

Gregg
Miller
Nash
Suma
Wiley

CLINTON RIVER SPILLWAY
INTER-COUNTY DRAINAGE BOARD
APRIL 28, 2020
10:00 A.M.
AGENDA

NOTE: THIS MEETING WILL BE HELD BY TELECONFERENCE

Call in Number: 1-408-418-9388
Access Code: 714 092 454

	Page
1. Call of meeting to order and roll call	
2. Approval of Agenda	
3. Approval of Minutes of meeting of January 28, 2020	4
4. Public Participation	
5. Project Update – Jeff Bednar/Tom Stockel	7
6. Area of Concern (AOC) Maintenance, Treatment and Training – Jeff Bednar	12
Motion: To approve Cardno's proposal for maintenance, treatment, and training in the amount of \$178,495 and \$11,790 for mapping and monitoring of invasive species utilizing \$190,285 of no match grant funds (Spillway share of grant costs \$106,326).	
7. Repair of 3 Sinkholes along Spillway – Tom Stockel	25
Motion: To approve Clancy Contracting to repair Sinkhole #1 on a time and materials basis at an estimated cost not to exceed \$20,000.	
To approve Cortis Brothers to repair Sinkhole #2 on a time and materials basis at an estimated cost not to exceed \$15,000.	
To approve the Cortis Brothers quote to repair Sinkhole #3 at a not to exceed cost of \$7,800.	
8. Consideration for approval of invoices (see attached)	31

9. Financial Update – Bruce Manning

32

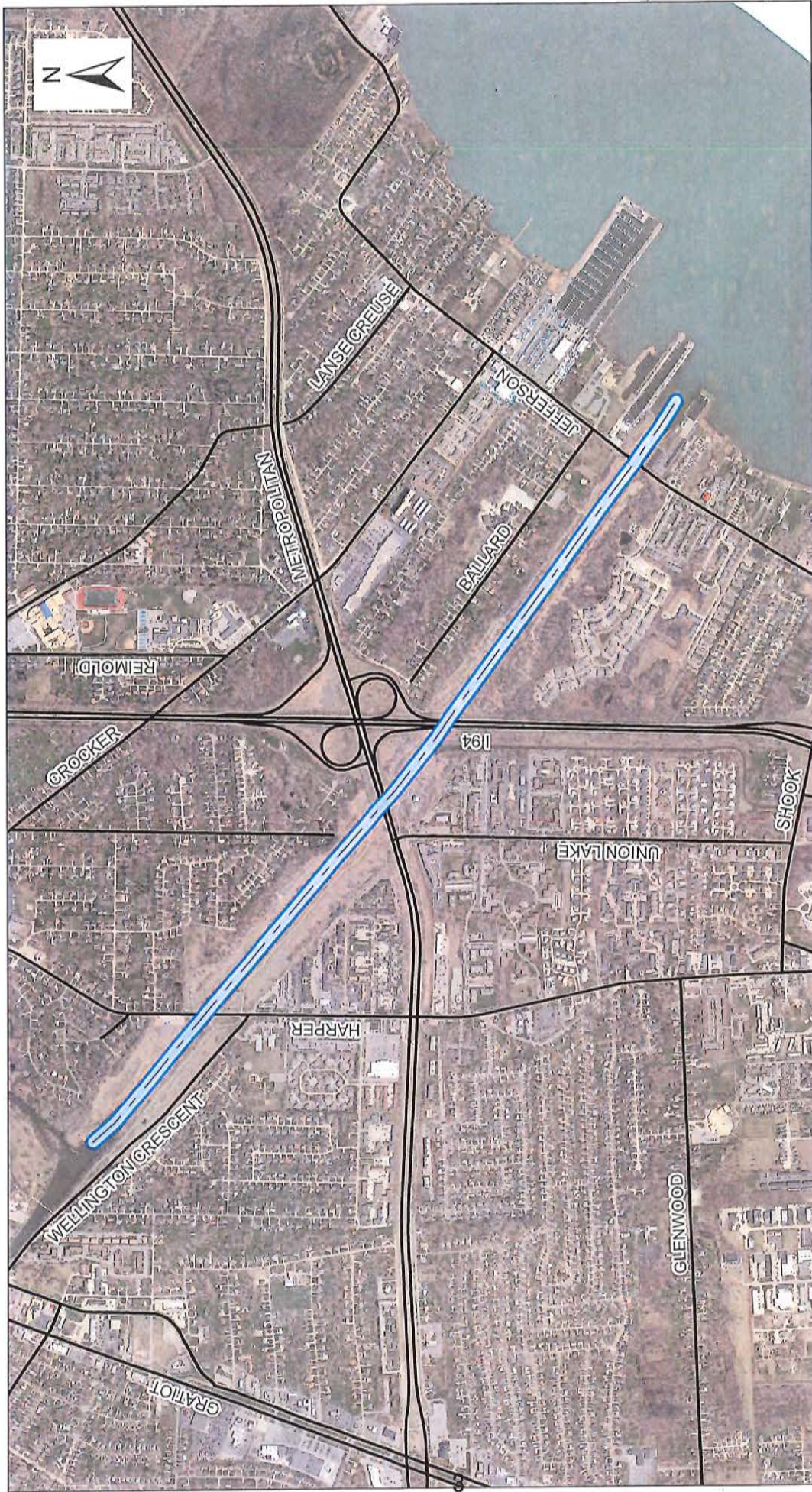
10. Old Business

11. New Business

12. Adjourn

CLINTON RIVER SPILLWAY

LAPEER, MACOMB, OAKLAND, & ST CLAIR COUNTIES



Drain Length (Feet/Miles):
11,281.34 / 2.14

Legend

Open Channel

- Ditch
- Pond

A meeting of the Inter-County Drainage Board for the **CLINTON RIVER SPILLWAY DRAIN** was held in the Office of the Macomb County Public Works Commissioner, 21777 Dunham Road, Clinton Township, Michigan on January 28, 2020.

PRESENT: Michael Gregg, Chairman
Michigan Department of Agriculture & Rural Development

Brian Baker, Acting Secretary
Chief Deputy, Macomb County Public Works Commissioner

Jim Nash, Member
Oakland County Water Resources Commissioner

Joe Suma, Member
Lapeer County Drain Commissioner

Robert Wiley, Member
St. Clair County Drain Commissioner

ALSO PRESENT: Anne Vaara, Chief Deputy; Steve Korth, P.E., Manager; Joel Kohn, Environmental Planner II, Office of Oakland County Water Resources Commissioner, Jeff Bednar P.E., Environmental Resources Manager, Bruce Manning, Financial Manager, Tom Stockel, Construction Engineer, Kellie Kource, Drain Account Specialist, Dan Heaton, Communications Manager, Stephen Downing, Construction & Maintenance Manager, Karen Czernel, Deputy, Macomb County Public Works

The Chairman called the meeting to order at 10:02 a.m.

