

Planning • Financing • Management

September 25, 2020

Mayor and Council City of Brenham 200 W. Vulcan Brenham, Texas 77833

## RE: PROPOSED HARVEY CDBG-MIT APPLICATION & PROJECT FOR CONSIDERATION

Dear Mayor and Council:

Please allow this letter, and the detail contained within, to serve as the basis for discussion of a proposed project for consideration in the upcoming Community Development Block Grant – Harvey Mitigation (CDBG-MIT) competition. The project consists of major drainage improvements within the central portion of the City. The enclosed documents detail the project area, proposed budget, project beneficiaries, preliminary application score, and project schedule. Current estimated project costs are defined below:

Activity	Total
Construction	\$4,037,650.00
Acquisition	\$30,000.00
Engineering	\$610,100.00
Administration	\$374,000.00
Total	\$5,051,660.00

Please note, the application will require a 1% local match commitment which will be based on the budget presented above.

This material is to guide discussion about this proposed project and not intended to serve as the final authorization of the project. A substantially complete application will need to be finalized and released for a minimum 14-day public comment period prior to the official authorization and submission of an application.

Respectfu Nic Houston



Strand Associates, Inc.® 1906 Niebuhr Street Brenham, TX 77833 (P) 979.836.7937

#### Brenham Community Development Block Grant (CDBG)–Mitigation (MIT) Hurricane Harvey Project Description City of Brenham, Texas (City)

## Hazard and Risk Description

Portions of the City have a history of experiencing significant impacts from flooding and drainage issues. Several tributaries throughout the City are heavily wooded, eroded, and silted, restricting the amount of stormwater conveyance traveling out of the City. It is noted that several undersized and/or damaged drainage facilities within the City are in need of rehabilitation. Past drainage issues in the City and proposed flood mitigation recommendations are documented in the "Comprehensive City Plan," dated September 19, 2019.

## **Hazard Mitigation Actions**

The proposed drainage improvement activities include implementation of capital projects, such as storm sewers, culverts, and streambank stabilization measures, that will each serve to reduce flooding hazards. The proposed projects in this application will further enhance the past projects conducted by the City, which include several drainage improvement projects, such as the Louanna Estates Subdivision storm sewer upsizing, Park Street downtown improvements, and channel restoration west of Jackson Street. Furthermore, the proposed projects in this application will satisfy the need for reducing the risk of flooding with regional storm water management improvements outlined in the 2019 City Comprehensive Plan.

# **Provide a Project Summary**

<u>North Dixie Street Drainage Improvements</u>—There is a section of North Dixie Street that floods during rainfall events, thus depositing debris and silt and causing erosion along the roadway and channel. The proposed project will include the construction of new twin 3-foot by 5-foot box culverts to replace the existing undersized single corrugated metal pipe. The improvements will safely allow flood waters to pass below the roadway and no longer overtop the roadway during rainfall events, thus eliminating debris and potential for erosion. This project is depicted as numeral one (1) on the Project Location Site Map.

<u>Burleson Street Low Water Crossing</u>—There is an existing low water crossing of a tributary of Little Sandy Creek over Burleson Street that, during even minor rainfall events, floods the roadway to depths that result in the roadway being impassable to vehicular traffic, including emergency vehicles. The proposed project will include the construction of new twin 4-foot by 5-foot box culverts and considerably raising the elevation of the roadway at this location. These improvements would safely convey flood waters through the culverts, thus no longer impeding traffic through this area. This project is depicted as numeral two (2) on the Project Location Site Map.

