteria, used for registering new groups into the MiCorps Directory.

3. We will continue to maintain a MiCorps listserv. The listserv is currently operated as a Google group for outgoing messages only. We will maintain that platform or transfer the listserv to another platform if

a better or more appropriate platform is identified during the course of the Contract, with a focus on user-friendliness. We will use the listserv to share EGLE-approved announcements and news relevant to MiCorps participants.

4. We will continue to maintain a "news and blog" feature on the MiCorps website, with regular EGLE-approved articles on topics of interest to MiCorps participants, such as MiCorps updates and activities, trainings offered by member organizations, featured monitoring programs, and more. We will collaborate with EGLE to identify suitable topics and provide EGLE the opportunity to edit draft content.

Costs associated with this subtask include, but are not limited to, staff time to build and maintain these features on the MiCorps website.

Subtask 2b: MiCorps Web-Based Information and Education System

The Contractor must maintain and annually update the WQ monitoring information and education (I&E) system as part of the MiCorps website. The I&E system must include monitoring methods, volunteer operating procedures, example data forms and training aids established for the MiCorps programs as well as links to other resources of volunteer WQ monitoring information from governmental agencies, nonprofit organizations, and the private sector. The Contractor must also add links to water quality and lake management information at EGLE's request. The Contractor will create new macroinvertebrate identification handouts for trainings and store them on the website. Finally, the Contractor must develop, implement, and operate the EGLE-approved Frequently Asked Questions and electronic "submit questions" tools for the website to address volunteer questions.

The Contractor must:

1. *Provide maintenance and improvement of the web based I&E system.*
2. *Develop, maintain, and operate an EGLE-approved frequently asked questions tool.*
3. *Develop, maintain and operate an EGLE-approved "submit questions" tool.*

Contractor Response:

Michigan State University has extensive experience developing websites with a heavy education and outreach component, as well as online tools, and will lead efforts under this subtask in collaboration with the rest of the project team and EGLE.

1. We will maintain and update, as appropriate, the MiCorps I&E system on the MiCorps website. "I&E system" refers to the collection of MiCorps monitoring procedures, data forms, and training aids that currently exist as well as any new products developed during the course of this contract, as well as links to other useful sources of volunteer lake and stream monitoring information from external sources. These links will include those requested for inclusion by EGLE, and new aquatic macroinvertebrate identification handouts that will be developed during this contract period.

2. We will maintain and regularly update a Frequently Asked Questions (FAQ) section on the website.

3. We will maintain a tool on the website through which users can submit questions, through a dedicated "Ask MiCorps" email form or similar means. Questions will be routed to members of the project team through email or other immediate means to facilitate rapid responses.

Costs associated with this subtask include, but are not limited to, staff time to build and maintain these features on the MiCorps website.

Subtask 2c: MiCorps Quality Assurance Program Plans

The Contractor must maintain and annually update the MiCorps Quality Assurance Program Plan (QAPP) that has been developed for the CLMP as necessary. The MiCorps website must also include the MiCorps CLMP and stream monitoring grant recipient QAPPs as examples for the WQ monitoring network, as well as

links to QAPPs developed by the MiCorps member organizations. All volunteer WQ monitoring programs enrolled in the MiCorps are required to develop an approved QAPP.

The Contractor must:

1. *Maintain the quality assurance guidance information on the MiCorps website. This will include updates of the CLMP QAPP as necessary. The review, approval, and posting of MiCorps members' QAPPs to the website via links to the member's website, or directly on the MiCorps website if no member website is available.*
2. *As a condition of continued membership, the Contractor must request members conduct bi-annual reviews of their existing approved QAPPs and make updates as necessary.*

Contractor Response:

We will regularly review and update MiCorps Quality Assurance Project Plans (QAPPs). MSU and HRWC have extensive prior experience developing, reviewing, and training others in the development and implementation of QAPPs, both within and external to the MiCorps program. Details on maintaining and updating the CLMP QAPP are found under Task 5; the process for reviewing and approving VSMP member organizations' QAPPs is found under Task 6. We will also maintain and update the Quality Assurance information on the MiCorps website, including:

1. We will post the latest version of the CLMP QAPP, and links to (or copies of) MiCorps members' QAPPs to the MiCorps website.

2. We will also request that all MiCorps members review their existing QAPPs and make updates as necessary biennially (every two years), as a condition of continued MiCorps membership. Failure to conduct and document these QAPP reviews may result in the entity's data being demoted to a Tier 2 status within the MiCorps data management system should they continue to monitor and enter their data, and groups without an updated QAPP will not be able to apply for the Maintenance grants described under Task 6.

We will also ensure that the MiCorps website includes resources for member groups on quality assurance topics including criteria and program requirements to consider when developing a QAPP and examples of previously developed volunteer water quality monitoring program QAPPs. Access to QAPP information is valuable both to monitoring participants and to potential users of the data, including researchers and managers, who may make decisions about the suitability of MiCorps data for their particular needs based on the standards described in the associated QAPP.

Finally, we will maintain our own internal quality assurance practices, by incorporating steps into participant training programs, monitoring protocols, data forms, and the MiCorps Data Exchange.

Costs associated with this subtask include, but are not limited to, staff time to review member organizations' QAPPs and develop, update, and post quality assurance information, resources, and links to the MiCorps website.

Subtask 2d: MiCorps Web-Based Data Management Systems

The Contractor must maintain, enhance, and annually update the data exchange platform as part of the MiCorps website. Data collected under the core programs must be accessible via the MiCorps website and links to the member organization's data management systems must be maintained for the MiCorps volunteer WQ monitoring network, and for public use. Annual monitoring results and metadata must be included as appropriate. The Contractor must also develop and implement an EGLE-approved enhanced presentation of individual lake CLMP data during data searches. The Contractor will maintain and update the data exchange platform, as needed, for the duration of the Contract as well as create a new MDE state-of-the-art database with EGLE and a private consultant that will include all historic volunteer lake and stream data as well as all new data. The database will have the ability to expedite the creation of individual water body reports using the new database, provide syncing capabilities with the Contractor's newly created Phone App

for monitoring lake and stream data, and provide an interactive map with real-time spatial data on the MiCorps website.

The Contractor must:

1. *Provide maintenance and continued improvement of the MDE to add to the functionality of the existing data management systems. This must include the addition of new data entry capabilities needed for any new monitoring parameters to MiCorps programs.*
2. *Provide links to member organizations' online data management systems, as available and appropriate.*
3. *Develop and implement EGLE-approved enhanced CLMP data presentation for individual lakes during MDE searches.*
4. *The enhanced presentation must include as appropriate, but is not limited to, parameter data summaries and pop-up charts.*
5. *Create a new state of the art database with EGLE and a private consultant that will include all historic volunteer lake and stream data as well as new data. The database will have the ability to expedite the creation of individual water body reports using the new database, providing syncing capabilities with the Contractor's newly created Phone App for monitoring lake and stream data, and provide an interactive map with real-time spatial data on the MiCorps website. $100,000-$150,000 in funds from this contract is anticipated to be used on the creation of the new database. Additional funds will need to be designated for yearly maintenance of the new database. Contract funds will also be necessary for design and creation of the Phone App and Interactive Map.*

Contractor Response:

1. We will maintain the program database (MiCorps Data Exchange, or MDE) that is a key component of the MiCorps program, housing and making accessible the wealth of lake and stream data collected by program participants since 1974. As part of this Contract, we will update the MDE to facilitate data entry, access, and utility for all users. This will include building in structure to facilitate the production of individual water body reports, such as the current "Individual Lake Reports" provided through the CLMP to each participating lake annually. The redesign will take place in the first two years of the contract. We will also ensure that quality control functionality is maintained or enhanced to minimize data entry and import errors. In subsequent years, we will maintain and implement updates and improvements. Throughout the contract, we will collaborate with EGLE for input and for final approval of all updates and new features. If new parameters are added to the program (see Task 7), we will build data entry and storage features into the MDE to accommodate them.

2. We will include links to member organizations' own online data management systems on the entry page to the MDE, as available and appropriate.

3. In collaboration with EGLE, we will develop and implement improved means of presenting lake and stream data to MDE users, as described in Activity 4, below.

4. These improvements will include data summaries for user-selected parameters, charts to provide visualization of user-selected data, improved search functionality, and interactive maps, as described in Activity 5, below.

5. Through the use of a progressive web application, we will develop a mobile-friendly site with field data collection capabilities. A progressive web application is becoming significantly more common for application development because it saves both time and money. Traditional mobile applications have to be developed for both Android and OSX devices. Further, both developed applications then have to be vetted and put into a public store for people to obtain. The duplication of effort is removed through the use of a progressive web application. The site will permit field data collection both on and offline, and field data collection will be restricted to those with a verified established account. Offering MiCorps participants the option to transition from paper-based to digital field data collection efforts will minimize

both time and errors associated with data entry. Additionally, using the GPS technologies in mobile phones, we can collect and map data in new and different ways.

Mapping features will be created within the ESRI platform, as it is the State of Michigan's preferred platform. This consistency will facilitate program continuity and transfer of data and maps to EGLE's GIS staff.

As noted under Task 2, we will develop MDE updates and new features in a separate environment so the public facing website will be consistently online, and we will push updates to production during times of little traffic to minimize public confusion.

In addition to these proposed enhancements, throughout the Contract period we will perform ongoing MDE functions including: issuing usernames and passwords for data entry to the system; troubleshooting and assisting volunteers with any data entry or viewing issues; checking the data submitted by volunteers for basic quality assurance measures before inclusion in the MDE to reduce errors due to missing, illegible, or faulty entry of data; correcting past data entry or import errors; and importing data received from the EGLE Environmental Laboratory.

Costs associated with subtask include, but are not limited to, staff time to transition, maintain, update, and enhance the MiCorps Data Exchange database and user interface, as described above; and ESRI hosting.

Task 3: MiCorps Volunteer Monitoring Recognition Program

An important element of any volunteer program is recognition of the volunteer efforts. The Contractor must continue to develop, implement, and maintain an annual Volunteer Monitoring Recognition Program for the duration of the Contract. New MiCorps member organizations (including VSMP "full" grantees – those who received a full award) must receive a Certificate of Recognition, and VSMP "start-up or maintenance" grantees must receive a Certificate of Participation, at the annual MiCorps fall workshop. The lead volunteer from each lake enrolled in the CLMP must receive a Certificate of Participation for their participation in the previous years' field season along with the annual summary report at the annual MiCorps fall workshop or at the annual CLMP training event the following spring. Volunteers may receive their certificate in the mail if they do not attend either event. Certificates for new MiCorps member organizations to be signed by EGLE must be provided to the EGLE Program Manager no later than 30 days prior to the day of presentation. The Contractor will develop a new system of beginner and advanced levels of volunteers to create more room for advancement and challenges to lake and stream volunteers.

The Contractor must:

1. *Provide Certificates of Recognition for new MiCorps member groups and Certificates of Participation for start-up or maintenance grantees at each MiCorps fall workshop.*
2. *Annual Certificates of Participation from the past CLMP field season for the lead volunteer from each CLMP-enrolled lake and must be distributed along with the annual summary report or at the annual CLMP training event.*
3. *The Contractor must mail certificates to absent volunteers.*
4. *Certificates for CLMP lead volunteer participants must be prepared before the end of the Contract period for distribution the following spring.*
5. *Tokens of recognition for Long-Term Contribution must be given to the lead volunteers of CLMP and VSMP member groups that have contributed VSMP or CLMP data for six years or more at the time of the beginning of this Contract. This is a one-time honor to long-term volunteers as we initiate the five-year Certificates. Form of token to be decided.*
6. *Five-year interval tokens of recognition for CLMP lead volunteers and VSMP member groups that continue to provide data to the MDE. Form of token to be decided.*

Contractor Response:

We recognize the value of continuing a MiCorps participant recognition program. Recognizing the commitment and achievements of participants is vital to establishing and sustaining a successful

volunteer relationship. Toward this end, we will maintain the existing program and identify and implement improvements and expansion of the program as appropriate and possible.

1. We will provide Certificates of Recognition (or similar) for new MiCorps member groups, and Certificates of Participation (or similar) for start-up or maintenance VSMP grantees at each MiCorps fall workshop.

2. We will provide Certificates of Participation (or similar) annually to the lead volunteer from each CLMP-enrolled lake. Certificates (or similar) will be distributed along with the annual individual lake report, at a CLMP training event or MiCorps workshop, or other suitable means.

3. We will mail Certificates (or similar) to any absent volunteers.

4. In anticipation of a Contract end date of June 30, 2025, CLMP Certificates of Participation (or similar) for the 2025 monitoring season will be prepared before the end of the Contract period for distribution the following spring by EGLE or the next Contractor.

5. Initial Long-Term Contribution recognition for MiCorps members was completed during a previous MiCorps contract. We will continue the long-term recognition program via activity #6, below.

6. Five-year interval tokens of recognition will be provided to CLMP lead volunteers and VSMP member groups that continue to provide data to the MDE. The form of the token will be decided in cooperation with EGLE.

Costs associated with Task 3 include but are not limited to staff time for maintaining a record of annual volunteer service, and creating and distributing the certificates and tokens mentioned above; purchase of those certificates (including both the paper and printing costs) and tokens; and mailing certificates and tokens to participants absent from the workshops/trainings where they are distributed.

Task 4: MiCorps Annual Volunteer Monitoring Workshop

The Contractor must organize and provide an annual one-day MiCorps Volunteer Monitoring Workshop each fall to report on the accomplishments of the volunteer WQ monitoring network, to promote volunteer monitoring, to celebrate on the successes of MiCorps, and to recognize volunteers. The workshop serves to promote the importance of the MiCorps volunteer and to afford attendees an opportunity to share and exchange their experiences of lake and stream monitoring. The Contractor must plan, organize, promote, coordinate, and implement the workshop for the duration of the Contract in consultation with EGLE. EGLE must approve all speakers and session topics for the workshop. The Contractor must finalize the workshop agenda, confirm, reimburse, where necessary, and thank speakers, coordinate meeting facilities, prepare workshop materials, manage registration, handle on-site arrangements, facilitate workshop sessions, and conduct any workshop follow-up elements.

The Contractor must:

1. *Provide annual fall MiCorps workshop with advanced planning, coordination and operation of the workshop to be held in October of each contract year. The Contractor must reserve the venue for the last fall workshop, must construct the preliminary agenda, must brainstorm a list of possible speakers and discussion, including ad-hoc volunteer advisory committees for MiCorps issues at EGLE request, and must invite speakers. Further work on the last fall workshop is contingent upon new funds.*
2. *Provide all workshop materials (e.g., save-the-date, registration form, agenda, evaluation forms, etc.)*
3. *Provide all workshop promotion and publicity, including an EGLE-approved press release.*
4. *Provide on-site management of workshop facilities and facilitation of workshop sessions.*
5. *Provide workshop follow-up, including proceedings posted online, thanking of speakers, and summaries of workshop evaluations for future workshop planning.*

Contractor Response:

1. We will plan, coordinate, and implement an annual fall MiCorps workshop beginning in Fall 2021. The annual workshop will be one day in length. The agenda will focus on reporting accomplishments of the MiCorps volunteer monitoring network, promoting volunteer monitoring, celebrating the successes of MiCorps, solicitation of participant feedback on the MiCorps program, and recognizing participants. The workshop will provide attendees an opportunity to share their experiences in lake and stream monitoring. The workshop also provides an opportunity for advanced VSMP training, including topics also of interest to CLMP participants as referenced in Task 6. We will seek EGLE approval of all speakers and session topics for the workshop. We will work with EGLE to determine the most desirable venue for the workshop, building on past successes of both standalone MiCorps workshops and joint events with aligned organizations such as the Michigan Inland Lakes Partnership's Convention. While the traditional standalone MiCorps workshop is an excellent opportunity to celebrate program accomplishments and teach current members, it typically only reaches a limited group of people already familiar with MiCorps. Special MiCorps sessions as part of other conferences greatly increases our visibility.

We will also reserve a venue for a workshop in the last year of the contract (2025, based on an anticipated Contract end date of June 30, 2025), and will begin preliminary planning for that workshop in collaboration with EGLE, including developing a preliminary list of possible speakers and topics, and issuing invitations to speakers if timing allows. Further work on the fall 2025 workshop would not be our responsibility unless additional funds and a contract extension (or new contract) are secured.

2. We will provide all workshop materials annually, including save-the-date announcements, the registration process (online through the MiCorps website, including collection of registration fees), agenda, and evaluation forms.

3. We will develop and execute a plan for promoting the workshop, which will include an EGLE-approved press release, and outreach through our social media, website, and professional networks as well as a limited mailing of save-the-date announcements. We will begin promotion at least four months prior to the workshop, or as soon as EGLE approval is granted, if less than four months prior.

4. We will provide on-site management of the workshop facilities and will facilitate all workshop sessions.

5. We will provide workshop follow-up, including posting of workshop proceedings on the MiCorps website, thanking (and if necessary, reimbursing costs of) speakers, providing any registration refunds (as necessary), paying any outstanding bills, and compiling workshop evaluations for consideration during future workshop planning.

A modest participant registration fee will be charged to cover meals, break service, and other on-site costs associated with the workshop venue. Overnight lodging and optional pre-workshop events on the evening before the workshop may still be offered as a way to provide as many informal networking opportunities as possible for volunteers and volunteer leaders and allow them to interact more informally with program staff.

Costs associated with Task 4 include but are not limited to staff time for workshop planning, implementation, and follow-up; development and implementation of conference registration website and registration fee payment; venue costs (facility rental, food, etc.); speaker costs (e.g., keynote speaker registration and travel expenses, as needed); staff travel and registration costs; production and printing of workshop materials (promotional materials, name tags, educational hand-outs, evaluation forms, etc.); production and mailing of thank-you notes to speakers; and mailing of workshop promotional materials (e.g., save-the-date postcards).

Task 5: Administer the Cooperative Lake Monitoring Program (CLMP)

The CLMP (formerly the Self-Help Program), has been a core component of Michigan's inland lakes monitoring program since 1974. EGLE and the Michigan Lakes and Streams Association (MLSA), under a Memorandum of Understanding, have jointly administered the program since 1992. A subcontract amount of $25,000 was originally established with MLSA to administer the CLMP. The Contractor must subcontract with MLSA to continue the work MLSA as traditionally performed for the CLMP under the previous Contract.

The Contractor must administer the CLMP annually (except for the 2020 field season) and must provide the following:

1. *Administering the CLMP logistics including advertisement, enrollment, mailings and report writing, printing and distribution. In addition, administer the subcontractor(s) contract, pay invoices, receive/review progress reports, maintain records, and provide ongoing communications with EGLE and subcontractor(s) staff.*
2. *Coordinating the CLMP training programs and annually updating training materials posted on the website as well as the CLMP Training Manual. The CLMP training of lake monitoring volunteers must occur annually in April/May, typically with the Michigan Lakes and Streams Association Annual Conference prior to the monitoring season, for the duration of the Contract.*
3. *Maintaining the MiCorps CLMP Clearinghouse.*
4. *Updating the CLMP Clearinghouse Monthly Activities Plan (MAP) as described below and update the MAP as needed throughout the Contract.*
5. *Acquiring, building and distributing all monitoring equipment and supplies for all CLMP parameters. The current CLMP parameters are:*
    a. *Spring Phosphorus*
    b. *Summer Phosphorus*
    c. *Chlorophyll-a*
    d. *Secchi Disk Transparency*
    e. *Dissolved Oxygen/Temperature*
    f. *Aquatic Plant Mapping*
    g. *Exotic Aquatic Plant Watch*
    h. *Score the Shore*
6. *Maintaining, hosting and enhancing the MiCorps website online registration process to facilitate annual registration of participating volunteer lakes in the CLMP monitoring program for all CLMP parameters. Assure that all CLMP participants are enrolled in Secchi Disk Transparency before enrolling in any other parameter. Additionally, ensure that volunteers attend training for required parameters and that basic (Secchi, Total Phosphorus, Score the Shore, Exotic Aquatic Plant Watch) water quality parameters and advanced (Chlorophyll, Dissolved Oxygen, and Aquatic Plant Mapping) water quality parameters are enforced for new and veteran volunteers.*
7. *Coordinating and implementing CLMP sampling logistics including scheduling, mailings, equipment, sample collection and delivery. This includes maintaining and updating the CLMP Monthly Activities Plan on the website.*
8. *Coordinating CLMP monitoring activities with other volunteer lake monitoring programs to increase participation and available WQ data as appropriate.*
9. *Compiling and electronically storing all data annually collected in the MDE.*
10. *Producing an EGLE-approved Individual Lake Report for each CLMP lake enrolled in the program due out by February of the following year.*
11. *Producing an EGLE-approved annual CLMP summary report due out by February of the following year.*
12. *Maintaining contact, as needed, with EGLE staff to promote communication, program quality and exchange of information and ideas. This must include no less than one monthly phone call with the EGLE Program Manager.*
13. *Promoting CLMP enrollment.*
14. *Annually reviewing and updating, if needed, the quality assurance project plan for the CLMP.*
15. *Annually reviewing and updating, if needed, the monitoring procedures for all parameters.*
16. *Annually updating CLMP training programs for all parameters.*

17. *Additional EGLE expectations of duties to be performed are described by the Monthly Activities Plan and CLMP: Handling Phosphorus & Chlorophyll Samples. The dates the duties are performed may vary from the month described as long as the overall tasks are completed in a timely fashion satisfactory to EGLE.*
18. *The EGLE owned dissolved oxygen meters require annual maintenance including the purchase of dissolved oxygen meter membrane caps, new batteries, and occasionally need to be serviced by Fondriest Environmental. The Contractor shall provide funds in the Contract for these dissolved oxygen maintenance costs.*
19. *Additional descriptions of program activities are also detailed in the CLMP Quality Assurance Program Plan.*

The Contractor must:

1. *Provide administrative and technical assistance for the CLMP.*
2. *Plan and convene at least one volunteer training event each year, typically in April/May at the MLSA annual workshop.*
3. *Add updated training materials to the website after the annual training event.*
4. *Provide maintenance and enhancements to the online volunteer enrollment system for the CLMP program through the end of the enrollment period.*
5. *Compile and quality assure data collected by volunteers and enter as needed, via the MDE through the end of the Contract period.*
6. *Prepare an EGLE-approved Annual CLMP report, to be released in February each year.*
7. *Prepare an EGLE-approved Individual Lake Report for each CLMP lake enrolled in the program, to be released in February of each year.*
8. *Provide promotional materials to promote CLMP enrollment.*
9. *Provide procedures, training aids, and other information provided on the website to address MiCorps member needs.*
10. *Annually receive, process, and delivery CLMP samples to the EGLE laboratory. The MiCorps program has $30,000 annually under the Surface Water Assessment Section (SWAS) lab account to pay for CLMP sample analysis.*
11. *Discuss with EGLE any trainings, letters of recommendation for grant proposals, or program promotion of MiCorps. The EGLE Program Manager should be aware of all projects involving MiCorps training, procedures, etc.*

Contractor Response:

We will provide administrative and technical leadership for the CLMP throughout the proposed period. MSU will be the primary administrative and coordinating partner with assistance from MLSA and HRWC. We are uniquely qualified to successfully administer and coordinate this program because of our collective and extensive experience implementing the CLMP in the past.

We will administer the CLMP annually as follows:

1. MSU will manage all CLMP administrative requirements and logistics, including: program promotion, enrollment, reporting and distributing materials. In addition, MSU will manage all sub-contracts with MLSA and HRWC, handle finances, collect sub-contract progress reports, and maintain communication among all partners, including EGLE. MSU has the extensive administrative infrastructure necessary to support these actions.

2. We are committed to ensuring high quality data and to maintaining program success and volunteer satisfaction. To achieve this goal, we will conduct annual CLMP training events and update and create new training aids and materials that will be easily accessible on the MiCorps website. Historically the annual spring training has happened in conjunction with the annual MLSA conference and this will likely continue into the foreseeable future. The training session will include an overview of each parameter and what they say about the lake, an explanation of the assessment methods, walkthroughs of the sampling procedures, and practice of the methods where possible.

In addition to the traditional, annual CLMP training event and online training described under Task 8, we will continually consider opportunities to offer additional in-person training and education events, as resources allow, potentially in partnership with internal (e.g., MLSA) or external partners. These in-person events are proven to raise awareness of and recruit new volunteers for MiCorps.

