Anderson Mill Road
Appendix F: Cost Estimates

Prepared By	Date Created	Date Revised
Kevin Sweat	12/6/2017	7/19/2018

Checked by Initials

CIVIL PROJECT BUDGET ESTIMATE

PROJECT CHARTER ATTACHMENT A

NOTE: Refer to the Project Charter or Construction Cost Estimate for goals and initial scope of work

austin MOTION 2016 MOBILITY BOND

Project Name	**Anderson Mill Road Regional Mobility Improvements - Spicewood Parkway to US183 Option A**		
Department	**Department**	CIP ID	**11880.002**
Category	**Mobility Infrastructure**	Index[21]	**No.**
Class[20]	**Class 4 Cost Estimate - Preliminary Engineering Report (PER) (-20% to 30%)**		

2800 - ARCHITECTURE/ ENGINEERING (A/E)				15%	$970,352.50
	CONSULTANTS		$582,211.50		
5520	A/E Basic Services[2]	$582,211.50			
	INTERDEPARTMENTAL CHARGES		$388,141.00		
6237	PWD Project Management Services (PMD)[3]	$194,070.50			
6238	PWD Construction Services (CSD)[3]	$194,070.50			
6203	Sponsor Department Charges[4]				
2801 - SURVEYING[5]				0%	
2802 - TESTING				2%	$151,374.99
5730	Construction Material Testing[6]		$83,450.32		
5730	Geotechnical Report[7]		$67,924.68		
5588	Hazardous Material Testing[8]				
5588	Environmental Assessment[9]				
2803 - INSPECTIONS				0%	
2804 - CONSTRUCTION (see detailed cost estimate)				60%	$3,881,410.00
5560	New Construction[1]		$3,796,000.00		
5600	Hazardous Material Abatement[18]				
6324	ROCIP[19]		$85,410.00		
2805 - LAND & RIGHT-OF-WAY[11]				0%	$0.00
2806 - MISCELLANEOUS				1%	$74,165.70
5580	Debt Issuance[13]		$35,351.60		
6843	Permits/ Fees[14]		$38,814.10		
7157	GAATN Connection[15]		$0.00		
2807 - EQUIPMENT/FURNISHINGS[16]				0%	
2808 - MATERIALS				0%	
2809 - ART IN PUBLIC PLACES (Rounded to nearest $100)[12]				2%	$100,100.00
PROJECT SUB-TOTAL					$5,142,051.59
	COST CONTINGENCY (Based on project risk analysis)	Risk Probability %[10]	**25.00%**	20%	$1,285,512.90
TOTAL PROJECT BUDGET ESTIMATE (Rounded to nearest $1,000)				100%	$6,463,000.00

	LOW (-20%)		HIGH (30%)
CLASS 4 COST ESTIMATE ACCURACY RANGE	$5,170,400.00	to	$8,401,900.00

FOOTNOTES (Assumptions & Constraints)