A motion was made by Mr. Nash, supported by Mr. Suma to approve the agenda with an updated quote for item #6.

Adopted: YEAS: 5
NAYS: 0

The minutes of the meeting of November 20, 2019 were presented. A motion was made by Mr. Nash, supported by Mr. Suma to approve the minutes as presented.

Adopted: YEAS: 5
NAYS: 0

The meeting was open to public participation, then closed, there being no comments from the public.

Mr. Bednar updated the Board that the EPA and NOAA Spillway Improvement projects are complete. A warranty walk through will be completed in the spring and we will go out for bid for continued maintenance.

Mr. Stockel updated the Board that there is a sinkhole approximately 200 feet east of Harper which we will replace.

A motion was made by Mr. Suma, supported by Mr. Wiley to receive and file the project update by Mr. Bednar and Mr. Stockel.

Adopted: YEAS: 5
NAYS: 0

A motion was made by Mr. Suma, supported by Mr. Wiley to approve the quote from Robert Clancy Contracting, Inc. in the amount of \$11,800 for the repair of the sinkhole east of Harper Avenue.

Adopted: YEAS: 5
NAYS: 0

The Chairman presented the invoices totaling \$295,057.91 as provided to the Board for review and approval.

A motion was made by Mr. Suma, supported by Mr. Nash to approve the invoices as presented.

Adopted: YEAS: 5
NAYS: 0

A motion was made by Mr. Suma, supported by Mr. Wiley to receive and file the financial report presented by Mr. Manning.

Adopted: YEAS: 5
NAYS: 0

There being no further business, it was moved by Mr. Suma supported by Mr. Nash that the meeting of the Clinton River Spillway Inter-County Drainage Board be adjourned.

Adopted: YEAS: 5
NAYS: 0

The meeting was adjourned at approximately 10:19 a.m.



Brian Baker, Acting Secretary
Clinton River Spillway Inter-County Drainage Board

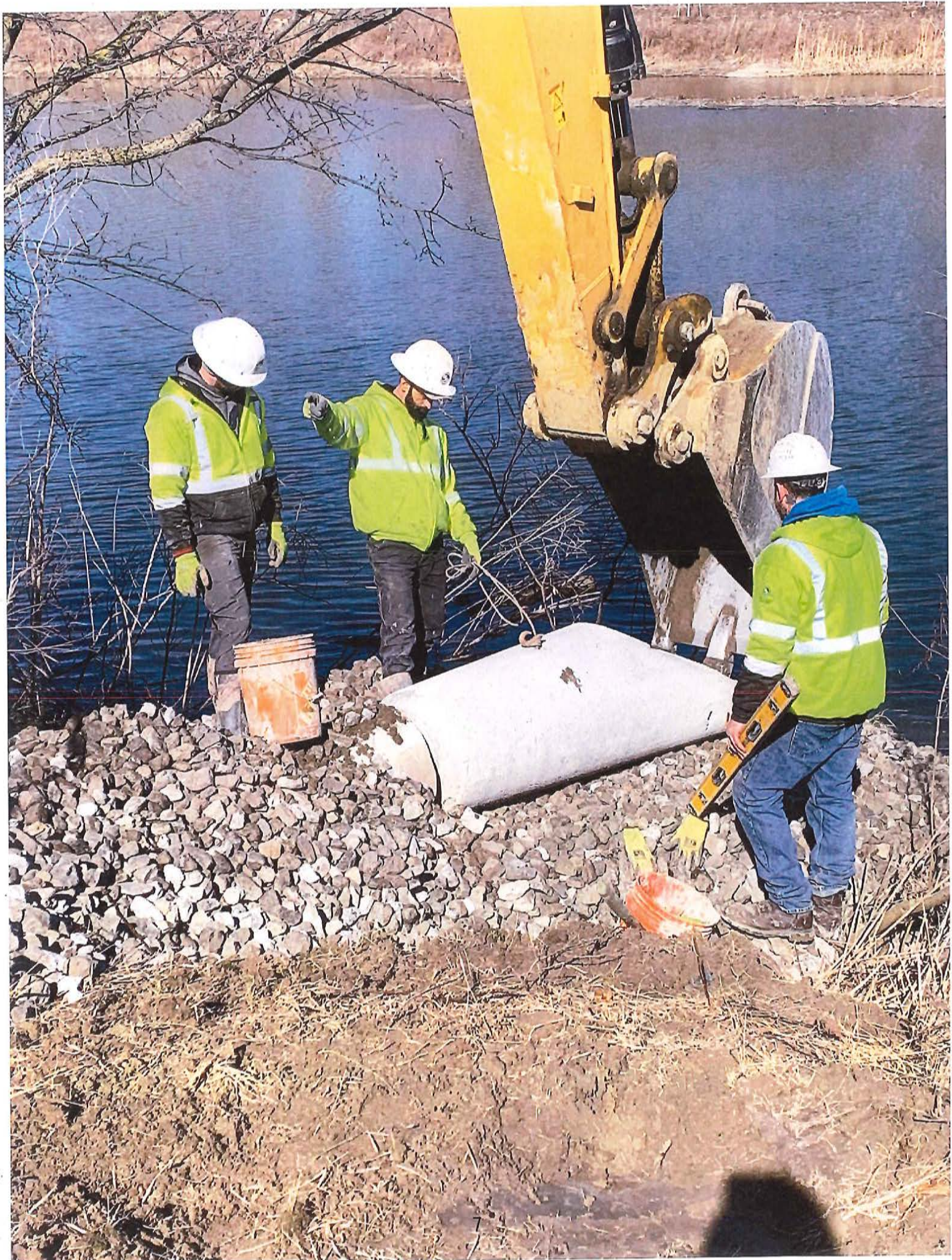
STATE OF MICHIGAN
COUNTY OF MACOMB

I certify that the foregoing is a true and correct copy of proceedings taken by the Inter-County Drainage Board for the Drainage District shown on the attached set of Minutes, on January 28, 2020. The original of which is on file in the Public Works Commissioner's Office. Public notice of the meeting was given pursuant to Act No. 267, Public Acts of Michigan, 1975, including, in the case of a special or rescheduled meeting or a meeting secured for more than 36 hours, notice by posting at least 18 hours prior to the time set for the meeting.



