TECHNICAL SERVICES AGREEMENT between the
NORTH BRANCH CHICAGO RIVER WATERSHED WORKGROUP
and
MIDWEST BIODIVERSITY INSTITUTE for
BIOASSESSMENT MONITORING

This is an agreement (Agreement) by and between the NORTH BRANCH CHICAGO RIVER WATERSHED WORKGROUP, 500 West Winchester Road, Libertyville, Illinois 60048 (NBWW) and MIDWEST BIODIVERSITY INSTITUTE P.O. Box 21567, Columbus, OH 43221-0561 (CONTRACTOR).

PURPOSE

The NBWW wishes to engage the Contractor to provide technical services to assist the NBWW in conducting the monitoring program herein called the bioassessment in the North Branch Chicago River watershed located in Lake and Cook Counties, Illinois. The bioassessment program will satisfactorily implement a biological assessment program, evaluating whether the North Branch Chicago River watershed within the NBWW service area meets biological criteria that support water quality management goals.

SERVICES

The Contractor will be responsible to implement the bioassessment program consisting of the tasks defined in Attachment A, scope of work.

Project Management and Data Analysis: Annually, all data shall be provided electronically to the NBWW and ultimately appended to the project database. This report will be provided electronically and as a hard copy, with chain-of-custody forms and laboratory reports attached.

Project management reports for FY2021 will consist of monthly progress reports highlighting work accomplished, work planned for the upcoming month, budget remaining, and any issues and proposed resolution. The Contractor will attend up to two meetings with the NBWW at locations within the project area during the course of the project.
Deliverables: electronic data in format specified by NBWW, monthly progress reports.

COMPENSATION

The Contractor agrees to perform the Scope of Services and furnish the items included in the Scope of Services for a fee (Agreement Amount) not to exceed $47,595.05.

The NBWW agrees to pay the Contractor for a total project cost not to exceed $47,595.05.

The Contractor shall furnish the NBWW with an itemized invoice on a monthly basis. Invoices shall describe the work completed; show the actual number hours worked by team member; amount of budget remaining; and actual travel and other expenses that have occurred. The NBWW Administrative Agent shall pay invoices in compliance with the Illinois Local Government Prompt Payment Act (50 ILCS 505/1, et seq.).

TERMS and CONDITIONS

1. The NBWW may, by written Order, make changes in the scope of work if such changes are within the general scope of the Agreement. If such changes cause an increase or decrease in the Contractor's cost or the time required to complete the project, the parties hereto shall agree to an adjustment in the Agreement Amount, prior to issuance of the Change Order. Adjustment of the Agreement Amount shall be based on the estimated change in the number of staff hours required plus any changes in the Contractor's expense. The Contractor will not be compensated for additional services performed without an approved Change Order.

2. The NBWW may at any time terminate this Agreement in whole or in part by ten day written or telegraphic notice or verbal notice confirmed in writing. Upon termination for convenience of the NBWW, the NBWW will assume responsibility for services rendered and costs incurred prior to notification. Any and all services, property, publications or materials provided during or resulting from the Contractor shall be the property of the NBWW.

3. On December 1, Contractor shall send a full invoice reconciliation for the calendar year to NBWW.

4. This Agreement shall be governed by and construed according to the laws of the State of Illinois.

5. Certificates of insurance shall be provided naming the North Branch Chicago River Watershed Workgroup, Lake County Division of Transportation, Lake County Forest Preserve District, and Lake County Stormwater Management Commission named as additionally insured.

6. This Agreement supersedes any and all other agreements, oral or written, between the parties hereto with respect to the subject matter hereof.

7. This agreement shall not be assigned, altered or modified without the express written consent of both parties except as provided in paragraph one above. The Contractor shall not reject any reasonable change proposed in the best interest of the project by NBWW.

NOTICES AND COMMUNICATION

All notices and communications given to either party by the other relative to this agreement shall be addressed to the respective parties as follows:

To the NBWW: North Branch Chicago River Watershed Workgroup
500 West Winchester Road, Libertyville, Illinois 60048
ATTENTION: Ashley Strelcheck, NBWW Coordinator
astrelcheck@lakecountyil.gov

To the Contractor: Midwest Biodiversity Institute
P.O. Box 21561, Columbus, OH 43221-0561
ATTENTION: Chris Yoder, Project Manager
cyoder@mwbinst.com

For the NBWW:

Brandon Janes, President
NBWW

Date: 11/30/2020

Attest:

NBWW

For the Contractor:

Pete Precario, Executive Director
Midwest Biodiversity Institute

Date: 12/16/2020

Attest:

