

2020 TECHNICAL SERVICES AGREEMENT between the
DES PLAINES RIVER WATERSHED WORKGROUP
and
SUBURBAN LABORATORIES, INC. for
WATER CHEMISTRY MONITORING

This is an agreement (Agreement) by and between the DES PLAINES RIVER WATERSHED WORKGROUP, 500 West Winchester Road, Libertyville, Illinois 60048 (DRWW) and SUBURBAN LABORATORIES 1950 S Batavia Avenue, Geneva, IL 60134 (Subcontractor).

PURPOSE

The DRWW wishes to engage the Subcontractor to provide technical services to assist the DRWW in conducting water chemistry monitoring in the Des Plaines River watershed located in Lake County, Illinois. The water chemistry monitoring will satisfactorily collect and process water column chemistry monitoring samples within the watershed. The DRWW has selected 73 sampling locations within the Des Plaines River watershed in Lake County, Illinois.

SERVICES

The Subcontractor will conduct water column chemistry sampling by collecting samples, analyzing the samples collected, and providing the data to the DRWW based on the approved DRWW Quality Assurance Project Plan. The Scope of Services to be provided by the Subcontractor to accomplish the DRWW's objectives for the water column chemistry monitoring is set forth in Attachment A, DRWW Water Column Monitoring, SCOPE OF SERVICES.

COMPENSATION

1. The Subcontractor 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 \$83,736 for water column sampling and analysis according to the rates in the Project Budget Attachment B.
2. The DRWW agrees to pay the Subcontractor for a total project cost not to exceed \$83,736 using the compensation schedule identified in Attachment B. The final ten percent of the Agreement Amount shall be retained by the DRWW until the project is successfully completed and all deliverables have been received and approved.
3. The Subcontractor shall furnish the DRWW with an itemized invoice. Invoices shall describe the work completed; show the actual number hours worked by team member; and actual travel and other expenses that have occurred. Payments by the DRWW shall be made in accordance with the Illinois Local Prompt Payment Act (50 ILCS 505/1 et seq.).

SCHEDULE AND DELIVERABLES

All sampling and reporting shall be completed by November 30, 2020. Generally, sampling will be conducted at all sites within one week per month and approximately the same week every month.

Sampling Schedule

- February, 2020
- May 2020
- July 2020
- August 2020
- September, 2020

Project Deliverables:

- Electronic data deliverables (EDDs) and the sample results in an editable Microsoft Excel file, as specified by the DRWW in May, 2017.
- A final report consisting of a pdf file of all analytical results, analytical methods, chain(s) of custody, and a field log. Any sampling or testing observations which may have affected accuracy will be noted in the report narrative. Any applicable data qualifiers (e.g., matrix spike failure) will also be noted in the project specific comments portion of the report narrative page.

TERMS and CONDITIONS

1. The DRWW 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 Subcontractor'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 Subcontractor's expense. The Subcontractor will not be compensated for additional services performed without an approved Change Order.
2. The DRWW 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 DRWW, the DRWW 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 Subcontractor shall be the property of the DRWW.
3. This Agreement shall be governed by and construed according to the laws of the State of Illinois.
4. This Agreement shall not be assigned, altered or modified without the express written consent of both parties. The Subcontractor shall not reject any reasonable change proposed in the best interest of the project by DRWW.

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 DRWW: Des Plaines River Watershed Workgroup
500 West Winchester Road
Libertyville, Illinois 60048
ATTENTION: Mike Warner, Administrative Agent
mwarner@lakecountyil.gov

To the Subcontractor: Suburban Laboratories, Inc.
1950 S Batavia Avenue, Suite 150
Geneva, IL 60134
ATTENTION: Pam Guevara, Project Manager
PamG@suburbanlabs.com

For the DRWW:

Attest:

Brian Dorn, President
DRWW

DRWW

Date: _____

For the Subcontractor:

Attest:

Dan Galeher, Vice President of Sales and Service
Suburban Laboratories, Inc.

Suburban Laboratories, Inc.

Date: _____

ATTACHMENT A

DRWW Water Column Monitoring SCOPE OF SERVICES

1. Sampling Schedule

1.1 Tier 1, 2, 3 Water Sampling and Analysis

Water sampling for Tier 1, 2, 3 will begin immediately after contract approval. Tier 1 sites have been identified by the DRWW as the core sites and are to be sampled for water column analyses along with Sestonic Chlorophyll a. Tier 2 and 3 sites will be sampled for water column analyses. Tier 2 and 3 are differentiated, as Tier 3 sites will not be sampled for sediment analyses in future years. Suburban Labs will sample the 73 sites during the course of one week. The weekly sampling will continue throughout the following months: February, May, July, August and September, 2020. These collected samples will be tested for the water quality monitoring parameters listed in Table 1. Suburban Laboratory's Standard Operating Procedures (SOPs) for analyzing the samples follows Table 1. The reporting limits and the laboratory method detection limits (MDLs) are listed in Table 2 (Test Methods and Reporting Limits).