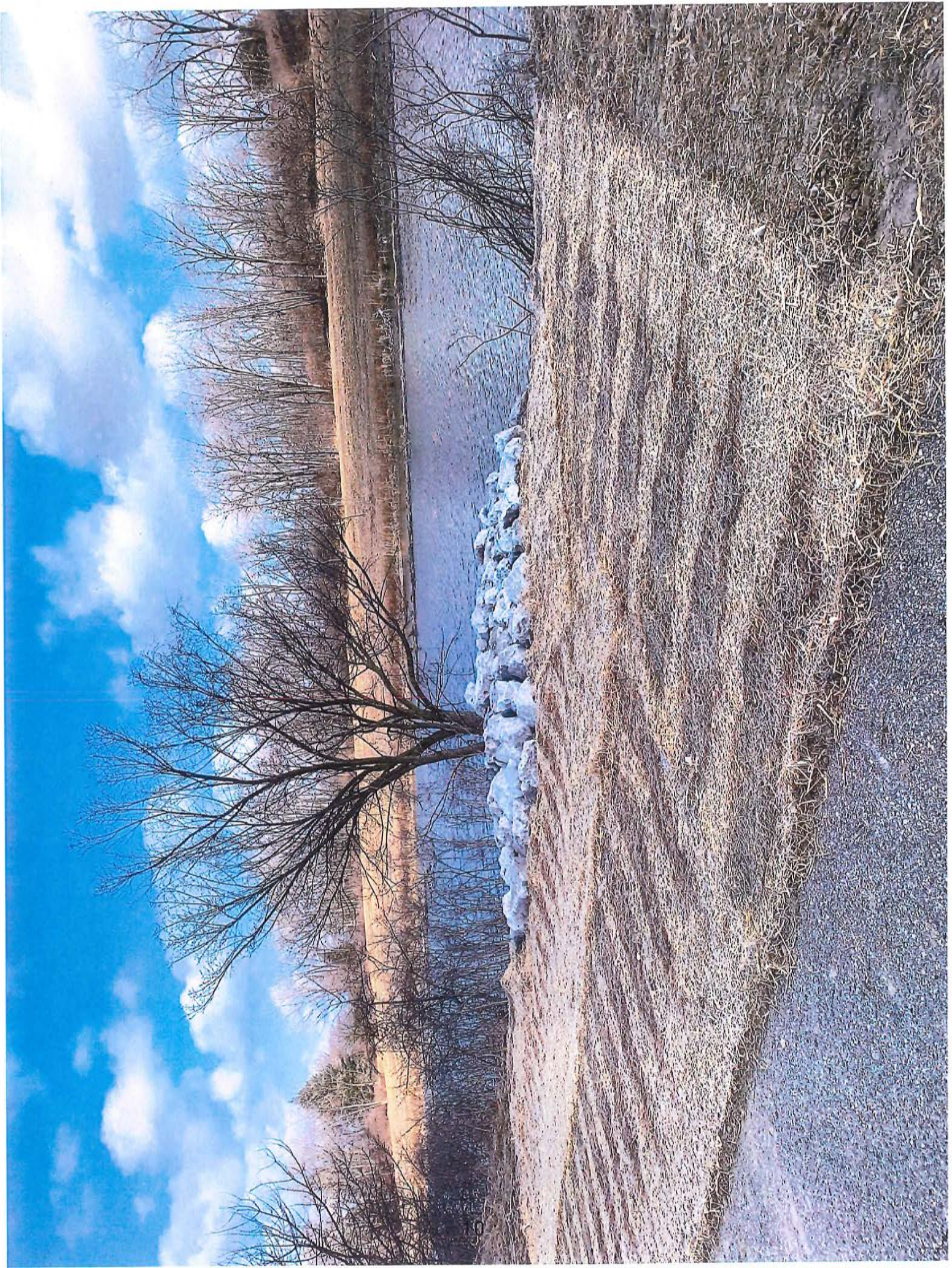
Brian Baker, Acting Secretary
Clinton River Spillway Inter-County Drainage Board

DATED: 1/28/2020











WEIGHT
LIMIT
39
TONS
AHEAD



Candice S. Miller
Public Works Commissioner
Macomb County

To: Inter-County Drain Board
From: Macomb County Public Works Office
Date: April 22, 2020
RE Proposal Evaluation and Project Award Recommendation
MCPWO RFP No.: **SWS-2020-001**
Proposal Name: **Area of Concern (AOC) Maintenance, Treatment and Training**

Proposals were solicited to assist in the further establishment, through invasive species control, maintenance and monitoring, of three (3) Great Lakes Restoration Initiative (GLRI) habitat restoration projects within the Clinton River Watershed Area of Concern (AOC).

This project is funded through a GLRI maintenance grant through the Environmental Protection Agency (EPA). Previously MCPWO was awarded over \$10 million dollars to complete AOC habitat restoration projects on the Clinton River Spillway, McBride Drain, and Partridge Creek Commons (Gloede Drain). These construction projects wrapped up in summer 2019. The new award is to continue invasive species treatment over the next two years, reseed treated areas with the appropriate native seed mix, monitor the success of these treatments, and train staff to implement a long term maintenance strategy to ensure the newly created habitat areas will continue to support diverse wildlife.

The current maintenance grant award is \$190,285 with no match required. The grant funded tasks covered by the proposed contract is \$178,495. The remainder of \$11,790 is designated to fund interns to monitor and map invasive species in the areas upstream of the project areas for the summers of 2020 and 2021. Supporting activities include staff participation in classroom and field training and fall mowing which, although necessary for project success, does not require tracking as in-kind match. Approximately 56% of the grant costs, or \$106,326, is allocated to the Spillway, with the remaining 44% of costs allocated to the McBride and Gloede Drains.

The Request for Proposals (RFP) was advertised from February 7, 2020 to March 11, 2020 on the Michigan Inter-Governmental Trade Network (MITN) website. During the advertising period, 345 solicitations were sent out via MITN and 32 firms downloaded the RFP. One addendum was issued during the course of the RFP to answer questions submitted by proposers.