Allison Boehler, Administrative Manager
Midwest Biodiversity Institute

North Branch Chicago River Watershed Bioassessment Monitoring Scope of Work

Year 3, Part 2 Data Analysis and Reporting
Year 4, Part 1 Second Round Monitoring
Integration with NE Illinois IPS
December 1, 2020 – November 30, 2021

North Branch Chicago River Watershed Workgroup (NBWW)
Lake County Stormwater Management Commission
500 W. Winchester Rd.
Suite 201
Libertyville, IL 60048

October 23, 2020

Submitted by:

Midwest Biodiversity Institute
P.O. Box 21561
Columbus, OH 43221-0561
www.midwestbiodiversity.org

North Branch Chicago River Watershed Bioassessment Monitoring SOW
Year 3, Part 2 Data Analysis and Reporting
Year 4, Part 1 Second Round Monitoring
December 1, 2020 – November 30, 2021

Midwest Biodiversity Institute
P.O. Box 21561
Columbus, OH 43221-0561
www.midwestbiodiversity.org
Chris O. Yoder, Project Manager

The Midwest Biodiversity Institute (MBI) was selected by the North Branch Chicago River Watershed Workgroup (NBWW) to perform a biological and water quality assessment of the North Branch Chicago River watershed in Lake and Cook Co., IL in 2018. Two years of field work completed in 2018 and 2019 supported data analysis and a draft monitoring report submitted in 2020. A third year of field sampling beginning with the Year 3, Part 1 sites was completed in September 2020. This 2021 County Fiscal Year (CFY) Scope of Work (SOW) is based on meeting a schedule of tasks within a project period of December 1, 2020-November 30, 2021 and within a budget (Appendix A) that supports Years 3 and 4 of the rotating monitoring plan[1], producing data and results for Year 3, Part 2 and monitoring of Year 4, Part 1 sites. The 2021 budget is aligned with the CFY that begins on December 1, 2020 and ends on November 30, 2021. As a result the project scope for any one project cycle will necessarily straddle two CFYs. This SOW for Year 3, Part 2 (2020) Tasks 3, 4, and 5 totals $20,787.90 and for Year 4, Part 1 (2021) Tasks 1 & 2 (see below) totals $26,807.15.

A. Project Scope of Work (SOW)

The SOW includes tasks and subtasks and adheres to the description of the project as depicted in Figure 1. There are five major tasks to be accomplished in CFY 2021 as follows:

Task 1 – Mobilization & Planning Year 4, Part 1 (Fiscal Year 2021)

This task is for 2021 mobilization and planning in accordance with the NBWW 2020-21 monitoring rotation that is described in the 2018 NBWW Monitoring Strategy. The CFY 2021 SOW includes Year 4, Part 2 and includes sampling chemical, biological, and habitat parameters at 14 sites on the West and Middle Fork mainstems.

Task 2 – Field Sampling Year 4, Part 1 (Fiscal Year 2021)

This task includes all of the activities focused on the collection and processing of the field collected samples and includes three subtasks – 2A Datasonde deployment; 2B – Fish, Habitat, and Sediment Sampling; and 2C – Macroinvertebrate Sampling. All 14 sites will be sampled for

[1] 2018 Monitoring Strategy for the North Branch Chicago River Watershed, North Branch Watershed Workgroup.