Suburban Labs to conduct sampling and analyses for sestonic chlorophyll a at the Tier 1 monitoring sites This would result in 14 sites during the May, July, August, and September sampling runs plus a field blank and duplicate sample during each run.

1.2 Field QA/QC samples

For every 20 samples collected, Suburban will also collect a blank and duplicate samples. The blank will be made up in the field by pouring deionized water into the same type of sample containers that are used for the surface water. The deionized water will be laboratory grade water from Suburban Laboratories Geneva location. This water will be placed inside a pre-cleaned and certified container.

1.3 Field Parameters

Suburban Laboratories is equipped with an YSI field meter. This meter will be utilized for the following analyses in the field:

- Conductivity
- pH
- ~~Temperature~~
- ~~Dissolved Oxygen~~

The results of these parameters will be reported after each sampling event and on the final report along with the results of the analyses performed in the laboratory. This meter is calibrated each day prior to sampling.

2. Field Reporting

2.1 Field Log

A field log will be kept each day that samples are collected. The field log will include:

- Name and signature of the field services technician;
- Location of sampling site
- Weather and water conditions (if unordinary condition apply);
- Dates and times of sample collection;
- GPS location of sampling (in latitude/longitude and state plane) for first event on each site;
- Preservatives;
- Field measurements
- Descriptions of any unusual conditions at the sample locations
- Chains of Custody
- Indication of duplicate sample location

3. Sample Custody and Handling

3.1 Labeling and Storage

All samples will be placed in non-contaminated containers provided by Suburban Laboratories. All containers will be properly labeled. The duplicate sample will be labeled with the sample location and identified as “duplicate”. When preservation is required, pre-preserved bottles will be used. Samples will be placed inside a cooler with wet ice until they reach the laboratory.

3.2 Chain of custody

Proper chain of custody documentation will accompany the collected samples. The chain of custody will contain the sample IDs, analyses to be performed, date and time of collection, type and number of containers, preservatives added, date and time of transfers, and the signature of each person involved in custody transfer. The chain of custody will be placed in a water-resistant plastic bag inside each cooler. Indelible ink will be used on the container

labels and chain of custody records. Upon receipt at the laboratory, sample temperature will be recorded on the chain of custody form. A copy of the chain of custody form will be included with the final report.

3.3 Sample preservation

Preservatives will be added to sample bottles prior to sample collection. Sample containers must only be purchased from reputable suppliers and cannot be re-used.

A. Project Deliverables

Final Report

The final report will consist of a PDF file of all analytical results, analytical methods, chain(s) of custody and a field log. Any sampling or testing observations which may have affected accuracy will be noted in the report narrative. Any applicable data qualifiers (e.g., matrix spike failure) will also be noted in the project specific comments portion of the report narrative page.

Electronic Data Deliverable

An electronic data deliverable (EDD) which includes the sample results in an editable Microsoft Excel file will be included for every report, in the format DRWW specified in May 2017.

Turnaround Time

The results for all analytical analyses will be provided no later than 10 business days following the date of collection.

TABLE 1: Water Quality Sampling Parameters

Parameter	DRWW Frequency	Tier 1	Tier 2	Tier 3
<u>Demand</u>		Number of Sample Events		
Chloride	Feb, Aug	2	2	2
Conductivity	Feb, Aug	2	2	2
pH	Feb, Aug	2	2	2
TOC		0	0	0
Sulfate	Feb, Aug	2	2	2
TSS	Feb, May, July, Aug, Sept	5	5	5
Volatile Suspended Solids		0	0	0
DO		0	0	0
Temperature	Feb, Aug	2	2	2
Turbidity		0	0	0
<u>Metals</u>				
Total Hardness	Feb, Aug	2	2	2
Iron		0	0	0
Sodium		0	0	0
Arsenic		0	0	0
Manganese		0	0	0
Mercury - LOW LEVEL DETECTION LIMIT		0	0	0
Copper		0	0	0
Nickel		0	0	0
Zinc		0	0	0
<u>Nutrients</u>				
Ammonia	Feb, May, July, Aug, Sept	5	5	5
Total Nitrates (NO ₂ + NO ₃)	Feb, May, July, Aug, Sept	5	5	5
TKN	Feb, May, July, Aug, Sept	5	5	5
Total phosphorus	Feb, May, July, Aug, Sept	5	5	5
Dissolved Reactive Phosphorus	Feb, May, July, Aug, Sept	5	5	5
Sestonic Chlorophyll a	May, July, Aug, September	4		
<u>Bacteria</u>				
E. coli	Feb, Aug	2	2	2
<u>Water Organics</u>				
PCBs		0	0	0
Pesticides		0	0	0
Methoxychlor		0	0	0
PNAs		0	0	0
VOCs		0	0	0
<u>Sediment Metals</u>				
Aluminum		0	0	0
Arsenic		0	0	0
Barium		0	0	0
Beryllium		0	0	0
Boron		0	0	0
Cadmium		0	0	0
Chromium		0	0	0
Cobalt		0	0	0