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<u>North Saeger and West Jefferson Streets</u>–Beginning at 106 North Saeger Street and proceeding north, the driveways along the east side of North Saeger Street are level with or slope downward away from the edge of the street. Even though the valley gutters at each driveway have some elevation rise up from the gutter flow line, stormwater manages to build up, flow into the driveways, and through the yards. To prevent stormwater from entering these driveways, curb inlets need to be installed upstream of these driveways, intercept the stormwater flow, and take it underground into a new storm sewer system. There is no existing storm sewer system along North Saeger Street. The closest storm sewer system downstream of this area of concern is on Jefferson Street at its intersection with LJ Street. The improvements will include adding the above-mentioned along with installing a new storm sewer along the north side of West Jefferson Street to tie into the North Saeger Street Improvements. This project is depicted as numeral three (3) on the Project Location Site Map.

Higgins Branch Creek along Henderson Park to Farm-to-market (FM) 577–Sections of Higgins Branch Creek toward North Park Street have been armored with reinforced concrete-sloped paving while the middle section of this channel has been reinforced with vertical walls consisting of split-faced block. The downstream section leading up to FM 577 has been armored with a combination of reinforced concrete sloped-paving and vertical walls consisting of split-faced block. There is approximately a 700-linear foot section of Higgins Branch Creek just south of FM 577 and East Blue Bell Road, between these armored sections, that remains mostly in its natural state and has had no armoring put in place. This area has been subjected to substantial erosion along its banks and the existing storm sewer pipes entering the channel have been severely undermined. The goal of this project is to remove debris and accumulated sedimentation and re-establish the eroded sections of the channel. The regraded streambanks and streambed will be armored with permanent articulated concrete stabilization measures, which are equipped with open cells and backfilled with soil that allow for native vegetation to be established. This project is depicted as numeral four (4) on the Project Location Site Map.

<u>Baylor Street Drainage Improvements</u>–Localized drainage and flooding issues are currently experienced within the mixed residential and commercial areas located adjacent to the City's downtown area because of insufficient drainage infrastructure. The goal of this project is to install a new storm sewer, which include curb inlets and piping for conveyance of the stormwater to alleviate the current flooding in this area. This project is depicted as numeral five (5) on the Project Location Site Map.

<u>Commerce Street/Seelhorst Street/Clinton Street/Dark Street</u>–Repetitive flood damage has historically occurred at the Woodsons Lumber Company east property line along Commerce Street and the existing grate inlets at the south property line along Seelhorst Street. This causes localized street flooding. The goal of this project activity is the addition of a new storm sewer, which includes new curb inlets, piping, and junction boxes, for an overall system that will outfall south of the cul-de-sac along Dark Street into Hogg Branch Creek. This project will minimize the flooding of infrastructure and roadways. This project is depicted as numeral six (6) on the Project Location Site Map.

<u>Hogg Branch Creek at Alamo Street</u>—The existing downstream infrastructure has failed and is inadequate, leading to severe streambank erosion and undermining of the pavement. The goal of this project activity is the addition of a concrete flume, concrete apron, and erosion control along Hogg Branch Creek to prevent future and further erosion. This project is depicted as numeral seven (7) on the Project Location Site Map.

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<u>Hogg Branch Creek from Jackson Street to Day Street</u>—The existing concrete slope paving at this location has aged, is disintegrating, and does not convey the stormwater runoff as efficiently over time. The goal of this project activity is the replacement of the existing concrete slope paving with regraded streambanks. These regraded streambanks and streambed will be armored with permanent articulated concrete stabilization measures, which are equipped with open cells and backfilled with soil that allow for native vegetation to be established. This project is depicted as numeral eight (8) on the Project Location Site Map.

<u>Hogg Branch Creek at Pecan Street</u>—The existing infrastructure underneath Pecan Street at the Hogg Branch Creek crossing is experiencing deterioration because of multiple historical rain events. The goal of this project activity is the replacement of the existing structures with twin 10-foot by 10-foot concrete box culverts, new concrete headwalls, a curb inlet, and channel restoration. The road section will be reestablished with a new guard fence. This project is depicted as numeral nine (9) on the Project Location Site Map.

