Mr. Jim Prom Bassett Creek Watershed Management Commission 7800 Golden Valley Road Golden Valley, MN 55427 Page # 1

Invoice # 23270051-2019-7

Project # 23/27-0051

Client # 59 September 6, 2019

Invoice of Account with BARR ENGINEERING COMPANY

For professional services during the period of July 27, 2019 through August 30, 2019

ENGINEERING

TECHNICAL SERVICES

Scan and provide Crystal flood proofing plans (part of flood control project) to Crystal homeowner and provide floodproofing plans for individual homeowners to Crystal staff; prepare 2018 water quality data graphs and provide to administrator; communications with Minneapolis staff regarding the old Bassett Creek tunnel and 50 cfs flow requirement; communications with Golden Valley staff and administrator regarding BCWMC role in South Rice Pond/Sochacki Park follow-up activities, including upcoming South Rice Pond/Sochacki Park meetings; communications with administrator regarding CIP project list; communications with SWLRT consultant regarding tunnel flows and inspection; Irving Avenue sanitary sewer replacement project: gather and review information from Bryn Mawr and Main Stem feasibility studies/projects in preparation for meeting, attend August 5 meeting with Minneapolis consultant and administrator regarding the project, Bassett Creek crossing, projects in area, and available information, review/edit Minneapolis consultant's meeting notes and provide additional information, and communications with Minneapolis consultant regarding final meeting notes; communications with Golden Valley staff regarding upstream/downstream flood elevations at Golden Valley Road; communications with administrator regarding applying for CWF grant for Bryn Mawr CIP project; BCWMC jurisdictional boundary: review data sources and BCWMC boundary based on different source data, communications with administrator and internal staff regarding recommended review steps, and internal communications to begin review; communications with Plymouth staff regarding buffer standards; Requirements document update: revise document per updated manufactured treatment device (MTD) language and prepare draft Stormwater MTD Pre-application form, internal discussion regarding revisions, communications with administrator regarding proposed additional revisions to document, update document to clarify policy and reorganize sections for ease of use, and internal review of additional edits; communications with administrator regarding MTDs and MPCA; briefly review draft Minnetonka 2040 Comprehensive Plan and communications with administrator regarding suggested next steps; communications with subconsultant and internal staff regarding Lost Lake resident inquiry; and 9930 South Shore Drive flooding issue: request information from Plymouth staff, internal meeting regarding tributary area and flow patterns; set up and hold conference call with Plymouth staff to discuss findings regarding drainage patterns and watershed boundaries, prepare memo and maps summarizing findings

and next steps/recommendations, and send to Plymouth staff and administrator, and communications with Plymouth staff and administrator.

James P. Herbert, Principal Engineer/Scientist 15.5 hours @ \$195.00 per hour\$	3,022.50
Karen L. Chandler, Principal Engineer/Scientist 51.6 hours @ \$175.00 per hour\$	9,030.00
Sterling 'Greg' Williams, Engineer/Scientist/Specialist III 0.5 hours @ \$140.00 per hour\$	70.00
Margaret R. Rattei, Engineer/Scientist/Specialist III 0.9 hours @ \$135.00 per hour\$	121.50
Michelle A. Kimble, Engineer/Scientist/Specialist III 2.0 hours @ \$135.00 per hour\$	270.00
Ross S. Mullen, Engineer/Scientist/Specialist II 23.9 hours @ \$110.00 per hour\$	2,629.00
Josh P. Phillips, Engineer/Scientist/Specialist II 14.9 hours @ \$95.00 per hour\$	1,415.50
Joshua R. Vosejpka, Engineer/Scientist/Specialist I 0.3 hours @ \$85.00 per hour\$	25.50
Tyler A. Olsen, Engineer/Scientist/Specialist I 1.0 hours @ \$85.00 per hour\$	85.00
Technicians/Administrative\$_	764.00
Subtotal, Technical Services\$	17,433.00

MONTHLY MEETING PREPARATION

Communications/coordination with administrator and internal staff regarding draft/final agenda and meeting packet for August Commission meeting; review/edit draft July meeting minutes; prepare for August Commission meeting, including pre-meeting conference call with Chair Prom and administrator, looking into details of 2019 non-fee and preliminary review charges in response to 2019 budget review agenda item, reviewing 2020 proposed budget details and communications with administrator regarding 2020 Medicine Lake monitoring budget in response to 2020 budget agenda item, review/edit CIP prioritization table, and review meeting packet; and communications with administrator and internal staff regarding follow-up items from August Commission meeting and upcoming meeting agenda items.

