AMERICAN
STRUCTUREPOINT
INC.

May 9, 2019

Paul Pickett, PE
City Engineer
City of Green
1755 Town Park Blvd
Green, Ohio 44232

Re: The HUB – Phase 2, Massillon Rd & Corporate Woods Circle Roundabout
PID No. 103172

Dear Mr. Pickett:

Enclosed is one copy of our fee proposal to provide engineering services to complete the remaining detailed design of the roundabout at the intersection of Massillon Road and Corporate Woods Circle. This is Phase 2 of The HUB project with the City of Green. We have reviewed all subconsultant proposals contained in this fee proposal for mathematical accuracy and adherence to the scope of services. We propose to perform this contract work based on a lump-sum fee.

If you have any questions or comments about the enclosed fee proposal, please contact me or Frank Aransky at (614) 901-2235. We look forward to working with you to complete this project.

Very truly yours,
American Structurepoint, Inc.

Walid E. Gemayel, PE
Senior Vice President

WEG:mek

Enclosures

201301008

Cost Packet

For Professional Engineering Services

The HUB – Phase 2 Massillon Rd/Corporate Woods Circle

City of Green
1755 Town Park Blvd, Green, OH 44232
May 9, 2019

AMERICAN STRUCTUREPOINT INC.

2550 CORPORATE EXCHANGE DRIVE, SUITE 300
COLUMBUS, OHIO 43231
614.901.2235

www.structurepoint.com

TABLE OF CONTENTS

Contents

Scope of Services

The HUB – Phase 2 Roundabout project consists of replacing the existing signalized intersection at Massillon Road (SR 241) and Corporate Woods Circle/Thorn Drive with a modern roundabout. A traffic study, prepared by American Structurepoint, was completed based off of traffic data obtained from a previous traffic study and projected to the current and design year traffic. Based upon project coordination to date, new traffic data will be collected to verify existing counts and projection and to certify the traffic data. Our approach to delivering this project is based upon the following:

- Prepare construction plans and specifications for public bidding
- Develop a community outreach plan and material for the City of Green to present to the public
- Prepare NEPA documentation for approval of a CE document
- Perform SUE Level "A" (if authorized) to validate underground utility elevations in areas of potential conflict
- Prepare documents for right-of-way acquisition. Right-of-way acquisition is to be performed independent of this contract and under the direction of the City of Green.

American Structurepoint and our subconsultants propose to perform the following tasks to complete the plan preparation for the improvements of the HUB – Phase 2. The proposed tasks are based upon our assumptions to obtain environmental clearance from ODOT/FHWA, and City of Green/ODOT approval of design and construction plans.

The classification rates shown in Appendix A show our rates for 2017, along with escalators for the subsequent year for the anticipated duration of the project.

1. Project Management and Control

1.1 Prepare a detailed schedule and provide a monthly progress report, including services accomplished in the current month and anticipated services to be completed the following month

1.2 Prepare an index of plan sheets

1.3 Prepare a project contact list that includes all utility company names, addresses, and telephone numbers, as well as all contacts for the project

1.4 Monitor the status of the services to keep the project on schedule and within budget

1.5 Coordinate locations of existing utilities and relocation needs with the utility companies based upon the proposed work. Provide the City of Green with a copy of all correspondence.

1.6 Perform quality control checking of all submittals with an independent team led by the project manager

1.7 Conduct meetings with the City of Green, including review meetings, utility meetings, and design concurrence meetings requested by American Structurepoint to lock in influential elements to limit plan rework. American Structurepoint will attend quarterly ODOT meetings at the request of the City of Green.

1.8 Collect Level "B" subsurface utility engineering survey and prepare basemap.

1.9 Hold one meeting with utility companies to coordinate utility conflicts and relocations.

9. Preliminary Right-of-Way Plans

The following tasks will be performed to complete the Preliminary Right-of-Way Plans per the Ohio Department of Transportation Right-of-Way Plan Manual. Descriptions will be prepared to comply with the transfer and conveyance standards of Summit County and the City of Green.

9.1 Legend Sheet
9.2 Centerline Plat
9.3 Property Map
9.4 Summary of Additional Right-of-Way Sheets
9.5 Right-of-Way Topo Sheets and Boundary sheets
9.6 Prepare legal descriptions permanent and temporary R/W parcels and closures calculations
9.7 Right of way acquisition estimate
9.8 Field review preliminary right-of-way plans

10. Stage 2 Plan Development

American Structurepoint will perform the following tasks to complete the Stage 2 plans and deliverables.

10.1 Address Stage 1 comments and provide disposition
10.2 Prepare maintenance-of-traffic plans
10.3 Prepare maintenance-of-traffic notes
10.4 Prepare detour sheets
10.5 Calculate and detail temporary drainage needs during maintenance of traffic
10.6 Update drainage profiles, underdrain, BMP's
10.7 Prepare signing plans
10.8 Prepare interconnect and camera plans
10.9 Prepare temporary signal plans
10.10 Prepare temporary drive sheets during maintenance of traffic
10.11 Prepare landscaping plans
10.12 Update site/civil design due to R/W impacts
10.13 Prepare water line plan and profiles, mainline, and lowerings
10.14 Prepare sanitary sewer plans
10.15 Perform lighting photometrics and calculations
10.16 Update lighting plans
10.17 Add environmental commitments notes into general notes
10.18 Update and compute estimated quantities and prepare opinion of probable construction costs
10.19 Submit Stage 2 plans to the City of Green, ODOT, and utility companies
10.20 QA/QC will be performed throughout the Stage 2 plan development

11. Final Right-of-Way Exhibits and Descriptions

The following tasks will be performed to complete the Final Right-of-Way Plans

11.1 Address preliminary right-of-way plan comments and prepare final Right-of-Way plans
11.2 Perform a field review of the final right-of-way plans and perform ownership update for all properties adjacent to the project
11.3 Set pins on permanent right-of-way parcels one time after completion of acquisition

12. Stage 3 Plan Development

American Structurepoint will perform the following tasks to complete the Stage 3 plans and deliverables.

12.1 Address Stage 2 comments and provide disposition
12.2 Finalize general notes sheets
12.3 Update title sheet
12.4 Create general summary sheets
12.5 Create subsummary sheets
12.6 Prepare lighting plans and notes
12.7 Prepare overhead sign plans and elevation views
12.8 Prepare project site plan
12.9 Prepare FAA Form 7460-1 for Airway/Highway Clearance
12.10 Prepare opinion of probable construction cost
12.11 Submit Stage 3 plans to the City of Green, ODOT and utility companies
12.12 QA/QC will be performed throughout the Stage 3 plan development

13. Final Tracings and Bid Documents

American Structurepoint will address Stage 3 comments and provide a disposition. We will compile City and ODOT specifications, quantities, and construction plans and provide to the City of Green for public bidding. Contract language will be provided by the City of Green. The cost of this item does not include the cost of advertising, printing, addenda, bid review, and recommendations.