Proposals were opened March 11, 2020. Five proposals were received. Proposals were reviewed for compliance and ranked by MCPWO staff on the factors listed in the RFP. The possible range of scores was from 0 to 100. The proposers were ranked as follows:

ADDRESS: 21777 Dunham Road, Clinton Township, Michigan 48036 • Phone: 586-469-5325 • Fax: 586-469-5933
ENGINEERING • Phone: 586-469-5910 • Fax: 586-469-7693 ♦ **SOIL EROSION** • Phone: 586-469-5327 • Fax 586-307-8264

Firm	Technical Score
Tri-County Aquatics*	54.50
GEI Consultants	75.00
Davey Tree Experts	86.00
Natural Community Resources	91.00
Cardno	99.00
Maximum Possible Score	100

Firm	Cost
Tri-County Aquatics*	\$153,810
Natural Community Resources	\$176,940
Cardno	\$178,495
Davey Tree Experts	\$296,523
GEI Consultants	\$610,668

*The Tri County Aquatics proposal did not include all of the required elements and was disqualified.

Along with an understanding of the scope of the project and familiarity with the project area, the highest scoring proposals indicated a detailed approach to the staff training element. Interviews were not conducted as staff believed the proposal information was sufficient to adequately score the proposers.

Staff recommends moving forward with Cardno, the highest ranked proposer, as consultant for the grant funded maintenance project described above. Relevant details from Cardno's proposal are attached and the full proposal is on file and available. The proposal is within the allocated treatment, seeding and training budget approved by EPA in the grant award.

On behalf of the Board please indicate approval of this recommendation by signing below. Thank you for consideration of this recommendation.

Approved: _____

Not Approved: _____

Hold: _____

Authorized Board Member Signature

Authorized Board Member Name (print)



Proposal for
Invasive Species Treatment,
Maintenance and Training in
the Partridge Creek
Commons, McBride Drain
and Clinton River Spillway
Proposal SWS-2020-001

Prepared for
Macomb County Public Works Office
21777 Dunham Rd.
Clinton Township, MI 48036

Prepared by
Cardno, Inc.
8000 Kensington Ct.
Brighton, MI 48116
517 862 6897
www.cardno.com

March 11, 2020



Company's Experience and Qualifications

Cardno provides a wide range of infrastructure consulting, design, engineering, and construction services over a broad regional area. We have provided innovative and sustainable solutions to challenging environmental issues in the Midwest for decades. Cardno began working in Michigan as early as 1989. Our multidisciplinary teams of professionals provide a full range of ecological consulting and restoration services, with expertise in watershed planning, stream and ecosystem restoration, mitigation design, full wetland services, endangered species consulting, designing natural systems for stormwater/ wastewater, archaeology, and green infrastructure, regulatory permitting and compliance, and geographic information system (GIS) analysis and database management.

Cardno has successfully completed hundreds of invasive species control projects across the Midwest. Cardno field staff members are trained and experienced in distinguishing target from non-target plant species and in best management practices for herbicide usage. Cardno's restoration field team is certified by the Michigan Department of Agriculture & Rural Development in commercial pesticide applicator in aquatics, forestry, and right-of-way categories. We currently have more than a dozen staff members licensed by the state of Michigan. Extensive training and experience in identification and mapping of invasive species enables the team to work in a highly efficient manner. Our methods may include restoration mowing, spot and boom spray type herbicide application, and woody species removal. Woody species removal may include cut and treat, boom spray type foliar herbicide (where conditions allow), spot foliar application, basal bark herbicide application, mechanical removal, and potentially prescribed fire where conditions allow. Herbaceous species may be removed through spot and/or boom spray herbicide application, strategic mowing, and other various restoration minded methods.

In order to maximize the effectivity of herbicide application, Cardno treats invasive species according to biological indicators such as the flowering stage, and on target application is always a top priority. Sensitive and/or listed species are discussed during tailgate meetings before commencing treatments. Cardno crews utilize paper and electronic field manuals when there is any question pertaining to species identification. Prior to treating sites, a final walk through is conducted to confirm the effectivity of the treatment plan, identify possible non-target species or any other potential negative impacts (e.g. obstructions, sensitive soils, wildlife habitat). Signage, including caution notices, traffic cones and caution tape are posted as needed. Cardno practices proactive communication internally and externally to make the client aware of on-site activities. Our staff is also experienced communicating with the public and explaining our treatment strategies and the safety aspects involved.

Relevant Project Experience

Clinton River Mouth Habitat Restoration – Macomb County, Michigan			
Client Reference	Personnel / Role	Project Cost	Project Dates
Anglin Civil LLC, Doug Anglin, 248-397-4200 (office), 248-397-4200 (mobile)	Shawn Duke / PM, Robin Burke / Field Supervisor, Patrick Duffy / Field Supervisor, Becky Norris / GIS	\$390,000	9/2017-Present
Summary			
Cardno has performed ecological consulting, invasive plant species control, planted trees, and planted emergent and submergent plants at this USACE restoration site on Lake St. Clair since 2017. Due to higher than expected lake levels, the original design provided by USACE required significant modification. Cardno's team of expert consultants collaborated to revise the design in a manner that maintained the integrity of the planned coastal marsh. Management of invasive species has included herbicide application and a controlled burn of <i>Phragmites australis</i> . Planting of 27,000 emergent and submergent plants established native plant material in constructed wetlands and Lake St. Clair itself. Predator fencing was installed in the wetland and open water (four to five feet deep) settings.			

Clinton River Invasive Species Control – Mount Clemens, Macomb County, Michigan

Client Reference	Personnel / Role	Project Cost	Project Dates
Clinton River Spillway Intercounty Drain Drainage Board, Derek Stratelak, 248-454-6870-direct 248-535-3347, dstratelak@hrcenqr.com	Shawn Duke / PM, Robin Burke /Field Supervisor, Frank Sass / Field Technician, Lauren Meyers / Field Technician	\$457,525	October 2015 – June 2019

Summary

The National Oceanic and Atmospheric Administration - Great Lakes Restoration Initiative (NOAA-GLRI) awarded a grant to the Clinton River Spillway Intercounty Drain Drainage Board for habitat improvement planning and design on the Clinton River Spillway in Macomb County. Phase I included enhancing the riparian area through vegetation management on approximately 65 acres along 2.5 miles of the river, which is located in the Clinton River AOC.



Cardno implemented the Invasive Species Control Plan, which includes herbicide treatments of exotic/invasive species from 2015 through 2019. Field crews applied herbicide via boat, ATV, backpack and direct hand application. Common Reed (*Phragmites australis*), reed Canary grass (*Phalaris arundinacea*) and purple loosestrife (*Lythrum Salicaria*) are the three target herbaceous species. Eleven tree/shrub species were treated using the cut-stump and treat method. The cut material was then be disposed off-site. Foliar treatments were administered in the spring/summer to combat re-sprouts. Selective treatments were used over Broadcast to reduce non-target damage.

