

September 11, 2020

Macomb County Public Works Commissioner's Office
21777 Dunham
Clinton Township, Michigan 48036

Attn: Mr. Jeff Bednar, P.E.
Environmental Engineer

Re: Plumbrook -Gibson Intercounty Drain Study
Proposal for Professional Services

HRC Job No. 20200315

Dear Mr. Bednar,

Hubbell, Roth & Clark, Inc. (HRC) is pleased to submit this scope of services related to the Plumbrook -Gibson Intercounty Drain Study.

It is our understanding that Macomb and Oakland Counties are interested in establishing a Chapter 21 Intercounty Drain over the watercourse between Dequindre and Ryan Roads in Sterling Heights. Previous work by our office has mapped this stretch based on Route and Course descriptions in Final Orders as the Plumbrook Branch Drain (1972) and the Gibson Drain (1896). Within the larger tributary area is a small designated district for the Plumbrook Drain Replacement Bridge (1999) over Ryan Road. There are several stormwater ponds in line with this watercourse on either side of 18 Mile Road that do not appear to be assets of the drainage districts even though the drains traverse through the ponds. Further, there are several intracounty drains on each end of this stretch in both counties. HRC has previously performed a visual inspection of the watercourse from the southern most pond to Dequindre. No survey work was completed at that time. The downstream limits of the proposed inspection is at Ryan Road. HRC has inspection data on the Plumbrook from Mound to south of 18 Mile for another project. We have included inspecting the last portion of the drain, from Ryan to Mound to ensure that the outlet to the proposed Intercounty Drain is open and conveyance is available at the same time. Please note that we have not included costs to extend the Chapter 21 to Mound in these estimate costs.

Prior to initiating proceedings under the Drain Code to establish this stretch as a new Intercounty Drain, the parties want to:

- ≡ Better understand the existing conditions of the drain(s), ponds, outlets, and crossings.
- ≡ Identify necessary Operations and Maintenance needs.
- ≡ Develop a short and long term Capital Improvement Plan.
- ≡ Identify and describe the current Route and Course.
- ≡ Identify and describe the current drainage district.
- ≡ Reference and comment on all readily available easements
- ≡ Provide preliminary estimates on apportionments.

The goal and final deliverable of this project is a clear understanding of the restoration needs, costs, and benefits to the local communities should a Chapter 21 Intercounty Drain be established.

Tasks with Estimated Hours (in parentheses):

- ≡ Data Collection and Review
 - OCWRC, MCPWO, and Sterling Heights data (24 hours)
 - Kickoff meeting (one meeting, preferable in person but likely virtual)
 - GIS files
 - Models if available
 - Flooding complaint locations
 - Past inspections and historical data
 - Plans for the drain, bridge, and ponds
 - Confirmation of scope and deliverables with District legal counsel
 - Historical drainage district descriptions including any districts that surround these
 - HRC Data (NA)
 - Files from previous work on the Nelson, Plumbrook, and subdivisions or roads
 - Data from previous inspections in and near this area

- ≡ Field Assessment, Survey, Plan Preparation
 - Perform inspection with Arc Collector (40 hours)
 - Identify potential encroachment and access issues
 - Visually inspect the ponds, shorelines, outlets, inlets, control structures for the ponds, etc.
 - Collect survey information (40 hours)
 - Route and course
 - Limited cross-sections as needed for possible model validation or future analysis
 - Pond inlets and outlets
 - Process field data (16 hours)
 - Field inspection, survey, processing, and inclusion of our findings in the report for the Ryan to Mound reach. (60 hours)
 - Prepare plans showing field data (80 hours)
 - Plans and exhibits
 - Route and Course description
 - Drainage District boundaries
 - Existing easements

- ≡ Data Analysis
 - Review field assessment and survey data (20 hours)
 - Determine drain needs, district benefits (conveyance, storage, and water quality), Capital Improvement Plan, and Operation and Maintenance needs, preliminary assessments (80 hours)
 - Create exhibits showing the results of the field assessment (20 hours)

- ≡ Review Findings with County Staff
 - Two meetings with County staffs to review findings (32 hours)
 - Adjust per County feedback (16 hours)

- ≡ Summary Report
 - Provide a report summarizing our findings (16 hours)
 - Provide necessary documents to establish the unnamed tributary as a county drain (see above)
 - One meeting with Drainage Board or Stakeholders to present findings (8 hours)

Estimated Budget

Below is our estimate of the costs for the scope above.

≡ Data Collection and Review.....	24 Hours	\$3,200
≡ Field Assessment, Survey, Plan Preparation.....	236 Hours	\$30,000
≡ Data Analysis.....	120 Hours	\$15,000
≡ Review Findings with Counties.....	48 Hours	\$6,500
≡ Summary Report.....	24 Hours	\$3,200
 TOTALS.....	 453 HOURS.....	 \$57,900

Please note, full easement research for the full reach and investigation is not included herein. This would be completed in a later phase. During our file review, field investigation, and general drain research we will collect, note, and show all found easements on our exhibits so the County's and Drainage Board have an idea of the possible easement issues should this move forward. We will not be researching each property and the historic records for easements.

Schedule

Anticipating approval in early October, HRC would schedule a kickoff meeting by mid October with field assessment and survey work to begin in late October. Data Analysis will be completed by the end of November. We will review the findings with the Counties in December and complete the report by January 2021.

Staffing

This project will be overseen by James Burton, Principal in Charge; Lynne Seymour, Project Manager; Andy Groat, Field Manager, and HRC's Environmental Engineering, GIS, and Survey Departments will provide staffing support.

Should you concur with this proposal, please sign below to serve as our authorization to proceed or provide authorization by work order. If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.

James F. Burton, P.E.
 Vice President

JFB

pc: OCWRC: Mr. Steve Korth
 FSB: Ms. Stacy Hissong
 HRC; L.Seymour, A.Groat, Files

Accepted By:

Signature: _____

Written Name: _____

Title: _____

Dated: _____