Subtotal Technical Services\$	22,734.50
Subtotal, Monthly Meeting Preparation\$	5,301.50
Technicians/Administrative\$_	542.50
Karen L. Chandler, Principal Engineer/Scientist 21.4 hours @ \$175.00 per hour\$	3,745.00
James P. Herbert, Principal Engineer/Scientist 5.2 hours @ \$195.00 per hour\$	1,014.00

PLAT REVIEW

Golden Valley Road Senior Living (2017-35)

Review revised resubmittal.

Josh P. Phillips, Engineer/Scientist/Specialist II	
0.2 hours @ \$95.00 per hour	\$ <u> 19.00</u>
Subtotal. Golden Vallev Road Senior Livina	\$ 19.00

Days Inn Remodel (2019-17)

Review grading, drainage and erosion control plans for erosion and sediment control; communications with applicant; and prepare and send approval letter to city staff.

James P. Herbert, Principal Engineer/Scientist	
1.6 hours @ \$195.00 per hour\$	312.00
Josh P. Phillips, Engineer/Scientist/Specialist II	
2.4 hours @ \$95.00 per hour\$_	228.00
Subtotal, Days Inn Remodel\$	540.00

Northwest Campus Improvements (2019-18)

Communications with applicant regarding responses to comment letter and project changes; and review revised grading, drainage and erosion control plans for erosion and sediment control.

James P. Herbert, Principal Engineer/Scientist	
0.5 hours @ \$195.00 per hour	\$ 97.50
Josh P. Phillips, Engineer/Scientist/Specialist II	
3.1 hours @ \$95.00 per hour	\$ 294.50
Subtotal, Northwest Campus Improvements	\$ 392.00

Ascension Lutheran Church Addition (2019-19)

Review revised grading, drainage and erosion control plans for erosion and sediment control; and prepare and send approval letter to city staff.

James P. Herbert, Principal Engineer/Scientist 1.0 hours @ \$195.00 per hour	\$ 195.00
Josh P. Phillips, Engineer/Scientist/Specialist II 0.3 hours @ \$95.00 per hour	\$ 28.50
Subtotal, Ascension Lutheran Church Addition	\$ 223.50

Damascus Way Re-Entry Center (2019-20)

Review grading, drainage and erosion control plans for erosion and sediment control; prepare and send comment letter to city staff; review revised grading, drainage and erosion control plans; prepare and send approval letter to city staff; and communications with applicant.

James P. Herbert, Principal Engineer/Scientist	
0.5 hours @ \$195.00 per hour\$	97.50

Subtotal Plat Review\$	1,633.50
Subtotal, Damascus Way Re-Entry Center\$	459.00
Expenses (Postage)	0.50
Technicians/Administrative\$	47.50
Josh P. Phillips, Engineer/Scientist/Specialist II 3.3 hours @ \$95.00 per hour\$	313.50
loch P. Phillins, Engineer/Scientist/Specialist II	

PRELIMINARY COMMUNICATIONS AND NON-FEE REVIEWS

PRELIMINARY COMMUNICATIONS

Communications with Medicine Lake consultant and resident regarding projects/home construction in the city and floodplain policies; and communications with consultant regarding BCWMC requirements for proposed solar project.

Subtotal. Preliminary Communications\$	389.00
0.4 hours @ \$95.00 per hour\$_	38.00
Josh P. Phillips, Engineer/Scientist/Specialist II	
1.8 hours @ \$195.00 per hour\$	351.00
James P. Herbert, Principal Engineer/Scientist	

NON-FEE REVIEWS

Bassett Creek Valley

Review/edit July 24 design charette meeting notes and send to Wenck and administrator; provide 2000 Main Stem study to Wenck, Minneapolis staff and administrator via ftp site; and pull together and provide 500-year flood profile to Wenck.