<u>Tom Dee Street</u>–Localized flood damage has historically occurred at an existing residence located along the east side of Tom Dee Street because of insufficient drainage infrastructure. The goal of this project activity is to install new storm sewer improvements at Tom Dee Street that will route underground through drainage easements to intersect an existing storm sewer at the intersection of Durden Street and Marie Street. This will consist of piping, a junction box, and inlets. This project will reduce future residence flooding. This project is depicted as numeral ten (10) on the Project Location Site Map.

<u>Spinn Street at Day Street</u>—The existing concrete slope paving at this location has aged and does not convey the stormwater runoff as efficiently over time. The goal of this project activity is to install a new recessed curb inlet along with 3-foot by 5-foot concrete box culverts. By increasing storm sewer capacity, the stormwater will be conveyed more efficiently. This project is depicted as numeral eleven (11) on the Project Location Site Map.

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\* September 25, 2020

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Cost Verification Controls must be in place to as	sure	that constru		costs are re nstruction.	asonable and co	nsist	ent with marke	t cos	its at the tim	e anc	l place of
Applicant/Subrecipient:	<b>—</b>	y of Brenham									
Site/Activity Title:				-	10ut Brenham						
Eligible Activity:	Dr	ainage Impro	veme		1		-				
Materials/Facilities/Services	+.	\$/Unit	-	Unit	Quantity	_	Construction	-	Acquisition	_	Total
Erosion Control	\$	120,000.00	******			1 \$		\$	-	\$	120,000.0
Rock Filter Dam (Type 4) Storm draink inlet protection	\$	100.00				5 \$ 0 \$		\$ \$	*	\$	1,500.0
Prepare Creek Area (tree and debris removal, channel	13	20.00			4	13	800.00	<u>}</u>		- >	800.0
shaping)	Ś	50,000.00	LS			1 \$	50,000.00	s		Ś	50,000.0
Remove existing drainage structures (pipe, concrete	Ť	50,000.00			1	Ť	30,000.00	۲,		Ť	50,000.0
slope paving, headwalls, etc)	\$	150,000.00	LS			1 \$	150,000.00	\$	-	\$	150,000.0
Remove and dispose of existing curb inlet	\$	5,000.00	EA			8 \$		\$	-	\$	40,000.0
Remove and dispose of existing junction box	\$	5,000.00	EA			3 \$	15,000.00	\$	~	\$	15,000.0
Remove and dispose of existing storm sewer pipe	Γ									1	
Nentove and dispose of existing storing sever pipe	\$	120.00	-		124			\$	-	\$	149,400.
Remove and dispose of existing pavement	\$	70.00	SY		200	0 \$	140,000.00	\$	-	\$	140,000.
Remove and dispose of existing concrete curb and											
gutter Romailla and dispose of aviating debris	\$	60.00	LF		15		9,000.00	\$	-	\$	9,000.0
Remove and dispose of existing debris	\$	120.00	СҮ		5	0 \$	6,000.00	\$	*	\$	6,000.0
Remove and dispose of existing concrete flume	\$	50.00	SY		3	5 \$	1,750.00	\$	-	\$	1,750.0
Remove and dispose of existing grate inlet	\$	1,250.00				2 \$	2,500.00	\$	-	\$	2,500.0
	<u>†</u>					Ť	2,000.00	<u> </u>		Ť	2,0001