We will also provide side-by-side visits to a subset of volunteer lakes enrolled in the Exotic Aquatic Plant Watch, Aquatic Plant Mapping, and Score the Shore, and support EGLE side-by-side visits related to Total Phosphorus and Chlorophyll monitoring, as described in the CLMP Monthly Activities Plan (MAP). The purpose of the side-by-side visits is to ensure that volunteers are following CLMP procedures and that any deviations from that procedure are slight and do not impact data quality. These visits also benefit program staff and volunteers by providing valuable opportunities for one-on-one communication about matters related to the CLMP and lake stewardship.

3. MSU will maintain the MiCorps CLMP Clearinghouse, which will be accessible by all project partners on the MiCorps website. The Clearinghouse contains internal and external documents related to the program.

4. MSU will update the CLMP Clearinghouse Monthly Activities Plan (MAP) as needed throughout the contract period.

5. MSU and MLSA will cooperate to acquire, build, and distribute monitoring equipment and supplies for all CLMP parameters.

6. MSU will host and maintain the new and updated MiCorps website (see Task 2, above, for details). Among the enhancements to the website will be an easy-to-use online registration/ enrollment system. The new enrollment system will be designed by MSU RS&GIS, with input from the project team and EGLE, to ensure all parameter and training requirements are met. This automated registration system will also streamline payment.

7. MSU with MLSA will coordinate CLMP sampling logistics, including scheduling, mailings, equipment, sample collection and delivery. Sample collection and delivery will include annually working with the EGLE Laboratory to process Total Phosphorus and Chlorophyll samples.

8. MSU will identify opportunities to coordinate with other volunteer lake monitoring programs with the intent to increase participation and generation of water quality data.

9. MSU will provide the structure and technical assistance needed to compile and electronically store all data collected. The project team will review and perform quality control on all volunteer data prior to it going into the MDE. Our planned MDE upgrade (detailed in Task 2, above) will increase efficiency and improve upon this task.

10. HRWC with input from the project team will generate an updated EGLE-approved Individual Lake Report for each enrolled lake by February of the following year. The reports will be digitally distributed by default and will be free of charge. The CLMP groups or volunteers will be able to request a printed report at the time of parameter registration, but the project team will charge a fee for its printing and shipping. The reports will include parameter and data explanations along with updated time-series graphs for each parameter in which there are data for more than one year.

11. We will generate an EGLE-approved annual CLMP report by February of the following year.

12. Partner communication is key to the CLMP's success. The project team will communicate regularly, including monthly calls with the EGLE Program Manager.

13. The project team will promote the CLMP through a variety of platforms, venues, and materials, including but not limited to, social media, articles, emails, EGLE approved press release, and

conference presentations. We will follow a promotion plan (outlined in Task 1, above) to ensure a broad reach and timely promotion. We will seek the EGLE Program Manager's input on and approval of all new promotion materials.

14. The project team will annually review and, if needed, update the CLMP Quality Assurance Project Plan (QAPP). The project team is highly qualified to and experienced in writing, reviewing, and approving QAPPs for volunteer lake (and stream) monitoring programs.

15. The project team will annually review and, if needed, update the monitoring procedures for all CLMP parameters. Up-to-date procedures will be easily accessible on the MiCorps website and CLMP manual. We will work with the EGLE Program Manager on all updates.

16. To maintain data quality and volunteer success, we will annually review and update all CLMP training materials and programs. We will create new materials when needed. The materials will be housed in a convenient location on the updated MiCorps website. We will work with the EGLE Program Manager on all new training materials and updates.

17. We will follow the Monthly Activities Plan to complete tasks in a timely manner.

18. We will include in the contract budget funds for maintenance of the EGLE-owned dissolved oxygen meters used in the CLMP.

19. We will ensure that any other CLMP activities detailed in the CLMP Quality Assurance Project Plan (QAPP), and not mentioned above, will be completed in an accurate and timely manner.

Costs associated with Task 5 include, but are not limited to, significant staff time to administer the CLMP; travel to deliver training events and conduct side-by-side field visits; monitoring supplies and equipment for distribution to participants; maintenance of dissolved oxygen meters; training supplies and educational materials; mailing supplies and postage for program materials; and overnight frozen sample shipping.

Task 6: Administer Volunteer Stream Monitoring Program (VSMP) Grants

EGLE has provided grants to local units of government and non-profit entities for WQ monitoring activities in wadeable streams and rivers. Each Contract year, $75,000 in stream grants will be available including Full Macroinvertebrate Grants ($20,000-$25,000) and Start-Up/Maintenance Grants ($1,500). The full grants fund local volunteer macroinvertebrates/habitat monitoring and/or purchase of WQ monitoring supplies, whereas the start-up grants fund the formation of new monitoring groups, their design of a monitoring strategy and development of a proposal for the full grant program, and Maintenance grants keep fully developed stream monitoring groups engaged in MiCorps to sustain data entry into the database, staff to attend macroinvertebrate ID trainings, and staff to attend and present at the MiCorps conferences. A local match of 25% of the total project cost is required for each grant in the form of cash, materials, or in-kind services.

Several tasks are associated with the administration of Michigan's Volunteer Stream Monitoring Grant Program for which the Contractor must:

1. *Develop a Grant Application Process (GAP) for the newly created Maintenance Grants with EGLE approval.*
2. *Maintain, annually update and enhance the online application system with the EGLE approved GAP for all grants. The GAPs will require stream groups to communicate with EGLE watershed biologists for all grants.*
3. *Publicize the VSMP grants program statewide electronically through a maintained online mailing list or listserv.*
4. *Send the GAP to prospective applicants, as appropriate.*
5. *Maintain and update the VSMP database to track grant applications and awarded grants.*

6. *Send out application receipt acknowledgements.*
7. *Review all applications based on the evaluation criteria provided by EGLE.*
8. *Select fundable grant applications, submit reviews and selections to EGLE for discussion and approval.*
9. *Award the grants.*
10. *Annually, prepare a draft news release for grants awarded and submit it to EGLE for approval and release by EGLE.*
11. *Administer financial oversight and payments for grantees.*
12. *Obtain final financial and project reports from grantees by specified deadlines.*
13. *Send out financial reimbursement payments.*
14. *Annually administer the Volunteer Stream Monitoring Grant Program, fund and manage grants, provide training, review and approve QAPPs and maintain the volunteer stream monitoring grant program database for the duration of the Contract and completion of all grants.*
15. *Provide technical assistance to ensure that volunteers collect usable, high quality data. For the macroinvertebrate/habitat monitoring, the technical assistance includes training, site selection advice, sampling procedures, safety guidelines, and macroinvertebrate identification, and a field visit to a wadeable river or stream site that provides volunteers the opportunity to assess a site, collect and identify live macroinvertebrates, complete standard data forms and ask questions. The leaders can then train volunteers within their group.*
16. *Go on a one-on-one sampling event with each volunteer group prior to their first macroinvertebrate collection event.*
17. *Assist the volunteer groups in developing an approved QAPP, which describes project objectives, and the procedures implemented to ensure data quality. EGLE will only use data from groups that are trained and follow approved quality assurance procedures.*
18. *Ensure data collected by means of the grants are entered into the established database and made available on the website.*

The Contractor must provide:

1. *Grants administration for open VSMP grants awarded each year of the Contract.*
2. *Technical assistance and training to volunteer monitors, including a one-day training session in the spring prior to monitoring events and one-on-one sampling event for new grantees, and an additional advanced training in the fall for volunteer coordinators at the annual MiCorps workshop.*
3. *Assistance for volunteer groups in developing and updating QAPPs to be posted on the program website.*
4. *Aid for data-entry into the MiCorps Data Exchange database and enforce the use of required reporting standards.*
5. *EGLE approved press releases for the GAP and the selected grant awards.*
6. *Upon completion of stream grants, Fact Sheets shall be provided to EGLE Watershed Biologists including sites sampled and their scores.*

Contractor Response:

HRWC, with oversight and direction from MSU, will be the primary partners in implementing the VSMP.

The subcontract with HRWC will direct that it will lead the following activities:

- Development and Promotion of an Annual Grant Application Package (GAP): Each year, the team will work to update the previous year's GAPs to account for changes in policy, resource availability, and grant requirements, and then provide these updated drafts to the EGLE for review and approval. A new piece of the GAP will be written for the newly created Maintenance grants. Once approved and announced formally via an EGLE Press Release, the GAP will be posted to the program website and promoted through various state and regional listservs and via the MiCorps program's social media platforms, or as otherwise directed by EGLE.

- Application Review and Selection: HRWC will review all grant applications, taking into consideration the input from all internal and external reviewers, and submit their recommended selections to EGLE for approval. HRWC will enforce the rule that applicants must have communicated with an EGLE biologist before accepting any applicant's submission.

- EGLE-Approved Press Releases: HRWC will write (or assist EGLE in writing as EGLE directs) press releases for GAPs and selected grant awards and will be announced through an EGLE-approved press release. Following these formal releases, other outlets such as the MiCorps and other state and regional listservs and the program's website will also release this information in a more targeted fashion.

- Provide Basic Training: HRWC will provide professional training and technical assistance for the program. A one-day macroinvertebrate and habitat training will be provided in the spring or early summer for each year that full- or start-up grants are awarded. To minimize costs and maximize overall efficiency, HRWC will focus on a "train the trainers" model rather than training all volunteers for each grant recipient organization. While the training is intended for new groups or groups with a Maintenance grant, trainers for other groups in Michigan who want to train or retrain will be welcome, space permitting. The training will cover the structure of the MiCorps program, administrative requirements of the grants (such as quarterly reports and QAPPs), MiCorps macroinvertebrate collection procedures and identification requirements, and practice of the procedures and techniques in a nearby stream. HRWC will also lead development of new aquatic macroinvertebrate identification handouts for the VSMP (as noted under Subtask 2b, above).
- Provide Advanced Training: Typically, as a part of the annual volunteer monitoring workshop, the project team will provide advanced monitoring training for MiCorps groups as time permits in the workshop agenda. This may include advanced macroinvertebrate identification, habitat analysis, or an introduction to a new type of stream monitoring that MiCorps groups have not yet been exposed to. The topic chosen will depend on the needs and interests of the attendees and EGLE guidance.

- Technical and Administrative Assistance: The project team will provide technical assistance to monitoring volunteers on a range of matters. HRWC can draw from its considerable experience with the Adopt-A-Stream program to provide guidance in areas such as:
    - Promotional materials.
    - Attorney-approved waivers.
    - Questions about safety.
    - Initiating a program.
    - Lessons learned regarding program development.
    - Key considerations in ensuring success with volunteer monitoring programs.
    - Advice on equipment purchase and maintenance.
    - Means to help volunteers manage data and information.
    - Accessing funds to maintain the program over the long term.
    - Macroinvertebrate identification assistance; and Monitoring site selection.

- Provide Side-by-Side Training and Sampling: As an additional measure of quality control and technical assistance to volunteer groups, HRWC will conduct side-by-side sampling for all new macroinvertebrate VSMP grantees. The purpose of this sampling is to ensure that all MiCorps groups are following MiCorps procedures and that any deviations from that procedure are slight and do not impact data quality and statewide comparability.

- Review and Approve QAPPs: The project team is highly qualified to review and approve QAPPs for volunteer stream monitoring programs. HRWC brings technical expertise from its experience developing EGLE-approved QAPPs for their volunteer monitoring program and has been reviewing and approving QAPPs in the MiCorps program since 2005. In addition, the project team has developed guidelines and checklists that help to facilitate this process. The project team will work with EGLE staff to ensure that it is providing acceptable guidance and approving only those QAPPs that meet EGLE's acceptance criteria. Throughout the program, the project team will provide guidance to member organizations for collecting and reporting high-quality data.

- Grantee Closeout: As grantees finish up their projects, HRWC will require them to submit fact sheets to EGLE Watershed Biologists including sites sampled and their scores.

- HRWC will keep other MiCorps team members in the loop with VSMP updates at the monthly team meetings of MiCorps/EGLE staff

MSU will be responsible for the following VSMP activities:

- Maintain Online Grant Application System: The team will build and maintain an online application system for stream monitoring proposals (see Task 2 and subtasks, above, for more details).

- Contracting: All groups who successfully receive stream grants will be required to enter into a contract with MSU and submit quarterly reports (for Full Grants) or semi-annual (for the smaller maintenance or Start-Up grants) in order to receive their reimbursements from MSU.

- Maintain Database for the VSMP: The project team will build a database and data entry portal for macroinvertebrate and habitat data through the MDE platform and will enforce the use of required reporting standards (as described in Task 2 and subtasks, above). All groups that receive MiCorps grants will be expected to enter their data into the MiCorps database (or equivalent state agency database) as a requirement of their grants. The project team will provide technical support to volunteers, as required.

Costs associated with Task 6 include, but are not limited to, significant staff time to administer the VSMP activities described above; travel to deliver training and side-by-side field visits; pass-through grant funds; and training supplies.

Task 7: Develop and Expand the List of Eligible Monitoring Parameters Used by Volunteers

EGLE is considering expanding the river and/or inland lakes monitoring programs to include additional eligible parameters that can be used to assess water quality. Discussions involving the addition of applicable future monitoring will occur to discuss monitoring work plans, necessary equipment, and delivery of new parameters.

The Contractor must:

1. *Work with EGLE in developing a monitoring expansion plan that includes a list of additional, eligible parameters; sampling and analytical protocols; QA/QC requirements for an approvable QAPP; and provide instruction to volunteers for sampling, preservation and handling techniques.*
2. *Provide technical assistance guidance to ensure that volunteers collect usable, quality data. The technical assistance to be provided, as needed, includes volunteer sampling methods, site selection, and required quality assurance procedure training.*

Contractor Response:

We will consider adding new parameters to the CLMP or VSMP, in cooperation with EGLE. Examples of recently added MiCorps parameters include the Exotic Aquatic Plant Watch and Score the Shore. Both new parameters represent responsiveness to volunteer interest and opportunities to gather additional data about Michigan's inland lakes that benefits both local communities and the State's monitoring priorities.

1. We will work with EGLE to develop a monitoring expansion plan during the course of the contract. This plan will include a list of possible new parameters for lake and stream monitoring, including a discussion of the benefits and challenges with offering each parameter under consideration.

2. In the event that discussions between EGLE and the project team, in combination with input from volunteers and available resources, result in the decision to move forward with developing and implementing new parameter(s), we will work with EGLE to develop sampling and analytical protocols, QA/QC requirements for an approvable QAPP, and a volunteer training program that will result in usable, quality data.

Costs associated with Task 7 include, but are not limited to, staff time to discuss potential new parameters in collaboration with EGLE and MiCorps volunteers. If support and resources are identified to develop new parameter(s), costs will include staff time for development of procedures and training, as well as incorporation of new parameters into the MiCorps website, Data Exchange, outreach materials, etc.; and travel and supplies for field testing.

Task 8: MiCorps Training Enhancements

MiCorps will incorporate new technologies to enhance and facilitate volunteer training. The Contractor must develop and enhance EGLE-approved training tools that take advantage of developing electronic and web technologies. Implementation of these tools will expand MiCorps' training outreach, and reduce costs associated with face-to-face training. Enhanced training tools may include on-line training, testing, and certification, including video presentations; webcasts and/or webinars; and remote regional interactive presentations at partner locations. The Contractor must integrate these training tools into the MiCorps training program and promote the tools to the MiCorps volunteers.

The Contractor must provide:

1. *New fact sheets, on-line training tools, and presentation templates for volunteers to present information to their local watershed council, local government, or lake association.*
2. *The capacity to present interactive CLMP and VSMP training remotely on a regional basis through EGLE district offices and/or suitable alternative regional partners.*

Contractor Response:

We recognize the value of incorporating and improving our use of technology to expand volunteer access to training and program resources. Virtual training provides opportunities for volunteer participation that do not require the time or cost of travel and may be particularly attractive for volunteers seeking a refresher of training originally obtained in person.

MSU and MSU Extension has extensive experience in and capacity for developing and implementing online learning programs, including videos, live interactive webinars, and synchronous and asynchronous online classes, as well as utilizing innovative technology to enhance in-person training.

1. We will review the fact sheets, online training tools (including training videos), and presentation templates for participants that were developed under the previous contract, and update them to meet current design, accessibility, and technological standards. We will also identify and address any gaps in this suite of resources.

2. We have the technological capacity to present CLMP and VSMP virtual training programs that participants can join online. We will assess whether sufficient internet access is a concern, and if so,

we will collaborate with EGLE district offices or other regional partners, such as MSU Extension county offices, to provide access to virtual training at those regional sites.

Costs associated with Task 8 include, but are not limited to, staff time to review, update, develop, and deliver enhanced training products and programs; and supplies (such as software and technology) for their development and delivery.

Task 9: Administer Volunteer River, Stream, and Creek Cleanup Program (VRSCCP)

EGLE provides small grants to local units of government to help implement cleanups of rivers, streams, and creeks to improve water in Michigan. A total of $25,000 will be made available annually for individual grants that range from $500 to a maximum of $5,000. A local match of 25% of the total project cost is required for each grant in the form of cash, materials, or in-kind services. Adult supervision of the project is also required.

The VRSCCP is not a MiCorps program but is to be administered as part of the proposed Contract.

The Contractor, under the direction of the EGLE Program Manager, must annually administer the VRSCCP including:

1. *Maintain, annually update and enhance the online application system and the EGLE approved GAP.*
2. *Publicize the VRSCCP grants program statewide electronically through a maintained online mailing list or listserv.*
3. *Send the GAP to prospective applicants, as appropriate.*
4. *Maintain and update the VRSCCP database to track grant applications and awarded grants.*
5. *Send out application receipt acknowledgements.*
6. *Review all applications based on the evaluation criteria provided by EGLE.*
7. *Select fundable grant applications; submit reviews and selections to EGLE for discussion and approval.*
8. *Award the grants.*
9. *On an annual basis, prepare a draft news release for grants awarded and submit to EGLE for approval and release by EGLE.*
10. *Administer financial oversight and payments for grantees.*
11. *Obtain final financial and project reports from grantees by specified deadlines.*
12. *Send out final reimbursement payments.*
13. *On an annual basis, submit final reports to EGLE by October each year.*

The Contractor must:

1. *Maintain a web-based grant application system for the VRSCCP.*
2. *Promote the VRSCCP Grants Application Package. Review grant applications and provide staff recommendations to the EGLE Program Manager.*
3. *Administer, the VRSCCP grants awarded each year of the Contract, review final grant reports, and coordinate award payments.*
4. *Provide final reports and annual grantee tracking summary to EGLE by October each year.*
5. *Provide EGLE approved press releases for the GAP and selected grant awards.*

Contractor Response:

HRWC, with oversight and direction from MSU, will be the primary partners in implementing the Volunteer River, Stream, and Creek Cleanup Program (VRSCCP).

The subcontract with HRWC will direct that it will lead the following activities:

- Development and Promotion of an Annual Grant Application Package (GAP): Each year, HRWC will work to update the previous year's GAP for the VRSCCP to account for changes

in policy, resource availability, and grant requirements, and then provide the updated draft to the EGLE for review and approval. Once approved and announced formally via an EGLE Press Release, the GAP will be posted to the program website and promoted through various state and regional listservs and via the MiCorps program's social media platforms.

- Application Review and Selection: HRWC will review all grant applications, taking into consideration the input from all internal and external reviewers, and submit their recommended selections to EGLE for approval. Once the awards have been formally announced by EGLE, MSU will develop and issue project contracts to all selected grant recipients.

- EGLE-Approved Press Releases: The program GAP and online application system will be announced through an EGLE-approved press release, as well as the selected grant awards. Following these formal releases, other outlets such as the MiCorps and other state and regional listservs and the program's website will also release this information in a more targeted fashion.

- Technical and Administrative Assistance: The project team will provide technical and administrative assistance to volunteers on a range of matters, including instruction via phone and email on running successful clean-ups, final report development, and fiscal management and oversight to assist them in meeting their reporting requirements in a timely manner. Final project reports will be provided to EGLE in October of each year.

MSU will be responsible for the following:

- Maintain Online Grant Application System: The team will build and maintain an online application system for the VRSCCP.

- Contracting: All groups who successfully receive VRSCCP grants will be required to enter into a contract with MSU and submit final reports in order to receive their reimbursements from MSU.

Costs associated with Task 9 include, but are not limited to, significant staff time to administer the VRSCCP and support grantees, and grant funds for allocation to grantees.

Task 10: Outreach and Education

The EGLE MiCorps water quality monitoring program is a growing and changing program that would benefit from new ideas and concepts that are available at volunteer monitoring conferences occurring around the country. In addition, other organizations and government entities would benefit from hearing about the MiCorps program. The lead EGLE MiCorps staff shall have the ability to have registration, travel costs, lodging, and meals covered to attend conferences and meetings.

The Contractor must:

1. *Provide conference registration fees, travel fees (plane and/or car), lodging, and meals for the lead EGLE MiCorps staff.*
2. *Provide access and funding for the lead EGLE MiCorps staff to attend the following conferences and meetings including the Citizen Science Association (CSA) that occurs bi-annually with the next conferences 2021, 2023, and 2025 as well as the National Water Quality Monitoring Conference (NWQMC) that typically occurs bi-annually.*
3. *Provide availability to the lead EGLE MiCorps staff to attend CSA, NWQMC and other volunteer monitoring related conferences or meetings throughout the Contract.*

Contractor Response:

We have included funds in the project budget to support the lead EGLE MiCorps staff (one individual) to attend 1-2 professional development conferences or events, annually, relevant to MiCorps (National Water Monitoring Conference, Citizen Science Association Conference) in order to engage with the citizen science community and share information about MiCorps. MSU will work with the EGLE Program Manager to set up registration, lodging, and travel using MiCorps funds.

We believe these outreach and education activities are vital for our project team members as well, so we have also allocated funds for a similar level of participation (e.g., travel and registration to conferences and events) for MSU personnel throughout the course of the contract.

Costs associated with Task 10 include, but are not limited to, staff time to arrange EGLE Program Manager event registrations and travel arrangements, and to participate in outreach and education conferences and events themselves; conference fees; and travel expenses.

Task 11: Contract Close-out Responsibilities

In the final year of the Contract, the Contractor must close out all contractual involvement with the support of the MiCorps program. This must include closing out all contracts with current grantees. Responsibility for the final fall annual workshop venue reservation under this Contract must be transferred to EGLE. All VSMP grants and VRSCCP grants must be closed.

The Contractor must:

1. *Notify the venue for the **final** annual fall MiCorps workshop under this Contract that the Contractor must cancel or transfer any open contracts to EGLE so that the Contractor is no longer financially responsible for any costs associated with the **final** workshop.*
2. *Submit to EGLE, a final report detailing program accomplishments for each major component of the MiCorps program, recommendations for improving the program, and a summary of expenses for each major element **two months prior to Contract end-date.***

Contractor Response:

In the final year of the Contract, we will close out all contractual obligations we may have associated with the VSMP and VRSCCP grant programs.

We will also notify the venue for the final annual fall MiCorps workshop that we must cancel or transfer any open contracts to EGLE so that we are no longer financially responsible for any costs associated with the final workshop.

We will submit to EGLE a draft final report detailing the accomplishments for each major component of the program, recommendations for improving the program, and a summary of expenses for each major element two months prior to the Contract end date (anticipated Contract end date: June 30, 2025). After incorporating EGLE feedback, the final report will be submitted to EGLE one month after the Contract end date.

Costs associated with Task 11 include, but are not limited to, staff time to conduct contract close-out responsibilities.

1. General Requirements

1.1. Training

The Contractor must explain its training capabilities and any training that is included in its proposal.

Contractor Response:

Members of our project team have extensive training capabilities. We have trained hundreds of MiCorps program participants over the past 16 years in lake and stream monitoring techniques

(technical protocols, data reporting, safety), data quality assurance, and volunteer recruitment and retention.

As a large public university, MSU is a leader in effective education and training, and MSU Extension is specifically focused on extending knowledge and education to public audiences. Our personnel are deeply dedicated to education, training, and outreach, and affiliation with MSU provides access to educational technologies, including presentation tools and online instructional platforms.

Furthermore, the subcontractor organizations, HRWC and MLSA, are mission-driven to educate their members and constituents and have exemplary experience delivering and supporting training within MiCorps and in their own lake, stream, and watershed programs.

