



HOME ELEVATION GRANT SUBMISSION AND UPDATE

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EXAMPLES OF MITIGATION STRATEGIES

CONVEYANCE



Buyouts
Channel Improvements
Riparian Restoration

SITE SPECIFIC



Home Elevation
Demo-Rebuild
Building Codes

REGIONAL INFRASTRUCTURE



Rebuild Houston
Third Reservoir
Mid-Bay
Grant Projects
Dredging
Green Infrastructure
County Partnerships

HAZARD MITIGATION GRANT PROGRAM PROJECTS

PROJECT	DISTRICT	WATERSHED	COST ESTIMATE	FEMA COST	LOCAL COST
Inwood Golf Course	A, C, B	White Oak	\$48.6M	\$36.6M	\$12M
North Canal	C, H, I	Buffalo, White Oak	\$151M	\$67M	\$84M
TIRZ 17	G	Buffalo	\$60.4M	\$45.4M	\$15M
Lake Houston Dam	E	San Jacinto	\$48.5M	\$36.5M	\$12M
Individual Home Mitigation	All	All	\$53.2M	\$39.9M	\$13.3M

UPDATES

- 2018 Hazard Mitigation Grant Program (HMGP) & Flood Mitigation Assistance (FMA) Outreach
- 2018 HMGP Home Elevation Applications Submitted
- Council Action on 2018 FMA Home Elevation & Buyout Applications
- 2015 - 2017 FMA Grant Status

FEMA HAZARD MITIGATION ASSISTANCE



HAZARD MITIGATION GRANT PROGRAM

- Disaster Specific - Harvey
- Presidential Declared Area
- Flood Insurance Not Required
- 25% Homeowner Match
- Texas Division of Emergency Management