Remove and dispose of existing concrete slope paving	\$	65.00	SY		224	ol \$	145,600.00	\$	-	\$	145,600.0
Unclassified Excavation	\$	50.00	CY		30	0 \$	15,000.00		-	\$	15,000.0
3ackfill	\$	90.00	SY		36	5\$	32,850.00	\$	-	\$	32,850.0
Cement Stabilized Backfill	\$	220.00	СҮ		35	0\$	77,000.00	\$		\$	77,000.
mbankment (eroded/undermined areas)	\$	90.00			42		37,800.00	\$	-	\$	37,800.
Excavation (channel)	\$	60.00	CY		1	<u>)</u> \$	600.00	\$	-	\$	600.
Debris removal, vegetation removal, embankment						Ι.					
protection, earthen restoration	\$	400.00				5 \$	274,000.00		-	\$	274,000.0
Addify existing inlet	\$	1,000.00	LŞ			1 \$	1,000.00	Ş	-	\$	1,000.0
Recessed Curb Inlet (5-foot width w/single 5-foot extension)	\$	7,000.00	EA		1	1 \$	77 000 00	~		\$	77.000
Recessed Curb Inlet (5-foot width w/double 5-foot		7,000.00	CA		1	1 3	77,000.00	\$	-	Ş	77,000.0
extension)	s	8,000.00	FA			\$ \$	72,000.00	\$	-	\$	72,000.0
Recessed Curb Inlet (10-foot width w/double 5-foot	<u> </u>	0,000.00			· · · · ·	1	72,000.00	<u> </u>	-	Ý.	72,000.0
extension)	\$	10,000.00	٤A		10	s s	100,000.00	\$	-	Ś	100,000.0
ecessed Curb Inlet (15-foot width w/double 5-foot					1	<u> </u>		<u> </u>		l`	
xtension)	\$	11,000.00	EA			ι\$	11,000.00	\$	-	\$	11,000.0
8-inch reinforced concrete pipe (including cement											
tabilized sand)	\$	120.00	LF		270	) \$	32,400.00	\$	-	\$	32,400.0
4-inch reinforced concrete pipe (including cement					***	1.					_
tabilized sand)	\$	150.00	LF		840	\$	126,000.00	\$	-	\$	126,000.0
0-inch reinforced concrete pipe (including cement	÷	100.00	10				00.000.00	4			65.222
tabilized sand) 6-inch reinforced concrete pipe (including cement	\$	180.00	LF		500	) \$	90,000.00	\$	-	\$	90,000.0
tabilized sand)	Ś	210.00	IF		2020	1	424,200.00	\$		\$	424,200.0
6-inch reinforced concrete pipe (by jack, bore, or	Ŷ	210.00	<u>.</u> ,		2020	<u> </u>	424,200.00		-	<u>}</u>	424,200.
innel)	\$	2,250.00	LF		110	s	247,500.00	\$	-	\$	247,500.0
2-inch reinforced concrete pipe (including cement		,				ŕ	, , , , , , , , , , , , , , , , , ,	-T		r	
tabilized sand)	\$	250.00	LF		100	\$	25,000.00	\$	-	\$	25,000.0
8-inch reinforced concrete pipe (including cement											
abilized sand)	\$		LF		410	\$	114,800.00	\$	-	\$	114,800.0
einforced concrete apron (5-inch thick)	\$	175.00			40		7,000.00	\$	-	\$	7,000.0
einforced concrete flume (5-inch thick)	\$		<u>SY</u>		35		,	\$	-	\$	7,000.0
oncrete Box Culvert (3'x5')	\$	850.00			190			\$	-	\$	161,500.0
oncrete Box Culvert (4'x5')	\$ ¢				80			\$	-	\$	80,000.0
oncrete Box Culvert (10'x10')(2 barrels) einforced concrete junction box	\$ \$		LF		80			\$	-	\$	104,000.0
einforced concrete junction box einforced concrete grate inlet	\$ \$	7,000.00	EA EA		4		<u> </u>	\$ e	-	\$	20,000.0
	<u> </u>	6,500.00			1		7,000.00	<u>ې</u>	-	\$ \$	7,000.0
	\$	10,000.00			3	<u> </u>	19,500.00	<u>२</u> ८	-	\$ \$	19,500.0 10,000.0
	<del>२</del> \$	45,000.00			1		270,000.00	\$		<u>&gt;</u> \$	270,000.0
	\$	600.00	~~~~	-	2			<u>ې</u> \$	-	<u> </u>	1,200.0
	\$	3,500.00			2			<u>ə</u> \$		\$	7,000.0