TABLE 1 (cont.): Water Quality and Sediment Sampling Parameters

Parameter	DRWW Frequency	Tier 1	Tier 2	Tier 3
<u>Sediment Metals</u>		Number of Sample Events		
Copper		0	0	0
Fluoride		0	0	0
Iron		0	0	0
Lead		0	0	0
Manganese		0	0	0
Mercury		0	0	0
Nickel		0	0	0
Potassium		0	0	0
Silver		0	0	0
Sodium		0	0	0
Strontium		0	0	0
Vanadium		0	0	0
Zinc		0	0	0
<u>Sediment Organics</u>				
PCBs		0	0	0
Pesticides		0	0	0
Methoxychlor		0	0	0
PNAs		0	0	0
TKN		0	0	0
Phosphorus		0	0	0
Cyanide		0	0	0
Herbicides (2, 4, D, 2,4,5 TP)		0	0	0
Phenols		0	0	0

STANDARD OPERATING PROCEDURES

COLLECTION OF STREAM WATER SAMPLES

These methods allow for the collection of grab samples utilizing a high density polyethylene (HDPE) bucket or wide mouth HDPE or glass bottle. This standard operating procedure document (SOP) has been developed to maintain consistent data collection procedures and to ensure the quality of the data collected.

1.0 FIELD EQUIPMENT

The following equipment listed is necessary for sampling procedures.

1. 1-gallon HDPE bucket, nylon rope
2. Distilled or reagent-grade deionized water
3. Sample bottles:
 - a. One 1000 mL HDPE with H_2SO_4 preservative for $\text{NH}_3\text{-N}$, TKN and Total Nitrates
 - b. One 1000 mL HDPE unpreserved bottle for BOD, TSS, TDS, Chloride, Sulfate
 - c. One 1000 mL HDPE bottle with HNO_3 preservative for Metals, (including Phosphorous and Mercury)
 - d. Two 1000 mL amber glass bottles unpreserved for Pesticides, PCBs and PNAs
 - e. Three 40 mL VOA vials with HCl preservative for VOCs
4. Disposable gloves
5. Cooler and ice
6. Antibacterial soap
7. Sharpie markers and labels
8. Field books/log sheets/chain of custody

9. Portable pH meter

10. Sampling pole

2.0 PREPARATION

Before samples are collected, sample bottles should be labeled correctly with sampling point, sampling I.D. number, the sampler's initials, and a space for the date and time to be filled in later. Sample bottle lids should also be labeled to prevent contamination between samples.

Coolers and samples bottles should be inspected before samples are collected. If dirt, residual chemicals, or any other types of contaminants are present, the sample bottle should be discarded. The coolers should be washed with mild soap and wiped down if any contaminants are present.

Sampling buckets shall be scrubbed with a solution of soap and water. Make sure the cleaning detergent is free of phosphates (orthophosphate sample).

The sampler's hands should be washed with antibacterial soap prior to sampling events. Disposable gloves will be worn during sample collection, and special care should be taken to avoid touching the inner surface of sample lids or bottles.

3.0 PROCEDURE

Sample bottles should be kept closed until they are filled. At each sample collection site, the sampler will wear a new pair of gloves for decontamination and a new pair for sample collection.

If samples are taken from a bridge, collect the sample from the upstream side of the structure unless otherwise noted in site description maps.

When sample during precipitation events, the sample bucket shall be covered at all times with a lid.

A log-sheet/chain of custody should be maintained during sampling and should include the following information:

- a. Date and time of sample
- b. Signature of collector and transporter
- c. Signature of person who relinquished the sample to lab
- d. Weather conditions during sampling (i.e., air temperature; cloudy, rain, snow)

- e. Time
- f. Sample storage temperature upon receipt in lab
- g. Visual observation of sample
- h. Field measurements such as pH

3.1 Sample Collection HDPE Bucket or Wide Mouth Bottle

The bucket shall be inspected to ensure that it is in good condition. The nylon rope attached should not be frayed or torn.

3.1.1 Decontamination

The bucket and wide mouth bottle must be cleaned before samples are collected and between sampling sites. The equipment shall be cleaned with phosphate-free detergent and blank water. Blank water should be deionized water. The equipment should be scrubbed with detergent and deionized water before the rinsing steps below are followed. Alternatively, a new bottle may be used for each sample.

Step 1 – Blank Water Rinse

- Rinse the inside of the bucket or wide mouth bottle by swirling with blank water.
- Discard the remaining blank water.
- Repeat Step 1.