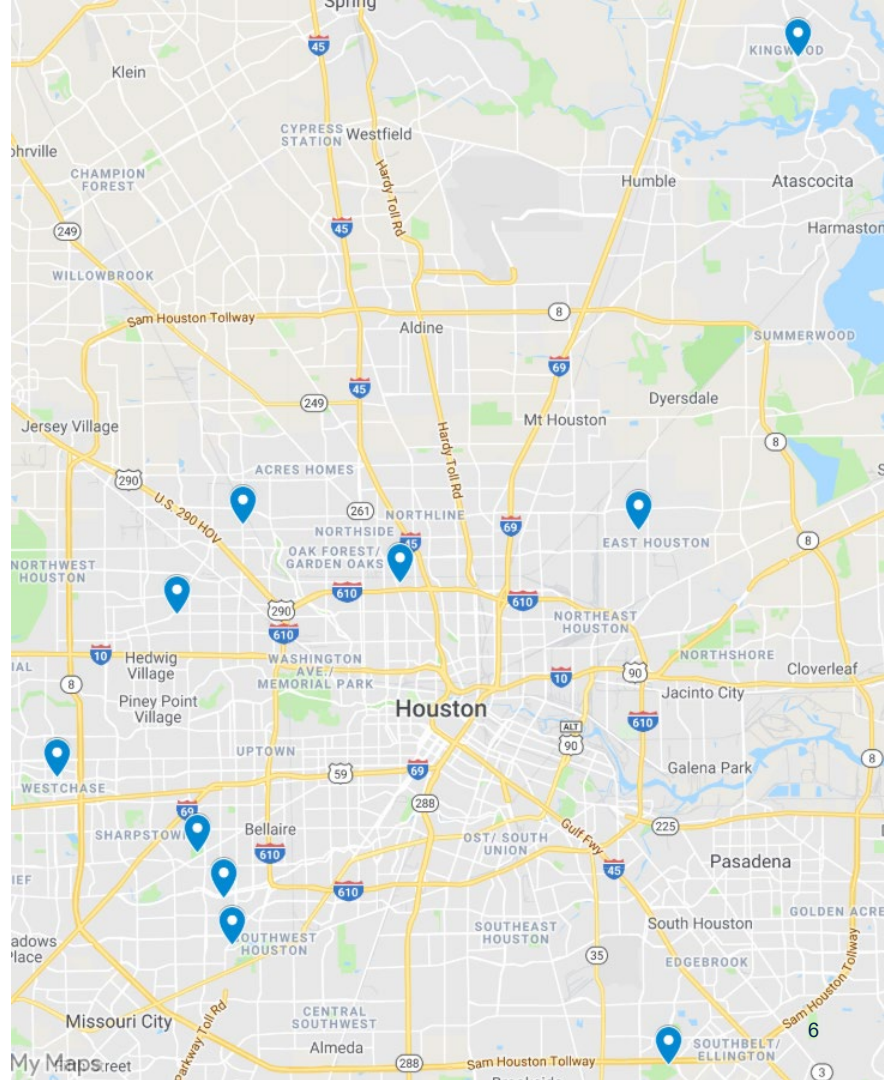
FLOOD MITIGATION ASSISTANCE GRANT

- Annual (Awarded in 2015 & 2016)
- Competitive, Nationwide
- Flood Insurance Required
- 0% - 25% Homeowner Match
- Texas Water Development Board

OUTREACH

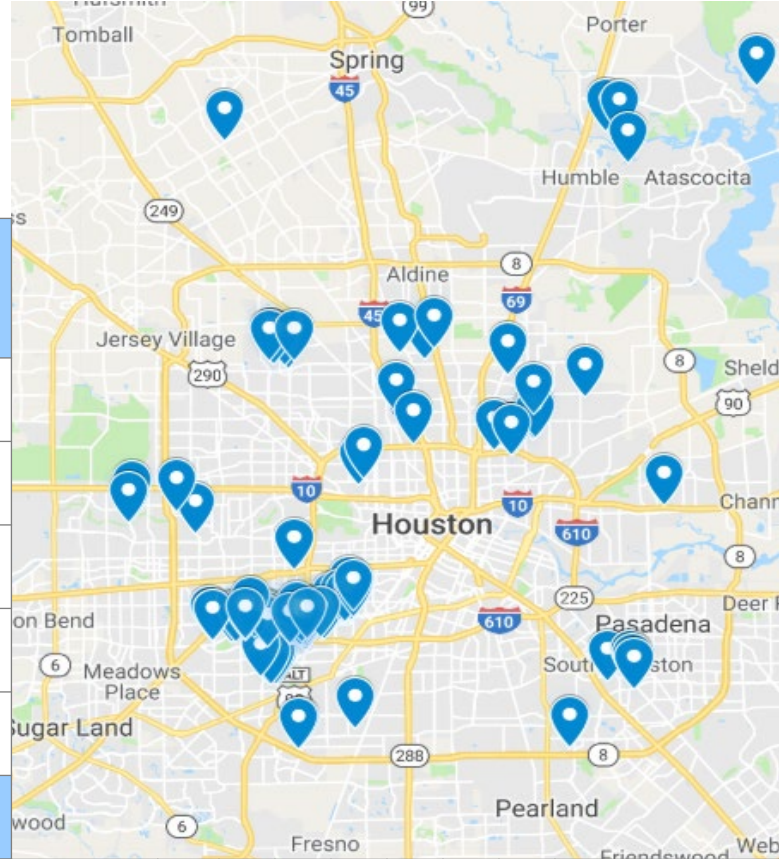
ONLINE & MAILINGS	TOTAL
Online Requests for Voluntary Interest Forms	1,023
Submitted Voluntary Interest Forms	581
Postcard Mailings	12,691

COMMUNITY MEETINGS (July – September 2018)
Bayland Community Center
Independence Heights Community Center
Rubenstein Jewish Community Center
White Oak Community Center
Lakewood Community Center
Platou Community Center
Kingwood Community Center
Ring Library
El Franco Lee Community Center
Robinson-Westchase Library



