

**AGENDA ITEM EXECUTIVE SUMMARY**

Agenda Item number: *6.z

Title:

Recommendation to Award Agreement for Engineering Services for Capacity, Management, Operations, and Maintenance (CMOM) Phase 1 Flow Monitoring

Presenter:

Tim Wilson

Meeting: Government Services Committee

Date: April 22, 2019

Proposed Cost: \$59,903

Budgeted Amount: \$80,000

Not Budgeted: ☐**Executive Summary** *(if not budgeted please explain):*

The approach of the EPA approved Capacity, Management, Operations, and Maintenance (CMOM) Program was to divide the sewer collection system into 12 sub-basins. Each sub-basin was divided into three phases, each phase lasting one year. The first year for this sub-basin consists of infiltration and inflow sewer flow monitoring; the second year of the project would include a sewer system evaluation survey; the final year of the sub-basin would include rehabilitation.

As detailed in the CMOM plan, City Staff is requesting to continue the Flow Monitoring Program in Sub-basin SCO5. Sub-basin SCO5 was selected as the area this year due to the age of the infrastructure. Along with the CMOM goal of reducing infiltration and inflow, the Flow Monitoring Program this year will also be evaluating the local trunk sewer main to determine capacity.

The Sub-basin is generally located between Reserve Subdivision to the north, Fox River to the east, Timbers Trail to the south, and Randall Rd to the west. Flow monitoring will include 6 flow monitors for an eight week period of time while local weather data is collected. At the completion of Phase I (flow monitoring), recommendations will be made for Phase II, which is the Sewer System Evaluation Survey.

Attachments *(please list):*

* SCO5 Area Map * EEI Agreement for Consulting Engineering Services

Recommendation/Suggested Action *(briefly explain):*

Recommendation to award Agreement for Engineering Services for East Interceptor Monitoring Study to Engineering Enterprises Inc. for a not to exceed amount of \$59,903.

Basin	Number of Manholes	Total Sanitary Main (LF)
R3-A	73	18,871
R3-B	56	11,649
R3-C	80	14,685
T1-A	44	14,500
T1-B	62	8,051
T1-C	51	13,114

Legend

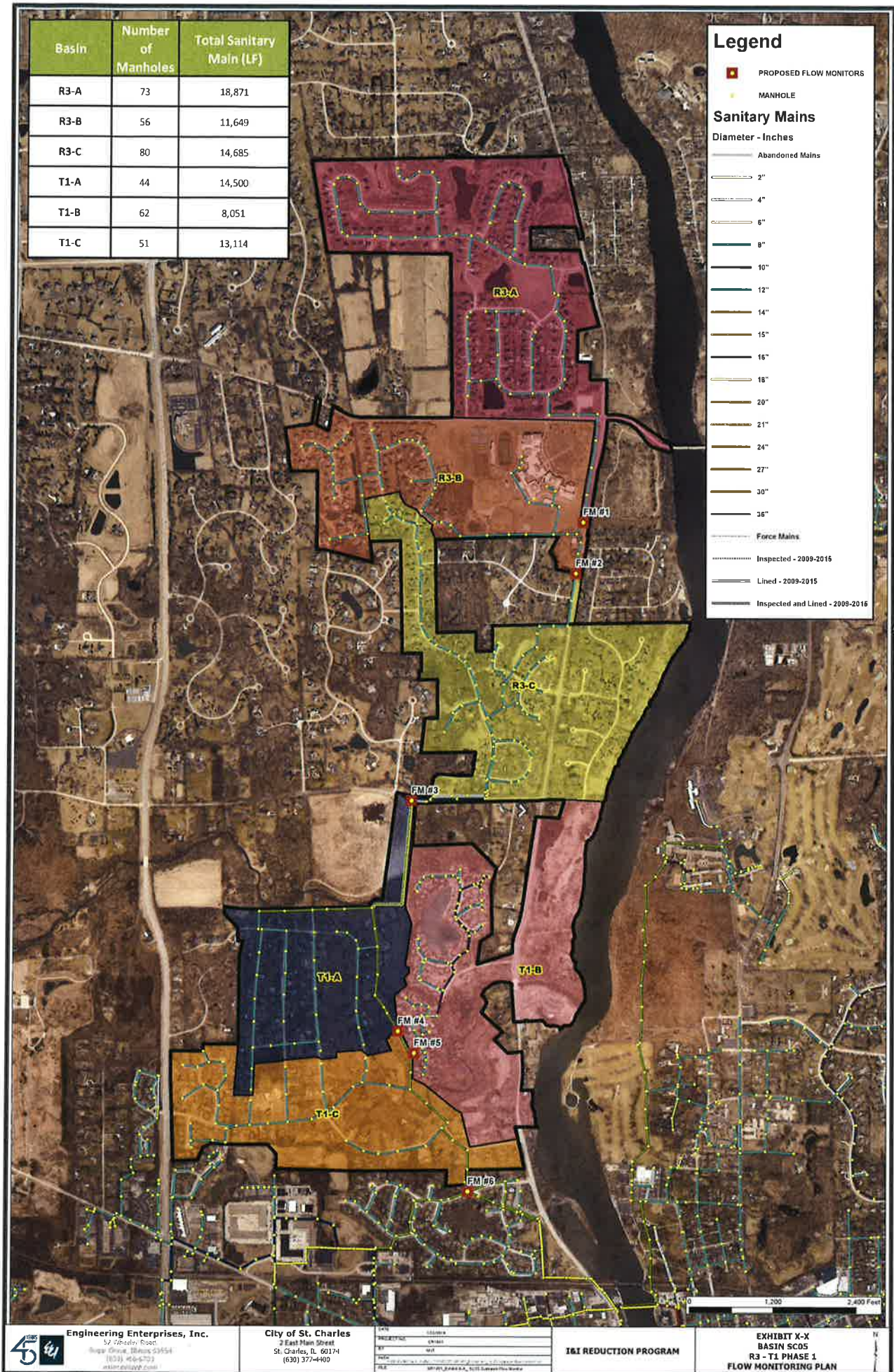
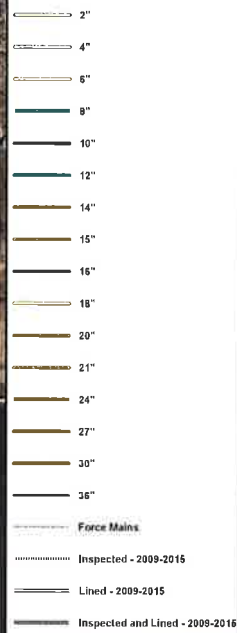
PROPOSED FLOW MONITORS