As described in the Task list above, we will continue to provide training to MiCorps participants in lake and stream monitoring techniques, data quality assurance, volunteer recruitment and retention, and more, using the best and most appropriate instructional techniques available.

2. Acceptance
2.1. Acceptance, Inspection and Testing
The State will use the following criteria to determine acceptance of the Contract Activities:

- Acceptance and approval of quarterly reports as identified in the Requirements section.
- Acceptance and approval of annual summary reports as identified in the Requirements section.

3. Staffing
3.1. Contractor Representative
The Contractor must appoint at least one individual, specifically assigned to State of Michigan accounts, that will respond to State inquiries regarding the Contract Activities, answering questions related to ordering and delivery, etc. (the "Contractor Representative").

The Contractor must notify the Contract Administrator at least 30 calendar days before removing or assigning a new Contractor Representative.

Name and contact information for the proposed Contractor Representative:
Dr. Jo Latimore
Senior Academic Specialist, Michigan State University
latimor1@msu.edu
517-432-1491

3.2. Work Hours
The Contractor must provide Contract Activities during the State's normal working hours Monday – Friday, 7:00 a.m. to 6:00 p.m. EST, and possible night and weekend hours depending on the requirements of the project.

3.3. Key Personnel
The Contractor must appoint at least one individual who will be directly responsible for the day-to-day operations of the Contract ("Key Personnel"). Key Personnel must be specifically assigned to the State account, be knowledgeable on the contractual requirements, and respond to State inquires within 8 hours.

The Contractor must identify the Key Personnel, indicate where they will be physically located, describe the functions they will perform, and provide current chronological résumés. The bidder should provide examples of work with watershed councils, conservation districts, and volunteer monitoring groups. Bidder should provide details regarding website design, the collection and organization of large sample collections, methods of training volunteers to sample water quality, and database creation and maintenance.

Contractor Response:

The project team lead, Dr. Jo Latimore (Senior Academic Specialist, Michigan State University) will be directly responsible for the day-to-day operations of the Contract.

The project team, in its entirety, will work together in cooperation with EGLE to administer, improve, and grow the MiCorps program with its established collaborative approach using regular meetings, open communications, and execution of guiding structural documents such as Quality Assurance Project Plans (QAPPs) and monthly activity plans. The project team is comprised of the following individuals:

Michigan State University (MSU):

- **Jo Latimore, Ph.D., Senior Academic Specialist, Department of Fisheries and Wildlife, East Lansing**.
  Dr. Latimore's work at MSU focuses on volunteer monitoring of Michigan's lakes and streams, community-based approaches to watershed management, water resource leadership development, and science communication, with an emphasis on aquatic invasive species. She has served the MiCorps program for 16 years, supporting both the VSMP and CLMP through technical leadership, administration and training of hundreds of volunteers, grant administration, and outreach and education support. She holds a M.S. in biological sciences from the University of Notre Dame and a Ph.D. in fisheries and wildlife from Michigan State University, where her research focused on stream ecosystem responses to human activities.

  Dr. Latimore will serve as the administrative lead for MiCorps, overseeing all project management and reporting, as well as the annual workshop. She will also lead MiCorps outreach and communications efforts and provide technical, training, and outreach support for both the CLMP and VSMP.

- **Erick Elgin, Water Resources Educator, Michigan State University Extension, Newaygo County.**
  Mr. Elgin is an accomplished aquatic ecologist with a strong track record of applied research, successful public engagement and support of science-based stewardship of lakes and watersheds. He has provided scientific, technical, and educational support to MiCorps and the CLMP since 2016. He holds an M.S. in ecology from the University of Calgary, where his research focused on zooplankton and sediment dynamics in shallow lakes.

  Mr. Elgin will lead the CLMP, including overall technical leadership and volunteer recruitment, training, and support. He will also support MiCorps outreach efforts, contribute information and education materials to the MiCorps website, and support planning and implementation of the annual MiCorps workshop.

- **Erin Bunting, Ph.D., Director and Fixed Term Assistant Professor, Remote Sensing & GIS (RS&GIS) Research and Outreach Services, East Lansing.**
  Dr. Bunting applies geographic information to address questions about coupled natural-human systems in the face of increased climate variability and climate change. She also serves as director of MSU's RS&GIS research and outreach services program, established in 1972 as a NASA-sponsored land cover research group, Remote Sensing & GIS Research and Outreach Services (RS&GIS) has grown into a full-service geospatial group. RS&GIS is housed within the Department of Geography, Environment and Spatial Sciences in the College of Social Sciences at Michigan State University (MSU) and provides geospatial support and services to the MSU research community, local/state/federal/international governments, not-for-profits, and the private sector. We focus on research, outreach and education in the areas of geographic information systems (GIS), image interpretation, remote sensing (RS), database design and management, application development, unmanned aerial systems (UAS) and graphic design. RS&GIS is composed of GIS Analysts, Software Developers, Graphic Designers and Information Technologists. All RS&GIS analysts are certified GIS Professionals (GISP) and all hold Federal Aviation Administration Remote Pilot Certificates. RS&GIS developers have expertise in JavaScript, Python, C Sharp, C++, PHP, Visual Basic, MySQL, PostgreSQL and more. Dr. Bunting holds an M.S. and Ph.D. in

geography from the University of Florida, where her research looked at climate and landscapes from a geospatial perspective in the US and southern Africa.

Dr. Bunting will be responsible for leading the transition, updates, and maintenance of the MiCorps website and MiCorps Data Exchange (MDE).

- **Christian Matsoukis, Lead Senior Developer, Remote Sensing & GIS (RS&GIS) Research and Outreach Services, East Lansing.**
  Mr. Matsoukis brings website and database experience to the MiCorps team Before working for RS&GIS he worked on-site at the Dow Chemical Company as a contractor working on the Dow Chemical website and their affiliates. Afterwards, he joined RS&GIS as a front-end developer. He eventually took on a leadership role in the development area of RS&GIS. In that time, he has implemented databases in mysql, mssql, and postgresql, designed and programmed layouts for websites, supported legacy applications and provided graphic design. He is very familiar with multiple frameworks and different systems. This spans from hosting with ASP.NET C# with IIS on a Windows server to Laravel with PHP with Apache on a Linux server. In terms of mapping, He has worked on many interactive maps for RS&GIS. This includes working with commercial products like ESRI and open source solutions like MapServer or GeoServer. Mr. Matsoukis holds a B.S. in computer science from Baker College.

  Mr. Matsoukis will be responsible for database and web development for the MiCorps website, including development of a mobile-friendly progressive web application and interactive mapping features. He will also provide day-to-day support for the MiCorps website and MDE.

Huron River Watershed Council (HRWC), Ann Arbor:

- **Paul Steen, Ph.D., Watershed Ecologist.**
  In his position at HRWC, Dr. Steen analyzes and reports on data collected by the HRWC Adopt-A-Stream volunteers and provides scientific and educational support to several HRWC programs, including MiCorps. Dr. Steen earned his M.S. and Ph.D. from the University of Michigan, where he focused on landscape ecology, aquatic macroinvertebrates, and fish community ecology.

  Dr. Steen will lead both the VSMP and the VRSCCP, including grant administration, technical support, training, and reporting. He will also support MiCorps outreach efforts, lead data compilation and reporting within the CLMP, contribute information and education materials to the MiCorps website, and support planning and implementation of the annual MiCorps workshop.

- **Jason Frenzel, Volunteer and Stewardship Coordinator**.
  Mr. Frenzel has coordinated large volunteer programs focused on natural resources stewardship and water resources monitoring since 2001; first with the City of Ann Arbor's Natural Area Preservation program and now with HRWC. Since joining HRWC in 2011, he has successfully recruited, oriented, and trained hundreds of citizen volunteers each year for Adopt-a-Stream and other programs. He has also supported MiCorps by providing training to program leaders on volunteer recruitment, retention, and training. He holds a B.S. in environmental resource applications from Michigan State University and a Certification in Volunteer Administration.

  Mr. Frenzel will continue to support MiCorps by providing training and guidance in the areas of volunteer recruitment, retention, and training, primarily through the MiCorps annual workshop and collaboration on training materials.

Michigan Lakes and Streams Association (MLSA), Kalamazoo:

- **Jean Roth, MiCorps Cooperative Lakes Monitoring Program Administrator**
  Ms. Roth has served as the Program Administrator for the CLMP for the past ten years. She supports a wide range of duties including serving as the primary program contact for

participants, promoting and managing enrollment, supporting coordination of CLMP training events, acquiring, organizing, and distributing sampling equipment and materials, reviewing hard copy data submissions and data entry. Ms. Roth brings extensive experience in successful volunteer communications and program management to the CLMP and is a 2013 graduate of the Michigan Lake and Stream Leaders Institute.

Ms. Roth will continue to serve in these administrative roles for the CLMP.

- **Melissa DeSimone, Executive Director**
  Ms. DeSimone leads Michigan Lakes and Streams Association as Executive Director, where she is responsible for staff management; conference, training, and webinar coordination; marketing and communication; and coordination of the board of directors and MLSA's marketing and communication efforts. She holds a BS in education from Illinois State University, with certification in elementary education (K-9) and endorsements in general science, social studies, and language arts, as well as an MA in educational administration from Governors State University.

  Ms. DeSimone will primarily be responsible for oversight of MLSA's CLMP administrative roles, including program reporting and outreach to lake associations and other stakeholder groups.

3.4. Disclosure of Subcontractors
If the Contractor intends to utilize subcontractors, the Contractor must disclose the following:

The legal business name; address; telephone number; a description of subcontractor's organization and the services it will provide; and information concerning subcontractor's ability to provide the Contract Activities.

The relationship of the subcontractor to the Contractor.
Whether the Contractor has a previous working experience with the subcontractor. If yes, provide the details of that previous relationship.

A complete description of the Contract Activities that will be performed or provided by the subcontractor.

Contractor Response:

Subcontractor 1. Huron River Watershed Council (HRWC)
1100 N. Main Street, Suite 210
Ann Arbor, MI 48104
(734) 769-5123
www.hrwc.org

Description of Organization: The mission of HRWC is to inspire attitudes, behaviors, and economies that protect, rehabilitate, and sustain the Huron River system. HRWC has developed the premiere citizen monitoring network in Michigan. Its strong quality assurance and quality control mechanisms allow agencies to confidently use this data to direct water protection programs. It has been operating this monitoring network since 1994. Since 2005, HRWC has been teaching and advising other groups in similar activities through the MiCorps program.

Ability to Provide the Contract Activities: HRWC has provided scientific and technical support for MiCorps implementation since the program's inception in 2004. HRWC has overseen the monitoring, training, and data aspects of the CLMP and VSMP during this period. In the past contracts, HRWC also assisted the GLC by being the lead contact for the day-to-day management and technical support of the VSMP grants.

Relationship of Subcontractor to Contractor: HRWC and MSU both served as subcontractors on the prior contracts to administer MiCorps. The individuals involved have had a strong collaborative working relationship through MiCorps for well over a decade.

Contract Activities to be Performed by the Subcontractor: HRWC will perform the following activities, broken down by task:

Task 1: MiCorps Promotional Materials
- Update promotional materials for the Volunteer Stream Monitoring Program (VSMP) and the Volunteer River, Stream, and Creek Cleanup Program (VRSCCP).
- Outreach to new organizations to get them included in the VSMP and VRSCCP, and to a lesser extent, the Cooperative Lakes Monitoring Program (CLMP).
- Contribute to MiCorps social media promotional materials including writing blogs and posting to Twitter and Facebook and other social media as the program leaders decide.
- Contribute to the annual reporting to EGLE on the subject of program promotion.

Task 2: MiCorps Website
- Contribute to web maintenance as user permissions allow, such as uploading updated promotional and monitoring materials and assisting MSU with listserv announcements and input on website design and content.

Task 3: MiCorps Volunteer Monitoring Recognition Program
- HRWC will assist MSU on this task as needed, but contributions will likely be slight and will be attributed to task 5 or 6 as appropriate.

Task 4: MiCorps Annual Volunteer Monitoring Workshop
- HRWC will assist MSU with the planning of the annual monitoring workshop, including formulating the agenda, finding speakers, and planning presentations and trainings.
- HRWC will attend the workshop, help facilitate its implementation, and be heavily involved in presenting content, and working with the volunteers.

Task 5: Administer the Cooperative Lake Monitoring Program (CLMP)

- Review and perform quality control on chlorophyll, phosphorus, and Score the Shore data volunteer data prior to it going into the MDE.
- Creation and digital distribution of the individualized lake data reports.
- Creation and digital distribution of the year end data summary report.
- Assist MSU in the annual CLMP training by leading the training of at least one WQ parameter.
- Attend monthly team meetings of MiCorps staff

Task 6: Administer Volunteer Stream Monitoring Program (VSMP) Grants
HRWC, with oversight and direction from MSU, will be the primary partner in implementing the VSMP. Activities will include:

- Development and Promotion of an Annual Grant Application Package (GAP): Each year, the team will work to update the previous year's GAPs to account for changes in policy, resource availability, and grant requirements, and then provide these updated drafts to the EGLE for review and approval. A new piece of the GAP will be written for the newly created Maintenance grants. Once approved and announced formally via an EGLE Press Release, the GAP will be posted to the program website and promoted through various state and regional listservs and via the MiCorps program's social media platforms, or as otherwise directed by EGLE.
- Application Review and Selection: HRWC will review all grant applications, taking into consideration the input from all internal and external reviewers, and submit their recommended selections to EGLE for approval. HRWC will enforce the rule that applicants must have communicated with an EGLE biologist before accepting any applicant's submission.
- EGLE-Approved Press Releases: HRWC will write (or assist EGLE in writing as EGLE directs) press releases for GAPs and selected grant awards and will be announced through an EGLE-approved press release. Following these formal releases, other outlets such as the MiCorps and other state and regional listservs and the program's website will also release this information in a more targeted fashion.
- Provide Basic Training: HRWC will provide professional training and technical assistance for the program. A one-day macroinvertebrate and habitat training will be provided in the spring or early summer for each year that full- or start-up grants are awarded. To minimize costs and maximize overall efficiency, HRWC will focus on a "train the trainers" model rather than training all volunteers for each grant recipient organization. While the training is intended for new groups or groups with a Maintenance grant, trainers for other groups in Michigan who want to train or retrain will be welcome, space permitting. The training will cover the structure of the MiCorps program, administrative requirements of the grants (such as quarterly reports and QAPPs), MiCorps macroinvertebrate collection procedures and identification requirements, and practice of the procedures and techniques in a nearby stream.
- Provide Advanced Training: As a part of the annual volunteer monitoring workshop, the project team will provide advanced monitoring training for MiCorps groups as time permits in the workshop agenda. This may include advanced macroinvertebrate identification, habitat analysis, or an introduction to a new type of stream monitoring that MiCorps groups have not yet been exposed to. The topic chosen will depend on the needs and interests of the attendees and EGLE guidance.

- Technical and Administrative Assistance: The project team will provide technical assistance to monitoring volunteers on a range of matters. HRWC can draw from its considerable experience with the Adopt-A-Stream program to provide guidance in areas such as:
    - Promotional materials.
    - Attorney-approved waivers.
    - Questions about safety.
    - Initiating a program.
    - Lessons learned regarding program development.

    - Key considerations in ensuring success with volunteer monitoring programs.
    - Advice on equipment purchase and maintenance.
    - Means to help volunteers manage data and information.
    - Accessing funds to maintain the program over the long term.
    - Macroinvertebrate identification assistance; and Monitoring site selection.
- Provide Side-by-Side Training and Sampling: As an additional measure of quality control and technical assistance to volunteer groups, the HRWC will conduct side-by-side sampling for all new macroinvertebrate VSMP grantees. The purpose of this sampling is to ensure that all MiCorps groups are following MiCorps procedures and that any deviations from that procedure are slight and do not impact data quality and statewide comparability.
- Review and Approve QAPPs: The project team is highly qualified to review and approve QAPPs for volunteer stream monitoring programs. HRWC brings technical expertise from its experience developing EGLE-approved QAPPs for their volunteer monitoring program and has been reviewing and approving QAPPs in the MiCorps program since 2005. In addition, the project team has developed guidelines and checklists that help to facilitate this process. The project team will work with EGLE staff to ensure that it is providing acceptable guidance and approving only those QAPPs that meet EGLE's acceptance criteria. Throughout the program, the project team will provide guidance to member organizations for collecting and reporting high-quality data.
- Grantee Closeout. As grantees finish up their projects, HRWC will require them to submit fact sheets to EGLE Watershed Biologists including sites sampled and their scores.

- Keep other MiCorps team members in the loop with VSMP updates at the monthly team meetings of MiCorps/EGLE staff

Task 7: Develop and Expand the List of Eligible Monitoring Parameters Used by Volunteers

- HRWC will assist MSU on this task as needed, but contributions will likely be slight and will be attributed to task 5 or 6 as appropriate. If the MiCorps team decides to expand stream monitoring, HRWC will likely take the lead on this effort and will charge the hours to task 6.

Task 8: MiCorps Training Enhancements

- HRWC will assist MSU on this task as needed, but contributions will likely be slight and will be attributed to task 5 or 6 as appropriate.

Task 9: Administer Volunteer River, Stream, and Creek Cleanup Program (VRSCCP)
HRWC, with oversight and direction from MSU, will be the primary partner in implementing the VRSCCP. Activities will include:

- Development and Promotion of an Annual Grant Application Package (GAP): Each year, HRWC will work to update the previous year's GAP for the VRSCCP to account for changes in policy, resource availability, and grant requirements, and then provide the updated draft to the EGLE for review and approval. Once approved and announced formally via an EGLE Press Release, the GAP will be posted to the program website and promoted through various state and regional listservs and via the MiCorps program's social media platforms.
- Application Review and Selection: HRWC will review all grant applications, taking into consideration the input from all internal and external reviewers, and submit their recommended selections to EGLE for approval. Once the awards have been formally announced by the EGLE, MSU will develop and issue project contracts to all selected grant recipients.
- EGLE-Approved Press Releases: The program GAP and online application system will be announced through an EGLE-approved press release, as well as the selected grant awards. Following these formal releases, other outlets such as the MiCorps and other state and regional listservs and the program's website will also release this information in a more targeted fashion.

- Technical and Administrative Assistance: The project team will provide technical and administrative assistance to volunteers on a range of matters, including instruction via phone and email on running successful clean-ups, final report development, and fiscal management and oversight to assist them in meeting their reporting requirements in a timely manner. Final project reports will be provided to EGLE in October of each year.
- Keep other MiCorps team members in the loop with VRSCCP updates at the monthly team meetings of MiCorps/EGLE staff

Task 10: Outreach and Education
HRWC will not participate in this task.

Task 11: Contract Close-out Responsibilities
- HRWC will assist MSU on this task as needed, but contributions will likely be slight and will be attributed to task 5 or 6 as appropriate.

Subcontractor 2. Michigan Lakes and Streams Association (MLSA)
P.O. Box 19615
Kalamazoo, MI 49019
(989) 831-5100
https://mymlsa.org/

Description of Organization: MLSA is a non-profit, statewide organization dedicated to the preservation, protection and wise management of Michigan's vast treasure of inland lakes and streams. Created in 1961, MLSA provides direct support to member lake and stream associations in implementing local initiatives involving organizational development, stewardship focused education and outreach, riparian rights, and aquatic invasive species management. Due to a large statewide membership, excellent customer support, and effective overall management, MLSA continues to enjoy operational and financial stability.

Ability to Provide the Contract Activities: MLSA has been a reliable collaborative partner in effectively working with both the Michigan DNR and EGLE in administering citizen-based volunteer inland lake monitoring programs in Michigan since 1974. Successfully serving as the MiCorps CLMP Administrator since 2004, MLSA is uniquely positioned to continue to provide strong administrative support to the MiCorps CLMP and the project team.

Relationship of Subcontractor to Contractor: MLSA and MSU both served as subcontractors on the prior contracts to administer MiCorps. The two organizations have had a strong collaborative working relationship through MiCorps for well over a decade.

Contract Activities to be Performed by the Subcontractor: MLSA will provide the following administrative support as described under Task 5 (CLMP):

1. Participate in monthly MiCorps team meetings.
2. Serve as the primary program contact for CLMP participants.
3. Promote CLMP participation and enrollment and assist volunteers with enrollment as needed.
4. Support coordination of CLMP training events, especially events held in conjunction with MLSA's annual conference.
5. Acquire, organize, and distribute sampling equipment, related paperwork, and reports to CLMP participants.
6. Contribute to the coordination of sampling logistics, including scheduling, mailings, equipment, sample collection, and delivery.
7. Make all payments for labor, supplies, delivery and equipment purchased.
8. Receive hard copy data reports and perform data quality checks on Secchi disk and Dissolved Oxygen/Temperature data; follow up with enrolled participants who fail to submit data; and submit all hard copy data reports to MSU or EGLE as appropriate.

9. Enter all monitoring data into the MiCorps Data Exchange database that is not entered by the volunteers themselves.
10. Provide quarterly reports to Michigan State University, including a detailed financial report and narrative description of activities.

4. Project Management
4.1. Project Plan
The Contractor will carry out this project under the direction and control of the EGLE Program Manager.

- *Although there will be continuous liaison with the Contractor team, the EGLE Program Manager must meet or speak monthly as a minimum, with the Contractor's Program Manager for the purpose of reviewing progress and providing necessary guidance to the Contractor on solving problems which arise.*
- *The Contractor must submit a brief written summary progress report detailing task accomplishments to be included with the quarterly Financial Status Report (FSR). The progress reports must include details on the work accomplished during the reporting period; work to be accomplished during the subsequent reporting period; problems, real or anticipated, which are to be brought to the attention of the EGLE Program Manager; and notification of any significant deviation from previously agreed upon work plans.*
- *Within 15 working days of the award of the Contract, the Contractor must submit a work plan to the EGLE Program Manager for final approval. The final implementation plan must include the following:*
    - ✓ *A project organizational structure.*
    - ✓ *A staffing table with the names and titles of Key Personnel assigned to the project, and indicate where they will be physically located, describe the functions they will perform, and provide current chronological resumes. Necessary substitutions due to change of employment status and other unforeseen circumstances may only be made with prior approval of EGLE.*
    - ✓ *A project breakdown showing sub-projects, activities and tasks, and resources required and allocated to each.*
    - ✓ *A time-phased plan in the form of a graphic display, showing each event, task, and decision point in your work plan.*

Contractor Response:
Our project team leads will communicate regularly (at least monthly) with the EGLE Program Manager to review progress, provide updates, and communicate any problems that may arise throughout the length of the contract.

We will submit a brief written summary progress report detailing task accomplishments with each quarterly Financial Status Report (FSR). These brief progress reports will include details on the work accomplished during the reporting period, work to be accomplished during the subsequent reporting period, any real or anticipated problems, and notification of any significant deviation from previously agreed-upon work plans.

Within 15 working days of the award of the Contract, we will submit a work plan to the EGLE Program Manager for final approval. This work plan will include the project organizational structure, including a complete staffing table; staffing substitutions will only be made with prior EGLE approval. The work plan will also include a project breakdown showing tasks and subtasks, the resources required and allocated to each, and a visual timeline.

4.2. Meetings
The Contractor must attend meetings (if any) scheduled by EGLE.

4.3. Reporting

The Contractor must produce quarterly reports summarizing work completed and problems, if any, for the quarter to be submitted with the quarterly Financial Status Report (FSR).

An annual summary report for the MiCorps program must include program highlights, accomplishments for the year, and a listing of member organizations. The Contractor must include in the annual summary report highlights summarizing elements representative of the three focal programs: The VSMGP grans program; the VRSCCP grants program and the CLMP program.

Contractor Response:
We accept the reporting requirements above and will submit quarterly progress and financial status reports (FSRs) to EGLE within 30 days after the end of each project quarter, as required under the contract terms and as described (for the progress reports) under "4.1 Project Plan".

We will also produce an annual summary report which will include program highlights from the CLMP, VSMP, and VRSCCP; overall accomplishments for the year; and a list of member organizations. We will submit this annual report to the EGLE following the end of each contract year.

In lieu of an annual report for the final contract year (anticipated end date: June 30, 2025), we will submit an inclusive final report for the program detailing the accomplishments for each major component of the program, recommendations for improving the program, and a summary of expenses for each major element to EGLE one month following the contract end date (with a draft provided to EGLE for feedback two months prior to the contract end date).