Cardno continued seasonal maintenance through year 2019 to achieve the desired goals of 98 percent removal of invasive species and 95 percent coverage of native plants within the treatment zones. Removing these species gave the native flora a chance to thrive and provide natural habitat for the local fauna. The native flora will improve the water quality through proper filtration and provide aesthetic value to the community and recreational activities, giving the public enhanced fishing access.

Oakland County Parks Ecological Services – Oakland County, Michigan

Client Reference	Personnel / Role	Project Cost	Project Dates
Oakland County Parks and Recreation, Sarah Maylen, 248-343-1353, maylens@oakgov.com	Shawn Duke / PM, Robin Burke / Field Technician, Patrick Duffy / Field Technician, Becky Norris / GIS	\$585,000	8/2013-Present

Summary

Cardno was contracted to perform selective herbicide treatments on populations of oriental bittersweet (*Celastrus orbiculatus*), swallowwort (*Vincetoxicum* spp.), common reed (*Phragmites australis*), autumn olive (*Elaeagnus umbellata*), and black locust (*Robinia pseudoacacia*). Invasives were controlled within prairie, forest, and wetland ecosystems, covering several hundred acres across nine county parks. Several treatment sites provide habitat for the federally threatened eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*) and an abundance of other native species. Cardno obtained Aquatic Nuisance Control permits for all herbicide work and created maps for future client usage.



Field crews used a combination of backpack and ATV-mounted sprayers as well as hand-wicking and cut-stump methods to treat invasive species, while avoiding damage to desirable native plants. Specific treatment methods and action plans for various land cover types at varying densities were tailored to successfully treat invasive plants found at each site. Due to restricted park access, plant phenology, weather and budget considerations, a detailed project timeline, and daily contingency plans were created and maintained to mitigate against each scheduling concern.

Key Personnel

Cardno has a team of experienced professionals ready to meet the needs of the MCWPO. To provide the highest quality of service and communication, Mr. Shawn Duke will serve as the Cardno's project manager, serving as the primary point of contact with the MCWPO. With over eight years of experience in developing and implementing ecological restoration plans and consulting with clients to meet their environmental needs, Mr. Duke is highly qualified to meet to meet the MCWPO's expectation to manage this contract. He is located and currently manages operations and projects for the Brighton office, which is located approximately 1 hour from the MCWPO, therefore he will be easily accessible to you on a regular and as-needed basis.

Mr. Duke will also serve as our staff training task lead. He will be supported by Ms. Robin Burke and Mr. Patrick Duffy, who will serve as additional tasks leads. Ms. Burke will serve as our annual maintenance task lead conducting monitoring and installation of native. Mr. Duffy will serve as our chemical invasive species treatment task lead planning and implementing efficient and safe treatments to control target species. Mr. Tony St. Aubin will serve as a quality control specialist (QCS) reviewing project plans and implementation practices. Ms. Becky Norris will provide GIS and permitting support using the ArcGIS online platform.

Our project team will work quickly and efficiently with MCWPO to complete tasks on time and within budget. By providing regular and proactive communication, Cardno will provide continual updates on the project status. Tables 1 contains short qualification overviews of our key staff members. Appendix A contains abbreviated resumes for our key staff and copies of Cardno's Pesticide Applicator Business License and Commercial Pesticide Applicator licenses for our key staff and support team.

Table 1. Key Staff Qualifications Overview

Staff / Role / Education / Years of Experience	Qualifications
<p>Shawn Duke <i>Project Manager & Staff Training Task Lead</i></p> <ul style="list-style-type: none"> MS, Biology, Eastern Michigan University; BS, Fisheries and Wildlife, Michigan State University 8 years of professional experience 	<p>As a restoration consultant and field operations lead, Mr. Shawn Duke is primarily responsible for developing and implementing ecological restoration plans. Restoration work includes invasive species control, native plantings, natural shorelines, erosion control, and prescribed fire. Mr. Duke also assists with wetland delineations, habitat and botanical surveys, soil studies, wetland delineations, mitigation projects, environmental monitoring, and endangered species reviews.</p> <p>Certifications: Michigan Commercial Pesticide Applicator Certification, Categories 2, 5 and 6 (#C006140194); Certified Ecological Restoration Practioner, CERP #0204, Society of Ecological Restoration; Certified Michigan Natural Shoreline Professional; NWCG Wildland Firefighter Certification: S-130, S-190, I-100, IS-700; 40-hour OSHA HAZWOPER Certification; Level 2 Equipment Operator.</p>
<p>Robin Burke <i>Annual Maintenance Task Lead</i></p> <ul style="list-style-type: none"> MLA, Landscape Architecture; BA, Environmental Studies, Beloit College 9 years of professional experience 	<p>Ms. Robin Burke is responsible for implementing restoration plans in the field. Restoration work includes invasive species control, native plant installation, and erosion control. She is also experienced in GIS and the use of handheld GPS units, maps and compasses to navigate to plot locations. Prior to joining Cardno, Ms. Burke served as Conservation Planner and Land Protection Manger for Legacy Land Conservancy.</p> <p>Certifications: Michigan Commercial Pesticide Applicator Certification, Categories 5 and 6 (#C003181217)</p>