Karen L. Chandler, Principal Engineer/Scientist 3.2 hours @ \$175.00 per hour	\$ 560.00
Ross S. Mullen, Engineer/Scientist/Specialist II 1.5 hours @ \$110.00 per hour	\$ 165.00
Subtotal, Bassett Creek Valley	\$ 725.00
510 Cloverleaf Drive (Channel Maintenance Fund)	
Prepare and send approval letter to city staff.	
James P. Herbert, Principal Engineer/Scientist	
0.8 hours @ \$195.00 per hour	\$ <u> 156.00</u>
Subtotal, 510 Cloverleaf Drive (Channel Maint Fund)	\$ 156.00
Subtotal Non-Fee Reviews	\$ 881.00
Subtotal Preliminary Communications and Non-Fee Reviews	\$ 1,270.00

COMMISSION AND TAC MEETINGS

Attend August 15 Commission meeting.

Karen L. Chandler, Principal Engineer/Scientist 2.8 hours @ \$175.00 per hour\$_	490.00
Subtotal, Commission and TAC Meetings\$	490.00

SURVEYS & STUDIES

Water Monitoring Program Review

Prepare for and attend August 5 meeting with administrator and internal staff regarding BCWMC water monitoring program and to brainstorm ideas for meeting/workshop/committee to review water monitoring program; follow-up communications with administrator regarding MCES monitoring; and communications with administrator and internal staff regarding goals of water monitoring program review TAC meeting, scheduling TAC meeting and setting meeting agenda.

Subtotal Surveys & Studies\$	1,769.00
Subtotal, Water Monitoring Program Review\$	1,769.00
Margaret R. Rattei, Engineer/Scientist/Specialist III 1.4 hours @ \$135.00 per hour\$_	189.00
Gregory J. Wilson, Consultant/Advisor 3.0 hours @ \$165.00 per hour\$	495.00
Karen L. Chandler, Principal Engineer/Scientist 6.2 hours @ \$175.00 per hour\$	1,085.00

WATER QUALITY/MONITORING

Cavanaugh and Northwood Lakes Monitoring

Prepare for and complete August 6 and August 19 water quality monitoring of Cavanaugh and Northwood Lakes; perform quality assurance review and file lab results and lab quality assurance data for August 6 and August 19 monitoring events; compute Cavanaugh Lake Plant IBI from plant surveys completed in 1994, 1998 and June of 2019; complete analyses of Cavanaugh Lake phytoplankton samples collected on June 10, July 15, and August 19; complete analyses of Cavanaugh Lake zooplankton samples collected June 10, July 15, August 6, and August 19; complete analyses of Northwood Lake phytoplankton sample collected on August 19; and complete analyses of Northwood Lake zooplankton samples collected on June 10 and July 15.

Terri A. Olson, Engineer/Scientist/Specialist III 0.6 hours @ \$140.00 per hour\$	84.00
Margaret R. Rattei, Engineer/Scientist/Specialist III 18.3 hours @ \$135.00 per hour\$	2,470.50
Heather N. Hlavaty, Engineer/Scientist/Specialist II 2.5 hours @ \$100.00 per hour\$	250.00
Technicians/Administrative\$	1,244.00
Expenses (Pace Analytical/WQ meter/filtration apparatus/Zooplankton	
net/canoe/mileage/2WD vehicle)\$	<u>1,317.77</u>
Subtotal, Cavanaugh and Northwood Lakes Monitoring\$	5,366.27

North Branch Monitoring Year 2

Download and review data; set sampler for storm sample collection; collect two grab samples and one storm sample (storm sample discarded due to ant contamination); deliver water samples to Met Council lab; troubleshoot power issue and replace battery; address ant issue: clean up sampler and replace contaminated bottles with clean bottles, order ant prevention product, take apart sampler and remove ant nest from sampler and install ant prevention product.

