



KENTUCKY TRANSPORTATION CABINET
 Department of Highways
 DIVISION OF PROFESSIONAL SERVICES

TC 40-2
 Rev. 08/2017
 Page 1 of 1

ENGINEERING AND RELATED SERVICES FEE PROPOSAL

SECTION 1: PROJECT INFORMATION

DATE:	Sep 29, 2017	COUNTY:	Fayette	ITEM #:	7-3219
PROJECT:	Rosemont Garden Sidewalks				

SECTION 2: BUDGET INFORMATION

FEE CONSIDERATIONS	PROPOSED MAN HOURS	NEGOTIATED MAN HOURS	AVERAGE RATE	ESTIMATED COST
				\$ -
LINE AND GRADE TOTAL		128	\$ 43.04	\$ 5,509.12
UTILITY COORDINATION TOTAL		8	\$ 42.16	\$ 337.28
RIGHT OF WAY PLANS TOTAL		56	\$ 50.78	\$ 2,843.68
FINAL PLANS TOTAL		114	\$ 51.26	\$ 5,843.64
MEETINGS TOTAL		32	\$ 51.77	\$ 1,656.64
PUBLIC INVOLVEMENT TOTAL		20	\$ 59.95	\$ 1,199.00
QA/QC TOTAL		8	\$ 53.02	\$ 424.16
				\$ -
				\$ -
TOTAL PRODUCTION HOURS		366	\$ 48.67	
			TOTAL DIRECT PAYROLL	\$ 17,813.52
			OVERHEAD (161.50 %)	\$ 28,768.83
			PROFIT (15.00 %)	\$ 6,987.35
			COST OF MONEY (%)	\$ -

DIRECT COSTS	AMOUNT
TOTAL DIRECT COSTS	\$ -

SUBCONSULTANTS	AMOUNT
Survey- Abbie Jones Consulting, LLC	\$ 7,600.00
TOTAL SUBCONSULTANTS	\$ 7,600.00

TOTAL FEE	\$ 61,170
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*Rounded to the nearest dollar

SECTION 3: SIGNATURE

FIRM NAME: GRW Engineers, Inc.	SIGNED BY: Harvey H. Helm
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	Vice President	9/29/2017
CONSULTANT SIGNATURE	TITLE	DATE

PROFESSIONAL SERVICES SIGNATURE	TITLE	DATE

PRODUCTION-HOUR WORKSHEET (revised 7/14)

COUNTY	Fayette	PROJECT TYPE	Sidewalk
ROUTE	Rosemont Garden	CONSULTANT	GRW Engineers, Inc.
DESC	Sidewalks	REVIEWED BY	Mark Feibes, LFUCG
		PREPARED BY	Mary Beth Robson
			September 26, 2017

SURVEY

No.	ITEM	CREW	UNIT	AMOUNT	HRS/UNIT	HOURS
RECONNAISSANCE						
1	Control - (existing)	1	Mile	0.24	4	1
2	Utilities - (data gathering, identification & contact)	1	No.	6	2	12
3	Drainage - (sink holes, streams, pipes, etc.)	1	Mile	0		0
CONTROL						
4	Horizontal	2	Mile	0.24	2	1
5	Vertical	2	Mile	0.24	2	1
6	Process data	1	Mile	0.24	4	1
PLANIMETRIC SURVEY						
7	Planimetric location <i>(pickup)</i>	2	Mile	0.24	16	8
8	Subsurface Utility Engineering, Quality Levels C & D	1	Mile	0.24	4	1
9	Subsurface Utility Engineering, Quality Level B	1	LS			0
10	Subsurface Utility Engineering, Quality Level A	1	LS			0
11	Process data	1	Mile	0.24	4	1
TERRAIN SURVEY						
12	DTM data collection <i>(Items 13-20 not required if used)</i>	2	Acre			0
13	Verify terrain model accuracy	2	Mile			0
14	Tie-ins	2	No.			0
15	Drainage situations survey (Bridge)	2	No.			0
16	Drainage situations survey (Culvert)	2	No.			0
17	Drainage pipe section (non-situation size)	2	No.			0
18	Flood plain data	2	No.			0
19	Railroad Surveys	2	No.			0
20	Additional necessary DTM data <i>(specify pickup or update)</i>	2	Acre			0
21	Process data	1	Mile			0
ESTABLISH PROPERTY LINES & OWNERSHIP						
22	Contact & Interview Property Owners	1	Parcel			0
23	Field tie property lines/corners	2	Parcel	37	0.6	44
STAKING						
24	Stake centerlines, approaches, detours	2	Mile			0
25	Stake core holes - structures <i>(unit is per structure)</i>	2	No.			0
26	Stake core holes - roadway <i>(unit is per core hole)</i>	2	No.			0
SURVEY MISCELLANEOUS						
27	Landscape features (retaining walls, tress, posts, etc)	1	Mile	0.24	4	1
28		2	No.			0
29						0
SURVEY TOTAL						71