3.2 Sample Collection Procedure

The stream depth will determine the equipment to be used to collect the sample. To reduce the chance of disturbing the substrate/sediment the following protocols will be followed. Samples may be collected from the bridge with a bucket if the depth is at least twice the height of the bucket. At shallower depths the field technician will use a sampling pole with a wide mouth bottle at the end. As a last resort, the field technician will wade into stream and collect the sample, standing downstream of the collection point so as not to collect kicked up sediment.

Step 1a – River Rinse and Field Measurements from Bucket

- Lower the bucket into the stream and fill.
- Discard the contents.

Step 1b – River Rinse Wide Mouth Bottle

- River rinse by filling the bottle with river water.

- Discard the remaining contents.

Step 2 – Sample Collection - Bucket

- Lower the bucket to mid-depth at center of flow, do not disturb bottom sediment.

Step 2b – Sample Collection - Pole

- Lower the sample bottle attached to the sampling pole to mid-depth at center of flow, do not disturb bottom sediment.

Step 3 – Fill Sample Bottles

Fill each sample bottle. Over filling of sample bottles with preservative should be avoided to prevent loss of preservative.

3.3 Field Measurements

Sample pH must be measured on site within 15 minutes of collection. Follow the laboratory and manufacturer's instructions for calibrating, cleaning and using the pH meter. The pH results shall be recorded on the log-sheet/chain of custody.

4.0 SAMPLE HANDLING, TRANSPORTATION, QUALITY ASSURANCE, AND BLANKS

All samples are placed in a cooler with ice after labeling. Samples are to be transported to the laboratory within the prescribed holding times. All samples will be taken to Suburban Laboratory, Inc.

4.1 Quality Assurance

Field blank and duplicates shall be collected. The laboratory shall adhere to their Quality Assurance Plan Revision 8 for samples received in the lab. Quality control limits and frequency of field quality control samples is specified at the end of this SOP.

4.2 Duplicate Samples

Duplicate samples are to be filled from the same round of stream water. Duplicate samples will be taken for all parameters once per month.

4.3 Field Blank

Sample bottles should be filled with blank water from unopened blank water containers. One field blank should be performed for VOCs and Metals including Phosphorous and Mercury once per year.

5.0 CHAIN OF CUSTODY

Chain of Custody forms must be filled out and accompany all samples to their laboratory. An example is below.

SUBURBAN LABORATORIES, Inc. 1950 S. Batavia Ave., Geneva, IL 60134 Tel. 708.544.3260 Fax: 708.544.9587 Toll Free: 800.793.LABS www.suburbanlabs.com										# Electronic Version		
Company Name _____ Company Address _____ City _____ State _____ Zip _____ Phone _____ Email Address _____ Project ID / Location _____ Project Manager (Report to) _____ Sample Collection(s) _____			TURNAROUND TIME REQUESTED <input checked="" type="checkbox"/> Normal <input type="checkbox"/> RUSH* <small>*Additional Rush Charges Apply.</small> Date & Time Needed Normal 3-5 business days for most tests. Rush work must be pre-approved and additional charges apply.			ANALYSIS & METHOD REQUESTED Enter an "X" in box below for request:			Page _____ of _____ PO No. _____ Shipping Method _____ QC Reporting Level <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3			
Specify Regulatory Program: <input type="checkbox"/> None/Info only <input type="checkbox"/> LUST <input type="checkbox"/> SGP <input type="checkbox"/> SDWA <input type="checkbox"/> 503 Sludge <input checked="" type="checkbox"/> NPDES <input type="checkbox"/> MWRDC <input type="checkbox"/> Disposal <input type="checkbox"/> Other _____ <small>*Please specify in comment section below.</small>						LAB USE ONLY BU Order No. _____ Sample containers supplied by customer? <input type="checkbox"/> Yes Temperature of Received Samples _____ °C Samples received within 24 hours of collection? <input type="checkbox"/> Yes						
SAMPLE IDENTIFICATION <small>Please use 1 liter per container type</small>			COLLECTION		MATRIX	CONTAINERS		PRESERVATIVE	R	Condition	Lot	LAB #
			DATE	TIME		GRAB	COMP.					
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
COMMENTS & SPECIAL INSTRUCTIONS: MATRIX: Drinking Water (DW), Soil (S), Waste Water (WW), Surface Water (SW), Ground Water (GW), Solid Waste (SA), Sludge (U), Wipe (P) CONTAINER: 2L, 4oz, 8oz, 16oz Vial, 500mL, 1L Jar (L), Tube, Glass (G), Plastic (P) DESIGNATION: Ag-CD, HCl, HNO ₃ , Methanol (MeOH), NaOH, Sodium Bisulfite (Na BS), Na Thio			CONDITION CODES: 1. Improperly damaged container/cap 2. Improper preservation 3. Insufficient sample volume 4. Headspace not suitable for VOCs 5. Received past holding time 6. Received frozen 7. Label conflicts with COC									
1. Requested by _____ Date _____ Time _____ Received by _____ Date _____ Time _____			2. If required by _____ Date _____ Time _____ Received by _____ Date _____ Time _____			3. If required by _____ Date _____ Time _____ Received by _____ Date _____ Time _____			4. If required by _____ Date _____ Time _____ Received by _____ Date _____ Time _____			
Submission of samples subject to Terms and Conditions on back. Please fill out this form completely, print, sign & submit with samples. Keep a copy for your records.												

