



Partners for a Better Quality of Life

December 13, 2018

Caesar Arizpe, PE  
Project Engineer, Engineering/Public Works  
City of Killeen  
3201-A S WS Young Drive  
Killeen, Texas 76542

Re: Septic Tank Elimination Program - Phase XI

Dear Mr. Arizpe,

CP&Y, Inc. is pleased to submit this revision of our proposal dated December 3, 2018, to provide professional engineering and survey services for the Septic Tank Elimination Program – Phase XI (STEP XI). In the past we have considered several areas of Killeen to be included in the STEP such as Tiffany Circle, Llewelyn Ranchettes, and Western Oaks. For Phase XI, we have also looked at Morning Sun Mobile Home Park. CP&Y, Inc., (CPY) recommends that the City of Killeen (the City) consider Tiffany Circle and Morning Sun Mobile Home Park (Morning Sun). This letter of proposal covers both project areas as a single combined project.

#### **Morning Sun Mobile Home Park**

We have estimated that Morning Sun will require approximately 2,225 LF of 6-inch wastewater line with 6 new manholes and 2 new cleanouts. There appears to be about 53 spaces for manufactured homes within the park. This proposal provides for no other service connections. The new wastewater collection lines would connect to an existing manhole on the trunk line that crosses Stagecoach Road about 320 feet west of the entrance to Morning Sun on Stagecoach Road and includes a creek crossing. See Attachment 1 for a Preliminary Design Schematic drawing of our proposed layout of the wastewater lines. CPY estimates that the construction of this portion of the project will cost approximately \$472,000. A detailed Engineer's Opinion of Probable Cost (EOPC) can be found as Attachment 2.

#### **Tiffany Circle**

Tiffany Circle is comprised of Tucker Addition and Tucker Addition First Extension. The lots along the north side and east side are served with the wastewater collection lines installed with STEP X. We have estimated that the remainder of Tiffany Circle will require approximately 3,480 LF of 6-inch wastewater line with 6 new manholes and 2 new cleanouts. There appears to be about 42 lots for manufactured homes within the remainder of these subdivisions not already served by STEP X. This proposal provides for no other service connections. The new wastewater collection lines would connect to existing manholes installed with STEP X. See Attachment 3 for a Preliminary Design Schematic drawing of our proposed layout of the wastewater lines. CPY estimates that the construction of this portion of the project will cost approximately \$355,000. A detailed Engineer's Opinion of Probable Cost (EOPC) can be found as Attachment 4.

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CPY believes that no new easements will be needed for the Tiffany Circle project area. If additional permanent easements are required, each permanent utility easement shall be compensated for at the rate of \$1,800.00. The City traditionally has not used temporary construction easements for these STEP projects. If the City chooses to use them for this project, there will be an additional \$500 for each temporary construction easement requested.

**Proposed Professional Service Fees**

The combined construction costs for the two project areas are estimated to be \$826,000. We propose the following fees for professional services:

Phase 12	Topographic Survey	\$ 17,210.00
Phase 16	Easements	\$ 9,000.00
Phase 30	Preliminary Design (50%)	\$ 25,400.00
Phase 40	Final Design (90%)	\$ 20,700.00
Phase 41	Final Design (100%)	\$ 7,600.00
Phase 50	Bidding	\$ 5,200.00
Phase 60	Construction Administration	\$ 8,200.00
Phase 61	Record Drawings	\$ 2,300.00
Phase 65	Construction Staking	\$ 10,310.00
<b>Total</b>		<b>\$105,920.00</b>

We will rely on the City of Killeen to obtain right-of-entry for our surveyors. This would include contact information from owners/residents to get access through locked gates and how to coordinate to get their pets penned up if necessary. We will provide S.U.E. Level C. Utility lines as marked on the ground by 811 and visible appurtenances on or above ground will be shown on the construction plans. We did not include any potholing, probing, or line tracing of utility lines. If this type of service is requested or found to be needed, fees for a higher level of S.U.E. can be negotiated. CPY has SUE crews and can handle this as an in-house service.

The proposed fee for easements includes \$1,800 for a permanent utility easement across the property to the west of Morning Sun and \$7,200.00 for on-site permanent easement on the Morning Sun property. No easements are anticipated for the Tiffany Circle project area. If additional permanent easements are required, each additional permanent utility easement shall be compensated for at the rate of \$1,800.00. The City traditionally has not used temporary construction easements for these STEP projects. If the City chooses to use them for this project, there will be an additional \$500 for each temporary construction easement requested.

The Preliminary Design fees will include coordinating with the Bell County Health Department to obtain maps showing the locations of the septic tanks. The Construction Administration fees assume that construction would be about five to six months.

Under this combined single project scenario, it is assumed that there will be a single construction contract. If it is decided later to bid the project as two separate construction contracts, additional fees will be requested.