PRELIMINARY LINE AND GRADE

No.	ITEM	UNIT	AMOUNT	HRS/UNIT	HOURS
30	Computer setup	LS	1	4	4
31	Prepare existing manuscripts	Mile	0.24	40	10
32	Establish approximate property lines and ownership	Parcel	37	1	37
33	Study and develop typical sections	No.	2	8	16
34	Study and develop horizontal alignments	Mile	0.24	16	4
35	Study and develop vertical alignments	Mile	0.24	8	2

PRODUCTION-HOUR WORKSHEET (revised 7/14)

COUNTY	<u>Fayette</u>	PROJECT TYPE	<u>Sidewalk</u>
ROUTE	<u>Rosemont Garden</u>	CONSULTANT	<u>GRW Engineers, Inc.</u>
DESC	<u>Sidewalks</u>	REVIEWED BY	<u>Mark Feibes, LFUCG</u>
		PREPARED BY	<u>Mary Beth Robson</u>
			<u>September 26, 2017</u>

36	Create and evaluate proposed roadway models	Mile	0.24		0
37	Design entrances	No.			0
38	Pre-size pipes (all alternates)	No.	2		0
39	Pre-size culverts (all alternates)	No.	0		0
40	Pre-size bridges (all alternates)	No.	0		0
41a	Conduct Traffic Engineering Analysis (Basic; Highway Capacity Manual Proce	Intersection	0		0
41b	Conduct Traffic Engineering Analysis (Advanced; Micro-simulation)	Intersection	0		0
42	Study and development of interchange	No.	0		0
43	Study and development of intersection	No.	0		0
44	Study and develop maintenance of traffic plan	LS	1		0
45	Plot/print copies of plans for team meeting and inspections	LS	1	8	8
46	Calculate preliminary quantities and develop cost estimates	Alt.	1	8	8
47	Revise plans and estimates	LS	1	4	4
48	Preliminary Right of Way with taking areas	Parcel	37	0.5	19
49	Prepare Design Executive Summary	LS	1	16	16
50	Develop/document "Avoidance Alternatives to Water Related Impacts"	LS	1		0

PRELIMINARY LINE & GRADE MISCELLANEOUS

51					0
52					0
53					0
54					0
55					0

PRELIMINARY LINE AND GRADE TOTAL

128

UTILITY COORDINATION

No.	ITEM	PERSONS	UNIT	AMOUNT	HRS/UNIT	HOURS
56	Utility Coordination Meeting	2	No.	2	2	8
57	Develop Utility Relocation Layout Sheets (1"=200')		Mile	0		0
58	Develop Utility Relocation Plans (1"=50')		Mile	0		0

UTILITY COORDINATION MISCELLANEOUS

59					0
UTILITY COORDINATION TOTAL					8

RIGHT OF WAY PLANS

No.	ITEM	UNIT	AMOUNT	HRS/UNIT	HOURS
60	Deed research	Parcel	37	0.25	9
61	Establish property and ownership	Parcel	37	0.25	9
62	Calculate Right of Way	Parcel	37	0.25	9
63	Prepare legal descriptions	Parcel	37	0.25	9
64	Complete Right of Way summary sheet	Parcel	37	0.1	4
65	Generate Right of Way strip map (scale 1" = 20')	Sheet	4	1	4
66	Prepare Right of Way Plans Submittal	LS	1	4	4
67	Right of Way revisions after Right of Way submittal	LS	1	8	8