5. Pricing
5.1. Price Term
Pricing is firm for the entire length of the Contract.

6. Ordering
6.1. Authorizing Document
The appropriate authorizing document for the Contract will be a Delivery Order (DO).

7. Invoice and Payment
7.1. Invoice Requirements
All invoices must be submitted quarterly to the State and must include: (a) date; (b) purchase order; (c) quantity; (d) description of the Contract Activities; (e) unit price; (f) shipping cost (if any); and (g) total price.

7.2. Payment Methods
The State will make payment for Contract Activities via Electronic Funds Transfer (EFT).

STATE OF MICHIGAN

Michigan Clean Water Corps (MiCorps) Program Administration
CONTRACT# 200000002106

SCHEDULE B
PRICING

Pricing for five-year contract period can be found at the end of this document.

Not to exceed $1,740,000.00

STATE OF MICHIGAN

Michigan Clean Water Corps (MiCorps) Program Administration
CONTRACT# 200000002106

SCHEDULE D
CLMP Monthly Activities Plan (MAP)

AUGUST

SAMPLING PERIOD - MONTH ONE

Position	Name	Responsibility
Contractor		Review/comment on registration materials for this month's meeting
Contractor		Update MiCorps/CLMP on-line enrollment site for upcoming year
Contractor		Update registration postcard

SAMPLING PERIOD - MONTH 13

Position	Responsibility
Contractor	Mail out bottles, labels and materials for summer total phosphorus.
Contractor	Begin to receive first summer total phosphorus samples and second round of chlorophyll samples (UP samples).
Contractor	Select late summer total phosphorus replicates
EGLE	Schedule late summer TP, chlorophyll, Secchi disk and oxygen side-by-side sampling events with volunteers
EGLE	Schedule late summer total phosphorus and chlorophyll samples with EGLE lab
EGLE	Email reminder to collection sites that samples will be coming in
EGLE	Send insulated shipping containers and labels to UP District and Bay City offices for late summer samples
EGLE	Notify District Offices that DO meters will be returned by volunteers at the end of season.

SEPTEMBER

SAMPLING PERIOD - MONTH TWO

Position	Name	Responsibility
Contractor		Registration must be up by 9/30
Contractor		End of the month: Send out postcards about registration opening on October 1.

SAMPLING PERIOD - MONTH 14

Position	Name	Responsibility
Contractor		Telephone volunteers that signed up for but did not turn in samples
Contractor		Receive (5 weeks), preserve, process and turn in summer total phosphorus samples
Contractor		Receive (5 weeks), process and turn in chlorophyll samples
EGLE		Side-by-side sampling for Secchi disk, total phosphorus, chlorophyll a, dissolved oxygen

OCTOBER

SAMPLING PERIOD - MONTH THREE

Position	Responsibility
Contractor	Produce quarter ending financial and activity report
Contractor	Promote CLMP on social media (announcing registration open)

SAMPLING PERIOD - MONTH FIFTEEN

Position	Responsibility
EGLE	Collect DO/temp. meters turned in to District offices
EGLE	Collect DO meters from samplers
EGLE	Perform post-use maintenance on and store DO/Temp meters
Contractor	Forward any aquatic plant reports to EGLE
Contractor	Provide chlorophyll and phosphorus data forms to Contractor by end of October, so Contractor can enter information into MDE.
Contractor	Provide DO/Temp data forms to Contractor by end of October, so Contractor can enter information into MDE.

NOVEMBER

SAMPLING PERIOD - MONTH FOUR

Position	Responsibility
Contractor	Save juice cans for chlorophyll composite samplers

SAMPLING PERIOD - MONTH 16

Position	Responsibility
Contractor	Enter all data, give data forms to EGLE Lead, phone calls to DO/Temp participants who did not send in data forms
EGLE	Obtain lab data and send to Contractor
Contractor	Drawing for free registrations
Contractor	QAPP updates/
Contractor	Create certificate of participation

DECEMBER

SAMPLING PERIOD - MONTH FIVE

Position	Responsibility
Contractor	Prepare and make mailing of registration materials (paper application to lakes from the previous year who have not registered online
Contractor	Inventory supplies/parts for equipment building day & order what is necessary

SAMPLING PERIOD - MONTH 17

Position	Responsibility
Contractor	Starts to create the individualized data reports for each lake
Contractor	Prepare an aquatic plants mapping/exotic plant page for each lake; send to Contractor
Contractor	Scan EAPW reports and provide to Contractor for inclusion in MDE
EGLE	Contact side by side volunteers and share results with them

JANUARY

SAMPLING PERIOD - MONTH SIX

Position	Responsibility
Contractor	Schedule date in February to build chlorophyll sampling equipment

Contractor	Develop initial plan for the Annual Conference training session.
Contractor	Revise and produce announcement of program for MLSA website and riparian magazine
Contractor	Purchase materials for making Secchi disk and deliver to volunteer for production.
Contractor	Produce quarter ending finanical reports
Contractor	Print "MgCO3" and "WARNING" labels for chlorophyll sampling equipment building event
Contractor	Order sampling supplies for dissolved oxygen, as needed (membranes, probe solution)(any new meters are ordered in March when enrollment is near complete)
EGLE	Order MgCO3, bottles, H2SO4 for Jo and for EGLE side-by-sides, and CLMP-specific labels from Lab
Contractor	Promote CLMP on social media

SAMPLING PERIOD - MONTH 18

Position	Responsibility
Contractor	Continue working on reports
Contractor	Print and mail thank you letters and certificates of participation
Contractor	Send individualized reports out through email and mail (mail version goes out with the thank you and certificate of participation)

FEBRUARY

SAMPLING PERIOD - MONTH SEVEN

Position	Responsibility
Contractor	Equipment building day
Contractor	Finalize plan for Annual Conference training session
Contractor	Prepare and deliver to partners sampling schedule and sample turn in schedule for all parameters
Contractor	Update all materials on clearinghouse for new sampling year
Contractor	Put together training aids and demonstration equipment for the training. Need to inventory kits and get replacement parts during the equipment building day.
Contractor	Check status of account with UPS for shipping samples; Check that labels have proper addresses; Check UPS pick up schedule

SAMPLING PERIOD - MONTH 19

Position	Responsibility

Contractor	Finalize individualized data reports

MARCH

SAMPLING PERIOD - MONTH EIGHT

Position	Responsibility
Contractor	Contractor gets acid preservative from EGLE Lead
EGLE	Figure out how many shipping labels/boxes are needed for each EGLE office.
EGLE	Organize and provide to District Offices shipping containers and shipping labels
EGLE	Coordinate with laboratory (LUS) regarding incoming samples
EGLE	Do pre-use maintenance on DO meters
EGLE	Deliver updated water analysis lab sheets to Contractor
EGLE	Coordinate with EGLE collection centers Note to EGLE District Offices: Note any EGLE MiCorps assistance staff changes Courtesy note to EGLE Field Coordinator: program is continuing Subsequent note to EGLE MiCorps assistance staff: Sample collection-shipment dates; what to do, and updated UPS information
Contractor	Mail spring total phosphorus packets (3 weeks before sampling dates)
Contractor	Notify EGLE by March 10 of the number of spring total phosphorus lakes being sampled by district
Contractor	Create DO groups and leaders; put into a list to hand out at conference
Contractor	Prepare packets/equip for Secchi disk, DO, chlorophyll (new) and resupply, aquatic plants and bring to conference
Contractor	Remind aquatic plant mapping participants that they must attend training session
Contractor	Provide EGLE with shipping labels for shipping containers for all District offices
Contractor	Sends out last minute registration to listserv
Contractor	CLMP documents updated on website

SAMPLING PERIOD - MONTH 19

Position	Responsibility
Contractor	Finishes work on reports; works with everyone getting them distributed; Contractor to print and mail, Contractor to help on website uploads.
Contractor	Update QA/QC replicate and side-by-side data charts.
Contractor	Produce annual summary report.

Contractor	All files go into clearinghouse and website as appropriate

APRIL

SAMPLING PERIOD - MONTH NINE

Position	Responsibility
Contractor	Produce year ending financial and project reports.
Contractor	Presentations should be updated
Contractor	Conduct Annual Conference training session (April or May)
Contractor	Upload training powerpoints to clearinghouse and website and announce it to conference registrants

MAY

SAMPLING PERIOD - MONTH TEN

Position	Responsibility
Contractor	Calculate number of shipping labels needed for each group drop off location and obtain shipping labels.
Contractor	Send shipping labels for all sample collection sites to EGLE for late summer samples
Contractor	After conference, mail packets to those who did not attend conference.
EGLE	Inventory Shipping Coolers
EGLE	Supply insulated shipping containers and shipping labels for drop-off at District offices
EGLE	Confirm side-by-side selected lakes (date, where to meet, need for boat)
Contractor	Decide which samples will be duplicated (i.e. random 10% , lakes of concern)

JUNE

SAMPLING PERIOD - MONTH 11

Position	Responsibility
Contractor	Reminder to volunteers to turn in Spring Samples through email or listserve
Contractor	Email out information and materials about the Great American Dip-in if available
Contractor	Parameter Lists showing who is registered (done for each parameter- Secchi, Summer T.P, DO, Chlorophyll, Exotic Plant, Full Plant)

Contractor	Put together list of & distribute to everyone
Contractor	Provide list of all volunteer names and email addresses to whole team (checks against MDE for quality assurance purposes, used for end of year annual report needed for various communications)
EGLE	Supply bottles and labels for late summer TP packets
Contractor	Receive, preserve, process and turn in spring total phosphorus samples
Contractor	Process and turn in 1st batch of chlorophyll samples (see handling chl sample tab in this file).

JULY

SAMPLING PERIOD - MONTH 12

Position	Responsibility
Contractor	Prepare summer phosphorus packets
Contractor	Produce quarter ending finanical and activity report
Contractor	Plan for side-by-sides for aquatic plant mapping projects.
EGLE	Request spring TP results batch file from lab
Contractor	Electronically store spring total phosphorus data, create Excel spread sheet, post on MiCorps website

STATE OF MICHIGAN

Michigan Clean Water Corps (MiCorps) Program Administration
CONTRACT# 200000002106

SCHEDULE E

CLMP: Handling Phosphorus and Chlorophyll Samples

Handling Total Phosphorus Samples

Supplies Needed

- Space to set out bottles to thaw.
- Sulfuric acid preservative (from EGLE)
- Fine-tipped waterproof markers (Sharpies work pretty well, if label is dry.)
- Sharp/mechanical pencils (for completing lab forms)
- Extra labels
- Total Phosphorus enrollment log
- Towels for drying off bottle labels and hands
- Field ID# list
- Box opener/scissors
- Fan to speed thawing
- Blank Lab Forms

Receiving

1) Samples arrive to Contractor via UPS 10:00-11:00 a.m. Wednesdays.
   - See spring and summer turn-in schedules.
2) Remove samples from mailing coolers to thaw.
3) Check samples against enrollment log
   a. Note any missing or extra samples.

Quality Control

1) Check for cracked bottles/caps.
2) Note any samples that were not frozen/cold upon arrival.
3) Check for missing replicates.
   a. If a replicate selected for analysis is missing, chose a different lake's replicate to analyze.

4) Check/correct field forms.
   a. Were they submitted?
   b. Is Field ID# included and correct?
   c. Is sample date included?
5) Check/correct bottle labels.
   a. Is label present?
   b. Is label legible?
   c. Is sample date included? Does it match the field form?
   d. Is Field ID# included? Correct? Match field form?
   e. Is location field complete (lake name)?
   f. Is Parameter Code (GA) included?
   g. Are replicates labeled as such ("REP")?

Sample Preservation

1) Discard replicate samples, except:
   a. Replicates identified for analysis (see log)
   b. Those where the original sample is bad (leaky, etc.)
2) Preserve remaining samples with 5 drops of sulfuric acid.
3) Add to label: Chemical Added (H2SO4) and PF#.
4) **If it is the first or last week of sampling,** create a bottle blank for processing:
   a. Add 5 drops of sulfuric acid to an empty bottle.
   b. Label as "Bottle Blank".
   c. Keep bottle upright.
   d. Add "Bottle Blank" to lab form (see below).

Lab Forms

1) Batch samples by EGLE District, to keep lab work orders reasonably sized.
   - Avoid batches with >5 pages (50 samples); break up as necessary.
2) Complete lab forms for each batch.
   a. Refer to past examples.
   b. Field ID: Include STORET#, lake name, and county (& "-REP" if a replicate).
      - Group samples with replicates to be analyzed at the beginning of the list.
   c. Fill in Sample Collected Date and Time (from field form).
   d. Comments: Form should already say "frozen date sampled, thawed & preserved."
      - add date thawed and preserved below that. Use " to repeat info for each sample.
   e. In bottom half of form, circle "GA", "Tot P", and the # of samples listed on the form.
   f. Print name/affiliation and sign.
   g. On back, include Preservative Tracking Number for GA/GG (H2SO4).

- See preservative bottle.

Delivery to State Lab: 3350 N Martin L King Jr Blvd, Lansing, MI 48906
Deliver samples to lab by 1:00 pm; if necessary, hold preserved samples cool and dark until next day.
Carry Photo ID at all times.

Getting In
1) Tell gate attendant your affiliation and that you are delivering environmental samples.
2) Follow drive to Visitor Parking/Sample Receiving Parking.
   - Carts are available inside, if necessary.
3) Sign in with building security inside entrance, who will call for an escort once you are ready.
4) Escort will take you to the third floor.
5) Sign in with third floor receptionist.

Deliver samples to Sample Receiving Room.
1) Set out samples on tables in order listed on lab sheets.
2) Lab staff will check samples against lab forms.
3) Staff will provide receipt (lab form copies) to you.

Departure
1) Sign out with third floor receptionist.
2) Be escorted to ground floor.
3) Sign out with security by turning in nametag.

Follow-up
1) Deliver original field forms to EGLE Program Manager
2) Keep lab receipt forms for your records.
3) Contact volunteers to correct minor mistakes (call or email), including:
   a. Use of non-permanent ink on bottle labels.
   b. Field ID# errors.
4) Notify volunteers in writing of serious errors resulting in unprocessed samples, including:
   a. Sampling outside of approved sampling date interval.
   b. Sampled wrong site.
   c. Cracked bottle or cap.

Procedures for mailing total phosphorus packets

1. Receive mailing envelopes from Contractor

a. 11x15 envelopes for 2 bottles and 4 bottles
b. 15x20 envelopes for 6 bottles
2. Receive mailing labels from Contractor
a. If possible labels should be grouped by EGLE district
3. Have excel log to keep track of mailing and receiving of samples. Get log from Contractor.
4. Get bottles and bottle labels from EGLE
5. What goes into envelopes
a. Introduction letter from EGLE
b. A copy of the sampling procedures
c. Sampling schedule
d. Data form (one if two bottles, two if four bottles, three if six bottles).
e. Bottles - two for each lake to be sampled.
f. Bottle labels - one for each bottle plus one extra for a backup.
6. Create three sample packets (2 bottles, 4 bottles and 6 bottles) just as to be mailed.
7. Take sample packets to post office and determine the cost for mailing each packet.
a. Packets can vary in weight slightly. If weight is close to next cost bracket use higher mailing cost.
8. Get stamps or money for stamps from Contractor.
9. Mail packets two to three weeks in advance of the sampling date.
10. Make three mailing (UP and N. Lower, Central and Southern districts).
11. Before putting materials in envelopes put on necessary stamps, return address and mailing label.
12. Place materials in envelopes and seal.
13. Take packets to post office
14. At post office take sample packets to postal clerk and verify sufficiency of stamps.
15. Ask clerk what to do with the rest of the packets.
16. Fill in excel log for dates packets were mailed.

Handling Chlorophyll *a* Samples

Supplies Needed

- Space to lay out samples for sorting.
- Fine-tipped and regular waterproof markers (Sharpies work pretty well, if label is dry.)
- Sharp/mechanical pencils (for completing lab forms)
- Extra labels
- Chlorophyll enrollment log

- Towels for drying off foil, labels and hands
- Field ID# list
- Box opener/scissors
- Plenty of copies of EGLE Lab Form for turning in to lab (two-sided)
- Blank Lab Forms

Receiving

1) May, June, & July samples are turned in mid-July
   - See turn-in schedules for dates.
   - CLMP staff deliver most districts to Contractor on T, W, Th; remote samples arrive by UPS on Wed a.m.
   - CLMP staff bring own coolers and ice packs to keep samples cold and dark.
   - CLMP staff leave shipping boxes w/ district staff for shipping late summer samples (below).
2) Aug. & Sept. samples are shipped with late summer Total Phosphorus samples.
   - See turn-in schedules for dates.
3) Check samples against enrollment log
   a. Note any missing or extra samples.

Quality Control

1) Note any samples that were not frozen/cold upon arrival.
2) Check/correct field forms
   a. Were they submitted?
   b. Mark as received on log
   c. Is Field ID# included and correct?
   d. Is sample date included & within sampling window (10th-20th of May-Aug, required Sept dates)?
      - Can give some leniency, especially if collected during SxS.
   e. Did they filter <50 cc? If so, note volume filtered on Lab Form (see below).
3) Are lake name and sample month on the foil the vials are wrapped in?
4) Are lake name, county, and Field ID# on the ziploc bags the samples are in?
5) Check for missing replicates.
   a. If a rep chosen for processing is missing, choose a new rep to run.
6) Check/correct vial labels if you have to unwrap foil.
   a. Is label present?
   b. Is label legible?
   c. Is sample date included? Does it match the field form?
   d. Is Field ID# included? Correct? Match field form?
   e. Is location field complete (lake name)?
   f. Is Parameter Code (CA) included?
   g. Is the Chemicals Added field complete (MgCO3)?

Sample Turn-In

1) Turn in all replicates (may be wrapped in same piece of foil (preferred)).
    a. Only list on lab form those replicates you want analyzed (see below).
2) Keep samples frozen until turn-in.

Lab Forms

1) Batch samples by EGLE District, to keep lab work orders reasonably sized.
    - Avoid batches with >5 pages (50 samples); break up as necessary.
2) Complete lab forms for each batch.
    a. Refer to past examples.
    b. Field ID: Include STORET#, lake name, and county (& "-REP" if a replicate).
        - Group samples with replicates to be analyzed at the beginning of the list.
    c. Fill in Sample Collected Date and Time (from field form).
    d. Comments: Form should already say "field filtered and frozen date sampled"
        - Use " to repeat info for each sample, as appropriate
        - If <50 cc filtered, indicate volume filtered in Comments field.
    e. In bottom half of form, circle "CA Chlorophyll", and the # of samples listed on the form.
    f. Print name/affiliation and sign.
3) Back of lab form should already be pre-filled with "No" for every question.

Delivery to State Lab: 3350 N Martin L King Jr Blvd, Lansing, MI 48906

Deliver samples to lab by 1:00 pm; keep samples frozen until turn-in.

Carry Photo ID at all times.

Getting In

1) Tell gate attendant your affiliation and that you are delivering environmental samples.
2) Follow drive to Visitor Parking/Sample Receiving Parking.
    - Carts are available inside, if necessary.
3) Sign in with building security inside entrance, who will call for an escort once you are ready.
4) Escort will take you to the third floor.
5) Sign in with third floor receptionist.

Deliver samples to Sample Receiving Room.

1) Set out samples on tables in order listed on lab sheets.
2) Lab staff will check samples against lab forms.
3) Staff will provide receipt (lab form copies) to you.

Departure

1) Sign out with third floor receptionist.
2) Be escorted to ground floor.

3) Sign out with security by turning in nametag.

Follow-up

1) Deliver original field forms to EGLE Program Manager
2) Keep lab receipt forms for your records.
3) Contact volunteers to correct minor mistakes (call or email), including:
    a. Use of non-permanent ink labels.
    b. Field ID# errors.
    c. Replicates not provided.
4) Notify volunteers in writing of serious errors resulting in unprocessed samples, including:
    a. Sampling outside of approved sampling date interval.
    b. Sampled wrong site.
    c. Vials not wrapped in foil or otherwise kept dark.

Chlorophyll Supply Kits Inventory

Item specifications and supplier information are described below

Full Kit
12 capped tubes
12 filters
labels for tubes
5 snack baggies
15 ml dropper bottle $MgCO_3$ Preservative
1 tweezers
1 filter holder
12 filters
syringe
4" length of 1/4" OD x 0.17" ID vinyl tubing for syringe
large safety pin
2 brown rectangular sample bottles
6-pack cooler bag
composite sampler
pack into gallon zip close bag

Resupply Kit
12 capped tubes
12 filters

labels for tubes
5 snack baggies
15 ml dropper bottle $MgCO_3$ Preservative
pack into quart zip close bag

Example Sources

Composite Sampler

weighted container	
46-48 oz. juice can (7 in. x 4 1/4 in. dia.)	Recycling Center
2 dumbell weights per can (1 1/4lb. 4" dia)	American Home Fitness - 2361 Grand River- Okemos,Mi. 48864
1 ft. light weight chain (#16, single jack)	Hardware Store
1 ft. medium weight chain (#1, double loop)	Hardware Store
2 eyebolts (#1, 3/16 x 1 1/4")	Hardware Store
4 hex nuts (10-24)	Hardware Store
4 fender washers (#10)	Hardware Store
2 lock washers (1/4")	Hardware Store
3 Split washers (1/2") or S hooks (1 1/4")	Hardware Store
-Amber narrow-mouth bottle (1 liter) (Nalgene heavy duty polypropylene	VWR Scientific (Cat. No. 16062-120) (Nalgene No. 2004-0032)
Black rubber stopper, two hole (size 6, 5mm.hole dia)	VWR Scientific (Cat. No. 59582-246)
2 plastic tubes (2 in. length); 1/4" OD x 0.17" ID vinyl tubing	VWR Scientific (Cat. No. 32613-031)
30 - 60 feet braided rope (3/16 - 1/4 in dia.)	Purchased by volunteer, from a hardware store

Field Filtering Equipment

60cc syringe w/Luer Lok tip	VWR Scientific (Cat. No. BD309663)
syringe filter holder, 25 mm	Gelman Sciences (Gelman part No. 4320)
0.45u HA filters, 25 mm (12)	Millipore (Cat. No. HAWP02500
Nalgene flexible tubing (4 in. length) (3/16" i.d., 1/16" wall	VWR Scientific (Cat. No. 63013-329)
12x75 mm culture tube w/ cap (12)	VWR Scientific (Tube: Cat. No. 60818-430
caps for culture tube	VWR Scientific (Cap: Cat. No 60819-003)
tweezers	Meijer's or a Dollar Store
2 amber bottles (square, 250 ml)	VWR Scientific (Cat. No. 16186-270) Nalgene Cat. No. 2009-0008)

drop - dispenser bottle (15 ml) (for MgCo3 Preservative)	VWR Scientific (CaT. No. 16354-400) (Nalgene Cat. No. 2400-0015)
jewerly bags for filters (zip lock) (1)	Hobby Lobby
coffee filters (3)	Meijers
sample labels (11)	DEQ Lab
Koozy Coolers (2010: $3.52 each and come in packs of 48)	Promo-Direct (California)

Zip Lock Baggies
- Gallon (freezer)
- Quart
- Pint (sandwich)
- Snack

Addresses of Companies Supplies are Ordered
Millipore Corporation - 186 Middlesex Turnpike - Burlington, Ma. 01803
VWR International. LLC - 800 E. Fabyan- Batavia, Il. 60510
American Home Fitness - 2361 West Grand River - Okemos, Mi. 48864
Gelman Sciences - Wagner Rd. - Ann Arbor, Mi.