American Structurepoint will provide electronic files of the plan set in .pdf format, along with the general summary in .xls format to be utilized as part of the bidding process. All CAD files will be provided in MicroStation (.dgn) format.

American Structurepoint will provide assistance and answer pre-bid questions during the bid preparation process. We will also provide assistance during construction as an on-going service.

14. Public Outreach and Public Involvement Plan

American Structurepoint will coordinate and develop a community outreach and official public involvement plan with the City of Green staff and obtain buy-in from ODOT.

As part of our coordination, we will discuss the following:

14.1 Public Involvement

14.1.1 Public Involvement Plan: American Structurepoint will prepare a public involvement plan to be approved by ODOT. Note that this document will need to be updated throughout the project development process.

14.1.2 Contact Local Stakeholders: American Structurepoint will provide the City of Green with names and addresses for the local stakeholders, a letter, and associated materials (maps, etc.) informing them of the proposed project and requesting feedback. The City will print and mail the letters and materials on City letterhead.

14.1.3 Public Involvement Meeting Invitations: American Structurepoint will provide the City of Green with names and addresses for the public meeting invitations. The City will print and mail the invitations on City letterhead.

14.1.4 Prepare a press release for advertisement in at least one local newspaper (The Suburbanite, The Akron Beacon Journal, and/or The Repository), and on the City's

website. American Structurepoint will provide the City of Green with the press release. The City will coordinate the press release with the newspapers and make payment for the press release. Advertisement for the press release will occur on two occasions in the newspaper.

14.1.5 Attend one open house-style public meeting. The City of Green will arrange the public meeting at a site within the general project location area (church, school, or other public meeting place). We anticipate a morning and afternoon session for the public meeting.

14.2 VISSIM Modeling

1. Model Development

VISSIM models to create visual traffic simulations of each design scenario will be created based on the latest linework. Due to the precision required for 3D simulations, the VISSIM models developed for the traffic analysis require modifications to match the latest geometry created by the design team and graphics department. The Interim Year Configuration was not previously modeled for the traffic analysis study; therefore, a new model will be created to reflect this design (revised from the Design Year Configuration).

2. Simulation Window for Export to 3ds Max

A 2-minute simulation video will be captured within VISSIM for each design scenario. This requires the selection of an accurate depiction of projected traffic conditions. After selecting the recording window, the VISSIM file is exported to .fpz format which creates a database of vehicle coordinates in 0.10-second timestamps. The vehicle coordinate database requires post-processing to match the format compatible with 3ds Max.

3. 3ds Max

The formatted vehicle coordinates from VISSIM are imported to 3ds Max. Troubleshooting is required to ensure that all vehicles are "glued" to the surface within 3ds Max.

4. Rendering, Compositing, and Encoding

The simulation videos are rendered out to a high-quality output for presentation. The raw videos require post-processing to include titles, labeling, call-outs, transitions, and other after-effects.

15. If Authorized Items

15.1 Level "A" Subsurface Utility Engineering

15.2 Maintenance-of-traffic plan - This fee will be needed if the project is to be combined with Phase 2 (Massillon – Boettler) The MOT plan will need to be revised to incorporate detours, lane shifts, closures, and temporary pavement needs.

16. Services not included with this proposal

The following items are not included in this scope of services.

16.1 Channel relocation plans

16.2 Noise wall plans

16.3 Irrigation plans
16.4 Private utility relocation plans (gas, electric, phone, cable, etc.)
16.5 Appraisal review
16.6 Water quantity treatment for BMP design
16.7 Preparation of additional permit applications to the USACE, the OEPA, or other local, state, or federal agencies not mentioned above in this proposal
16.8 Additional environmental surveys including, but not limited to: Level 1 Ecological Survey; Phase II Environmental Site Assessment; Noise surveys; Air quality surveys; Underserved Populations Reports, including an Underserved Populations Impact Analysis Report (UPIAR); and a lower/higher level of categorical exclusion documentation preparation

Appendix A – Proposal Cost Breakdown, Summary, and Rate Schedule

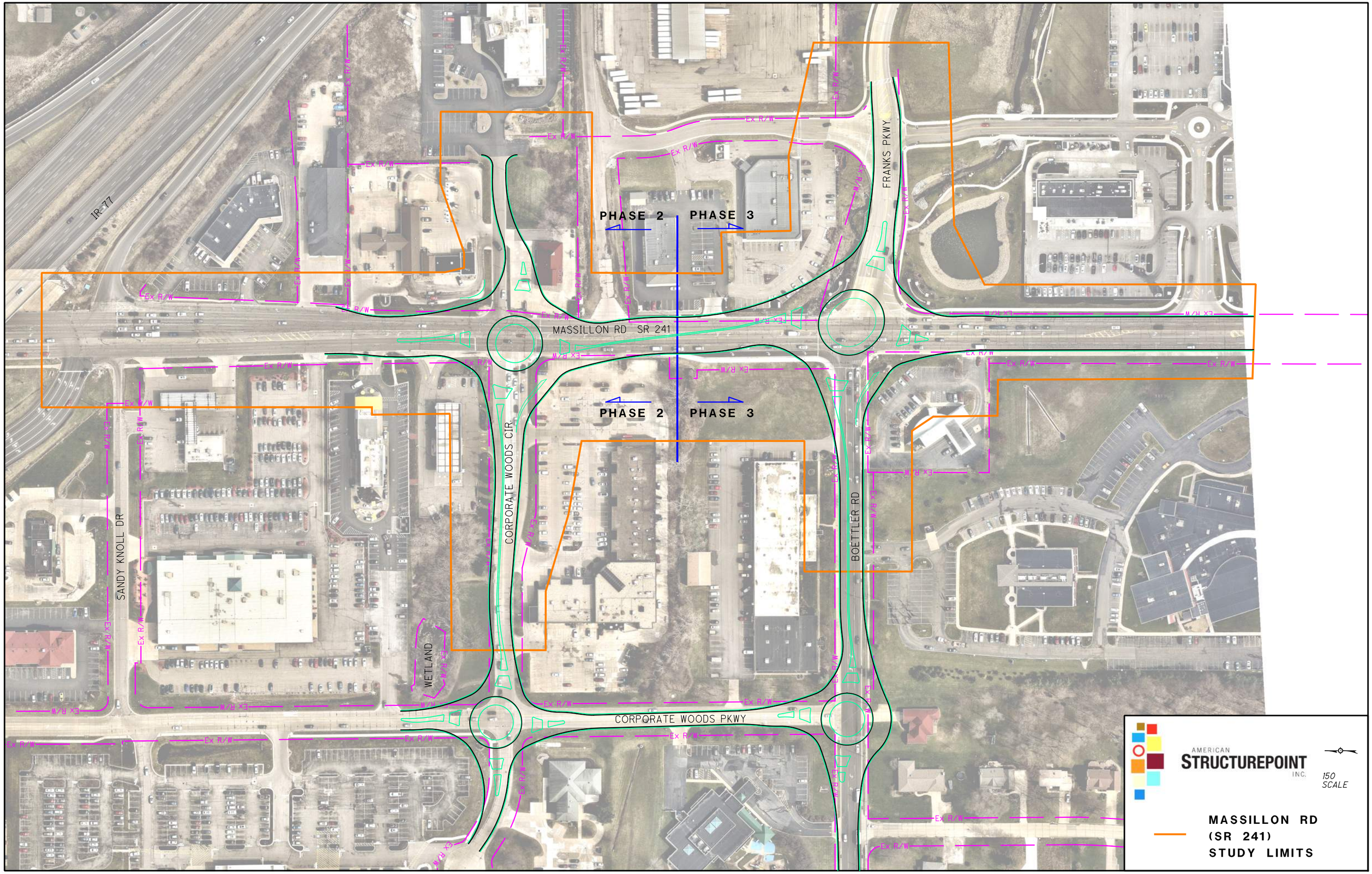
Fee Proposal
Phase 2 Massillon - Corporate Woods
May 9, 2019