MANHOLE

Sanitary Mains

Diameter - Inches

Abandoned Mains



Engineering Enterprises, Inc.
52 Graham Road
Rogers Grove, Illinois 61554
(630) 450-6702
www.eeinc.com

City of St. Charles
2 East Main Street
St. Charles, IL 60174
(630) 377-4400

DATE	02/08/16
PROJECT	CH-1615
BY	MEI
FOR	ST. CHARLES, ILL. - FLOW MONITORING PLAN FOR BASINS R3-A, R3-B, R3-C, T1-A, T1-B, T1-C
FILE	CH-1615_R3A-R3C-T1A-T1B-T1C_FlowMonitoringPlan.mxd

I&I REDUCTION PROGRAM

EXHIBIT X-X
BASIN SCOS
R3 - T1 PHASE 1
FLOW MONITORING PLAN



Engineering Enterprises, Inc.

February 6, 2019

Mr. Tim Wilson
Public Works Manager - Environmental Services
City of St. Charles
Two East Main Street
St. Charles, IL 60174

Re: SCO5-R3 & T1 Flow Monitoring (Phase 1)
City of St. Charles, Kane & DuPage Cos., IL

Dear Mr. Wilson:

In accordance with your request, enclosed for your review and consideration are two copies of our proposed agreement for the Subbasin SCO5-R3 & T1 Flow Monitoring within the City's sanitary sewer network. Flow monitoring of the SCO5-R3 & T1 Subbasin is part of the City's overall Inflow and Infiltration Reduction Program. Inflow & Infiltration (I/I) investigations are meant to delineate problematic areas of the system that are prime candidates for further sewer system evaluation work and appropriate rehabilitation.

The attached agreement includes a detailed scope of services, estimate of level of effort and associated cost, and schedule for the project. We are proposing to provide our professional engineering services on a time and materials basis for a not-to-exceed cost of \$59,903. Our proposed schedule is to conduct flow monitoring from May through early July. We will complete the data analysis through the end of summer and complete the report in the fall.