R/W PLANS MISCELLANEOUS

68	Deed Research for Existing Alignments	LS			0
69	Deed Research for Existing Parcels	Parcel	37		0
70	Prepare Legal Descriptions for Right of Way transfer	Parcel	0		0
71					0
72					0

RIGHT OF WAY PLANS TOTAL

56

PRODUCTION-HOUR WORKSHEET (revised 7/14)

COUNTY	<u>Fayette</u>	PROJECT TYPE	<u>Sidewalk</u>
ROUTE	<u>Rosemont Garden</u>	CONSULTANT	<u>GRW Engineers, Inc.</u>
DESC	<u>Sidewalks</u>	REVIEWED BY	<u>Mark Feibes, LFUCG</u>
		PREPARED BY	<u>Mary Beth Robson</u>
			<u>September 26, 2017</u>

FINAL PLAN PREPARATION

No.	ITEM	UNIT	AMOUNT	HRS/UNIT	HOURS
80	Computer setup	LS	1	4	4
81	Update existing topography and terrain model	Mile	0.24		0
82	Refine alignments (horizontal & vertical)	Mile	0.24	8	2
83	Develop pavement design	No.			0
84	Finalize templates & transitions	No.			0
85	Develop final roadway model	Mile	0.24		0
86	Develop proposed design	Mile	0.24	40	10
87	Generate plan sheets (scale 1" = 20')	Sheet	4	4	16
88	Generate profile sheets (scale 1" = xxx')	Sheet			0
89	Detail cross sections (scale 1" = 20')	No.	8	4	32
90	Design entrances	No.			0
91	Revise roadway plans from soils report	Mile			0
DRAINAGE					
92	Develop pipe sections (< 54")	No.			0
93	Develop drainage system map	Mile	0.24		0
94	Develop drainage situation (bridge)	No.			0
95	Develop drainage situation (culvert)	No.			0
96	Develop blue line stream channel change (=> 200')	No.			0
97	Drainage analysis (entrance pipes)	No.			0
98	Drainage analysis (A <= 200 acres)	No.	2	4	8
99	Drainage analysis (200 acres < A < 1.0 sq. mile)	No.			0
100	Drainage analysis (A => 1.0 sq. mile) level 1 analysis	No.			0
101	Drainage analysis (A => 1.0 sq. mile) level 2 analysis	No.			0
102	Drainage analysis (A => 1.0 sq. mile) level 3 analysis	No.			0
103	Special drainage studies	No.			0
104	Roadway ditches and channels	Mile			0
105	Develop Erosion Control Plan	Mile	0.24	8	2
106	Inlet spacing calculations	No.	2	2	4
107	Storm sewers calculations	No.	2	2	4
108	Perform scour analysis	No.			0
109	Assemble preliminary and final drainage folders	LS			0
110	Prepare advanced situation folder - bridge	No.			0
111	Prepare advanced situation folder - culvert	No.			0
DRAINAGE MISCELLANEOUS					
112		LS			0
113					0
114					0
115					0

FINAL PLAN PREPARATION (Continued)

No.	ITEM	UNIT	AMOUNT	HRS/UNIT	HOURS
116	Prepare layout sheet	LS	1	2	2
117	Prepare typical sections	No.	2	2	4
118	Prepare Interchange geometric approval	No.	0		0
119	Prepare intersection geometric approval	No.	0		0
120	Prepare coordinate control sheet	Mile	0.24	4	1
121	Prepare elevation developments	No.			0
122	Prepare striping plan	No.	0		0
123	Calculate final quantities	Mile	0.24	4	1
124	Complete general summary	LS	1	2	2
125	Complete paving summary	LS	1		0
126	Complete drainage summary	LS	1		0

PRODUCTION-HOUR WORKSHEET (revised 7/14)

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DESC	<u>Sidewalks</u>	REVIEWED BY	<u>Mark Feibes, LFUCG</u>
		PREPARED BY	<u>Mary Beth Robson</u>
			<u>September 26, 2017</u>