TABLE 2: Test Methods and Reporting Limits

Demand	Method	MDL/Reporting Limit
Chloride	325.2, EPA	0.5 mg/L
Conductivity	2510B, SM18th Ed.	2 µmhos/cm
pH	4500-H B, SM18th Ed.	N/A
TOC	5310B	1 mg/L
Sulfate	375.4, EPA	1 mg/L
TSS	2540D, SM18th Ed.	0.2 mg/L
VSS	2540E	0.2 mg/L
DO	4500 YSI field meter	0.1 mg/L
Temperature	170.1	°C
Turbidity	180.1	0.1 mg/L
Metals		
Total Hardness	2340B. SM18th Ed.	0.05 mg/L
Iron	200.7, EPA	0.005 mg/L
Sodium	200.7	0.1 mg/L
Arsenic	200.8	0.0008 mg/L
Manganese	200.8	0.002 mg/L
Mercury * (LOW LEVEL DETECTION LIMIT)	245.1, EPA or *1631 low det	0.0002 mg/L or 0.5 Ng/L
Copper	200.8, EPA	0.0005 mg/L
Nickel	200.8	0.0004 mg/L
Zinc	200.8, EPA	0.007 mg/L
Nutrients		
Ammonia	4500 NH3 D, SM18th Ed.	0.1 mg/L
Total Nitrates (NO2 + NO3)	352.1, EPA	0.05 mg/L
TKN	4500 NH3 C, SM18th Ed.	0.124 mg/L
Phosphorous	200.8, EPA	0.02 mg/L
Dissolved reactive Phosphorus	SM4500P E	0.026 mg/L
Chlorophyll a		
Sestonic Chlorophyll a	SM 10200H	4 mg/M ³
Bacteria		
E-coli	9213D	1 CFU/100ml
Water Organics		
PCBs	8082, EPA	0.1 ug/L
Pesticides	8081, EPA	0.025 ug/L
Methoxychlor	8081 EPA	0.25 ug/L
PNAs	8270, EPA	0.1 ug/L
VOCs	8260, EPA	1.0 ug/L
Sediment Organics		
PCBs	8082, EPA	16.7 ug/Kg
Pesticides	8081, EPA	0.833 ug/Kg
Methoxychlor	8081 EPA	0.833 ug/Kg
PNAs	8270, EPA	40 ug/Kg
Herbicides (2,4,D & 2,4,5 TP)	8321	0.004 ug/Kg
Sediment inorganics		
TKN	4500 NH3E	100 mg/Kg
Phosphorus	6010B, EPA	2.3 mg/Kg
Cyanide	9014	0.005 mg/Kg
Phenols	420.1	0.005 mg/Kg

TABLE 2: (cont.) Methods and Reporting Limits

	Method	MDL/Reporting Limit
Sediment Metals		
Aluminum	6010B, EPA	2.50 mg/Kg
Arsenic	6010B, EPA	1.15 mg/Kg
Barium	6010B, EPA	0.125 mg/Kg
Beryllium	6010B, EPA	0.0025 mg/Kg
Boron	6010B, EPA	0.05 mg/Kg
Cadmium	6010B, EPA	0.075 mg/Kg
Chromium	6010B, EPA	0.0600 mg/Kg
Cobalt	6010B, EPA	0.625 mg/Kg
Copper	6101B EPA	0.150 mg/Kg
Iron	6010B, EPA	0.625 mg/Kg
Lead	6010B, EPA	0.6 mg/Kg
Manganese	6010B, EPA	0.625 mg/Kg
Mercury	245.1	0.02 mg/Kg
Nickel	6010B, EPA	0.235 mg/Kg
Potassium	6010B, EPA	2.5 mg/Kg
Silver	6010B, EPA	0.06 mg/Kg
Sodium	6010B EPA	1.25 mg/Kg
Strontium	6010B, EPA	0.120 mg/Kg
Vanadium	6101B EPA	0.150 mg/Kg
Zinc	6010B, EPA	0.075 mg/Kg
Fluoride	4500	0.05 mg/Kg