The flow monitoring for the SCO5-R3 & T1 Subbasin was recommended for the City as part of the Capacity, Management, Operations, and Maintenance (CMOM) Plan written for the City in February 2016. Additional sewer system evaluation work and actual rehabilitation of the SCO5-R3 & T1 sewer system is scheduled for calendar years 2020 and 2021, respectively. The scope and cost of the rest of the 15-year long, multiphase I/I reduction program can be found in Table No. 3-3 of the February 2016 CMOM plan.

Mr. Tim Wilson
February 6, 2019
Page 2

We look forward to continuing our outstanding partnership with the City and look forward to working with you and members of your staff on this project. If you have any questions or require any additional information, please do not hesitate to contact me.

Respectfully submitted,

ENGINEERING ENTERPRISES, INC.



Jeffrey W. Freeman, P.E., CFM, LEED AP
Vice President

JWF/anu

Enclosures

pc: Peter Suhr – Director of Public Works (Via E-mail)
Chris Adesso – Assistant Director of Public Works, Operations (Via E-mail)
STD, ANU, DMT & ARS – EEI (Via E-mail)

**AGREEMENT FOR CONSULTING ENGINEERING SERVICES FOR
SUBBASIN SCO5-R3 & T1 FLOW MONITORING**

This Agreement, made this _____ day of _____, 2019 by and between the City of St. Charles, Kane and DuPage Counties, Illinois, a municipal corporation of the State of Illinois (hereinafter referred to as the "CITY") and Engineering Enterprises, Inc. of 52 Wheeler Road, Sugar Grove, Illinois, 60554 (hereinafter referred to as the "ENGINEER").

In consideration of the mutual covenants and agreements contained in this Agreement, the CITY and the ENGINEER agree, covenant and bind themselves as follows:

1. Services: ENGINEER agrees to perform for the CITY the Services defined within Attachment A.
2. Direction: The Public Works Manager - Environmental Services, or his written designee, shall act as the CITY'S representative with respect to the Services to be provided by the ENGINEER under this Agreement and shall transmit instructions and receive information with respect to the Consulting Engineering Services.
3. Compensation: The work items, estimated staff time, and projected fees for each work item are summarized within Attachment B. Based on this computation, the CITY agrees to pay the ENGINEER for providing the Services set forth herein on a time and materials basis not-to-exceed an amount of \$59,903.
4. Term: The term of this Agreement shall be active through November 30, 2019 unless otherwise extended through written confirmation by both parties. The work items and phases shall be completed in accordance with the schedule defined within Attachment C.
5. Payment: Engineer shall invoice the CITY on a monthly basis for Services performed and any costs and expenses incurred during the previous thirty (30) day period. The CITY shall pay the ENGINEER within thirty (30) days of receipt of said invoice.
6. Termination: This Agreement may be terminated upon fourteen (14) days written notice of either party. In the event of termination, the ENGINEER shall prepare a final invoice and be due compensation calculated as described in paragraph 3 for all costs incurred through the date of termination.
7. Documents: All related writings, notes, documents, information, files, etc., created, compiled, prepared and/or obtained by the ENGINEER on behalf of the CITY for the Services provided herein shall be used solely for the intended project.
8. Notices: All notices given pursuant to this Agreement shall be sent Certified Mail, postage prepaid, to the parties at the following addresses:

The CITY:

City of St. Charles
Two East Main Street
St. Charles, IL 60174
Attn: Tim Wilson
Public Works Manager -
Environmental Services

The ENGINEER:

Engineering Enterprises, Inc.
52 Wheeler Road
Sugar Grove, IL 60554
Attn: Jeffrey W. Freeman, P.E. CFM, LEED AP
Vice President

9. Waiver: The failure of either party hereto, at any time, to insist upon performance or observation of any term, covenant, agreement or condition contained herein shall not in any manner be constructed as a waiver of any right to enforce any term, covenant, agreement or condition hereto contained.
10. Amendment: No purported oral amendment, change or alteration hereto shall be allowed. Any amendment hereto shall be in writing by the governing body of the CITY and signed by the ENGINEER.
11. Succession: This Agreement shall ensure to the benefit of the parties hereto, their heirs, successors and assigns.

IN WITNESS WHEREOF, we have hereunto signed our names the day and year first above written.