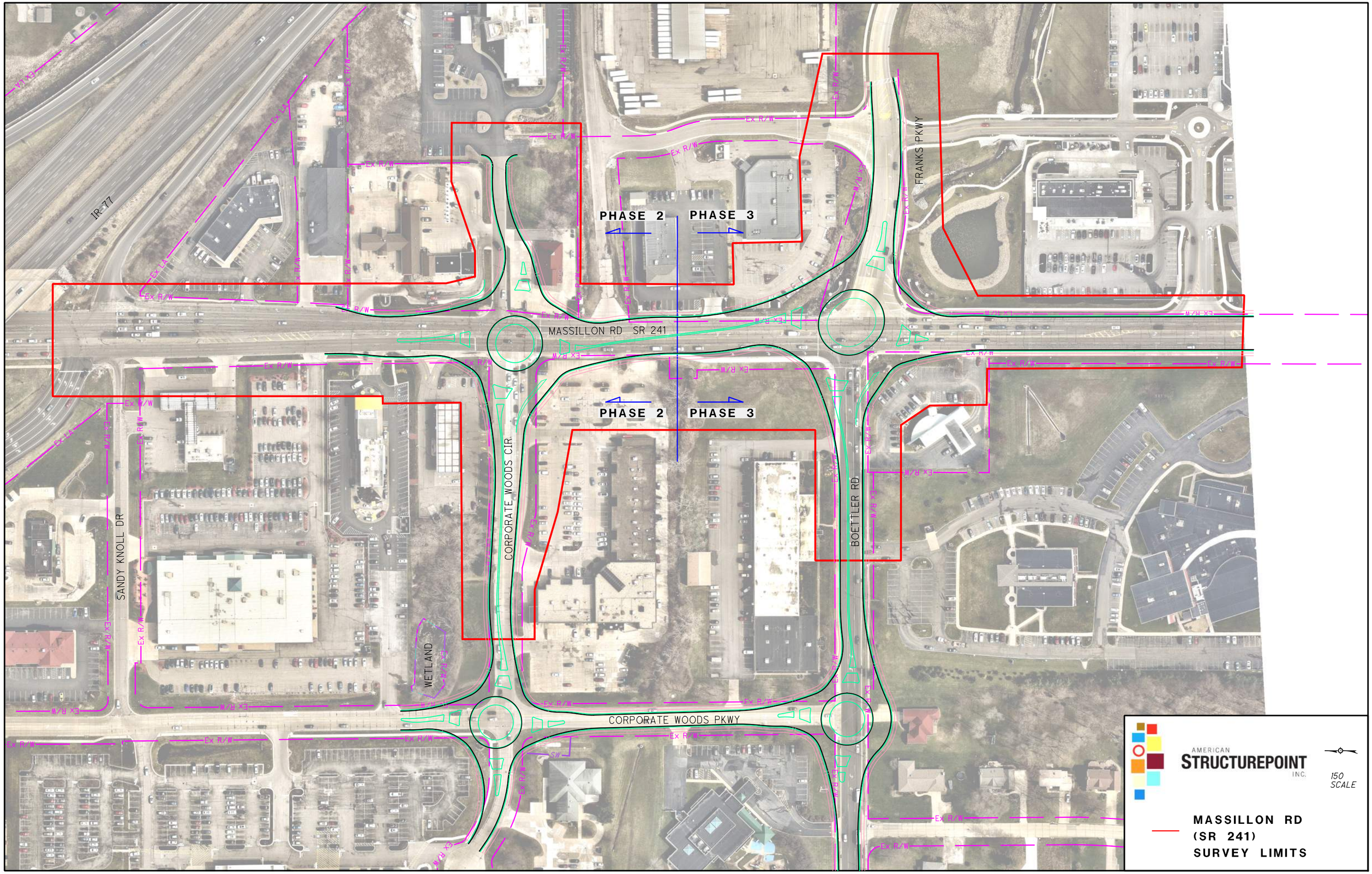
		Principal	Project Manager	Senior Engineer	Senior Env. Specialist	Project Engineer	Senior Technician	Staff Engineer / Technician	Env. Specialist	Total Hours	Subconsultant	Non-Labor Direct Costs	Total Cost
		$260.00	$208.00	$182.00	$166.50	$145.50	$140.50	$99.00	$99.00				
Task 9 - Preliminary Right-of-Way Plan													
9.1	Legend sheet									0	$1,144		$1,144
9.2	Centerline Survey Plat									0	$1,144		$1,144
9.3	Property map									0	$1,298		$1,298
9.4	Summary of Additional Right-of-Way									0	$1,298		$1,298
9.5	Detailed Right-of-Way plans									0	$3,492		$3,492
9.6	Legal Descriptions and Closure Calculations									0	$1,720		$1,720
9.7	Right-of-Way Acquisition estimate									0	$680		$680
9.8	Field Review									0	$680		$680
	Subtotal Task 9	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**$11,456**	**$0**	**$11,456**
Task 10 - Stage 2 Construction Plans (Sheet Count)													
10.1	Address Stage 1 comments		1	6		8	12	12		39			$5,338
10.2	Maintenance of Traffic Plans (12)		1	30		120	72	72		295			$40,372
10.3	Maintenance of Traffic Notes (3)					12	8	8		28			$3,662
10.4	Detour sheets (4)		1	4		16	20	20		61			$8,054
10.5	Temporary Drainage Details (2)					2		8		10	$1,988		$3,071
10.6	Drainage, underdrain, BMP's (6)									0	$5,024		$5,024
10.7	Signing plan (5)		1	4			10	10		25			$3,331
10.8	Interconnect/camera plan (2)					4	8	8		20			$2,498
10.9	Temporary Signal plan (1)			2		6	6	6		20			$2,674
10.10	Temporary drive details (3)			2		4	2	2		10			$1,425
10.11	Prepare Landscaping Plans (2)									0	$12,846		$12,846
10.12	Site/Civil design due to R/W impacts									0	$5,744		$5,744
10.13	Water Line Plan and Profiles (2)									0	$5,484		$5,484
10.14	Sanitary Sewer plans (2)									0	$4,360		$4,360
10.15	Lighting Photometrics and Calculations									0	$3,922		$3,922
10.16	Update Lighting Plans (1)									0	$7,660		$7,660
10.17	General notes with Environmental Commitments (1)					2	2			4			$572
10.18	Compute quantitites and prepare cost estimate			2		4	4	4		14	$1,766		$3,670
10.19	Submit Stage 2 plan sets and utility plan coordination			2		4	4	2		12			$1,706
10.20	QA/QC		20	10						30			$5,980
10.21	Project Management		12							12	$1,424		$3,920
10.22	General Oversight		40							40	$1,780	$150	$10,250
	Subtotal Task 10	**0**	**76**	**62**	**0**	**182**	**148**	**152**	**0**	**620**	**$51,998**	**$150**	**$141,563**
Task 11 - Final Right-of-Way Plan													
11.1	Final Right-of-Way plans									0	$804		$804
11.2	Field Review and verify property owners									0	$556		$556
11.3	Set Right-of-Way pins after acquisition									0	$1,020		$1,020
	Subtotal Task 11	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**$2,380**	**$0**	**$2,380**