STATE OF MICHIGAN

Michigan Clean Water Corps (MiCorps) Program Administration
CONTRACT# 200000002106

SCHEDULE D
Sample MiCorps Quality Assurance Project Plan

Quality Assurance Project Plan

for the

Cooperative Lakes Monitoring Program

Supported By:

Michigan Department of Environmental Quality
Water Resources Division

and

The Michigan Clean Water Corps Partnership

Great Lakes Commission
Huron River Watershed Council
Michigan Lake and Stream Associations, Inc.
Michigan State University

January 2002
Updated August 2004, January 2007, July 2009,
October 2013, March 2015, July 2018

This Quality Assurance Project Plan (QAPP) for the Cooperative Lakes Monitoring Program (CLMP) was originally written by Howard Wandell, Michigan State University, Department of Fisheries and Wildlife and Ralph Bednarz of the Water Bureau, Michigan Department of Environmental Quality. It is intended to be a comprehensive documentation of the program's planning, implementation and assessment including the elements of program management, data generation and acquisition, assessment and oversight as well as data validation and usability. The original QAPP was developed over a six-month time period in 2001, during which numerous meetings were held by the involved organizations and input was secured from volunteers, environmental managers, researchers and other interested parties. The QAPP was organized following *The Volunteer Monitor's Guide to Quality Assurance Project Plans* (U.S. EPA 1996). The QAPP was updated in August 2004, January 2007, July 2009, October 2013, March 2015, July 2018. Since the CLMP is a long-term, ongoing program the QAPP is intended to be a living document, reviewed and updated periodically.

Distribution List

Marcy Knoll Wilmes, MDEQ Water Resources Division

Gary Kohlhepp, MDEQ Water Resources Division

Laura Kaminski, Great Lakes Commission

Paul Steen, Huron River Watershed Council

Jo Latimore, Michigan State University

Jean Roth, Michigan Lake and Stream Associations, Inc.

Scott Brown, Michigan Lake and Stream Associations, Inc.

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A. Program/Task Organization

As a Michigan Clean Water Corps (MiCorps) program, the Cooperative Lakes Monitoring Program (CLMP) is a partnership between the Michigan Department of Environmental Quality (MDEQ), the Great Lakes Commission (GLC), the Huron River Watershed Council (HRWC), Michigan Lake & Stream Associations, Inc. (MLSA), Michigan State University (MSU) and Michigan citizen volunteer samplers.

- MDEQ Water Resources Division - Coordinate and oversee MiCorps, including the CLMP. Coordinate laboratory support, data evaluation and quality assurance and quality control (QA/QC).
- Great Lakes Commission – Primary contractor for MiCorps. Oversee MiCorps contract for development and implementation of all MiCorps programs, including the CLMP and the MiCorps Data Exchange (MDE).
- Huron River Watershed Council – MiCorps partner under contract with GLC. Oversee development and implementation of MiCorps programs, including all CLMP operations.
- Michigan Lake and Stream Associations, Inc. – Administer CLMP operations including administrative logistics, enrollment targets, volunteer training, sampling logistics, sample handling and delivery, data management, and annual report printing and distribution. Assist with program coordination, pilot study development and implementation, and quality control activities.
- Michigan State University– Support MLSA in administering CLMP operations. Assist with volunteer training, sampling logistics, sample handling and delivery, data management and reporting, pilot study development and implementation, and quality control activities. Provide technical and scientific expertise and program outreach.
- MDEQ Environmental Laboratory and its overflow laboratories - Perform all specified analyses on lake water quality samples collected for the CLMP.

Table 1 provides specific names and contact information for each participating agency.

Table 1. Contact Information for CLMP Partners			
Name	**Agency**	**Contact Information**	**Role**
Marcy Knoll Wilmes	MDEQ	517- 284-5544 KnollM@michigan.gov	DEQ Contract Administrator
Laura Kaminski	GLC	734-971-9135 laurak@glc.org	Contract Manager
Paul Steen	HRWC	734-769-5123 psteen@hrwc.org	Program Manager
Jean Roth	MLSA	989-257-3715 jroth@mlswa.org	Project Administrator
Jo Latimore	MSU	517-432-1491 latimor1@msu.edu	Project Specialist Sample Handling, QA/QC
Mark Knottnerus	MDEQ Lab	517-335-9888 knottnerusm@michigan.gov	Laboratory Unit Supervisor
Melissa Smith	MDEQ Lab	517- 335-9800 smithm36@michigan.gov	Laboratory Sample Coordinator

B. Problem Definition/Program Goal

Effective environmental monitoring is an essential component of the MDEQ mission. The MDEQ and the MiCorps partners recognize that comprehensive water quality monitoring is necessary to improve natural resource management, maintain sustainable ecosystems, and protect public health. The MDEQ and the MiCorps partners have certain responsibilities and interests in the management and protection of Michigan's inland lake resources.

Michigan has nearly 3500 lakes over 25 acres in size and many thousand smaller lakes and ponds. The state has made a substantial effort to monitor the major inland lakes and has supported a citizen volunteer lake monitoring program since 1974. However, non-stable funding in the past has limited the scope of these water quality monitoring and lake water quality assessment programs.

In 1998 the citizens of Michigan passed a general obligation bond, the Clean Michigan Initiative (CMI), to protect and enhance Michigan's environmental quality, natural resources, and infrastructure. The Governor and Legislature supported this initiative. The bond legislation called for a portion of the CMI funds, known as the Clean Water Fund (CWF) to implement the "Strategic Environmental Quality Monitoring Program for Michigan's Surface Waters" (Strategy), which was developed by the MDEQ in January 1997 (MDEQ 1997).

This Strategy identifies a number of monitoring activities necessary for a comprehensive assessment of water quality in Michigan surface waters. One component of the Strategy is to expand the citizen volunteer lakes monitoring program.

With CMI-CWF support a cooperative project was undertaken in September 2000 by the MDEQ and MLSA in partnership with MSU to expand and enhance the CLMP volunteer monitoring network in terms of lakes enrolled and water-quality indicators monitored. A five-year program expansion plan was developed and the first year of the plan was implemented during the spring of 2001.

In September 2003 the Michigan Clean Water Corps (MiCorps) was created as a statewide network of volunteer monitoring programs to assist the MDEQ in collecting and sharing water quality data for use in water resources management and protection programs (www.micorps.net). The GLC in partnership with the HRWC was retained under contract to assist the MDEQ in developing and implementing MiCorps. The CLMP is a core MiCorps program. MLSA and MSU continue to provide administrative and technical support to the CLMP as MiCorps partners.

The CLMP goals are both data and education oriented including:

- Provide baseline information and document trends in water quality for individual lakes.
- Provide a cost-effective process for the MDEQ to increase baseline data for lakes statewide.
- Make volunteer lake monitoring data electronically available on the MiCorps website.
- Educate lake residents, users, and interested citizens in the collection of water quality data, lake ecology, and lake management practices.
- Build a constituency of citizens to practice sound lake management at the local level and to build public support for lake quality protection.

Data collected as part of the CLMP are incorporated into Michigan's lake water quality assessment process for classifying lakes by their water quality trophic state, identifying possible conflicts with water quality standards (screening tool assessment), documenting trends in lake eutrophication indicators, and supporting lake management activities. The CLMP is a significant source of consistent long-term eutrophication data for Michigan's inland lakes.

Besides the MDEQ, CLMP data may be used by other state and local agencies and groups including: the Department of Natural Resources (MDNR), lake boards, watershed councils, local government public works boards, lake and stream associations, conservation groups and others interested in water resource management. CLMP records are often the only current lake water quality data available to state and local agencies and organizations.

These groups may use CLMP data to make initial assessments of water resource conditions and management needs. From these initial assessments, planning activities may be set in motion leading to comprehensive resource/watershed management projects.

C. General Program/Task Description

Originally known as the Self-Help Program, the CLMP continues a long tradition of citizen volunteer monitoring of Michigan's inland lakes. Michigan has maintained a volunteer lake monitoring program since 1974, making it the second oldest volunteer monitoring program for lakes in the nation.

The original program was designed for lake property owners to monitor water quality by measuring water clarity with a Secchi disk. In 1992, the MDEQ (then part of the MDNR) and MLSA entered into a cooperative agreement to expand the basic program. An advanced Self-Help program was initiated in 1993 that included a monitoring component for total phosphorus during spring lake turnover. In 1998, the program was further enhanced to include chlorophyll *a* and late-summer total phosphorus sampling. At that time the program was renamed the CLMP. In 2001, dissolved oxygen and temperature profile monitoring was added to the CLMP and an aquatic plant identification and mapping component was pilot tested and then added to the CLMP in 2002. An exotic plant watch component was pilot tested and then added as a full project parameter to the CLMP in 2011. A shoreline health parameter, called "Score the Shore" was pilot tested in 2015 and then added as a full project parameter to the CLMP in 2016.

C1. CLMP Parameters Measured

The CLMP is a volunteer-based program for monitoring trophic state indicators in lakes. The focus of the CLMP is on the primary indicators Secchi disk transparency, total phosphorus and chlorophyll *a*. However, with CMI-CWF support additional parameters have been added to the CLMP including water-column dissolved oxygen and temperature, aquatic plant identification and mapping, a specialized exotic plant program, and shoreline habitat (Score the Shore). Volunteer participation determines which lakes will be monitored for these parameters.

Table 2 provides a summary of the parameters currently being monitored in the CLMP. A general description of each CLMP sampling component follows.

Table 2. Parameters Measured as Part of the CLMP		
Parameter	**Sample matrix**	**Measures**
Secchi disk transparency	physical	clarity, trophic state
Spring phosphorus	water chemistry	water chemistry, nutrient enrichment
Summer phosphorus	water chemistry	water chemistry, trophic state
Chlorophyll *a*	biological	algal productivity, trophic state
Dissolved oxygen and temperature	water chemistry and physical	hypolimnetic oxygen depletion and thermal stratification
Aquatic plants ID and mapping	biological	species present, relative abundance, exotic species, trophic state
Exotic plant watch	biological	species present, relative abundance
Score the Shore	Physical, biological	Shoreline and riparian ecological health

C2. Secchi disk transparency component:

Clear lakes are universally valued as resources with exceptional quality. For almost 150 years a lake's clarity or transparency has been used to appraise its quality. The Secchi disk has become a standard tool used by scientists around the world to generally assess lakes. It has been standardized as an eight-inch (20-centimeter) disk, with four alternating black and white quadrants painted on the surface.

To make a transparency measurement the disk is attached to a measured line and lowered into the lake until it disappears. The water depth at which the disk disappears is the Secchi disk depth or value for the lake. Obviously the deeper the disk is seen the clearer the water or the greater the transparency of the lake. A lake's clarity or transparency is influenced by several factors, but for most lakes the amount of algae in the water is a major cause for changes in transparency. As more nutrients like phosphorus enter the lake from the watershed more algae is produced. As more algae is produced the clarity of the water decreases. In very clear lakes, Secchi disk values greater than 30 feet can be measured. On the other hand, in lakes with high nutrient supplies and algae production the disk can disappear in two to three feet.

CLMP volunteers measure Secchi disk transparency weekly or every other week throughout the summer growing season from mid-May through mid-September.

The Secchi disk transparency along with total phosphorus and chlorophyll *a* results provide an estimate of the level of biological productivity, or trophic state, of lakes. These results are used to calculate a set of trophic state indices (i.e. Carlson TSI_{SD}, TSI_{TP}, and TSI_{CHL}) for the lake (Carlson 1977). These indices provide a quantitative means of describing the stage of lake aging, or eutrophication. Using the Carlson's TSI approach, lakes are classified according to their trophic status (i.e. oligotrophic, mesotrophic, eutrophic, hypereutrophic, etc.).

The summer season average of the weekly summer Secchi disk transparency measurements is used to calculate the Carlson TSI_{SD} for the lake which is compared with the TSI_{TP} and TSI_{CHL} for the trophic status determination.

C3. Total phosphorus component:

In the CLMP, total phosphorus is sampled once just below the water surface (1-2 feet depth) in the spring and in late summer. Phosphorus is one of several essential nutrients that algae and rooted aquatic plants need to grow and reproduce. For most lakes in Michigan, phosphorus is the limiting factor for algae growth. The total amount of phosphorus in the water is used to predict the level of biological productivity and eutrophication in a lake. An increase in phosphorus over time is an indication of nutrient enrichment.

Phosphorus is found in lakes in several forms that are in a constant state of flux as environmental conditions change and plants and animals live, die, and decompose in the lake. Because the forms of phosphorus are continuously changing and recycling, it is convenient to measure all of the forms of phosphorus together as total phosphorus.

During spring overturn most Michigan lakes are well mixed from top to bottom. This is an opportune time to sample just the surface of the lake to obtain a representative sample for estimating the total amount of phosphorus in the lake and for determining whole lake nutrient changes or trends over time. At other times of the year, more extensive water column sampling is needed to determine phosphorus levels in the lake. A surface sample taken during late summer stratification is a representative sample of the upper water layer of the lake, the epilimnion.

The late summer phosphorus results are used to calculate the Carlson TSI_{TP} for the lake which is compared with the TSI_{SD} and TSI_{CHL} for the trophic status determination.

C4. Chlorophyll *a* component:

The relative amount of algae in a lake can be estimated by measuring the chlorophyll *a* concentration in the water. The amount of chlorophyll in an algal cell

varies among algae species as well as with changing light conditions at different depths within the lake. Changing seasons also create different light conditions that, in turn, affects chlorophyll production. To account for some of this variability, algal chlorophyll is monitored during five mid-month sampling events over the summer season (May through September) using a water column composite sampling technique. Samples are field filtered by the volunteer and frozen until delivered to the MDEQ laboratory for analysis.

The median value of the summer chlorophyll monitoring results is used to calculate the Carlson TSI_{CHL} for the lake which is compared with the TSI_{SD} and TSI_{TP} for the trophic status determination.

C5. Dissolved oxygen and temperature component:

In the CLMP, dissolved oxygen and temperature are measured from the water surface to within three feet of the bottom in the deepest basin of the lake. Measurements are taken twice per month from early spring to late summer. Dissolved oxygen and temperature profiles are plotted for each sampling event.

Dissolved oxygen and temperature are two of the fundamental variables in lake ecology. Measuring these parameters together provides valuable information for assessing the condition of a lake. The amount of dissolved oxygen in the water is an important indicator of overall lake health. Water temperature serves as a driving force for many important lake processes. The temperature controls the length of the growing season in lakes, which influences the type and amount of biological activity.

During the summer growing season, most lakes with sufficient depth (greater than 30 feet) are thermally stratified forming distinct layers of differing temperature and density. These layers are referred to as the epilimnion (warm surface layer) and hypolimnion (cold bottom layer) separated by a metalimnion or thermocline (middle layer with decreasing temperature). The greatest changes in temperature occur at the thermocline.

Physical and chemical changes within these layers influence the cycling of nutrients and other elements within the lake system. Temperature also affects the level of dissolved oxygen in the water. As temperature increases, the amount of atmospheric oxygen that can be dissolved in water decreases. Dissolved oxygen levels also are influenced by the time of day and by oxygen requirements of bacteria and other aquatic organisms. Photosynthesis during the daylight hours increases dissolved oxygen levels in the lake while dissolved oxygen is consumed by respiration at night.

The bottom waters of many stratified lakes are susceptible to oxygen depletion, since atmospheric replenishment and photosynthetic production of oxygen are decreased at greater water depth and decomposition of organic matter in the

bottom waters and sediment utilizes available oxygen. Low dissolved oxygen levels can result in the loss of susceptible organisms, such as trout and other cold-water fish, and the plant nutrient phosphorus can be released from the sediments when dissolved oxygen is depleted in the bottom waters. Hypolimnetic dissolved oxygen decline during summer stratification is used as an early warning indicator of eutrophication in oligotrophic lakes.

C6. Aquatic plant identification and mapping component:

Rooted aquatic plants are a natural and essential part of the lake, just as grasses, shrubs and trees are a natural part of the land. Their roots are a fabric for holding sediments in place, reducing erosion and maintaining bottom stability. They provide habitat for fish, including structure for food organisms, nursery areas, foraging and predator avoidance. Waterfowl, shore birds and aquatic mammals use plants to forage on and within, and as nesting materials and cover. Though plants are important to the lake, nutrient enrichment and the spread of exotic species can cause overabundance of plants. Excessive plant populations can negatively affect fish populations, fishing and the recreational activities of property owners. In this situation, it is advantageous to manage the lake and its aquatic plants for the maximum benefit of all users. To be able to do this effectively it is necessary to know the plant species present in the lake and their relative abundance and location. A map of the lake showing the plant population locations and densities will greatly aid management projects.

Quantifying the aquatic plant populations of a lake is not an easy task. Additionally, sampling procedures used to collect aquatic plant data that can be statistically analyzed are complicated and time and cost intensive. Consequently, the CLMP is using qualitative techniques that allow volunteer monitors to generally assess the aquatic plants in their lake. This assessment may be viewed as a “snapshot” of the species of plants in the lake, their general location and relative abundance. Although not quantitative, this CLMP component provides valuable information about a lake’s aquatic plants that is often missing in many lake and aquatic plant management programs.

C7. Exotic plant watch component:

Exotic plants are a significant threat to the health of Michigan lakes. Species such as Eurasian milfoil, curly-leaf pondweed, European frog-bit, and hydrilla can quickly spread across a lake and impair human, fish, and wildlife use of the resource. However, exotic species can be managed effectively through early detection and rapid response.

This component trains volunteers how to recognize and effectively sample selected exotic plants. It is intended for lake communities that currently do not have exotic species or are managing existing populations and have them under good control. The program will have less value for lake communities that currently

have exotic species covering large areas. However, it can help these lake communities identify new exotics that may invade the lake. Upon discovering exotic plants in a lake, the lake community has the option of pursuing outside assistance in proper control and eradication.

C8. Score the Shore component: Healthy shorelines are an important and valuable component of the lake ecosystem. The shoreline area is a transition zone between water and land and is a very diverse environment that provides habitat for a great variety of fish, plants, birds, and other animals. A healthy shoreline area is also essential for maintaining water quality, slowing runoff, and limiting erosion. However, Michigan's inland lake shorelines are threatened. Extensive development, often combined with poor shoreline management practices, can reduce or eliminate natural shoreline habitat and replace it with lawn and artificial erosion control such as sea walls and rock. As a result, shoreline vegetation is dramatically altered, habitat is lost, and water quality declines.

The goal of this component of the program is to train volunteers on the procedures and then have them conduct an assessment of the quality of a lake's shoreline on three primary categories: Littoral Zone Characteristics, Riparian Zone Characteristics, and Shoreline Erosion Control Practices. Volunteers motor around the lake, scoring aspects of each of the characteristics on a data sheet per every 1000-foot shoreline section.

C9. How Results are Evaluated

Data collected in the CLMP are used to assess water quality/trophic status conditions, nutrient enrichment, and water quality changes and trends in lakes enrolled in the program. Volunteer collected CLMP data are evaluated with professionally collected side-by-side data, other quality control data and data from other state agency monitoring programs. These data are collectively utilized to assess the water quality status and update the trophic status classification of Michigan's inland lakes.

The Carlson TSI approach is used for updating trophic status classification of Michigan's inland lakes (Carlson 1977). The TSI equations for calculating the individual trophic state indicators are listed in Table 3.

Table 3. Carlson TSI Equations

$TSI_{SD} = 60 - 33.2 \log_{10} SD$	where, SD = Secchi depth transparency (m)
$TSI_{TP} = 4.2 + 33.2 \log_{10} TP$	TP = total phosphorus concentration (ug/l)
$TSI_{CHL} = 30.6 + 22.6 \log_{10} CHL$	CHL = chlorophyll *a* concentration (ug/l)

Individual TSI values are calculated for each trophic state indicator. An overall TSI is determined from the mean of the individual TSI values and the trophic status classification is determined based on the criteria listed in Table 4.

Table 4. Michigan Inland Lakes Trophic Status Classification Criteria

Trophic State	Carlson TSI	TP	SD-Trans.	SD-Trans. (m)	Chl-a (ug/l)
Oligotrophic	<38	<10	>15	>4.6	<2.2
Meotrophic	38-48	10-20	7.5-15	2.3-4.6	2.2-6
Eutrophic	48-61	20-50	3-7.5	0.9-2.3	6-22
Hypereutrophi	>61	>50	<3	<0.9	>22

A trend analysis is done for lakes that have eight or more years of Secchi disk transparency or total phosphorus data. A regression analysis is done and an apparent trend line fitted to the data. Figure 1 illustrates the annual mean transparency results over time with the apparent trend line for Corey Lake, St. Joseph Co. It should be noted that Corey Lake has been in the volunteer monitoring program continuously from the beginning in 1974 to the present and most of the measurements have been taken by the same volunteer over the this time span. This is a tremendous set of long-term data for this lake.

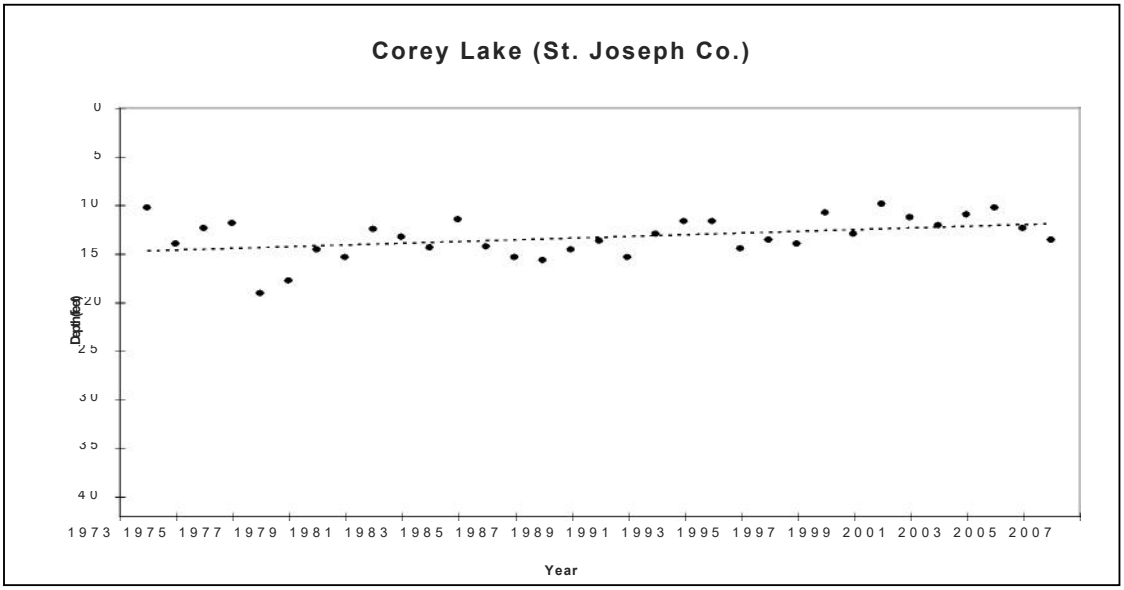
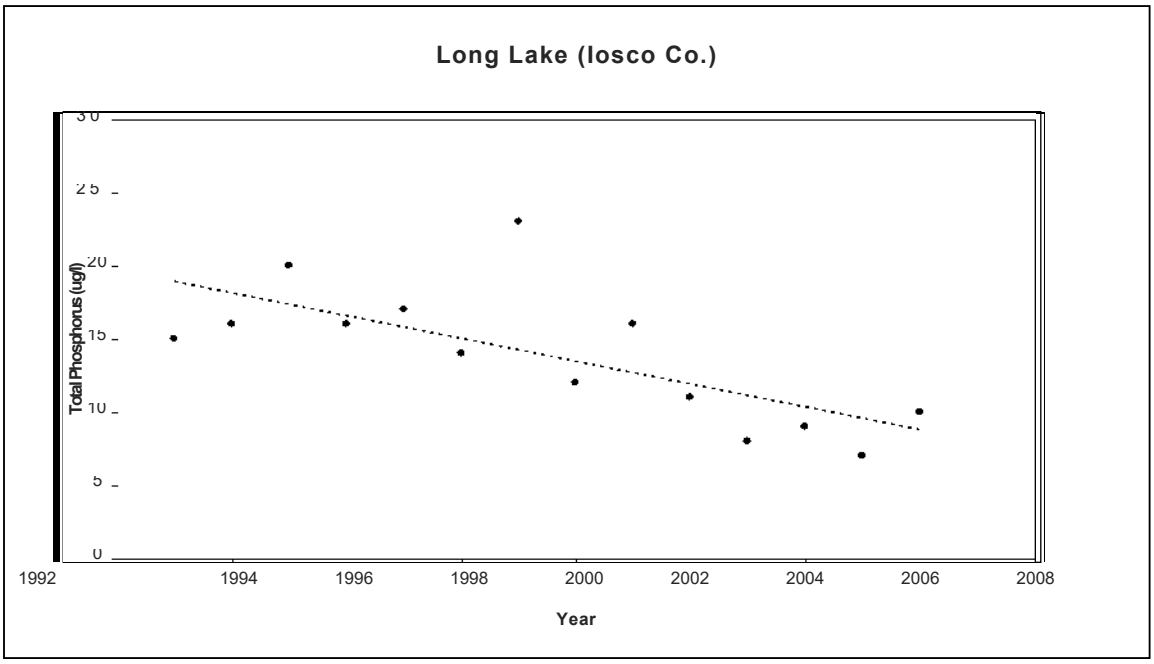


Figure 1. CLMP Annual Mean Transparency – Corey Lake, St. Joseph Co.

