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March 6, 2025

Mr. Robin S. Green, Jr. P.E.  
 Director of Public Works  
 1149 Ellsworth Drive  
 Pasadena, Texas 77506

Re: Recovery Narrative for Drainage Improvements in Red Bluff Terrace Phase 1

Dear Mr. Green,

**PROJECT SITE & DESCRIPTION**

The Red Bluff Terrace Phase 2 drainage improvements consist of three streets located within the city limits of Pasadena in Cotton Patch Bayou Watershed. These drainage improvements include storm sewer replacements and roadway improvements located on the following streets:

**Table 1 – Project Streets**

<b>Project Number</b>	<b>Street Name</b>	<b>Limits</b>	<b>Length</b>
1	Marshall Street Phase 2	Bearle to Alistair	2,750 LF
2	Norman Street	Bearle to Alistair	2,750 LF
3	Raymond Street	Bearle to Alistair	2,750 LF

All streets identified consist of poorly drained streets with structural flooding due to insufficient capacity of the storm sewer system. These streets design work will begin prior to DRRP funding approval. All three streets will be fully designed and ready for bid before the 24-month time frame for project completion begins so that the entire 24-month period can be utilized for bidding, construction and project closeout purposes.

The project streets drain to the Cotton Patch Bayou channel, which has already been modeled and recently upgraded from the upper end of the channel to SH 225 and will convey flows from these streets. Cotton Patch Bayou is a tributary that outfalls into Buffalo Bayou. A map of the project area is included as Exhibit 1. This project will install storm sewers that properly convey flow with the new streets providing additional storage and is intended to limit structural flooding in the watershed. This project will provide significant benefits to flood prone areas and will allow residents and emergency personnel to access and evacuate the Red Bluff Terrace area during hurricanes, tropical storms and other natural disasters.

**BENEFICIARY**

The beneficiaries for this project will include low to moderate income (LMI) residents and businesses in the Red Bluff Terrace Subdivision that have experienced flooding during disasters such as Hurricane Harvey. During extreme rain events, this area experiences severe flooding and is directly impacted by the tailwater of Cotton Patch Bayou.



## MITIGATION

By constructing an improved drainage system, this area will see significant improvements to this flood prone area. The improved drainage system will be designed to lower the water surface elevation of these streets during extreme rain events, thereby mitigating the possibility of flooding of residences and businesses and allowing residents to remain safe while accessing and evacuating the area.

## PROJECT SCHEDULE

Pasadena has procured the services of a Grant Administrator and Project Engineering Firm to execute the project. Once authorized, the bidding, award and construction work will begin. The bid and award phase is anticipated to take approximately 3 months. During this time any required permitting and approvals for local, state and federal procurement requirements will be obtained. Construction will take approximately 18 months to complete. The engineering firm will review and observe all construction related documentation and activities. After construction is completed, all required closeout procedures will be performed. At completion, hydrologic and hydraulic study will be re-evaluated to ensure that no adverse downstream impacts occur from the implementation of the proposed improvements.

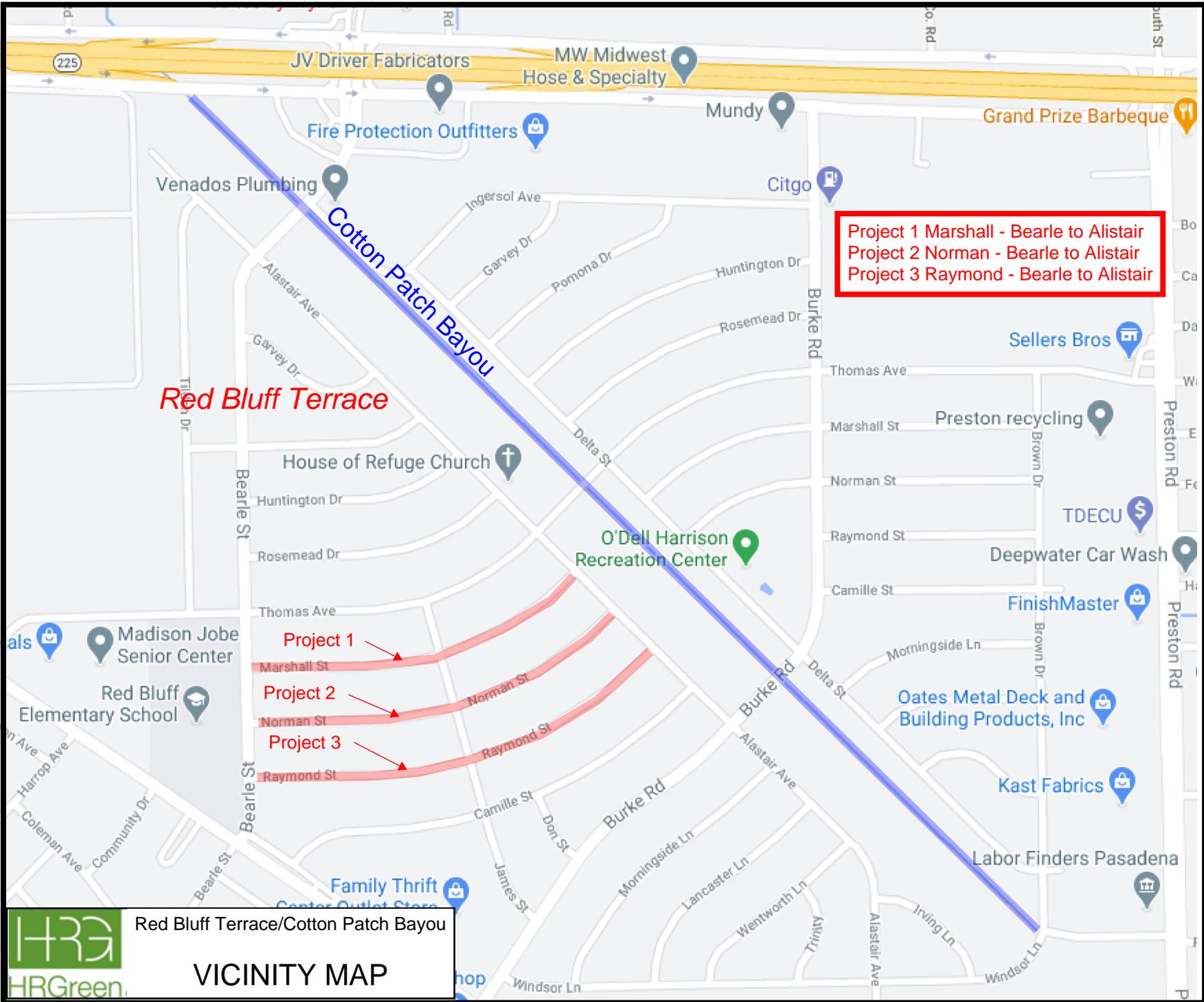
Please let me know if you have any questions or require additional information.