2018 HMGP HOME ELEVATION APPLICATIONS

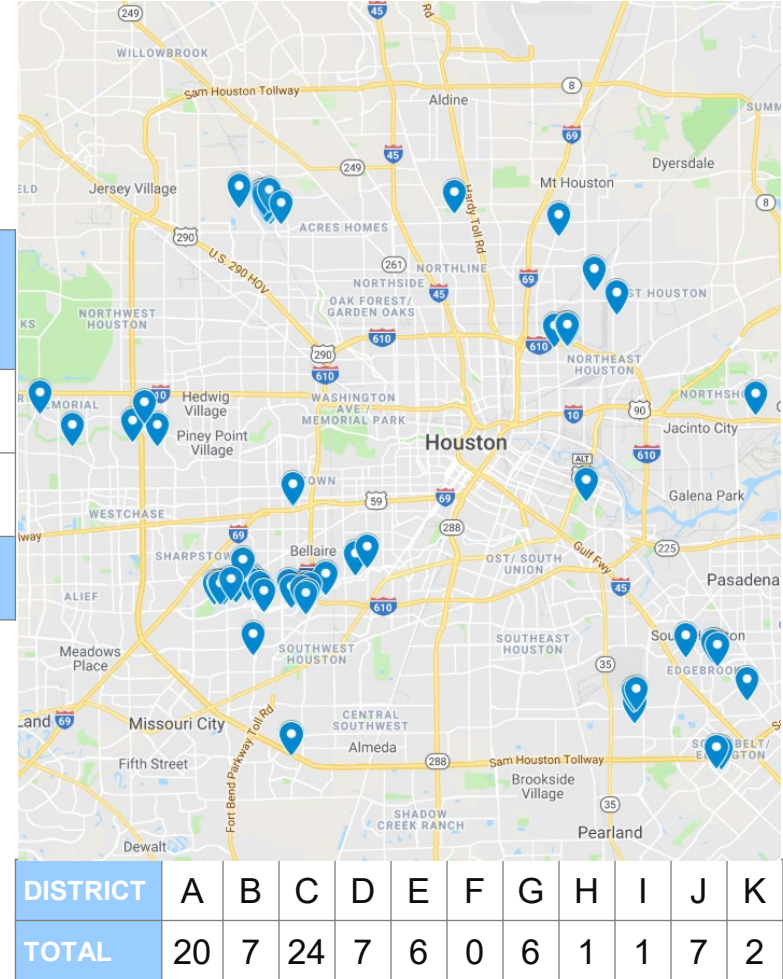
BATCH	HOMES	TOTAL PROJECT COST	FEDERAL COST SHARE	LOCAL COST SHARE
5	38	\$ 9,321,306.72	\$ 6,990,980.04	\$ 2,330,326.68
4	85	\$14,832,233.64	\$11,124,175.23	\$ 3,708,058.41
3	48	\$11,066,856.55	\$ 8,300,142.41	\$ 2,766,714.14
2	52	\$11,444,329.66	\$ 8,583,247.25	\$ 2,861,082.42
1	21	\$ 6,568,161.55	\$ 4,926,121.16	\$ 1,642,040.39
TOTAL	244	\$53,232,888.13	\$39,924,666.10	\$13,308,222.03