1. The construction cost estimate is based on the detailed estimate provided by <name> with <company> dated <mm/dd/yyyy>. The detailed estimate includes a description of the project scope, assumptions, exclusions and source/ references for all cost information.
2. The A/E design budget estimate is based on historical City of Austin actual costs per construction value. It includes reimbursable expenses and all services from conceptual through warranty phases. This estimate excludes additional services.
3. Project management and construction services budget estimates are based on historical City of Austin - Public Works actual costs per construction value.
4. The Sponsoring department has chosen to charge their project management time to the project. This budget estimate is provided by <name> with <department> dated <mm/dd/yyyy> and accounts for management through all phases of the project life cycle.
5. The survey cost estimate is based on a historical average of City of Austin - Public Works actual costs per construction value.
6. The material testing cost estimate is based on a historical average of City of Austin - Public Works actual costs per construction value.
7. The geotechnical cost estimate is based on a historical average of City of Austin - Public Works actual costs per construction value.
8. The cost estimate for hazardous testing for asbestos, lead and mold is based on a historical average of City of Austin - Public Works actual costs per construction value. <This cost is included in the 'Environmental Assessment' budget line.>
9. The cost estimate for an Environmental Phase 1 assessment is based on historical averages of City of Austin - Public Works actual costs per construction value. <This cost estimate includes the testing for hazardous materials.>
10. When estimating the cost for a project, there is always uncertainty as to the precise content of all items in the estimate, how work will be performed, what work conditions will be like when the project is implemented and so on. These uncertainties are risks to the project. Some refer to these risks as "known-unknowns" because the estimator is aware of them, and based on past experience, can even estimate their probable costs, or in this case, the 'Risk Probability %'. The estimated costs of the known-unknowns is referred to by cost estimators as cost contingency. The Cost Contingency amount is calculated by multiplying the Risk Probability % by the 'Project Sub-Total' which excludes the 'Debt Issuance'.
11. The land acquisition cost estimate is based on average real estate prices per zip code and is provided by <name> of the Real Estate Office dated <mm/dd/yyyy>.
12. As required by the 1985 City Ordinance (No. 850926-0; amended by No. 861009-A; amended by No. 970904-B; Austin City Code Volume 1, Title IX, Chapter 9-2).
13. This amount is not included in the subtotal for '2806 - Miscellaneous'. It is instead included in the Total Project Budget Estimate.
14. Permits/ fees includes costs for site development, building and demolition permits, LEED certification, TDLR requirements and any others.
15. The GAATN connection cost estimate is based on the detailed estimate provided by <name> with CTM dated <mm/dd/yyyy>. Assumes a specific site exits to determine the scope of work.
16. The budget line for equipment/ furniture (FF&E) includes costs for office furniture, equipment, data and voice, audio/ visual solutions, and security. See attached breakdown of the budget estimate for each cost.
17. Not used.
18. Demolition is required and the area may contain hazardous material. This cost estimate is provided by <name> with Building Services dated <mm/dd/yyyy. It includes the cost of abatement before demolition can begin and is separate from the construction contract.
19. Rolling Owner Controlled Insurance Program (ROCIP)
20. The cost estimate classification is to align the project budget estimate with the phase of design scope development and decision making process. The five (5) class levels provides a summary of the maturity level of project definition (i.e., 30% or PER) characteristic. The maturity is roughly indicated by a percentage of complete definition, or design phase; however, it is the maturity of the defining design deliverables that is the determinant, not the percent or design phase. The specific deliverables, and their maturity or status are provided in the Construction Cost Estimating instructions. The percentage range in parenthesis represents the variation of the cost estimate from actual costs. The budget estimate uses the highest value of the range and is reflected in the Contingency's costs. The contingency level reduces as the design matures to a Class 1.
21. The base index represents the Engineering News-Record's Building Cost Index (BCI) for the month the budget estimate is created and accepted. The index is used to validate the escalation rate to improve the cost estimating processes.

City of Austin

Engineer's Opinion of Probable Construction Cost

PROJECT NAME Anderson Mill Road Regional Mobility Improvements - Spicewood Parkway to US183

CIP Sub-Project ID 11880.002

Milestone Preliminary Engineering Report

Prepared By Kevin Sweat

This Estimate is Released for the purpose of Interim Review
on 08/01/18 Under the Authority of Kevin Sweat, P.E. Lic. # 92023.

30%

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
101S-B	60	100'	Preparing Right of Way	$1,000.00	$60,000.00
110S-A	1,700	CY	Street Excavation	$50.00	$85,000.00
201S	4,000	SY	Subgrade Preparation	$5.00	$20,000.00
203S-A	4,000	SY	Cement Treated Subgrade, (6_in. Thick)	$10.00	$40,000.00
340S-B	4,000	SY	Hot Mix Asphaltic Concrete Pavement, 3in, Type B	$25.00	$100,000.00
340S-C	43,500	SY	Hot Mix Asphaltic Concrete Pavement, 3in, Type C	$25.00	$1,087,500.00
401S-F	1,700	CY	Flexible Base	$75.00	$127,500.00
430S-A	15,000	LF	P.C. Concrete Curb and Gutter (Excavation)	$15.00	$225,000.00
432S-5	96,000	SF	New 8' P.C. Concrete Shared Use Path, 5 Inch Thick	$10.00	$960,000.00
803S-MO	18	Per Month.	Barricades, Signs, and Traffic Handling	$2,500.00	$45,000.00
860S-C	1	LS	Pavement Markings Paint (Reflectoriized), 4In.	$250,000.00	$250,000.00
SS1000	1	LS	Drainage Improvements	$250,000.00	$250,000.00
SS1001	1	LS	Detention and Water Quality	$150,000.00	$150,000.00
SS1002	1	LS	Landscaping / Revegetation	$250,000.00	$250,000.00
			Subtotal		$3,650,000.00
700S-TM	4%	LS	Total Mobilization Payment		$146,000.00
			Subtotal		$3,796,000.00
	0%		Contingency		$0.00
			Grand Total		**$3,796,000.00**

File N:\Team4\ATD_Anderson_Mill_Rd\2-Bid_Award\Bid_Tab\KS_Estimates\BidTabTemplate_AndersonMill_080118.xlsm

Prepared By	Date Created	Date Revised
Kevin Sweat	12/6/2017	1/31/2018

Checked by: Initials

CIVIL PROJECT BUDGET ESTIMATE

PROJECT CHARTER ATTACHMENT A

NOTE: Refer to the Project Charter or Construction Cost Estimate for goals and initial scope of work