Margaret R. Rattei, Engineer/Scientist/Specialist III 0.6 hours @ \$135.00 per hour	\$ 81.00
Christopher J. Bonick, Engineer/Scientist/Specialist III 6.0 hours @ \$125.00 per hour	\$ 750.00
Heather N. Hlavaty, Engineer/Scientist/Specialist II 8.8 hours @ \$100.00 per hour	\$ 880.00
Kallie B, Doeden, Engineer/Scientist/Specialist I 2.4 hours @ \$95.00 per hour	\$ 228.00
Technicians/Administrative	\$ 63.00
Expenses (Verizon Wireless/ant killer/mileage/2WD vehicle/digital camera)	\$ 265.17
Subtotal, North Branch Monitoring Year 2	\$ 2,265.17

2018 Biotic Index Monitoring

Attend August 5 meeting with administrator and internal staff regarding North Branch and Main Stem biotic index and stream monitoring reports.

Subtotal, Water Quality/Monitoring\$	8,003.44
Subtotal, 2018 Biotic Index Monitoring\$	372.00
1.2 hours @ \$135.00 per hour <u>\$</u>	162.00
Margaret R. Rattei, Engineer/Scientist/Specialist III	
1.2 hours @ \$175.00 per hour\$	210.00
Karen L. Chandler, Principal Engineer/Scientist	

WATER QUANTITY

Measure and review lake level elevations as part of the lake-gauging program; perform VRS survey of lake benchmarks; survey benchmark at Crane Lake; prepare for Parkers Lake benchmark survey, including collecting benchmark information from Plymouth staff; perform level loop survey for Parkers Lake; and review Parkers Lake benchmark issues with internal staff.

Karen L. Chandler, Principal Engineer/Scientist 0.9 hours @ \$175.00 per hour	\$ 157.50
Josh P. Phillips, Engineer/Scientist/Specialist II 3.4 hours @ \$95.00 per hour	\$ 323.00

Technicians/Administrative\$	2,250.00
Expenses (2WD vehicle/mileage/ RTK GPS Survey System)	383.18
Subtotal, Water Quantity\$	3,113.68
FLOOD CONTROL PROJECT ANNUAL INSPECTION & DOUBLE BOX CULVERT INSPEC	<u>CTION</u>
Communications with internal staff regarding inspection.	
James P. Herbert, Principal Engineer/Scientist 0.5 hours @ \$195.00 per hour\$_	<u>97.50</u>
Subtotal, Flood Control Annual Proj Inspect&Dbl Box Culvert\$	97.50
MISSISSIPPI WATERSHED MANAGEMENT ORGANIZATION PLAN REVIEW Budget I	al Plan Review Line
Prepare draft email comments/information to MWMO; communications with administr staff regarding comments; and prepare and send email comments/information to MW information request for MWMO plan update.	
James P. Herbert, Principal Engineer/Scientist 0.8 hours @ \$195.00 per hour\$	156.00
Karen L. Chandler, Principal Engineer/Scientist 2.0 hours @ \$175.00 per hour\$_	<u>350.00</u>
Subtotal, Mississippi Watershed Mgmt Org Plan Review\$	506.00
TOTAL ENGINEERING\$	39,617.62

WATERSHED OUTLET MONITORING PROGRAM (WOMP)

WATERSHED OUTLET MONITORING PROGRAM (WOMP)

Prepare for and collect streamflow measurement; download data and provide to MCES staff; and review recent flow measurements.

TOTAL WOMP\$	1,295.76
Subtotal, Watershed Outlet Monitoring Program\$	1,295.76
Expenses (2WD vehicle/mileage/Sontek ADV)\$	105.76
Sean Campbell, Engineer/Scientist/Specialist I 6.0 hours @ \$80.00 per hour\$	480.00
Kevin D. Menken, Engineer/Scientist/Specialist II 4.0 hours @ \$115.00 per hour\$	460.00
Christopher J. Bonick, Engineer/Scientist/Specialist III 2.0 hours @ \$125.00 per hour\$	250.00

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TOTAL APM/AIS WORK.....\$ 0.00

CAPITAL IMPROVEMENT PROJECTS (Funded through tax levy)

SCHAPER POND 2018 MONITORING AND REPORTING (SL-3)

Communications with Carp Solutions regarding final carp survey reporting.