Fee Proposal
Phase 2 Massillon - Corporate Woods
May 9, 2019

		Principal	Project Manager	Senior Engineer	Senior Env. Specialist	Project Engineer	Senior Technician	Staff Engineer / Technician	Env. Specialist	Total Hours	Subconsultant	Non-Labor Direct Costs	Total Cost
		$260.00	$208.00	$182.00	$166.50	$145.50	$140.50	$99.00	$99.00				
Task 12 - Stage 3 Construction Plans (Sheet Count)													
12.1	Address Stage 2 comments		1	6		8	12	12		39			$5,338
12.2	General Notes (3)		1	6		12	8	8		35			$4,962
12.3	Update Title sheet (1)			2		6	2	2		12			$1,716
12.4	General Summary (3)		1	12		12	15	15		55			$7,731
12.5	Calculate Quantities/Subsummaries (10)		1	12		48	24	24		109	$14,235		$29,359
12.6	Lighting Schematic, Plans, Notes, Details, Subsummary (8)									0	$7,730		$7,730
12.7	Overhead sign plans and elevation view (2)			2		4	8	8		22			$2,862
12.8	Project Site Plan (1) and NOI Form		1	2		6	2	2		13			$1,924
12.9	FAA Form 7460-1 for Airway/Highway clearance			2		4	2	2		10			$1,425
12.10	Cost Estimate		1	4		12	8	8		33			$4,598
12.11	Submit Stage 3 plan sets and utility plan coordination			2		8	4	4		18			$2,486
12.12	QA/QC		20	10						30			$5,980
12.13	Project Management		12								$1,424	$150	$4,070
12.14	General Oversight		40								$1,780		$10,100
	Subtotal Task 12	**0**	**78**	**60**	**0**	**120**	**85**	**85**	**0**	**376**	**$25,169**	**$150**	**$90,281**
Task 13 - Final Tracings and Bid Documents													
13.1	Address Stage 3 comments			4		12		16		32			$4,058
13.2	Bid Documents		1	4		16				21			$3,264
13.3	Prepare Tracings Package		1	12		18		12		43	$1,834	$1,500	$9,533
13.4	QA/QC		8							8			$1,664
13.5	Cost estimate		1			3	2	2		8	$883		$2,007
	Subtotal Task 13	**0**	**11**	**20**	**0**	**49**	**2**	**30**	**0**	**112**	**$2,717**	**$1,500**	**$20,526**
Task 14 - Public Outreach / Public Involvement Plan													
14.1	Public Meeting	4	8	8	27	10	3	3	35	98	$1,614	$125	$16,033
14.2	Video Graphic Modeling and Exhibits		4	6		16	32			58			$8,748
	Subtotal Task 14	**4**	**8**	**8**	**27**	**10**	**3**	**3**	**35**	**98**	**$1,614**	**$125**	**$24,781**
TOTAL BASE CONTRACT		**4**	**173**	**150**	**27**	**361**	**238**	**270**	**35**	**1206**	**$95,334**	**$1,925**	**$290,986**
"If Authorized" Services													
16.1	Perform SUE Level A Field and Survey Work (20 Holes)									0	$30,076		$30,076
16.2	Maintenance of Traffic Plans (12)		1	12		72	60	60		205			$27,238
	Subtotal Task "If Authorized"	**0**	**1**	**12**	**0**	**72**	**60**	**60**	**0**	**205**	**$30,076**	**$0**	**$57,314**
TOTAL BASE CONTRACT		**4**	**174**	**162**	**27**	**433**	**298**	**330**	**35**	**1411**	**$125,410**	**$1,925**	**$348,300**

Appendix B – Field Survey and Project Area Limits


IR-77
PHASE 2
PHASE 3
MASSILLON RD SR 241
FRANKS PKWY
CORPORATE WOODS CIR
SANDY KNOLL DR
WETLAND
CORPORATE WOODS PKWY
BOETTLER RD
Ex R/W
AMERICAN STRUCTUREPOINT INC.
150 SCALE
MASSILLON RD (SR 241) STUDY LIMITS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MASSILLON RD SR 241
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PHASE 3
CORPORATE WOODS CIR.
BOETTLER RD
SANDY KNOLL DR
WETLAND
CORPORATE WOODS PKWY
Ex R/W
AMERICAN STRUCTUREPOINT INC.
150 SCALE
MASSILLON RD (SR 241) SURVEY LIMITS

Appendix C – Subconsultant Cost Breakdown and Summary

Environmental Design Group

CORPORATE
450 Grant Street / Akron, OH 44311
P 330.375.1390 / F 330.375.1590
TF 800.835.1390