## Proposed Schedule

CPY proposes the following schedule of deliverables:

Preliminary Design (50%): 60 days after approval of contract by the City.

Final Design (90%): 30 days after approval/comments on the Preliminary Design (50%) by the City.

Final Design (100%): 15 days after approval/comments on the Final Design (90%) by the City.

Please find attached a professional services contract on the City of Killeen standard professional services form ready for consideration and action by the City. If you need any other information, please let us know. Thank you again for considering CPY to provide you with professional engineering services for this project.

Respectfully Submitted,



Paul M. Boyer, P.E./CFM  
Project Manager  
CP&Y, Inc.

PMB:lld

File: 18CKIL00624

ATTACHMENT 1

MORNING SUN  
Mobile Home Park  
53 Services  
5,650 LF 6-inch WWL  
8 MHs  
2 COs



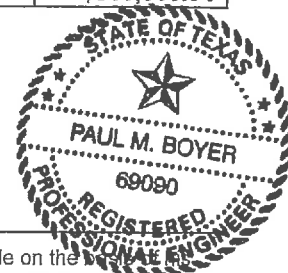


## ENGINEERS OPINION OF CONSTRUCTION COST

Project: Killeen STEP XI  
 Description: Morning Sun Mobile Home Park  
 Date: 29-Nov-18  
 By: Paul M. Boyer

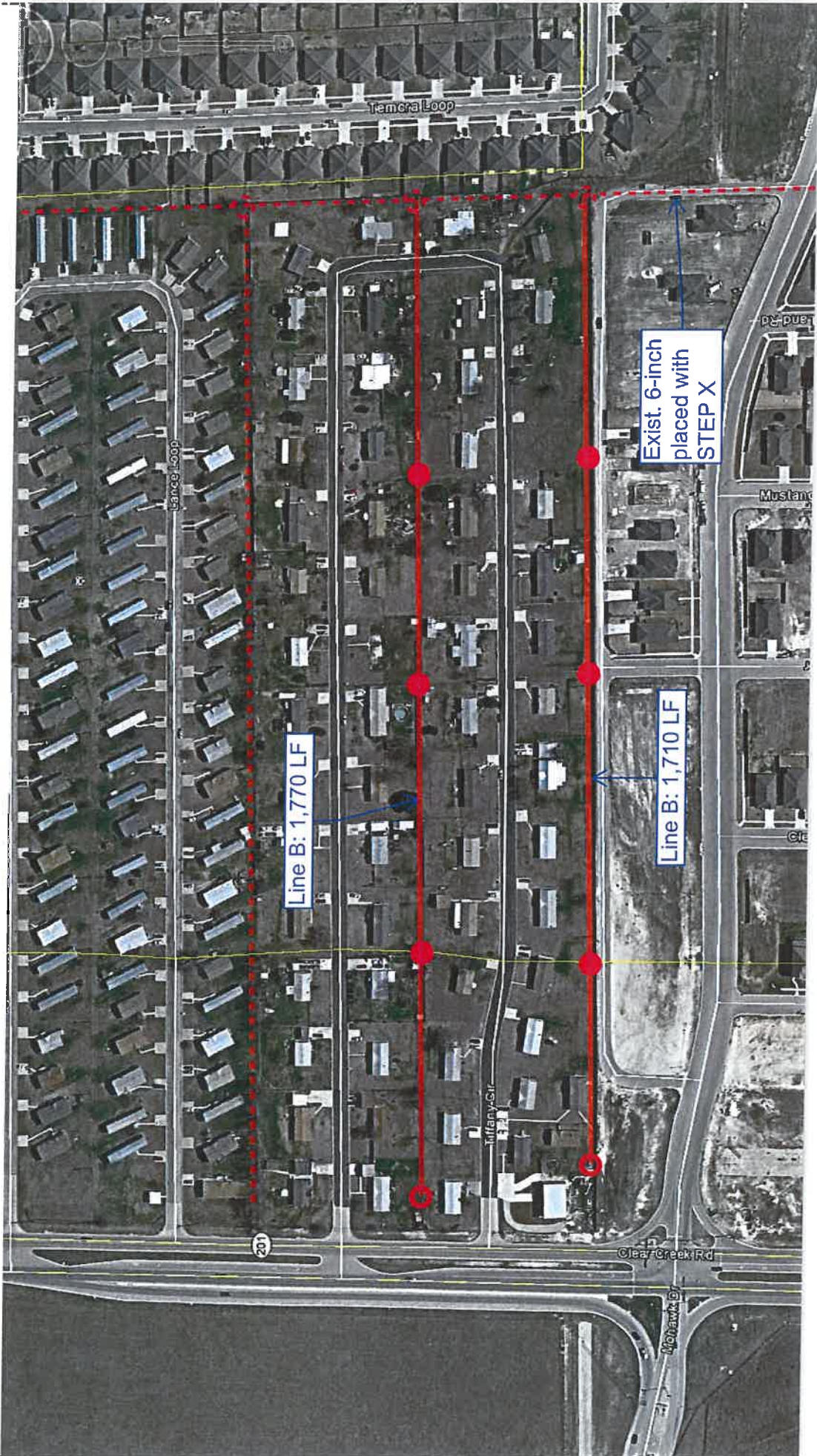
ITEM NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	SUB-TOTAL
1	6-inch PVC Wastewater line	2,225	LF	\$43.00	\$95,675.00
2	Standard 4-foot Diameter Manholes	6	EA	\$4,000.00	\$24,000.00
3	Clean Outs	2	EA	\$500.00	\$1,000.00
4	Asphalt Surface Repair	1,860	LF	\$50.00	\$93,000.00
5	Concrete Surface Repair	60	LF	\$100.00	\$6,000.00
6	Traffic Control and Barricading	1	LS	\$3,000.00	\$3,000.00
7	Trench Safety Plan	1	LS	\$1,200.00	\$1,200.00
8	Trench Safety Implementation (85% of total WWL)	1,891	LF	\$1.75	\$3,309.69
9	House Connection & Septic Tank abandonment (100% participation)	53	EA	\$3,000.00	\$159,000.00
10	Landscape restoration	1	LS	\$5,000.00	\$5,000.00
11	Site Preparation	2,225	LF	\$2.25	\$5,006.25
12	Contengencies (15% +/-)	1	LS	\$59,500.00	\$59,500.00
13	Mobilization (3.54% +/-)	1	LS	\$16,200.00	\$16,200.00
<b>TOTAL CONSTRUCTION COST</b>					<b>\$471,890.94</b>
<b>ENGINEERING</b>					<b>\$38,700.00</b>
<b>SURVEYING</b>					<b>\$10,940.00</b>
<b>EASEMENTS</b>					<b>\$9,000.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$530,530.94</b>