127	Complete pavement under-drain summary	LS	0	4	0
128	Prepare cost estimate	LS	1	4	4
129	Plot/print copies of plans	LS	1	4	4
130	Plan revisions	Mile	0.24	8	2
131	Prepare final construction plans submittal	LS	1	8	8

MAINTENANCE OF TRAFFIC

132	Write maintenance of traffic notes (TCP)	LS	1	4	4
133	Prepare construction phasing plans	Mile	0.24		0
134	Develop diversion plan sheets	Sheet			0
135	Develop diversion profile sheets	Sheet			0
136	Develop diversion cross sections	No.			0
137	Develop temporary drainage	No.			0

FINAL PLANS MISCELLANEOUS

138	Document available rock quantities	LS	0		0
139					0
140					0
141					0
142					0
143					0

FINAL PLANS TOTAL

114

MEETINGS

No.	ITEM	PERSONS	UNIT	AMOUNT	HRS/UNIT	HOURS
150	Prelim. line and grade inspection	2	No.	1	2	4
151	Drainage inspection	2	No.			0
152	Final inspection	2	No.	1	2	4
153	Misc. project coordination meetings	2	No.	3	2	12
154	Project team meetings	2	No.	3	2	12

MEETINGS MISCELLANEOUS

155	Value Engineering Study	LS	0		0
156	Constructability Review	LS	0		0

MEETINGS TOTAL

32

PUBLIC INVOLVEMENT

No.	ITEM	PERSONS	UNIT	AMOUNT	HRS/UNIT	HOURS
160	Develop and Maintain Mailing List		LS	1	8	8
161	Prepare for Advisory Committee/Officials Meeting		No.			0
162	Attend Advisory Committee/Officials Meeting		No.			0
163	Prepare for Public Meetings/Hearings	2	No.	1	4	8
164	Attend Public Meetings/Hearings	2	No.	1	2	4
165	Prepare and Distribute Newsletter		No.			0
166	Property owner coordination		No.			0

PUBLIC INVOLVEMENT MISCELLANEOUS

167						0
168						0
169						0

PUBLIC INVOLVEMENT TOTAL

20

QA/QC

No.	ITEM	UNIT	AMOUNT	HRS/UNIT	HOURS
180	Plan review	LS	1	8	8

PRODUCTION-HOUR WORKSHEET (revised 7/14)

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		PREPARED BY	<u>Mary Beth Robson</u>
			<u>September 26, 2017</u>

181 Structure review

0

QA/QC TOTAL

8

PRODUCTION-HOUR SUMMARY

SURVEY TOTAL	71
LINE AND GRADE TOTAL	128
UTILITY COORDINATION TOTAL	8
RIGHT OF WAY PLANS TOTAL	56
FINAL PLANS TOTAL	114
MEETINGS TOTAL	32
PUBLIC INVOLVEMENT TOTAL	20
QA/QC TOTAL	8
GRAND TOTAL	437

GRW ENGINEERS, INC.