Staff / Role / Education / Years of Experience	Qualifications
<p>Patrick Duffy <i>Chemical Invasive Species Treatment Task Lead</i></p> <ul style="list-style-type: none"> MS, Forestry, Purdue University; BS, Environmental Science, University of Michigan 7 years of professional experience 	<p>Mr. Patrick Duffy manages restoration plans in the field. He designs, implements, and manages ecological restoration projects that involve invasive species control, native plant establishment, wetland mitigation, stream stabilization, and project monitoring. Mr. Patrick Duffy is both an analytical scientist and hands-on practitioner, having led over 50 natural resource projects per year in the Greater Detroit area and Washtenaw County, with scope of service including cost estimation, design, stakeholder consulting, proposal writing, and implementation. He has 10 years of experience in leadership and teaching, and 5 years of experience in restoration project management. He has mentored, trained, and supervised more than 24 employees and interns.</p> <p>Certifications: Michigan Commercial Pesticide Applicator Certification, Categories 5 and 6; Certified Arborist, ISA; TSP Forest Management, MDARD; S-130, S-190, S-290 Fire Certifications (National Wildfire Coordinating Group)</p>
<p>Tony St. Aubin <i>Quality Control Specialist</i></p> <ul style="list-style-type: none"> BS, Biological Research, Loras College 17 years of professional experience 	<p>Mr. Anthony (Tony) St. Aubin provides oversight and project management to ecological restoration projects across the company and serves as Principal-in-Charge for the most complicated and detailed natural resource restoration projects. With more than 16 years of natural resource experience, he is an integral part to the growth and success in developing Cardno's remediation and emergency response services area. His role includes oversight and personnel management, proposal and contract review/generation, project estimating, planning, and management, and is responsible for profitability, performance, safety, and client satisfaction. Mr. St. Aubin has served on several professional organizations and has given numerous presentations and workshops on the use of native vegetation in the landscape, habitat restoration, and restoration design/ planning.</p> <p>Certifications: 40-hour OSHA HAZWOPER Certification; 8-hour OSHA HAZWOPER Refresher Certification; 10-hour OSHA Safety and Health Training; Wildland Firefighter Certified Training: S-130, S-190, S290; Registered United States Department of Agriculture (USDA) Technical Service Provider (TSP); U.S. Army Corp of Engineers Certified Construction Quality Management</p>
<p>Becky Norris <i>GIS Analyst</i></p> <ul style="list-style-type: none"> MS, Biology, Grand Valley State University; BS, Natural Resource Management, Grand Valley State University 7 year of professional experience 	<p>Ms. Rebecca (Becky) Norris is a staff scientist mainly responsible for GIS analysis, while also providing technical support for fieldwork. With three years of experience in spatial data analysis, she is responsible for the acquisition/creation, management and analysis of large datasets for both small and large multi-year projects, as well as the creation of maps and figures for many of Cardno's GIS projects. Ms. Norris also assists in field botany efforts for wetland delineations, threatened and endangered species surveys, botanical inventories, habitat management as well as aiding in the preparation of reports.</p>

Work Plan and Schedule

Annual Submission of Work Plan

Cardno will submit a work plan in late winter of each year, working with MCPWO to schedule tasks and detail the methods of performing those tasks in upcoming year. Submission of the draft work plan will occur one month before field tasks are expected to begin for the year, in order to allow MCPWO time to review and respond. The work plan will cover annual maintenance (consisting of spring site inspections, spring and fall re-seeding), a staff training event, and chemical invasive species treatment. Though the work plan will specify timing and methods of individual tasks, factors including but not limited to site conditions, weather, or water levels may prompt Cardno to modify timing or methods during the work season; such modifications are to be approved by MCPWO.

Task 1. Annual Maintenance

The full extent of all three project areas will be inspected prior to the start of annual maintenance in the spring of 2020 and 2021. Inspection will assess potential re-seeding areas (30 acres at the Clinton River Spillway, 2 acres at McBride Drain, and 12 acres at Partridge Creek Commons), identifying the success of current herbaceous growth and the extent of re-seeding required to increase plant diversity, increase plant density, and improve slope stability. Inspection may also assess extent of invasive species.

Re-seeding will be performed four times, once each in late spring and fall of 2020 and again in 2021. The method of seed application at each site will reflect site conditions at the time of each re-seeding, as determined during the spring inspection or subsequent site visits closer to the time of seeding. For each seeding area, factors including but not limited to slope, soil conditions, condition of existing native and invasive plant populations, size of seeding area, and access routes to seeding area will be used to select the appropriate method and equipment. Methods and equipment will be proposed in the annual work plan but may be modified with approval from MCPWO.

Seeding methods may include hand-broadcasting, broadcasting via ATV, broadcasting via amphibious vehicle, tractor drill seeding, no-till tractor seeding, clay balls, or hydroseeding.

Table 2 contains the seed mix composition per acre for Macomb Drain. Cardno developed this mix to maximize germination and establishment of native herbaceous species in the specific conditions found at the three sites. The mix will be modified slightly to achieve the highest possible level of establishment in areas with differing micro-topographical, moisture and soil conditions. The mix includes a significant level of native forb species that are ideal for increasing pollinator habitat in south-east Michigan. The graminoid component will provide both wildlife habitat and stabilization.

Table 2. Seed Mix Composition per Acre

Scientific Name	Common Name	Quantity	Unit
<i>Andropogon gerardii</i>	big bluestem grass	32	per acre
<i>Avena sativa</i>	oats	512	per acre
<i>Carex vulpinoidea</i>	brown fox sedge	5	per acre
<i>Chamaecrista fasciculata</i>	partridge pea	6	per acre
<i>Coreopsis lanceolata</i>	sand coreopsis	4	per acre
<i>Elymus canadensis</i>	Canada wild rye	32	per acre
<i>Elymus virginicus</i>	Virginia wild rye	48	per acre
<i>Monarda fistulosa</i>	wild bergamot	1	per acre
<i>Panicum virgatum</i>	switch grass	12	per acre
<i>Rudbeckia hirta</i>	black-eyed susan	6	per acre
<i>Schizachyrium scoparium</i>	little bluestem	26	per acre
<i>Scirpus cyperinus</i>	wool grass	1	per acre
<i>Silphium perfoliatum</i>	cup plant	4	per acre
<i>Sorghastrum nutans</i>	Indian grass	16	per acre
<i>Symphotrichum novae-angliae</i>	New England aster	1	per acre
<i>Verbena hastata</i>	blue vervain	4	per acre

Task 2. Staff Training

Cardno will provide one full-day training session for MCPWO and township staff annually, before the late spring maintenance season. The workshop will consist of a morning presentation indoors, followed by a field training session in the afternoon. Hands-on training will cover native landscape management goals, identification of invasive species, and best management practices for invasive species, including guidelines for mowing invasive treatment management areas. Together, these topics should prepare the staff to implement a long-term maintenance strategy to ensure the newly-created habitat areas continue to support diverse plant and animal communities.

Appendix B contains a draft training agenda, which includes equipment-based training, chemical controls, appropriate regimens of integrated weed management and a sample of a PowerPoint we developed for the Michigan Cooperative Invasive Species Management Areas (CISMA) training presentation can be modified to meet the MCPWO's needs.

Task 3. Chemical Invasive Species Treatment

Cardno will perform chemical invasive species treatment during the growing season for two years. Chemical treatment will target woody species including but not limited to common and glossy buckthorn, honeysuckle, privet, autumn olive, Russian olive, Japanese barberry, Asian bittersweet, and crabapple; and herbaceous species including but not limited to reed canary grass, thistle, purple loosestrife, burdock, swallow-wort, garlic mustard, and *Phragmites australis*. The treatments will occur within the specified treatment areas: 62.5 acres at the Clinton River Spillway, 10 acres at McBride Drain, and 44 acres at Partridge Creek Commons. Alternative methods to foliar chemical control would be discussed on a case-by-case basis with MCPWO prior to implementation.