DISTRICT	A	B	C	D	E	F	G	H	I	J	K
TOTAL	43	19	70	16	16	2	13	9	2	32	22

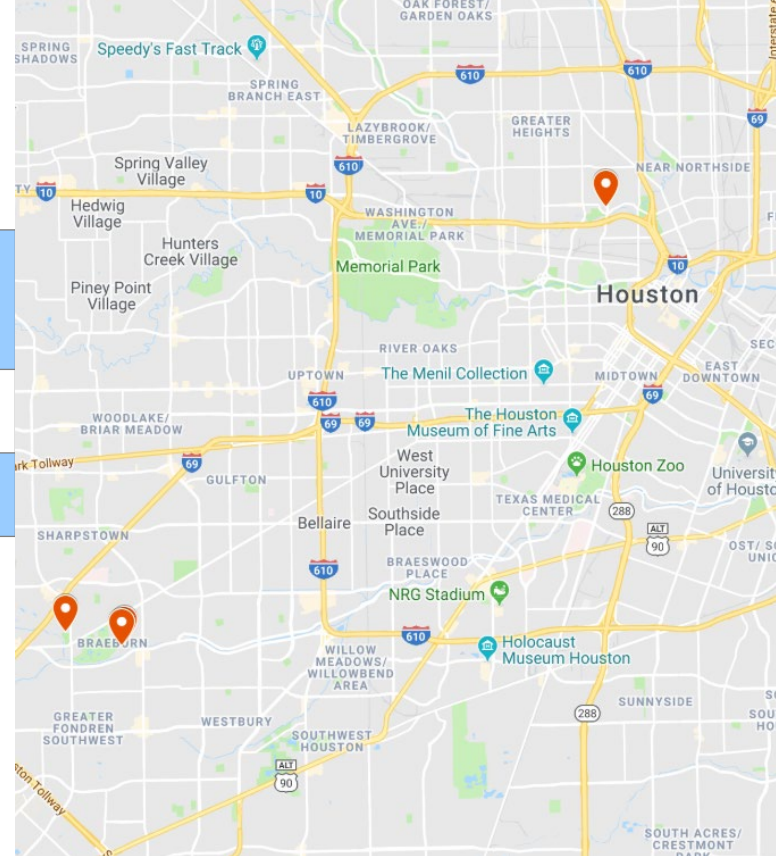
2018 FMA HOME ELEVATION APPLICATIONS

BATCH	HOMES	TOTAL PROJECT COST	FEDERAL COST SHARE	LOCAL COST SHARE
1	43	\$11,419,212.36	\$11,170,966.02	\$248,246.33
2	38	\$ 5,355,346.83	\$ 5,015,377.35	\$339,969.44
TOTAL	81	\$16,774,559.14	\$16,186,343.37	\$588,215.77



2018 FMA HOME BUYOUT APPLICATION

BATCH	HOMES	TOTAL PROJECT COST	FEDERAL COST SHARE	LOCAL COST SHARE
1	4	\$1,264,623.36	\$1,264,623.36	\$ 0
TOTAL	4	\$1,264,623.36	\$1,264,623.36	\$ 0



DISTRICT	H	J
TOTAL	1	3

2015 – 2017 FMA GRANT STATUS

	2015	2016
PROJECT COST	\$15.3M	\$12.9M
APPROVED	42	40
COMPLETE	20	0
UNDER CONSTRUCTION	2	0
UNDER CONTRACT	5	2
BID	0	23
PENDING	1	12
DROPPED OUT	14	3



THANK YOU

**Council Action
2018 FMA Applications
January 2019**

HMGP Project	District	Watershed	Description	Status	Total Cost Estimate (\$ Millions)	Match Split FEMA/Local Match (\$ Millions)	B/C
Inwood Golf Course	A, C, & B	White Oak	227-acre golf course to be converted to a set of detention basins, providing approximately 1,300 acre-feet of storage	Application was submitted 6/22/2018. The City has received 3 RFIs and has formally responded to RFI No. 1 and 2. Responses to RFI No. 3 are anticipated to be submitted by 1/31/2019.	\$48.6	\$36.6/\$12	1.45
North Canal	C, H, & I	Buffalo; White Oak	Diversion channel at the confluence of White Oak and Buffalo bayous, southern/downstream channel for additional mitigation following I-45 realignment, and upstream reconstruction bridges in Heights and Yale for overall 100 year WSE reduction along White Oak and Buffalo Bayou	Application submitted on 7/24/2018. The City has received and responded to 1 RFI. Currently awaiting TDEM's recommendation of project to FEMA for further review. Project budget was modified on 12/31/2018 to increase local match to cover over 50% of project costs.	\$151	\$67/\$84	1.1
TIRZ 17	G	Buffalo	Underground detention basins and storm water system improvements and connections for additional storage and conveyance capacity	Application submitted on 12/31/2018. Awaiting TDEM and FEMA review.	\$60.4	\$45.4/\$15	1.1
Lake Houston Dam	E	San Jacinto	Addition of 10-gate structure to complement existing dam to allow for controlled releases	Application submitted on 7/23/2018. The City has received 2 RFIs and has formally responded to RFI No. 1. Currently in the process of reviewing and updating application in response to RFI No. 2. Formal response to RFI No. 2 is anticipated to be submitted by 31/1/2019.	\$48.5	\$36.5/\$12	0.75
Individual Home Mitigation	All	All	Buyouts, elevations, demolition, and rebuild application for individual homes	Applications have been submitted from June-December 2018. Awaiting TDEM and FEMA responses regarding award of funds.	\$53.2	\$39.9/\$13.3	