CLEVELAND OFFICE
2800 Euclid Ave, Suite 509
Cleveland, Ohio 44115

COLUMBUS OFFICE
580 N. Fourth Street, Suite 220
Columbus, Ohio 43215

envdesigngroup.com

SCOPE CLARIFICATIONS

Phase 2 – Massillon Road/Corporate Woods Circle/ Thorne Drive RAB
American Structurepoint
October 25, 2017 - Revised

Clarifications to our work tasks are as follows:

2.3.A – Field Survey

1. Existing base map and base files will be utilized for the project. The files will be converted from AutoCAD to MicroStation. Base map will be provided in DGN format using ODOT level library and cells. The base map will include a surface (.tin). The survey limits from the original study apply to the final design. EDG will perform field survey for the areas that have changed since the original survey was completed. This includes the portion of Corporate Woods Circle where dual left turn lanes were added, the east roadway segment of the new RAB at the Corporate/Corporate intersection, and at the partial island removal on Massillon Road at the I-77 interchange. Other areas of survey will result in a contract modification.

2. Subsurface utility information will be provided to EDG as MicroStation files. EDG will incorporate SUE information into the base map.

3. Two base map files will be provided to American Structurepoint; one for field survey and one for existing right-of-way lines, property owners, and property lines.

2.6.A – Public Involvement

1. Includes attendance at one public involvement meeting and addressing questions (comments regarding EDG's design elements).

2.7.A – Roadway

1. Site/civil design does not include retaining walls.

2.7.B – Drainage

1. Drainage design includes spread calculations and pipe sizing.

3.3.F – Lighting

1. Assumes LED ornamental lighting will be utilized. Match style utilized on section north of I-77.

3.3.J – Utilities

1. Includes coordination with Aqua Ohio Water and Summit County Department of Sanitary Sewer Services.

2. Other utility coordination is excluded.

3.4 – Right-of-Way Plans

1. Plans are based on 6 parcels impacted.
2. Appraisals, negotiations and recordings are excluded.

4.6 – Pre-Bid Activities

1. No bidding services are included.

5.1 – Construction Phase

1. No construction services are included.

IF AUTHORIZED – Phase 1 Archaeological Survey and Report

1. The fee only includes the level of effort for a Phase 1 Report. If OHPO requires a Level 2 or 3 investigation, this will be an additional service.

FEE PROPOSAL

Version:
Feb 2017

C-R-S **Phase 2 - SR 241 (Massillon Rd.) and Corporate Woods Circle/Thorn Drive RAB**
Consultant: Environmental Design Group
Agreement No.
Modification No.
PID No. 103172
Proposal Date 10/23/2017 - Revised

Task Description	Principal $231.00	Proj Manager $178.00	Sr Engineer $139.00	ENG/LA $108.00	Land Planner $93.00	CAD $86.50	Tech $77.25	Survey Proj Manager $170.00	Survey Crew $170.00	Clerical $67.00	Total Hours	Total Cost
AUTHORIZED TASKS:												
1 - Planning Phase												
1.2 - Project Initiation Package												
1.2.A - Define Study Area and Logical Termini											0	$0
1.2.B - Conduct Field Review (walk through)											0	$0
TOTAL 1.2 - Project Initiation Package	0	0	0	0		0	0	0	0	0	0	$0.00
1.3 - Existing Data, Research and Analysis												
1.3.B - Crash Analysis											0	$0
1.3.C - Traffic Counts												
1.3.C.A - Turning Movement Counts at Intersections - No Build											0	$0
1.3.C.B - Machine Counts on Roadways and Ramps - No Build											0	$0
1.3.E - Certified Traffic - No Build Condition											0	$0
1.3.F - Capacity Analysis - No Build Condition											0	$0
1.3.H - Develop Purpose & Need											0	$0
TOTAL 1.3 - Existing Data, Research and Analysis	0	0	0	0		0	0	0	0	0	0	$0.00
1.4 - Stakeholder Involvement and Public Involvement Plan												
1.4.A - Public Involvement Plan											0	
TOTAL 1.4 - Stakeholder Involvement and Public Involvement Plan	0	0	0	0		0	0	0	0	0	0	$0.00
1.5 - Project Management for Planning Phase												
1.5.A - Meetings											0	$0
1.5.B - General Oversight											0	$0
1.5.C - Project Set Up											0	$0
1.5.D - Non Routine (Soft) Items											0	$0
TOTAL 1.5 - Project Management for Planning Phase	0	0	0	0		0	0	0	0	0	0	$0.00
TOTAL 1- Planning Phase	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**$0.00**
2 - Preliminary Engineering Phase												
2.1 - Develop Preliminary Alternatives												
2.1.A -Prepare and Complete Feasibility Study Report												
2.1.A.B -Certified Traffic - Feasible (Build) Alternative(s)											0	$0
2.1.A.C - Capacity Analysis Feasible (Build) Alternative(s)											0	$0
2.1.A.J - Stakeholder Public Involvement											0	$0
TOTAL 2.1 - Develop Preliminary Alternatives	0	0	0	0		0	0	0	0	0	0	$0.00
2.2 - Perform Environmental Field Studies												
2.2.A - Property Owner Notification											0	$0
2.2.B – Cultural Resources Scoping Request From											0	$0
2.2.C - Ecological Survey Report											0	$0
2.2.D - Environmental Site Assessment Screening											0	$0
2.2.E - Social and Economic Resources											0	$0
2.2.F - 4(f) determinations											0	$0
2.2.G - Noise Analysis											0	$0
2.2.H - Noise Analysis - Public Involvement											0	$0

Version:
Feb 2017

C-R-S **Phase 2 - SR 241 (Massillon Rd.) and Corporate Woods Circle/Thorn Drive RAB**