For herbaceous invasive species, Cardno recommends four complete treatments between April 2020 and November 2021, with two complete treatments of woody invasive species during the same window. Exact treatment timing should be based on phenology and susceptibility to herbicide according to best practices. As such, treatments will target the species susceptible at the time of treatment. Targeted foliar herbicide application will be performed using hand-operated wands on low-pressure backpack sprayers or hand operated wands on an ORV-mounted high-pressure tank as appropriate.

Treatment will be performed under pesticide permits held by the Lake St. Clair Cooperative Invasive Species Management Area (LSC CISMA) on behalf of the MCWPO. Cardno will submit herbicide applications records to MCPWO at the completion of the project, or annually as required for ANC reporting. Records will include date, time, location, area treated, chemical brand name and USEPA registration number, surfactant name, amount of concentrated herbicide applied (oz), amount of surfactant applied (oz), total amount of mix applied (gal), weather at treatment and 24 hours after application, shapefiles of exact treated locations, contractor and applicator names, applicator contact information and certification number, and any other necessary details (target plant, etc.). Data will be delivered in ArcGIS format compatible with current Macomb County layers (data fields will be provided for reference).

All herbicide applicators will have current pesticide applicator licenses granted by the Michigan Department of Agriculture and Rural Development, and will follow all state and federal regulations for the treatment of invasive species. Cardno will post signage to indicate herbicide application areas and follow any posting and notification requirements required by the product label and state/federal laws and regulations. Cardno will take all precautions to eliminate the chance of drift onto non-target plants.

Herbicide used will be a combination of glyphosate at 2% (Rodeo) and imazapyr at 2% (Habitat or approved equal). Cardno could also use a similar herbicide such as imazamox at approved label rates for the species of concern. Cardno will use a surfactant (e.g. Cygnet Plus or approved equal) at approved label rates to aid in herbicide absorption. Final herbicide mix, including dye, and any other adjuvants must be appropriate for application method and follow Best Control Practices from MNFI/MDNR. Cardno will specify herbicide application methods to be used in the work plan, and any deviations from that plan must be approved by MCPWO.



PROPOSAL FOR INVASIVE SPECIES TREATMENT, MAINTENANCE AND TRAINING IN THE PARTRIDGE CREEK COMMONS, MCBRIDE DRAIN AND CLINTON RIVER SPILLWAY



Project Schedule

Table 3 below shows Cardno's anticipated project schedule for 2020 and 2021. Cardno will work with the MCPWO to revise schedule as needed for 2021.

Table 3. Project Schedule

Task	Description	Days to Complete	January - March	April - June	July - September	October - December
Work Plan Submission & Approval						
Write & submit work plan draft	Cardno submits annual work plan draft to MCPWO.	4				
Modify draft(s) to create & submit final work plan	Modify draft based on MCPWO review and response. Subsequent drafts follow as needed.	3				
Annual Maintenance						
Inspect Re-seeding Areas	Up to 2 visits each to Clinton River Spillway (30ac), McBride Drain (2 ac) & Partridge Creek Commons (12 ac)	6				
Seed Application	Clinton River Spillway - 30 ac: Install native seed mixes and erosion control 2 times.	6				
Seed Application	McBride Drain - 2 ac: Install native seed mixes and erosion control 2 times.	3				
Seed Application	Partridge Creek Commons - 12 ac: Install native seed mixes and erosion control 2 times.	4				
Staff Training						
Training Preparation	Cardno staff prepares materials and finalizes agenda for training session.	0.5				
Staff Training Event	Cardno hosts full-day workshop with hands-on training for native landscape maintenance and invasive species control.	1				
Training Follow-up	Cardno hosts full-day workshop with hands-on training for native landscape maintenance and invasive species control.	1				



PROPOSAL FOR INVASIVE SPECIES TREATMENT, MAINTENANCE AND TRAINING IN THE PARTRIDGE CREEK COMMONS, MCBRIDE DRAIN AND CLINTON RIVER SPILLWAY

Task	Description	Days to Complete	January - March	April - June	July - September	October - December
Chemical Invasive Species Control						
Herbaceous Invasive Species Control	Clinton River Spillway (62.5 ac): Foliar spray, 1 sweep in early growing season, 1 sweep in late growing season.	7				
Herbaceous Invasive Species Control	McBride Drain (10 ac): Foliar spray, 1 sweep in early growing season, 1 sweep in late growing season.	4				
Herbaceous Invasive Species Control	Partridge Creek (44 ac): Foliar spray, 1 sweep in early growing season, 1 sweep in late growing season.	6				
Woody Herbaceous Invasives Control	Clinton River Spillway (62.5 ac): Foliar spray, 1 sweep during growing season.	7				
Woody Herbaceous Invasives Control	McBride Drain (10 ac): Foliar spray, 1 sweep during growing season.	4				
Woody Herbaceous Invasives Control	Partridge Creek (44 ac): Foliar spray, 1 sweep during growing season.	6				

Cost

Table 4 contains a breakdown of our cost proposal as requested in the RFP. Table 5 contains our FY2020 Hourly Fee Schedule and Table 6 contains our FY2020 Expenses & Equipment Schedule.

Table 4. Cost Proposal Matrix

Key Personnel	Total Hours	Percent of Time	Hourly Rate	Labor Category	Cost
Annual Maintenance					
Shawn Duke	23	8%	\$81	Senior Staff Consultant	\$1,863
Robin Burke	131	43%	\$58	Technician	\$7,598
Becky Norris	8	3%	\$88	Staff Consultant	\$704
Field Technicians/Supervisors	140	46%	\$45-81	Field Technician/ Technician/ Senior Technician	\$7,700
Materials, Equipment and Expenses (Includes Native Seed)	NA	NA	NA	NA	\$28,310
Annual Maintenance Total	302	100%	NA	NA	\$46,175
Staff Training					
Shawn Duke	22	50%	\$81	Senior Staff Consultant	\$1,782
Robin Burke	22	50%	\$58	Technician	\$1,276
Materials, Equipment and Expenses	NA	NA	NA	NA	\$500
Staff Training Total	46	100%	NA	NA	\$3,558
Chemical Invasive Species Treatment					
Shawn Duke	52	3%	\$81	Senior Staff Consultant	\$4,212
Patrick Duffy	283	15%	\$67	Technician	\$18,961
Robin Burke	283	15%	\$58	Technician	\$16,414
Becky Norris	16	1%	\$88	Staff Consultant	\$1,408
Field Technicians/Supervisors	1266	67%	\$45-81	Field Technician/ Technician/ Senior Technician	\$68,787
Materials, Equipment and Expenses (Includes Herbicide)	NA	NA	NA	NA	\$18,980
Chemical Invasive Species Treatment Total	1900	100%	NA	NA	\$128,762
Project Total					\$178,495











ROBERT CLANCY CONTRACTING, INC.