APPENDIX

DISPOSITION OF VOLUNTARY INTEREST FORMS RECEIVED (HMGP)

HMGP Property Status	District											Not in City Limits	Total	
	A	B	C	D	E	F	G	H	I	J	K			
Acquisition and Demolition Application 1					3									3
Elevation Application 2		1	13	3				1	1		2			21
Elevation Application 3	8	3	28	1	3		3	2		1	3			52
Elevation Application 4	4	2	14		4	2	5			14	3			48
Elevation Application 5	25	7	7	7	7		1	5		13	13			85
Elevation Application 6	6	6	8	5	2		4	1	1	4	1			38
Project Costs Too High and Not Enough Losses to Calculate BCR	13	2	62	3	8		12		2	18	28			148
Not in SFHA and Not Enough Losses to Calculate BCR	13	13	1	6	5	1	19	1	3	2	3			67
Pending Hidden Lakes Study			1											1
BCR Too Low	11		24	5	4	2	6	3		8	5			68
Homeowner Not Interested in Mitigation Type	1		2				3		1	5				12
Homeowner Mitigated Property			5				5	1						11
Did Not Submit Complete Application	2		2		1					1				6
HCFCF Expansion Plan	2		2	2					1	2				9
Homeowner Withdrew Application		2	2							3				7
Not in City Limits												5		5
Total	85	36	171	32	37	5	58	14	9	71	58	5		581

APPENDIX

DISPOSITION OF VOLUNTARY INTEREST FORMS RECEIVED (FMA)

FMA Property Status	District											Not in City Limits	Total
	A	B	C	D	E	F	G	H	I	J	K		
Elevation BCA Application 1	1	4	21	5	2		6	1		2	1		43
Elevation Pre-Calculated Benefits Memo Application 2	19	3	3	2	4				1	5	1		38
Acquisition and Demolition Application 3							1			3			4
BCR Too Low	18	2	43	7	3	2	9	3		11	7		105
Did Not Submit Complete Application	6	2	3	3	2	1				5	4		26
Project Costs Too High and Not Enough Losses to Calculate BCR	14	2	63	5	7		13	3	3	20	28		158
No Flood Insurance	15	13	21	7	13		9	5	1	14	12		110
Not in SFHA and Not Enough Losses to Calculate BCR	9	7	1	1	5	1	13	1	3	2	2		45
Pending Hidden Lakes Study			1										1
HCFCF Expansion Plan	2		2	1						3			8
Homeowner Not Interested in Mitigation Type	1	1	3			1	2		1	2	1		12
Homeowner Mitigated Property			6		1		5	1					13
Homeowner Withdrew Application		2	4	1						4	2		13
Not in City Limits												5	5
Total	85	36	171	32	37	5	58	14	9	71	58	5	581

APPENDIX

2017 FMA ADDITIONAL INFORMATION

- Application for Home Elevation not recommended for award by FEMA
- Letter of Reconsideration filed April 2, 2018
- FEMA Denied Reconsideration Request July 26, 2018