Metal Beam Guard Fence	\$ 85.00	LF	600	\$ 51,000.00	\$ 	\$ 51,000.00
Make tie-in to existing storm sewer	\$ 500.00	EA	1	\$ 500.00	\$ - 21	\$ 500.00
Raise existing manhole	\$ 2,500.00	EA	2	\$ 5,000.00	\$ 	\$ 5,000.00
Concrete Curb and Gutter	\$ 70.00	LF	310	\$ 21,700.00	\$ •	\$ 21,700.00
Concrete Slope Paving (5-inch thick)	\$ 300.00	CY	510	\$ 153,000.00	\$ 1.11	\$ 153,000.00
Asphalt Pavement repair within City streets	\$ 100.00	SY	3000	\$ 300,000.00	\$ •	\$ 300,000.00
Concrete Pavement	\$ 150.00	SY	450	\$ 67,500.00	\$ •	\$ 67,500.00
Riprap (stone type R)(dry)(12-thick)	\$ 160.00	CY	50	\$ 8,000.00	\$	\$ 8,000.00
Broadcast seeding	\$ 12.00	SY	225	\$ 2,700.00	\$ 	\$ 2,700.00
Soil retention blankets	\$ 18.00	SY	70	\$ 1,260.00	\$	\$ 1,260.00
Block sodding	\$ 25.00	SY	120	\$ 3,000.00	\$	\$ 3,000.00
Desilting	\$ 20,000.00	LS	1	\$ 20,000.00	\$ 1.1	\$ 20,000.00
Barricades, Signs, Traffic Handling	\$ 120,000.00	LS	1	\$ 120,000.00	\$ 	\$ 120,000.00
Acquisition	\$ 	LS	0	\$ 	\$ 30,000.00	\$ 30,000.00
TOTAL	\$ 598,250.00			\$ 4,037,560.00	\$ 30,000.00	\$ 4,067,560.00

1. Identify and explain the annual projected operation and maintenance costs associated with the proposed activities.

There are no anticipated operation costs associated with the proposed activities. The only anticipated maintenance will involve minor costs associated with vegetation control near the right-of-way along with routine checks of debris removal near drainage facilities.

# 2. Identify and explain any special engineering activities.

There may be a need for geotechnical soils investigation prior to design and materials testing during construction.



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# City of Brenham - CDBG MIT Harvey Beneficiaries

GEOID	geoname	Stusab	Countyna	State	County	Tract	Blckgrp	Low	Lowmod	Lmmi	Lowmodu	Lowmod_	MOE_Low
15000US4	Block Grou	ТХ	Washingto	48	477	170100	1	680	975	1145	1295	75.29%	+/-25.17
15000US4	Block Grou	ТХ	Washingto	48	477	170100	2	165	280	380	405	69.14%	+/-32.59
15000US4	Block Grou	ТХ	Washingto	48	477	170200	1	595	810	970	1190	68.07%	+/-28.57
15000US4	Block Grou	ТХ	Washingto	48	477	170200	2	195	450	605	1215	37.04%	+/-21.48
15000US4	Block Grou	ТХ	Washingto	48	477	170200	3	325	370	600	865	42.77%	+/-25.66
15000US4	Block Grou	ТХ	Washingto	48	477	170300	1	470	1065	1330	1815	58.68%	+/-22.31
15000US4	Block Grou	ТХ	Washingto	48	477	170400	1	425	575	825	1000	57.50%	+/-30.70
15000US4	Block Grou	TX	Washingto	48	477	170400	2	260	275	370	955	28.80%	+/-17.91
15000US4	Block Grou	ТХ	Washingto	48	477	170400	3	165	550	750	1445	38.06%	+/-22.35
									5350		10185	53%	