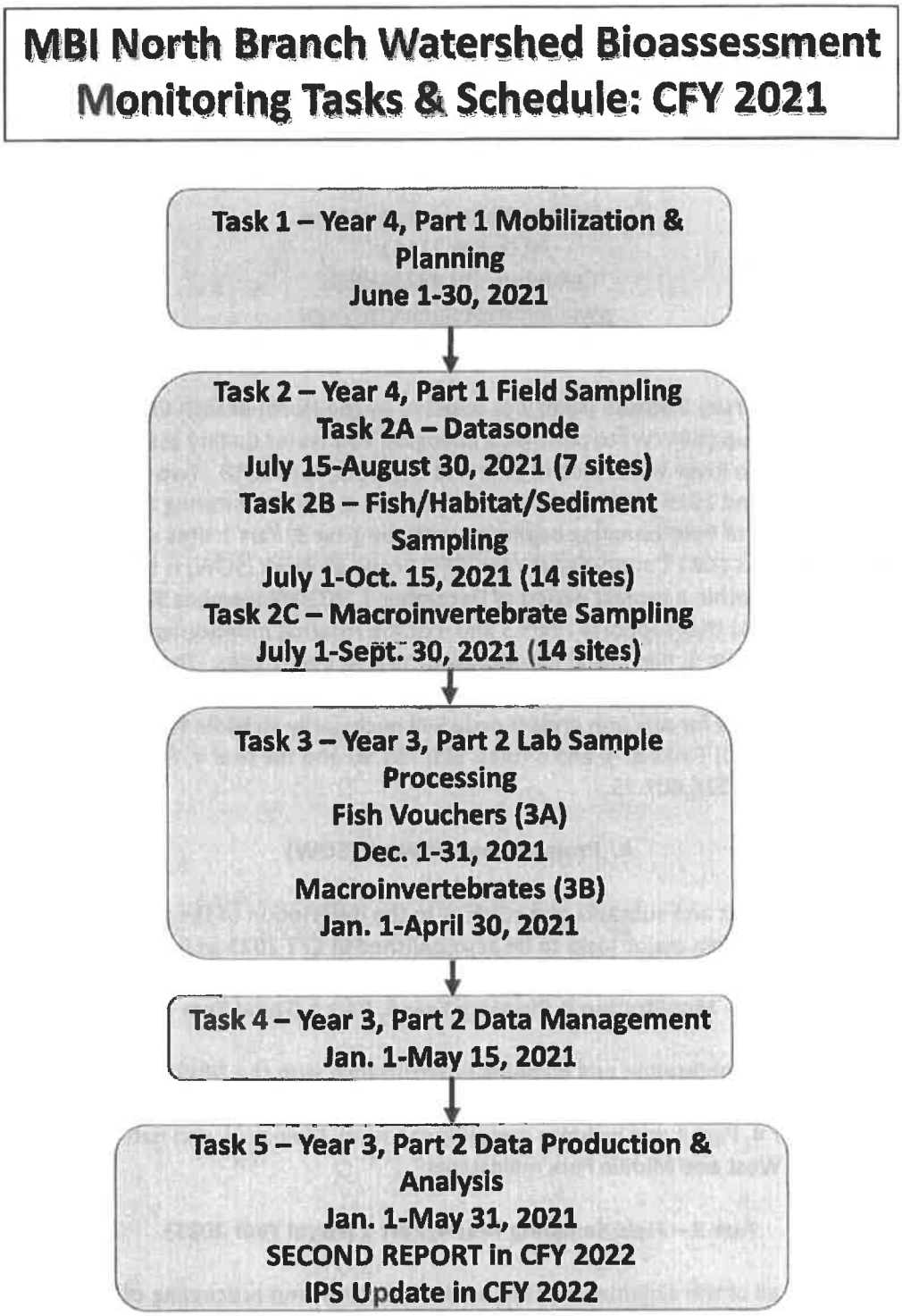

Figure 1. *Flow chart of the schedule and sequence of tasks and subtasks for CFY 2021 including Year 4, Part 1 monitoring (Tasks 1 and 2) and completion of the Year 3, Part 2 data analysis (Tasks 3, 4, and 5).*

biota and habitat, sediment chemistry, and seven (7) sites for Datasonde deployment and benthic chlorophyll a sample collection (Figure 1). Each subtask is described as follows:

Task 2A – Datasonde Deployment

Datasonde units will be deployed at seven (7) locations in the West and Middle Fork mainstems for 3-4 day periods during low river flow and maximum summer ambient temperatures. Continuously recorded parameters include dissolved oxygen (D.O.), pH, temperature, and specific conductance. Benthic chlorophyll α samples will also be collected at these same locations.

Task 2B – Fish/Habitat/Sediment Sampling

This includes the sampling of the fish assemblage in accordance with the QAPP and within a seasonal index period of July 1-October 15 at 14 sites with a single sampling pass at each. Habitat will be assessed at the same sites and using the QHEI. Sediment samples for chemical analysis will be collected at all 14 sites following methods prescribed by the NBWW QAPP. The sediment collections will be made in October.

Task 2C – Macroinvertebrate Sampling

Macroinvertebrate sampling will likewise be conducted under the specifications of the NBWW QAPP and within a seasonal index period of July 1-September 30. A site description that documents the details of the Illinois EPA multihabitat method will be recorded at each of the 14 sites. The collections will precede the fish sampling passes in July or August with one repeat site during the first fish sampling pass.

Task 3 – Biological Laboratory (CFY 2021; Year 3, Part 2 Bioassessment)

This task includes all post-field laboratory tasks including the verification of fish identifications (Task 3A) and the processing, sorting, and identification of macroinvertebrates (Task 3B) in accordance with the NBWW QAPP and IEPA multihabitat methods. Raw macroinvertebrate samples will be reduced to a 300 organism subsample and identified to the lowest taxonomic level that is practicable.