CITY OF ST. CHARLES

ENGINEERING ENTERPRISES, INC.:

Mayor

Jeffrey W. Freeman
Vice President

ATTEST:

ATTEST:

Title: _____

Debra M. Anderson
Administrative Assistant

ATTACHMENT A – SCOPE OF SERVICES
SUBBASIN SCO5-R3 & T1 FLOW MONITORING (PHASE 1)
INFLOW AND INFILTRATION REDUCTION PROGRAM
City of St. Charles, Kane and DuPage Cos., IL

Introduction

The Subbasin SCO5-R3 & T1 flow monitoring phase will help delineate inflow and infiltration severity throughout the subbasin. The I/I Investigation for Subbasin SCO5-R3 & T1 is part of a 15-year, multiphase plan to complete flow monitoring, sewer system evaluation surveys, and rehabilitation as necessary for all mains within the St. Charles sanitary sewer system. The scope and cost of the Subbasin SCO5-R3 & T1 flow monitoring phase only covers the first portion of the flow monitoring study for SCO5-R3 & T1. The estimated scope and cost of the entire 15-year St. Charles Sanitary Basin Evaluation and Rehabilitation Plan can be found in Table No. 3-3 of the February 2016 CMOM plan.

As part of the Subbasin SCO5-R3 & T1 flow monitoring phase, the subbasin will be divided into six (6) subbasins in order that the sanitary sewer flows and the correlating I/I can be further defined within the subbasin. The proposal includes flow monitoring at six (6) locations for eight (8) weeks. The attached Exhibit A shows the locations of six proposed flow monitoring locations and provides additional detail for all locations. All cost and schedule decisions were based off EEI's best knowledge of the SCO5-R3 & T1 Subbasin to-date. The proposed flow monitoring locations have been reviewed with City staff in order to ensure accessibility to all flow monitor monitors, as well as the appropriate placement of each flow monitor.

The base proposal also includes the installation of a recording rain gauge in a secure location to measure rainfall during the monitoring period. The quality of the flow monitoring results will be increased with an increased number of precipitation events. A minimum of two 1.0-inch or greater rain events over a 24-hour period is needed to make reasonable conclusions. The City will have the opportunity to increase the flow monitoring period at the end of the eight-week period should a sufficient rain event not occur or if they would wish to obtain additional data. Once sufficient flow monitoring data is obtained, the data will be provided to St. Charles for review.

The proposed work items for this project are as follows:

PROJECT FACILITATION & MEETINGS:

- 0.1 Project Administration
- 0.2 Project Initiation & Progress Meeting (2 Total Meetings)

FLOW MONITORING:

- 1.1 Divide Subbasin SCO5-R3 & T1 Into Sub-Subbasins
- 1.2 Monitor Flows (Assumes 6 Locations) Within Subbasin For 8 Weeks
- 1.3 Monitor Rainfall (Assumes 1 Location) Within Subbasin For 8 Weeks
- 1.4 Analyze Flows & Determine I/I by Sub-Subbasin

REPORT:

2.1 Prepare Flow Monitoring Report

Additional Services

The above scope summarizes the work items that will be completed for this contract. Additional work items, including additional meetings beyond the project initiation meeting defined in the above scope, shall be considered outside the scope of the base contract and will be billed in accordance with the Standard Schedule of Charges.

ENGINEERING ENTERPRISES, INC.
CONSULTING ENGINEERS

DATE: 2/6/2019
ENTERED BY: ANUJWF

Attachment B:
ESTIMATE OF LEVEL OF EFFORT AND ASSOCIATED COST FOR PROFESSIONAL ENGINEERING SERVICES
Basin SC05-R3 & T1 Phase 1 (Flow Monitoring) Study
Inflow and Infiltration Reduction Program
CITY OF ST. CHARLES, KANE AND DUPAGE COS., IL

WORK ITEM NO.	WORK ITEM	ENTITY:					EEI			ADMIN.	SUB- CONSULTANT	WORK ITEM HOUR SUMM.	COST PER ITEM
		PROJECT ROLE	SENIOR PRINCIPAL	SENIOR PROJECT MANAGER	PROJECT ENGINEER	PROJECT TECHN. I	SENIOR PROJECT TECHN. I	SURVEYING MANAGER	SENIOR PROJECT TECHN. II				
		HOURLY RATE:	\$208	\$197	\$141	\$141	\$141	\$178	\$153	\$70			
0.1	Project Administration		1	4								5	\$998
0.2	Project Initiation & Progress Meeting (2 Total Meetings)		6	10	8					2		26	\$4,486
	Project Facilitation Subtotal:		7	14	8					2	0	31	\$5,482
FLOW & RAINFALL MONITORING													
1.1	Divide Subbasins SC05-R3 & T1 Into Sub-Subbasins		1	4	8	8						21	\$3,252
1.2	Monitor Flows (Assumes 6 Locations) Within Subbasin For 8 Weeks		1	4	16							21	\$26,784
1.3	Monitor Rainfall (Assumes 1 Location) Within Subbasin For 8 Weeks		1	2	6							9	\$2,991
1.4	Analyze Flows & Determine If Severity By Subbasin		2	10	50							62	\$9,438
	Flow & Rainfall Monitoring Subtotal:		5	20	80	8						113	\$42,463
REPORT													
2.1	Prepare Flow Monitoring Report		2	6	50	20				2		80	\$11,608
	Report Subtotal:		2	6	50	20				2	0	80	\$11,608
	PROJECT TOTAL:		14	40	138	28				4		224	\$59,553