Consultant: Environmental Design Group
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Task Description	Principal $231.00	Proj Manager $178.00	Sr Engineer $139.00	ENG/LA $108.00	Land Planner $93.00	CAD $86.50	Tech $77.25	Survey Proj Manager $170.00	Survey Crew $170.00	Clerical $67.00	Total Hours	Total Cost
2.2.I – Phase I Cultural Resource History/Architecture Survey											0	$0
TOTAL 2.2 - Perform Environmental Field Studies	0	0	0	0		0	0	0	0	0	0	$0.00
2.3 - AER Design												
2.3.A - Field Survey and Aerial Mapping												
2.3.A.A - Project Control, Benchmarks, and Reference Points								1	2		3	$510
2.3.A.B - Monumentation recovery								1	2		3	$510
2.3.A.C - Base Mapping (incl. field verify.)							32	8	24		64	$7,912
2.3.A.F - Establish property lines, tax id, & ownerships on base map						2	4	8	8		22	$3,202
2.3.A.G - Property Owner Notification								6		2	8	$1,154
2.3.B - Roadway												
2.3.B.A - Design Criteria											0	$0
2.3.B.C - Horizontal Alignment and Vertical Profile - Mainline											0	$0
2.3.B.D - Plan and Profile - Crossroads											0	$0
2.3.B.F - Conceptual cross sections											0	$0
2.3.B.H - Analyze Drive locations											0	$0
2.3.B.I - Identify Construction Limits											0	$0
2.3.C - Drainage												
2.3.C.A - Drainage Design Criteria Forms (LD-35)				1							1	$108
2.3.C.C - Hydraulically size all major storm sewer trunk lines			4	14							18	$2,068
2.3.C.E- Conceptual BMP				8		1					9	$951
2.3.C.F - Estimate impact to wetlands, streams, & other regulated waters of the US and potential wetland mitigation											0	$0
2.3.D - Traffic Control												
2.3.D.B - Documentation of Proprietary Bid Justification - Lighting			2								2	$278
2.3.F - Maintenance of Traffic												
2.3.F.B - MOTAA												
2.3.F.B.5 - MOTAA - Detour Route Investigation											0	$0
2.3.F.B.6 - MOTAA - Modeling - Queue Analysis											0	$0
2.3.F.C - Conceptual MOT Plan (Without MOTAA)											0	$0
2.3.G - Utilities												
2.3.G.A - Utility Coordination and Documentation											0	$0
2.3.G.B - Subsurface Utility Engineering											0	$0
2.3.H - Miscellaneous												
2.3.H.C - Determine potential locations for retaining walls											0	$0
2.3.H.E - Identify potential total take parcels											0	$0
2.3.H.G - Evaluate aesthetic options											0	$0
2.3.H.I - Determine need for Design Exception											0	$0
TOTAL 2.3 - AER Design	0	0	6	23		3	36	24	36	2	130	$16,692.50
2.4 - Prepare Cost Estimates												
2.4.A - Roadway/Interchange Costs											0	$0
2.4.B - Right of Way Costs											0	$0
2.4.C - Utility											0	$0
TOTAL 2.4 - Prepare Cost Estimates	0	0	0	0		0	0	0	0	0	0	$0.00
2.5 - AER Submittal and Other Studies												
2.5.E - Retaining wall justification											0	$0
TOTAL 2.5 - AER Submittal and Other Studies	0	0	0	0		0	0	0	0	0	0	$0.00
2.6 - Public Involvement/Coordination												
2.6.A - Public Involvement / Coordination		8	8			8					24	$3,228
TOTAL 2.6 - Public Involvement/Coordination	0	8	8	0		8	0	0	0	0	24	$3,228.00
2.7 - Stage 1 Design												
2.7.A - Roadway												

Version:
Feb 2017

C-R-S **Phase 2 - SR 241 (Massillon Rd.) and Corporate Woods Circle/Thorn Drive RAB**

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2.7.A.A - Title Sheet											0	$0
2.7.A.B - General Notes				8		8					16	$1,556
2.7.A.C - Schematic Plan											0	$0
2.7.A.C - Roundabout Geometrics											0	$0
2.7.A.D - Typical Sections											0	$0
2.7.A.E - Cross Sections											0	$0
2.7.A.F - Plan and Profile - Mainline											0	$0
2.7.A.G - Plan and Profile - Crossroads											0	$0
2.7.A.J - Intersection Details											0	$0
2.7.A.L - Driveway Details											0	$0
2.7.A.M - Design Exception Request											0	$0
2.7.A.N -Traffic Control											0	$0
2.7.A.P – ITS Traffic Surveillance											0	$0
2.7.A.Q – Site/Civil Design due to R/W impacts				16		24					40	$3,804
2.7.B - Drainage												
2.7.B.A - Storm Sewer Profiles			2	8		24					34	$3,218
2.7.B.D - Drainage Calculations			8	32							40	$4,568
2.7.B.E - BMP Design				16		8					24	$2,420
2.7.C - Utilities												
2.7.C.A - Utility Coordination and Documentation											0	$0
2.7.C.B - Description or proposed water and/or sewer work											0	$0
2.7.C.C - Subsurface Utility Engineering (SUE)											0	$0
2.7.C.D - Add Utilities to Plan/Profile Sheets											0	$0
2.7.D - Geotechnical Services												
2.7.D.A - Geotechnical Services and Report											0	$0
2.7.E - Retaining Wall Plans											0	$0
2.7.G - Miscellaneous												
2.7.G.A - Perform Airway/Highway clearance analysis											0	$0
2.7.G.C - Finalize Pavement Build up and subsurface drainage requirements											0	$0
2.7.H - Prepare C2 Cost Estimates and Update Milestones												
2.7.H.A - Roadway/Interchange Costs			4	8		2					14	$1,593
2.7.H.B - Right of Way											0	$0
2.7.H.C - Utility Costs											0	$0
2.7.I - Lighting Plans			4	8							12	$1,420
2.7.J - Maintenance of Traffic												
2.7.J.A - Detour Plan											0	$0
2.7.J.B- Pedestrian/Bike Lane Detour											0	$0
2.7.J.C- Conceptual MOT Revision											0	$0
2.7.J.D - MOT Coordination Discussions											0	$0
TOTAL - 2.7 - Stage 1 Design	0	0	18	96		66	0	0	0	0	180	$18,579.00
2.8 - Project Management for Preliminary Engineering Phase												
2.8.A - Meetings		8									8	$1,424
2.8.B - General Oversight		10									10	$1,780
2.8.C - Project Set Up											0	$0
2.8.D - Non Routine (Soft) Items											0	$0
TOTAL 2.8 - Project Management for Preliminary Engineering Phase	0	18	0	0		0	0	0	0	0	18	$3,204.00
Total - 2 Preliminary Engineering Phase	0	26	32	119	0	77	36	24	36	2	352	$41,703.50
3 - Environmental Engineering Phase												
3.1 - Environmental Field Studies and Refined Impacts												
3.1.A - Phase I Cultural Archaeological											0	$0