Project Name: **Anderson Mill Road Regional Mobility Improvements -** Option **B (Long-Term Improvements)**

Department: **Public Works** CIP ID: **10880.002**

Category: **Mobility Infrastructure** Index[21]: **104.7**

Class[20]: **Class 4 Cost Estimate - Preliminary Engineering Report (PER) (-20% to 30%)**

2800 - ARCHITECTURE/ ENGINEERING (A/E)				13%	$2,502,136.70
	CONSULTANTS		$1,303,196.20		
5520	A/E Basic Services[2]	$1,303,196.20			
	INTERDEPARTMENTAL CHARGES		$1,198,940.50		
6237	PWD Project Management Services (PMD)[3]	$599,470.25			
6238	PWD Construction Services (CSD)[3]	$599,470.25			
6203	Sponsor Department Charges[4]				
2801 - SURVEYING[5]				0%	
2802 - TESTING				1%	$215,027.37
5730	Construction Material Testing[6]		$117,287.66		
5730	Geotechnical Report[7]		$97,739.72		
5588	Hazardous Material Testing[8]				
5588	Environmental Assessment[9]				
2803 - INSPECTIONS				0%	
2804 - CONSTRUCTION (see detailed cost estimate)				69%	$13,031,962.00
5560	New Construction[1]		$12,920,929.00		
5600	Hazardous Material Abatement[18]				
6324	ROCIP[19]		$111,033.00		
2805 - LAND & RIGHT-OF-WAY[11]				11%	$2,000,000.00
2806 - MISCELLANEOUS				1%	$175,571.07
5580	Debt Issuance[13]		$103,895.27		
6843	Permits/ Fees[14]		$71,675.79		
7157	GAATN Connection[15]		$0.00		
2807 - EQUIPMENT/FURNISHINGS[16]				0%	
2808 - MATERIALS				0%	
2809 - ART IN PUBLIC PLACES (Rounded to nearest $100)[12]				0%	$0.00
PROJECT SUB-TOTAL					$17,820,801.87
	COST CONTINGENCY (Based on project risk analysis)	Risk Probability %[10]	**6.00%**	6%	$1,069,248.11
TOTAL PROJECT BUDGET ESTIMATE (Rounded to nearest $1,000)				100%	$18,994,000.00

CLASS 4 COST ESTIMATE ACCURACY RANGE	LOW (-20%)	to	HIGH (30%)
	$15,195,200.00	to	$24,692,200.00

FOOTNOTES (Assumptions & Constraints)

1 The construction cost estimate is based on the detailed estimate provided by <name> with <company> dated <mm/dd/yyyy>. The detailed estimate includes a description of the project scope, assumptions, exclusions and source/ references for all cost information.

2 The A/E design budget estimate is based on historical City of Austin actual costs per construction value. It includes reimbursable expenses and all services from conceptual through warranty phases. This estimate excludes additional services.

3 Project management and construction services budget estimates are based on historical City of Austin - Public Works actual costs per construction value.

4 The Sponsoring department has chosen to charge their project management time to the project. This budget estimate is provided by <name> with <department> dated <mm/dd/yyyy> and accounts for management through all phases of the project life cycle.

5 The survey cost estimate is based on a historical average of City of Austin - Public Works actual costs per construction value.

6 The material testing cost estimate is based on a historical average of City of Austin - Public Works actual costs per construction value.

7 The geotechnical cost estimate is based on a historical average of City of Austin - Public Works actual costs per construction value.

8 The cost estimate for hazardous testing for asbestos, lead and mold is based on a historical average of City of Austin - Public Works actual costs per construction value. <This cost is included in the 'Environmental Assessment' budget line.>

9 The cost estimate for an Environmental Phase 1 assessment is based on historical averages of City of Austin - Public Works actual costs per construction value. <This cost estimate includes the testing for hazardous materials.>

10 When estimating the cost for a project, there is always uncertainty as to the precise content of all items in the estimate, how work will be performed, what work conditions will be like when the project is implemented and so on. These uncertainties are risks to the project. Some refer to these risks as "known-unknowns" because the estimator is aware of them, and based on past experience, can even estimate their probable costs, or in this case, the 'Risk Probability %'. The estimated costs of the known-unknowns is referred to by cost estimators as cost contingency. The Cost Contingency amount is calculated by multiplying the Risk Probability % by the 'Project Sub-Total' which excludes the 'Debt Issuance'.

11 The land acquisition cost estimate is based on average real estate prices per zip code and is provided by <name> of the Real Estate Office dated <mm/dd/yyyy>.

12 As required by the 1985 City Ordinance (No. 850926-0; amended by No. 861009-A; amended by No. 970904-B; Austin City Code Volume 1, Title IX, Chapter 9-2).