Figure 2 illustrates the spring total phosphorus concentration over time with the apparent trend line for Long Lake, Iosco Co. This is another lake with a long-



term history of volunteer monitoring.

Figure 2. CLMP Annual Spring Total Phosphorus – Long Lake, Iosco Co.
These data are provided to the volunteer monitors to show apparent increasing, declining, or stable trends for these trophic state indicators in their lakes. The long-term data are tracked by the MDEQ to identify lakes that may need increased management activities. These data have also been evaluated to identify regional and state-wide trends (Bruhn and Soranno, 2005).

C10. Program Timetable

Table 5 is a general timetable for the CLMP. A complete and detailed monthly timetable is provided in Appendix 1.

Table 5. Monthly Work Task Within the CLMP Sampling Schedule	
Date	**Task**
August	Review registration materials and revise as necessary
September	Distribute registration materials
Nov. – Dec.	Review sampling literature and revise as necessary; prepare equipment
Jan. – Mar.	Receive registration materials
March	Review training materials and revise as necessary
April	Give training, distribute sampling literature and equipment

April - Sept	Volunteer sampling, side-by-side sampling, laboratory analysis
October	Data recording
November-December	Data entry into the central database
January-February	Produce and distribute reports for each lake in the program
March	Produce a programmatic annual summary report.

D. Data Quality Objectives for Measured Parameters

D1. Precision, Accuracy, and Measurement Range

The precision, accuracy and measurement range for the CLMP parameters are listed in Table 6.

Table 6. CLMP Parameter Precision, Accuracy and Measurement Range

Matrix	Parameter	Precision	Accuracy	Measurement Range
Water	Secchi Disk Transparency	± 5%[a]	± 0.5 feet[a]	0.4 – 62 feet[b]
Water	Total Phosphorus (Spring)	± 14%[c]	± 11.5%[d]	<5 – 120 ug/l[b]
Water	Total Phosphorus (Late-Summer)	± 13%[c]	± 21%[d]	<5 – 470 ug/l[b]
Water	Chlorophyll *a*	± 25%[c]	± 33%[d]	<1 – 98 ug/l[b]
Water	Temperature	± 10%[a]	± 0.3 ^{o}C[e]	-5 – 45 ^{o}C[e]
Water (550A)	Dissolved Oxygen	± 10%[a]	± 0.3 mg/l[e]	0 – 20 mg/l[e]
Water (Pro20)	Dissolved Oxygen	± 10%[a]	± 0.3 mg/l[e]	0 – 50 mg/l[e]

a CLMP general observations
b CLMP data range
c CLMP volunteer replicate (QA/QC) data
d CLMP side-by-side (QA/QC) data
e YSI model 550A, Pro20 meters specifications

Secchi disk transparency, dissolved oxygen and temperature measurement

precision are determined through field observations during side-by-side sampling events. Total phosphorus and chlorophyll *a* measurement precision are determined from annual volunteer replicate sample data based on a cumulative relative percent difference analysis. Accuracy of the Secchi disk transparency measurements is determined through field observations during side-by-side sampling events. Accuracy of total phosphorus and chlorophyll *a* measurements are determined from annual side-by-side sampling data for these parameters based on a relative percent difference analysis. Accuracy of dissolved oxygen and temperature measurements are from manufacturer specifications for the YSI model 550A and Pro20 meters.

Measurement ranges for Secchi disk transparency, total phosphorus, and chlorophyll *a* are minimum and maximum values that have been measured in the CLMP. Measurement ranges for dissolved oxygen and temperature are from manufacturer specifications for the YSI model 550A and Pro20 meters.

D2. Completeness, Comparability, and Representativeness

The lakes that are sampled in the CLMP are based on volunteer enrollment. A program goal is 90% participation for those lakes enrolled. A follow-up telephone survey is conducted annually with the volunteers on the lakes that are enrolled in the various CLMP parameters but do not complete the sampling or sample turn-in requirements.

For all CLMP parameters, comparability is addressed by the use of standardized VOPs and analytical methods by the volunteers and the MDEQ Lab. Comparability of data within and among parameters is also facilitated by the implementation of QA\QC techniques and performance and acceptance criteria. For all measurements, reporting units and format are specified, incorporated into the field data recording forms, and documented in the MiCorps Data Exchange (MDE). Comparability is also addressed by providing results of QA/QC sample data, such as estimates of precision and bias; conducting methods comparison studies and side-by-side sampling, and conducting interlaboratory performance evaluation studies (see Quality Control Requirements, p. 23, for details.

For the CLMP, the primary sampling station is established at the deep basin of the lake and is intended to represent the open water of the lake as the location to evaluate the trophic status of the lake during the summer growing season and long-term trends in nutrient enrichment in the lake. The individual sampling components designed for each parameter attempt to address representativeness within the constraints of a volunteer monitoring program. Holding time requirements for analyses ensure analytical results are representative of conditions at the time of sampling. Use of replicate and side-by-side sampling provides estimates of precision and bias.

E. Training Requirements

Training for all CLMP projects is held in conjunction with the MLSA annual spring conference in April or early May. MDEQ and MiCorps staff conduct the training sessions. Participants in the Secchi disk transparency and spring and summer phosphorus components are not required to attend a training session. The detailed monitoring instructions and procedures serve as self-training materials for these parameters. However, participants in these three components, particularly first-time participants, are encouraged to attend the training sessions.

Volunteer training for all other parameters is required to receive monitoring supplies and participate in the advanced components. If volunteers are unable to attend the official annual training, the DEQ Contract Administrator, the Program Manager, or the Project Specialist may train the volunteer personally if circumstances allow this. Otherwise, the volunteers may receive training from a veteran CLMP volunteer with permission from the DEQ Contract Administrator, the Program Manager, and the Project Specialist. This permission is given based on the veteran volunteer's amount of experience and proven track record of accuracy and is done on a case by case basis.

Starting in 2015, online webinars held by MiCorps staff can substitute for in-person training. The webinars may or may not be held each year, depending on demand.

Resource personnel are available throughout the summer sampling season to answer questions, and provide assistance with sample collection, handling, and species identification. In addition to training, volunteer samplers are provided detailed written monitoring procedures for each project in which they participate.

The effectiveness of volunteer training is assessed through the use of two types of evaluation surveys. The first, administered immediately after each training session at the MLSA annual spring conference, asks volunteer trainees to provide feedback on the clarity of training and suggestions for training improvement. A second evaluation survey is administered by program staff during side-by-side sampling visits, during which volunteer sampling performance is observed and deviations noted, and, following sampling, volunteers are given the opportunity to provide feedback on the sampling procedures, written instructions, training, and other program components. Program staff make use of the results of all evaluation surveys to improve program training, sampling procedures and instructions; and to address concerns specific to individual volunteers.

The exact training requirements for each component are detailed in the VOPs.

F. Documents and Records

The CLMP relies extensively on printed forms and documents to facilitate a number of important tasks. Print materials are provided to volunteers for registration, training, sample collection and sample handling and delivery. Other documents are used for data storage, report writing and to facilitate communication between MDEQ and MiCorps personnel. Each parameter includes detailed instructions, data recording forms and the contact information of MDEQ and MiCorps personnel.

Starting in 2015, the VOP procedures in the CLMP are not included in the QAPP. These procedures have been turned into their own standalone document called the CLMP Manual. All of the CLMPs documentation meant for the public- the application, the CLMP Manual, datasheets, fact sheets, quick references procedures- can be found in their most recent version at https://micorps.net/lake-monitoring/clmp-documents/.

The primary document used internally by CLMP staff is Appendix 1.

The retention longevity of forms and documents depends upon the purpose of the document. Administrative forms and letters, such as registration materials and waivers are retained three to five years. Data documents such as volunteer sampler field sheets and laboratory reporting forms are, as of this time, retained at the MDEQ central office indefinitely. These documents are still available from the early years of the former Self-Help program.

Electronic data files are retained by the MDEQ Program Manager. The CLMP sample results are retained on the Laboratory Information Management System. The MDE files are retained on the MDE database. The database is housed on a MySQL database platform on a server at the Great Lakes Commission. The GLC backs up all of their server data daily and retains back-ups for two weeks before overwriting. Records will be retained on the system as long as it remains in operation, and, by contract, would be turned over to the DEQ, should the GLC discontinue database maintenance.

G. Volunteer Operating Procedures (VOP)

(Sampling Design, Sampling Procedures, Sample Handling and Shipping)

The VOPs for each of the CLMP parameters are included in the CLMP Manual, https://micorps.net/lake-monitoring/clmp-documents/.

Each project's VOP includes a description of the utility of the parameter being sampled, sampling design, equipment and supplies used, sampling procedures, sample labeling instructions, sample handling and preservation, shipping requirements, training requirements, safety precautions and technical support

contacts. The sampling methods requirements are summarized in Table 7.

Timing and Frequency of Collection:

Secchi Disk:

- Once a week through the summer.
- The first week is the full week that includes May 15th.
- The last week is the week that includes September 15th.
- These dates are listed in the Secchi data sheet every year.

Spring Phosphorus:

- Starting in 2015: Volunteers take water sample within 2 weeks of ice out as judged by themselves.
- Previously: DEQ would predict ice out dates for all counties and assign sampling date ranges.

Late Summer Phosphorus:

- There are five sample ranges and turn in dates based on County tier.
- The five tiers are determined by a north-south gradient and are listed on the late summer phosphorus schedule.
- The southern-most tier of counties turn in their sample the Tuesday of the last full week in September. The sample must be taken in a five-day range with the final day of the range falling on the day before the turn in date. i.e. if the turn-in is September 29, the sample must be taken September 24-28.
- The next County tier, heading in a northern direction, turns their samples in on the Tuesday a week before the southern-most tier, and so on heading north through the tiers so the whole process takes 5 weeks.

Chlorophyll:

- One sample in each date range: May 10-20, June 10-20, July 10-20, August 10-20.
- The September sample falls in the same date range as the late summer phosphorus sample.

Dissolved Oxygen/Temperature

- Take every other week from mid-May through mid-September. No exact dates are prescribed.

Plants and Score the Shore

- Volunteers are asked to do the assessments mid to late summer, after full plant growth has been achieved.

Table 7. CLMP Sampling Methods Requirements					
Matrix	Parameter	Sampling Equipment	Sample Holding Container	Method Sample Preservation	Maximum Holding Time
water	transparency	Secchi disk	none	none	immediately
water	total phosphorus	sample holding container	screw top, polypropylene bottle (250	freeze sample post-delivery acidification	6 months frozen
water	chlorophyll *a*	composite sampler	wide-mouth amber polypropylene bottle (250	MgCO3, filter and freeze sample	4 months frozen
water	dissolved oxygen and	YSI 550A, Pro20 meter	none, in-lake measurement	None	immediately
water and substrate	aquatic plants ID and mapping, exotic plant	plant rake	self-sealing plastic bags	dry in plant press & mount	indefinite
Water and land	Shoreline health (visual inspection only)	None	None	NA	NA

The volunteer sampling, sample handling, sample turn-in, and sample shipping schedules are designed to get the samples to the lab so they can be analyzed within the prescribed holding times for each parameter. If delays occur and holding times are exceeded, the data for these samples are coded and reported.

H. Laboratory and Analytical Methods

CLMP samples requiring laboratory chemical analysis (total phosphorus and chlorophyll *a*) are analyzed at the MDEQ state laboratory in Lansing.

In 2002 the CLMP late-summer total phosphorus samples were analyzed at an approved commercial laboratory due to sample capacity constraints at the MDEQ state laboratory. Results for these samples have been coded accordingly in the CLMP records.

The information collected in the CLMP's Aquatic Plant Identification and Mapping Project is tabulated and analyzed according to the procedures outlined in Chapter Five (Mapping Aquatic Plants in the Lake) of the book *A Citizen's Guide for the Identification, Mapping and Management of the Common Rooted Aquatic Plants of Michigan Lakes* (Wandell and Wolfson 2000). The data collected in the Aquatic Plant Mapping Project are qualitative. These data provide a general description of the lake's plant population, common species present and their relative abundance and location. The data products include a generalized map of the lake's plant populations and a data sheet of the species found and their relative lake-wide abundance.

The lab uses several error codes commonly for phosphorus and chlorophyll. Below is the code and how it is handled in the CLMP reports, the MDE online database, and trend graphs.

Phosphorus: **W**. Value is less than the method detection limit (3 ug/l). The CLMP treats this results as a 3 for reporting and trends. It is listed as <=3 in reports.

Phosphorus: **T**. Value is less than the reporting limit (5 ug/l). The CLMP treats this results as a 4 for reporting and trends. It is listed as <5 in reports.

Chlorophyll: **ND or <.** Sample values is less than limit of quantification (1 ug/l). The CLMP treats this result as a 0.5 for median calculation in CLMP reports and trend graphs, but it is listed as <1 in reports.

I. Quality Control Requirements

Several types of quality control samples are collected in the field and performed in the laboratory in the CLMP. These quality control samples include:

Field bottle/preservative blank – Preservative appropriate for the phosphorus/chlorophyll parameter are added to clean sample bottles. The samples are delivered to the laboratory and they are analyzed to check for bottle and preservative purity.

Replicate field sample - Two samples collected at the same site, at the same time, using the same method, and independently analyzed in the same manner. These samples are used to determine the precision of the field sampling methods.

Side-by-side field sample - DEQ staff sample or make observations side-by-side with volunteers at least 10 times per year, dividing the visits between Secchi Disk/Chlorophyll, Spring Phosphorus, Summer Phosphorus, and Dissolved Oxygen/Temperature. DEQ staff and volunteer collect samples or make observations at the same site and the same time. Volunteers use the VOP and the DEQ staff use agency Standard Operating Procedures (SOPs) (Appendix 2). Chemical samples are independently analyzed. Side-by-side sampling provide a check on the VOP and the reliability of the volunteer sampling.

Mail-in field sample: Volunteers mail in voucher samples of plants that they have identified. CLMP biologists double-check the identification.

Second independent reading - Biological samples requiring interpretation are analyzed by two professionals as a check on professional interpretation quality and analytical procedures.

Proficiency audit sample – Annually, samples are obtained from an independent quality control lab. The samples are prepared and analyzed according to the provided instructions. The results are then submitted to the source for evaluation. Participation in these studies is used as a means to independently monitor this method's performance and to compare its performance against that of the other participants.

These quality control samples are incorporated in the CLMP sampling components as outlined in Table 8.

Table 8. CLMP Quality Control Samples

QC Sample Type	Secchi Disk	Spring Total Phosphorus	Summer Total Phosphorus	Chlorophyll	Dissolved Oxygen & Temperature	Aquatic Plant Mapping	Exotic Plant Watch	Score the Shore
Field bottle/preservative blank	NA	1%	1%	NA	NA	NA	NA	NA
Replicate field sample	NA	10%	10%	10%	NA	NA	NA	NA
Side-by-side field sample	10 total visits divided between these parameters					NA	*	*
Mail-in field sample	NA	NA	NA	NA	NA	NA	10%	NA

* Not a required part of the program, but staff try to conduct several side-by-side visits a year on these parameters to make sure volunteers understanding the training and can produce similar results to staff.

The following actions are taken when a quality control sample reveals a sampling or analytical problem.

Field bottle/preservative blank - Bottles are checked for contamination and the preservative is exchanged at the laboratory for a new allotment.

Replicate field sample - The problem is discussed with the volunteer sampler to identify any possible abnormal environmental conditions or nonconformity with sampling procedures.

Side-by-side field sample - Volunteer sampling procedures and equipment are reviewed for comparability with state agency standard operating procedures.

Mail-in field sample – In case of plant misidentification by the volunteers, CLMP biologists will revise the volunteers final reports to reflect the

corrected plant identification. This is done after communicating with the volunteers to ensure that this is the appropriate course of action (e.g. the voucher sample represents that plants they saw at all sites).

J. Equipment Testing, Inspection and Maintenance Requirements

At the beginning of each sampling season, the CLMP volunteers are directed to check their monitoring equipment for damaged or missing parts. An equipment checklist is included in the monitoring procedures for each parameter. Damaged or missing parts are replaced and the equipment is repaired prior to sampling.

For the total phosphorus components, new sample bottles are shipped to the volunteers prior to each sampling event. The sample bottles are capped at the laboratory supply facility prior to shipment. The volunteers are directed to request a replacement bottle should they receive an un-capped bottle.

A full sampling and filtering kit is provided at the annual training session to volunteers who are enrolled in the chlorophyll component for the first time. The full kit includes new equipment and supplies which are assembled and inspected by CLMP staff. A re-supply kit is provided to the volunteers who are continuing in the chlorophyll component. The re-supply kit includes replacement reagents and supplies for filtering and sample storage for each sampling event. Replacement parts for the sampling and filtering equipment are also available if needed.

For the dissolved oxygen and temperature component, the YSI Model 550A and Pro20 DO/temperature meters are checked and serviced each year prior to the monitoring season. Batteries and oxygen probe membrane caps and electrolyte solution are replaced for each meter. The meters are calibrated according to the manufacturer's specifications in the lab prior to distribution to the volunteers at the annual training session. The volunteers are instructed on meter calibration at the annual training session and the meters are re-calibrated by the volunteers prior to each use in the field. Should a meter fail to calibrate in the field, the volunteer is instructed to contract the CLMP program manager for the appropriate course of action. A replacement meter may be provided if necessary. At the end of the sampling season, the meters are returned and checked by the CLMP program manager prior to post-season storage. If a meter has been damaged or failed to function according to manufacturer's specifications it is returned to the manufacturer for repair. All pre- and post-season calibration and service records are kept by the CLMP program manager. Lake associations or volunteers who have purchased a YSI Model 550A or the Pro20 DO/temperature meters for individual lake use are instructed to follow the same pre- and post-season maintenance schedule as outlined for the CLMP program equipment.

K. Equipment Calibration

As described above, the YSI Model 550A, and Pro20 DO/temperature meters are calibrated, prior to each monitoring event, according to the manufacturer's specifications. Calibration results are recorded on the dissolved oxygen and temperature data forms which are returned to the CLMP program manager at the end of each monitoring season. Calibration procedures are contained in the VOP for the dissolved oxygen and temperature component.

L. Acceptance Requirements for Supplies

A number of supplies are required for the CLMP. A brief overview of the required supplies is listed here. For more detailed information, consult the individual parameter monitoring procedures in the CLMP Manual, http://www.micorps.net/documents/CLMP_Manual.pdf

The MDEQ laboratory provides all of the sample collection bottles and appropriate labels. MLSA staff assembles Secchi disks that may be purchased by the volunteer sampler. If the volunteer sampler chooses to build their own Secchi disk, instructions are provided. MDEQ and MiCorps staff assembles the chlorophyll *a* composite sampling equipment. The chlorophyll filter apparatus are purchased from a scientific supply company and given to volunteers during their training session. Volunteers assemble plant rakes according to detailed instructions in the monitoring procedures.

All supplies and equipment are inspected for problems and defects by MDEQ or MiCorps personnel before being given to the volunteer samplers. If any defects develop during sampling supplies and equipment are to be returned to MDEQ or MiCorps personnel for replacements. MDEQ and MiCorps personnel also inspect supplies and equipment being used by the volunteer samplers during side-by-side sampling. Preservatives required for sample preparation, such as sulfuric acid (H_2SO_4), are provided by the MDEQ laboratory but are not handled by volunteers.

M. Outside Program Information Requirements

There are two special information requirements for the CLMP, hydrographic and topographic maps. Hydrographic maps are required to determine the deepest basin of the lake, which is the primary sampling location for several CLMP components. The maps are also useful in the aquatic plant mapping project. Individual lake hydrographic maps are available from Michigan Department of Natural Resources web-site (http://www.michigan.gov/dnr/0,1607,7-153-30301_31431_32340---,00.html). Additionally, Sportsman's Connections (http://www.sportsmansconnection.com/#top) offers books of hydrographic maps

for Michigan counties. These maps are based upon work done by the MDNR's Institute for Fisheries Research over several decades. Maps are available for about 2000 Michigan lakes. If a map of the lake is not available the volunteer sampler must use a fathometer to locate the deepest spot in the lake.

Topographic maps are helpful to volunteers to obtain the altitude and, optionally, the latitude/longitude location of the lake to be sampled. These data are needed to calibrate the dissolved oxygen meter and identify the lake location. Topographic maps are available to the volunteers on the internet web-site http://www.topozone.com to look up and determine the altitude and location of their lake.

N. Data Management

For CLMP monitoring components that require sample handling and shipping to the MDEQ laboratory (spring and summer total phosphorus and chlorophyll *a*), a tracking log is maintained to maintain the chain of sample custody. The log records when sampling materials are delivered to the volunteer sampler, receipt of the samples into the MSUE processing office and delivery to the MDEQ laboratory and finally receipt of analytical results from the laboratory. The log allows for identification of missing samples as well as the tracking of samples to ensure their analysis within required holding times.

Volunteer field sheets are used for all parameters. The field sheets are reviewed by the MDEQ program manager and MiCorps project specialists for completeness and discrepancies. If problems are identified on the field sheets the data may be 1) excluded from the program results if the problem is significant, 2) included in the results but the problem noted or 3) accepted. Table 9 provides a summary of data management actions when incomplete field sheets and improperly collected or handled samples.

Table 9. Data Management Actions for Completeness and Discrepancies

Parameter -condition	**Accept Data**	**Accept Data and Note Problem**	**Reject Data**
SD Transparency - sampling time	9 AM – 6 PM	+/- 1 hour outside sampling time	all other times
Total Phosphorus			

- sampling dates - sample bottle condition - sample frozen	5 day sampling window normal condition frozen	+/- 1 week outside sampling window bottle over full – unable to stand up delivered un-frozen but collected within 4	all other dates bottle and/or cap cracked shipped un-frozen
		and frozen prior to shipping	
Chlorophyll			
- sampling dates - foil wrapped vials - sample frozen - replicate sample	target sampling date +/- 5 days wrapped in foil frozen	+/- 6 to 10 days from sampling dates delivered un-frozen but collected within 4 hours of delivery and frozen prior to shipping	greater than +/- 10 days from sampling dates no foil or poorly wrapped shipped un-frozen not collected at same location as primary sample
All parameters			
- sampling location - other sampling event data (i.e. instrument calibration)	deep primary station complete and within tolerances	deep secondary station incomplete, but data within tolerances	non-representative location – shoreline, inlet, outlet, or other incomplete, and data beyond tolerances

If samples or measurements are properly collected by the volunteer sampler but incomplete in terms of adequate numbers for the data summary calculations (i.e seasonal averages, medians, TSI values, etc.) the data are reported but the data summary calculations are not included in the annual report.

Laboratory reporting forms are reviewed by the MDEQ program manager and the MiCorps project specialists. Any unusual or highly variable data are questioned. Unusual high or low data values may be compared with other values reported in the sampling run for consistency. They may also be compared to historical or other data sources for the lake in question. If necessary the laboratory may be asked to rerun the samples if holding times have not been exceeded.

Data from the laboratory reporting forms (spring and summer total phosphorus, chlorophyll) and field sheets (all parameters) are entered in the MDE by the volunteers via the internet or MiCorps data management personnel. Each volunteer data collector can gain password-protected access to the data entry system via an internet interface at https://micorps.net. Data can be entered via

electronic forms that mirror the field forms. Critical fields are fixed with minimum and maximum value limitations that will not allow unreasonable data to be entered and help eliminate data entry errors. MiCorps and MLSA staff enter the remaining data into the system using the same web interface. Data sheets with missing or problem data are flagged for verification by the database manager. Once data are entered into the system, MiCorps staff briefly review all records (as they come in) to verify that data entries are reasonable before considering the data "accepted." Problematic data sheets are further reviewed and either rejected or flagged as "accepted, with comment", and a comment describing the problem is entered. All data that are accepted (with or without comment) are then available for public review through the data view web interface.