- Low level Hg method 1631, detection limit for that method is 0.5 Ng/L

ATTACHMENT B**Project Budget – Water Chemistry****2020 PRICE QUOTATION**

2020 PRICE QUOTATION	Quoted Price	Proposed Quantity	Proposed Total Tier 1	Proposed Quantity	Total Tiers 2 & 3	Proposed Quantity	QC Samples
<u>Demand</u>							
Chloride	\$ 14.00	28	\$ 392.00	118	\$ 1,652.00	8.0	\$ 112.00
Conductivity*	\$ 5.00	28	\$ 140.00	118	\$ 590.00	8	\$ 20.00
pH*	\$ 5.00	28	\$ 140.00	118	\$ 590.00	8	\$ 40.00
TOC	\$ 25.00	0	\$ -	0	\$ -	0	\$ -
Sulfate	\$ 20.00	28	\$ 560.00	118	\$ 2,360.00	8	\$ 160.00
TSS	\$ 8.00	70	\$ 560.00	295	\$ 2,360.00	19	\$ 152.00
Volatile Suspended Solids	\$ 8.00	0	\$ -	0	\$ -	0	\$ -
DO*	\$ 5.00	0	\$ -	0	\$ -	0	\$ -
Temperature*	\$ 5.00	28	\$ 140.00	118	\$ 590.00	8	\$ 40.00
Turbidity	\$ 5.00	0	\$ -	0	\$ -	0	\$ -
		Total	\$ 1,932.00	Total	\$ 8,142.00	Total	\$ 524.00
<u>Metals</u>							
Total Hardness	\$ 19.00	28	\$ 532.00	118	\$ 2,242.00	8	\$ 152.00
Metals (Fe, Na, As, Mn, Cu, Ni, Zn)	\$ 49.00	0	\$ -	0	\$ -	0	\$ -
Low Level Hg	\$ 120.00	0	\$ -	0	\$ -	0	\$ -
		Total	\$ 532.00	Total	\$ 2,242.00	Total	\$ 152.00
<u>Nutrients</u>							
Ammonia	\$ 15.00	70	\$ 1,050.00	295	\$ 4,425.00	19	\$ 285.00
Total Nitrates (NO2+NO3)	\$ 20.00	70	\$ 1,400.00	295	\$ 5,900.00	19	\$ 380.00
TKN	\$ 28.00	70	\$ 1,960.00	295	\$ 8,260.00	19	\$ 532.00
Total Phosphorus	\$ 20.00	70	\$ 1,400.00	295	\$ 5,900.00	19	\$ 380.00
Dissolved Reactive Phosphorus	\$ 30.00	70	\$ 2,100.00	295	\$ 8,850.00	19	\$ 570.00
		Total	\$ 7,910.00	Total	\$ 33,335.00	Total	\$ 2,147.00
<u>Chlorophyll</u>							
Sestonic Chlorophyll a	\$ 80.00	56	\$ 4,480.00	0	\$ -	3	\$ 240.00
		Total	\$ 4,480.00	Total	\$ -	Total	\$ 240.00
<u>Bacteria</u>							
E. Coli	\$ 25.00	28	\$ 700.00	118	\$ 2,950.00	8	\$ 200.00
		Total	\$ 700.00	Total	\$ 2,950.00	Total	\$ 200.00
<u>Water Organics</u>							
PCBs/Pesticides	\$ 105.00	0	\$ -	0	\$ -	0	\$ -
Methoxychlor	\$ 100.00	0	\$ -	0	\$ -	0	\$ -
PNA's	\$ 80.00	0	\$ -	0	\$ -	0	\$ -
VOCs	\$ 90.00	0	\$ -	0	\$ -	0	\$ -
		Total	\$ -	Total	\$ -	Total	\$ -
* denotes field measurement							
Note 1: Quantity of samples is estimated	Sampling Charge	\$ 3,500.00	Sampling Charge	\$ 14,750.00	Sampling Charge	\$ -	
Note 2: Field QC & Duplicate samples are billed	Analysis Subtotal	\$ 15,554.00	Analysis Subtotal	\$ 46,669.00	Analysis Subtotal	\$ 3,263.00	
	Grand Total	\$ 19,054.00	Grand Total	\$ 61,419.00	Grand Total	\$ 3,263.00	

Grand Total for February 2020 through Sept. 2020 = \$83,736.00

Quotation Accepted By:

Signature	Title
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Name (Print)	Date
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ATTACHMENT C