Gregory J. Wilson, Consultant/Advisor

1.4 hours @ \$165.00 per hour.....\$ 231.00

Subtotal, Schaper Pond 2018 Monitoring and Reporting......\$ 231.00

BRYN MAWR MEADOWS WATER QUALITY IMPROVEMENT PROJECT (2020) (BC-5)

Review/edit draft agreement and communications with administrator and legal counsel.

Karen L. Chandler, Principal Engineer/Scientist

0.9 hours @ \$175.00 per hour.....\$ 157.50

Subtotal, Bryn Mawr Meadows Water Quality Imp Project......\$ 157.50

JEVNE PARK STORMWATER IMPROVEMENT PROJECT (2020) (ML-21)

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Communications with administrator and internal staff regarding Medicine Lake comments on feasibility study/project; and prepare for and attend August 2 conference call with administrator and Medicine Lake consultant to discuss/respond to comments about feasibility study/project.

Subtotal, Jevne Park Stormwater Improvement Project\$	1,190.00
Jennifer A. Koehler, Engineer/Scientist/Specialist III 4.0 hours @ \$140.00 per hour\$	560.00
3.6 hours @ \$175.00 per hour\$	630.00

MAIN STEM DREDGING PROJECT FEASIBILITY STUDY (2021) (BC-7)

Project setup; prepare agenda and figures for August 21 kickoff meeting; attend August 21 kickoff meeting; prepare follow up action items email to kickoff meeting attendees; coordination with MPCA to review leak file for Wirth Golf Course; review leak file and prepare summary; internal meetings and coordination with field staff; apply for MPRB permit to access the site to perform field work; compile wetland delineation information from past projects, contact LGU and recommend no field delineation is needed; and prepare/send project email updates.

Karen L. Chandler, Principal Engineer/Scientist 12.1 hours @ \$175.00 per hour\$	2,117.50
Jennifer L. Brekken, Consultant/Advisor 1.9 hours @ \$155.00 per hour\$	294.50
Karen S. Wold, Engineer/Scientist/Specialist III 1.0 hours @ \$130.00 per hour\$	130.00

John W. Juntilla, Engineer/Scientist/Specialist II 0.3 hours @ \$120.00 per hour	\$	36.00
Patrick E. Brockamp, Engineer/Scientist/Specialist II 18.5 hours @ \$105.00 per hour	\$	1,942.50
Taylor B. Steffen, Engineer/Scientist/Specialist I 1.5 hours @ \$85.00 per hour	\$	127.50
Tyler A. Conley, Engineer/Scientist/Specialist I 2.1 hours @ \$75.00 per hour	\$	157.50
Technicians/Administrative	\$	807.00
Subtotal, Main Stem Dredging Project Feasibility Study	.\$	5,612.50

MOUNT OLIVET STREAM STABILIZATION PROJECT (2021)(ML-20) AND PARKERS LAKE DRAINAGE IMPROVEMENT PROJECT (2021)(PL-7) FEASIBILITY STUDY

Mount Olivet Stream Stabilization Project Feasibility Study (2021)(ML-20)

Project set-up; communications with administrator and internal staff regarding scheduling project kickoff meeting; prepare for and attend August 29 site meeting with city staff; and prepare for and perform wetland delineation and upload data.