Lab results for total phosphorus and chlorophyll *a* are submitted electronically from the DEQ Environmental Lab once or twice per year, as results are generated. The lab data are imported into the MDE after the metadata is completely entered. Lab records are manually matched with field records by comparing STORET codes (also known as Field ID number) and lake and county names.

From the MDE, results are tabulated for reporting in the annual report. Means, medians, ranges, and trophic state index values calculations and dissolved oxygen/temperature profile graphs are compiled using Excel spreadsheet data management format. Formulas are checked for accuracy and computations are spot checked to assure the formulas have been correctly applied and to minimize calculation or data handling errors. Once all data have been entered and reviewed for inclusion in the annual report, MiCorps staff randomly check the data entry for approximately 5-10% of the tabulated data for each parameter by comparing original field forms and lab analytical reports to the tabulated data.

O. Reports

2013 and earlier: An annual report is prepared each year for the CLMP that gives program summary information. The report is included on the MiCorps web-site. The report includes a general description of lake classification, eutrophication, measures of eutrophication and each water quality parameter monitored in the CLMP. Complete sampling results for Secchi disk, spring and summer total phosphorus and chlorophyll *a* are presented in tables. Representative sample results for dissolved oxygen/temperature and aquatic plant identification and mapping are included in the report. Summary results for each parameter are included in the report. In addition to the annual report, each lake that has been enrolled in the CLMP Secchi disk transparency, summer total phosphorus, and chlorophyll components for eight years or greater receives an apparent trend-line graph for that parameter. Reporting errors in the prior annual report are identified in the current report.

2014 and later: A data report is generated for each individual lake, giving trend graphs, results, and trophic status. A more general summary report is also

produced, which gives program averages and a list of volunteers. All individual lake reports and the smaller annual report are available on the Micorps website.

P. Data Review, Validation and Verification Requirements

All CLMP field and laboratory data are reviewed by the MiCorps project specialists and the MDEQ program manager to determine if the data meet QAPP objectives. Decisions to reject or qualify data are made by the program manager and program specialists collaboratively after review and evaluation of the data.

Q. Data Validation and Verification Methods

The data are reviewed for outliers, unusual values, discrepancies between samples and replicates and discrepancies between volunteer collected data and MDEQ collected side-by-side data.

As noted previously, field collected data sheets are verified for acceptability during at least two points in the data review process. First, when the field sheets are entered into the data entry interface, the database is programmed to reject sheets with critical missing data or values exceeding criteria. Illegible or other problematic data sheets may be identified at this point. The data are further verified by the database manager after the sheets are entered into the system, but before they are made publicly available. Minor problems are noted in a comment field. All field forms remaining in the system are validated once the data entry error check is completed, and the error rate is below 5%. If any problems are identified the appropriate section of the table or the entire table is assessed and redone if necessary.

When problems are identified these data are compared with previously collected data to determine if they are within the target range of variability. If outside the target range of variability field sheets are reviewed to identify possible explanations. The volunteer sampler may be contacted to go over collection procedures, equipment performance, supplies used and unusual environmental conditions on the day of sampling. If necessary, the sample may be rerun if still within holding times or the site may be re-sampled.

Replicate Sampling: Each year a comparison is made of the volunteer collected samples and the replicates collected. Data from previous years to the current sampling event are plotted, graphed and assessed for agreement. Historically there has been a very high degree of agreement between the volunteer collected samples and replicates. Figure 3 illustrates the cumulative results for the replicate spring overturn total phosphorus samples since the quality assurance program was implemented in 1993. Figure 4 illustrates the cumulative results for the replicate late summer total phosphorus samples since this parameter was added to the CLMP in 1998. Figure 5 illustrates the cumulative results for the replicate summer chlorophyll *a* samples since this parameter was added to the CLMP in 1998.

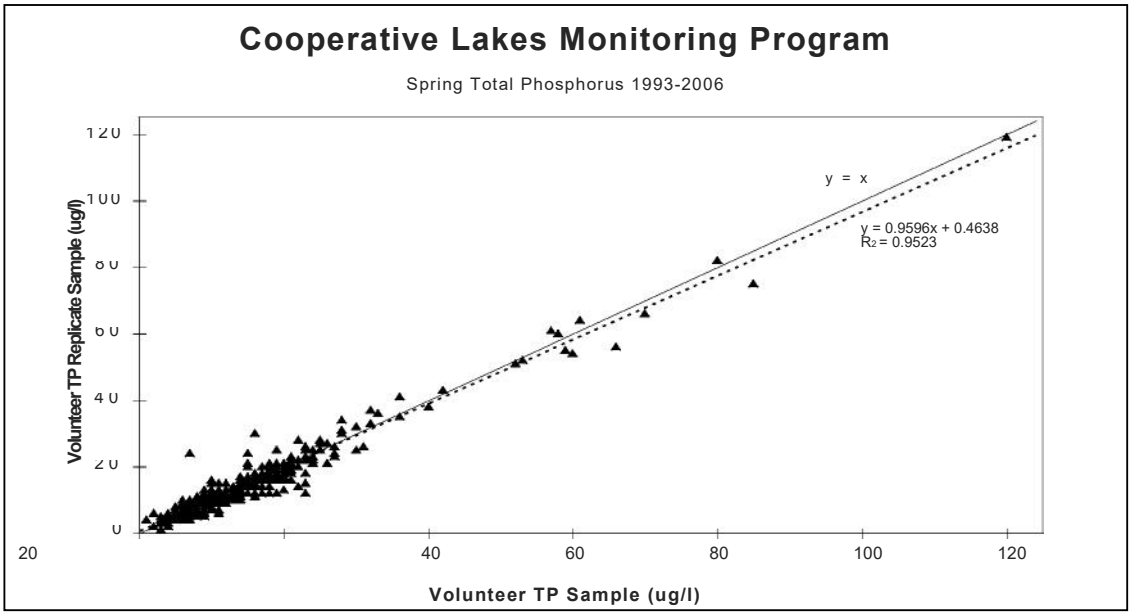


Figure 3. CLMP Spring Total Phosphorus Replicate Quality Assurance Samples.

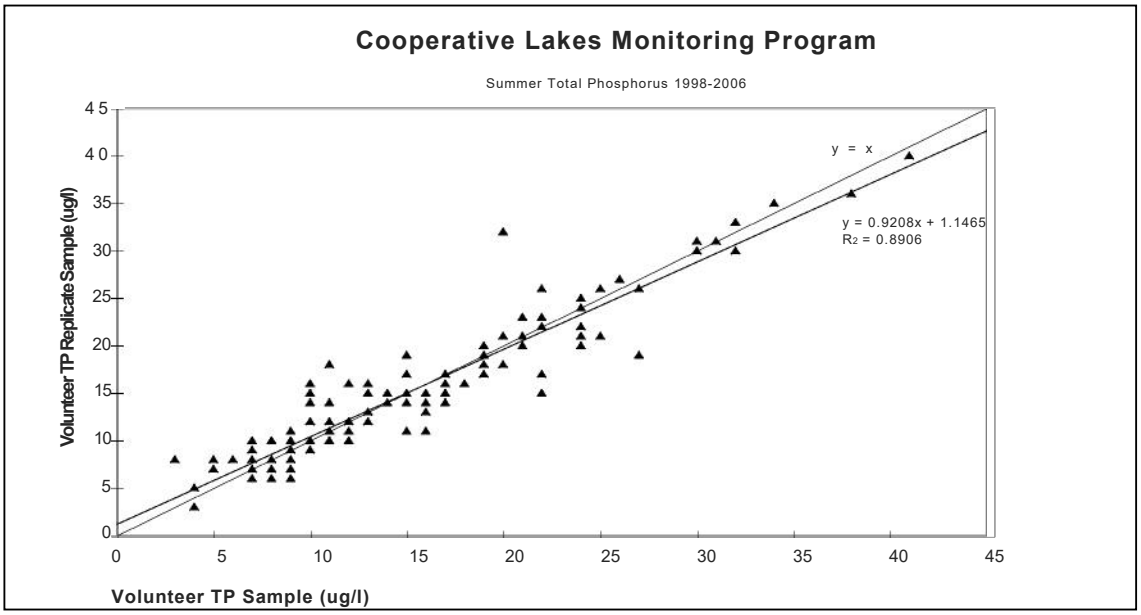


Figure 4. CLMP Late Summer Total Phosphorus Replicate Quality Assurance Samples.

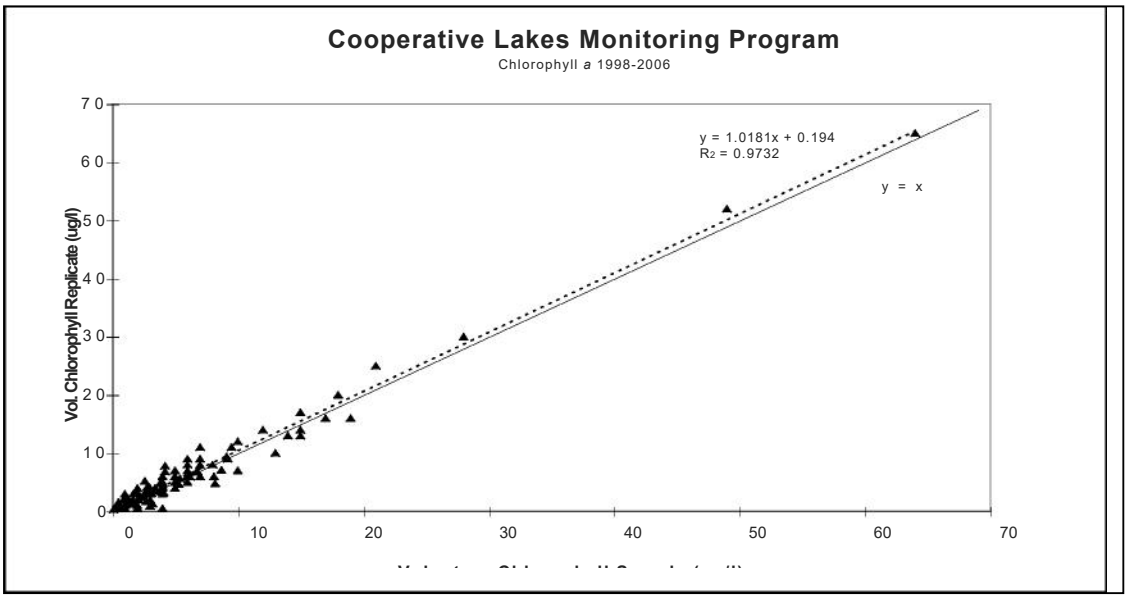


Figure 5. CLMP Summer Chlorophyll *a* Replicate Quality Assurance Samples.

The high correlation of agreement indicates that volunteer chlorophyll and phosphorus sampling are consistent.

Side-by-Side Sampling

In addition to the volunteer replicate agreement assessment, results of volunteer and professional sampling conducted side-by-side are compared annually. Data are plotted, graphed and assessed for agreement. Historically, there has been a high degree of agreement between results of the volunteer and professional side-by-side sampling efforts.

Phosphorus: DEQ samples yield slightly more phosphorus than volunteer samples, but there is no significant change in difference as phosphorus increases.

For Spring phosphorus (Figure 6), both the intercept and slope are close to an ideal distribution (intercept of 0, slope of 1.0). The intercept (1.3184 ug/L) is significantly different from 0, indicating that DEQ sampling methods result in slightly more phosphorus per sample. The slope (1.0293) is above 1.0, but not significantly different from the ideal 1.0, indicating little change in the DEQ-Volunteer relationship as phosphorus increases.

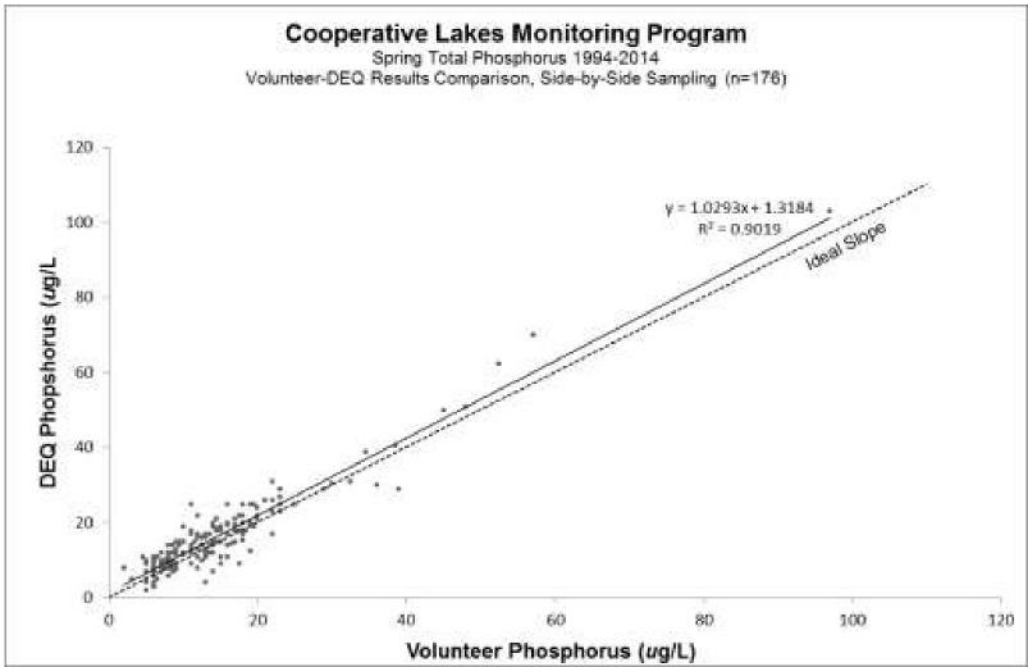


Figure 6. CLMP Spring Total Phosphorus Side-by-Side Quality Assurance Samples.

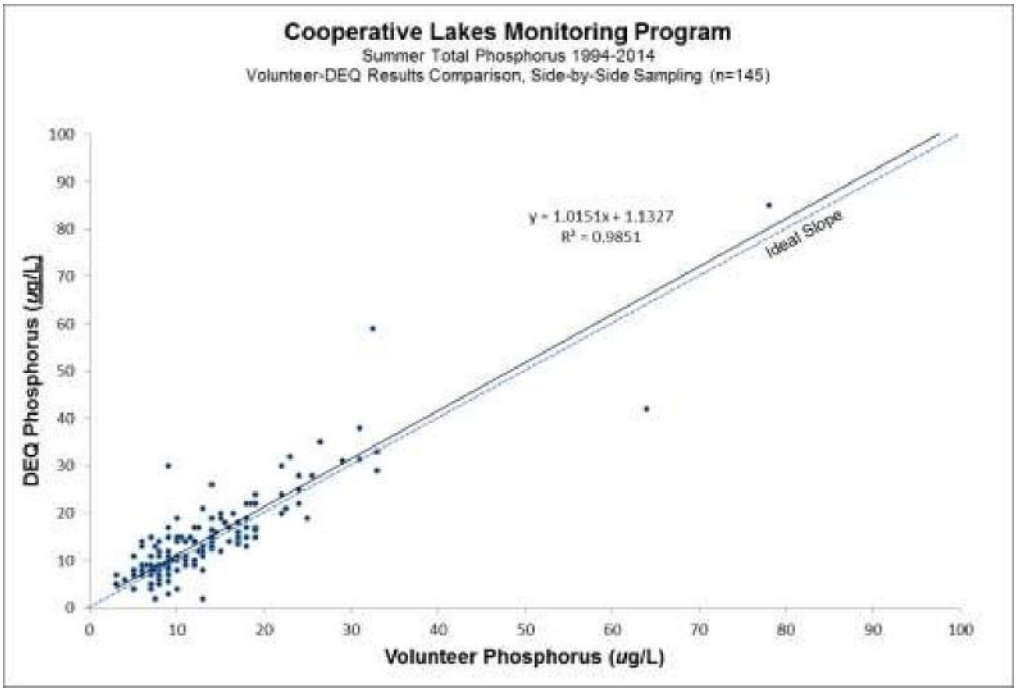


Figure 7. CLMP Late Summer Total Phosphorus Side-by-Side Quality Assurance Samples. Please note that a single very high summer phosphorus value (460-470 ug/l) was not depicted on the chart for illustration purposes but was included in the analysis.

For Summer phosphorus (Figure 7), like Spring phosphorus, both the intercept and slope are close to, but slightly exceed, an ideal distribution (intercept of 0, slope of 1.0). The slope (1.0151) is slightly greater than the ideal 1.0, although the difference is not statistically significant. The intercept (1.1327 ug/L) is significantly different from 0,

The Spring and Summer phosphorus DEQ-Volunteer relationships are consistent. Slight but statistically significant higher DEQ intercepts, and slight but not significant slopes.

In lay terms, this means DEQ phosphorus values are consistently ~ 1 *u*g higher than volunteer values, and the relationship changes little as phosphorus increases.

The fractional but consistent exceedance of volunteer values by DEQ values likely results from the different preservation methods used by volunteers and DEQ. DEQ staff immediately preserve samples with sulfuric acid. However, sulfuric acid is not available to volunteers because of safety concerns.

Instead, volunteers preserve phosphorus samples by freezing, accomplished in home freezers upon return to shore after sampling. There may be a fractional loss of phosphorus from volunteer samples to sample container walls during the interval between sample collection and freezing.

Because of the lack of acidification, a small fraction of volunteer phosphorus may be lost to the sides of sample containers at each sample collection. This loss would not increase much with increasing phosphorus concentration if the available phosphorus binding sites were complexed by the initial fraction of phosphorus.

The side-by-side phosphorus comparisons indicate an acceptable degree of agreement between CLMP volunteer data and DEQ data.

Chlorophyll: Volunteer and DEQ results agree

For Chlorophyll (Figure 8), both the intercept and slope are close to an ideal distribution (intercept of 0, slope of 1.0). The intercept (0.4762 ug/L) is slightly above 0, but not significantly different from 0. The slope (1.0261) is slightly above 1.0, but not significantly different from the ideal 1.0.

The side-by-side chlorophyll comparisons indicate an acceptable degree of agreement between CLMP volunteer data and DEQ data.

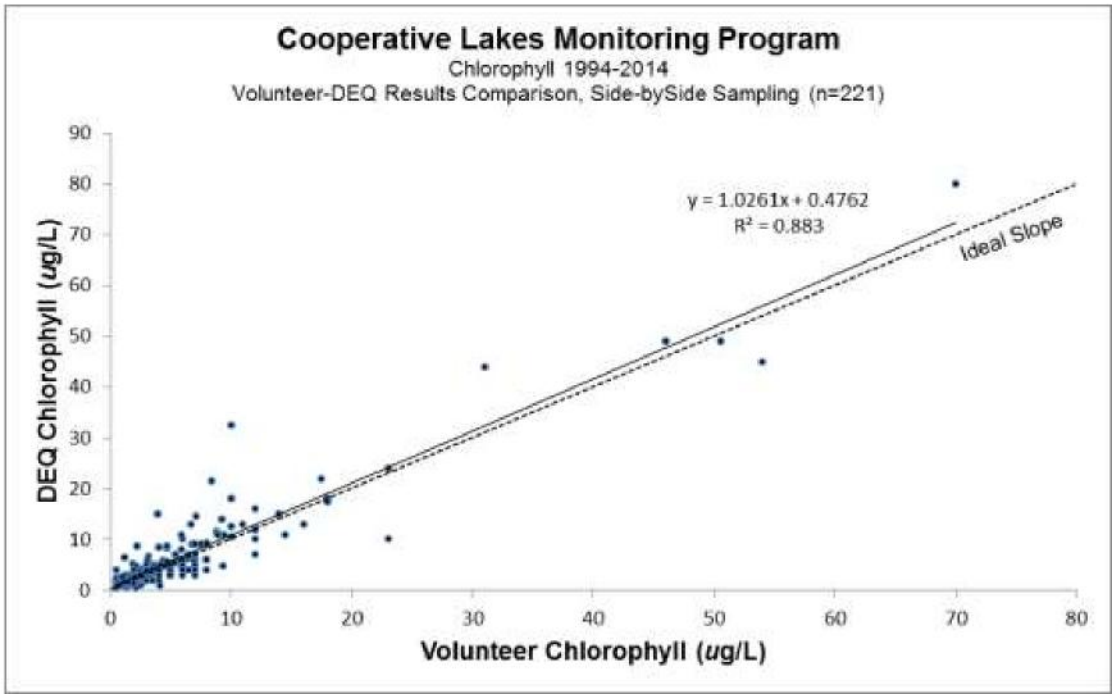


Figure 8. CLMP Chlorophyll *a* Side-by-Side Quality Assurance Samples.

R. Reconciliation with Data Quality Objectives

As soon as the data are reported from the laboratory for each CLMP parameter each year, the results are reviewed and evaluated both individually and collectively. The relative percent difference (RPD) is determined for the replicate and side-by-side data for the total phosphorus and chlorophyll parameters. An annual average RPD is calculated for each set of data and compared to the cumulative average RPD for each parameter. These data quality indicators are used to determine the precision and accuracy of the date as compared with the program specifications. If the data quality indicators do not meet the program specifications the data set will be evaluated and may be coded or discarded from the database. Individual data may also be coded if a problem was found in the sample collection, handling and shipping, processing, and laboratory analysis steps. The cause of failure will be evaluated and corrected. Any limitations on data use will be noted in the annual report and other documentation as needed. If failure to meet project specifications is found to be unrelated to equipment, methods, or sample error, specifications may be revised for the next sampling season and the QAPP will be updated.