CLASSIFICATION AND PERCENTAGES FOR DESIGN AND DETERMINATION OF AVERAGE RATES

ORIGINAL CONTRACT

	<u>%</u>	<u>HOURLY RATE</u>	<u>COST</u>
	<u>CLASSIFICATION</u>		
SURVEYS			
Principal	5	\$67.59	\$3.38
Engineer VI	50	\$58.04	\$29.02
Engineer V	0	\$50.11	\$0.00
Engineer IV	35	\$45.50	\$15.92
Senior Designer	10	\$30.90	\$3.09
	100%	Average Rate =	\$51.41
PRELIMINARY LINE AND GRADE			
Principal	5	\$67.59	\$3.38
Engineer VII	0	\$61.41	\$0.00
Engineer VI	50	\$58.04	\$29.02
Engineer V	0	\$50.11	\$0.00
Engineer IV	20	\$45.50	\$9.10
Senior Designer	5	\$30.90	\$1.54
	80%	Average Rate =	\$43.04
UTILITY COORDINATION			
Engineer VI	20	\$58.04	\$11.61
Engineer IV	40	\$45.50	\$18.20
Senior Designer	40	\$30.90	\$12.36
	100%	Average Rate =	\$42.16
RIGHT OF WAY			
Principal	5	\$67.59	\$3.38
Engineer VII	0	\$61.41	\$0.00
Engineer VI	45	\$58.04	\$26.12
Engineer V	0	\$50.11	\$0.00
Engineer IV	40	\$45.50	\$18.20
Senior Designer	10	\$30.90	\$3.09
	100%	Average Rate =	\$50.78
FINAL PLAN PREPARATION			
Principal	10	\$67.59	\$6.76
Engineer VII	0	\$61.41	\$0.00
Engineer VI	40	\$58.04	\$23.21
Engineer V	0	\$50.11	\$0.00
Engineer IV	40	\$45.50	\$18.20
Engineer III	0	\$41.42	\$0.00
Senior Designer	10	\$30.90	\$3.09
	100%	Average Rate =	\$51.26
MEETINGS			
Engineer VII	0	\$61.41	\$0.00
Engineer VI	50	\$58.04	\$29.02
Engineer IV	50	\$45.50	\$22.75

100%

Average Rate = \$51.77**PUBLIC INVOLVEMENT**

Principal	20	\$67.59	\$13.52
Engineer VII	0	\$61.41	\$0.00
Engineer VI	80	\$58.04	\$46.43
Engineer V	0	\$50.11	\$0.00
	100%	Average Rate =	\$59.95

QA/QC

Engineer VI	60	\$58.04	\$34.82
Engineer V	0	\$50.11	\$0.00
Engineer IV	40	\$45.50	\$18.20
	100%	Average Rate =	\$53.02

STRUCTURES

Engineer VII	5	\$61.41	\$3.07
Engineer VI	35	\$58.04	\$20.31
Engineer V	45	\$50.11	\$22.55
Senior Designer	15	\$30.90	\$4.63
	100%	Average Rate =	\$50.57

CONSTRUCTION ADMINISTRATION

Principal	5	\$67.59	\$3.38
Engineer VII	50	\$61.41	\$30.71
Engineer VI	25	\$58.04	\$14.51
Engineer V	20	\$50.11	\$10.02
	100%	Average Rate =	\$58.62

GRW ENGINEERS, INC.

AVERAGE HOURLY RATES

ROSEMONT GARDEN, LEXINGTON

ORIGINAL CONTRACT

CLASSIFICATION	Hourly Rate as of June 07, 2016*	Hourly Rate based on 0.27% annual increase**
Principal	\$67.31	\$67.59
Engineer VII	\$61.16	\$61.41
Engineer VI	\$57.80	\$58.04
Engineer V	\$49.91	\$50.11
Engineer IV	\$45.31	\$45.50
Engineer III	\$41.25	\$41.42
Engineer II	\$35.07	\$35.21
Engineer I	\$26.75	\$26.86
Senior Designer	\$30.77	\$30.90
Designer/Tech V - CADD	\$29.79	\$29.91
Designer/Tech IV - CADD	\$27.80	\$27.91
Designer/Tech III - CADD II	\$24.50	\$24.60
Designer/Tech II - CADD II	\$20.25	\$20.33
Designer/Tech I - CADD II	\$16.00	\$16.07

* Hourly rates from Audit by the External Audit Branch for FY ending Dec 31, 2015; as of June 07, 2016

Note: the average annual increase in labor rates = 0.27% based on the above audit. The Contract midpoint is estimated to be December 15, 2017. This rounds to 1.52 years beyond the current audit rates.

The 1.52 year increase in Hourly Rates = (06/07/16 Hourly Rate X 0.0027 X 1.52) + 06/07/16 Hourly Rate

SAMPLE CALCULATION

<u>Engineer V</u>	
June 2015 to August 2016	= 19 months
	= 1.52 years
	1.52 Projected 50% completion
X	0.27% Average annual increase
X	\$49.91 Engineer V rate
=	\$0.21 Rate increase
	<hr/>
+	\$49.91 Engineer V rate
=	\$50.12 Adjusted rate