Karen L. Chandler, Principal Engineer/Scientist 2.3 hours @ \$175.00 per hour\$	402.50
Jeffrey D. Weiss, Engineer/Scientist/Specialist III 1.0 hours @ \$130.00 per hour\$	135.00
Kallie B, Doeden, Engineer/Scientist/Specialist I 1.8 hours @ \$95.00 per hour\$	171.00
Tyler A. Conley, Engineer/Scientist/Specialist I 4.8 hours @ \$75.00 per hour\$	360.00
Technicians/Administrative\$_	13.00
Subtotal, Mount Olivet Stream Stabilization Project Feas Study\$	1,081.50

Parkers Lake Drainage Improvement Project (2021)(PL-7)

Project set-up; communications with administrator and internal staff regarding scheduling project kickoff meeting; prepare for and attend August 29 site meeting with city staff; prepare for and perform wetland delineation and upload data; and locate nearby construction plans.

Karen L. Chandler, Principal Engineer/Scientist 2.0 hours @ \$175.00 per hour	\$ 350.00
Jennifer A. Koehler, Engineer/Scientist/Specialist III 3.7 hours @ \$140.00 per hour	\$ 518.00
Jeffrey D. Weiss, Engineer/Scientist/Specialist III 1.5 hours @ \$130.00 per hour	\$ 202.50
Ross S. Mullen, Engineer/Scientist/Specialist II 0.7 hours @ \$110.00 per hour	\$ 77.00

Lake Drainage Improvement Project Feasibility Study\$	2,889.00
Subtotal, Mt. Olivet Stream Stabilization Project & Parkers	
Subtotal, Parkers Lake Drainage Improvement Project Feas Study \$	1,807.50
Technicians/Administrative\$	13.00
Tyler A. Conley, Engineer/Scientist/Specialist I 4.7 hours @ \$75.00 per hour\$	352.50
Kallie B, Doeden, Engineer/Scientist/Specialist I 3.0 hours @ \$95.00 per hour\$	285.00
0.1 hours @ \$95.00 per hour\$	9.50

TMDL WORK

TOTAL TMDL WORK.....\$ 0.00

IMPROVED FEMA FLOODPLAIN MODELING & MAPPING (MDNR)

IMPROVED FEMA FLOODPLAIN MODELING & MAPPING (MDNR)

Hydrologic Analysis

Respond to formal comments from MDNR staff on selection of hydrologic parameters and determine hydrologic routing of orphaned areas.

Karen L. Chandler, Principal Engineer/Scientist 2.8 hours @ \$175.00 per hour\$	490.00
Ross S. Mullen, Engineer/Scientist/Specialist II 11.8 hours @ \$110.00 per hour\$	1,298.00
Technicians/Administrative\$_	1,176.50
Subtotal, Hydrologic Analysis\$	2,964.50
<u>Hydraulic Analysis</u> Respond to formal comments from MDNR staff on selection of hydraulic parameters.	
Karen L. Chandler, Principal Engineer/Scientist 0.6 hours @ \$175.00 per hour\$	105.00
Jennifer A. Koehler, Engineer/Scientist/Specialist III 0.8 hours @ \$140.00 per hour\$	112.00
Ross S. Mullen, Engineer/Scientist/Specialist II 5.1 hours @ \$110.00 per hour\$	561.00
Technicians/Administrative\$_	<u>351.00</u>
Subtotal, Hydraulic Analysis\$	1,129.00

Develop Project Narrative

Update the project narrative and project documentation to address the MDNR's review comments.

TOTAL IMPROVED FEMA FLOODPLAIN MODELING & MAPPING (MDNR)\$	8.065.50
Subtotal, Develop Project Narrative\$	3,972.00
Technicians/Administrative\$_	1,404.00
Samantha A. Beck, Engineer/Scientist/Specialist I 2.4 hours @ \$80.00 per hour\$	192.00
Ross S. Mullen, Engineer/Scientist/Specialist II 21.6 hours @ \$110.00 per hour\$	2.376.00

SUMMARY TOTALS

Total Engineering\$	39,617.62
Total WOMP\$	1,295.76
Total APM/AIS Work\$	0.00
Total TMDL Work\$	0.00
Total Capital Improvement Projects (Tax Levy)\$	10,080.00
Total Improved FEMA Floodplain Modeling & Mapping (MDNR)\$	
TOTAL PAYABLE\$	59.058.88

Barr declares under the penalties of law that this account, claim or demand is just and that no part of it has been paid.

Jim Herber