Task 4 – Data Management (CFY 2021; Year 3, Part 2 Bioassessment)

This is a post-field and post-laboratory task that includes the organization and logging of field and lab sheets, entering data, and proofing data entry. MBI will utilize its own version of the Ohio ECOS data management system which has been used to support other Illinois surveys.

Task 5 – Data Analysis and Reporting (CFY 2020; Year 3, Part 2 Bioassessment)

The final task is the production of the datasets in support of producing a second comprehensive report in CFY 2022 detailing the data and the conclusions based on the analyses of that data. This includes the preliminary analysis of all field collected data including the analysis of the chemical/physical data, POTW loadings data, calculation of the Illinois fish and

macroinvertebrate IBI scores and metrics, and the preliminary assignment of causes and sources to any documented biological impairments. The SOW allocates all of the data analysis to 2021 after all of the data becomes available following lab processing and data management. The following outline will be used for the second (Part 2) report (in addition to a cover page and table of contents) to be produced in CFY 2022:

Executive Summary
A brief synopsis of the findings of the watershed monitoring including a quantitative description of impairments, major causes and sources if impairment, opportunities for restoration and protection, and recommendations for future monitoring.

Section 1 – Introduction
This will describe the purposes of the monitoring and the goals and objectives of the NBWW for using monitoring data to support water quality decision-making.

Section 2 – Study Area Description
A detailed description of the study area including maps and lists of sites, major pollution sources, dams, and other features that relate to the watershed biological assessment. This will benefit from NBWW input upfront in the process.

Section 3 – Methods
A description and summary of all chemical, physical, and biological methods used to collect the data, data management, and data analysis including the delineation of impairments, a description of the process used to assign causes and sources, and an approach for conducting use attainability analyses.

Section 4 – Results
A comprehensive reporting of chemical, physical, and biological quality using tables and graphs to report the results. This will include an assessment of POTW pollutant loadings, chemical water quality criteria exceedances, exceedances of biologically relevant thresholds, sediment chemical threshold exceedances, analysis of habitat attributes, and reporting fish and macroinvertebrate IBI and metrics results.

Section 5 – Synthesis of Results
This section will report the results of the data analyses and causal assessment conducted under Task 5. This where the conclusions about causes and sources are explained including any patterns observed in the study area such as the differences in results observed between POTW influenced and nonpoint source influenced sites and reaches. Trends over time will also be assessed between the 2018-19 and 2020-21 results along with any changes in the status of IPS factors and variables. The initial reporting of results was included in the assessment of the biological and chemical/physical results and an assessment of aquatic life use support status for the 25 sites sampled in 2018-19 via the first comprehensive report in 2020. This consisted of a draft report for the 2018-19 data at all 25 sites in the North Branch Chicago River watershed that is currently in revision to a final report.

Appendix A. CFY 2021 NBWW Bioassessment Budget Summary

Task	Description	Quote
Year 3, Part 2 Budget Summary (11 sites)		
3 – Biological Laboratory (CFY 2021; Year 3, Part 2 Lab Work)	• Fish vouchers • Macroinvertebrate sample sorting • Macroinvertebrate identifications	**$10,202.51**
4 – Data Management (CFY 2021; Year 3, Part 2 Data Mgmt.)	• Data entry & retrieval, QA/QC	**$3,823.42**
5 – Data Analysis (CFY 2021; Year 3, Part 2 preliminary analysis)	• Analysis of chemical, biological, and habitat data. • Pre-report data analysis preparations	**$6,761.97**
Year 3, Part 2 - Tasks 3, 4, & 5 Total:		**$20,787.90**
Year 4, Part 1 Budget Summary (14 biological sites, 11 sediment sites, 7 Datasonde sites)		
1 - Mobilization & Planning (CFY 2021; Year 4, Part 1 Field)	• QAPP update • Pre-field planning • Mobilize crews	**$3,970.13**
2 – Field Sampling (CFY 2021; Year 4, Part 1 Field)	• Datasonde deployment • Benthic chlorophyll α analysis • Fish/habitat sampling • Macroinvertebrate sampling	**$22,837.02**
Year 4, Part 1 - Tasks 1 & 2 Total:		**$26,807.15**
Year 3, Part 2 & Year 4, Part 1 Grand Total:		**$47,595.05**

NOTES:

1. 2021 costs reflect an annual escalation of 3% for personnel and some direct costs including full mileage to and from Ohio.