2020 List of Sample Sites

DRWW ID	NewDRNAREA	Lat	Long	River/Stream Name	Subwatershed	Tier 1	Tier 2	Tier 3	Location	Comment
10-1	31.90	42.4248	-87.9973	North Mill	North Mill Creek	1			Milbourne Road	USGS Site (discontinued)
10-2	29.38	42.4442	-88.0007	North Mill	North Mill Creek		2		Kelly Road	Dam removal site - dam is notched
10-3	20.79	42.4661	-88.0090	North Mill Creek	North Mill Creek		2		Route 173	
10-4	5.64	42.4479	-88.0247	North Mill	North Mill Creek		2		Hastings Creek @ Miller Rd	
10-5	3.91	42.4308	-88.0343	North Mill	North Mill Creek		2		Hastings Creek @ Grass Lake Rd	
10-6	0.99	42.4215	-88.0045	Unnamed Trib to North Mill Creek	North Mill Creek			3	Ust. (W) of Route 45 - need better parking access	
10-7				North Mill	North Mill Creek	1			Edwards Road	Site added in 2019
11-1	63.80	42.4183	-87.9451	Mill Creek	Mill Creek		2		Dilley's Road	
11-2	59.88	42.4154	-87.9690	Mill Creek	Mill Creek	1			Hunt Club Road	sample at POTW call Austin 847-377-7134 USGS Site
11-3	21.34	42.3989	-87.9824	Mill Creek	Mill Creek		2		Sterns School Road	
11-4	18.33	42.3833	-88.0041	Mill Creek	Mill Creek		2		Route 45	
11-5	9.35	42.3605	-88.0151	Mill Creek	Mill Creek		2		Washington St	
11-6	4.32	42.3550	-88.0397	Mill Creek	Mill Creek		2		Wick Street	
12-1	7.35	42.4835	-87.9128	Newport Drainage Ditch	Newport Drainage Ditch		2		Newport Drainage Ditch @ Kilbourne Ave	
12-2	2.82	42.4581	-87.8968	Newport Drainage Ditch	Newport Drainage Ditch		2		W. 21st Street along Union Pacific RR	
13-1	232.03	42.3438	-87.9411	Des Plaines River	Upper Des Plaines River	1			Hwy 120	USGS Site
13-10	4.02	42.4042	-87.9061	Suburban Country Club Trib	Upper Des Plaines River		2		Suburban Country Club Trib @ Shirley Dr	
13-11	2.37	42.4444	-87.9527	Slocum Corners Creek	Upper Des Plaines River		2		N. Mill Creek Rd.; E. of I-94	
13-12	2.35	42.4023	-87.8949	Suburban County Club Trib	Upper Des Plaines River			3	E. of Northwestern Ave	Removed from chemical analyses in 2019
13-13	1.06	42.3654	-87.9014	Unnamed trib. - Greenleaf Creek	Upper Des Plaines River			3	Swanson Trigg Conservation Area - 42.3700 - 87.9085	
13-14	1.10	42.3480	-87.9570	Unnamed Trib to Belvidere Rd Trib	Upper Des Plaines River			3	Leonard Dr.	
13-15	1.92	42.3259	-87.9784	Bull's Brook	Upper Des Plaines River			3	Almond Rd.	
13-16	253.75	42.3051	-87.9542	Des Plaines River	Upper Des Plaines River		2		Dst. Buckley Rd.	Need to access via Desplaines Trail
13-17	0.84	42.3002	-87.9390	Unnamed Trib to Des Plaines River	Upper Des Plaines River			3	Behind pump station off of Sprucewood Lane	
13-18	214.84	42.3975	-87.9245	Des Plaines River	Upper Des Plaines River	1			40' Above Riffle Structure	Access through Wetlands Research property
13-19				Des Plaines River	Upper Des Plaines River			3	Below Riffle Structure	Access through Wetlands Research property
13-2	225.36	42.3691	-87.9176	Des Plaines River	Upper Des Plaines River	1			McClure Ave	Canoe launch
13-3	220.39	42.3808	-87.9140	Des Plaines River	Upper Des Plaines River	1			Above Hwy 41	
13-4	145.54	42.4288	-87.9304	Des Plaines River	Upper Des Plaines River	1			Wadsworth Road	
13-5	137.29	42.4653	-87.9428	Des Plaines River	Upper Des Plaines River		2		Hwy 173	
13-6	123.67	42.4892	-87.9258	Des Plaines River	Upper Des Plaines River	1			Russel Road	USGS Site
13-7	2.69	42.3184	-87.9617	Bull's Brook @ Rt 21	Upper Des Plaines River		2		N. Milwaukee Ave.	
13-8	3.71	42.3427	-87.9454	Belvidere Rd Tributary	Upper Des Plaines River		2		Belvidere Rd Tributary @ Highway 21 and 120	
13-9	4.08	42.3528	-87.9367	Stone Roller @ Lake Carina	Upper Des Plaines River		2		Stone Roller @ Lake Carina	
14-1	11.67	42.3119	-87.9637	Bull Creek	Bull Creek		2		Hwy 21	