T & M Rates

SUBMITTED TO:	PHONE: 586 615 4198	DATE: 4/24/2020
NAME: Macomb County DPW		
STREET: 115 S. Grosebeck Hwy	JOB NAME: Clinton River Spillway Inter-County Drain	
CITY/STATE: Mt. Clemens, MI 48043	STREET: 16 Mile and Harper	
ATTN: Mr. Tom Stockel	CITY/STATE: Clinton Twp	

HOURLY RATES

1.) CAT 320 / 315 / 316 EXCAVATOR	\$ 175.00 PER HOUR
2.) CAT 307 / 308 EXCAVATOR	\$ 140.00 PER HOUR
3.) CAT D6 / D5 DOZER	\$ 150.00 PER HOUR
4.) CAT 938 LOADER	\$ 150.00 PER HOUR
5.) CAT 299 SKIDSTEER	\$ 125.00 PER HOUR
6.) TOOL TRUCK (PUMPS, GENERATOR, ETC)	\$ 150.00 PER DAY
7.) FOREMAN	\$ 95.00 PER HOUR
8.) LABOR	\$ 65.00 PER HOUR
9.) MOBILIZATION	\$ 500.00 PER MACHINE

Exclusions

Permits, bonds and/or inspection fees
 Layout and engineering services
 Stone bedding (unless otherwise stated)
 Soil erosion devices (unless otherwise stated)
 Imported backfill material (unless otherwise stated)

Excavation for building foundations
 Removal of contaminated spoils
 Tree, stump or brush removal or replacement
 Curb grade (unless otherwise stated)
 Landscape restoration/Irrigation repair
 Traffic Control (unless otherwise stated)

Pavement Restoration
 TV testing of sanitary sewer
 De-watering
 Compaction testing

Page 1 of 1

ALL MATERIAL IS GUARANTEED TO BE AS SPECIFIED. ALL WORK TO BE COMPLETED IN A WORKMANLIKE MANNER ACCORDING TO STANDARD PRACTICE. ANY ALTERATION OR DEVIATION FROM ABOVE SPECIFICATIONS INVOLVING EXTRA COSTS, WILL BE EXECUTED ONLY UPON WRITTEN ORDER, AND WILL BECOME AN EXTRA CHARGE OVER AND ABOVE THE ESTIMATE. ALL AGREEMENTS CONTINGENT UPON STRIKES, ACCIDENTS, OR DELAYS BEYOND OUR CONTROL. OWNER TO CARRY FIRE, TORNADO AND OTHER NECESSARY INSURANCE. OUR WORKERS ARE FULLY COVERED BY WORKERS COMPENSATION INSURANCE.

Authorized Signature: _____

Robert G. Clancy, President

NOTE: THIS PROPOSAL MAY BE WITHDRAWN BY US IF NOT ACCEPTED WITHIN 30 DAYS.

THE ABOVE PRICES, SPECIFICATIONS AND CONDITIONS ARE SATISFACTORY AND ARE HEREBY ACCEPTED. YOU ARE AUTHORIZED TO DO THE WORK AS SPECIFIED. PAYMENT WILL BE MADE AS OUTLINED BELOW.

Payment to be made as follows: **Progress Payments**

*A monthly service charge of 1.5% (18% per annum) will be charged to past due balances

Accepted: _____

Date _____

Authorized Signature _____

Please Sign, Date and Return Original to Robert Clancy Contracting, Inc. - Retain a Copy for Your Records



2020 Hourly Rates for Labor and Equipment

345 Excavator	\$195.00 per hour
336 Excavator	\$185.00 per hour
320 Excavator	\$175.00 per hour
314 Excavator	\$155.00 per hour
305.5 Mini Excavator	\$95.00 per hour
950 Loader	\$155.00 per hour
938 Loader	\$145.00 per hour
Mini Loader	\$95.00 per hour
Skidsteer	\$85.00 per hour
D3 Dozer	\$130.00 per hour
Roller	\$105.00 per hour
Lowboy Truck	\$90.00 per hour
Semi Truck Lead	\$75.00 per hour
Semi Truck Train	\$90.00 per hour
Tandem Truck	\$60.00 per hour
Tool Truck	\$65.00 per hour
Pickup Truck	\$15.00 per hour
Operator	\$80.00 per hour
Foreman	\$75.00 per hour
Laborer	\$70.00 per hour
Truck Driver (CDL)	\$65.00 per hour

Minimum time charge is 4 hours

Overtime / Premium Time (1.5 times hourly rate)

Stock & Materials = Cost plus 15%

Subcontracted services = Fee plus 10%

CLINTON RIVER SPILLWAY DRAIN 1/28/20 - 4/21/20

<u>Funding Source</u>	<u>Appropriation</u>	<u>Manager</u>	<u>Vendor</u>	<u>Amount</u>	<u>Invoice Detail</u>	<u>Project Summary</u>	<u>Project Balance</u>
Clinton River Spillway	Chapter 21	Slanec	Oceanview Excavation	\$ 622.50	Invoice #620 - 2.5.20	Tree Removal	
		Bednar	Robert Clancy Contracting	\$ 11,800.00	Invoice #8675 - 3.4.20	Emergency Sinkhole Repair - 16 & Harper	
		Slanec	Waste Management	\$ 996.73	Invoice #7688320-1797-6	Garbage Pickup - Woody Debris	
			Total	\$ 13,419.23			

YTD Trial Balance

Fund: Clinton River Spillway

As of Fiscal Period: Oct 1, 2019-Mar 31, 2020

	O&M Balance 9/30/2019	O&M	TOTAL 3/31/2020
Cash - Operating	225,019	(17,815)	207,204
Accounts Receivable			0
Assets			0
Liabilities			0
Revenues		2,327	2,327
Expenditures		20,142	20,142
Equity	225,019		207,204