City of Brenham - CDBG-MIT	Flood Control & Dra	inage Improvements		
Project Phase	Start Date	End Date	Length (months)	Length (days)
Procurement of GA	1/1/2021	2/1/2021	1	31
Procurement of Engineer	1/1/2021	2/1/2021	1	31
Start-up documentation	2/1/2021	3/1/2021	1	28
Broad Environmental Review	2/1/2021	4/1/2021	2	59
Engineering Design	3/1/2021	8/31/2021	6	183
Acquisition	3/1/2021	8/31/2021	6	183
Bid Advertisement	9/1/2021	10/31/2021	2	60
Contract Award	11/1/2021	12/31/2021	2	60
Construction NTP	1/1/2022	1/31/2022	1	30
Construction	2/1/2022	7/26/2023	18	540
Construction activity completion	4/1/2023	5/31/2023	2	60
Submit As-Builts/COCC/FWCR	6/1/2023	6/16/2023	0.5	15
Contract Closeout	6/17/2023	7/17/2023	1	30









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# C) Hurricane Harvey State Mitigation Competition Scoring Criteria

Criteria	City of Brenham - Harvey		0
Question(s)	Criteria	<b>Maximum Points</b>	Self-Score
	County Composite Disaster Index	10 Points Possible	5
	Top 10%	10 Points	
What is the project	Top 25%	8 Points	
service area's Composite	<i>Top 75%</i>	5 Points	х
Disaster Index?	Bottom 25%	2 Points	
	Bottom 10%	0 Points	
	Prorated CDI rank	Calculated Points	
	Social Vulnerability Index	10 Points Possible	5
	High	10 Points	
What is the project service area's Social Vulnerability Index	Medium High	8 Points	
	Medium	5 Points	Х
(SoVI)?	Medium Low	2 Points	
	Low	0 Points	
	Prorated SoVI rank	Calculated Points	
	Per Capita Market Value	10 Points Possible	2
What is the project service area's Per Capita Market Value?	Less than \$40,000.00	10 Points	
	\$40,000.01 - \$65,000.00	8 Points	
	\$65,000.01 - \$100,000.00	5 Points	
	\$100,000.01 - \$250,000.00	2 Points	х
	\$250,000.01 or greater	0 Points	
Does the project meet the	LMI National Objective	20 Points Possible	20
low-to moderate-income	Project meets LMI national objective	20 Points	Х
(LMI) HUD National Objective?	Project does not meet LMI national objective	0 Points	
Is the project type	Project type Identified in Local Adopted Plan	5 Points Possible	5
identified in a Local Adopted Plan?	Project type identified in local adopted plan	5 Points	Х
L	Project type not identified	0 Points	
	Management Capacity	15 Points Possible	15
What is the applicant's management capacity?	No CDBG-DR contracts with GLO (management capacity assessment)	Up to 15 Points	



Question(s)	Criteria	Maximum Points	Self-Score				
	Performance on GLO CDBG-DR contract(s), programs and/or projects	Up to 15 Points	X				
What is the total project application amount per	Project Impact	25 Points Possible	18				
total project beneficiaries?	Total project application amount per total project beneficiaries	15 Points	12				
What is the percentage of project beneficiaries out of the total population within the applying jurisdiction(s)?	Percentage of total project beneficiaries out of the total population within a jurisdiction(s)	10 Points	6				
What percentage of	Leverage	5 Points Possible	5				
project costs being requested are coming from non-CDBG funding sources?	Non-CDBG Leverage (a minimum value of 1% of the CDBG-MIT funds requested)	5 Points	Х				
What mitigation or resiliency measures have	Mitigation/Resiliency Measures	5 Points Possible	5				
been taken by the applicant(s)?	Measures taken by the applicants(s)	5 Points	x				
	Total Possible Points	105 Possible Points	80				
	Tie: Breaker: Higher Poverty Rate						

\*Applications that do not score a minimum of 65 points will only be considered after all applications scoring greater than this amount have been funded.