DIRECT EXPENSES		
Printing =	\$250	
Mileage =	\$100	
DIRECT EXPENSES =		\$350

LABOR EXPENSES		
Engineering Expenses =	\$30,250	
Drafting Expenses =	\$3,948	
Surveying Expenses =	\$0	
Administrative Expenses =	\$280	
Subconsultant Expenses =	\$25,075	
TOTAL LABOR EXPENSES =		\$59,553

TOTAL CONTRACT COSTS =	\$59,903
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Attachment C:
SCHEDULE
BASIN SCO5-R3 & T1 PHASE 1 (FLOW MONITORING) STUDY
2019 INFLOW AND INFILTRATION REDUCTION PROGRAM
CITY OF ST. CHARLES, KANE AND DUPAGE COS., IL

WORK ITEM NO.	WORK ITEM	2019																											
		Year:				Month:				June				July				August				September				October			
		Week Starting:				1				2				3				4				5				6			
a	Government Services Committee Meeting																												
b	City Council Meeting																												
CONTRACT APPROVAL																													
PROJECT FACILITATION & MEETINGS																													
0.1	Project Administration																												
0.2	Project Initiation and Progress Meetings (2 Total Meetings)																												
FLOW MONITORING																													
1.1	Divide Subbasin SCO5-R3 & T1 Into Subbasins																												
1.2	Monitor Flows (Assumes 6 Locations) Within Subbasin For 8 Weeks																												
1.3	Monitor Rainfall (Assumes 1 Location) Within Subbasin For 8 Weeks																												
1.4	Analyze Flows & Determine I/I Severity By Subbasin																												
REPORT																													
2.1	Prepare Flow Monitoring Report																												

Legend	
	City Council Meeting
	Project Administration Work Item(s)
	Meeting(s) & Field Visits
	Field & Analysis Work
	Report Development
	City Review



Standard Schedule of Charges

January 1, 2019

EMPLOYEE DESIGNATION	CLASSIFICATION	HOURLY RATE
Senior Principal	E-4	\$208.00
Principal	E-3	\$203.00
Senior Project Manager	E-2	\$197.00
Project Manager	E-1	\$178.00
Senior Project Engineer/Planner/Surveyor II	P-6	\$165.00
Senior Project Engineer/Planner/Surveyor I	P-5	\$153.00
Project Engineer/Planner/Surveyor	P-4	\$141.00
Senior Engineer/Planner/Surveyor	P-3	\$129.00
Engineer/Planner/Surveyor	P-2	\$117.00
Associate Engineer/Planner/Surveyor	P-1	\$106.00
Senior Project Technician II	T-6	\$153.00
Senior Project Technician I	T-5	\$141.00
Project Technician	T-4	\$129.00
Senior Technician	T-3	\$117.00
Technician	T-2	\$106.00
Associate Technician	T-1	\$ 93.00
Engineering/Land Surveying Intern	I-1	\$ 84.00
GIS Technician	G-1	\$ 75.00
Administrative Assistant	A-3	\$ 70.00

CREW RATES, VEHICLES AND REPROGRAPHICS

1 Man Field Crew with Standard Survey Equipment	\$168.00
2 Man Field Crew with Standard Survey Equipment	\$262.00
1 Man Field Crew with RTS or GPS *	\$208.00
2 Man Field Crew with RTS or GPS *	\$302.00
Vehicle for Construction Observation	\$15.00
In-House Scanning and Reproduction	\$0.25/Sq. Ft. (Black & White) \$1.00/Sq. Ft. (Color)
Reimbursable Direct Costs & Services by Others	Cost + 10%

*RTS = Robotic Total Station / GPS = Global Positioning System