14-2	2.87	42.3061	-87.9690	Bull Creek	Bull Creek		2		Route 137	
14-3	0.99	42.3101	-87.9906	Bull Creek	Bull Creek			3	N. Countyyside Drive	
14-4	5.08	42.3025	-88.0008	W. Branch Bull Creek	Bull Creek		2		Northwind Blvd. - access 1600 behind warehouse	
14-5	1.33	42.2793	-88.0028	Bull Creek	Bull Creek			3	Adj. University Drive	call Clay K 847-312-3657
14-6	2.39	42.2877	-88.0229	Bull Creek	Bull Creek		2		Hazelnut Xing	
15-1	36.43	42.1981	-87.9231	Indian Creek	Indian Creek		2		Marriot Inn parking lot - adj. Cranes Landing GC	
15-10	2.22	42.2301	-88.0376	West Branch Indian Creek	Indian Creek			3	Gilmer Rd.	
15-11	1.70	42.2196	-88.0256	Forest Lake Drain	Indian Creek			3	Hawthorne Grove Rd.	
15-12	2.06	42.1969	-88.0399	Kildeer Creek	Indian Creek			3	IL Rt. 22	
15-13	3.43	42.1937	-88.0012	Kildeer Creek	Indian Creek			3	Willowbrook Rd. S. of Half Day Rd.	
15-2	35.02	42.2065	-87.9616	Indian Creek	Indian Creek		2		Sullivan Woods Preserve, North of Creekview Dr.	
15-3	5.07	42.2627	-87.9655	Indian Creek	Indian Creek		2		Gregg's Parkway	
15-4	6.78	42.2044	-87.9750	Indian Creek	Indian Creek		2		Port Clinton Rd at Kildeer Creek	
15-5	17.26	42.2105	-87.9876	Indian Creek	Indian Creek		2		Oakwood Rd.	
15-6	3.66	42.2394	-88.0231	Indian Creek	Indian Creek		2		Washitay Ave	
15-7	2.85	42.1943	-88.0300	Indian Creek	Indian Creek		2		Salem Lake Drive S. of Rt 22	
15-8	9.36	42.2149	-87.9662	Seavey Drainage Ditch	Indian Creek		2		Near Vernon Hills GC	
15-9	2.68	42.2446	-88.0356	Indian Creek	Indian Creek		2		N. Midlothian Rd.	
16-1	358.85	42.1094	-87.8878	Des Plaines River	Lower Des Plaines River	1			Palantine Frontage Rd.	
16-10	2.00	42.2505	-87.9255	Werhane Lake Drain	Lower Des Plaines River			3	St. Marys Rd.	
16-2	323.96	42.1531	-87.9102	Des Plaines River	Lower Des Plaines River		2		E. Lake Cook Rd.	
16-3	314.68	42.1676	-87.9134	Des Plaines River	Lower Des Plaines River	1			Deerfield Rd.	
16-4	273.21	42.2004	-87.9185	Des Plaines River	Lower Des Plaines River	1			Half Day Rd.	USGS Site
16-5	268.06	42.2405	-87.9392	Des Plaines River	Lower Des Plaines River	1			Illinois Route 60 - Town Line Rd.	
16-6	260.11	42.2767	-87.9391	Des Plaines River	Lower Des Plaines River	1			Rockland Rd.	
16-7	266.48	42.2490	-87.9426	Des Plaines River	Lower Des Plaines River		2		Hollister Dam site - adj. to Hollister Intl.	
16-8	268.90	42.2271	-87.9368	Des Plaines River	Lower Des Plaines River		2		Wright Woods Dam site - immediately ust. bike bridge	Dam removal access route - need key
16-9	1.19	42.1709	-87.9069	Unnamed Trib to Des Plaines River	Lower Des Plaines River			3	Timberleaf Lane	
17-1	29.23	42.1218	-87.8960	Buffalo Creek	Buffalo Creek		2		Route 21	
17-2	22.10	42.1519	-87.9692	Lake Cook Rd @ Farington Ditch	Buffalo Creek		2		Lake Cook Rd @ Farington Ditch	
17-3	9.59	42.1609	-87.9907	Buffalo Creek	Buffalo Creek		2		Checker Road	
17-4	8.55	42.1536	-87.9966	Buffalo Creek	Buffalo Creek		2		Lake Cook Rd @ Buffalo Creek Trib	
17-5	1.19	42.1858	-88.0580	Unnamed trib.	Buffalo Creek			3	Quentin Rd.	
18-1	5.50	42.1635	-87.9224	Aptakisic	Aptakisic Creek		2		Aspen Road	
18-2	4.94	42.1646	-87.9277	Aptakisic	Aptakisic Creek		2		Pekara Rd, West of Hwy. 21	
18-3	2.26	42.1777	-87.9608	Aptakisic Creek	Aptakisic Creek		2		Copperwood Dr. bike xing	
18-4	1.09	42.1812	-87.9667	Aptakisic Creek	Aptakisic Creek			3	N. Buffalo Grove Rd.	
18-5	0.99	42.1815	-87.9657	Unnamed Trib to Aptakisic Creek	Aptakisic Creek			3	Dst. Aptakisic Rd.; W of N. Buffalo Grove Rd.	

Tier 1 Sites will be established as "core" sites which will receive bi-annual Biological Assessment and continuous monitoring.

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