Sincerely,

**HR GREEN, INC.**

A handwritten signature in blue ink that reads 'Stephen Sparks'.

**Stephen Sparks, P.E.**  
Vice President



Red Bluff Terrace/Cotton Patch Bayou

VICINITY MAP



## CDBG-MIT: Budget Justification of Retail Costs (Former Table 2)

Cost Verification Controls must be in place to assure that construction costs are reasonable and consistent with market costs at the time and place of construction.

<b>Applicant/Subrecipient:</b>		City of Pasadena				
<b>Site/Activity Title:</b>		Red Bluff Terrace Phase 1 (Marshall, Norman, Raymond)				
<b>Eligible Activity:</b>		Drainage and mobility improvements				
Materials/Facilities/Services	\$/Unit	Unit	Quantity	Construction	Acquisition	Total
Site Preparation & Restoration	\$ 20.00	LF	9000.00	\$ 180,000.00	\$ -	\$ 180,000.00
Remove existing roadway	\$ 12.00	SY	24750.00	\$ 297,000.00	\$ -	\$ 297,000.00
Remove existing driveway	\$ 12.00	SY	5200.00	\$ 62,400.00	\$ -	\$ 62,400.00
Remove existing sidewalk	\$ 12.00	SY	8200.00	\$ 98,400.00	\$ -	\$ 98,400.00
Remove existing inlet	\$ 500.00	EA	24.00	\$ 12,000.00	\$ -	\$ 12,000.00
Remove existing manhole	\$ 500.00	EA	15.00	\$ 7,500.00	\$ -	\$ 7,500.00
Remove existing storm sewer	\$ 20.00	LF	1440.00	\$ 28,800.00	\$ -	\$ 28,800.00
Rem. and salv. exist. fire hydrants	\$ 500.00	EA	12.00	\$ 6,000.00	\$ -	\$ 6,000.00
Remove existing tree (0-12")	\$ 200.00	EA	27.00	\$ 5,400.00	\$ -	\$ 5,400.00
Remove existing tree (12-24")	\$ 400.00	EA	15.00	\$ 6,000.00	\$ -	\$ 6,000.00
Remove existing tree (>24")	\$ 600.00	EA	7.00	\$ 4,200.00	\$ -	\$ 4,200.00
Excavation	\$ 15.00	CY	3602.00	\$ 54,030.00	\$ -	\$ 54,030.00
Fill	\$ 20.00	CY	2000.00	\$ 40,000.00	\$ -	\$ 40,000.00
Proposed subgrade	\$ 16.00	SY	27645.00	\$ 442,320.00	\$ -	\$ 442,320.00
Proposed concrete pavement	\$ 75.00	SY	25800.00	\$ 1,935,000.00	\$ -	\$ 1,935,000.00
Proposed concrete driveways	\$ 80.00	SY	5200.00	\$ 416,000.00	\$ -	\$ 416,000.00
Proposed sidewalk	\$ 75.00	SY	9450.00	\$ 708,750.00	\$ -	\$ 708,750.00
Proposed concrete curb	\$ 5.00	LF	16500.00	\$ 82,500.00	\$ -	\$ 82,500.00
Proposed ADA ramp	\$ 500.00	EA	20.00	\$ 10,000.00	\$ -	\$ 10,000.00
Proposed inlet	\$ 4,500.00	EA	42.00	\$ 189,000.00	\$ -	\$ 189,000.00
Proposed manhole	\$ 5,000.00	EA	15.00	\$ 75,000.00	\$ -	\$ 75,000.00
Proposed 24" RCP storm	\$ 100.00	LF	4587.00	\$ 458,700.00	\$ -	\$ 458,700.00
Long-side service connections	\$ 1,000.00	EA	104.00	\$ 104,000.00	\$ -	\$ 104,000.00
Proposed 6" water line offset	\$ 20,000.00	EA	24.00	\$ 480,000.00	\$ -	\$ 480,000.00
Proposed fire hydrant	\$ 4,000.00	EA	15.00	\$ 60,000.00	\$ -	\$ 60,000.00
Proposed landscaping	\$ 40,000.00	LS	3.00	\$ 120,000.00	\$ -	\$ 120,000.00
Proposed sod	\$ 4.00	SY	74250.00	\$ 297,000.00	\$ -	\$ 297,000.00
Utility Relocation	\$ 25,000.00	LS	3.00	\$ 75,000.00	\$ -	\$ 75,000.00
<b>TOTAL</b>	<b>\$ 103,166.00</b>			<b>\$ 6,255,000.00</b>	<b>\$ -</b>	<b>\$ 6,255,000.00</b>