13 This amount is not included in the subtotal for '2806 - Miscellaneous'. It is instead included in the Total Project Budget Estimate.

14 Permits/ fees includes costs for site development, building and demolition permits, LEED certification, TDLR requirements and any others.

15 The GAATN connection cost estimate is based on the detailed estimate provided by <name> with CTM dated <mm/dd/yyyy>. Assumes a specific site exits to determine the scope of work.

16 The budget line for equipment/ furniture (FF&E) includes costs for office furniture, equipment, data and voice, audio/ visual solutions, and security. See attached breakdown of the budget estimate for each cost.

17 Not used.

18 Demolition is required and the area may contain hazardous material. This cost estimate is provided by <name> with Building Services dated <mm/dd/yyyy. It includes the cost of abatement before demolition can begin and is separate from the construction contract.

19 Rolling Owner Controlled Insurance Program (ROCIP)

20 The cost estimate classification is to align the project budget estimate with the phase of design scope development and decision making process. The five (5) class levels provides a summary of the maturity level of project definition (i.e., 30% or PER) characteristic. The maturity is roughly indicated by a percentage of complete definition, or design phase; however, it is the maturity of the defining design deliverables that is the determinant, not the percent or design phase. The specific deliverables, and their maturity or status are provided in the Construction Cost Estimating instructions. The percentage range in parenthesis represents the variation of the cost estimate from actual costs. The budget estimate uses the highest value of the range and is reflected in the Contingency's costs. The contingency level reduces as the design matures to a Class 1.

21 The base index represents the Engineering News-Record's Building Cost Index (BCI) for the month the budget estimate is created and accepted. The index is used to validate the escalation rate to improve the cost estimating processes.

CITY OF AUSTIN

PROBABLE CONSTRUCTION COST ESTIMATE

PROJECT NAME	Anderson Mill Road Regional Mobility Improvement - Spicewood Parkway to US 183	**ESTIMATE CLASS**
CIP Sub-Project ID	10880.002	**Class 4**
Milestone	Preliminary Engineering Report - Option **B**	
Prepare By	Kevin Sweat, P.E.	

This Estimate is Released for the purpose of Interim Review on 12/06/17 Under the Authority of Kevin Sweat, P.E., Lic.# 92023. **30%**

CONSTRUCTION COST ESTIMATE

Bid Item	Item Description	Quantity	Unit	Unit Price	AMOUNT
101S-B	Preparing Right of Way	60	100'	$1,000.00	$60,000.00
110S-A	Street Excavation	22,000	CY	$50.00	$1,100,000.00
201S	Subgrade Preparation	43,500	SY	$5.00	$217,500.00
203S-A	Lime Treated Subgrade, (24 inch Full Depth Recommendation)	43,500	SY	$18.00	$783,000.00
340S-B	Hot Mix Asphaltic Concreete Pavement, 2 inch, Type B	43,500	SY	$20.00	$870,000.00
340S-C	Hot Mix Asphaltic Concreete Pavement, 2 1/4"inch, Type C	43,500	SY	$22.00	$957,000.00
340S-B	Hot Mix Asphaltic Concreete Pavement, 2 inch, Type B	43,500	SY	$20.00	$870,000.00
401S-F	Flexible Base (8 inch)	9,180	CY	$80.00	$734,400.00
430S-A	P.C. Concrete Curb and Gutter (Excavation)	15,000	LF	$15.00	$225,000.00
432S-4IN	New 7' P.C. Concerte Sidewalks, 4 Inch Thick	84,000	SF	$10.00	$840,000.00
432S-5IN	New 8' P.C. Concerte Bike Lane, 5 Inch Thick	96,000	SF	$10.00	$960,000.00
803S-MO	Barricades, Signs, and Traffic Handling	24	Per Month.	$2,500.00	$60,000.00
860S-C	Pavement Marking Paint (Refectorized), 4 In.	1	LS	$250,000.00	$250,000.00
SS1000	Drainage Improvements	1	LS	$1,500,000.00	$1,500,000.00
SS1001	Detention and Water Quality	1	LS	$750,000.00	$750,000.00
SS1002	Landscape /Revegetation	1	LS	$250,000.00	$250,000.00
				Subtotal	*$10,426,900.00*
700S-TM	Total Mobility	4%	LS	$417,076.00	
				Subtotal	*$10,843,976.00*
		30%		Contingency	$3,253,192.80
				Grand Total	**$14,097,169**

CONSTRUCTION COST ESTIMATE **$14,097,169**

This Estimate is Reviewed for ESD Internal QAQC by Carlos Garcia, P.E., Lic.# 87712 on 12/07/17.