Version:
Feb 2017

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3.1.B - Phase II Cultural Resource History/Architecture Survey											0	$0
3.1.C - Section 4 (f) Determination											0	$0
3.1.D - Phase I Environmental Site Assessment											0	$0
3.1.E - Farmland Studies											0	$0
3.1.F - Secondary and Cumulative Review											0	$0
3.1.G - Address NEPA Specific Environmental Justice Issues											0	$0
3.1.H - Relocation Assistance Program Conceptual Survey											0	$0
3.1.I - Biological Assessment for Federally Listed Species											0	$0
3.1.J Not Used											0	$0
3.1.K- Determine Right of Way Encroachments											0	$0
3.1.L - Determine Potential Right of Way from Railway											0	$0
3.1.M- Waterway Permit											0	$0
3.1.N- Stream and Wetland Opportunities Inventory Report											0	$0
3.1.O- Phase II Environmental Site Assessment											0	$0
3.1.P- Air Quality Analyses											0	$0
3.1.Q - Mussel Survey											0	$0
3.1.R – FIS Analysis, Revisions, and Coordination											0	$0
TOTAL 3.1 - Environmental Field Studies and Refined Impacts	0	0	0	0		0	0	0	0	0	0	$0.00
3.3 - Stage2												
3.3.A - Roadway												
3.3.A.A - Title Sheet											0	$0
3.3.A.B - Schematic											0	$0
3.3.A.B - Roundabout Geometrics											0	$0
3.3.A.C - General Notes											0	$0
3.3.A.D - Typical Sections											0	$0
3.3.A.E- Plan and Profile - Mainline											0	$0
3.3.A.F - Plan and Profile - Crossroads											0	$0
3.3.A.H - Cross Sections											0	$0
3.3.A.I - Intersection Details											0	$0
3.3.A.J - Site/Civil design due to R/W impacts	4		16		40						60	$5,744
3.3.B - Drainage												
3.3.B.A - Storm Sewer Profiles	1		8		24						33	$3,079
3.3.B.D - Underdrain details			8		8						16	$1,556
3.3.B.E - BMP Details			2		2						4	$389
3.3.B.F - Temporary Drainage (MOT)												
3.3.B.F.1 - Temporary Drainage (MOT) - Adding Temporary Drainage to Plans			4		8						12	$1,124
3.3.B.F.2 - Temporary Drainage (MOT) - MOT Drainage Calculations			8								8	$864
3.3.C - Traffic Control												
3.3.C.A - Pavement Marking Plan											0	$0
3.3.C.B - Signing Plan											0	$0
3.3.D - Signals & ITS												
3.3.D.B - Interconnect Details											0	$0
3.3.D.D - ITS (Traffic Surveillance) Plan Sheets											0	$0
3.3.E - Maintenance of Traffic												
3.3.E.A - MOT General Notes											0	$0
3.3.E.B - Detour Plan- Custom Guide Signs											0	$0
3.3.E.C - Pedestrian/Bike Lane Detour – Plan Sheet											0	$0
3.3.E.D - Temporary Signing Details											0	$0
3.3.E.E - MOT Typical Sections											0	$0
3.3.E.F - MOT Plan Sheets											0	$0
3.3.E.G - Temporary Signal Details (Modification of Existing or Proposed Signal)												
3.3.E.G.1 - Temporary Signal Details (Modification of Existing or Proposed Signal) – Adjustments of Heads, Timing & Detection											0	$0

Version:
Feb 2017

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3.3.E.G.2 - Temporary Signal Details (Modification of Existing or Proposed Signal) - Temporary Pole Placement											0	$0
3.3.E.J - MOT Coordination Discussions											0	$0
3.3.E.K - MOT Constructability Coordination											0	$0
3.3.E.L - Temporary Pavement Sections and Earthwork											0	$0
3.3.E.N - MOT Temporary Access Details												
3.3.E.N.1 - MOT Temporary Access Details - Temporary Drive Access											0	$0
3.3.E.O - Miscellaneous MOT Details												
3.3.E.O.1 - Miscellaneous MOT Details - Plan Insert Sheets											0	$0
3.3.F - Lighting Plan												
3.3.F.A - Lighting Analysis			8	4							12	$1,544
3.3.F.B - Power/Circuit Layout, Notes, and Details			8	2		16					26	$2,712
3.3.F.C - Lighting Plan, Notes, and Details			16	6		24					46	$4,948
3.3.F.D - Voltage Drop Calculations			8	2							10	$1,328
3.3.F.E - Power Service			6	2							8	$1,050
3.3.G - Landscape Plan												
3.3.G.A - Landscape Plan and Details				40			80				120	$10,500
3.3.G.B - General Notes				16			8				24	$2,346
3.3.J - Utilities												
3.3.J.A - Utility Coordination and Documentation											0	$0
3.3.J.B - Water Works Plan			4	16		24					44	$4,360
3.3.J.C - Water Works Details & Notes				4		8					12	$1,124
3.3.J.D - Sanitary Sewer Plans			4	16		24					44	$4,360
3.3.K - Geotechnical Services												
3.3.K.A - Finalize Geotechnical Investigation and Report											0	$0
TOTAL 3.3 - Stage2	0	0	59	154		178	88	0	0	0	479	$47,028.00
3.4 - Right of Way Plans												
3.4.A Conceptual Right of Way Plan Review								8			8	$1,360
3.4.B - Preliminary Right of Way Plans												
3.4.B.A - Legend Sheet							6	4			10	$1,144
3.4.B.B - Centerline Survey Plat							6	4			10	$1,144
3.4.B.C - Property Map							8	4			12	$1,298
3.4.B.D - Summary of Additional Right of Way							8	4			12	$1,298
3.4.B.E - Detailed ROW Plan Sheets							32	6			38	$3,492
3.4.B.F - Special Plats											0	$0
3.4.B.G - Legal Descriptions and Closure Calculations				4				6		4	14	$1,720
3.4.B.H - Right-of-Way Acquisition Estimate								4			4	$680
3.4.B.I - Field Review								4			4	$680
3.4.C - Final Right of Way Plans												
3.4.C.A Final Right of Way Plans							6	2			8	$804
3.4.C.B- Field Review & Verify Property Owners				2				2			4	$556
3.4.C.C - Record Centerline Plat and all appropriate documents											0	$0
3.4.C.D - Set R/W Pins after acquisition								2	4		6	$1,020
TOTAL 3.4 - Right of Way Plans	0	0	0	6		0	66	50	4	4	130	$15,194.50
3.5 - Prepare Environmental Document												
3.5.A - Prepare Environmental Document											0	$0
TOTAL 3.5 - Prepare Environmental Document	0	0	0	0		0	0	0	0	0	0	$0.00
3.6 - Environmental Commitments and Plan Notes												
3.6.A - Environmental Commitment Plan Notes											0	$0
TOTAL 3.6 - Environmental Commitments and Plan Notes	0	0	0	0		0	0	0	0	0	0	$0.00
3.7 - Final Mitigation Plans Coordination												
3.7.A - Mitigation for Cultural Resources											0	$0
3.7.B - Mitigation for Streams											0	$0
3.7.C - Mitigation for Wetlands											0	$0