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

Operation and Maintenance of the work will performed by Pasadena. Property owners will be responsible mowing and landscaping.

**2. Identify and explain any special engineering activities.**

No specialized engineering are required on this project.



Seal

<b>Date:</b>	3/3/2025
<b>Phone Number:</b>	713.338.8008

Signature of Registered Engineer/Architect  
Responsible For Budget Justification:



Spatial Reference: WGS 1984 Web Mercator Auxiliary Sphere  
 Images Courtesy: Esri, DeLorme, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap

	Proposed Benefit Area
	Residences to Survey

## Street Coordinates

Street	Start Point		Midpoint		Endpoint	
	X-Coordinate	Y-Coordinate	X-Coordinate	Y-Coordinates	X-Coordinates	Y-Coordinates
Marshall St @ Brown Dr	-95.176872	29.707934	-95.17516	29.707946	-95.173448	29.707958
Brown Dr	-95.173437	29.708702	-95.17338	29.704899	-95.173323	29.701096
Delta St @ Brown Dr	-95.17712	29.704862	-95.175226	29.703299	-95.172904	29.701928
Norman St @ Bearle St	-95.185731	29.70389	-95.182518	29.704126	-95.18003	29.705442
Raymond St @ Bearle St	-95.185724	29.703156	-95.182275	29.703415	-95.179432	29.70491
Marshall St @ Bearle St	-95.185763	29.704654	-95.182781	29.704834	-95.18064	29.705959

Street Dimensions					
Phase 1 Streets	Length	Width	Max. Depth	Area (sf)	Area (acres)
1. Marshall Street - Bearle to Alistair	2750	60	8 ft.	165000	3.79
2. Norman Street - Bearle to Alistair	2750	60	8 ft.	165000	3.79
3. Raymond Street - Bearle to Alistair	2750	60	8 ft.	165000	3.79
				495000	11.36
<b>Phase 2 Streets</b>					
1. Marshall - Burke to Brown	1100	60	8 ft.	66000	1.52
2. Brown Street - Thomas to Fleming	3550	60	8 ft.	213000	4.89
3. Delta Street - Burke to Brown	2320	60	8 ft.	139200	3.20
				418200	9.60

**City of Pasadena - CDBG-DRRP Applications - Budget Summary**

CIP #	Project Name	Limits	Estimated Construction Cost	Admin Fee	Total	CDBG-DRRP	Local Match
<b>Red Bluff Terrace Ph I</b>							
	Marshall St Ph II	Bearle to Alastair	\$ 2,085,000.00				
S248	Norman St	Bearle to Alastair	\$ 2,085,000.00				
	Raymond St	Bearle to Alastair	\$ 2,085,000.00				
			<u>\$ 6,255,000.00</u>	\$ 345,000.00	\$ 6,600,000.00	\$ 6,000,000.00	\$ 600,000.00
<b>Red Bluff Terrace Ph II</b>							
	Marshall St Ph I	Burke to Brown	\$ 940,147.00				
S249	Brown St	Thomas to Fleming	\$ 2,840,788.00				
	Delta Ave	Burke to Brown	\$ 1,706,807.00				
			<u>\$ 5,487,742.00</u>	\$ 300,000.00	\$ 5,787,742.00	\$ 5,000,000.00	\$ 787,742.00
<b>Wastewater Improvements</b>							
WW098	Vince Bayou WWTP	Solids System Improvements	\$ 3,955,200.00				
WW093	Golden Acres WWTP	Solids System Improvements	\$ 5,993,000.00				
			<u>\$ 9,948,200.00</u>	\$ 495,000.00	\$ 10,443,200.00	\$ 9,000,000.00	\$ 1,443,200.00

Summary		
CDBG-DRRP	Local Match	Total
\$ 20,000,000.00	\$ 2,830,942.00	\$ 22,830,942.00