S. References

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SCHEDULE B - BUDGET TOTALS	MiCorps Promotional Materials	MiCorps Web Site (and other subtasks)	MiCorps Volunteer Monitoring Recognition	MiCorps Annual Volunteer Monitoring Workshop	Provide and Administer the CLMP	Administer VSMP Full and Start-up/ Maintenance Grants	Develop and Expand Eligible Monitoring Parameters	MiCorps Training Enhancements	Administer VRSCCP	Outreach and Education	End of Contract Responsib.	TOTAL 5 Year Project Costs
	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8	Task 9	Task 10	Task 11	
PERSONNEL COSTS												
Jo Latimore	$22,450.11	$23,972.21	$5,098.86	$20,928.02	$89,800.45	$9,331.37	$11,225.06	$33,675.17	$4,490.02	$2,245.01	$1,284.85	$224,501.12
Erick Elgin	$7,665.08	$1,533.02	$0.00	$22,995.24	$91,980.97	$0.00	$6,132.06	$22,995.24	$0.00	$0.00	$0.00	$153,301.61
Student assistant (to be hired)	$0.00	$0.00	$0.00	$0.00	$28,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$28,000.00
Salary Total	$30,115.19	$25,505.22	$5,098.86	$43,923.26	$209,781.42	$9,331.37	$17,357.12	$56,670.41	$4,490.02	$2,245.01	$1,284.85	$405,802.74
BENEFITS (40% of salary for faculty/staff; 7.65% of salary for student assistants)												
Jo Latimore	$8,980.04	$9,588.88	$2,039.54	$8,371.21	$35,920.18	$3,732.55	$4,490.02	$13,470.07	$1,796.01	$898.00	$513.94	$89,800.45
Erick Elgin	$3,066.03	$613.21	$0.00	$9,198.10	$36,792.39	$0.00	$2,452.83	$9,198.10	$0.00	$0.00	$0.00	$61,320.64
Student assistant (to be hired)	$0.00	$0.00	$0.00	$0.00	$2,142.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$2,142.00
Benefits total	$12,046.08	$10,202.09	$2,039.54	$17,569.30	$74,854.57	$3,732.55	$6,942.85	$22,668.16	$1,796.01	$898.00	$513.94	$153,263.09
CONTRACTUAL SERVICES												
HRWC	$13,499.28	$3,374.82	$0.00	$31,998.56	$89,370.50	$117,994.24	$0.00	$0.00	$62,771.65	$0.00	$0.00	$319,009.06
MLSA	$0.00	$0.00	$0.00	$0.00	$216,228.40	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$216,228.40
VSMP Grants	$0.00	$0.00	$0.00	$0.00	$0.00	$280,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$280,000.00
VRSCCP Grants	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$100,000.00	$0.00	$0.00	$100,000.00
RS&GIS	$0.00	$164,880.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$164,880.00
Workshop venue/meals	$0.00	$0.00	$0.00	$10,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$10,000.00
Contractual Total	$13,499.28	$168,254.82	$0.00	$41,998.56	$305,598.90	$397,994.24	$0.00	$0.00	$162,771.65	$0.00	$0.00	$1,090,117.46
SUPPLIES AND MATERIALS												
Telephone	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Printing/Copying	$1,750.00	$0.00	$0.00	$1,736.88	$1,750.00	$1,750.00	$0.00	$0.00	$0.00	$0.00	$0.00	$6,986.88
Postage	$500.00	$0.00	$0.00	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,000.00
Equipment Maintenance (incl. web hosting)												
DO Meter Maintenance	$0.00	$0.00	$0.00	$0.00	$6,198.10	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$6,198.10
Web Hosting	$0.00	$19,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$19,000.00
Supplies												
Training supplies, vol. rec., promo, etc.	$8,612.75	$0.00	$2,450.00	$0.00	$3,250.00	$0.00	$0.00	$0.00	$0.00	$3,050.00	$0.00	$17,362.75
Plant ID Guides (EAPW, APIM)	$0.00	$0.00	$0.00	$0.00	$3,854.13	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$3,854.13
DO Meters	$0.00	$0.00	$0.00	$0.00	$22,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$22,000.00
Supplies Total	$10,862.75	$19,000.00	$2,450.00	$2,236.88	$37,052.23	$1,750.00	$0.00	$0.00	$0.00	$3,050.00	$0.00	$76,401.86
TRAVEL												
Jo Latimore	$4,000.15	$0.00	$0.00	$2,500.00	$6,500.00	$0.00	$0.00	$0.00	$0.00	$6,000.00	$0.00	$19,000.15
Erick Elgin	$4,000.14	$0.00	$0.00	$2,500.00	$6,500.00	$0.00	$0.00	$0.00	$0.00	$6,000.00	$0.00	$19,000.14
EGLE Program Leader (Wilmes)	$0.00	$0.00	$0.00	$1,500.00	$2,250.00	$0.00	$0.00	$0.00	$0.00	$8,000.00	$0.00	$11,750.00
Workshop Speaker Travel	$0.00	$0.00	$0.00	$2,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$2,000.00
Travel Total	$8,000.29	$0.00	$0.00	$8,500.00	$15,250.00	$0.00	$0.00	$0.00	$0.00	$20,000.00	$0.00	$51,750.29
Other												
Conference Costs (ANR EVENTS, admin fees, sales tax)	$0.00	$0.00	$0.00	$17,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$17,000.00
ACA Health Fees for Summer Student	$0.00	$0.00	$0.00	$0.00	$3,857.13	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$3,857.13
Other Total	$0.00	$0.00	$0.00	$17,000.00	$3,857.13	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$20,857.13
Subtotal	$74,523.59	$222,962.13	$9,588.40	$131,228.01	$646,394.24	$412,808.16	$24,299.97	$79,338.57	$169,057.68	$26,193.02	$1,798.79	$1,798,192.56
Indirect Costs (20% of salary and Fringe)	$8,432.25	$7,141.46	$1,427.68	$12,298.51	$56,927.20	$2,612.78	$4,859.99	$15,867.71	$1,257.21	$628.60	$359.76	$111,813.17
Total	$82,955.84	$230,103.59	$11,016.08	$143,526.52	$703,321.44	$415,420.95	$29,159.96	$95,206.29	$170,314.89	$26,821.62	$2,158.54	$1,910,005.73
Program Income	$0.00	$0.00	$0.00	$0.00	($200,000.00)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TOTAL 5 YEAR GRAND TOTAL:	$82,955.84	$230,103.59	$11,016.08	$143,526.52	$503,321.44	$415,420.95	$29,159.96	$95,206.29	$170,314.89	$26,821.62	$2,158.54	**$1,710,005.73**

YEAR 1	MiCorps Promotional Materials	MiCorps Web Site (and other subtasks)	MiCorps Volunteer Monitoring Recognition	MiCorps Annual Volunteer Monitoring Workshop	Provide and Administer the CLMP	Administer VSMP Full and Start-up/ Maintenance Grants	Develop and Expand Eligible Monitoring Parameters	MiCorps Training Enhancements	Administer VRSCCP	Outreach and Education	End of Contract Responsib.
	Task 1	**Task 2**	**Task 3**	**Task 4**	**Task 5**	**Task 6**	**Task 7**	**Task 8**	**Task 9**	**Task 10**	**Task 11**
PERSONNEL COSTS											
Jo Latimore	$3,044.19	$4,566.28	$1,217.67	$1,522.09	$12,176.75	$913.26	$1,522.09	$4,566.28	$608.84	$304.42	$0.00
Erick Elgin	$1,103.10	$220.62	$0.00	$3,309.29	$13,237.14	$0.00	$882.48	$3,309.29	$0.00	$0.00	$0.00
Student assistant (to be hired)	$0.00	$0.00	$0.00	$0.00	$9,240.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
BENEFITS (40% of salary for faculty/staff; 7.65% of salary for student assistants)											
Jo Latimore	$1,217.67	$1,826.51	$487.07	$608.84	$4,870.70	$365.30	$608.84	$1,826.51	$243.53	$121.77	$0.00
Erick Elgin	$441.24	$88.25	$0.00	$1,323.71	$5,294.86	$0.00	$352.99	$1,323.71	$0.00	$0.00	$0.00
Student assistant (to be hired)	$0.00	$0.00	$0.00	$0.00	$706.86	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
CONTRACTUAL SERVICES											
HRWC	$2,594.00	$648.50	$0.00	$6,188.00	$17,212.50	$22,752.00	$0.00	$0.00	$12,062.10	$0.00	$0.00
MLSA	$0.00	$0.00	$0.00	$0.00	$41,500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
VSMP Grants	$0.00	$0.00	$0.00	$0.00	$0.00	$75,000.00	$0.00	$0.00	$0.00	$0.00	$0.00
VRSCCP	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$25,000.00	$0.00	$0.00
RS&GIS	$0.00	$69,930.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Workshop venue/meals	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
SUPPLIES AND MATERIALS											
Telephone	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Printing/Copying	$250.00	$0.00	$0.00	$236.88	$250.00	$250.00	$0.00	$0.00	$0.00	$0.00	$0.00
Postage	$100.00	$0.00	$0.00	$100.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Equipment Maintenance (incl. web hosting)											
DO Meter Maintenance	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Web Hosting	$0.00	$3,800.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Supplies											
Training supplies, vol. rec., promo, etc.	$897.75	$0.00	$350.00	$0.00	$300.00	$0.00	$0.00	$0.00	$0.00	$300.00	$0.00
Plant ID Guides (EAPW, APIM)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
DO Meters	$0.00	$0.00	$0.00	$0.00	$1,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TRAVEL											
Jo Latimore	$250.00	$0.00	$0.00	$500.00	$800.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Erick Elgin	$250.00	$0.00	$0.00	$500.00	$800.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
EGLE Program Leader (Wilmes)	$0.00	$0.00	$0.00	$300.00	$450.00	$0.00	$0.00	$0.00	$0.00	$2,000.00	$0.00
Workshop Speaker Travel	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other											
Conference Costs (ANR EVENTS, admin fees, sales tax)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
ACA Health Fees for Summer Student	$0.00	$0.00	$0.00	$0.00	$1,285.71	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Indirect Costs (20% of salary & fringe)	$1,161.24	$1,340.33	$340.95	$1,352.79	$9,105.26	$255.71	$673.28	$2,205.16	$170.47	$85.24	$0.00
Program Income	$0.00	$0.00	$0.00	$0.00	($40,000.00)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total	$11,309.18	$82,420.49	$2,395.69	$15,941.60	$78,229.77	$99,536.27	$4,039.68	$13,230.95	$38,084.95	$2,811.42	$0.00
Year 1 Total	**$348,000.00**										

YEAR 2	MiCorps Promotional Materials	MiCorps Web Site (and other subtasks)	MiCorps Volunteer Monitoring Recognition	MiCorps Annual Volunteer Monitoring Workshop	Provide and Administer the CLMP	Administer VSMP Full and Start-up/ Maintenance Grants	Develop and Expand Eligible Monitoring Parameters	MiCorps Training Enhancements	Administer VRSCCP	Outreach and Education	End of Contract Responsib.
	Task 1	**Task 2**	**Task 3**	**Task 4**	**Task 5**	**Task 6**	**Task 7**	**Task 8**	**Task 9**	**Task 10**	**Task 11**
PERSONNEL COSTS											
Jo Latimore	$3,135.51	$3,135.51	$627.10	$3,135.51	$12,542.05	$1,567.76	$1,567.76	$4,703.27	$627.10	$313.55	$0.00
Erick Elgin	$1,136.19	$227.24	$0.00	$3,408.56	$13,634.26	$0.00	$908.95	$3,408.56	$0.00	$0.00	$0.00
Student assistant (to be hired)	$0.00	$0.00	$0.00	$0.00	$9,240.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
BENEFITS (40% of salary for faculty/staff; 7.65% of salary for student assistants)											
Jo Latimore	$1,254.20	$1,254.20	$250.84	$1,254.20	$5,016.82	$627.10	$627.10	$1,881.31	$250.84	$125.42	$0.00
Erick Elgin	$454.48	$90.90	$0.00	$1,363.43	$5,453.70	$0.00	$363.58	$1,363.43	$0.00	$0.00	$0.00
Student assistant (to be hired)	$0.00	$0.00	$0.00	$0.00	$706.86	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
CONTRACTUAL SERVICES											
HRWC	$2,645.88	$661.47	$0.00	$6,291.76	$17,536.75	$23,167.04	$0.00	$0.00	$12,303.34	$0.00	$0.00
MLSA	$0.00	$0.00	$0.00	$0.00	$41,550.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
VSMP Grants	$0.00	$0.00	$0.00	$0.00	$0.00	$75,000.00	$0.00	$0.00	$0.00	$0.00	$0.00
VRSCCP	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$25,000.00	$0.00	$0.00
RS&GIS	$0.00	$61,830.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Workshop venue/meals	$0.00	$0.00	$0.00	$2,500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
SUPPLIES AND MATERIALS											
Telephone	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Printing/Copying	$250.00	$0.00	$0.00	$250.00	$250.00	$250.00	$0.00	$0.00	$0.00	$0.00	$0.00
Postage	$100.00	$0.00	$0.00	$100.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Equipment Maintenance (incl. web hosting)											
DO Meter Maintenance	$0.00	$0.00	$0.00	$0.00	$1,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Web Hosting	$0.00	$3,800.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Supplies											
Training supplies, vol. rec., promo, etc.	$239.00	$0.00	$250.00	$0.00	$200.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Plant ID Guides (EAPW, APIM)	$0.00	$0.00	$0.00	$0.00	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
DO Meters	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TRAVEL											
Jo Latimore	$250.15	$0.00	$0.00	$500.00	$1,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Erick Elgin	$250.14	$0.00	$0.00	$500.00	$1,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
EGLE Program Leader (Wilmes)	$0.00	$0.00	$0.00	$300.00	$450.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Workshop Speaker Travel	$0.00	$0.00	$0.00	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other											
Conference Costs (ANR EVENTS, admin fees, sales tax)	$0.00	$0.00	$0.00	$3,500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
ACA Health Fees for Summer Student	$0.00	$0.00	$0.00	$0.00	$1,285.71	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Indirect Costs (20% of salary/fringe)	$1,196.08	$941.57	$175.59	$1,832.34	$9,318.74	$438.97	$693.48	$2,271.31	$175.59	$87.79	$0.00
Program Income	$0.00	$0.00	$0.00	$0.00	($40,000.00)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total	$10,911.63	$71,940.89	$1,303.53	$25,435.81	$80,684.89	$101,050.87	$4,160.87	$13,627.88	$38,356.87	$526.77	$0.00
Year 2 Total	**$348,000.00**										

YEAR 3	MiCorps Promotional Materials	MiCorps Web Site (and other subtasks)	MiCorps Volunteer Monitoring Recognition	MiCorps Annual Volunteer Monitoring Workshop	Provide and Administer the CLMP	Administer VSMP Full and Start-up/ Maintenance Grants	Develop and Expand Eligible Monitoring Parameters	MiCorps Training Enhancements	Administer VRSCCP	Outreach and Education	End of Contract Responsib.
	Task 1	**Task 2**	**Task 3**	**Task 4**	**Task 5**	**Task 6**	**Task 7**	**Task 8**	**Task 9**	**Task 10**	**Task 11**
PERSONNEL COSTS											
Jo Latimore	$4,440.67	$4,440.67	$888.13	$4,440.67	$17,762.68	$2,220.33	$2,220.33	$6,661.00	$888.13	$444.07	$0.00
Erick Elgin	$1,755.41	$351.08	$0.00	$5,266.23	$21,064.92	$0.00	$1,404.33	$5,266.23	$0.00	$0.00	$0.00
Student assistant (to be hired)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
BENEFITS (40% of salary for faculty/staff; 7.65% of salary for student assistants)											
Jo Latimore	$1,776.27	$1,776.27	$355.25	$1,776.27	$7,105.07	$888.13	$888.13	$2,664.40	$355.25	$177.63	$0.00
Erick Elgin	$702.16	$140.43	$0.00	$2,106.49	$8,425.97	$0.00	$561.73	$2,106.49	$0.00	$0.00	$0.00
Student assistant (to be hired)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
CONTRACTUAL SERVICES											
HRWC	$2,698.80	$674.70	$0.00	$6,397.60	$17,867.49	$23,590.38	$0.00	$0.00	$12,549.41	$0.00	$0.00
MLSA	$0.00	$0.00	$0.00	$0.00	$43,622.50	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
VSMP Grants	$0.00	$0.00	$0.00	$0.00	$0.00	$75,000.00	$0.00	$0.00	$0.00	$0.00	$0.00
VRSCCP	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$25,000.00	$0.00	$0.00
RS&GIS	$0.00	$12,240.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Workshop venue/meals	$0.00	$0.00	$0.00	$2,500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
SUPPLIES AND MATERIALS											
Telephone	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Printing/Copying	$250.00	$0.00	$0.00	$250.00	$250.00	$250.00	$0.00	$0.00	$0.00	$0.00	$0.00
Postage	$100.00	$0.00	$0.00	$100.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Equipment Maintenance (incl. web hosting)											
DO Meter Maintenance	$0.00	$0.00	$0.00	$0.00	$1,698.10	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Web Hosting	$0.00	$3,800.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Supplies											
Training supplies, vol. rec., promo, etc.	$1,976.00	$0.00	$350.00	$0.00	$750.00	$0.00	$0.00	$0.00	$0.00	$750.00	$0.00
Plant ID Guides (EAPW, APIM)	$0.00	$0.00	$0.00	$0.00	$1,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
DO Meters	$0.00	$0.00	$0.00	$0.00	$3,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TRAVEL											
Jo Latimore	$1,000.00	$0.00	$0.00	$500.00	$1,500.00	$0.00	$0.00	$0.00	$0.00	$2,000.00	$0.00
Erick Elgin	$1,000.00	$0.00	$0.00	$500.00	$1,500.00	$0.00	$0.00	$0.00	$0.00	$2,000.00	$0.00
EGLE Program Leader (Wilmes)	$0.00	$0.00	$0.00	$300.00	$450.00	$0.00	$0.00	$0.00	$0.00	$2,000.00	$0.00
Workshop Speaker Travel	$0.00	$0.00	$0.00	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other											
Conference Costs (ANR EVENTS, admin fees, sales tax)	$0.00	$0.00	$0.00	$4,500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
ACA Health Fees for Summer Student	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Indirect Costs (20% of salary/fringe)	$1,734.90	$1,341.69	$248.68	$2,717.93	$10,871.73	$621.69	$1,014.91	$3,339.63	$248.68	$124.34	$0.00
Program Income	$0.00	$0.00	$0.00	$0.00	($40,000.00)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total	$17,434.21	$24,764.84	$1,842.07	$31,855.19	$96,868.45	$102,570.54	$6,089.43	$20,037.75	$39,041.47	$7,496.03	$0.00
Year 3 Total	**$348,000.00**										

YEAR 4	MiCorps Promotional Materials	MiCorps Web Site (and other subtasks)	MiCorps Volunteer Monitoring Recognition	MiCorps Annual Volunteer Monitoring Workshop	Provide and Administer the CLMP	Administer VSMP Full and Start-up/ Maintenance Grants	Develop and Expand Eligible Monitoring Parameters	MiCorps Training Enhancements	Administer VRSCCP	Outreach and Education	End of Contract Responsib.	TOTAL
	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8	Task 9	Task 10	Task 11	
PERSONNEL COSTS												
Jo Latimore	$5,405.51	$5,405.51	$1,081.10	$5,405.51	$21,622.03	$2,702.75	$2,702.75	$8,108.26	$1,081.10	$540.55	$0.00	
Erick Elgin	$1,808.07	$361.61	$0.00	$5,424.22	$21,696.87	$0.00	$1,446.46	$5,424.22	$0.00	$0.00	$0.00	
Student assistant (to be hired)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
BENEFITS (40% of salary for faculty/staff; 7.65% of salary for student assistants)												
Jo Latimore	$2,162.20	$2,162.20	$432.44	$2,162.20	$8,648.81	$1,081.10	$1,081.10	$3,243.30	$432.44	$216.22	$0.00	
Erick Elgin	$723.23	$144.65	$0.00	$2,169.69	$8,678.75	$0.00	$578.58	$2,169.69	$0.00	$0.00	$0.00	
Student assistant (to be hired)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
CONTRACTUAL SERVICES												
HRWC	$2,752.77	$688.19	$0.00	$6,505.55	$18,204.83	$24,022.19	$0.00	$0.00	$12,800.40	$0.00	$0.00	
MLSA	$0.00	$0.00	$0.00	$0.00	$43,718.18	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
VSMP Grants	$0.00	$0.00	$0.00	$0.00	$0.00	$55,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	
VRSCCP Grants	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$25,000.00	$0.00	$0.00	
RS&GIS	$0.00	$8,640.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Workshop venue/meals	$0.00	$0.00	$0.00	$2,500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
SUPPLIES AND MATERIALS												
Telephone	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Printing/Copying	$500.00	$0.00	$0.00	$500.00	$500.00	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Postage	$100.00	$0.00	$0.00	$100.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Equipment Maintenance (incl. web hosting)												
DO Meter Maintenance	$0.00	$0.00	$0.00	$0.00	$1,500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Web Hosting	$0.00	$3,800.00										
Supplies												
Training supplies, vol. rec., promo, etc.	$3,000.00	$0.00	$1,000.00	$0.00	$1,000.00	$0.00	$0.00	$0.00	$0.00	$1,000.00	$0.00	
Plant ID Guides (EAPW, APIM)	$0.00	$0.00	$0.00	$0.00	$1,354.13	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
DO Meters	$0.00	$0.00	$0.00	$0.00	$4,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
TRAVEL												
Jo Latimore	$1,000.00	$0.00	$0.00	$500.00	$1,500.00	$0.00	$0.00	$0.00	$0.00	$2,000.00	$0.00	
Erick Elgin	$1,000.00	$0.00	$0.00	$500.00	$1,500.00	$0.00	$0.00	$0.00	$0.00	$2,000.00	$0.00	
EGLE Program Leader (Wilmes)	$0.00	$0.00	$0.00	$300.00	$450.00	$0.00	$0.00	$0.00	$0.00	$2,000.00	$0.00	
Workshop Speaker Travel	$0.00	$0.00	$0.00	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Other												
Conference Costs (ANR EVENTS, admin fees, sales tax)	$0.00	$0.00	$0.00	$4,500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
ACA Health Fees for Summer Student	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Indirect Costs (20% of salary/fringe)	$2,019.80	$1,614.79	$302.71	$3,032.32	$12,129.29	$756.77	$1,161.78	$3,789.09	$302.71	$151.35	$0.00	
Program Income	$0.00	$0.00	$0.00	$0.00	($40,000.00)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Total	$20,471.59	$22,816.96	$2,816.25	$34,099.48	$106,502.89	$84,062.81	$6,970.68	$22,734.56	$39,616.65	$7,908.13	$0.00	
Year 4 Total	**$348,000.00**											

YEAR 5	MiCorps Promotional Materials	MiCorps Web Site (and other subtasks)	MiCorps Volunteer Monitoring Recognition	MiCorps Annual Volunteer Monitoring Workshop	Provide and Administer the CLMP	Administer VSMP Full and Start-up/ Maintenance Grants	Develop and Expand Eligible Monitoring Parameters	MiCorps Training Enhancements	Administer VRSCCP	Outreach and Education	End of Contract Responsib.
	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8	Task 9	Task 10	Task 11
PERSONNEL COSTS											
Jo Latimore	$6,424.24	$6,424.24	$1,284.85	$6,424.24	$25,696.95	$1,927.27	$3,212.12	$9,636.36	$1,284.85	$642.42	$1,284.85
Erick Elgin	$1,862.31	$372.46	$0.00	$5,586.94	$22,347.78	$0.00	$1,489.85	$5,586.94	$0.00	$0.00	$0.00
Student assistant (to be hired)	$0.00	$0.00	$0.00	$0.00	$9,520.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
BENEFITS (40% of salary for faculty/staff; 7.65% of salary for student assistants)											
Jo Latimore	$2,569.69	$2,569.69	$513.94	$2,569.69	$10,278.78	$770.91	$1,284.85	$3,854.54	$513.94	$256.97	$513.94
Erick Elgin	$744.93	$148.99	$0.00	$2,234.78	$8,939.11	$0.00	$595.94	$2,234.78	$0.00	$0.00	$0.00
Student assistant (to be hired)	$0.00	$0.00	$0.00	$0.00	$728.28	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
CONTRACTUAL SERVICES											
HRWC	$2,807.83	$701.96	$0.00	$6,615.66	$18,548.93	$24,462.63	$0.00	$0.00	$13,056.40	$0.00	$0.00
MLSA	$0.00	$0.00	$0.00	$0.00	$45,837.72	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
VSMP Grants	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
VRSCCP Grants	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
RS&GIS	$0.00	$12,240.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Workshop venue/meals	$0.00	$0.00	$0.00	$2,500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
SUPPLIES AND MATERIALS											
Telephone	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Printing/Copying	$500.00	$0.00	$0.00	$500.00	$500.00	$500.00					
Postage	$100.00	$0.00	$0.00	$100.00							
Equipment Maintenance (incl. web hosting)											
DO Meter Maintenance	$0.00	$0.00	$0.00	$0.00	$2,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Web Hosting	$0.00	$3,800.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Supplies	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Training supplies, vol. rec., promo, etc.	$2,500.00	$0.00	$500.00	$0.00	$1,000.00	$0.00	$0.00	$0.00	$0.00	$1,000.00	$0.00
Plant ID Guides (EAPW, APIM)	$0.00	$0.00	$0.00	$0.00	$1,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
DO Meters	$0.00	$0.00	$0.00	$0.00	$14,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TRAVEL											
Jo Latimore	$1,500.00	$0.00	$0.00	$500.00	$1,700.00	$0.00	$0.00	$0.00	$0.00	$2,000.00	$0.00
Erick Elgin	$1,500.00	$0.00	$0.00	$500.00	$1,700.00	$0.00	$0.00	$0.00	$0.00	$2,000.00	$0.00
EGLE Program Leader (Wilmes)	$0.00	$0.00	$0.00	$300.00	$450.00	$0.00	$0.00	$0.00	$0.00	$2,000.00	$0.00
Workshop Speaker Travel	$0.00	$0.00	$0.00	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other											
Conference Costs (ANR EVENTS, admin fees, sales tax)	$0.00	$0.00	$0.00	$4,500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
ACA Health Fees for Summer Student	$0.00	$0.00	$0.00	$0.00	$1,285.71	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Indirect Costs (20% of salary & fringe)	$2,320.23	$1,903.08	$359.76	$3,363.13	$15,502.18	$539.64	$1,316.55	$4,262.52	$359.76	$179.88	$359.76
Program Income	$0.00	$0.00	$0.00	$0.00	($40,000.00)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total	$22,829.24	$28,160.41	$2,658.54	$36,194.44	$141,035.43	$28,200.45	$7,899.31	$25,575.14	$15,214.95	$8,079.27	$2,158.54
Year 5 Total	**$318,005.73**										