*Paul M. Boyer 12/13/18*



This opinions of probable Project Cost or Construction Cost provided for herein are to be made on the basis of the ENGINEER'S experience and qualifications and represent his best judgement as a design professional familiar with the construction industry, but ENGINEER cannot and does not guarantee that proposals, bid, or the Construction Cost will not vary from opinions of probable cost prepared by him. If prior to the Bidding Negotiating Phase Owner wishes greater assurance as to the Construction Cost, he shall employ an independent cost estimator.

TIFFANY CIRCLE  
Mobile Home Subdivision (individual lots)  
43 Services  
3,480 LF 6-inch WWL  
6 MHs  
2 COs



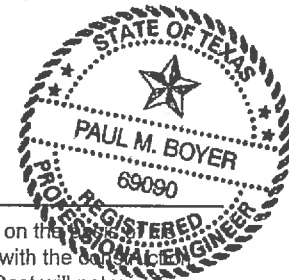


## ENGINEERS OPINION OF CONSTRUCTION COST

Project: Killeen STEP XI Preliminary Study  
 Description: Tiffany Circle WWL  
 Date: 16-Nov-18  
 By: Paul M. Boyer

ITEM NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	SUB-TOTAL
1	6-inch PVC Wastewater line	3,480	LF	\$43.00	\$149,640.00
2	Standard 4-foot Diameter Manholes	6	EA	\$4,000.00	\$24,000.00
3	Clean Outs	2	EA	\$500.00	\$1,000.00
4	Asphalt Surface Repair	28	LF	\$50.00	\$1,400.00
5	Traffic Control and Barricading	1	LS	\$3,500.00	\$3,500.00
6	Trench Safety Plan	1	LS	\$1,200.00	\$1,200.00
7	Trench Safety Implementation (85% of total WWL)	2,958	LF	\$1.75	\$5,176.50
8	Slick bore for 6-Inch Wastewater line	50	LF	\$116.00	\$5,800.00
9	Service Tap Stub Out Only	21	EA	\$675.00	\$14,175.00
10	House Connection & Septic Tank abandonment (50% participation)	21	EA	\$3,000.00	\$63,000.00
11	R&R Fences	630	LF	\$22.25	\$14,017.50
12	Landscape restoration	3,480	LF	\$2.00	\$6,960.00
13	Site Preparation	3,480	LF	\$2.25	\$7,830.00
14	Contengencies (15% +/-)	1	LS	\$44,700.00	\$44,700.00
15	Mobilization (3.54% +/-)	1	LS	\$12,200.00	\$12,200.00
<b>TOTAL CONSTRUCTION COST</b>					<b>\$354,599.00</b>
<b>ENGINEERING</b>					<b>\$42,700.00</b>
<b>SURVEYING</b>					<b>\$16,580.00</b>
<b>EASEMENTS</b>					<b>\$0.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$413,879.00</b>

*Paul M. Boyer 12/13/18*



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