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3.7.D - Mitigation Plan for Other Features											0	$0
TOTAL 3.7 - Final Mitigation Plans Coordination	0	0	0	0		0	0	0	0	0	0	$0.00
3.8 - Prepare Cost Estimates and Revise Milestone												
3.8.A - Roadway/Interchange Costs			4	8		4					16	$1,766
3.8.B- Structures Costs											0	$0
3.8.C- Utility Costs											0	$0
TOTAL 3.8 - Prepare Cost Estimates and Revise Milestone	0	0	4	8		4	0	0	0	0	16	$1,766.00
3.9 - Project Management for Environmental Engineering Phase												
3.9.A - Meetings		8									8	$1,424
3.9.B - General Oversight		10									10	$1,780
3.9.C - Project Set Up											0	$0
3.9.D - Non Routine (Soft) Items											0	$0
TOTAL 3.9 - Project Management for Environmental Engineering Phase	0	18	0	0		0	0	0	0	0	18	$3,204.00
Total - 3 Environmental Engineering Phase	0	18	63	168	0	182	154	50	4	4	643	$67,192.50
4 - Final Engineering and R/W Phase												
4.2 - Stage 3 Detailed Design Plans												
4.2.A - Quantities and Notes												
4.2.A.A - Pavement Subsummary											0	$0
4.2.A.B - Drainage Subsummary			4	12		16					32	$3,236
4.2.A.C - Roadway Subsummary											0	$0
4.2.A.E - Maintenance of Traffic Subsummary											0	$0
4.2.A.F - Pavement Marking Subsummary											0	$0
4.2.A.G - Signing Subsummary											0	$0
4.2.A.H - Signal Subsummary											0	$0
4.2.A.J - Retaining Wall Subsummary											0	$0
4.2.A.K - Lighting Subsummary			4	8		4					16	$1,766
4.2.A.L - Landscape Subsummary			4	8		4					16	$1,766
4.2.A.M - General Summary Sheet			2	4		2					8	$883
4.2.A.P - General Notes											0	$0
4.2.A.Q - Driveway Subsummary or Driveway Details (if included on same sheet)											0	$0
4.2.A.R - Lighting Notes			16	4		8					28	$3,348
4.2.A.S - Site/Civil Subsummary			4	12		16					32	$3,236
4.2.B - Traffic Signal Plans & ITS Plans												
4.2.B.A - Wiring diagram & pole orientation											0	$0
4.2.B.B - Timing Chart											0	$0
4.2.B.E - ITS (Traffic Surveillance)											0	$0
4.2.C - Signing Plans												
4.2.C.A – Signing Plans											0	$0
4.2.C.B - Elevation View of Major Signs											0	$0
4.2.C.C - SignCAD											0	$0
4.2.D - Miscellaneous												
4.2.D B - Prepare FAA Form 7460-1 for Airway/Highway Clearance											0	$0
4.2.D C - Project Site Plan											0	$0
4.2.D.G - Title Sheet											0	$0
4.2.E - Lighting Plans												
4.2.E.A - Lighting Details		2	12	24		36					74	$7,730
TOTAL 4.2 - Stage 3 Detailed Design Plans	0	2	46	72		86	0	0	0	0	206	$21,965.00

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4.3 - Prepare Cost Estimates and Revise Milestone												
4.3.A - Roadway/Interchange Costs			2	4		2					8	$883
4.3.B- Right of Way											0	$0
4.3.D - Utility Costs											0	$0
TOTAL 4.3 - Prepare Cost Estimates and Revise Milestone	0	0	2	4		2	0	0	0	0	8	$883.00
4.4 - Final Plan Package												
4.4.A - Submission of Final Tracings and Documentation			2	8		8					18	$1,834
4.4 - Final Plan Package	0	0	2	8		8	0	0	0	0	18	$1,834.00
4.5 - Project Management for Final Engineering and Right of Way Phase												
4.5.A - Meetings		8									8	$1,424
4.5.B - General Oversight		10									10	$1,780
4.5.C - Project Set Up											0	$0
4.5.D - Non Routine (Soft) Items											0	$0
TOTAL 4.5 - Project Management for Final Engineering and Right of Way Phase	0	18	0	0		0	0	0	0	0	18	$3,204.00
4.6 - Pre-Bid Activities												
4.6.A - Pre-Bid Questions											0	$0
TOTAL 4.6 - Pre-Bid Activities	0	0	0	0		0	0	0	0	0	0	$0.00
TOTAL - Final Engineering Phase	0	20	50	84	0	96	0	0	0	0	250	$27,886.00
5 - Construction Phase												
5.1 - On-going Services during Construction												
5.1.A - On-going Services During Construction											0	$0
TOTAL 5.1 - On-going Services during Construction	0	0	0	0		0	0	0	0	0	0	$0.00
TOTAL - Construction Phase	0	0	0	0	0	0	0	0	0	0	0	$0.00
TOTAL AUTHORIZED PARTS	0	64	145	371	0	355	190	74	40	6	1245	$136,782
REIMBURSABLES												$1,500
GRAND TOTAL	0	64	145	371	0	355	190	74	40	6	1245	**$138,282.00**
IF AUTHORIZED TASKS:												
Phase 1 Archaeological Survey												
Phase 1 Archaeological Survey and Report		2			80	12					94	$8,834
Prepare OHPO I Form (if necesssary)					40						40	$3,720
Phase 1 Archaeological Survey	0	2	0	0	120	12	0	0	0	0	134	$12,554.00

Appendix D – Project Schedule

Phase 2 Schedule

Milestone	Begin Date	Completion Date	Days
Notice to proceed	6/5/2018		
Environmental Document	6/5/2018	8/2/2019	423
Stage 2 Design	5/13/2019	9/20/2019	130
Preliminary Right of Way Design	5/13/2019	6/28/2019	46
Utility Coordination Meeting	5/30/2019	5/30/2019	1
Public Meeting	6/13/2019	6/14/2019	2
Preliminary Right of Way Review	7/1/2019	7/26/2019	25
Final Right of Way Design	7/29/2019	9/20/2019	53
Environmental Document Review	8/5/2019	10/4/2019	60
Stage 2 Review by City of Green/ODOT	9/23/2019	11/8/2019	46
Final Right of Way Review	9/23/2019	11/8/2019	46
Environmental Document Approval	10/14/2019		
Right-of-Way Tracings	11/11/2019	12/6/2019	25
Stage 3 Design	11/11/2019	4/3/2020	144
Right-of-Way Acquisition	12/9/2019	11/30/2020	357
Stage 3 Review by City of Green/ODOT	4/6/2020	5/22/2020	46
Final Tracings/Bid Document	5/25/2020	1/1/2021	221
Utilities Relocate	1/7/2021	7/1/2021	175
Award Bid	5/1/2021		
Construction	7/1/2021	12/1/2022	518